# MITIGATION PLAN

185<sup>th</sup> Ave NE & NE Woodinville Duvall Road, Cottage Lake WA Parcel 1630700185

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Critical Areas CADS22-0074 |Closed November 20, 2022 Pre Application PREA22-0065 | Open November 22, 2022 Shoreline Development Variance SHOR24-0027 | Open June 13, 2024 + Active



# Contents

1	INTE	RODUCTION	4					
2	Exis	ting Conditions by Type	5					
3	3 Future Conditions for Mitigation							
	3.1	Residential 10%	5					
	3.2	Agriculture 5%	5					
	3.3	Driveway	7					
	3.4	Septic	7					
	3.5	Boardwalk	7					
4	King	County 21A.24.340 Wetlands Specific Mitigation Requirements	8					
	4.1	Calculating Debits	8					
	4.2	Calculating Credits	9					
	4.2.3	1 Creation (1:1) and Enhancement (4:1)						
	4.2.2	2 Enhancement (12:1)						
	4.3	Reduction of Ratios						
	4.4	Conclusions to use of Keller Farm for Mitigation						
5	CRE	DIT/DEBIT Western Washinton Wetland Rating System						
	5.1	DEBITS						
	5.1.	1 Wetland Unit Altered (#1) = All disturbances in Category II Wetlands						
	5.1.2	2 Wetland Unit Altered (#2) = disturbances to Type N stream						
	5.2	Credit Sheet						
	5.2.	1 Wetland Unit Site 1						
	5.2.2	2 Wetland Unit Site 2						
	5.3	Scaling Factors	14					
	5.4	Areas Neither Credit or Debit	14					
	5.5	Summary	15					
	5.5.	1 Improving Water Quality						
	5.5.2	2 Hydrologic Functions	16					
	5.5.3	3 Considerations to further Debits						
	5.5.4	4 Considerations to Further Credits						
	tio Mo	thod	18					

Appendix A: TALASAEA Existing Conditions Report	19
Appendix B: Site Plan V2	20

# 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 185<sup>th</sup> 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<sup>1</sup> 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<sup>2</sup>. 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<sup>3</sup>. 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.

<sup>2</sup> 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

<sup>&</sup>lt;sup>1</sup> PREA22-0065 Alternative Analysis

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

<sup>&</sup>lt;sup>3</sup> 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 ft <sup>2</sup>	17.45%
Stream	3840 ft <sup>2</sup>	3.11%
Unpermitted clearing	4867 ft <sup>2</sup>	3.94%
<b>E 1 D 1</b>		

**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 ft <sup>2</sup>			
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<sup>4</sup> is 12347 ft<sup>2</sup>. This also must include 15' setbacks from any structure. The SFR is 3 bed, 3 bath, and approximately 3000 ft<sup>2</sup>.

# 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.

<sup>&</sup>lt;sup>4</sup> 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

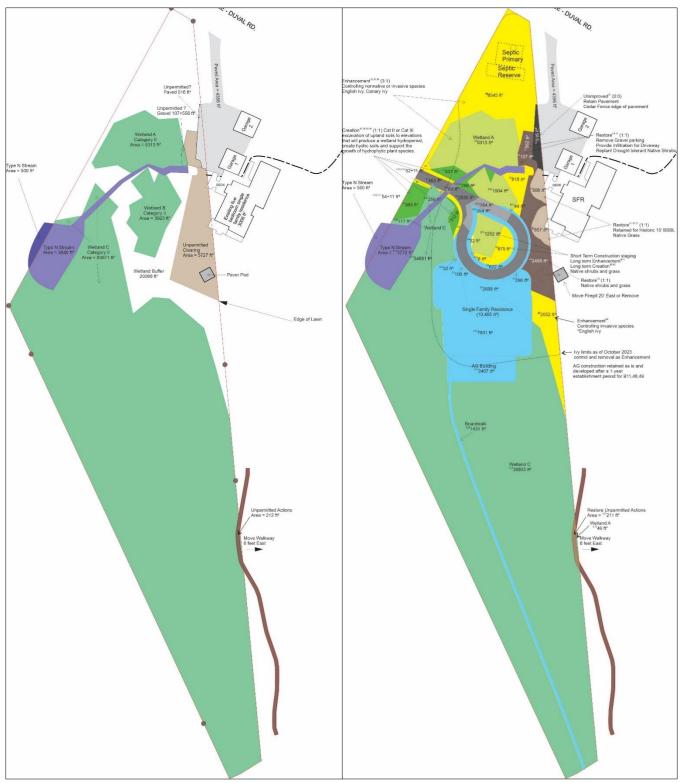


FIGURE 2: EXISTING SITE CONDITIONS

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<sup>5</sup> width and terminate in either a cul-de-sac<sup>6</sup> or hammer head<sup>7</sup>. 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 ft<sup>2</sup> impact the driveway has on the type N stream. For this reason, area N71=68ft<sup>2</sup> 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.

 <sup>&</sup>lt;sup>5</sup> 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.
 <sup>6</sup> 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).

<sup>&</sup>lt;sup>7</sup> 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 ft<sup>2</sup> (0.47 Acre) of disturbed area comes to a total Mitigation Cost of \$2,527,217.

	Areas	in ft²		Sum of Propose	ed Disturbed f	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	<del>68</del>	4011	-		
Septic		950	-	-	-	-		
Boardwalk		1431	1431	-	-	-		
Total	18520	20597	12900	-	6679	4562		
Off-Site Mitigatio	n (Debit)		Cat II Wet	Stream	Buffer	Unpermitted		
Keller Bank Cost = S	Keller Bank Cost = \$ 23/sq <sup>2</sup>				Ratios			
Site cost per sf =	\$ 176/sq²	5.3:1	8:1	2:1	1:1	1:1		
Mitigation ft <sup>2</sup> =	109879		103200	0	6679	4562		
Mitigation Cost =	\$ 2,527,217		\$2,373,600	<b>\$</b> 0	\$153,617	<b>\$</b> 0		
On-site Mitigation	n (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 ft <sup>2</sup>		860	2840	0	-1980			
break-even per sf	\$ 2/sq²	1:26						
Credit Available	\$19,771							
Debit - Credit	\$2,507,446		Calculatio	n for Off Site M	itigation 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 ft<sup>2</sup> = 0.30 acre) representing 10.5% of total site disturbances, but require (103200 ft<sup>2</sup> = 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  $$2.43/ft^2$ . The current market price at Keller Farm is  $$23/ft^2$  which does not include the (8:1) multiplier. To disturb 1 ft<sup>2</sup> of category II wetlands onsite requires an offsite mitigation credit purchase at  $$184/ft^2$ ! 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 ft<sup>2</sup>, 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 ft<sup>2</sup> of category II wetlands.

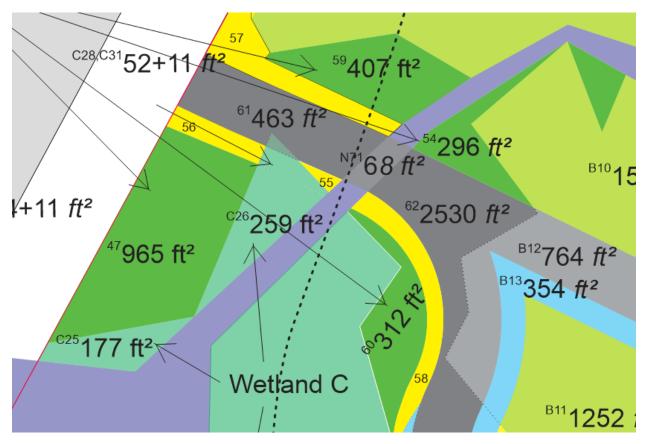


FIGURE 3: WETLAND CREATION 47,54,59,60

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

See Table 3 on-site mitigation credit and Figure 3

To create 1980 ft<sup>2</sup>, an Enhancement area of 4x or 7920 ft<sup>2</sup> 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 ft<sup>2</sup> of category II wetlands and Enhancement of another 7920 ft<sup>2</sup> of wetlands, the net benefit is 0 ft<sup>2</sup> 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 ft<sup>2</sup> of category II wetlands. The ratio is (12:1) with a resulting credit of 860 ft<sup>2</sup> amounting to about \$19k out of \$2.5M. The break-even cost is \$1.91/ft<sup>2</sup>, and when that value is exceeded, it is more economical to buy credits through Keller Farm at \$23/ft<sup>2</sup> 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 <u>ludicrously</u> 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<sup>8</sup>.

<sup>&</sup>lt;sup>8</sup> 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<sup>9</sup>. A populated version of this workbook has been prepared<sup>10</sup>.

# 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.

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										Score for each function based on three ratings (order of ratings is not	
FUNCTION Improving Water Quality				Hy	ydrolo	ogic	Habitat			important) 9 = H,H,H	
					Circle	the ap	propr	iate ra	tings		8 = H,H,M
Site Potential	н	м	L	н	м	L	н	м	L	1	7 = H,H,L
Landscape Potential	н	м	L	н	М	L	Н	М	L	1	7 = H,M,M
Value	н	М	L	Н	М	L	Н	М	L	TOTAL	6 = H,M,L
Score Based on Ratings		7			6			8		21	6 = M,M,M 5 = H,L,L 5 = M,M,L

#### FIGURE 4: CATEGORY II WETLANDS RATING

- CELL: 'Debit Sheet'!B16 (12900 ft<sup>2</sup> | 0.296 Acres)
  - Acres of non-forested areas impacted
  - AG Building (2407 sf) C23
  - Boardwalk (1431 sf) C24
  - o 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

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

<sup>&</sup>lt;sup>9</sup> Credit debit method - Washington State Department of Ecology

<sup>&</sup>lt;sup>10</sup> 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 ft<sup>2</sup> 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 ft<sup>2</sup> | 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 ft<sup>2</sup> | 0.021 Acres) = areas {48,49}
  - Acres created or re-established (emergent)
  - Description: Buffer  $\rightarrow$  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 (8115ft<sup>2</sup> | 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 ft<sup>2</sup> | 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 ft<sup>2</sup>| 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 ft<sup>2</sup> | 0.014 Acres) = areas {N70} partial, not full 3772 ft<sup>2</sup>
  - 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 ft<sup>2</sup> | 0.073 Acres) = areas {N70 608ft<sup>2</sup>}
  - 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 <u>not</u> 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)

(see definition for f	elatively undisturbe	u on page 105J.		
	Site connected to at	Site connected	Site provides a	No
	least 250 acres of	to ≥ 25 acres o <mark>f</mark>	habitat corridor	corridors
	undisturbed habitat	undisturbed		
		habitat		
Scaling Factor if area	0.1	0.05	0.025	0
is replaced				
Scaling Factor if area	0.05	0.025	0.013	0
is <u>not</u> replaced				

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 <u>not</u> 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 ft<sup>2</sup>
- Single Family Residence: 2668 ft<sup>2</sup> {45}
- Type N Stream: 68 ft<sup>2</sup> {N71}
- Driveway: 4527 ft<sup>2</sup> {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)	Н	м	м
Landscape Potential (H,M,L)	м	L	н
Value (H,M,L)	н	н	н

BALANCE Credits - Debits	-0.054920612	-0.140909539	0.243740995
KCMRP Credit per AP	(\$3,157.94)	(\$8,102.30)	\$14.015.11
\$57,500	(45,157.54)	(\$0,102.50)	φ14,015.11
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 185<sup>th</sup> 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  $2 \rightarrow 0$ , score  $21 \rightarrow 19$ 

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 6Add 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) $\rightarrow$ L(4) and Credit goes to \$3712.17

Rating of Unit AFTER mitigation	Improving Water Quality	Hydrologic	Habitat		
Site Potential (H,M,L)	м	м	м		
Landscape Potential (H,M,L)	м	L	н	_	
Value (H,M,L)	н	(L)	н	_	
BALANCE Credits - Debits	-0.1	0283134	8	-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 ft<sup>2</sup> 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	\$2,681.87	(\$735.44)	\$23,837,59
\$57,500	92,001.07	(\$155.44)	923,037.35
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	\$7.577.73	\$3.461.02	\$29,432,86	NA	0.058827	7263
\$57,500	φr,5r1.15	φ3,401.0Z	φ <b>2</b> 5,432.00	Total	100%	122299
KCMRP Total	\$40,471.61					

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	1.559662002	1.284084761	2,143733395
Credits - Debits	1.555002002	1.204004701	2.143733333
KCMRP Credit per AP	\$89,680.57	\$73,834.87	\$123,264.67
\$57,500	409,000.57	913,034.01	\$123,204.07
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 <sup>1</sup>
	0.30					-0.296
Category II		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



01 November 2022

TAL-1923

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

**REFERENCE:** Property at 185<sup>th</sup> 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 185<sup>th</sup> 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 185<sup>th</sup> 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 (<u>www.websoilsurvey.nrcs.usda.gov/app</u>);
- 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 (<u>wdfw.wa.gov/mapping/phs</u>);
- Washington Department of Natural Resources (DNR) Natural Heritage GIS database, 2021;
- Fish usage data from SalmonScape

   (<u>http://apps.wdfw.wa.gov/salmonscape/map.html</u>), StreamNet
   (<u>http://www.streamnet.org/data/interactive-maps-and-gis-data/</u>) and the
   Northwest Indian Fisheries Commission (<u>https://geo.nwifc.org/swifd/</u>);
- 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 185<sup>th</sup> Avenue Northeast, shallow groundwater movement, and Stream 1 in the western portions of the wetland adjacent to 185<sup>th</sup> 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**).

