MITIGATION PLAN

185th Ave NE & NE Woodinville Duvall Road, Cottage Lake WA
Parcel 1630700185

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Revision: 1st

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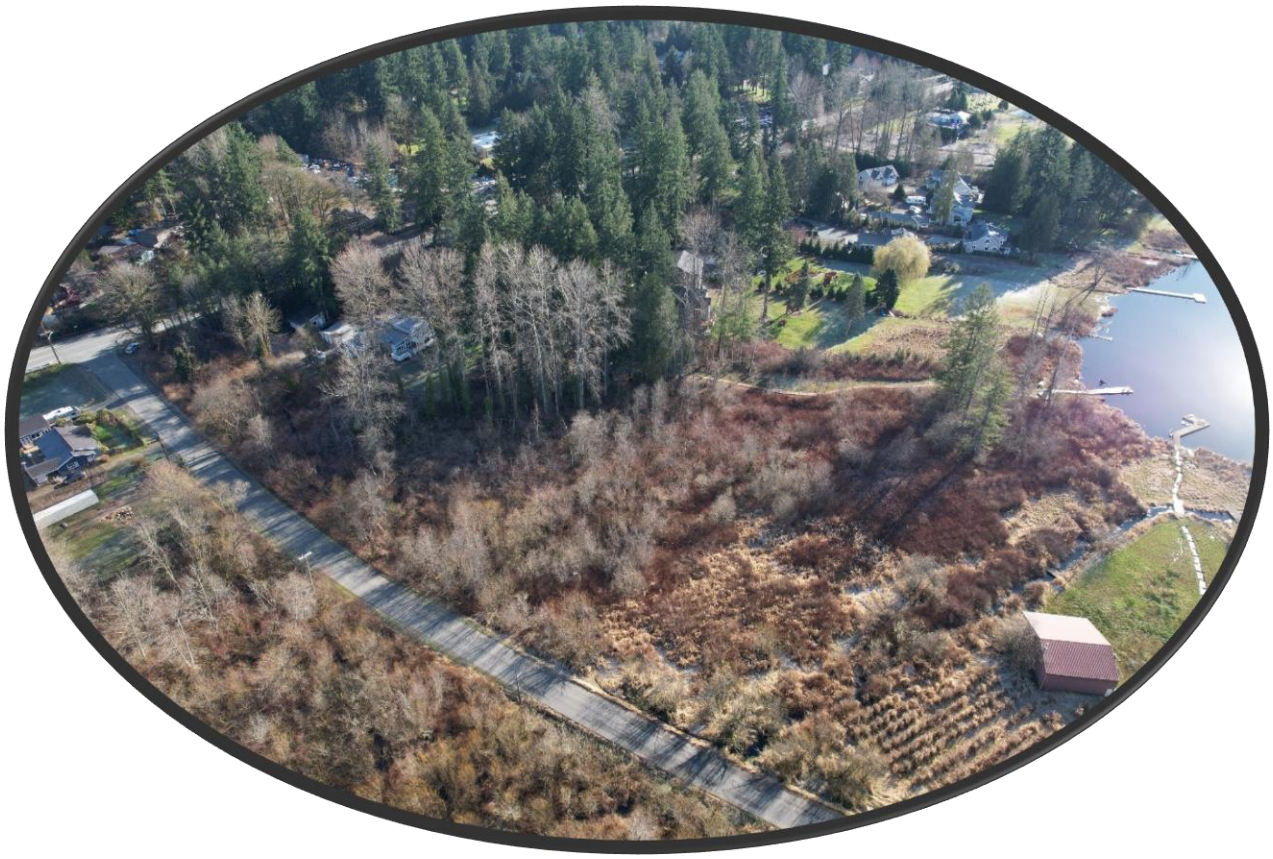

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1 INTRODUCTION

This report examines wetland mitigation options in an effort to reach a comprehensive summary to requirements for Single Family Residence (SFR) parcel development. The site is a 2.8-acre undeveloped parcel located at the corner of 185th Ave NE and NE Woodinville Duvall Road in Cottage Lake Washington; King County parcel ID 1630700185. The parcel is zoned as best-use single-family residence and acquired by the owners for this exclusive purpose. The site is entirely encumbered in category II wetlands or their buffers. Alternative analysis[1] has been prepared which examines possible lot usage configurations for single family residence, but those considerations exceed the scope of this report due to the cascading litany of requirements and resulting infinite possibilities.

Wetlands and in some cases, wetland buffers, require mitigation[2]. The applicant recognizes requirements for mitigation, but as evaluated in this document the unclear methods which vary by agency result in costs referred to as 'credits' from $0 to over $2.5M. The cost to develop remains an open question which cannot be answered without forcing this application through the permitting process thereby requiring formal answers to outstanding mitigation questions. At certain thresholds costs exceed what makes economic sense to develop. The applicant acquired the lot with an existing outdated delineation of 49% wetlands, far below the nearly 80% identified in the latest delineation performed in 2022. Is preservation of this lot with existing native conditions the best use and of public benefit for King County and the waters of the state? The lot has already been identified as a potential acquisition in the Cold Creek Natural Area[3]. The assessed value is a comparable bargain for public acquisition. The acquisition argument is not to be made here by the applicant as such an argument is in contradiction 'best use'. But . . . either the lot can be developed reasonably for single family residence, or should be preserved as public space. It remains up to public agency to reach consensus on the proper outcome due to the degree of regulatory grip that can be exercised on this highly encumbered property.

The applicant's goal is to reduce off-site mitigation costs to the fullest extent possible while retaining the lot for its zoned purpose. These arguments as presented shall be the basis for mitigation.

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[1] PREA22-0065 Alternative Analysis

[2] Clarification of mitigation terms "Mitigation" means a reduction in the severity of an action or situation. Wetland mitigation is usually implemented as a sequence of steps or actions in order to reduce impacts to wetlands. So, mitigation sequencing refers to the prescribed order of the different mitigation.
Wetland compensatory mitigation is the stage of the wetland mitigation sequence during which impacts to wetland functions are offset (i.e., compensated) through restoration (re-establishment, rehabilitation), creation (establishment), preservation, and/or enhancement of other wetlands. Because regulatory requirements and policies tend to focus on compensatory mitigation, the term "mitigation" is often used to refer to "compensation," which is just one part of the overall mitigation sequence.
Wetland Mitigation in Washington State Part 1: Agency Policies and Guidance V2, Department of Ecology State of Washington, April 2021, Publication 21-06-003

[3] Cold Creek Natural Area Site Management Plan, King County Department of Construction and Facilities Management Division of Capital Planning and Development, 2001

2 Existing Conditions by Type

The breakdown of the types of area on the site can be classified into four simple categories as follows:

Lot Area	123468 ft²	100.00%
Category II Wetlands	93211 ft²	75.49%
Wetland Buffer	21549 ft²	17.45%
Stream	3840 ft²	3.11%
Unpermitted clearing	4867 ft²	3.94%

TABLE 1: DESCRIPTION OF AREAS

A full description of each area by type is provided in Appendix A. The classification of the Category II Wetlands is provided in Appendix B.

3 Future Conditions for Mitigation

The following distribution is allocated to disturbed areas. Because the ether site is encumbered by either wetlands or buffers, a Reasonable Use Exception (RUE) and Shoreline Variance is requested from King County DLS.

	Areas in ft²		Sum of Proposed Disturbed ft²			
Disturbed Area	Maximum	Proposed	Cat II Wet	Stream	Buffer	Unpermitted
10% Residential	12347	10499	7831	-	2668	-
5% Agriculture	6173	2407	2407	-	-	-
Driveway		5310	1231	68	4011	-
Septic		950	-	-	-	-
Boardwalk		1431	1431	-	-	-
Total	18520	20597	12900	68	6679	4562

TABLE 2: PROPOSED DISTURBED AREAS

3.1 Residential 10%

KCC 21A.44.090 - 10% of the site may be disturbed by structures, building setbacks or other land alterations, including grading, utility installation and landscaping but not including the area used for a drive way or for an on-site sewage disposal system. For the 2.8 acre parcel, the maximum disturbance attributed to SFR including the Boardwalk[4] is 12347 ft². This also must include 15' setbacks from any structure. The SFR is 3 bed, 3 bath, and approximately 3000 ft².

3.2 Agriculture 5%

During the pre-application meeting PREA22-0065, King County DLS determined that a garden proposed within the 10% disturbance would not meet the requirements of RUE. However, the parcel is zoned RA5P where the (A) allows for agriculture uses. KCC 21A.12.030.B.11 gives allowance for any lot over one acre in area, where an additional five percent of the lot may be used for buildings related to agriculture or forestry practices.

[4] Ratios for impacts can be found up to one-half based on the anticipated shaded area. Table 2 accounts the boardwalk impact as full disturbance. (6B.4.8 Compensating for shading impacts) *Wetland Mitigation in Washington State Part 1: Agency Policies and Guidance*, Version 2, April 2021. Publication 21-06-003

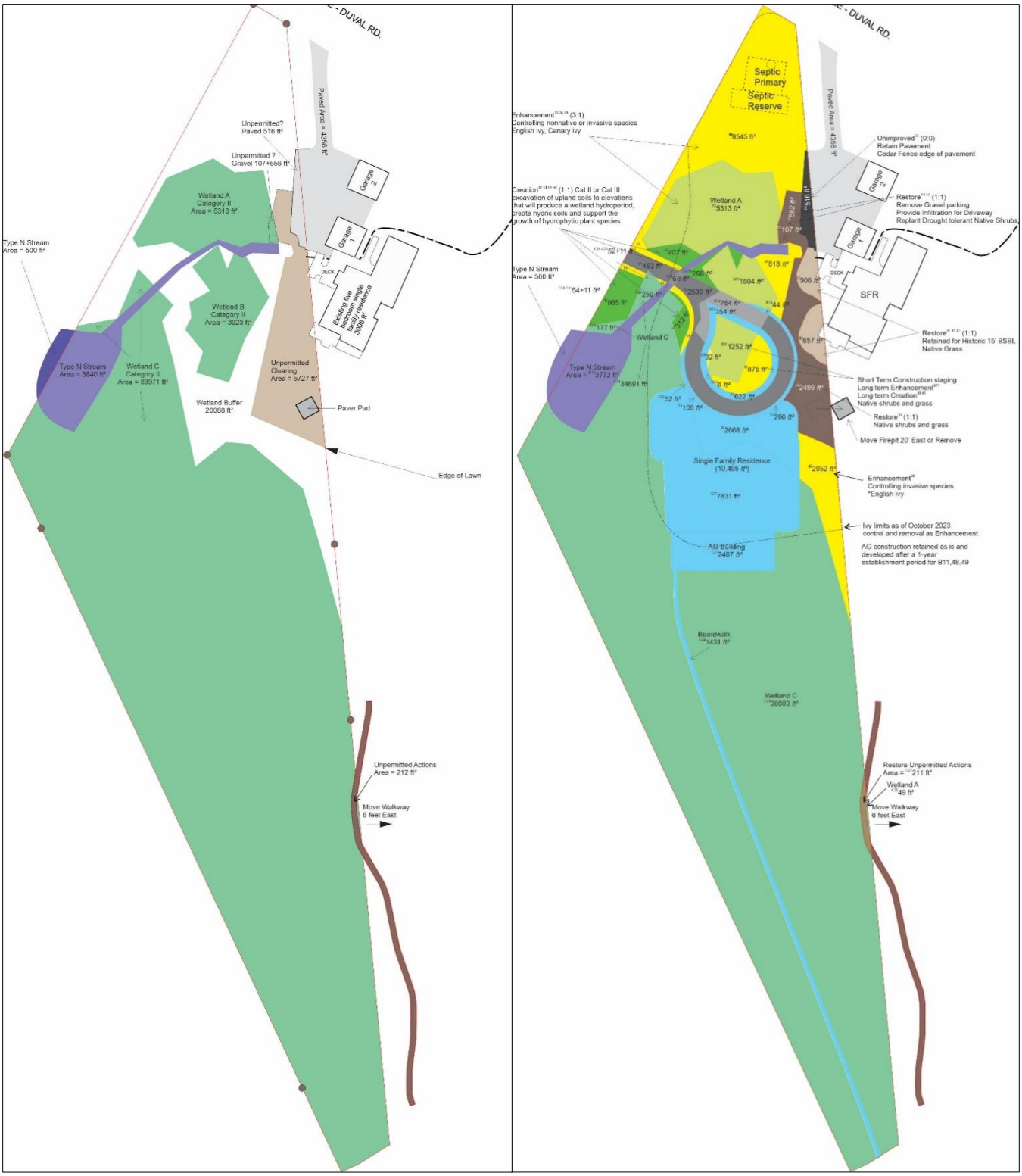

FIGURE 2: EXISTING SITE CONDITIONS

FIGURE 1: FUTURE CONDITIONS FOR MITIGATION

For full size 11”x17” plot, see: PREA22-0065 Site Plan V2

3.3 Driveway

A minimum driveway width of 10' is required by King County DLS. However, to mitigate building outside the 65-foot stream buffer, the driveway must be extended beyond 150 feet. King County Title 17 Fire Code requires driveways of this length have a 20-foot[5] width and terminate in either a cul-de-sac[6] or hammer head[7]. Through discussions with the King County fire marshal, the applicant was able to reduce the 20 foot width to 12 where the blue areas around the circular driveway in figure 2 represent a 95% permeable surface to be filled with native fescue grass. The cul-de-sac was chosen as it has a reduced site footprint from that of a hammerhead. The driveway is not counted against the 10% site disturbance, but does require mitigation.

The driveway must cross the type N stream which is seasonal and non-salmon bearing. Engineering pushed back against a proposed 16" culvert, which is the same dimension for which the stream passes under Woodinville Duvall Road 200ft upstream. Alternatively, a box-culvert is proposed which mitigates the approximately 68 ft² impact the driveway has on the type N stream. For this reason, area N71=68ft² is referred to as a credit.

3.4 Septic

Not included in calculations. The location of the entirety of the septic system is in the wetland buffer along the East property line of the lot. Much of the disturbances occur in the areas of unpermitted clearing, which will be the first areas restored.

3.5 Boardwalk

Boardwalk is part of the 10% total site disturbance attributed to the SFR. The maximum allowable width is 3-feet and must be elevated above the wetland. Design is to incorporate boards with a spacing of no greater than 6-in width. The boardwalk extends approximately 500-feet to the north shore of Cottage Lake. A not-fully-though-out dock of sufficient size to launch person-powered craft and open water swimming provide access to the lake.

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[5] KCC Title 17.04.377 - Fire apparatus access roads - Specifications - Dimensions. An approved fire apparatus access road shall be a minimum of 20 feet wide and provide a minimum unobstructed height of 13 feet 6 inches.

[6] KCC Title 17.04.390 - Fire apparatus access roads - Specifications - Turning radius. The turning radius of a fire apparatus access road shall have a 20 foot inside and 40 foot outside turning radius, or shall be otherwise approved by the Fire Marshal. (Ord. 14915 § 43, 2004: Ord. 14111 § 196, 2001: Ord. 12560 § 166, 1996. Formerly K.C.C. 17.04.01019).

[7] KCC Title 17.04.400 - Fire apparatus access roads - Specifications - Dead ends Dead-end fire apparatus access roads in excess of 150 feet (45.72 m) in length shall be provided with an approved cul-de-sac having a 40 foot turning radius, or a "hammerhead-like" turnaround designed as described in King County Administrative Rule for Chapter 17-04 or other designs approved by the Fire Marshal. (Ord. 14915 § 45, 2004: Ord. 14111 § 197, 2001: Ord. 12560 § 167, 1996. Formerly K.C.C. 17.04.01020).

4 King County 21A.24.340 Wetlands Specific Mitigation Requirements

The parcel falls within the service are of the private Keller Farm Mitigation bank. KCC 21A.24.340 provides a series of (offsite mitigation area : impact) based on a land type classification:

- Category II wetland (8:1) | KCC 21A.24.340.B2
- Stream Type N (2:1) | KCC 21A.24.340.E
- Buffer (1:1) | KCC 21A.24.340.B.1
- Unpermitted – requested restored (1:1) and not used as credit

Because KCC 21A.24 requires offsite mitigation for every impact, and because the entire site is encumbered in wetlands or buffers, every square foot of site where a disturbance occurs requires mitigation. To offset 20597 ft² (0.47 Acre) of disturbed area comes to a total Mitigation Cost of $2,527,217.

	Areas in ft²		Sum of Proposed Disturbed ft²			
Disturbed Area	Maximum	Proposed	Cat II Wet	Stream	Buffer	Unpermitted
10% Residential	12347	10499	7831	-	2668	-
5% Agriculture	6173	2407	2407	-	-	-
Driveway		5310	1231	~~68~~	4011	-
Septic		950	-	-	-	-
Boardwalk		1431	1431	-	-	-
Total	18520	20597	12900	-	6679	4562
Off-Site Mitigation (Debit)			Cat II Wet	Stream	Buffer	Unpermitted
Keller Bank Cost = $ 23/sq²				Ratios		
Site cost per sf =	$ 176/sq²	5.3:1	8:1	2:1	1:1	1:1
Mitigation ft² =	109879		103200	0	6679	4562
Mitigation Cost =	$ 2,527,217		$2,373,600	$0	$153,617	$0
On-site Mitigation (Credit)			Cat II Wet	Stream	Buffer	Unpermitted
Creation (R/C) (1:1)		0	1980		-1980	
(E)nhancement (4:1)		-	7920			
Enhancement (12:1)		10315	10315			
Total ft²		860	2840	0	-1980	
break-even per sf	$ 2/sq²	1:26				
Credit Available	$19,771					
Debit - Credit	$2,507,446		Calculation for Off Site Mitigation Bank Keller Farm			

TABLE 3: KELLER FARM MITIGATION BANK

4.1 Calculating Debits

The ratios KCC 21A.24 uses are quite drastic and seem to have no basis in established mitigation science. For instance, one square foot of category II wetland requires eight square feet (8:1) of offsite mitigation. Typically this ratio is (1.2:1) and no scientific basis for the (8:1) ratio can be found. The (8:1) ratio implies that because 1 unit of category II wetlands is disturbed it must be replaced with 8 units, this simply does not make sense. The category II wetlands disturbances are (12900 ft² = 0.30 acre) representing 10.5% of total site disturbances, but require (103200 ft² = 2.4 acres) of offsite mitigation. A reminder that the whole lot is 2.8 acres. In essence, to build on 10% of the lot requires purchasing another entire lot of category II wetland in offsets!

But it gets worse. The lot's initial cost to the applicant $300,000 or $2.43/ft². The current market price at Keller Farm is $23/ft² which does not include the (8:1) multiplier. To disturb 1 ft² of category II wetlands onsite requires an offsite mitigation credit purchase at $184/ft²! The mitigation cost is nearly 76 times more expensive than the purchase price of the lot. And this cost offers no on-site improvements or improvements to the local watershed. The $2.5M is the price to purchase the credits to disturbed soil.

But . . . it gets even worse.

4.2 Calculating Credits

The purpose of mitigation banking is to consolidate many minor disturbances into one large site which manages a wetland into perpetuity. This is because the science shows that on-site mitigation typically has poor performance. The classic example is that it may not make sense to have on-site mitigation in the back of a new Walmart parking lot. That mitigation might be more successful being grouped with many projects at a mitigation bank. But if Walmart had to pay $176 ft², they might forego the science and mitigate on-site.

In the applicant's case, there are many local improvements on-site which have a high potential of success. For instance, sitemap areas (47,54,59,60) are currently classified as buffer. For on-site mitigation, these areas would be re-created into category II wetlands adding 1980 ft² of category II wetlands.