#### <u>Stream 1</u>

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 185<sup>th</sup> 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 185<sup>th</sup> 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

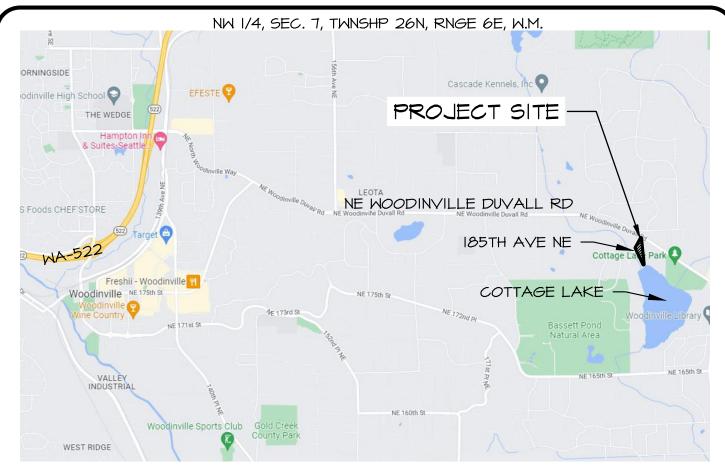


IMAGE SOURCE: GOOGLE MAPS, WWW.MAPS.GOOGLE.COM (ACCESSED 3 FEB 2015)

DRIVING DIRECTIONS:

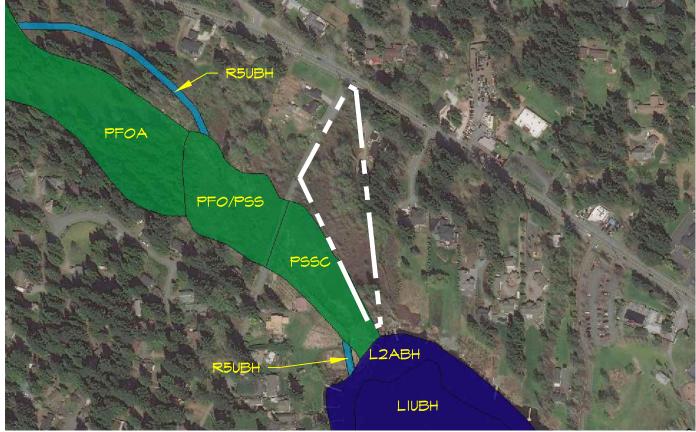
- I. LEAVING WOODINVILLE CITY HALL. HEAD SOUTHEAST TOWARDS 133RD AVENUE NORTHEAST.
- 2. TURN LEFT TOWARDS 133RD AVENUE NORTHEAST.
- 3. TURN LEFT ONTO 133RD AVENUE NORTHEAST.
- 4. TURN RIGHT ONTO NORTHEAST 175<sup>TH</sup> STREET
- 5. CONTINUE ONTO NORTHEAST WOODINVILLE DUVALL ROAD.
- 6. TURN RIGHT TO 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

			Ć	D	10001 111 10001
	FIGURE #1	DESIGN	drawn FH	project 1923	0000
<b>TALASAEA</b> CONSULTANTS, INC. Resource & Environmental Planning 15020 Bear Creek Road Northeast Woodinville, Washington 98077 Bus (425)861-7550 - Fax (425)861-7549	VICINITY MAP & DRIVING DIRECTIONS AARON MILLER COTTAGE LAKE COTTAGE LAKE, WA	scale NTS date 3-11-20 revised	122		

NORTH

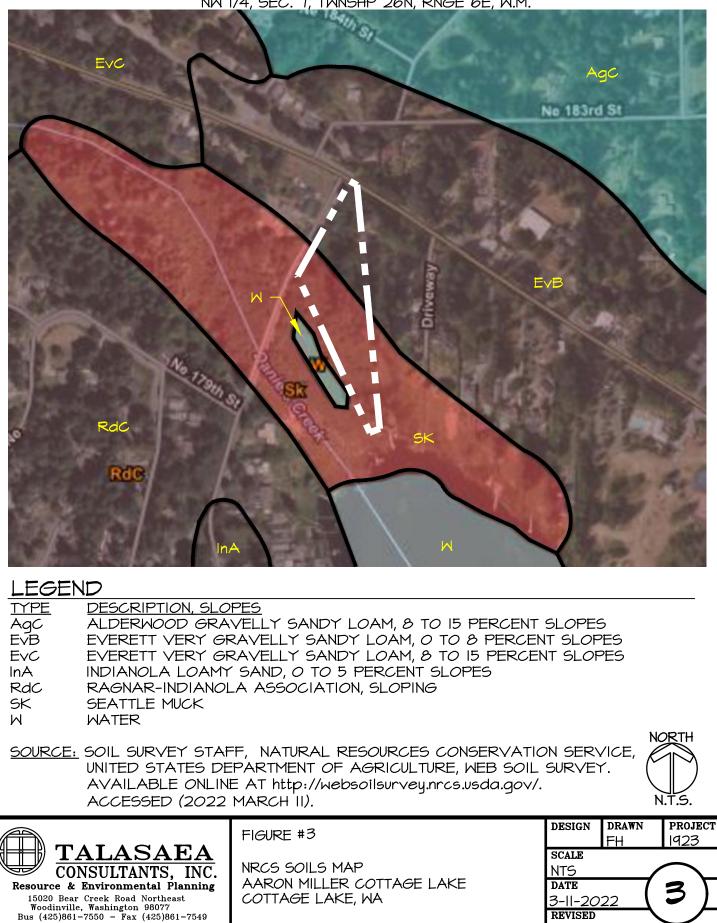
#### NW 1/4, SEC. 7, TWNSHP 26N, RNGE 6E, W.M.



# LEGEND

PFOA PALUSTRIN PSSC PALUSTRIN R5UBH RIVERINE, FLOODED LIUBH LACUSTRIN L2ABH LACUSTRIN SOURCE: U.S. FISH A INVENTOR SERVICE, I	NE, FORESTED, SCRUB-SHRUB, SEASONALLY NE, FORESTED, TEMPORARY FLOODED NE, SCRUB-SHRUB, SEASONALLY FLOODED UNKNOWN PERENNIAL, UNCONSOLIDATED BO	OTTOM, PERMANENTLY ERMANENTLY FLOODED Y FLOODED WAL WETLANDS
	FIGURE #2	DESIGN DRAWN PROJECT
Resource & Environmental 15020 Bear Creek Road North Woodinville, Washington 9807 Bus (425)861-7550 - Fax (425)	AEA S, INC. I Planning theast 77 NATIONAL WETLANDS INVENTORY AARON MILLER COTTAGE LAKE COTTAGE LAKE, WA	FH1923SCALE1923NTS2DATE23-11-20222REVISED2

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



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



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



Parcels

- Streams

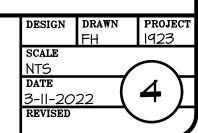
Wetland (1990 SAO)

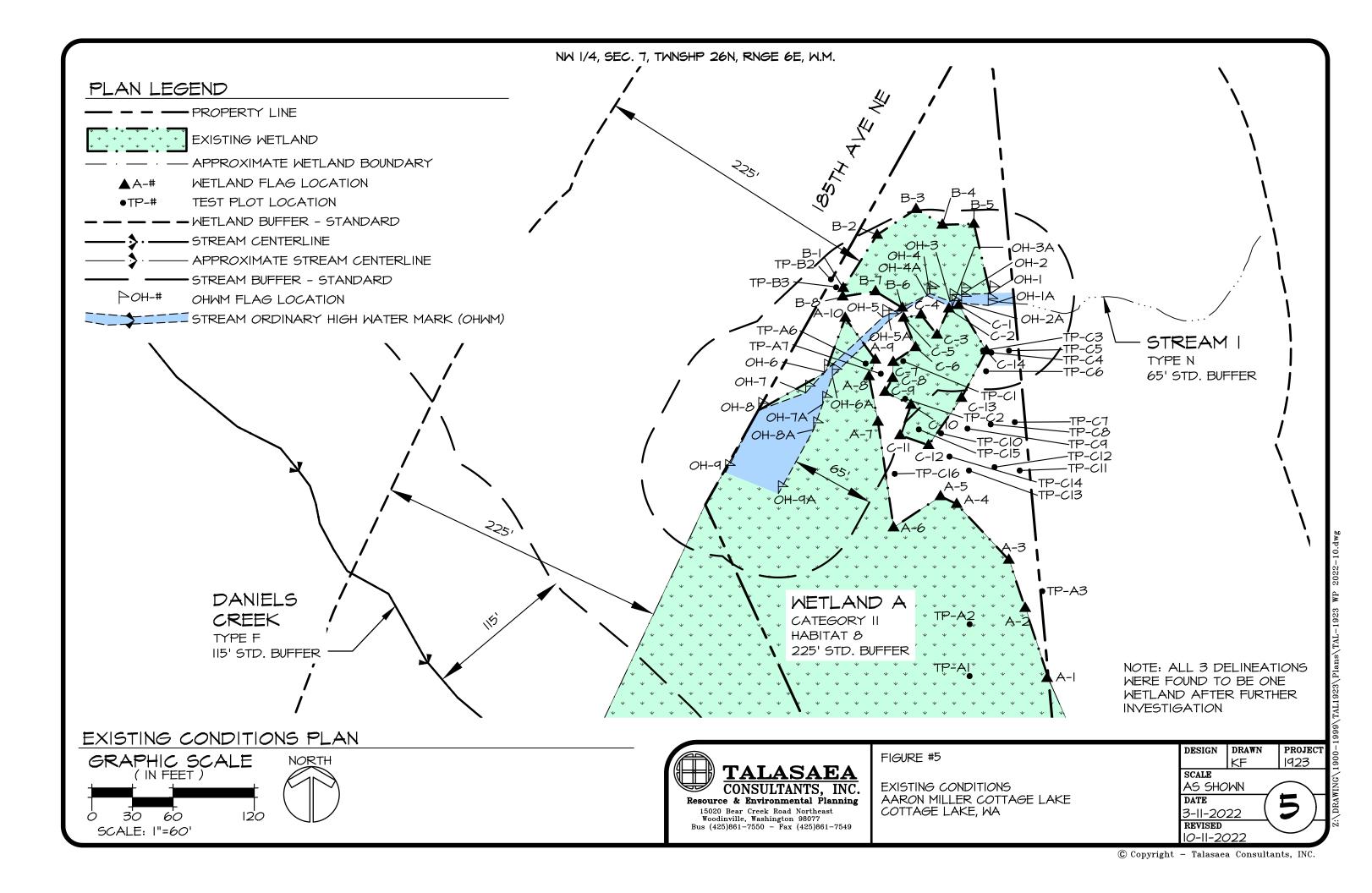




FIGURE #4

KING COUNTY IMAP AARON MILLER COTTAGE LAKE COTTAGE LAKE, WA





# 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:	Cottag	ge Lake, King County	Sampling E	Date: 01	/17/2022
Applicant/Owner: Aaron and Jas				State: WA			TP-A1
Investigator(s): J. Prater, Talasaea Consultants			nship, Range:		1.4 SEC24 T26N	-	
		Local relief (c	oncave, conve	ex, none):	oncave	Slope	(%): 1
Subregion (LRR): A				Long: -122.090		Datum:	NAD83
Soil Map Unit Name: Everett very gravelly sandy loa						None	
Are climatic / hydrologic conditions on the site typical for this time	of year?	Yes X	No	(If no, explain in Ren	narks.)		
Are Vegetation, Soil, or Hydrologys				Normal Circumstances" p	resent? Ye	s <u>X</u>	No
Are Vegetation, Soil, or Hydrologyn				eded, explain any answer			
SUMMARY OF FINDINGS - Attach site map showi	ng samp	oling point	t locations,	, transects, importa	nt features,	etc.	
Hydrophytic Vegetation Present? Yes X No							
Hydric Soil Present? Yes X No	)		the Sampled	Area			
	)	wi	thin a Wetlan	d? Yes	X No		
Remarks:		<b>I</b>					
VEGETATION - Use scientific names of plants.							
				Dominance Test wo	rksheet:		
	Absolute	Dominant	Indicator	Number of Dominant	Species		
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	That Are OBL, FACW	, or FAC:	4	(A)
1. Populus balsamifera ssp. trichocarpa / Black cottonwood	25	Yes	FAC				
2. Thuja plicata / Western red cedar, Western red cedar, Canoe	5	No	FAC	Total Number of Dom	inant		
3. Populus balsamifera ssp. trichocarpa / Black cottonwood	4	No	FAC	Species Across All St	rata:	4	(B)
4							
	34	= Total Cov	/er	Percent of Dominant	•		
Sapling/Shrub Stratum (Plot size: 15 )				That Are OBL, FACW	, or FAC:	100.0	(A/B)
1. Cornus sericea ssp. sericea / Red osier dogwood	30	Yes	FACW	Prevalence Index we	orkshoot:		
2. <i>Spiraea douglasii /</i> Douglas spiraea	10	Yes	FACW	Total % Cover o		Multiply by:	
3. Ilex aquifolium / Holly, English holly	2	No	FACU	OBL species	25 x 1 =		·
4				FACW species	40 x 2 =	-	
5	42	- Total Cau		FAC species	34 x 3 =	-	
Herb Stratum (Plot size: 5 )	42	_ = Total Cov		FACU species	3 x 4 =	= 12	
1. Carex obnupta / Slough sedge, Slough sedge	25	Yes	OBL	UPL species	0 x 5 =	= 0	
2. Polystichum munitum / Western sword fern	1	No	FACU	Column Totals:	102 (A)	219	(B)
3.	· · · ·		17100				
4.				Prevalence Inde	ex = B/A =	2.15	
5.		_		I hadre a hadia Manadad			
6.				Hydrophytic Vegeta 1 - Rapid Test fo		actation	
7.				X 2 - Dominance T		gelation	
8				X 3 - Prevalence Ir			
9				4 - Morphologica		Provide supr	oortina
10				5 - Wetland Non-			
11				Problematic Hyd			n)
	26	= Total Cov	/er				,
Woody Vine Stratum (Plot size: 5)				<sup>1</sup> Indicators of hydric s	oil and wetland I	nydrology m	lust
1				be present, unless dis	sturbed or proble	matic.	
2		- Tatal Cau					
% Bare Ground in Herb Statum	0	= Total Cov	/er	Hydrophytic			
				Vegetation	Voo V	No	
				Present?	Yes X		
Remarks:							

S	0	IL	
J	J		-

Depth	Matrix		Redo	x Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-10	10YR 2/2	100						Organic, not muck	
10-18	10YR 2/2	100						Organic, not muck	
	-	· ·							
		· ·							
		· ·							
		· ·							
		· ·							
		· ·							
ype: C=Con	centration, D=Depletio	on, RM=Reduc	ced Matrix, CS=Cove	ered or Coat	ed Sand Gra	ains.	²Lo	cation: PL=Pore Lining, M=N	Aatrix.
ydric Soil In	dicators: (Applicable	e to all LRRs,		-				ors for Problematic Hydric	Soils <sup>3</sup> :
Histosol (	,		Sandy Red					2 cm Muck (A10)	
Histic Epi	pedon (A2)		Stripped N					Red Parent Material (TF2)	
Black His	tic (A3)			cky Mineral		ot MLRA 1)		Very Shallow Dark Surface (	(TF12)
<u>Hydroger</u>	n Sulfide (A4)		Loamy Gle	eyed Matrix (	(F2)			Other (Explain in Remarks)	
Depleted	Below Dark Surface (A	A11)	Depleted N	Aatrix (F3)					
Thick Da	k Surface (A12)		Redox Da	rk Surface (F	-6)		³Indio	cators of hydrophytic vegetat	tion and
C Sandy M	ucky Mineral (S1)		Depleted [	Dark Surface	e (F7)			wetland hydrology must be p	oresent,
Sandy Gl	eyed Matrix (S4)		Redox De	oressions (F	8)			unless disturbed or problem	atic.
estrictive La	ayer (if present):								
Type:	iyer (ii present).								
Depth (inc	hes):						Hydric Soil	Present? Yes X	No
	Y rology Indicators: tors (minimum of one	required; che	ck all that apply)				Seco	ndary Indicators (minimum d	of two require
<b>/etland Hydi</b> rimary Indica	ology Indicators:	required; che		ned Leaves	(B9) <b>(exc</b>	ept		ndary Indicators (minimum o Water-Stained Leaves (B9)	
<b>/etland Hydr</b> rimary Indica Surface V	rology Indicators: tors (minimum of one	required; che	Water-Sta	ned Leaves 1, 2, 4A, an	. , .	ept			
Vetland Hydr rimary Indica Surface V ( High Wat	tology Indicators: tors (minimum of one Vater (A1) er Table (A2)	required; che	Water-Sta	1, 2, 4A, an	. , .	ept		Water-Stained Leaves (B9)	
Vetland Hydr rimary Indica Surface V (High Wat	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3)	required; che	Water-Stai MLRA Salt Crust	1, 2, 4A, an	d 4B)	ept		Water-Stained Leaves (B9) 4A, and 4B)	(MLRA 1, 2
Iteliand Hydri       rimary Indica       Surface V          Surface V          High Wate       Saturatio          Water Mater	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3)	required; che	Water-Stai MLRA Salt Crust Aquatic In	<b>1, 2, 4A, an</b> (B11)	(B13)	ept		Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10)	(MLRA 1, 2
Vetland Hydr rimary Indica Surface V K High Wat K Saturatio Water Ma	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) irks (B1) : Deposits (B2)	required; che	Water-Stai MLRA Salt Crust Aquatic In Hydrogen	<b>1, 2, 4A, an</b> (B11) vertebrates (	(B13) r (C1)			Water-Stained Leaves (B9) <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2	(MLRA 1, 2
Jetland Hydri       rimary Indica	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) irks (B1) : Deposits (B2)	required; che	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F	<b>1, 2, 4A, an</b> (B11) vertebrates ( Sulfide Odol Rhizospheres	(B13) r (C1) s along Livin		3)	Water-Stained Leaves (B9) <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial Geomorphic Position (D2)	(MLRA 1, 2
Jetland Hydri       rimary Indica       Surface V       High Wat       Saturatio       Water Ma       Sediment       Drift Dep       Algal Mat	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) rrks (B1) : Deposits (B2) osits (B3) or Crust (B4)	required; che	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F	<b>1, 2, 4A, and</b> (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced	(B13) r (C1) s along Livin Iron (C4)	ng Roots (C	 	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial I Geomorphic Position (D2) Shallow Aquitard (D3)	(MLRA 1, 2
Jetland Hydri       rimary Indica       Surface V       High Wate       Saturatio       Water Ma       Sediment       Drift Depo       Algal Mat       Iron Depo	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) rrks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5)	required; che	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	<b>1, 2, 4A, and</b> (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction	(B13) r (C1) s along Livin Iron (C4) in Tilled So	ng Roots (Ci	3) <u>x</u>	Water-Stained Leaves (B9) <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial I Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	(MLRA 1, 2 2) Imagery (C9)
etland Hydr imary Indica Surface V High Wat Saturatio Water Ma Sediment Drift Depu Algal Mat Iron Depu Surface S	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6)		Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizosphere: of Reduced n Reduction Stressed Pl	(B13) (B13) r (C1) s along Livin Iron (C4) in Tilled So lants (D1)	ng Roots (Ci	3)	Water-Stained Leaves (B9) <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial I Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) <b>(L</b>	(MLRA 1, 2 2) Imagery (C9) LRR A)
/etland Hydi         rimary Indica         Surface V         High Wat         Saturatio         Water Ma         Sediment         Drift Dept         Algal Mat         Iron Dept         Surface S         Inundatio	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) rrks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5)	agery (B7)	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	<b>1, 2, 4A, and</b> (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction	(B13) (B13) r (C1) s along Livin Iron (C4) in Tilled So lants (D1)	ng Roots (Ci	3)	Water-Stained Leaves (B9) <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial I Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	(MLRA 1, 2 2) Imagery (C9) .RR A)
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Vetland Hydr rimary Indica Surface V K High Wat Saturatio Water Ma Sediment Drift Dep Algal Mat Iron Depo Surface S Inundatio Sparsely ield Observa	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S ations: Present?	agery (B7) urface (B8) es No	Water-Stai MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odol Rhizospheres of Reduced n Reduction Stressed Pl plain in Remain ches):	(d <b>4B</b> ) (B13) (r (C1) s along Livin lron (C4) in Tilled So (ants (D1) arks)	ng Roots (Ci	3)	Water-Stained Leaves (B9) <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial I Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) <b>(L</b>	(MLRA 1, 2 2) Imagery (C9) LRR A)
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Vetland Hydri rimary Indica Surface V High Wat Saturatio Water Ma Sedimeni Drift Dep Algal Mat Iron Depo Surface S Inundatio Sparsely Wield Observa durface Water Vater Table P aturation Pre	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) trks (B1) : Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S ations: Present? Yesent?	agery (B7) urface (B8) es No es No	Water-Stai     MLRA     Salt Crust     Aquatic Im     Hydrogen     Oxidized F     Presence     Recent Iro     Stunted or     Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction Stressed Pl olain in Remain ches): ches):	(d 4B) (B13) r (C1) s along Livin Iron (C4) in Tilled So ants (D1) arks) 2	ig Roots (Ci ils (C6) (LRR A)	3) <u>X</u>	Water-Stained Leaves (B9) <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial I Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) <b>(L</b> Frost-Heave Hummocks (D7	(MLRA 1, 2 2) Imagery (C9) .RR A) 7)
Vetland Hydri rimary Indica Surface V High Wate Saturatio Water Ma Sedimeni Drift Dep Algal Mat Iron Depc Surface S Inundatio Sparsely Wield Observa durface Water Atter Table P aturation Pre ncludes capil	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) trks (B1) : Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S ations: Present? Yesent?	agery (B7) urface (B8) es <u> </u>	Water-Stai     MLRA     Salt Crust     Aquatic Im     Hydrogen     Oxidized F     Presence     Recent Iro     Stunted or     Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction Stressed Pl olain in Remain ches):	(d 4B) (B13) r (C1) s along Livin Iron (C4) in Tilled So lants (D1) arks) 2 0	ug Roots (Ca ils (C6) (LRR A) Wetlar	3) 3) <u>X</u>   md Hydrology	Water-Stained Leaves (B9) <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial I Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) <b>(L</b> Frost-Heave Hummocks (D7	(MLRA 1, 2 2) Imagery (C9) .RR A) 7)
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Vetland Hydr rimary Indica Surface V High Wat Saturatio Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely ield Observa urface Water Vater Table P aturation Pre ncludes capil Pescribe Reco	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S ations: Present? Present? Vegetated Concave S ations: Present? Vegetated Concave S Ations: Present?	agery (B7) urface (B8) es No esX No es _X No uge, monitorin	Water-Stai     MLRA     Salt Crust     Aquatic Im     Hydrogen     Oxidized F     Presence     Recent Iro     Stunted or     Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction Stressed Pl olain in Remain ches):	(d 4B) (B13) r (C1) s along Livin Iron (C4) in Tilled So lants (D1) arks) 2 0	ug Roots (Ca ils (C6) (LRR A) Wetlar	3) 3) <u>X</u>   md Hydrology	Water-Stained Leaves (B9) <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2 Saturation Visible on Aerial I Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) <b>(L</b> Frost-Heave Hummocks (D7	(MLRA 1, 2 2) Imagery (C9) .RR A) 7)
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#### WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site:	TAL-1923 Cottage Lake		Citv/Count	v: Cot	tage Lake, King (	Countv	Sampling D	ate: 01	/17/2022
Applicant/Owner:					State:				TP-A2
Investigator(s):	J. Prater, Talasaea Consultants			ownship, Rang			SEC24 T26N		
	, etc): terrace		,	1, 0	nvex, none):		ivex		(%): 1
Subregion (LRR):		Lat:			Long:			Datum:	· · ·
	Everett very gravelly sandy loa							None	
	nditions on the site typical for this time								
	Soil, or Hydrologys							s X	No
	Soil , or Hydrology n				needed, explain a				
	NGS - Attach site map showi					-		etc.	
	•				,	, in portant	<u></u>		
Hydrophytic Vegetation P	Present? Yes X No		-	Is the Sample					
Hydric Soil Present?	Yes X No	·		•		V V	NI-		
Wetland Hydrology Prese	ent? Yes X No		-	within a Wetl	and?	res <u> </u>	No		
Remarks:									
VEGETATION - Use s	scientific names of plants.								
					Dominano	ce Test works	hoot:		
		Abaaluta	Deminer	at Indiantar		f Dominant Spe			
Tree Ctrature (Distains		Absolute % Cover	Dominar			BL, FACW, or		4	(A)
Tree Stratum (Plot size	:: <u>30</u> ) sp. trichocarpa / Black cottonwood	70	<u>Species</u> Yes				<u> </u>		(~)
	n red cedar, Western red cedar, Canoe		Yes		 Total Numl	ber of Domina	nt		
3.	inted cedal, westernited cedal, cande	40	165	FAC		cross All Strata		6	(B)
4.					-				(D)
4		110	= Total C	Cover	— Percent of	Dominant Spe	ecies		
Sanling/Shrub Stratum	(Plot size: 15 )	110		50061		DBL, FACW, or		66.7	(A/B)
1. Rubus spectabilis / Sa	· · · · · · · · · · · · · · · · · · ·	20	Yes	FAC					(,,,,,,)
	n red cedar, Western red cedar, Canoe		Yes		Prevalenc	e Index work	sheet:		
	ericea / Red osier dogwood	5	No	NI	Total	% Cover of:		Multiply by:	
4. Alnus rubra / Red alde		1	No	FAC	OBL speci	ies <u>C</u>	) x1=	0	
5.	··	··			FACW spe	ecies C	) x 2 =	0	
· · ·		34	= Total C	Cover	FAC specie	es <u>13</u>	<u>39</u> x 3 =	417	
Herb Stratum (Plot size	:: 5 )				FACU spe	cies <u>3</u>	5 x 4 =	140	
1. Polystichum munitum		15	Yes	FACU	UPL specie	es <u>5</u>	5 <u>x</u> 5=	25	
2.					Column To	otals: 17	79 (A)	582	(B)
3.					-				
4.					- Prev	alence Index =	= B/A =	3.25	
5.			_						
6.			_			tic Vegetation			
7.				·		apid Test for Hy		jetation	
8.				·		ominance Test			
9.						evalence Inde			antina
10.						orphological Ad etland Non-Va			borting
11.									- )
		15	= Total C	Cover		ematic Hydrop	nylic vegetatio	un (Exhiaii	1)
Woody Vine Stratum (F	Plot size: 5 )		_		Indicators	of hydric soil a	and wotland h	wdrology m	uct
1. Ilex aquifolium / Holly,	English holly	20	Yes	FACU		t, unless distur			usi
2.					- be present	i, uniess distui		nauc.	
		20	= Total C	Cover	Hydrophy	rtic			
% Bare Ground in Herb S	Statum				Vegetation Present?	n	es X	No	_
Domorka					I				
Remarks:									