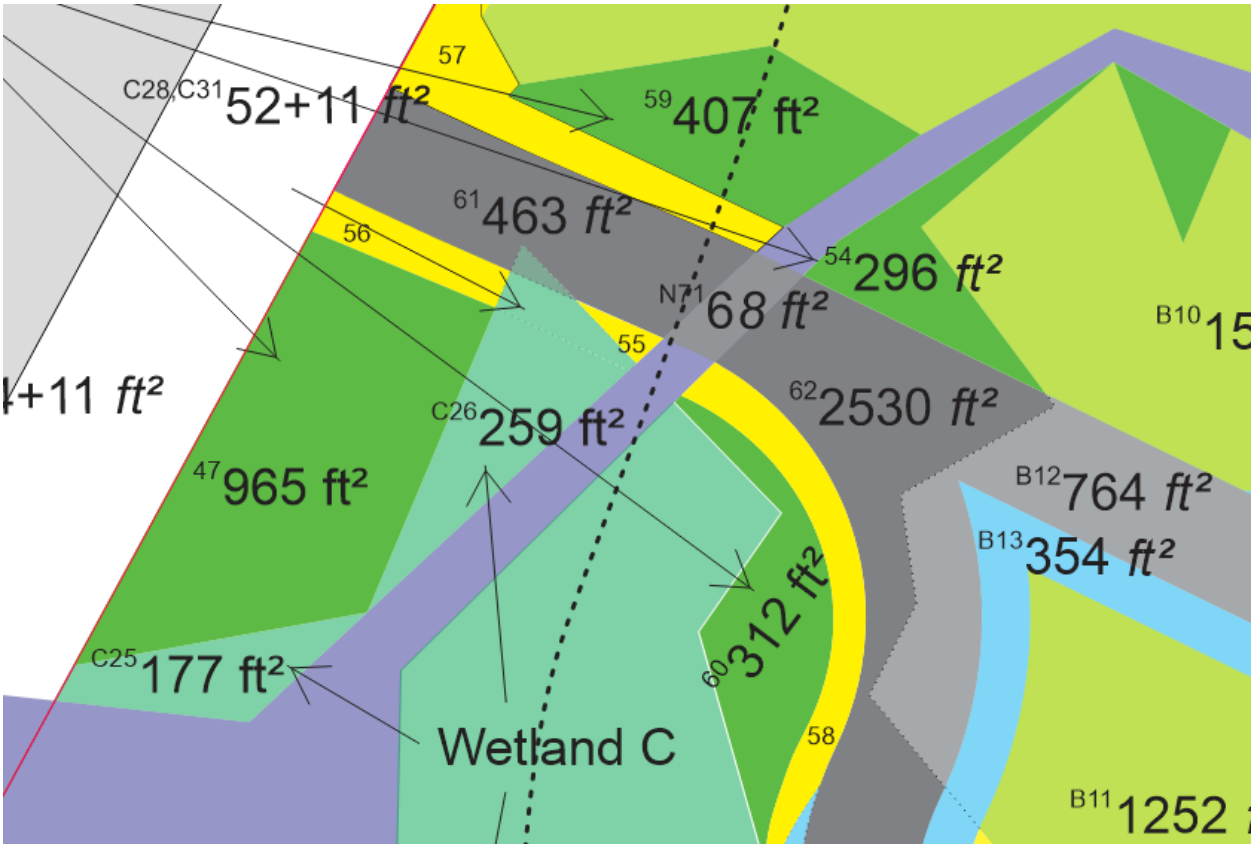


FIGURE 3: WETLAND CREATION 47,54,59,60

4.2.1 Creation (1:1) and Enhancement (4:1)

See Table 3 on-site mitigation credit and Figure 3

To create 1980 ft², an Enhancement area of 4x or 7920 ft² must at the same time be created. Enhancement might include replacement of trees or management of invasive English ivy. However, the enhancement is not counted, only the creation. But the wetland creation occurs within the buffer, and the buffer offset is (1:1). By creating 1980 ft² of category II wetlands and Enhancement of another 7920 ft² of wetlands, the net benefit is 0 ft² due to the 1:1 conversion of the buffer. There is no benefit to the applicant to create or enhance when those efforts are directed towards a buffer.

4.2.2 Enhancement (12:1)

See Table 3 on-site mitigation credit

There is further opportunity on the site for wetland enhancement. The wetlands are of high-quality, but the English ivy on site is having a detrimental impact to the existing trees and currently estimated the loss at 50% and accelerating. The applicant would like to enhance 10315 ft² of category II wetlands. The ratio is (12:1) with a resulting credit of 860 ft² amounting to about $19k out of $2.5M. The break-even cost is $1.91/ft², and when that value is exceeded, it is more economical to buy credits through Keller Farm at $23/ft² than mitigate and improve local site conditions.

The incentive for on-site improvement does not exist in KCC 21A.24.

4.3 Reduction of Ratios

KCC 21A.24.340 (E) says the department may decrease the mitigation ratios if the applicant demonstrates by documentation submitted by a qualified wetland specialist that the proposed mitigation actions have a very high likelihood of success based on hydrologic data and prior experience.

Yet in the pre-application meeting materials for PREA22-0065 it was specifically stated that:

> "Under no circumstances will these ratios be reduced below King County Code".

Given this information, the applicant concludes there is no value to having an Ecologist available to the proposed development. No reduction in ratios is expected through King County DLS.

4.4 Conclusions to use of Keller Farm for Mitigation

Mitigation costs through Keller Farm when applying the strict requirements of 21A.24 are ludicrously expensive. The science and reasoning behind the ratios remain unclear and do not match up with either the *Washington State wetland Rating System For Western Washington (2014)* or the *Department of Ecology for State of Washington Wetland Mitigation in Washington State Part 1: Agency Policies and Guidance*. In absence of a thoroughly cited rationalization behind the ratios employed in KCC 21A.24, the mitigation costs at $2.5M are interpreted as extortion and rise to the level of unconstitutional under the fifth amendment[8].

[8] No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived

5 CREDIT/DEBIT Western Washinton Wetland Rating System

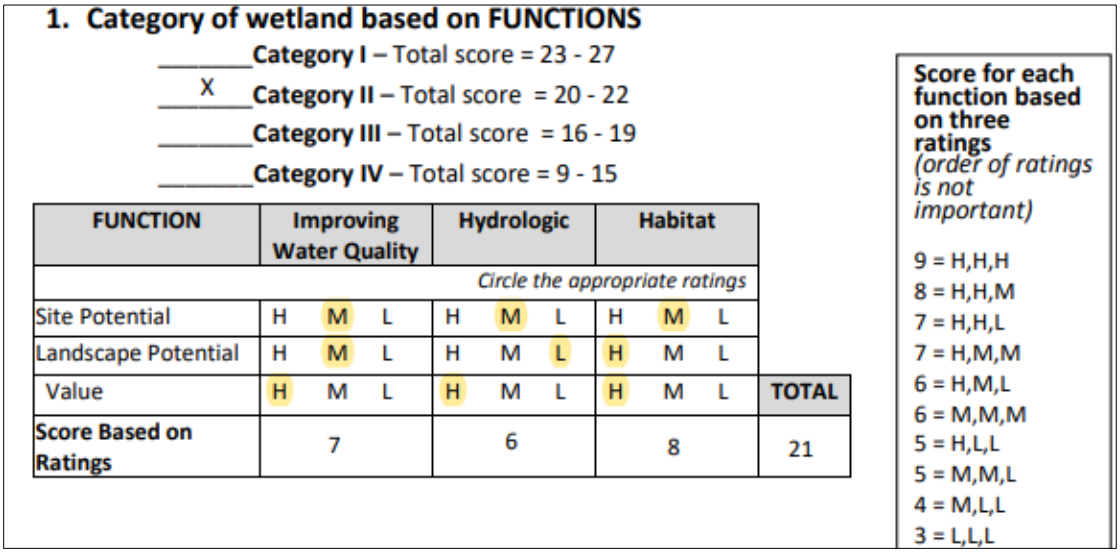
The Western Washington Wetland Rating system establishes a system of Credits and Debits. All site disturbances and off-site impacts are classified as Debits. Credits can be either earned or purchased through mitigation reserves. Calculations are made using the standard DebitsCreditWorkbook[9]. A populated version of this workbook has been prepared[10].

5.1 DEBITS

The following debits are attributed to site disturbances. These disturbances are exactly the same as those analyzed previously. However, unlike section four (4) where all disturbances are debits, this method considers only those disturbances to either the wetlands or stream as debits.

5.1.1 Wetland Unit Altered (#1) = All disturbances in Category II Wetlands

Rating comes from delineation work and report as authored by Talasaea consultants on January 28, 2022. A snip of the final rating for all wetlands is provided in Figure 4.



1. Category of wetland based on FUNCTIONS

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

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

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

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

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	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	**TOTAL**
Score Based on Ratings	7			6			8			21

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

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

FIGURE 4: CATEGORY II WETLANDS RATING

- CELL: 'Debit Sheet'!B16 (12900 ft² | 0.296 Acres)
  - Acres of non-forested areas impacted
  - AG Building (2407 sf) C23
  - Boardwalk (1431 sf) C24
  - Driveway (1231 sf) B13, B14, B15, C29, C31, B12
  - Single Family Residence (7831 sf) C22
- CELL: 'Debit Sheet'!B18 – Temporal Loss Factor (1.25) is selected which is most advantageous to the applicant. This is justified as project impacts will be staggered. The first impacts to the site

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of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

[9] Credit debit method - Washington State Department of Ecology

[10] See (SHOR24-0027_CreditDebitWorkbook.xlsx)

and restoration will occur at the stream crossing. This is in advance of other impacts related to the SFR which will occur approximately one-year after restoration.

5.1.2 Wetland Unit Altered (#2) = disturbances to Type N stream

The wetland critical areas report classifies the stream as type N, but does not provide a second rating. When approaching Credit/Debit, it became obvious that the stream was an integral part of the calculation and should be included. A rating has been provided by the applicant for unit #2 in the Debit Sheet.

As discussed above in section 3.3, the inclusion of a box culvert mitigates the impact to the 68 ft² stream crossing. For this reason Wetland #2 'Debit Sheet'!E16 has zero value and is placeholder in the event further stream debit impacts are identified.

5.2 Credit Sheet

5.2.1 Wetland Unit Site 1

Site 1 follows the debit sheet and pertains to credits associated to the category II wetlands and their buffers. The rating functions used are the same applied to the Debit Sheet. While there may be an improvement to the rating unit after mitigation, that case is not made and values remain the same.

5.2.1.1 Wetland 1 CREATION and RE-ESTABLISHMENT

5.2.1.1.1 ACRES CREATED OR RE-ESTABLISHED (AQUATIC BED, SHRUB, FOREST)

- Cell: 'Credit Sheet'!B27 (2087 ft² | 0.048 Acres) = areas {47,54,59,60,A1}
    - Description: Buffer → Cat II Wetland
    - Method: Grading to lower or connect areas to existing wetlands and replanting in native herbaceous plant types.
    - Risk Factor Cell: 'Credit Sheet'!B29 = 1, Mitigation can occur in advance during the install of the box culvert during the dry period of the seasonal stream. Risk is low, success is high due to creations bordering existing wetlands and type N stream.

5.2.1.1.2 ACRES CREATED OR RE-ESTABLISHED (EMERGENT)

- Cell: 'Credit Sheet'!B31 (907 ft² | 0.021 Acres) = areas {48,49}
    - Acres created or re-established (emergent)
    - Description: Buffer → Cat II or Cat III Wetland
    - Method: Removal of existing failing trees and invasive English ivy. Used for construction staging. Post staging, minor grading so driveway slopes into center of cul-de-sac and attaches to wetland {B11}. Replace with fescue grasses and 1 or 2 select trees.
    - Risk Factor Cell: 'Credit Sheet'!B38 = 1, While this area is used for staging during construction, the area of the Agriculture building {C23} will remain undisturbed until the center of the cul-de-sac is restored and established.

5.2.1.2 Wetland 1 REHABILITATION AND ENHANCEMENT

- Cell: 'Credit Sheet'!B36 (8115ft² | 0.1863 Acres) = areas {25%A2,75%B10,B11,22%C20}
    - Risk Factor Cell: 'Credit Sheet'!B38 = 1, no risk to immediate improvements in the wetlands.

5.2.1.3 Wetland 1 PRESERVATION

- Cell: 'Credit Sheet'!B45 (72178 ft² | 1.657 Acres) = areas{75%A2,25%B10,88%C20,C21,C25,C26,C27,C28,C30}
    - Acres of wetlands preserved
    - Cell: 'Credit Sheet'!B46:D46 = (7|6|8) rating comes from Figure 4
    - Cell: 'Credit Sheet'!B47:D47, Sum of scaling factors
        - Figure 5: +0.025
        - Figure 7: +0.025
        - Total: 0.05, applied equally to all three functions

5.2.1.4 Wetland 1 Acres of upland preserved

- Cell: 'Credit Sheet'!B49 (16204 ft²| 0.372 Acres) = areas {40,46,50,55,56,57,58} + {41,42,43,44}
    - Acres of upland preserved
    - Cell: 'Credit Sheet'!D50, Habitat score for upland: 9 (applicant estimate)
    - Cell: 'Credit Sheet'!D51, Sum of scaling factors = 0.113 , See figure 6 & 7
        - Site is connected to at least 250 acres of undisturbed habitat; Yes, attached to Cold Creek Nature Reserve. (+0.05)
        - Site Connected to ≥ 25 acres of undisturbed habitat; If habitat is Cottage Lake at 26 acres, then YES. (+0.025)
        - Site provides a habitat corridor; Yes between Cold Creek and Cottage Lake. (+0.013)
        - The location of the uplands are within the same hydrologic unit (+0.025)

5.2.2 Wetland Unit Site 2

Wetland site 2 accounts for the small but important contributions provided by the type N stream. The 'Rating of Unit BEFORE mitigation' and 'Rating of Unit AFTER mitigation' were self-determined by the applicant using the Western Washington Wetland Rating System for Riverine and Freshwater tidal Fringe Wetlands.

5.2.2.1 REHABILITATION AND ENHANCEMENT

Acres rehabilitated or enhanced (aquatic bed, shrub, forest). The seasonal stream has opportunity for enhancement through the creation of riffles, removal of English ivy, an increasing the gravel present.

- Cell: 'Credit Sheet'!E36 (608 ft² | 0.014 Acres) = areas {N70} partial, not full 3772 ft²
    - Risk Factor Cell: 'Credit Sheet'!E38 = 1, Enhancement has no assumed risk or function loss. Net is an improvement at the moment of enhancement.

5.2.2.2 Acres of Wetlands Preserved

Type N stream is considered as a type of wetland

- Cell: 'Credit Sheet'!E45 (3772-608 ft² | 0.073 Acres) = areas {N70 - 608ft²}
    - Cell: 'Credit Sheet'!E46:G46 = (7|3|7) applicant estimate
    - Cell: 'Credit Sheet'!E47:G47, Sum of scaling factors
        - Figure 5: +0.025
        - Figure 7: +0.025
        - Total: 0.05, applied equally to all three functions

5.3 Scaling Factors

	Category 1 wetland	Category 2 wetland	Category 2 wetland with removal of disturbances	Category III or IV wetland
Scaling Factor if area is replaced	0.1	0.05	0.08	0
Scaling Factor if area is not replaced	0.05	0.025	0.04	0

FIGURE 5: CALCULATING CREDITS AND DEBITS FOR MITIGATION IN WESTERN WA, CREDIT-DEBIT WORKSHEET, FINAL REPORT MARCH 2012 (APPENDIX E, SCALING FACTOR – WETLAND CATEGORY IF PRESERVING WETLANDS)

Criterion - Habitat Connections for Uplands *(applies only if preserving uplands)* - The connection of the preservation site relative to other relatively undisturbed habitat areas (see definition for relatively undisturbed on page 105).

	Site connected to at least 250 acres of undisturbed habitat	Site connected to ≥ 25 acres of undisturbed habitat	Site provides a habitat corridor	No corridors
Scaling Factor if area is replaced	0.1	0.05	0.025	0
Scaling Factor if area is not replaced	0.05	0.025	0.013	0

FIGURE 6: CALCULATING CREDITS AND DEBITS FOR MITIGATION IN WESTERN WA, CREDIT-DEBIT WORKSHEET, FINAL REPORT MARCH 2012 (APPENDIX E, SCALING FACTOR – HABITAT CONNECTIONS FOR UPLANDS)

Criterion – Location *(Use for both upland and wetland preservation)* - characterizes the position of the preservation site relative to the impact site.

Location of mitigation site relative to impact site	Same hydrologic unit*	Adjacent hydrologic unit*	Site chosen with no analysis of hydrologic units (negative scaling factor)
Scaling Factor if area is replaced	0.05	0.025	-0.02
Scaling Factor if area is not replaced	0.025	0.013	-0.04

FIGURE 7: CALCULATING CREDITS AND DEBITS FOR MITIGATION IN WESTERN WA, CREDIT-DEBIT WORKSHEET, FINAL REPORT MARCH 2012 (APPENDIX E, SCALING FACTOR – LOCATION FOR UPLAND AND WETLAND)

5.4 Areas Neither Credit or Debit

The areas which are buffers within the disturbed area neither contribute to the Credits or Debits. These areas are:

- TOTAL: 7263 ft²
- Single Family Residence: 2668 ft² {45}
- Type N Stream: 68 ft² {N71}
- Driveway: 4527 ft² {51,52,53,61,62} + {63}

5.5 Summary

Using the CREDIT/DEBIT method, the calculation suggests that on-site mitigation is sufficient to mitigate all proposed loss of functions due to the development of SFR.

all numbers are acre-points	Improving Water Quality	Hydrologic Function	Habitat Function
Debits	2.5912	2.2210	2.9614
Credits	2.4884	2.080	3.205
BALANCE Credits - Debits	-0.1028	-0.1409	0.2437
KCMRP Credit per Acre Point = $57,500	($5,912.80)	($8,102.30)	$14,015.11
KCMRP Total	$0.01		

TABLE 4: CALCULATION OF CREDITS AND DEBITS

This plan is in violation of Chapter 3 of *Calculating Credits and Debits for Mitigation in Western Washinton, Final Report March 2012.* Which requires:

- Credits - improving water quality ≥ Debits - improving water quality
- Credits - hydrologic function ≥ Debits - hydrologic function
- Credits - habitat function ≥ Debits - habitat function

However, the following note is also within Chapter 3:

> "It may be possible to negotiate an exchange of functions where excess credits for one function are used to balance a lack of credits for another function. This may be appropriate in areas where a watershed plan or watershed analysis has indicated there is a higher need for restoring one function over another, or where other data exist showing one function is more important than another".
>
> - Calculating Credits and Debits for Mitigation in Western Washington, Final Report March 2012 (Pg 14)

5.5.1 Improving Water Quality

Insufficient credit is given to improving water quality. The wetland creation is of high quality by intersecting the seasonal type N stream which has an approximate 6-month hydroperiod. This stream currently runs virtually unrestricted through the upper section of the site. It is the applicant's opinion

Rating of Unit AFTER mitigation	Improving Water Quality	Hydrologic	Habitat
Site Potential (H,M,L)	H	M	M
Landscape Potential (H,M,L)	M	L	H
Value (H,M,L)	H	H	H

BALANCE Credits - Debits	-0.054920612	-0.140909539	0.243740995
KCMRP Credit per AP $57,500	($3,157.94)	($8,102.30)	$14,015.11
KCMRP Total	$2,754.87		

FIGURE 8: WETLAND CREATION - IMPROVING WATER QUALITY SITE POTENTIAL (M) TO (H)

that by slowing the stream and creating infiltration into the newly created wetlands will generate a (H) site potential for Improving Water Quality. The stream's source is direct runoff from Woodinville Duvall Road and 185th Ave NE. For Slope Wetlands, the maximum site potential rating is (M), but that rating does not take into account the potential of a type N stream bordering a category II wetland! An on-site visit should closely consider this observation.

If improving water quality is further an issue, the applicant has prepared a report *Cottage Lake TP* which evaluates potential further on-site options for improving water quality.

5.5.2 Hydrologic Functions

The applicant questions the value of the disturbed areas on-site hydrologic functions. The wetlands are 'Slope' wetlands in a basin that does not have an established flood plain. The applicant can find no indication of flooding between the site disturbance and the Pacific Ocean. This research has included online resources and request for any flood damage from FEMA. Furthermore, no standing water is present on site. The hydrologic storage is that which is contained in the saturated soil as it passes through the site into Wetland C and then Cottage Lake.