S	0	I	L
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Remarks	
· · · · ·	
nent, Wet	
ning, M=Matrix.	
c Hydric Soils <sup>3</sup> :	
2 cm Muck (A10)	
al (TF2)	
MLRA 1) Very Shallow Dark Surface (TF12)	
Other (Explain in Remarks)	
cinarko)	
in venetation and	
<sup>3</sup> Indicators of hydrophytic vegetation and	
wetland hydrology must be present,	
r problematic.	
es <u>X</u> No	
ninimum of two require	
pt Water-Stained Leaves (B9) (MLRA 1, 2,	
4A, and 4B)	
Drainage Patterns (B10)	
Dry-Season Water Table (C2)	
on Aerial Imagery (C9)	
C3) Geomorphic Position (D2)	
D3)	
20)	
D5)	
s (D6) (LRR A)	
-	
s (D6) (LRR A)	
s (D6) (LRR A)	
s (D6) (LRR A)	
s (D6) <b>(LRR A)</b> nocks (D7)	
s (D6) (LRR A)	
s (D6) <b>(LRR A)</b> nocks (D7)	
d	

Project/Site:	TAL-1923 Cottage Lake		City/County:	Cottag	e Lake, King Cour	nty Sam	npling Date:	01/17	7/2022
Applicant/Owner:					State:		npling Point:		P-A3
Investigator(s):	J. Prater, Talasaea Consultants		Section, Tow	vnship, Range:		NW1.4 SEC2	· • -		
	etc): Hillslope				x, none):			Slope (%	6): 2
	A	Lat:			Long:				AD83
	Everett very gravelly sandy loa						I	None	
Are climatic / hydrologic con	ditions on the site typical for this time of	of year?	Yes X	No	(If no, explain	in Remarks.)			
Are Vegetation, Second	oil, or Hydrologysi	gnificantly	disturbed?	Are "N	Normal Circumstar	nces" present?	Yes	X No	0
	oil, or Hydrologyna				eded, explain any		arks.)		
SUMMARY OF FINDIN	NGS - Attach site map showi	ng sam	pling poir	nt locations,	transects, im	portant feat	ures, etc.		
Hydrophytic Vegetation Pr	resent? Yes X No					-	i		
Hydric Soil Present?	Yes No			s the Sampled A	Area				
Wetland Hydrology Preser			w	, ithin a Wetland	d? `	Yes	No X		
Remarks:									
VEGETATION - Use so	cientific names of plants.								
					Dominanco T	est worksheet:			
		Absolute	Dominant	Indicator		minant Species			
Tree Stratum (Plot size:		% Cover	Dominant Species?			FACW, or FAC:		3	(A)
	red cedar, Western red cedar, Canoe		Yes	FAC				<u> </u>	
	sp. trichocarpa / Black cottonwood	10	Yes	FAC	Total Number of	of Dominant			
3.		10	100		Species Acros			4	(B)
4.					•				_ ( )
		45	= Total Co	over	Percent of Dor	ninant Species			
Sapling/Shrub Stratum	(Plot size: 15 )				That Are OBL,	FACW, or FAC:	7!	5.0	(A/B)
1. Rubus spectabilis / Sal	· · · · · · · · · · · · · · · · · · ·	25	Yes	FAC					
2. Thuja plicata / Western	red cedar, Western red cedar, Canoe	5	No	FAC		dex worksheet			
3. Alnus rubra / Red alder		5	No	FAC	Total % C			oly by:	
4					OBL species	0	_ x1=	0	
5.					FACW species	6 <u>0</u> 80	_ x 2 =	0	
		35	= Total Co	over	FAC species		_ x 3 = x 4 =	240 392	
Herb Stratum (Plot size:	5)				UPL species	0	_ ^ 4 = x 5 =	0	
1					Column Totals		(A)	632	(B)
2.							_ (//)	002	(D)
3 4.					Prevalen	ice Index = B/A	=3.	.55	
5.						/egetation India	atore:		
6.						Test for Hydroph		on	
7.						ance Test is >50		511	
8.						ence Index ≤3.0			
9.						ological Adaptat		e suppor	tina
10						nd Non-Vascular	-	, cabbe	
11						tic Hydrophytic \		Explain )	
		0	= Total Co	over		, , , , , , , , , , , , , , , , , , ,		I ,	
	Plot size: <u>5</u> )				<sup>1</sup> Indicators of h	ydric soil and w	etland hydrol	ogy mus <sup>i</sup>	t
1. Hedera helix / English i	vy	98	Yes	FACU	be present, un	less disturbed o	r problematic.		
2									
% Bare Ground in Herb St	atum	98	_ = Total Co	over	Hydrophytic Vegetation Present?	Yes	<u>X</u> No _		
Remarks:									
Komunio.									

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J	J		-

0-5         10YR 4/3         100         Loar           5-18         10YR 3/2         100         Loar	xture Remarks ny Sand Large Gravel Component
0-5         10YR 4/3         100         Loarr           5-18         10YR 3/2         100         Loarr	hy Sand Large Gravel Component
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.	
	= =
lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Ir	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
iyune oon maleators. (Applicable to an Errits, amess otherwise noted.)	ndicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1) Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2) Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted Matrix (F3)	
Thick Dark Surface (A12) Redox Dark Surface (F6)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Redox Depressions (F8)	unless disturbed or problematic.
/ / / / / / / / / / / / / / / / /	
estrictive Layer (if present): Type:	
	ric Soil Present? Yes No X
DROLOGY         /etland Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
Water Marks (B1) Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3)	Geomorphic Position (D2)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6)	FAC-Neutral Test (D5)
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)	()
ield Observations:	
Surface Water Present? Yes No X Depth (inches):	
Vater Table Present? Yes No X Depth (inches):	
aturation Present? Yes No X Depth (inches): Wetland Hyd	Irology Present? Yes NoX
ncludes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	

Project/Site:	TAL-1923 Cottage Lake		City/County	v <sup>.</sup> Cottag	e Lake / King County	v Sam	oling Date <sup>.</sup>	04/07/202	2
		n Miller	eng/eeung		State:		pling Point:		
Investigator(s):		-	Section To	wnship, Range:		NW1/4 SEC24	-		
	, etc):Terrace				ex, none):				2
Subregion (LRR):	A	Lat.	47 75	587253	long: -12	2 09119919		m: NAD83	
Soil Map Unit Name	Everett very gravelly sandy							None	<u> </u>
	nditions on the site typical for this tim								
	Soil, or Hydrology				Normal Circumstance		Yes	X No	
	Soil, or Hydrology				eded, explain any an	•		<u></u>	
	NGS - Attach site map show								
		-		int locations,	, transects, imp	ontaint reatt	1103, 610.		
Hydrophytic Vegetation P		NO	-						
Hydric Soil Present?	Yes N		_	Is the Sampled					
Wetland Hydrology Prese	ent? Yes X	NO	- '	within a Wetlan	d? Ye	s	NO X		
Remarks:									
VEGETATION - Use s	scientific names of plants.								
					Dominance Tes	t worksheet:			
		Absolute	Dominar	nt Indicator	Number of Domi	nant Species			
Tree Stratum (Plot size	e:30)	% Cover	Species	? Status	That Are OBL, F	ACW, or FAC:		4 (A)	
1. Populus balsamifera s	sp. trichocarpa / Black cottonwood	15	Yes	FAC					
2. Acer circinatum / Vine	maple	8	Yes	FAC	Total Number of	Dominant			
3. Alnus rubra / Red alde	۶r	5	No	FAC	Species Across	All Strata:		5 (B)	
4. Acer macrophyllum / E	Bigleaf maple, Big-leaf maple	4	No	FACU					
		32	= Total C	Cover	Percent of Domin	•			
Sapling/Shrub Stratum	(Plot size: 15 )				That Are OBL, F	ACW, or FAC:	8	0.0 (A/E	3)
1. Physocarpus capitatus	s / Ninebark	40	Yes	FACW	Drevelance Inde				
2. Lonicera involucrata /	Coast twinberry	20	Yes	FAC	Prevalence Inde			nhy hy r	
3. Acer circinatum / Vine		15	No	FAC	Total % Cov		x 1 =	ply by: 0	
4. <i>Rubus spectabilis /</i> Sa	almon berry, Salmonberry	12	No	FAC	OBL species	40			
5. Sambucus racemosa	/ Red elderberry	5	No	FACU	FACW species FAC species	75	_ x2= x3=		
		92	= Total C	Cover	FACU species	114	_ x3= x4=		
Herb Stratum (Plot size	:: <u>5</u> )				UPL species	0	_ ^ + = x 5 =	0	
1					Column Totals:	229	(A)		B)
2					Column Totals.	229	(^)	<u></u> (I	0)
3 4.					Prevalence	e Index = B/A =	=3	.32	
5.					Hydrophytic Ve	getation Indic	ators:		
6.						est for Hydrophy		ion	
7					X 2 - Dominar	, , ,	, ,		
8						nce Index ≤3.0 <sup>1</sup>			
9						ogical Adaptatio		e supportina	
10						Non-Vascular I		5	
11						Hydrophytic V		Explain)	
		0	= Total C	Cover		, , ,	0 (	. ,	
	Plot size: 5 )				<sup>1</sup> Indicators of hyd	dric soil and we	etland hydro	logy must	
1. Hedera helix / English	ivy	100	Yes	FACU	be present, unles		-		
2					. ,		·		
		100	= Total C	Cover	Hydrophytic				
% Bare Ground in Herb S	statum				Vegetation Present?	Yes	X No		
Remarks:									
1									

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Interlation       Color (molist)       %       Type!       Loc*       Texture       Remarks         0-11       10YR 3/2       100       Locm       Locm       Locm       Sand         11-18       10YR 3/2       100       Locm       Locm       Sand       Locm       Sand         11-18       10YR 3/2       100       Locm       Locm       Sand       Kadu       Locm       Sand       Kadu       Locm       Sand       Kadu       Locm       Sand       Kadu       Locm       Color (Kadu       Locm       Color (Kadu       Locm       Sand       Kadu       Locm       Sand       Sand       Sand       Sand       Sand       Sand	Depth	iption: (Describe to t Matrix			Features		40000			
0.11       10/R 2/2       100	-	-	%			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
11-18       10YR 3/2       100       Learry Sand         "Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.       *Location; PL=Pore Lining, M=Matrix, PL=Pore Lining, M=Matrix, CS=Covered or Coated Sand Grains.       *Location; PL=Pore Lining, M=Matrix, PL=Pore Lining, M=Matrix, CS=Covered or Coated Sand Grains.         Histosol(A1)       Sandy Redox (S5)       Indicators for Problematic Hydric So         Histosol(A1)       Sandy Redox (S5)       Redox Narks (S5)         Histosol(A1)       Learry Mudey Mineral (F1) (except MLRA 1)       Other (Explain in Remarks)         Depleted Metrix (F2)       Depleted Matrix (F3)       Very Shaltow Dark Surface (F6)         Sandy Mudey Matrix (S4)       Redox Depressions (F8)       *Indicators (minimum of the problematic hydric septiation service)         Sandy Gravy Mudey Matrix (S4)       Redox Depressions (F8)       *Indicators (minimum of the problematic hydric septimation service)         YDROLOGY       Wetland Hydrology Indicators:       *Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of the problematic Red)         YMatrix Marks (B1)       Aquatic Invertebrates (B1)       Dranage Patterns (B10)       Dastale Leaves (B9)       Saturation (A3)         Yadar Marks (B1)       Aquatic Invertebrates (B13)       Drohage Patterns (B10)       Dranage Patterns (B10)       Saturation (C2)       Saturation (C3)       Saturation (C4)			·	× 7				Lm Crse Sand		
"Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.       "Location: PL=Pore Lining, M=Matrix, CS=Covered or Coated Sand Grains.         "type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.       "Location: PL=Pore Lining, M=Matrix, CS]         Histic Epipeoin (A2)       Sandy Redox (S5)       Care Muck (A10)         Black Histic (A3)       Loamy Mucky Mineral (C1) (except MLRA 1)       Very Shallov Dark Surface (TF)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       "Indicators of hydrophytic vegetator wetiand hydrophytic vegetator wetian hydrophytic vegetator hydrophytic vegetator wetian hydrophytic vegetator wetian hydrophytic vegetator wetian hydrophytic ve	11-18		100							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histosol (A2)       Stripped Matrix (S6)       Red Parent Material (TF2)         Black Histosol (A4)       Loamy Mucky Mineral (F1) (except MLRA 1)       Period Beach Material (TF2)         Depleted Bear Surface (A12)       Redox Dark Surface (F6)       "indicators of hydrophytic vegetation wetland hydrology must be pressendy Matrix (G4)         Sandy Gleeyd Matrix (G4)       Depleted Dark Surface (F7)       wetland hydrology must be pressendy Matrix (G4)         Restrictive Layer (If present):       Type:			· ·							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histosol (A2)       Stripped Matrix (S6)       Red Parent Material (TF2)         Black Histosol (A4)       Loamy Mucky Mineral (F1) (except MLRA 1)       Period Beach Material (TF2)         Depleted Bear Surface (A12)       Redox Dark Surface (F6)       "indicators of hydrophytic vegetation wetland hydrology must be pressendy Matrix (G4)         Sandy Gleeyd Matrix (G4)       Depleted Dark Surface (F7)       wetland hydrology must be pressendy Matrix (G4)         Restrictive Layer (If present):       Type:			·			· ·				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histosol (A2)       Stripped Matrix (S6)       Red Parent Material (TF2)         Black Histosol (A4)       Loamy Mucky Mineral (F1) (except MLRA 1)       Period Beach Material (TF2)         Depleted Bear Surface (A12)       Redox Dark Surface (F6)       "indicators of hydrophytic vegetation wetland hydrology must be pressendy Matrix (G4)         Sandy Gleeyd Matrix (G4)       Depleted Dark Surface (F7)       wetland hydrology must be pressendy Matrix (G4)         Restrictive Layer (If present):       Type:			·			· ·				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histosol (A2)       Stripped Matrix (S6)       Red Parent Material (TF2)         Black Histosol (A4)       Loamy Mucky Mineral (F1) (except MLRA 1)       Period Beach Material (TF2)         Depleted Bear Surface (A12)       Redox Dark Surface (F6)       "indicators of hydrophytic vegetation wetland hydrology must be pressendy Matrix (G4)         Sandy Gleeyd Matrix (G4)       Depleted Dark Surface (F7)       wetland hydrology must be pressendy Matrix (G4)         Restrictive Layer (If present):       Type:			·			· ·				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histosol (A2)       Stripped Matrix (S6)       Red Parent Material (TF2)         Black Histosol (A4)       Loamy Mucky Mineral (F1) (except MLRA 1)       Period Beach Material (TF2)         Depleted Bear Surface (A12)       Redox Dark Surface (F6)       "indicators of hydrophytic vegetation wetland hydrology must be pressendy Matrix (G4)         Sandy Gleeyd Matrix (G4)       Depleted Dark Surface (F7)       wetland hydrology must be pressendy Matrix (G4)         Restrictive Layer (If present):       Type:			·			· ·		·		
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Sc         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histosol (A2)       Stripped Matrix (S6)       Red Parent Material (TF2)         Black Histosol (A4)       Loamy Mucky Mineral (F1) (except MLRA 1)       Period Beach Material (TF2)         Depleted Bear Surface (A12)       Redox Dark Surface (F6)       "indicators of hydrophytic vegetation wetland hydrology must be pressendy Matrix (G4)         Sandy Gleeyd Matrix (G4)       Depleted Dark Surface (F7)       wetland hydrology must be pressendy Matrix (G4)         Restrictive Layer (If present):       Type:			·			· ·				
Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histic Epipedon (A2)       Sitipped Matrix (S6)       Red Parent Material (TF2)         Black Histic (A3)       Loarny Mucky Mineral (F1) (except MLRA 1)       Perter Material (TF2)         Depleted Below Dark Surface (A11)       Depleted Matrix (F2)       Other (Explain in Remarks)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       "Indicators of hydrophytic vegetation wetland hydrology must be present? Sandy Gleyed Matrix (S4)       Redox Dark Surface (F6)       "Indicators of hydrophytic vegetation wetland hydrology must be present? Yes	'Type: C=Con	centration, D=Depletic	n, RM=Reduce	ed Matrix, CS=Cove	ered or Coate	ed Sand Gra	ains.	<sup>2</sup> Location: PL	=Pore Lining, M=Matri	х.
Histic Epipedon (A2)       Stripped Matrix (S6)       Red Parent Material (TF2)         Black Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (T1)         Depleted Below Dark Surface (A11)       Depleted Matrix (F2)       Other (Explain in Remarks)         Thick Dark Surface (A12)       Redox Dark Surface (F6)       *Indicators of hydrophylic vegetation         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be pre         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be pre         Type:	Hydric Soil In	dicators: (Applicable	e to all LRRs, u	Inless otherwise r	noted.)			Indicators for Pro	oblematic Hydric Soil	s³:
Bitck Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (TF)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)       Other (Explain in Remarks)         Depleted Below Dark Surface (A11)       Depleted Matrix (F2)       "Indicators of hydrophytic vegetation wetland hydrology must be pre- sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)       "Indicators of hydrophytic vegetation wetland hydrology must be pre- unless disturbed or problematic         Restrictive Layer (If present):       Type:	Histosol (	(A1)		Sandy Red	lox (S5)			2 cm Muc	k (A10)	
Hydrogen Sulfide (A)       Loamy Gleyed Matrix (F2)       Other (Explain in Remarks)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       Indicators of hydrophytic vegetation         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F6)       Indicators of hydrophytic vegetation         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problemati         Restrictive Layer (If present):       Type:	Histic Epi	ipedon (A2)		Stripped M	atrix (S6)			Red Pare	nt Material (TF2)	
Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       "Indicators of hydrophytic vegetation"         Thick Dark Surface (A12)       Redox Dark Surface (F7)       wetland hydrology must be pressions (F8)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be pressions (F8)         Restrictive Layer (if present):       Type:	Black His	stic (A3)		Loamy Mu	cky Mineral (	(F1) <b>(excep</b>	t MLRA 1	) Very Shal	low Dark Surface (TF1	2)
Thick Dark Surface (A12)       Redox Dark Surface (F6)       *Indicators of hydrophytic vegetation wetland hydrology must be presslons (F8)         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problematin wetland hydrology must be present?         Restrictive Layer (if present):       Type:	Hydroger	n Sulfide (A4)		Loamy Gle	yed Matrix (	F2)		Other (Ex	plain in Remarks)	
Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be pre         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problematic         Type:       Depth (inches):       Hydric Soil Present?       Yes	Depleted	Below Dark Surface (	A11)	Depleted M	latrix (F3)					
Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problemating the present problemating the problemating the prese	Thick Da	rk Surface (A12)		Redox Dar	k Surface (F	6)		<sup>3</sup> Indicators of h	ydrophytic vegetation	and
Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problemating the present problemating the problemating the prese	Sandy M	ucky Mineral (S1)		Depleted D	ark Surface	(F7)		wetland h	ydrology must be prese	ent,
Restrictive Layer (if present):       Type:         Depth (inches):		, ,								
Type:		vor /if procent);							•	
Depth (inches):       Hydric Soil Present?       Yes         Remarks:         //PROLOGY         Wetand Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of the secondary Indicators (B1))         X       Saturation (A3)       Saturation (A1)       Water-Stained Leaves (B9)       Water-Stained Leaves (B9) (the secondary Indicators (minimum of the secondary Indicators (B1))         Mater Marks (B1)       Aquatic Invertebrates (B13)       Drainage Patterns (B10)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)       Saturation Visible on Aerial Imports (B3)       Dry-Season Water Table (C2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)       Forst-Neutral Test (D5)         Iron Deposits (B5)       Gecem tron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)       Saturation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)       Sparsely Vegetated Concave Surf		ayer (il present):								
YDROLOGY         Wetland Hydrology Indicators:         Primary. Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of the secondary Indicators (Mater State (Laves (B9))         X       High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Water-Stained Leaves (B9) (the secondary Indicators (B1))       Data And 4B)         Saturation (A3)       Salt Crust (B1)       Data Aquatic Invertebrates (B13)       Data And 4B)         Water Marks (B1)       Aquatic Invertebrates (B13)       Data Aquatic Invertebrates (B13)       Saturation Visible on Aerial Imager (B2)         Math Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent fron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)       Surface Soil Cracks (B6)       Sturted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)      <		hes):						Hydric Soil Present	Yes	No X
Wetland Hydrology Indicators:       Secondary Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of t         X       Surface Water (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9) (         X       High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Principal (A, and 4B)         Saturation (A3)       Saturation (A3)       Aquatic Invertebrates (B13)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Ima         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       8         Sufface Water Present?       Yes       X       No       Depth (inches):       8<	(emarks:									
Wettand Hydrology Indicators:       Surface Vater (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9) (except         X       High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Water-Stained Leaves (B9) (except       4A, and 4B)         Saturation (A3)       Sait Crust (B11)       Drainage Patterns (B10)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Im:         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Saturation Present?       Yes       X       No       Depth (inches):       8         Surface capillary fringe)       Depth (inches):       6       Wetland Hydrology Present?       Yes       X										
Wetland Hydrology Indicators:       Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of the required; check all that apply)         X       Surface Water (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9) (         X       High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Advant 4B)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Ima       Saturation (C4)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Saturation Present?       Yes       X       Depth (inches):       8         Water Table Present?       Yes       X       Depth (inches):       8         Gurdace capillary fringe)       Depth (inches):       6       Wetland Hydrology P										
Wetland Hydrology Indicators:       Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of the required; check all that apply)         X       Surface Water (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9) (         X       High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Advant 4B)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Ima       Saturation (C4)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Saturation Present?       Yes       X       Depth (inches):       8         Water Table Present?       Yes       X       Depth (inches):       8         Gurdace capillary fringe)       Depth (inches):       6       Wetland Hydrology P										
Wetland Hydrology Indicators:       Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of the required; check all that apply)         X       Surface Water (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9) (         X       High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Advant 4B)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Ima       Saturation (C4)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Saturation Present?       Yes       X       Depth (inches):       8         Water Table Present?       Yes       X       Depth (inches):       8         Gurdace capillary fringe)       Depth (inches):       6       Wetland Hydrology P		v								
Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of the secondary										
X       Surface Water (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9) (except         X       High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Water-Stained Leaves (B9) (except         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Image Patterns (B10)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       8         Field Observations:       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches): <td>-</td> <td>•••</td> <td>required: check</td> <td>(all that apply)</td> <td></td> <td></td> <td></td> <td>Secondary Ind</td> <td>icators (minimum of tw</td> <td>o required)</td>	-	•••	required: check	(all that apply)				Secondary Ind	icators (minimum of tw	o required)
X       High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       4A, and 4B)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Image Patterns (B10)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       8         Field Observations:       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       8       X         Saturation Present?       Yes       X       No       Depth (inches):       6 <td></td> <td></td> <td>required, check</td> <td></td> <td>and Laguag</td> <td></td> <td>ont</td> <td></td> <td>•</td> <td></td>			required, check		and Laguag		ont		•	
Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Image         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       8         Field Observations:       Saturation Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       8       4         Saturation Present?       Yes       X       No       Depth (inches):       8       4         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Describus inspections), if available:		. ,				. , .	shr		( ) (	LINA 1, 2,
Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (D2)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       8         Saturation Present?       Yes       X       Depth (inches):         Water Table Present?       Yes       X       No       Depth (inches):         Saturation Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         Describe Recorded Data (stream gau	-					140)				
Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Image         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6)       (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No       X       Depth (inches):       8       Saturation Present?       Yes       X       No       Depth (inches):       8       X<										
Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6)       (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       8         Field Observations:       No       Depth (inches):       8         Nater Table Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         Deptric Present?       Yes       X       No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         Describe Recorded Data (stream gauge, monitoring w				<u> </u>						(
Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Field Observations:       Depth (inches):       8         Surface Water Present?       Yes       X       Depth (inches):       8         No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         Saturation Present?       Yes       X       No       Depth (inches):       8       X         Social capillary fringe)       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		• • • •								jery (C9)
Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6)       (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Field Observations:       No       Depth (inches):       8         Surface Water Present?       Yes       X       No       Depth (inches):         Nater Table Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         Includes capillary fringe)       Depth (inches):       6       Wetland Hydrology Present?       Yes       X							g Roots (C			
Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6)       (LRI         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Field Observations:       No       X       Depth (inches):       8         Surface Water Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         Includes capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Image: Content in the stream gauge in						· ,				
Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Strost-Heave Hummocks (D7)         Field Observations:       Surface Water Present?       Yes         Surface Water Present?       Yes       X       Depth (inches):         Nater Table Present?       Yes       X       No       Depth (inches):         Saturation Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Iron Depo	osits (B5)					· · /			
Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?       Yes         No       X       Depth (inches):         Water Table Present?       Yes         Yes       X       No         Depth (inches):       8         Saturation Present?       Yes         Yes       X       No         Depth (inches):       6         Wetland Hydrology Present?       Yes         Yes       X         No       Depth (inches):         6       Wetland Hydrology Present?         Yes       X         No       Depth (inches):         6       Wetland Hydrology Present?         Yes       X         No       Depth (inches):         6       Wetland Hydrology Present?         Yes       X         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Surface S	Soil Cracks (B6)		Stunted or	Stressed Pla	ants (D1)	(LRR A)	Raised A	nt Mounds (D6) (LRR	<b>A</b> )
Field Observations:         Surface Water Present?       Yes       No       X       Depth (inches):				Other (Exp	lain in Rema	arks)		Frost-Hea	ve Hummocks (D7)	
Surface Water Present?       Yes       No       X       Depth (inches):	Sparsely	Vegetated Concave S	urface (B8)							
Water Table Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         includes capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Metland Hydrology Present?       Yes       X	ield Observa	ations:								
Water Table Present?       Yes       X       No       Depth (inches):       8         Saturation Present?       Yes       X       No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         (includes capillary fringe)       Image: Comparison of the second depth (inches) in the second depth (inches) is the second depth (inches) in the second depth (inches) is the second depth (inches) in the second depth (inches) is the second depth (inches) in the second depth (inches) is the second depth (inches) in the second depth (inches) is the second depth (inches) in the second depth (inches) is the second depth (inche	Surface Water	Present? Y	es No	X Depth (in	ches):					
Saturation Present?       Yes       X       No       Depth (inches):       6       Wetland Hydrology Present?       Yes       X         (includes capillary fringe)	Nater Table P	resent? Y				8				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						6	Wetla	nd Hydrology Present	Yes X	No
	includes capil	llary fringe)		· ·	·					
Remarks:	Describe Reco	orded Data (stream ga	uge, monitoring	y well, aerial photos	, previous in	spections),	if available	2:		
	Domarka									
	Temarks:									