If the initial wetland ratings are further analyzed, it is possible to conclude that wetlands are Category III due to rating S 6 from 2 → 0 , score 21→ 19

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	2
S 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 S 6 Add the points in the boxes above	2

FIGURE 9: S 6.0 SLOPE WETLANDS HYDROLOGIC FUNCTIONS

To adjust the workbook, 'Debit Sheet'!C12 = H(6) → L(4) and Credit goes to $3712.17

Rating of Unit AFTER mitigation	Improving Water Quality	Hydrologic	Habitat
Site Potential (H,M,L)	M	M	M
Landscape Potential (H,M,L)	M	L	H
Value (H,M,L)	H	L	H

BALANCE Credits - Debits	-0.102831348	-0.076350232	0.243740995
KCMRP Credit per AP $57,500	($5,912.80)	($4,390.14)	$14,015.11
KCMRP Total	$3,712.17		

FIGURE 10: REDUCING WETLANDS FROM CATEGORY II TO CATEGORY III

Referring back to Table 4, the factor used to reach a credit requires Enhancement of {C20='Areas E1'!O10} to about 6% of wetland C. Here are some further variables evaluated independently based on the result of table 4. It is the applicant's goal to perform as much on-site mitigation as possible and reasonable. The CREDIT/DEBIT method shows multiple paths to achieving a net credit.

5.5.3 Considerations to further Debits

- For every 100 ft² of Enhancement reduce to Category II wetlands, the debit increases $2,633.42
- If the Debit Sheet loss factor is adjusted from 1.25 → 1.5 and Credit Sheet Risk Factor goes from 1 → 0.9, the table 4 value goes to a debit value of $121,556.97.
- Removal of the Disturbed Areas 'Credit Sheet'!B49 {C27,41,42,43,44} creates a debit in of Table 4 of $5,697.37

5.5.4 Considerations to Further Credits

- Counting the boardwalk at 50% coverage {C24} moves the Credit to $25,784.02

BALANCE Credits - Debits	0.046641195	-0.012790217	0.414566758
KCMRP Credit per AP $57,500	$2,681.87	($735.44)	$23,837.59
KCMRP Total	$25,784.02		

FIGURE 11: CREDIT AT BOARDWALK 50% COVERAGE

- Wetland B does not exist because it is less than 1/10-acre, Credit goes to $40,471.61. *Calculating Credits and Debits for Mitigation in Western Washington, Final Report March 2012* section 4.6 Very Small Wetlands, states that the accuracy of scoring has not been tested for wetlands smaller than 1/10-acre.

BALANCE Credits - Debits	0.13178663	0.060191585	0.511875827	Active	0.936475	115036
KCMRP Credit per AP $57,500	$7,577.73	$3,461.02	$29,432.86	NA	0.058827	7263
KCMRP Total	$40,471.61			Total	100%	122299

FIGURE 12: CREDIT AS WETLAND B IS SMALLER THAN A VERY SMALL WETLAND

- Further enhancement of ¼ acre of invasive Reed grass at Cottage Lake shore, Credit $286,780.11

BALANCE Credits - Debits	1.559662002	1.284084761	2.143733395
KCMRP Credit per AP $57,500	$89,680.57	$73,834.87	$123,264.67
KCMRP Total	$286,780.11		

FIGURE 13: 1/4 ACRE OF INVASIVE REED GRASS ENHANCEMENT

Ratio Method

Alternate methods of ratios similar to Section 4, but using compensation ratios for western Washington are Evaluated. This information is referenced from *Wetland Mitigation in Washington State-Part 1 (Version 2) April 2021.*

The following table is equivalent to the values used in table 4. The balance cost is an estimate based upon the acre point credit value of $57,500.

Category of impacted wetland	Impacted wetland area (acres)	Compensation method	Compensation area (acres)	Compensation ratio	Compensation credit (total)	Balance [1]
Category II	0.30					-0.296
		Creation (RC) PLUS Rehabilitation (RH)	0.069 PLUS 0.275	1 : 1 PLUS 4 : 1	0.069	-0.227
		Preservation	1.041	12 : 1	0.087	-0.141
Type N stream		Preservation	0.087	12 : 1	0.007	-0.133
Buffer		Preservation	0.275	12 : 1	0.023	-0.111
Total Area			1.746			($6,354.97)

TABLE 5: STANDARD RATIO CALCULATION

Appendix A: TALASAEA Existing Conditions Report

TALASAEA
CONSULTANTS, INC.
Natural Resources Consulting | Environmental Planning & Design

01 November 2022 TAL-1923

Aaron and Jasmine Miller
15967 186th Avenue NE
Woodinville, WA 98072
Via Email: RunsforCookies@gmail.com

REFERENCE: Property at 185th Ave NE & NE Woodinville Duvall Road, Cottage Lake, WA

SUBJECT: Existing Conditions Summary

Dear Mr. & Mrs. Miller,

Per your request, Talasaea Consultants has completed an evaluation of the subject property ("Site" hereinafter) for the presence of critical areas that could potentially impact future development of the Site. No adjacent properties were accessed without owner permission; thus, our assessment of adjacent properties is based on visual observation and knowledge of work previously completed by Talasaea Consultants. The Site, and 200 feet surrounding the Site, are referred to jointly as the "study area."

Property Location & Description

The Site is an approximately 2.8-acre undeveloped parcel located at the corner of 185th Avenue Northeast and Northeast Woodinville Duvall Road in Cottage Lake, Washington (King County tax parcel 163070-0185, Figure 1). The Public Land Survey System location of the Site is the Northwest ¼ of Section 7, Township 26 North, Range 6 East.

The Site is bordered to the North by Northeast Woodinville Duvall Road, to the East by a developed parcel including a single-family residence, to the South by Cottage Lake and a partially developed parcel containing a single-family residence, and to the West by 185th Avenue Northeast (**Photo 1**).

Site topography generally slopes downhill from the north to the south. Vegetation on the Site includes a mixture of native trees and shrubs including red alder (Alnus rubra), bigleaf maple (*Acer macrophyllum*), salmonberry (*Rubus spectabilis*), Douglas spiraea (*Spiraea douglasii*), vine maple (*Acer circinatum*) and others. The Site also has a prevalence of non-native,

Photo 1: Site Aerial (Oriented Northeast).

invasive species such as Himalayan blackberry (*Rubus armeniacus*) and English ivy (*Hedera helix*).

Field Investigation & Critical Areas

The Site was evaluated by Talasaea Consultants on 20 November 2021 for an initial site reconnaissance; this work was postponed due to above-average hydrologic conditions. The Site was revisited on 17 January 2022 to formally delineate wetlands and streams identified during the initial reconnaissance. One wetland (Wetland A) and one stream (Stream 1) were identified on the Site. Cottage Lake, as well as Daniels Creek, are located off-site to the south (**Figure 5**). The property is 100% encumbered by critical areas and their associated buffers.

Wetland determinations were made using the routine approach described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (U.S. Army Corps of Engineers 2010).

Plant species were identified according to the taxonomy of Hitchcock and Cronquist (Hitchcock, *et al.* 2018). Taxonomic names were updated, and plant wetland status was assigned according to *North American Digital Flora: National Wetland Plant List*, *Version 2.4.0* (Lichvar, *et al.* 2012). Wetland classes were evaluated with the U.S. Fish and Wildlife

Service's system of wetland classification (Cowardin, *et al*. 1979). Vegetation was considered hydrophytic if greater than 50% of the dominant plant species had a wetland indicator status of facultative or wetter (*i.e.,* facultative, facultative wetland, or obligate wetland).

Wetland hydrology was evaluated based on the presence of hydrologic indicators listed in the Corps' Regional Supplement. These indicators are separated into Primary Indicators and Secondary Indicators. To confirm the presence of wetland hydrology, one (1) Primary Indicator or two (2) Secondary Indicators must be demonstrated. Indicators of wetland hydrology may include, but are not necessarily limited to: drainage patterns, drift lines, sediment deposition, watermarks, stream gauge data and flood predictions, historic records, visual observation of saturated soils, and visual observation of inundation.

Soils on the Site were considered hydric if one or more of the hydric soil indicators listed in the Corps' Regional Supplement were present. Indicators include the presence of organic soils, reduced, depleted, or gleyed soils, or redoximorphic features in association with reduced soils.

Background information from the following sources was reviewed before field investigations:

- US Fish and Wildlife Service (USFWS) Wetlands Online Mapper (National Wetlands Inventory, NWI) (www.wetlandsfws.er.usgs.gov/wtlnds/launch.html);
- Natural Resources Conservation Service (NRCS), Web Soil Survey (www.websoilsurvey.nrcs.usda.gov/app);
- King County Critical Areas Database (King County iMap, 2021);
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) Database on the Web (wdfw.wa.gov/mapping/phs);
- Washington Department of Natural Resources (DNR) Natural Heritage GIS database, 2021;
- Fish usage data from SalmonScape (http://apps.wdfw.wa.gov/salmonscape/map.html), StreamNet (http://www.streamnet.org/data/interactive-maps-and-gis-data/) and the Northwest Indian Fisheries Commission (https://geo.nwifc.org/swifd/);
- Orthophotography from Earth Explorer (2021), and Google Earth (2021); and
- Previous Documents Prepared for the Property.

Wetland A

*Wetland A is a Category II slope wetland that covers the majority of the Site (**Photo 2, Figure 5**). The Southern half of Wetland A is mapped by the USFWS NWI as a Palustrine, Scrub-Shrub, Seasonally Flooded wetland (**Figure 2**). Wetland A scored 7 points for Improving Water Quality, 6 points for Hydrologic Functions, and 8 points for Habitat Functions. According to King County Code (KCC) §21A.24.324, Category II wetlands with high habitat scores (8-9) require 225-foot standard buffers in areas of moderate impact land uses.*

Photo 2: Wetland A Aerial (Oriented North).

Wetland A hydrology is provided by direct precipitation, surface runoff from 185th Avenue Northeast, shallow groundwater movement, and Stream 1 in the western portions of the wetland adjacent to 185th Avenue Northeast. Vegetation within Wetland A is characterized by red alder, black cottonwood (*Populus balsamifera ssp. trichocarpa*), salmonberry, red-osier dogwood (*Cornus sericea*), and slough sedge (*Carex obnupta*). Soils within Wetland A are generally a very dark brown (10YR 2/2) mucky, sandy loam. The upper 8-12 inches were found to have a high organic content but was not true muck per Corps definitions of organic soils. These upper layers were often overlying a sandier, less organic soil. The soil characteristics generally aligned with the NRCS Web Soil Survey, which identifies the Site as Seattle Muck (**Figure 3**).

Stream 1

Stream 1 is a small, intermittent drainage that flows into Wetland A from the adjacent parcel to the east approximately 200 ft from Woodinville-Duvall Road (**Photo 3, Figure 5**). This feature is not identified by any online agency database including King County iMap (**Figure 4**). Stream 1 originates offsite to the northeast. The Stream initially flows onto the adjacent parcel to the east of the Site and passes under an existing single-family residence. Stream 1 flows in a channel for approximately 300 linear feet before fanning out within Wetland A near 185th Avenue Northeast. Stream 1 is a Type N stream requiring a 65-ft standard buffer per KCC §21A.24.355.

Photo 3: Stream 1 Aerial.

Daniels Creek
Daniels Creek is a small, perennial stream that flows in a southerly direction on an adjacent parcel to the west (**Figure 5**). The stream flows into Cottage Lake. No portion of Daniels Creek is located on the Site. However, the stream is mapped as a Type F water requiring a 115-ft standard buffer per KCC §21A.24.355. This buffer extends onto the Site but is contained within Wetland A and its associated buffer.

Cottage Lake
Cottage Lake is an approximately 63-acre lake located directly adjacent to the South of the Site (**Figure 5**). Cottage Lake is considered a Shoreline of the State and thus requires a 115-foot standard buffer. Cottage Lake also has a 200-ft shoreline zone extending landward from the lake's ordinary high water mark. The shoreline zone includes Wetland A but extends no further than the wetland boundary.

In summary, the property at 185th Ave NE & NE Woodinville Duvall Road is an approximately 2.8-acre parcel with a waterfront connection with Cottage Lake. One wetland, two streams, and one lake (Cottage Lake) were identified. Wetland A is a category II wetland with a 225-ft standard buffer for moderate land use intensities. The wetland and its associated buffer consume the entire 2.8-acre site. One stream, Stream 1, is a Type N water that flows onto the Site and into Wetland A, but eventually loses channel definition within the wetland. The second stream, Daniels Creek, is a Type F water located on a parcel west of the Site. Type

F waters have a 115-ft standard buffer. No part of Daniels Creek flows on the Site. However, it does extend a portion of its buffer onto the Site. The extension of the buffer for Daniels Creek is located within Wetland A. Cottage Lake is a 69-acre water body and a Shoreline of the State. Since Wetland A is directly associated with Cottage Lake, the shoreline zone of the lake extends northward to include Wetland A. The shoreline boundary does not extend past Wetland A.

Should you have any questions or require additional information, please feel free to contact Bill Shiels or me at (425) 861-7550.

Thank you.

Sincerely,
TALASAEA CONSULTANTS, INC.

David R. Teesdale, PWS
Senior Ecologist

Attachment: **Figures**, Talasaea Consultants Inc., 2022
Attachment 1 – Wetland Determination Forms**,** Talasaea Consultants Inc., 2022
Attachment 2 – Wetland Rating Forms & Figures, Talasaea Consultants Inc., 2022

Figures

Talasaea Consultants, Inc., 2022

Figure 1. Vicinity Map & Driving Directions

Figure 2. National Wetland Inventory

Figure 3. NRCS Soils Map

Figure 4. King County iMap

Figure 5. Existing Conditions

NW 1/4, SEC. 7, TWNSHP 26N, RNGE 6E, W.M.

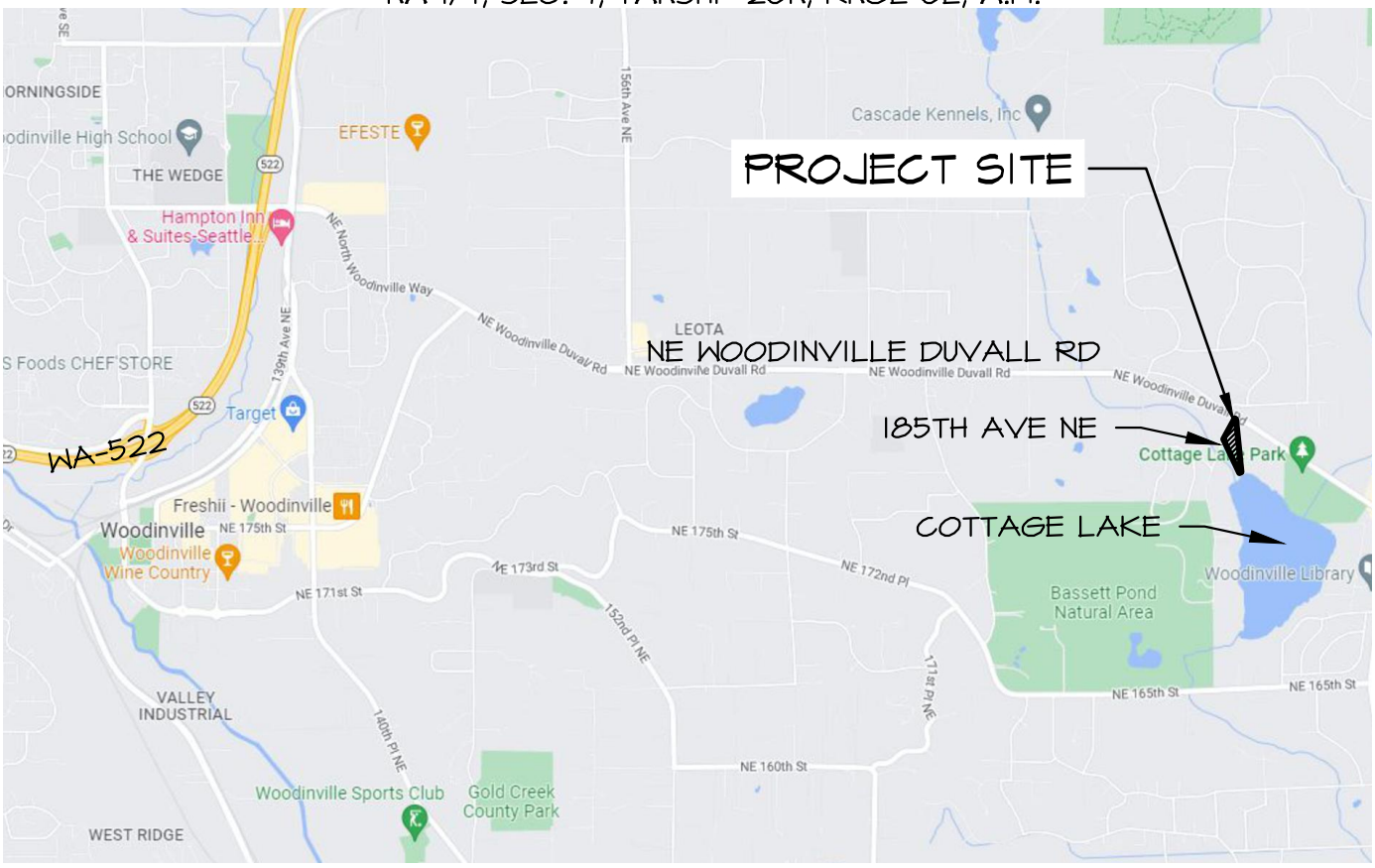

IMAGE SOURCE: GOOGLE MAPS, WWW.MAPS.GOOGLE.COM (ACCESSED 3 FEB 2015)

DRIVING DIRECTIONS:

1. LEAVING WOODINVILLE CITY HALL. HEAD SOUTHEAST TOWARDS 133RD AVENUE NORTHEAST.
2. TURN LEFT TOWARDS 133RD AVENUE NORTHEAST.
3. TURN LEFT ONTO 133RD AVENUE NORTHEAST.
4. TURN RIGHT ONTO NORTHEAST 175TH STREET
5. CONTINUE ONTO NORTHEAST WOODINVILLE DUVALL ROAD.
6. TURN RIGHT TO STAY ON NORTHEAST WOODINVILLE DUVALL ROAD.
7. TURN RIGHT ONTO 185TH AVENUE NORTHEAST.
8. YOUR DESTINATION IS TO YOUR RIGHT.

185TH AVE NE & NE WOODINVILLE DUVALL RD
COTTAGE LAKE, WA 98072

NORTH

TALASAEA CONSULTANTS, INC.
Resource & Environmental Planning
15020 Bear Creek Road Northeast
Woodinville, Washington 98077
Bus (425)861-7550 - Fax (425)861-7549

FIGURE #1

VICINITY MAP & DRIVING DIRECTIONS
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	FH	1923

SCALE: NTS
DATE: 3-11-2022
REVISED:

1

Z:\DRAWING\1900-1999\TAL1923\Plans\TAL-1923 Rating Figure 2022-03.dwg

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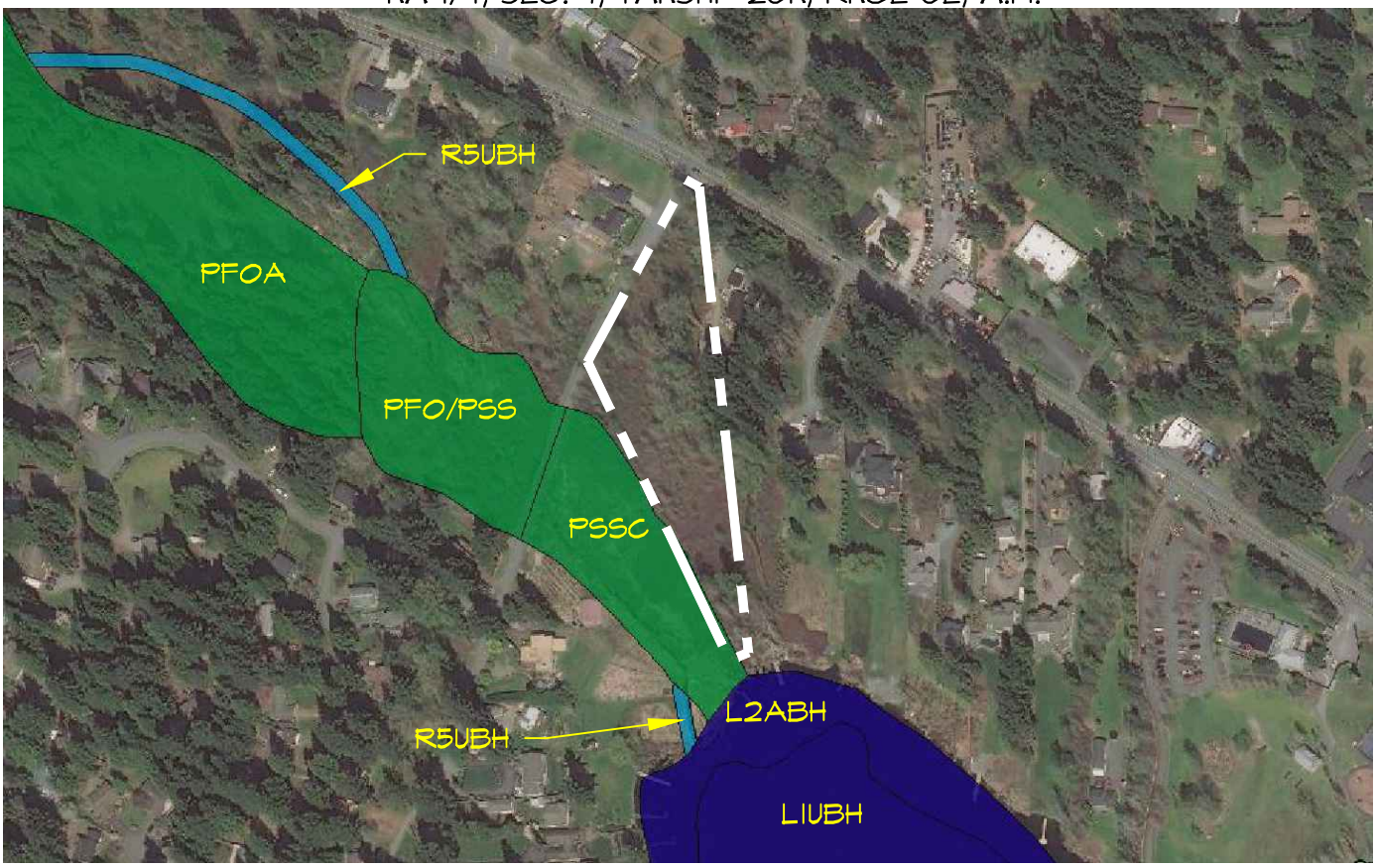
NW 1/4, SEC. 7, TWNSHP 26N, RNGE 6E, W.M.



LEGEND

TYPE	DESCRIPTION
PFO/PSS	PALUSTRINE, FORESTED, SCRUB-SHRUB, SEASONALLY FLOODED
PFOA	PALUSTRINE, FORESTED, TEMPORARY FLOODED
PSSC	PALUSTRINE, SCRUB-SHRUB, SEASONALLY FLOODED
R5UBH	RIVERINE, UNKNOWN PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
L1UBH	LACUSTRINE, LIMNETIC, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
L2ABH	LACUSTRINE, LITTORAL, AQUATIC BED, PERMANENTLY FLOODED

SOURCE: U.S. FISH AND WILDLIFE SERVICE, (JAN 2015). NATIONAL WETLANDS INVENTORY WEBSITE, U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, WASHINGTON D.C. http://www.fws.gov/wetlands/data/wetland-codes.html

NORTH
N.T.S.

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FIGURE #2

NATIONAL WETLANDS INVENTORY
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	FH	1923

SCALE: NTS
DATE: 3-11-2022
REVISED:

2

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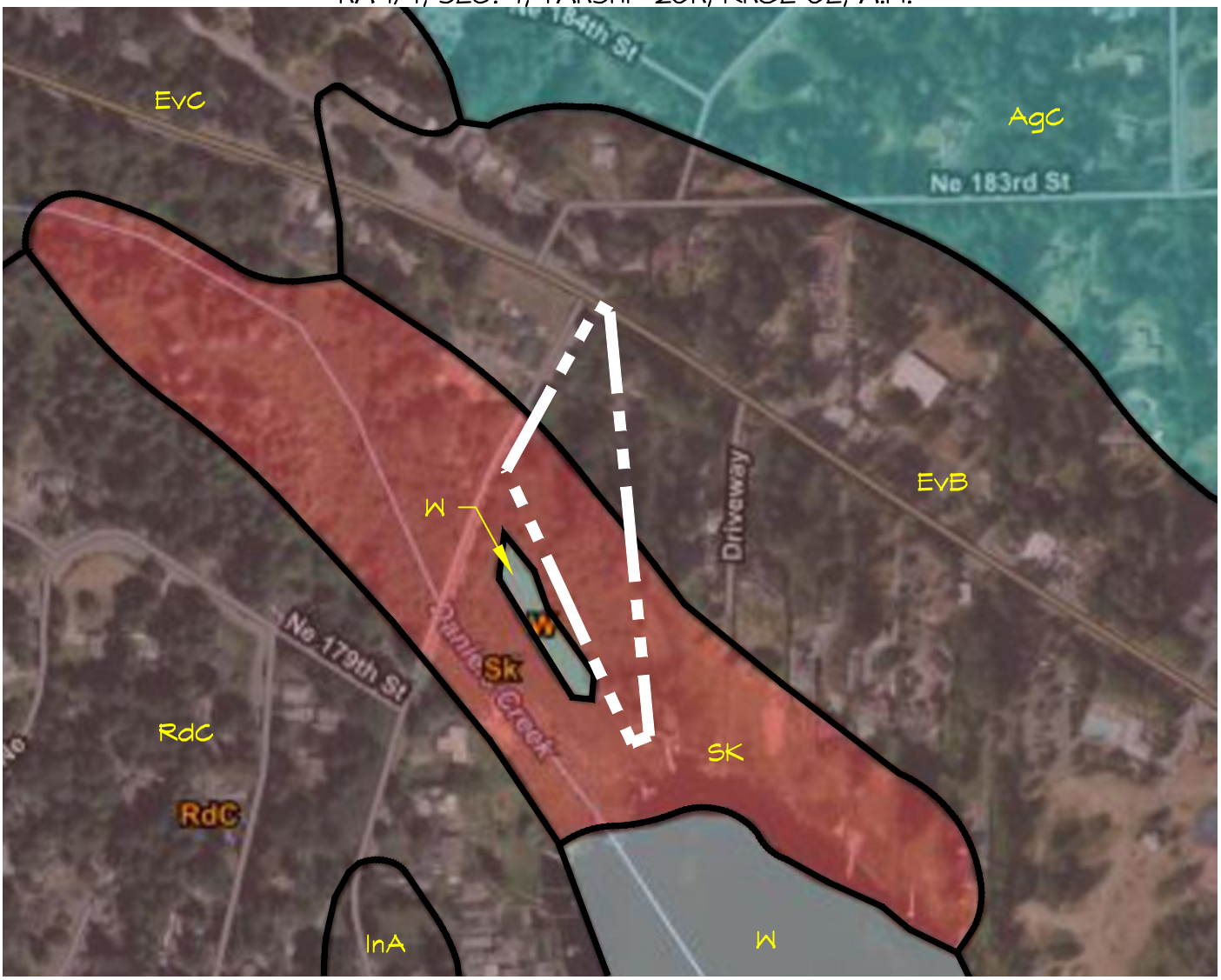

LEGEND

TYPE	DESCRIPTION, SLOPES
AgC	ALDERWOOD GRAVELLY SANDY LOAM, 8 TO 15 PERCENT SLOPES
EvB	EVERETT VERY GRAVELLY SANDY LOAM, 0 TO 8 PERCENT SLOPES
EvC	EVERETT VERY GRAVELLY SANDY LOAM, 8 TO 15 PERCENT SLOPES
InA	INDIANOLA LOAMY SAND, 0 TO 5 PERCENT SLOPES
RdC	RAGNAR-INDIANOLA ASSOCIATION, SLOPING
SK	SEATTLE MUCK
W	WATER

SOURCE: SOIL SURVEY STAFF, NATURAL RESOURCES CONSERVATION SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE, WEB SOIL SURVEY. AVAILABLE ONLINE AT http://websoilsurvey.nrcs.usda.gov/. ACCESSED (2022 MARCH 11).

NORTH
N.T.S.

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Woodinville, Washington 98077
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FIGURE #3

NRCS SOILS MAP
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	FH	1923

SCALE: NTS
DATE: 3-11-2022
REVISED:

3

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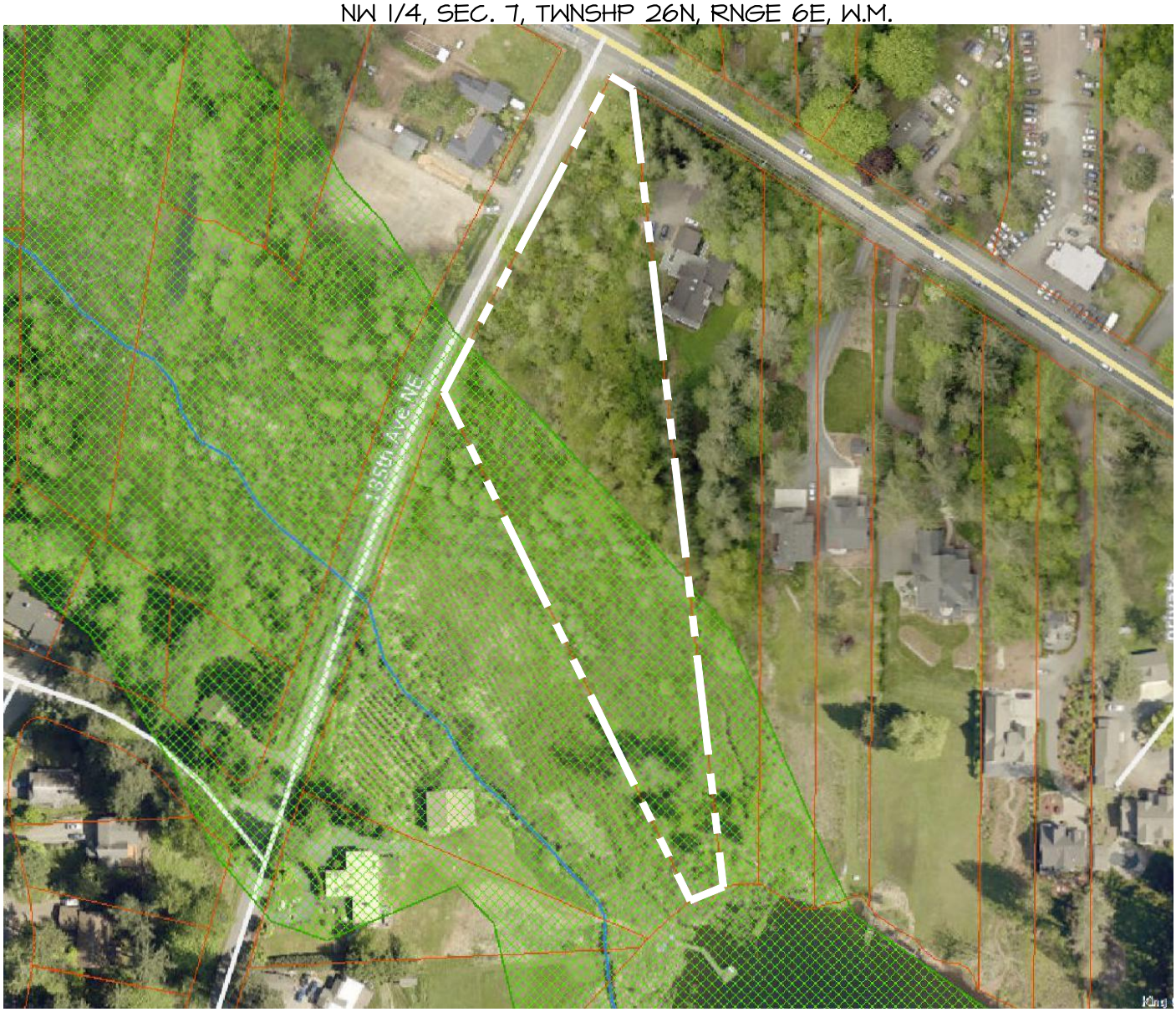

IMAGE SOURCE: KING COUNTY IMAP;
HTTP://WWW5.KINGCOUNTY.GOV/IMAP/VIEWER.HTM?MAPSET=KCPROPERTY
(ASSESSED 11 MARCH 2022)

LEGEND

- Parcels
- Streams
- Wetland (1990 SAO)

NORTH
N.T.S.

TALASAEA CONSULTANTS, INC.
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15020 Bear Creek Road Northeast
Woodinville, Washington 98077
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FIGURE #4

KING COUNTY IMAP
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	FH	1923

SCALE: NTS
DATE: 3-11-2022
REVISED:

4

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NW 1/4, SEC. 7, TWNSHP 26N, RNGE 6E, W.M.

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND
- APPROXIMATE WETLAND BOUNDARY
- ▲A-# WETLAND FLAG LOCATION
- ●TP-# TEST PLOT LOCATION
- WETLAND BUFFER - STANDARD
- STREAM CENTERLINE
- APPROXIMATE STREAM CENTERLINE
- STREAM BUFFER - STANDARD
- ⊢OH-# OHWM FLAG LOCATION
- STREAM ORDINARY HIGH WATER MARK (OHWM)

185TH AVE NE

225'

65'

115'

B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 TP-B2 TP-B3

OH-1 OH-1A OH-2 OH-2A OH-3 OH-3A OH-4 OH-4A OH-5 OH-5A OH-6 OH-6A OH-7 OH-7A OH-8 OH-8A OH-9 OH-9A A-10

C-1 C-2 C-3 C-4 C-5 C-6 C-7 C-8 C-9 C-10 C-11 C-12 C-13 C-14 TP-C1 TP-C2 TP-C3 TP-C4 TP-C5 TP-C6 TP-C7 TP-C8 TP-C9 TP-C10 TP-C11 TP-C12 TP-C13 TP-C14 TP-C15 TP-C16

A-1 A-2 A-3 A-4 A-5 A-6 A-7 A-8 A-9 TP-A1 TP-A2 TP-A3 TP-A6 TP-A7

STREAM 1
TYPE N
65' STD. BUFFER

WETLAND A
CATEGORY II
HABITAT 8
225' STD. BUFFER

DANIELS CREEK
TYPE F
115' STD. BUFFER

NOTE: ALL 3 DELINEATIONS WERE FOUND TO BE ONE WETLAND AFTER FURTHER INVESTIGATION

EXISTING CONDITIONS PLAN

GRAPHIC SCALE
(IN FEET)
0 30 60 120
SCALE: 1"=60'

NORTH

TALASAEA CONSULTANTS, INC.
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FIGURE #5

EXISTING CONDITIONS
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	KF	1923

SCALE: AS SHOWN
DATE: 3-11-2022
REVISED: 10-11-2022

5

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Attachment 1

Wetland Determination Forms,
Talasaea Consultants, Inc., 2022

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 01/17/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-A1
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Toe of Slope | Local relief (concave, convex, none): concave | Slope (%): 1
Subregion (LRR): A | Lat: 47.75818497 | Long: -122.09088709 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	25	Yes	FAC
2. *Thuja plicata* / Western red cedar, Western red cedar, Canoe	5	No	FAC
3. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	4	No	FAC
4.			
	34	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus sericea ssp. sericea* / Red osier dogwood	30	Yes	FACW
2. *Spiraea douglasii* / Douglas spiraea	10	Yes	FACW
3. *Ilex aquifolium* / Holly, English holly	2	No	FACU
4.			
5.			
	42	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex obnupta* / Slough sedge, Slough sedge	25	Yes	OBL
2. *Polystichum munitum* / Western sword fern	1	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	26	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	40	x 2 =	80
FAC species	34	x 3 =	102
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column Totals:	102 (A)		219 (B)

Prevalence Index = B/A = 2.15

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-A1

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
0-10	10YR 2/2	100						Organic, not muck
10-18	10YR 2/2	100						Organic, not muck

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ 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 (minimum of two 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)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Saturation at zero inches (surface)

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 01/17/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-A2
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): terrace | Local relief (concave, convex, none): convex | Slope (%): 1
Subregion (LRR): A | Lat: 47.75894878 | Long: -122.09130149 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	70	Yes	FAC
2. *Thuja plicata* / Western red cedar, Western red cedar, Canoe	40	Yes	FAC
3.			
4.			
	110	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	20	Yes	FAC
2. *Thuja plicata* / Western red cedar, Western red cedar, Canoe	8	Yes	FAC
3. *Cornus sericea ssp. sericea* / Red osier dogwood	5	No	NI
4. *Alnus rubra* / Red alder	1	No	FAC
5.			
	34	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Polystichum munitum* / Western sword fern	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Ilex aquifolium* / Holly, English holly	20	Yes	FACU
2.			
	20	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	139	x 3 =	417
FACU species	35	x 4 =	140
UPL species	5	x 5 =	25
Column Totals:	179 (A)		582 (B)

Prevalence Index = B/A = 3.25

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-A2

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
0-11	10YR 2/2	100						Organic
11-22	10YR 4/2	100					Sandy Loam	Gravel Component, Wet

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Soil extremely wet beyond 8 inches

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ 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 (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 01/17/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-A3
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75827107 | Long: -122.09099472 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata* / Western red cedar, Western red cedar, Canoe	35	Yes	FAC
2. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	10	Yes	FAC
3.			
4.			
	45	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	25	Yes	FAC
2. *Thuja plicata* / Western red cedar, Western red cedar, Canoe	5	No	FAC
3. *Alnus rubra* / Red alder	5	No	FAC
4.			
5.			
	35	= Total Cover	
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	98	Yes	FACU
2.			
	98	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	98	x 4 =	392
UPL species	0	x 5 =	0
Column Totals:	178 (A)		632 (B)

Prevalence Index = B/A = 3.55

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-A3

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
0-5	10YR 4/3	100					Loamy Sand	
5-18	10YR 3/2	100					Loamy Sand	Large Gravel Component

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake / King County | Sampling Date: 04/07/2022
Applicant/Owner: Aaron Miller | State: WA | Sampling Point: TP-A4
Investigator(s): J. Prater, M. Evinger, Talasaea | Section, Township, Range: NW1/4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Terrace | Local relief (concave, convex, none): concave | Slope (%): 2
Subregion (LRR): A | Lat: 47.7587253 | Long: -122.09119919 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 & 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	15	Yes	FAC
2. *Acer circinatum* / Vine maple	8	Yes	FAC
3. *Alnus rubra* / Red alder	5	No	FAC
4. *Acer macrophyllum* / Bigleaf maple, Big-leaf maple	4	No	FACU
	32	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Physocarpus capitatus* / Ninebark	40	Yes	FACW
2. *Lonicera involucrata* / Coast twinberry	20	Yes	FAC
3. *Acer circinatum* / Vine maple	15	No	FAC
4. *Rubus spectabilis* / Salmon berry, Salmonberry	12	No	FAC
5. *Sambucus racemosa* / Red elderberry	5	No	FACU
	92	= Total Cover	
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	100	Yes	FACU
2.			
	100	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	75	x 3 =	225
FACU species	114	x 4 =	456
UPL species	0	x 5 =	0
Column Totals:	229 (A)		761 (B)

Prevalence Index = B/A = 3.32

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-A4

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
0-11	10YR 2/2	100					Lm Crse Sand	
11-18	10YR 3/2	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X 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 (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake / King County | Sampling Date: 04/07/2022
Applicant/Owner: Aaron Miller | State: WA | Sampling Point: TP-A5
Investigator(s): J. Prater, M. Evinger, Talasaea | Section, Township, Range: NW1/4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Terrace | Local relief (concave, convex, none): concave | Slope (%): 0
Subregion (LRR): A | Lat: 47.758743 | Long: -122.09125673 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 & 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra* / Red alder	20	Yes	FAC
2. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	10	Yes	FAC
3.			
4.			
	30	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	85	Yes	FAC
2. *Physocarpus capitatus* / Ninebark	25	No	FACW
3. *Cornus sericea ssp. sericea* / Red osier dogwood	8	No	FACW
4. *Acer circinatum* / Vine maple	6	No	FAC
5. *Lonicera involucrata* / Coast twinberry	4	No	FAC
	128	= Total Cover	