Project/Site:	TAL-1923 Cottage Lake		City/County	: Cottag	e Lake / King County	Sampling Date:	04/07/2022
	•	n Miller	, ,		State: WA		TP-A5
Investigator(s): J.	Prater, M. Evinger, Talasaea		Section, Tov	wnship, Range:	NW1/4	SEC24 T26N R6E	
Landform (hillslope, terrace, etc)							Slope (%): 0
Subregion (LRR):					Long: -122.09125		· · · ·
Soil Map Unit Name:							None
Are climatic / hydrologic conditio	ons on the site typical for this tim	e of year?	Yes X	No	(If no, explain in Remar	ks.)	
Are Vegetation, Soil							X No
Are Vegetation, Soil							
SUMMARY OF FINDINGS	S - Attach site map show	ving samp	pling poir	nt locations,	transects, important	features, etc.	
Hydrophytic Vegetation Prese				-			
Hydric Soil Present?	Yes N			s the Sampled	Area		
Wetland Hydrology Present?				vithin a Wetland		No <u>X</u>	
Remarks:							
VEGETATION - Use scie	ntific names of plants.						
					Dominance Test works	heet:	
		Absolute	Dominant	t Indicator	Number of Dominant Sp		
Tree Stratum (Plot size:	30)	% Cover	Species?		That Are OBL, FACW, o		3 (A)
1. Alnus rubra / Red alder	,	20	Yes	FAC			
2. Populus balsamifera ssp. ti	richocarpa / Black cottonwood	10	Yes	FAC	Total Number of Domina	nt	
3.					Species Across All Strat	a: <u></u>	5 (B)
4.							
		30	= Total Co	over	Percent of Dominant Sp	ecies	
Sapling/Shrub Stratum (Plo	ot size: <u>15</u> )				That Are OBL, FACW, o	FAC: 60	0.0 (A/B)
1. Rubus spectabilis / Salmor	n berry, Salmonberry	85	Yes	FAC			
2. Physocarpus capitatus / Ni	nebark	25	No	FACW	Prevalence Index work		
3. Cornus sericea ssp. serice	a / Red osier dogwood	8	No	FACW	Total % Cover of:	Multip	0
4. Acer circinatum / Vine map	le	6	No	FAC		0 x 1 = 33 x 2 =	66
5. Lonicera involucrata / Coas	st twinberry	4	No	FAC	· · · · · · · · · · · · · · · · · · ·	25 x 3 =	375
		128	_ = Total Co	over	· · · · · · · · · · · · · · · · · · ·	12 x 4 =	448
Herb Stratum (Plot size:					· · ·	$x_{12} x_{7} x_{$	0
1. Polystichum munitum / We		12	Yes	FACU	· · ·	70 (A)	889 (B)
2.						<u> </u>	(=)
3					Prevalence Index	= B/A = 3.:	29
4 5.				<u> </u>			
6.					Hydrophytic Vegetation	n Indicators:	
7.						ydrophytic Vegetatic	n
8.					X 2 - Dominance Test		
0					3 - Prevalence Inde		
10.					4 - Morphological A		supporting
11.					5 - Wetland Non-Va		
		12	= Total Co	over	Problematic Hydrop	hytic Vegetation <sup>1</sup> (E	xplain)
Woody Vine Stratum (Plot s	size: 5 )		_		the discharge of building a fi		
1. Hedera helix / English ivy	,	100	Yes	FACU	<sup>1</sup> Indicators of hydric soil be present, unless distu		
2.					be present, unless distu	bed of problematic.	
		100	= Total Co	over	Hydrophytic		
% Bare Ground in Herb Statur	m		_		Vegetation Present? Y	es <u>X</u> No _	
Remarks:							

S	0	11	L

Depth	Matrix		Redo	x Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	10YR 2/1	100	· · ·				Loam	
3-18	10YR 2/1	100					Lm Crse Sand	
				_				
Type: C=Con	centration, D=Depletic	on RM=Redu	Iced Matrix CS=Cove	ered or Coat	ed Sand Gra	ains	<sup>2</sup> l ocatio	n: PL=Pore Lining, M=Matrix.
	idicators: (Applicable							or Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Red	-				Muck (A10)
	ipedon (A2)		Stripped N					Parent Material (TF2)
Black His					(F1) (excep	ot MLRA 1		Shallow Dark Surface (TF12)
	n Sulfide (A4)			eyed Matrix (				r (Explain in Remarks)
	Below Dark Surface (	A11)	Depleted M		<b>(</b> )		_	( F )
	rk Surface (A12)	,		k Surface (F	-6)		<sup>3</sup> Indicator	s of hydrophytic vegetation and
	ucky Mineral (S1)			Dark Surface				and hydrology must be present,
	leyed Matrix (S4)			pressions (F				ss disturbed or problematic.
	ayer (if present):			, , , , , , , , , , , , , , , , , , ,			_	·
Type:	ayer (ii present).							
Depth (inc	ches):						Hydric Soil Pres	sent? Yes NoX
DROLOG	Υ							
Vetland Hyd	rology Indicators:							
Vetland Hyd Primary Indica	rology Indicators: ators (minimum of one	required; che		ned Leaves	(B0) <b>(ayc</b>	ent		•
Vetland Hydr rimary Indica Surface V	rology Indicators: ators (minimum of one Water (A1)	required; che	Water-Stai	ned Leaves	. , .	ept	Wate	er-Stained Leaves (B9) (MLRA 1, 2
Vetland Hydr Primary Indica Surface \ High Wat	rology Indicators: ators (minimum of one Water (A1) ter Table (A2)	required; che	Water-Stai	1, 2, 4A, an	. , .	ept	Wate 4	er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B)
Vetland Hydr Irimary Indica Surface \ High Wat Saturatio	rology Indicators: ators (minimum of one Nater (A1) ter Table (A2) n (A3)	required; che	Water-Stai MLRA Salt Crust	<b>1, 2, 4A, an</b> (B11)	d 4B)	ept	Wate 4 Drain	er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10)
Vetland Hydr rrimary Indica Surface \ High Wat Saturatio Water Ma	rology Indicators: ators (minimum of one Water (A1) er Table (A2) n (A3) arks (B1)	required; che	Water-Stai MLRA Salt Crust Aquatic Inv	<b>1, 2, 4A, an</b> (B11) /ertebrates (	<b>d 4B)</b> (B13)	ept	Wate Drain Drain	er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2)
Vetland Hydi Primary Indica Surface \ High Wat Saturatio Water Ma Sedimen	rology Indicators: ators (minimum of one Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	required; che	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen	<b>1, 2, 4A, an</b> (B11) vertebrates ( Sulfide Odor	d <b>4B)</b> (B13) r (C1)		Wate 4 Drain Dry Satu	er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) hage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9)
Vetland Hydi Primary Indica Surface \ High Wat Saturatio Water Ma Sedimen Drift Dep	rology Indicators: ators (minimum of one Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)	required; che	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F	<b>1, 2, 4A, an</b> (B11) vertebrates ( Sulfide Odol Rhizospheres	(B13) r (C1) s along Livin			er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) hage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2)
Vetland Hydi Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	required; che	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F	<b>1, 2, 4A, an</b> (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced	(B13) r (C1) s along Livin Iron (C4)	ng Roots (C		er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3)
Vetland Hydi Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	required; che	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro	<b>1, 2, 4A, an</b> (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction	(B13) (B13) r (C1) s along Livin Iron (C4) in Tilled Soi	ng Roots (C		er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5)
Vetland Hydi Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)		Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction Stressed Pl	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1)	ng Roots (C		er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR A)
Vetland Hydi Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	agery (B7)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or	<b>1, 2, 4A, an</b> (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1)	ng Roots (C		er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5)
Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations:	agery (B7) Surface (B8)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction Stressed Pl olain in Rema	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1)	ng Roots (C		er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR A)
Vetland Hydr Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely Field Observers	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y	agery (B7) Surface (B8)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction Stressed Pl olain in Remain ches):	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1) arks)	ng Roots (C		er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR A)
Vetland Hydr Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depe Surface S Inundatic Sparsely Field Observer Surface Water Vater Table P	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y resent? Y	agery (B7) Surface (B8) Yes <u> </u>	Water-Stai     MLRA     Salt Crust     Aquatic Im     Hydrogen     Oxidized F     Presence     Recent Iro     Stunted or     Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction Stressed Pl olain in Remain ches):	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1) arks) <u>16</u>	ig Roots (C ils (C6) <b>(LRR A)</b>		er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR A) t-Heave Hummocks (D7)
Vetland Hydr Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely Field Observa Surface Water Vater Table P Saturation Pre	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y ssent? Y	agery (B7) Surface (B8) Yes <u> </u>	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction Stressed Pl olain in Remain ches):	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1) arks)	ig Roots (C ils (C6) <b>(LRR A)</b>		er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR A) t-Heave Hummocks (D7)
Vetland Hydr Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely Field Observa Surface Water Vater Table P Saturation Pre	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y ssent? Y	agery (B7) Surface (B8) Yes <u> </u>	Water-Stai     MLRA     Salt Crust     Aquatic Im     Hydrogen     Oxidized F     Presence     Recent Iro     Stunted or     Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odor Rhizospheres of Reduced n Reduction Stressed Pl olain in Remain ches):	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1) arks) <u>16</u>	ig Roots (C ils (C6) <b>(LRR A)</b>		er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR A) t-Heave Hummocks (D7)
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Vetland Hydr Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely Field Observer Surface Water Vater Table P Saturation Pre- includes capi	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? resent? Y esent? Y llary fringe)	agery (B7) Surface (B8) Yes <u>X</u> N Yes <u>X</u> N	Water-Stai     MLRA     Salt Crust     Aquatic Im     Hydrogen     Oxidized F     Presence G     Recent Iro     Stunted or     Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odo Stizospheres of Reduced n Reduction Stressed Pl olain in Remain ches): ches): ches):	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1) arks) <u>16</u> 14	ils (C6) (LRR A) Wetla	A     Wate     A     Crain     Dry-i     Satu     Satu     Shal     FAC     Rais     Fros	hage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) <b>(LRR A)</b> t-Heave Hummocks (D7)
Vetland Hydr Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Surface S Inundatic Sparsely Field Observa Surface Water Vater Table P Saturation Pre- includes capi	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? resent? Y esent? Y llary fringe)	agery (B7) Surface (B8) Yes <u>X</u> N Yes <u>X</u> N	Water-Stai     MLRA     Salt Crust     Aquatic Im     Hydrogen     Oxidized F     Presence G     Recent Iro     Stunted or     Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odo Stizospheres of Reduced n Reduction Stressed Pl olain in Remain ches): ches): ches):	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1) arks) <u>16</u> 14	ils (C6) (LRR A) Wetla	A     Wate     A     Crain     Dry-i     Satu     Satu     Shal     FAC     Rais     Fros	er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR A) t-Heave Hummocks (D7)
Vetland Hydr Primary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depa Surface S Inundatio Sparsely Field Observa Surface Water Vater Table P Saturation Pre- ncludes capi	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? resent? Y esent? Y llary fringe)	agery (B7) Surface (B8) Yes <u>X</u> N Yes <u>X</u> N	Water-Stai     MLRA     Salt Crust     Aquatic Im     Hydrogen     Oxidized F     Presence G     Recent Iro     Stunted or     Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odo Stizospheres of Reduced n Reduction Stressed Pl olain in Remain ches): ches): ches):	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1) arks) <u>16</u> 14	ils (C6) (LRR A) Wetla	A     Wate     A     Crain     Dry-i     Satu     Satu     Shal     FAC     Rais     Fros	er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) nage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR A) t-Heave Hummocks (D7)
Vetland Hydi rimary Indica Surface N High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depu Surface S Inundatic Sparsely Nater Table P aturation Pre ncludes capi	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? resent? Y esent? Y llary fringe)	agery (B7) Surface (B8) Yes <u>X</u> N Yes <u>X</u> N	Water-Stai     MLRA     Salt Crust     Aquatic Im     Hydrogen     Oxidized F     Presence G     Recent Iro     Stunted or     Other (Exp	1, 2, 4A, and (B11) vertebrates ( Sulfide Odo Stizospheres of Reduced n Reduction Stressed Pl olain in Remain ches): ches): ches):	(B13) r (C1) s along Livin Iron (C4) in Tilled Soi lants (D1) arks) <u>16</u> 14	ils (C6) (LRR A) Wetla	A     Wate     A     Crain     Dry-i     Satu     Satu     Shal     FAC     Rais     Fros	er-Stained Leaves (B9) (MLRA 1, 2 A, and 4B) hage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imagery (C9) morphic Position (D2) low Aquitard (D3) -Neutral Test (D5) ed Ant Mounds (D6) (LRR A) t-Heave Hummocks (D7)

Project/Site:	TAL-1923 Cottage Lake		Citv/Countv:	Cottag	e Lake / King County	Samp	oling Date:	04/07/20	)22
Applicant/Owner:		Miller			State: WA Sampling Point: TP-A6				
			Section. Tow	nship, Range:		1/4 SEC24			
• • • •	etc): Toe of Slope		,	1, 0	ex, none):			Slope (%).	0
Subregion (I RR):	A	Lat:	47 758	72929	Long:	127952	Datun		
Soil Map Unit Name	Everett very gravelly sandy							None	
	itions on the site typical for this time								
	il, or Hydrology						Yes	X No	
	il , or Hydrology							<u> </u>	
	GS - Attach site map show								
				it locations,	transects, import	antieatu	165, 610.		
Hydrophytic Vegetation Pre	esent? Yes X N	lo							
Hydric Soil Present?	Yes X N	lo	-	the Sampled					
Wetland Hydrology Present	t? Yes <u>X</u> N	lo	w	ithin a Wetland	d? Yes	<u> </u>	No	-	
Remarks:									
VEGETATION - Use sc	ientific names of plants.								
					Dominance Test w	orksheet:			
		Absolute	Dominant	Indicator	Number of Dominan	t Species			
Tree Stratum (Plot size:	30)	% Cover	Species?	Status	That Are OBL, FAC	N, or FAC:	Ę	5 (A	۹)
1. Acer circinatum / Vine m	ŕ	10	Yes	FAC					
2. Acer macrophyllum / Big	leaf maple, Big-leaf maple	5	Yes	FACU	Total Number of Dor	minant			
					Species Across All S	Strata:	ç	9 (B	3)
4.									
		15	= Total Co	ver	Percent of Dominan	t Species			
Sapling/Shrub Stratum (I	Plot size: 15 )				That Are OBL, FAC	N, or FAC:	55	5.6 (A	√B)
1. Physocarpus capitatus /		45	Yes	FACW		·		`	·
2. Rubus spectabilis / Salm		20	Yes	FAC	Prevalence Index v	vorksheet:			
3. Acer circinatum / Vine m		20	Yes	FAC	Total % Cover	of:	Multip	ly by:	
4. Cornus sericea ssp. seri	•	20	Yes	FACW	OBL species	0	x 1 =	0	
5. Oemleria cerasiformis /		10	No	FACU	FACW species	65	x 2 =	130	
		115	= Total Co		FAC species	50	x 3 =	150	
Herb Stratum (Plot size:	5)				FACU species	103	x 4 =	412	
1. Polystichum munitum / V		10	Yes	FACU	UPL species	0	x 5 =	0	
2. Cardamine hirsuta / Hair		3	Yes	FACU	Column Totals:	218	(A)	692	(B)
3.	<u>j sikel elece</u>								
4					Prevalence In	dex = B/A =	3.1	17	
5									
6.					Hydrophytic Veget				
7					1 - Rapid Test f		-	n	
8.					X 2 - Dominance		o		
0					3 - Prevalence				
10					4 - Morphologic	-		supporting	J
11.					5 - Wetland No				
		13	= Total Co	ver	Problematic Hy	drophytic Ve	getation <sup>1</sup> (E	xplain)	
Woody Vine Stratum (Plo	ot size: <u> </u>								
1. Hedera helix / English iv		75	Yes	FACU	<sup>1</sup> Indicators of hydric		-	•••	
2.	2				be present, unless c	listurbed or p	problematic.		
<u> </u>		75	= Total Co	ver	Hydrophytic				
% Bare Ground in Herb Sta	.tum				Vegetation Present?	Yes X	( No		
Remarks:						_	_	_	