Herb Stratum (Plot size: 5)			
1. *Polystichum munitum* / Western sword fern	12	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	12	= Total Cover	

Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	100	Yes	FACU
2.			
	100	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	33	x 2 =	66
FAC species	125	x 3 =	375
FACU species	112	x 4 =	448
UPL species	0	x 5 =	0
Column Totals:	270 (A)		889 (B)

Prevalence Index = B/A = 3.29

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-A5

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
0-3	10YR 2/1	100					Loam	
3-18	10YR 2/1	100					Lm Crse Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 16

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 14

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake / King County | Sampling Date: 04/07/2022
Applicant/Owner: Aaron Miller | State: WA | Sampling Point: TP-A6
Investigator(s): J. Prater, M. Evinger, Talasaea | Section, Township, Range: NW1/4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Toe of Slope | Local relief (concave, convex, none): concave | Slope (%): 0
Subregion (LRR): A | Lat: 47.75872929 | Long: -122.09127952 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 & 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer circinatum* / Vine maple	10	Yes	FAC
2. *Acer macrophyllum* / Bigleaf maple, Big-leaf maple	5	Yes	FACU
3.			
4.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Physocarpus capitatus* / Ninebark	45	Yes	FACW
2. *Rubus spectabilis* / Salmon berry, Salmonberry	20	Yes	FAC
3. *Acer circinatum* / Vine maple	20	Yes	FAC
4. *Cornus sericea ssp. sericea* / Red osier dogwood	20	Yes	FACW
5. *Oemleria cerasiformis* / Oso berry	10	No	FACU
	115	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Polystichum munitum* / Western sword fern	10	Yes	FACU
2. *Cardamine hirsuta* / Hairy bitter cress	3	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	13	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	75	Yes	FACU
2.			
	75	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 9 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 55.6 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	65	x 2 =	130
FAC species	50	x 3 =	150
FACU species	103	x 4 =	412
UPL species	0	x 5 =	0
Column Totals:	218 (A)		692 (B)

Prevalence Index = B/A = 3.17

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-A6

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
0-9	10YR 2/2	100					Sandy Loam	
9-18	2.5Y 4/2	92	5YR 4/6	6	C	M	Loamy Sand	
			7.5YR 3/4	2	C	M	Loamy Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ 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 (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 11/30/2021
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-B1
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): concave | Slope (%): 0
Subregion (LRR): A | Lat: 47.75890936 | Long: -122.09130429 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | 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 X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Hydrologic Conditions Well Above Average

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra* / Red alder	40	Yes	FAC
2. *Acer macrophyllum* / Bigleaf maple, Big-leaf maple	20	Yes	FACU
3.			
4.			
	60	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	60	Yes	FAC
2. *Spiraea douglasii* / Douglas spiraea	20	Yes	FACW
3. *Acer circinatum* / Vine maple	15	No	FAC
4.			
5.			
	95	= Total Cover	

Herb Stratum (Plot size: 5)			
1. *Polystichum munitum* / Western sword fern	5	Yes	FACU
2. *Athyrium filix-femina* / Common ladyfern	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	= Total Cover	

Woody Vine Stratum (Plot size: 5)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	120	x 3 =	360
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	165 (A)		500 (B)

Prevalence Index = B/A = 3.03

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-B1

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
0-11	10YR 2/1	100						
11-18	10YR 4/2	100					Loamy Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ 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 (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 5

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 3

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 11/30/2021
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-B2
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Terrace | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75894878 | Long: -122.09130149 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | 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 X	No ____		
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X		

Remarks:
Hydrologic Conditions Well Above Average

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer macrophyllum* / Bigleaf maple, Big-leaf maple	60	Yes	FACU
2. *Alnus rubra* / Red alder	40	Yes	FAC
3.			
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	75	Yes	FAC
2. *Acer circinatum* / Vine maple	20	Yes	FAC
3.			
4.			
5.			
	95	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Polystichum munitum* / Western sword fern	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	135	x 3 =	405
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals:	200 (A)		665 (B)

Prevalence Index = B/A = 3.33

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake / King County | Sampling Date: 05/11/2022
Applicant/Owner: Aaron Miller | State: WA | Sampling Point: TP-C1
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1/4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Terrace | Local relief (concave, convex, none): concave | Slope (%): 0
Subregion (LRR): A | Lat: 47.758743 | Long: -122.09125673 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 & 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra* / Red alder	20	Yes	FAC
2. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	10	Yes	FAC
3.			
4.			
	30	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	85	Yes	FAC
2. *Physocarpus capitatus* / Ninebark	25	No	FACW
3. *Cornus sericea ssp. sericea* / Red osier dogwood	8	No	FACW
4. *Acer circinatum* / Vine maple	6	No	FAC
5. *Lonicera involucrata* / Coast twinberry	4	No	FAC
	128	= Total Cover	

Herb Stratum (Plot size: 5)			
1. *Polystichum munitum* / Western sword fern	12	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	12	= Total Cover	

Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	100	Yes	FACU
2.			
	100	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	33	x 2 =	66
FAC species	125	x 3 =	375
FACU species	112	x 4 =	448
UPL species	0	x 5 =	0
Column Totals:	270 (A)		889 (B)

Prevalence Index = B/A = 3.29

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-C1

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
0-3	10YR 2/1	100					Loam	
3-12	10YR 2/1	100					Lm Crse Sand	
12-18	10YR 4/2	98	10YR 4/4	2	C	M	Crse Sndy Lm	Gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ 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 (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 8

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake / King County | Sampling Date: 05/11/2022
Applicant/Owner: Aaron Miller | State: WA | Sampling Point: TP-C2
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1/4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Terrace | Local relief (concave, convex, none): concave | Slope (%): 2
Subregion (LRR): A | Lat: 47.7587253 | Long: -122.09119919 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 & 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	15	Yes	FAC
2. *Acer circinatum* / Vine maple	8	Yes	FAC
3. *Alnus rubra* / Red alder	5	No	FAC
4. *Acer macrophyllum* / Bigleaf maple, Big-leaf maple	4	No	FACU
	32	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Physocarpus capitatus* / Ninebark	40	Yes	FACW
2. *Lonicera involucrata* / Coast twinberry	20	Yes	FAC
3. *Acer circinatum* / Vine maple	15	No	FAC
4. *Rubus spectabilis* / Salmon berry, Salmonberry	12	No	FAC
5. *Sambucus racemosa* / Red elderberry	5	No	FACU
	92	= Total Cover	
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	100	Yes	FACU
2.			
	100	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	75	x 3 =	225
FACU species	114	x 4 =	456
UPL species	0	x 5 =	0
Column Totals:	229 (A)		761 (B)

Prevalence Index = B/A = 3.32

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-C2

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
0-11	10YR 2/1	100					Lm Crse Sand	
11-18	10YR 4/2	96	10YR 3/4	4	C	M	Loamy Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ 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 (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Aaron Miller | City/County: Cottage Lake / King County | Sampling Date: 05/11/2022
Applicant/Owner: Aaron Miller | State: WA | Sampling Point: TP-C3
Investigator(s): J.Prater, Talasaea Consultants | Section, Township, Range: NW1/4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): A | Lat: 47.75881179 | Long: -122.09104096 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 & 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	45	Yes	FAC
2. *Alnus rubra* / Red alder	15	Yes	FAC
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	85	Yes	FAC
2. *Physocarpus capitatus* / Ninebark	15	No	FACW
3. *Alnus rubra* / Red alder	10	No	FAC
4.			
5.			
	110	= Total Cover	
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	100	Yes	FACU
2.			
	100	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	155	x 3 =	465
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	270 (A)		895 (B)

Prevalence Index = B/A = 3.31

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-C3

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
0-8	10YR 2/1	100					Sandy Loam	
8-18	10YR 2/1	95	10YR 3/4	5	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.)

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ 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 (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 4

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake / King County | Sampling Date: 05/11/2022
Applicant/Owner: Aaron Miller | State: WA | Sampling Point: TP-C4
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1/4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75880409 | Long: -122.09090235 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 & 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	20	Yes	FAC
2. *Alnus rubra* / Red alder	12	Yes	FAC
3.			
4.			
	32	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	50	Yes	FAC
2. *Physocarpus capitatus* / Ninebark	8	No	FACW
3. *Alnus rubra* / Red alder	5	No	FAC
4.			
5.			
	63	= Total Cover	

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	85	Yes	FACU
2.			
	85	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	87	x 3 =	261
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals:	180 (A)		617 (B)

Prevalence Index = B/A = 3.43

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: TP-C4

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
0-15	10YR 2/1	100					Sandy Loam	
15-18	10YR 2/2	100					Crse Sndy Lm	Gravel

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 16

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 14

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

SOIL

Sampling Point: TP-B2

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
0-19	10YR 3/2	100					Sandy Loam	
19-24	7.5YR 4/4	100					Sandy 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.)

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 17

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C4.2
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): A | Lat: | Long: | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil X, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes No
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra* / Red alder	35	Yes	FAC
2. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	15	Yes	FAC
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	20	Yes	FAC
2. *Sambucus racemosa* / Red elderberry	5	No	FACU
3. *Cornus alba* / Red osier	5	No	FACW
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Epilobium ciliatum* / Slender willow herb	10	Yes	FACW
2. *Lolium* / Ryegrass	10	Yes	NI
3. *Holcus lanatus* / Common velvetgrass, Common velvet grass	1	No	FAC
4. *Ranunculus repens* / Crowfoot, Creeping buttercup	1	No	FAC
5. *Trifolium repens* / White clover	1	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	23	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	10	Yes	FACU
2.			
	10	= Total Cover	

% Bare Ground in Herb Statum

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	73	x 3 =	219
FACU species	15	x 4 =	60
UPL species	10	x 5 =	50
Column Totals:	113 (A)		359 (B)

Prevalence Index = B/A = 3.18

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 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-C4.2

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
0-8	10YR 2/2	100					Crse Sndy Lm	Fill over black plastic
8-20	10YR 2/2	100					Crse Sndy Lm	
20-30	10YR 4/3	80	10YR 4/2	10		M	Coarse Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two 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, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C5
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): A | Lat: | Long: | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra* / Red alder	15	Yes	FAC
2. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	10	Yes	FAC
3.			
4.			
	25	= Total Cover	

Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5)			
1. *Trifolium repens* / White clover	50	Yes	FAC
2. *Lotus corniculatus* / Bird's foot trefoil, Bird's-foot trefoil	5	No	FAC
3. *Rumex obtusifolius* / Broadleaf dock, Bitter dock	5	No	FAC
4. *Lolium* / Ryegrass	25	Yes	NI
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	

Woody Vine Stratum (Plot size: 5)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 45

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	85	x 3 =	255
FACU species	0	x 4 =	0
UPL species	25	x 5 =	125
Column Totals:	110 (A)		380 (B)

Prevalence Index = B/A = 3.45

Hydrophytic Vegetation Indicators:
- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 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-C5

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
0-8	10YR 2/2	100					Crse Sndy Lm	Fill marked by black plastic layer
8-18	10YR 2/1	100					Crse Sndy Lm	
18-36	10YR 3/3	95	10YR 4/6	5			Crse Sndy Lm	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 30

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C6
Investigator(s): T. Nightengale , Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): A | Lat: | Long: | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil X, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes No
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	30	Yes	FAC
2. *Alnus rubra* / Red alder	20	Yes	FAC
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus alba* / Red osier	45	Yes	FACW
2. *Rubus spectabilis* / Salmon berry, Salmonberry	25	Yes	FAC
3. *Alnus rubra* / Red alder	5	No	FAC
4. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	5	No	FAC
5.			
	80	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Festuca* / Fescue	75	Yes	NI
2. *Epilobium ciliatum* / Slender willow herb	20	No	FACW
3. *Trifolium repens* / White clover	10	No	FAC
4. *Hypochaeris radicata* / Hairy cats ear, Rough cat's-ear	5	No	FACU
5. *Holcus lanatus* / Common velvetgrass, Common velvet gras	5	No	FAC
6. *Rumex obtusifolius* / Broadleaf dock, Bitter dock	2	No	FAC
7. *Plantago lanceolata* / Ribwort, English plantain	1	No	FACU
8. *Juncus effusus* / Common bog rush, Soft or lamp rush	1	No	FACW
9.			
10.			
11.			
	119	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Rubus armeniacus* / Himalayan blackberry	2	Yes	FAC
2. *Hedera helix* / English ivy	1	Yes	FACU
	3	= Total Cover	

% Bare Ground in Herb Statum

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 7 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	66	x 2 =	132
FAC species	104	x 3 =	312
FACU species	7	x 4 =	28
UPL species	75	x 5 =	375
Column Totals:	252 (A)		847 (B)

Prevalence Index = B/A = 3.36

Hydrophytic Vegetation Indicators:
- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 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-C6

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
0-8	10YR 2/2	100					Crse Sndy Lm	Fill over black plastic
8-22	10YR 2/2	100					Crse Sndy Lm	
22-30	10YR 3/3	95	10YR 2/2	10		M	Coarse Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two 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)
- X 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, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C7
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75865517 | Long: -122.09084683 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	20	Yes	FAC
2.			
3.			
4.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Trifolium repens* / White clover	25	Yes	FAC
2. *Lolium* / Ryegrass	85	Yes	NI
3. *Epilobium ciliatum* / Slender willow herb	1	No	FACW
4. *Ranunculus repens* / Crowfoot, Creeping buttercup	2	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	113	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 15

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	47	x 3 =	141
FACU species	0	x 4 =	0
UPL species	85	x 5 =	425
Column Totals:	133 (A)		568 (B)

Prevalence Index = B/A = 4.27

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 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-C7

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
0-7	10YR 2/2	100					Crse Sndy Lm	Fill
7-17	10YR 2/1	100					Crse Sndy Lm	
17-23	10YR 3/6						Coarse Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C8
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75865517 | Long: -122.09084683 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	25	Yes	FAC
2.			
3.			
4.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Lolium* / Ryegrass	70	Yes	NI
2. *Trifolium repens* / White clover	20	Yes	FAC
3. *Rumex obtusifolius* / Broadleaf dock, Bitter dock	1	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	91	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 30

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	46	x 3 =	138
FACU species	0	x 4 =	0
UPL species	70	x 5 =	350
Column Totals:	116 (A)		488 (B)

Prevalence Index = B/A = 4.21

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 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-C8

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
0-10	10YR 2/1	100					Crse Sndy Lm	Fill
10-21	10YR 2/1	100					Crse Sndy Lm	
21-28	10YR 3/6						Coarse Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C9
Investigator(s): J. Prater, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): A | Lat: | Long: | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil X, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes No
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	60	Yes	FAC
2. *Alnus rubra* / Red alder	10	No	FAC
3.			
4.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus alba* / Red osier	5	Yes	FACW
2. *Rubus spectabilis* / Salmon berry, Salmonberry	1	No	FAC
3. *Alnus rubra* / Red alder	1	No	FAC
4. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	1	No	FAC
5. *Carex stipata* / Awlfruit sedge	5	Yes	OBL
	13	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Tellima grandiflora* / Fringe cups	1	No	FACU
2. *Trifolium repens* / White clover	15	No	FAC
3. *Lolium* / Ryegrass	85	Yes	NI
4. *Rumex obtusifolius* / Broadleaf dock, Bitter dock	1	No	FAC
5. *Lotus corniculatus* / Bird's foot trefoil, Bird's-foot trefoil	2	No	FAC
6. *Epilobium ciliatum* / Slender willow herb	1	No	FACW
7. *Ranunculus repens* / Crowfoot, Creeping buttercup	5	No	FAC
8.			
9.			
10.			
11.			
	110	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	6	x 2 =	12
FAC species	96	x 3 =	288
FACU species	1	x 4 =	4
UPL species	85	x 5 =	425
Column Totals:	193 (A)		734 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:
- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 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-C9

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
0-9	10YR 2/2	100					Crse Sndy Lm	Fill with concrete chunks
9-18	10YR 2/2	100					Crse Sndy Lm	
18-24	10YR 3/3	95	10YR 4/6	5	C	M	Crse Sndy Lm	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two 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)
- X 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, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C10
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75865517 | Long: -122.09084683 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	40	Yes	FAC
2. *Cornus alba* / Red osier	20	Yes	FACW
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	55	Yes	FAC
2. *Cornus sericea ssp. sericea* / Red osier dogwood	15	No	NI
3. *Lonicera involucrata* / Coast twinberry	30	Yes	FAC
4.			
5.			
	100	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Epilobium ciliatum* / Slender willow herb	5	Yes	FACW
2. *Ranunculus repens* / Crowfoot, Creeping buttercup	1	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	6	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	5	Yes	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	126	x 3 =	378
FACU species	5	x 4 =	20
UPL species	15	x 5 =	75
Column Totals:	171 (A)		523 (B)

Prevalence Index = B/A = 3.06

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 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:
Lots of downed brush/branches

SOIL

Sampling Point: TP-C10

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
0-8	10YR 2/1	100					Sandy Loam	Roots
8-20	10YR 2/1						Sandy 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.)

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two 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)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C11
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75865517 | Long: -122.09084683 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pseudotsuga menziesii* / Douglas fir	20	Yes	FACU
2.			
3.			
4.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	5	Yes	FAC
2. *Physocarpus capitatus* / Ninebark	2	Yes	FACW
3.			
4.			
5.			
	7	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Lolium* / Ryegrass	95	Yes	NI
2. *Ranunculus repens* / Crowfoot, Creeping buttercup	15	No	FAC
3. *Lotus corniculatus* / Bird's foot trefoil, Bird's-foot trefoil	1	No	FAC
4. *Rumex obtusifolius* / Broadleaf dock, Bitter dock	1	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	112	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	5	Yes	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	2	x 2 =	4	
FAC species	22	x 3 =	66	
FACU species	25	x 4 =	100	
UPL species	95	x 5 =	475	
Column Totals:	144	(A)	645	(B)

Prevalence Index = B/A = 4.48

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 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:
Lots of downed brush/branches

SOIL

Sampling Point: TP-C11

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
0-4	10YR 2/2	100					Sandy Loam	Fill
4-14	10YR 2/2						Sandy Loam	
14-20	10YR 3/6						Coarse Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C12
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75865517 | Long: -122.09084683 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	40	Yes	FAC
2.	20		
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	55	Yes	FAC
2. *Lonicera involucrata* / Coast twinberry	30	Yes	FAC
3. *Cornus sericea ssp. sericea* / Red osier dogwood	15	No	NI
4.			
5.			
	100	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Epilobium ciliatum* / Slender willow herb	5	Yes	FACW
2. *Ranunculus repens* / Crowfoot, Creeping buttercup	1	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	6	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	5	Yes	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	126	x 3 =	378
FACU species	5	x 4 =	20
UPL species	35	x 5 =	175
Column Totals:	171 (A)		583 (B)

Prevalence Index = B/A = 3.41

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 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:
Lots of downed brush/branches

SOIL

Sampling Point: TP-C12

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
0-9	10YR 2/1	100					Sandy Loam	Roots
9-19	10YR 2/1						Sandy Loam	
19-24	10YR 2/2	100					Crse Sndy Lm	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C13
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75865517 | Long: -122.09084683 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	50	Yes	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus alba* / Red osier	55	Yes	FACW
2. *Lonicera involucrata* / Coast twinberry	10	No	FAC
3. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	5	No	FAC
4. *Rubus spectabilis* / Salmon berry, Salmonberry	5	No	FAC
5.			
	75	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Ranunculus repens* / Crowfoot, Creeping buttercup	95	Yes	FAC
2. *Geum macrophyllum* / Large leaved avens, Large-leaved ave	1	No	FAC
3. *Epilobium ciliatum* / Slender willow herb	1	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	20	Yes	FACU
2. *Hedera helix* / English ivy	10	Yes	FACU
	30	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	56	x 2 =	112
FAC species	166	x 3 =	498
FACU species	32	x 4 =	128
UPL species	0	x 5 =	0
Column Totals:	254 (A)		738 (B)

Prevalence Index = B/A = 2.91

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 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-C13

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
0-9	10YR 2/2	100					Sandy Loam	Roots
9-21	10YR 2/2						Sandy 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.)

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C14
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75865517 | Long: -122.09084683 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	50	Yes	FAC
2. *Alnus rubra* / Red alder	10	No	FAC
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Lonicera involucrata* / Coast twinberry	30	Yes	FAC
2. *Cornus alba* / Red osier	20	Yes	FACW
3. *Sorbus sitchensis* / Western mountain ash	10	No	FAC
4. *Rubus spectabilis* / Salmon berry, Salmonberry	10	No	FAC
5. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	5	No	FAC
	75	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Epilobium ciliatum* / Slender willow herb	10	Yes	FACW
2. *Ranunculus repens* / Crowfoot, Creeping buttercup	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	20	Yes	FACU
2. *Rubus laciniatus* / Cut leaved blackberry, Cutleaf blackberry	2	No	FACU
	22	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	121	x 3 =	363
FACU species	22	x 4 =	88
UPL species	0	x 5 =	0
Column Totals:	173 (A)		511 (B)

Prevalence Index = B/A = 2.95

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 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-C14

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 2/1	100					Sandy Loam	Roots
6-14							Sandy Loam	
14-18	10YR 3/6						Coarse Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two 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)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C15
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75865517 | Long: -122.09084683 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Malus fusca* / Oregon crab apple	40	Yes	FACW
2. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	30	Yes	FAC
3. *Alnus rubra* / Red alder	10	No	FAC
4.			
	80	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer circinatum* / Vine maple	65	Yes	FAC
2. *Rubus spectabilis* / Salmon berry, Salmonberry	40	Yes	FAC
3. *Cornus alba* / Red osier	10	No	FACW
4. *Vaccinium ovatum* / Evergreen huckleberry, California huckle	2	No	FACU
5.			
	117	= Total Cover	

Herb Stratum (Plot size: 5)			
1. *Polystichum munitum* / Western sword fern	15	Yes	FACU
2. *Athyrium filix-femina* / Common ladyfern	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	

Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	90	Yes	FACU
2. *Rubus ursinus* / California blackberry	2	No	FACU
	92	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 7 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	150	x 3 =	450
FACU species	109	x 4 =	436
UPL species	0	x 5 =	0
Column Totals:	309 (A)		986 (B)

Prevalence Index = B/A = 3.19

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Lots of downed brush/branches

SOIL

Sampling Point: TP-C15

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
0-12	10YR 2/1	100					Sandy Loam	Roots
12-21	10YR 2/2						Sandy 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.)

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: TAL-1923 Cottage Lake | City/County: Cottage Lake, King County | Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jasmine Miller | State: WA | Sampling Point: TP-C16
Investigator(s): T. Nightengale, Talasaea Consultants | Section, Township, Range: NW1.4 SEC24 T26N R6E
Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): none | Slope (%): 2
Subregion (LRR): A | Lat: 47.75865517 | Long: -122.09084683 | Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loam, 0 to 8 and 8 to 15 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

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

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera ssp. trichocarpa* / Black cottonwood	65	Yes	FAC
2. *Alnus rubra* / Red alder	5	No	FAC
3.			
4.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus spectabilis* / Salmon berry, Salmonberry	35	Yes	FAC
2. *Cornus alba* / Red osier	20	Yes	FACW
3. *Corylus cornuta* / Beaked hazelnut	20	Yes	FACU
4. *Acer circinatum* / Vine maple	10	No	FAC
5. *Spiraea douglasii* / Douglas spiraea	5	No	FACW
	90	= Total Cover	
Herb Stratum (Plot size: 5)			
1.	5		
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 5)			
1. *Hedera helix* / English ivy	95	Yes	FACU
2.			
	95	= Total Cover	

% Bare Ground in Herb Statum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	115	x 3 =	345
FACU species	115	x 4 =	460
UPL species	5	x 5 =	25
Column Totals:	260 (A)		880 (B)

Prevalence Index = B/A = 3.38

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Lots of downed brush/branches

SOIL

Sampling Point: TP-C16

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 2/2	100					Sandy Loam	Roots
13-19	10YR 3/6						Crse Sndy Lm	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Attachment 2

Wetland Rating Forms & Figures,
Talasaea Consultants, Inc., 2022

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 1/28/22

Rated by Jacob Prater, Talasaea Consultants Trained by Ecology? X Yes ___No Date of training 2021

HGM Class used for rating Slope 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 _____

OVERALL WETLAND CATEGORY II (based on functions X or special characteristics___)

1. Category of wetland based on FUNCTIONS

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

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

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

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

FUNCTION	Improving Water Quality			Hydrologic			Habitat			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			6			8			21

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**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	

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to 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 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?
   _X_The wetland is on a slope (*slope can be very gradual*),
   _X_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,
   _X_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

SLOPE WETLANDS

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

S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: *(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*) Slope is 1% or less points = 3 Slope is > 1%-2% points = 2 Slope is > 2%-5% points = 3 Slope is greater than 5% points = 0	1
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*: Yes = 3 No = 0	3
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.* Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > ½ of area points = 3 Dense, woody, plants > ½ of area points = 2 Dense, uncut, herbaceous plants > ¼ of area points = 1 Does not meet any of the criteria above for plants points = 0	2
Total for S 1 Add the points in the boxes above	6

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources _____ Yes = 1 No = 0	0
Total for S 2 Add the points in the boxes above	1

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

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 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	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list*. Yes = 1 No = 0	1
S 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 unit is found.* Yes = 2 No = 0	2
Total for S 3 Add the points in the boxes above	4

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

SLOPE WETLANDS

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

S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.* Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 All other conditions points = 0	1

Rating of Site Potential If score is: X **1 = M** ___ **0 = L** *Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	0

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

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	2
S 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 S 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*

NOTES and FIELD OBSERVATIONS:

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.*

____Aquatic bed	4 structures or more: points = 4
____Emergent	3 structures: points = 2
__X__Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1
__X__Forested (areas where trees have > 30% cover)	1 structure: points = 0

If the unit has a Forested class, check if:

__X__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

2

H 1.2. Hydroperiods

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

____Permanently flooded or inundated	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
__X__Permanently flowing stream or river in, or adjacent to, the wetland	
__X__Seasonally flowing stream in, or adjacent to, the wetland	
____**Lake Fringe wetland**	**2 points**
____**Freshwater tidal wetland**	**2 points**

2

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

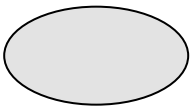
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

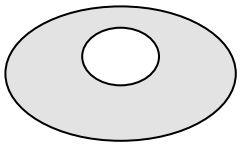
1

H 1.4. Interspersion of habitats

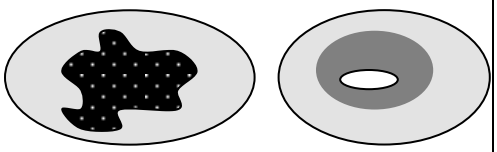
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



None = 0 points

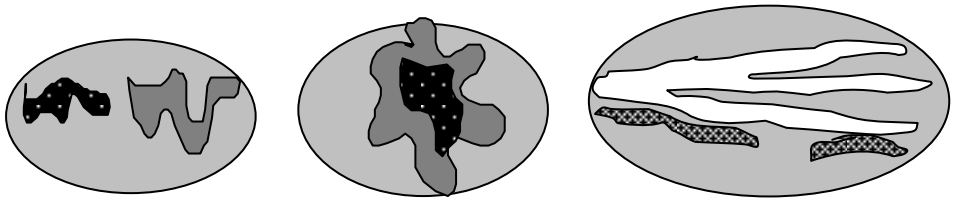


Low = 1 point



Moderate = 2 points

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



2

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.* X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). X Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	2
Total for H 1 Add the points in the boxes above	9

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

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat 19 **+** [(% moderate and low intensity land uses)/2] 1.2 **=** 20.2 % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	2
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 33 **+** [(% moderate and low intensity land uses)/2] 2.7 **=** 35.7 % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	2
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	4

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

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

Rating of Value If score is: X **2 = H** ___ **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*).

X **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*).

X **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.

X **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 *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 page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = **Category I** No = **Category II**	**Cat. I** **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes **–** Go to **SC 2.2** No **–** Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes **= Category I** No **= Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes **– Contact WNHP/WDNR and go to SC 2.4** No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes **= Category I** No **= Not 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 = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = **Is a Category I bog** No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = **Is a Category I bog** No **= Is not a bog**	**Cat. I**

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)* Yes – Go to **SC 5.1** No = **Not a wetland in a coastal lagoon**	**Cat. I**
SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) Yes = **Category I** No = **Category II**	**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 Yes – Go to **SC 6.1** No = **not an interdunal wetland for rating**	**Cat I**
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**	**Cat. II**
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**	**Cat. III**
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. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

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NW 1/4, SEC. 7, TWNSHP 26N, RNGE 6E, W.M.

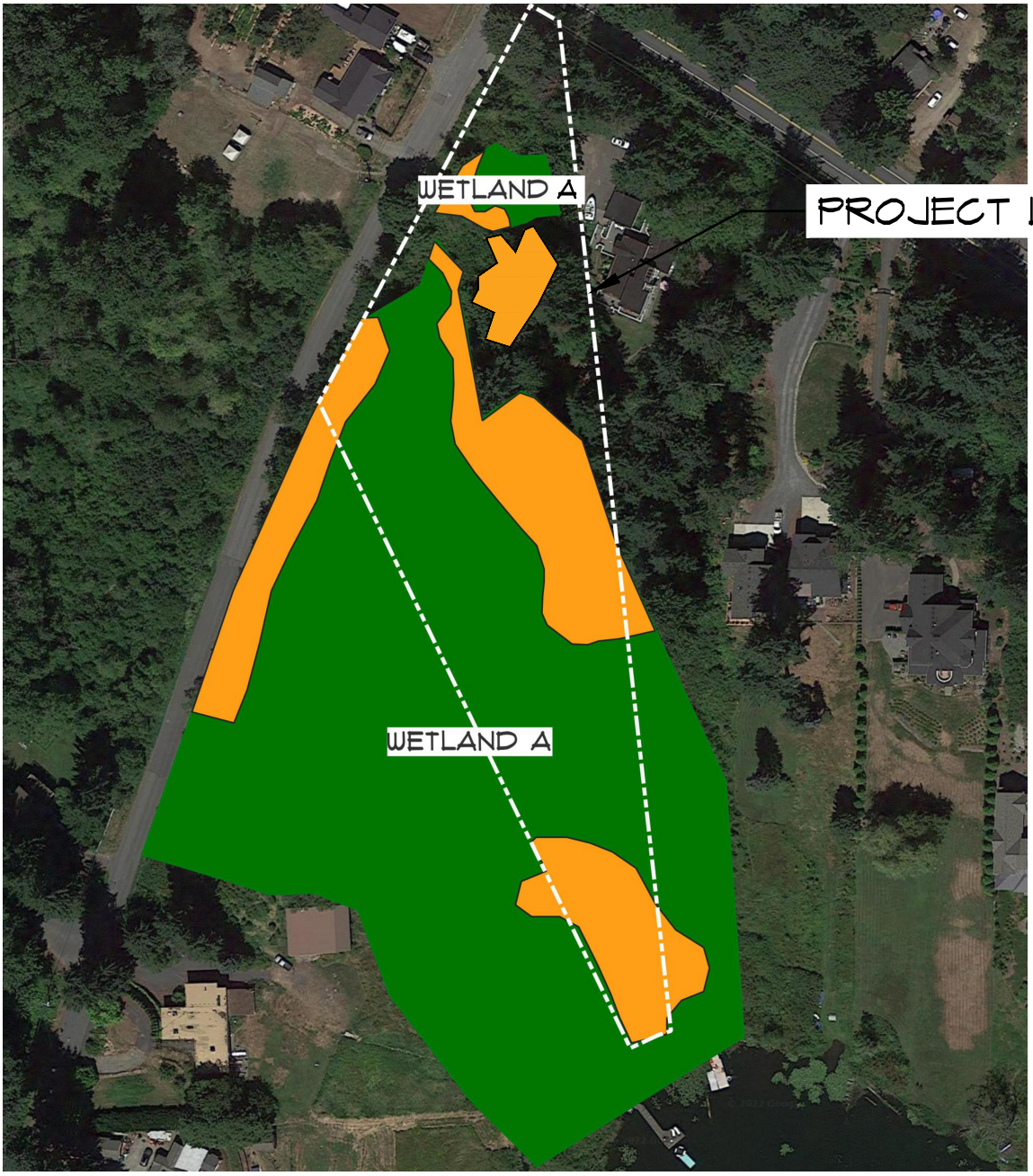

IMAGE SOURCE: AERIAL IMAGERY DERIVED FROM GOOGLE SATELLITE. FIGURES GENERATED BY TALASAEA CONSULTANTS, 2022)

LEGEND

- FORESTED
- SCRUB-SHRUB

NORTH

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FIGURE #1

COWARDIN CLASSES
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	KF	1923

SCALE: NTS
DATE: 11-1-2022
REVISED:

1

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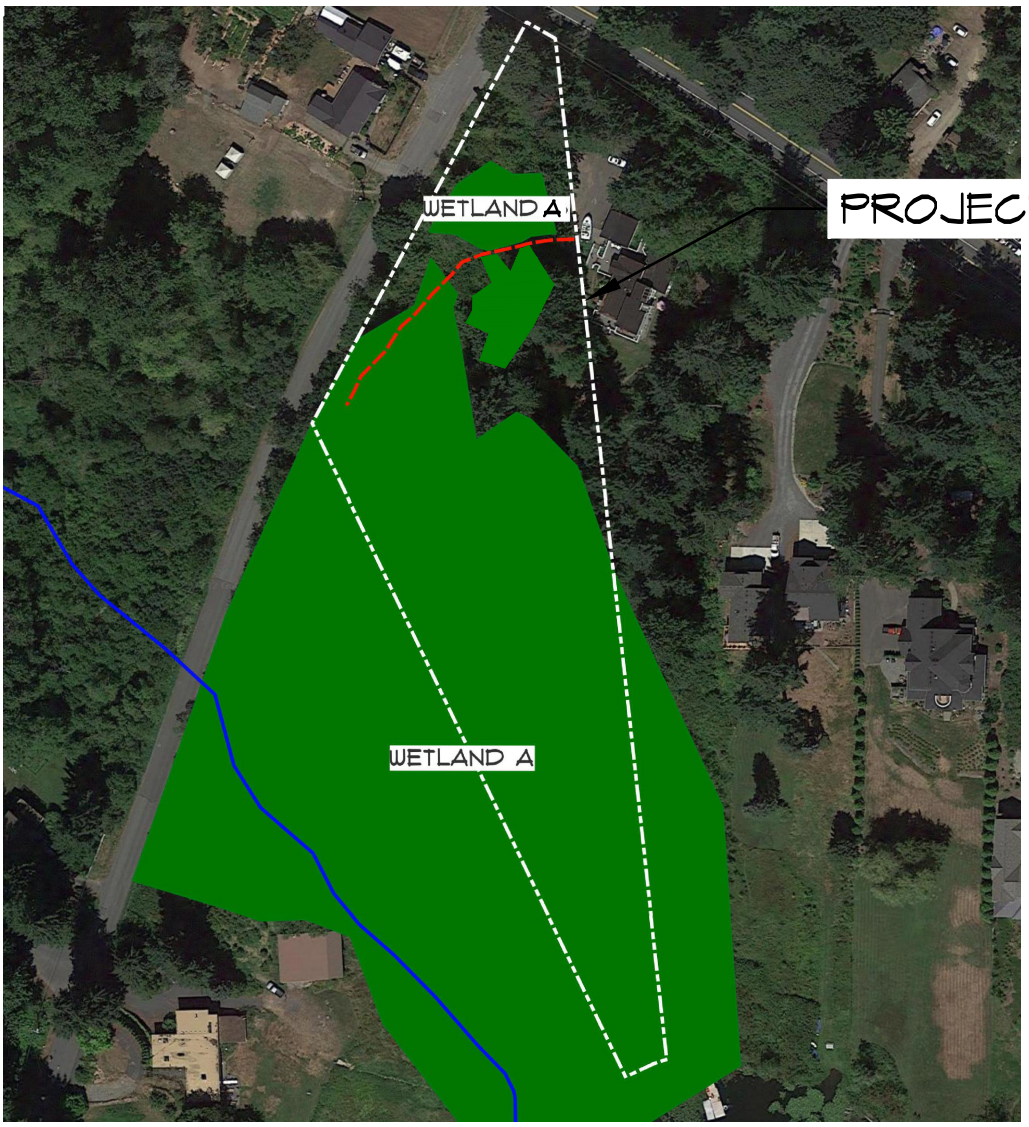

IMAGE SOURCE: AERIAL IMAGERY DERIVED FROM GOOGLE SATELLITE. FIGURES GENERATED BY TALASAEA CONSULTANTS, 2022)

LEGEND

- PERMANENTLY FLOWING STREAM
- SEASONALLY FLOWING STREAM
- SATURATED ONLY

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FIGURE #2

HYDROPERIODS
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	KF	1923

SCALE: NTS
DATE: 11-1-2022
REVISED:

2

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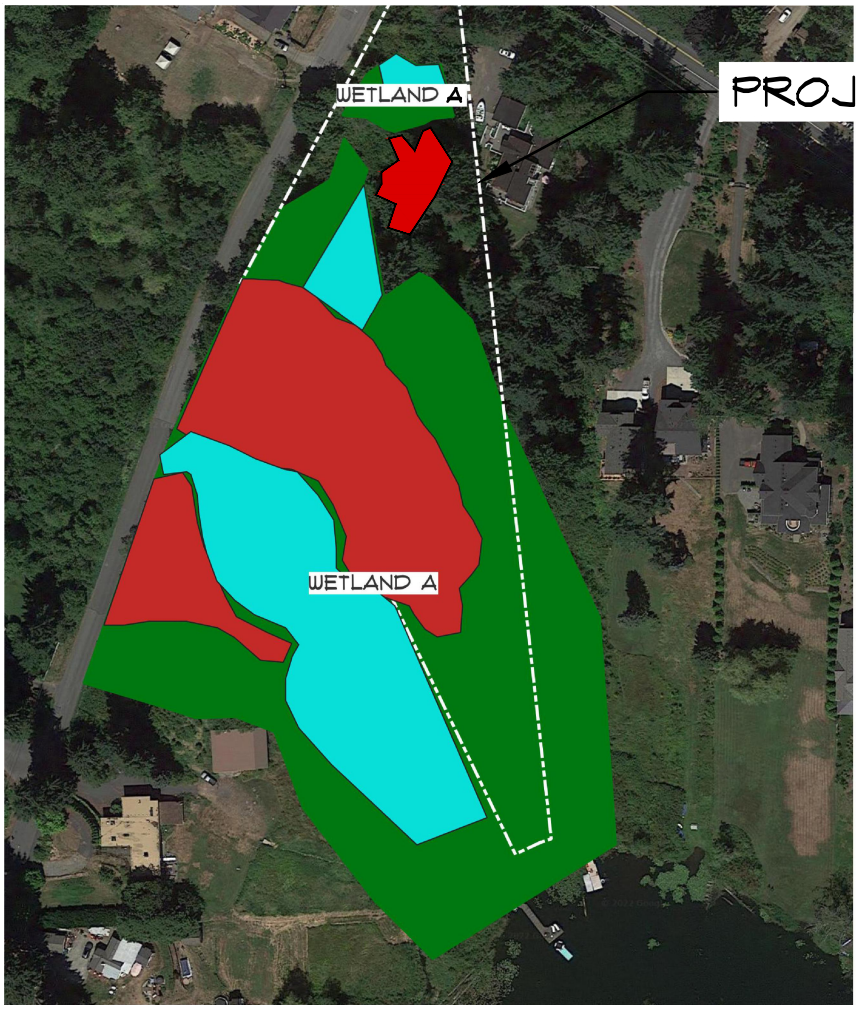

IMAGE SOURCE: AERIAL IMAGERY DERIVED FROM GOOGLE SATELLITE. FIGURES GENERATED BY TALASAEA CONSULTANTS, 2022)

LEGEND

DENSE COVER TYPE

HERBACEOUS

TREES & SHRUBS

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FIGURE #3

VEGETATION
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	KF	1923

SCALE NTS

DATE 11-1-2022

REVISED

3

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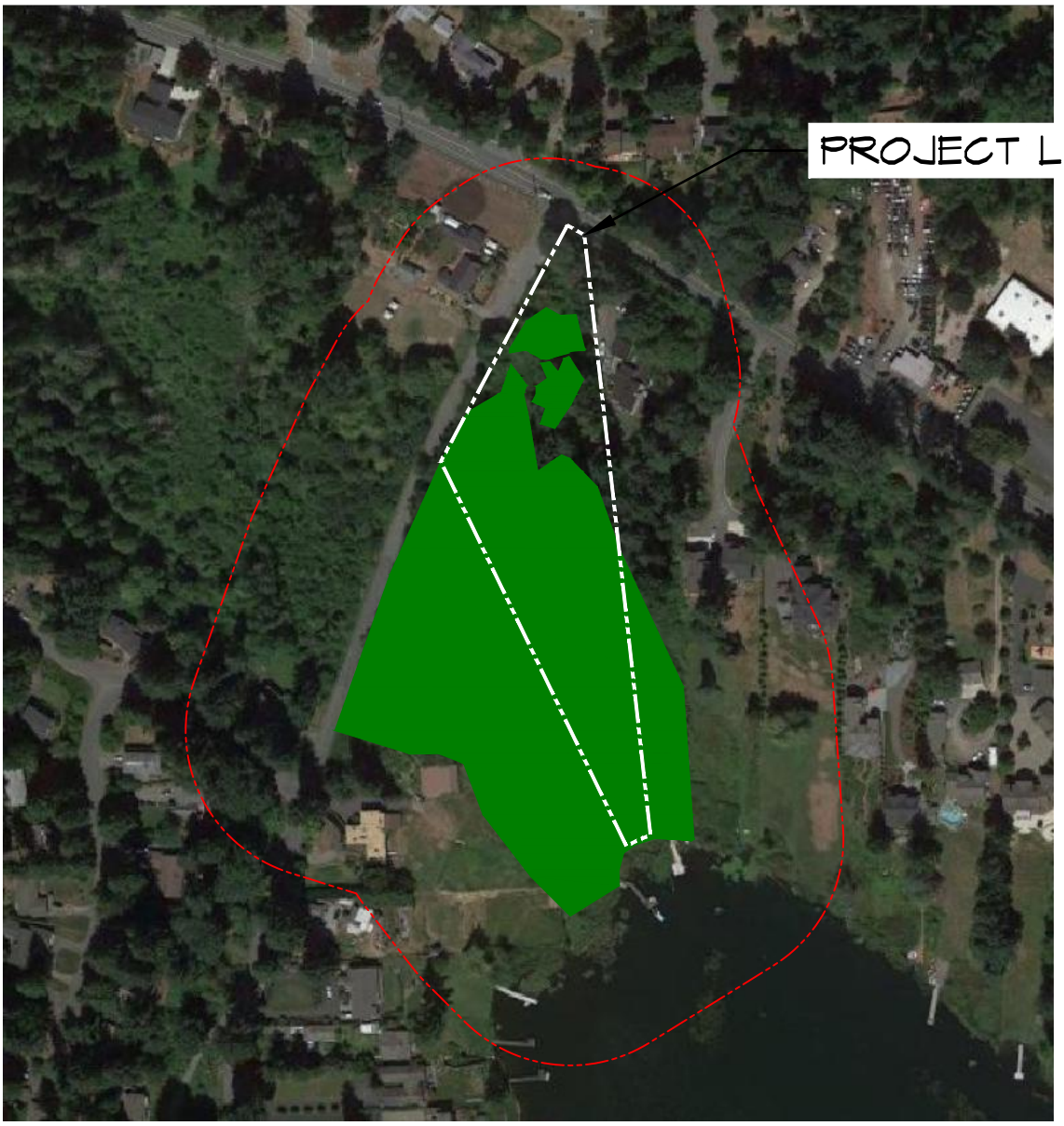

IMAGE SOURCE: AERIAL IMAGERY DERIVED FROM GOOGLE SATELLITE. FIGURES GENERATED BY TALASAEA CONSULTANTS, 2022)

LEGEND

APPROXIMATE WETLAND LOCATION

225' WETLAND BUFFER

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FIGURE #4

225' BUFFER
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	KF	1923

SCALE NTS

DATE 11-1-2022

REVISED

4

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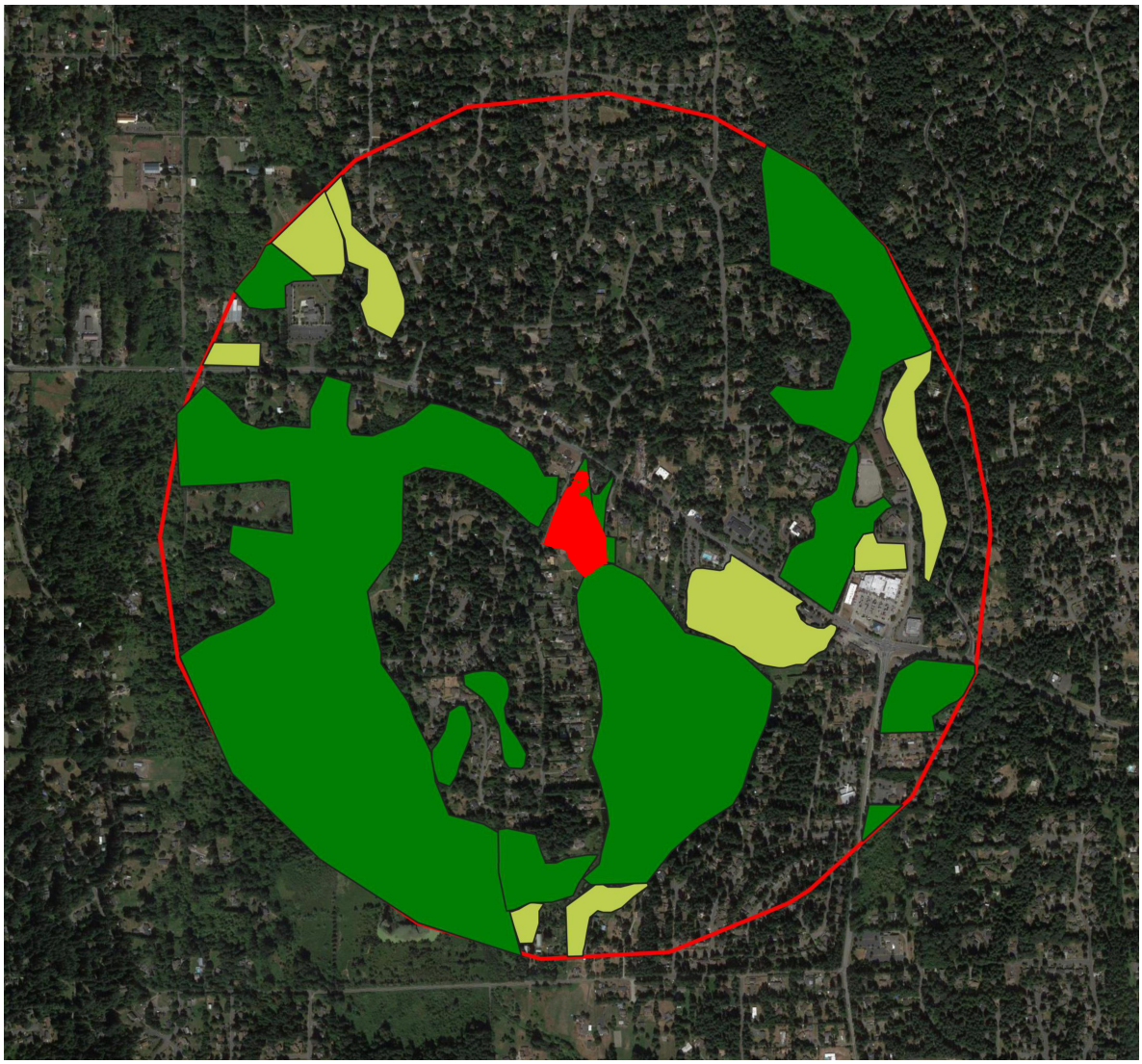

IMAGE SOURCE: AERIAL IMAGERY DERIVED FROM GOOGLE SATELLITE. FIGURES GENERATED BY TALASAEA CONSULTANTS, 2022)

LEGEND

- APPROXIMATE WETLAND LOCATION
- ACCESSIBLE HABITAT
- MODERATE / LOW INTENSITY LAND USE
- 1KM POLYGON

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FIGURE #5

1 KM POLYGON
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	KF	1923

SCALE: NTS
DATE: 11-1-2022
REVISED:

5

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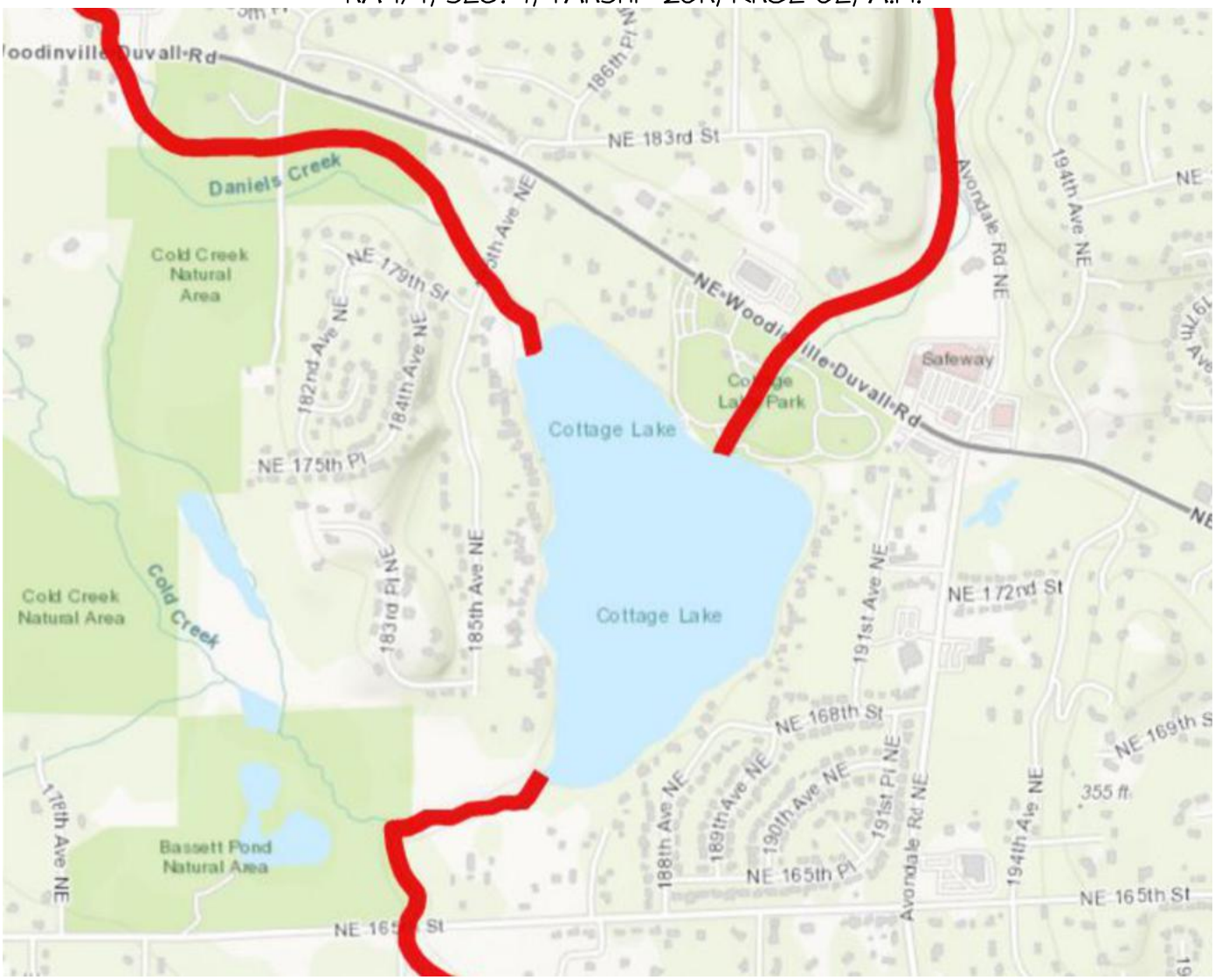

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LEGEND

Assessed Water/Sediment

Water

Category 5 - 303d

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FIGURE #6

303(d) LISTED WATERS
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	KF	1923

SCALE: NTS

DATE: 11-1-2022

REVISED:

6

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NW 1/4, SEC. 7, TWNSHP 26N, RNGE 6E, W.M,

New Search | Modify Search | Export

Search Results - 1,945 Matched Listings

	ListingID	AU ID	Medium	Parameter	Category	Waterbody Name	WRIA	WQ Improvement Project	WQ Atlas Map Link
View	42139	17110012001213	Water	Bacteria	4B	UNNAMED CREEK (5050 AT W LAKE SAMMAMISH PKWY)	8 - Cedar-Sammamish	Tosh Creek Watershed Restoration Project 4B	42139
View	7464	17110012005104	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	7464
View	13130	17110012000118	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	13130
View	21989	17110012000119	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	21989
View	45282	17110012000565	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO SWAMP CREEK)	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	45282
View	72254	17110012000149	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO SWAMP CREEK)	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	72254
View	72255	17110012000566	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO SWAMP CREEK)	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	72255
View	72256	17110012005113	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	72256
View	74373	17110012005106	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	74373
View	15776	17110019004522	Water	Bacteria	4A	VENEMA CREEK	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	15776
View	15798	17110019000562	Water	Bacteria	4A	PIPERS CREEK	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	15798
View	74669	17110019004448	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74669
View	74673	17110019004551	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74673
View	74674	17110019004566	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74674
View	74675	17110019004577	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74675
View	74676	17110019004600	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74676
View	74677	17110019004619	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74677
View	7458	17110012000117	Water	Bacteria	4A	NORTH CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	7458
View	7459	17110012000115	Water	Bacteria	4A	NORTH CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	7459
View	45729	17110012000689	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO NORTH CREEK)	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45729
View	45734	17110012000715	Water	Bacteria	4A	WOOD CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45734
View	45735	17110012000625	Water	Bacteria	4A	CRYSTAL CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45735
View	45736	17110012000618	Water	Bacteria	4A	FILBERT CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45736
View	45742	17110012000701	Water	Bacteria	4A	PALM CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45742
View	45743	17110012000652	Water	Bacteria	4A	NORTH CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45743

1 2 3 4 5 6 7 8 9 10 ... Last >>

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FIGURE # 7

TMDLs FOR WRIA
AARON MILLER COTTAGE LAKE
COTTAGE LAKE, WA

DESIGN	DRAWN	PROJECT
	FH	1923

SCALE: NTS
DATE: 3-11-2022
REVISED:

7

Appendix B: Site Plan V2

King County

Department of Local Services
Permitting Division

Residential Site Plan Template
11" x 17"

For Permitting Use

Received Date _____

Max. Impervious Surface Allowed _____
Max. Bldg. Height Allowed _____
Min. Bldg. setback from Street _____
Min. Garage setback from Street _____
Min. Bldg. setback from Interior _____

Signature _____
Date _____

Building Approval

Signature _____
Date _____

Engineering / Drainage Approval

Signature _____
Date _____

Critical Areas Approval

Signature Chris Holcomb
Permit Number CADS22-0074
Date November 20th, 2022

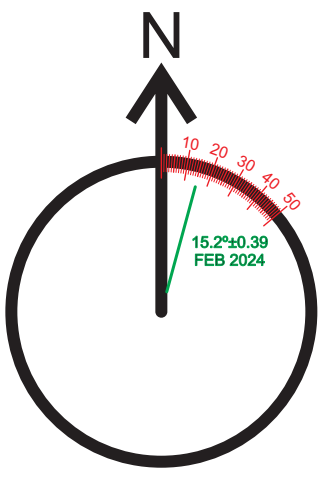
Clearing / Grading Approval

Signature _____
Date _____

Fire Approval

Signature _____
Date _____

Permit Number PREA22-0065
Parcel Number 1630700185
Applicant Name Aaron & Jasmine Miller
Site Address 185th Ave NE, Woodinville WA



64.0'

100.0'

Engineering
Scale: 1" = 64'

Sheet 1 of 6

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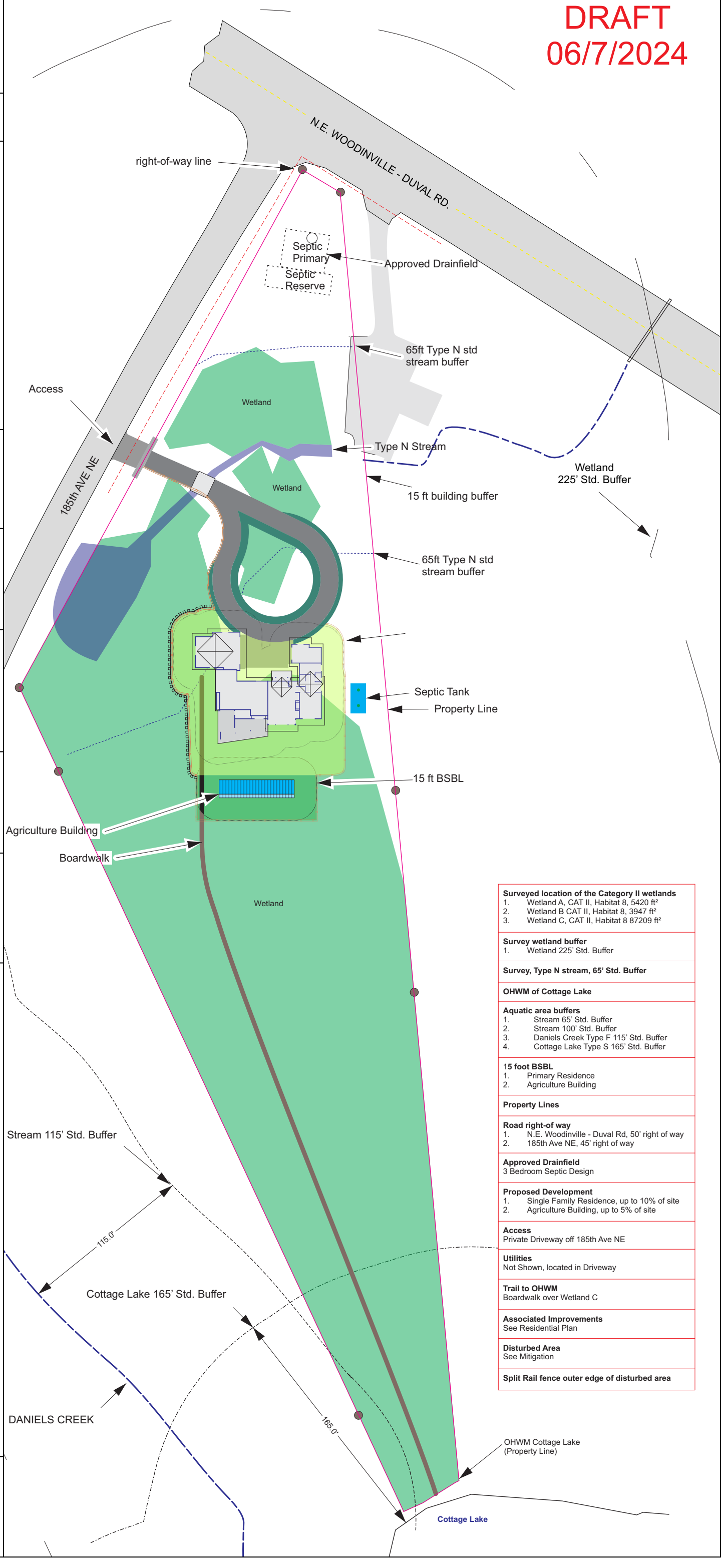
06/7/2024



Surveyed location of the Category II wetlands
1. Wetland A, CAT II, Habitat 8, 5420 ft²
2. Wetland B CAT II, Habitat 8, 3947 ft²
3. Wetland C, CAT II, Habitat 8 87209 ft²

Survey wetland buffer
1. Wetland 225' Std. Buffer

Survey, Type N stream, 65' Std. Buffer

OHWM of Cottage Lake

Aquatic area buffers
1. Stream 65' Std. Buffer
2. Stream 100' Std. Buffer
3. Daniels Creek Type F 115' Std. Buffer
4. Cottage Lake Type S 165' Std. Buffer

15 foot BSBL
1. Primary Residence
2. Agriculture Building

Property Lines

Road right-of way
1. N.E. Woodinville - Duval Rd, 50' right of way
2. 185th Ave NE, 45' right of way

Approved Drainfield
3 Bedroom Septic Design

Proposed Development
1. Single Family Residence, up to 10% of site
2. Agriculture Building, up to 5% of site

Access
Private Driveway off 185th Ave NE

Utilities
Not Shown, located in Driveway

Trail to OHWM
Boardwalk over Wetland C

Associated Improvements
See Residential Plan

Disturbed Area
See Mitigation

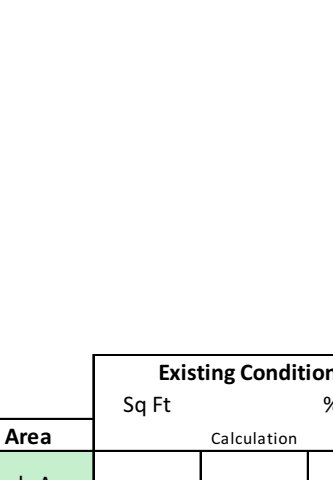
Split Rail fence outer edge of disturbed area

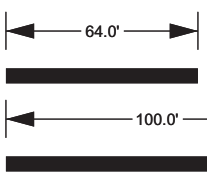
Existing Conditions
Site Conditions as of February 2023. See official survey and critical areas review.
MILLA-230206_TOPO_230324

Residential Site Plan Template
11" x 17"

Permit Number PREA22-0065
Parcel Number 1630700185
Applicant Name Aaron & Jasmine Miller
Site Address 185th Ave NE, Woodinville WA

	Existing Conditions		
	Sq Ft		% Total
Shape Area	Calculation		
Wetlands A Category II Habitat Score 8	5313	+5420 -107	4.3%
Wetland B Category II Habitat Score 8	3923	+3923	3.2%
Wetland C Category II Habitat Score 8	83760	+83971 -212	67.8%
Wetland Buffer	20065	20068	16.3%
Type N Stream	3840	+3840	3.1%
Unpermitted Actions	6046	+5727 +212 +107	4.9%
Unpermitted Impervious	516	513	0.4%
Totals	**123463**		**100%**





Engineering
Scale: 1" = 64'

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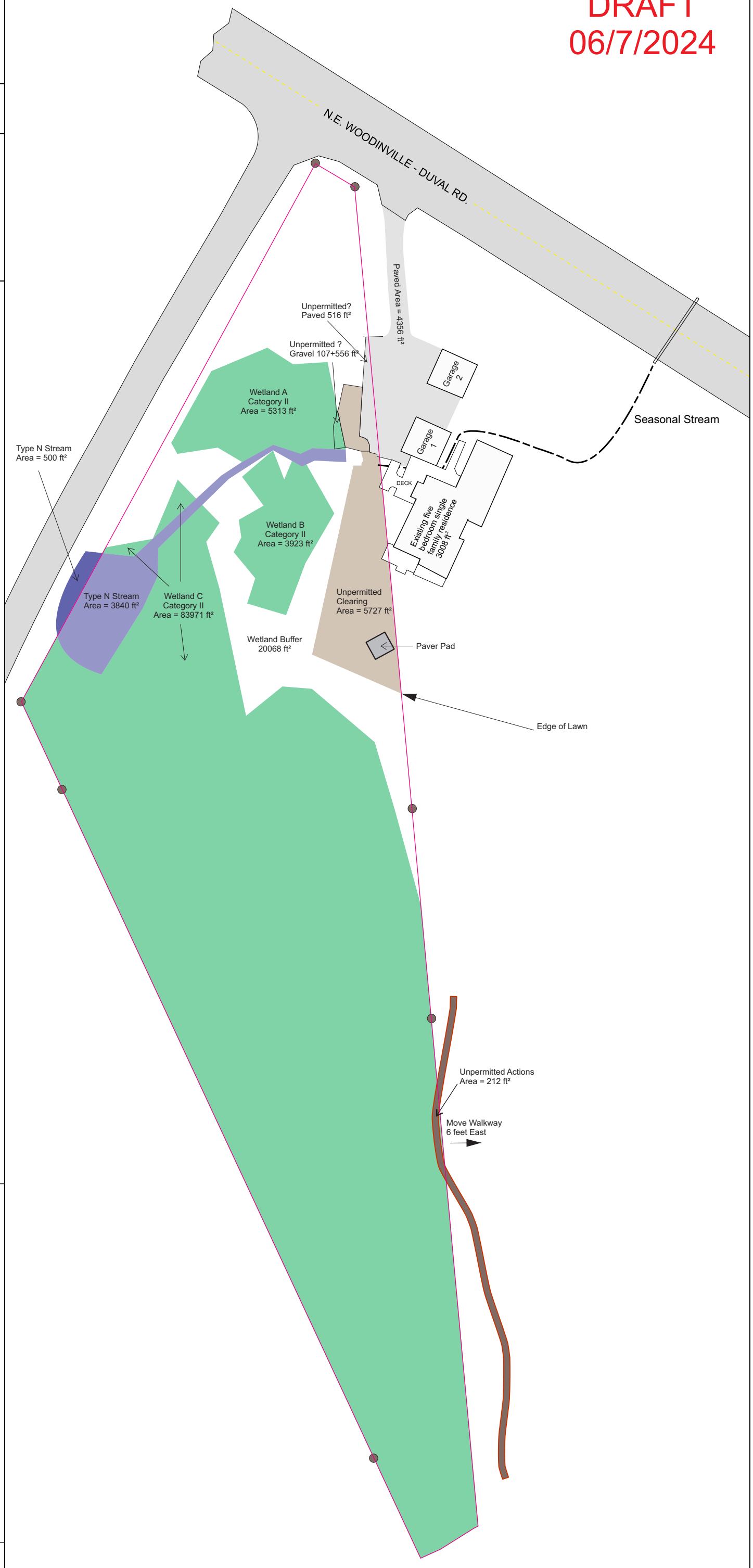
06/7/2024



Grading & Drainage
Adapted from G2 Civil Engineering plans
Miller KC SFR (1)

Residential Site Plan Template
11" x 17"

Permit Number PREA22-0065
Parcel Number 1630700185
Applicant Name Aaron & Jasmine Miller
Site Address 185th Ave NE, Woodinville WA

Owner Changes from Miller KC SFR (1)
Initial engineering drawing meet drainage requirements. Minor changes to shape and location of drainage. These changes are as follows and will be updated in revised stamped engineering plans.

1) 45'LX2.5'X1.5D Dispersion trench is moved to edge of BSBL or 15 foot from foundations.

2) 45'LX100' Native dispersion area moved over property line. Easement agreement available to accommodate.

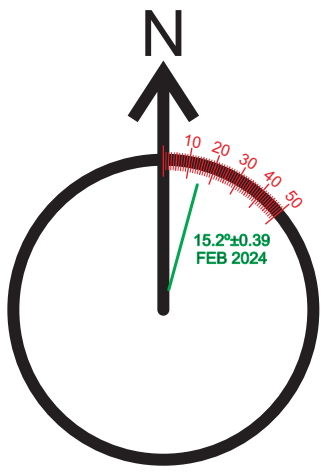
3) Box Culvert detail added

4) Move water and electrical lines to inside the driveway.

5) Adjust shape of Driveway runoff to minimize impacts to disturbed areas.

6) Single family residence elevation remains at 245' to remain 10' above Cottage Lake OHWM and also to provide a margin of safety if Type N stream escapes containment

7) Lowered garage and driveway to reduce fill requirements



64.0'
100.0'

Engineering
Scale: 1" = 64'

Sheet 3 of 6
PREA22-0065-REV2 (June 6, 2024)

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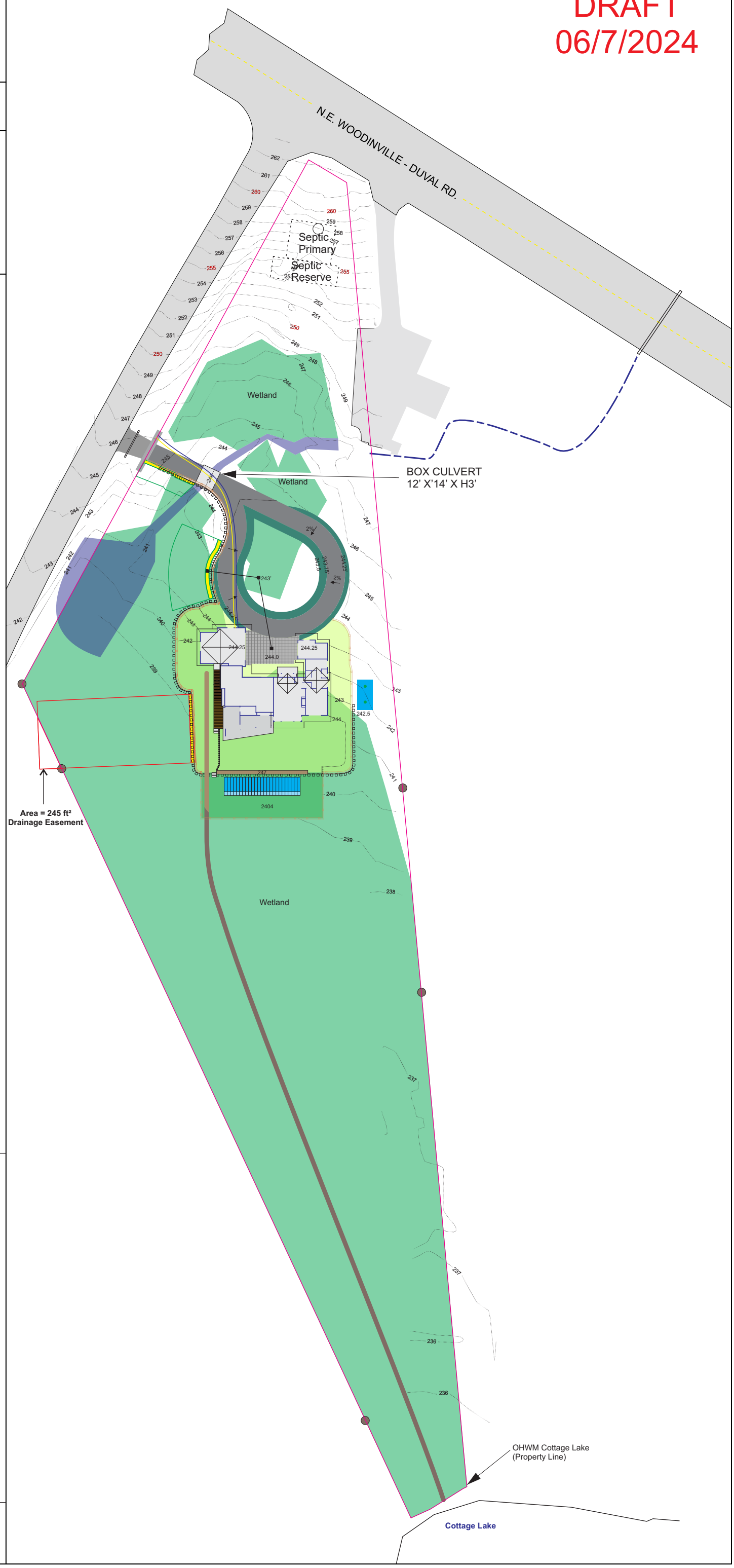
06/7/2024



Disturbed Areas
Total accounting for all areas.
See page 5 for table of areas

Residential Site Plan Template
11" x 17"

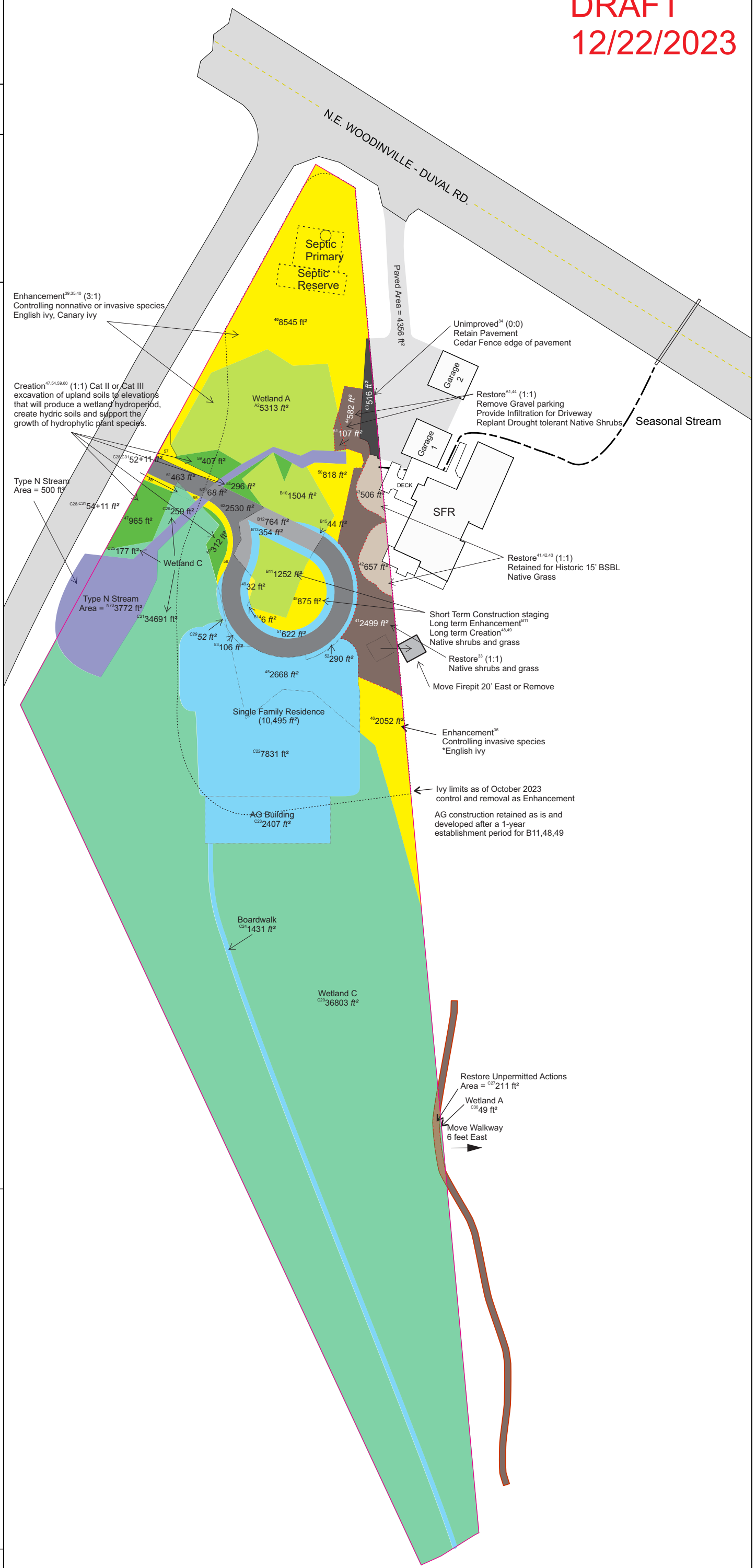
Permit Number PREA22-0065

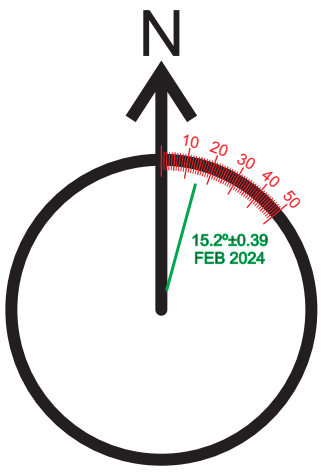
Parcel Number 1630700185

Applicant Name Aaron & Jasmine Miller

Site Address 185th Ave NE, Woodinville WA

DRAFT
12/22/2023





64.0'

100.0'

Engineering
Scale: 1" = 64'

Sheet 5 of 6

PREA22-0065-REV2 (June 6, 2024)

Printed 6/5/2024

Print 11" x 17"

DRAFT
06/7/2024

Lot Area	123463 sf		Summary of Land Use				DEBITS		Unimproved		Restore (1:1)		Creation (1.5:1)		Rehabilitation (2:1)		Enhancement (3:1)	
Area Definition	Area Key	Area ft²	Existing	Proposed		Change	Loss of Function due to Impacts		No improvement		Restore disturbed areas		New Wetland		Improve wetland function		Change growth or biodiversity	
Wetlands A Category II, HS 8	A2	5313	5313	6123	5.0%	810 15.2%		-	A2	5313	A1	107	59	407				
													54	296				
Wetland B Category II Habitat Score 8	B10	1504	3924	2756	2.23%	-1168 -29.8%			B10	1504							B11	1252
	B11	1252																
	B12	764																
	B(13:15)	404																
Wetland C Category II Habitat Score 8	C20	36803	83974	73519	59.5%	-10455 -12.5%			C20	36803			47	965				
	C21	34691							C21	34691			60	312				
	C22	7831																
	C23	2407																
	C24	1431							C25	259								
	C25 C26	436							C26	177								
	C27	211									C27	211						
	C28	52							C28	52								
	C29	52																
	C30	49							C30	49								
	C31	11																
Wetland Buffer	40	8545	21549	17134	13.9%	-4415 -20.5%			40	8545	41	2499						
											42	657						
	45	2668									43	506						
	46	2052							46	2052	44	582						
	47	965							48	875								
	48, 49	907							49	32								
	50	818							50	818								
	51,52,53	1018																
	54	296																
	(55:58)	568							(55:58)	568								
	59	407																
	60	312																
	61	463																
	62	2530																
Type N Stream	N70	3772	3840	3840	3.1%	0 0.0%			N70	3772								
	N71	68							N71	68								
Unpermitted	A1	107	4867	516	0.4%	-4351 -89.4%			63	516								
	(41:44)	4244																
	63	516																
Driveway Paved - Sholder (Blue Wildrye) (Idaho Fescue)			-	5242	4.2%		51,52,53	1018										
							B13	354										
							B14	6										
							B15	44										
							C29	52										
							C31	11										
							B12	764										
							61	463										
							62	2530										
Single Family Residence			-	10499	8.5%		C22	7831										
							45	2668										
Ag Building			-	2407	1.9%		C23	2407										
Boardwalk			-	1431	1.2%		C24	1431										
Total (ft²)		**123467**	**123467**	**123467**				**19579**		**96094**		**4562**		**1980**		**0**		**1252**	**123467**
Total (Acres)		**2.83**	**2.83**	**2.83**				**0.45**		**2.21**		**0.10**		**0.05**		**0.00**	**0.00**	**0.03**	**2.83441**
% of Total			**100%**	**100.0%**	**100.0%**			**15.9%**		**77.8%**		**3.7%**		**1.6%**		**0.0%**		**1.0%**	**100.00%**
Mitigation Credit							**Debit**	**19579**	**Credit**	**0**	**Credit**	**4562**	**Credit**	**1320**	**Credit**		**Credit**	**417**	

Plan Overlay
Approximately to scale. For reference only

DRAFT
06/7/2024

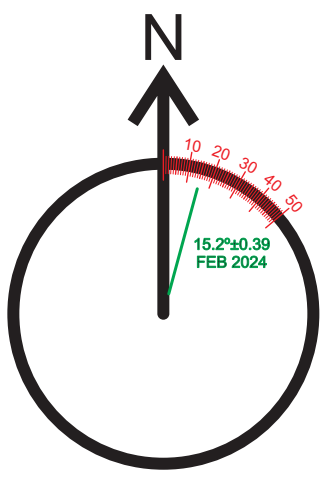
Residential Site Plan Template
11" x 17"

Permit Number PREA22-0065

Parcel Number 1630700185

Applicant Name Aaron & Jasmine Miller

Site Address 185th Ave NE, Woodinville WA



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Sheet 6 of 6

PREA22-0065-REV2 (June 6, 2024)