SOIL	
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Depth	iption: (Describe to t Matrix			Features	Si commi			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-9	10YR 2/2	100					Sandy Loam	
9-18	2.5Y 4/2	92	5YR 4/6	6	С	М	Loamy Sand	
			7.5YR 3/4	2	С	М	Loamy Sand	
					. <u> </u>			
							·	
'Type: C=Con	centration, D=Depletic	n, RM=Reduc	ced Matrix, CS=Cove	red or Coate	ed Sand Gr	ains.	<sup>2</sup> Locatio	n: PL=Pore Lining, M=Matrix.
Hydric Soil In	dicators: (Applicable	e to all LRRs,	unless otherwise r	oted.)			Indicators fo	or Problematic Hydric Soils <sup>3</sup> :
Histosol (	,		Sandy Red					Muck (A10)
	ipedon (A2)		Stripped M					Parent Material (TF2)
Black His				cky Mineral (		pt MLRA 1	· _ ·	Shallow Dark Surface (TF12)
Hydroger	n Sulfide (A4)			yed Matrix (F	-2)		Othe	r (Explain in Remarks)
X Depleted	Below Dark Surface (	A11)	Depleted N	latrix (F3)				
Thick Da	rk Surface (A12)		Redox Dar	k Surface (F	6)		<sup>3</sup> Indicators	s of hydrophytic vegetation and
Sandy M	ucky Mineral (S1)		Depleted D	ark Surface	(F7)		wetla	and hydrology must be present,
Sandy GI	eyed Matrix (S4)		Redox Dep	ressions (F8	3)		unles	ss disturbed or problematic.
_	ayer (if present):							
Type: Depth (inc	hes):						Hydric Soil Pres	sent? Yes X No
Remarks:	·							
(DROLOG	Y							
-	ology Indicators:							
	tors (minimum of one	required; cheo						y Indicators (minimum of two required)
	Vater (A1)			ned Leaves (	· · ·	ept		er-Stained Leaves (B9) (MLRA 1, 2,
	er Table (A2)			I, 2, 4A, and	I 4B)			A, and 4B)
X Saturatio			Salt Crust (					nage Patterns (B10)
Water Ma				ertebrates (E				Season Water Table (C2)
	t Deposits (B2)			Sulfide Odor	. ,			ration Visible on Aerial Imagery (C9)
	osits (B3)			hizospheres		ng Roots (C		morphic Position (D2)
-	t or Crust (B4)			of Reduced I				ow Aquitard (D3)
Iron Depo				n Reduction				Neutral Test (D5)
Surface S	Soil Cracks (B6)		Stunted or	Stressed Pla	ants (D1)	(LRR A)	Raise	ed Ant Mounds (D6) (LRR A)
Inundatio	n Visible on Aerial Ima	agery (B7)	Other (Exp	lain in Rema	ırks)		Frost	t-Heave Hummocks (D7)
Sparsely	Vegetated Concave S	urface (B8)						
ield Observa								
Surface Water		es No	! ``			-		
Vater Table P		es <u>X</u> No	! ``		7	-		
Saturation Pre		es <u>X</u> No	o Depth (ind	ches):	6	Wetla	nd Hydrology Pres	sent? Yes X No
escribe Reco	orded Data (stream ga	uge, monitorir	ng well, aerial photos	, previous in	spections),	, if available	9:	
	<b>.</b>	- <b>3</b> -,	5 ,	, <b>F</b>	,,	,		
Remarks:								

Project/Site:	TAL-1923 C	Cottage Lake		1	City/County	: Cotta	ge Lake, King C	ounty	Sampling Da	te: 11/3	30/2021
Applicant/Owner:				smine Mille	r		State:		Sampling Po		P-B1
Investigator(s):	J. Prater, Tala	saea Consu	Itants			wnship, Range:		NW1.4 S			
Landform (hillslope, terr	ace, etc);	Depres	ssion				ex, none):				%): 0
Subregion (LRR):	<u> </u>						Long:				NAD83
Soil Map Unit Name:											
Are climatic / hydrologic											
Are Vegetation										ХМ	No
Are Vegetation											
SUMMARY OF FIN		-								tc.	
Hydrophytic Vegetatio		Yes		• <u> </u>			, ,	•	, ,		
Hydric Soil Present?		Yes 2		o		s the Sampled	Area				
Wetland Hydrology P	resent?	Yes 2		o		vithin a Wetlan		Yes X	No		
wettand riverology r			<u> </u>		-						
Remarks:											
Hydrolo	gic Conditions Well A	Above Avera	ge								
VEGETATION - Us	e scientific nar	nes of nis	ante								
							Deminent	<b>T</b> - 4			
								e Test worksho			
				Absolute	Dominant			Dominant Spec			( • )
Tree Stratum (Plot		)		% Cover	Species?		That Are Of	BL, FACW, or F	AC:	4	_ (A)
1. <u>Alnus rubra / Red</u>				40	Yes	FAC	Total Numb	an of Dominant			
2. <u>Acer macrophyllur</u>				20	Yes	FACU		er of Dominant		C	
3							Species Aci	ross All Strata:		6	(B)
4							Demonstrat of D	Deminant Cree			
				60	= Total Co	over		Dominant Spec		66.7	
Sapling/Shrub Stratu	_ ·		)				That Are Of	BL, FACW, or F	AC:	66.7	_ (A/B)
1. <u>Rubus spectabilis</u>		nonberry		60	Yes	FAC	Prevalence	e Index worksl	neet:		
2. Spiraea douglasii				20	Yes	FACW		% Cover of:		/ultiply by:	
3. <u>Acer circinatum / \</u>	/ine maple			15	No	FAC	OBL specie				
4.							FACW spec			_	
5							FAC specie				
		,		95	= Total Co	over	FACU spec			100	
Herb Stratum (Plot				-	¥	FAOL	UPL specie		x 5 =	0	
1. Polystichum munit				<u>5</u>	Yes	FACU	Column Tota	als: 165	(A)	500	(B)
2. <u>Athyrium filix-femil</u>	ha / Common ladyler	n		5	Yes	FAC			、 /		、 /
3 4.							Preva	lence Index =	B/A =	3.03	
4. 5.											
6.							Hydrophyti	ic Vegetation	ndicators:		
7.								oid Test for Hyd		etation	
						·		minance Test is			
								valence Index			
10.								rphological Ada		ovide suppo	orting
11.								tland Non-Vaso			
···				10	= Total Co	over	Problei	matic Hydrophy	ytic Vegetatio	n¹ (Explain)	)
Woody Vine Stratum	(Plot size:	5	)	10							
1	(1 101 0120.		_/					of hydric soil ar	,		st
2.							be present,	unless disturbe	ed or problem	iatic.	
				0	= Total Co	over	Hydrophyti	ic			
% Bare Ground in He	rh Statum						Vegetation				
							Present?		5 <u>X</u> N	10	
							Tresent:	103		<u> </u>	
Remarks:											

S	Ο	I	L
Э	υ	I	L

Depth	Matrix		Redox	Features						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-11	10YR 2/1	100								
11-18	10YR 4/2	100					Loamy Sand			
Type: C=Cond	centration, D=Depletio	n. RM=Reduced	d Matrix. CS=Cove	red or Coate	ed Sand Gra	ns.	<sup>2</sup> Location: PL	=Pore Lining, M=Matrix.		
··	dicators: (Applicable							oblematic Hydric Soils <sup>3</sup> :		
Histosol (A	A1)		Sandy Red	ox (S5)			2 cm Muc	k (A10)		
Histic Epi	pedon (A2)		Stripped M					nt Material (TF2)		
Black Hist					(F1) (except	MLRA 1)		low Dark Surface (TF12)		
	Sulfide (A4)			yed Matrix (I		,		plain in Remarks)		
	Below Dark Surface (	A11)	Depleted M	•	,			,		
	k Surface (A12)	,		k Surface (F	6)		<sup>3</sup> Indicators of h	ydrophytic vegetation and		
	ucky Mineral (S1)			ark Surface	,			ydrology must be present,		
	eyed Matrix (S4)			ressions (F8				turbed or problematic.		
_ `	yer (if present):				- /					
Type:	iyer (il present):		_							
Depth (inc	hes):						Hydric Soil Present	Yes X No		
Primary Indica Surface V	ology Indicators: tors (minimum of one Vater (A1)	required; check	Water-Stair	ned Leaves	. , .	pt	Water-Sta	icators (minimum of two required ined Leaves (B9) (MLRA 1, 2,		
	er Table (A2)		Salt Crust	I, 2, 4A, and	14B)		4A, and 4B)			
<u>X</u> Saturation				ertebrates (I	D12)		Drainage Patterns (B10)			
Water Ma				Sulfide Odor			Dry-Season Water Table (C2)			
Drift Depo	Deposits (B2)				. ,	Deete (C	Saturation Visible on Aerial Imagery (C9)			
	or Crust (B4)			of Reduced In	along Living	RUUIS (C	C3) Geomorphic Position (D2) Shallow Aquitard (D3)			
Iron Depo					in Tilled Soils	(C6)				
_ ·	oil Cracks (B6)				ants (D1) (		FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)			
	n Visible on Aerial Ima	gery (B7)		lain in Rema				ve Hummocks (D7)		
_	Vegetated Concave S									
	4									
				ches):						
ield Observa	Present? Ye		X Depth (in		_					
urface Water Vater Table Pr	Present? Ye	es X No	Depth (in	· ·	5					
urface Water Vater Table Pr aturation Pre	Present? Ye resent? Ye sent? Ye		Depth (in	· ·	5 3	Wetlar	nd Hydrology Present	? Yes X No		
Surface Water Vater Table Pr Saturation Pres ncludes capill	Present? Ye resent? Ye sent? Ye lary fringe)	es X No es X No	Depth (in Depth (in	ches):	3			? Yes X No		
Surface Water Vater Table Pr Saturation Pres ncludes capill	Present? Ye resent? Ye sent? Ye	es X No es X No	Depth (in Depth (in	ches):	3			? Yes X No		
Surface Water Vater Table Pr Saturation Pres ncludes capill	Present? Ye resent? Ye sent? Ye lary fringe)	es X No es X No	Depth (in Depth (in	ches):	3			? Yes X No		
Surface Water Vater Table Pr Saturation Pre ncludes capill Describe Reco	Present? Ye resent? Ye sent? Ye lary fringe)	es X No es X No	Depth (in Depth (in	ches):	3			? Yes <u>X</u> No		
urface Water /ater Table Pr aturation Pre- ncludes capill escribe Reco	Present? Ye resent? Ye sent? Ye lary fringe)	es X No es X No	Depth (in Depth (in	ches):	3			? Yes <u>X</u> No		
urface Water /ater Table Pr aturation Pre- ncludes capill escribe Reco	Present? Ye resent? Ye sent? Ye lary fringe)	es X No es X No	Depth (in Depth (in	ches):	3			? Yes <u>X</u> No		

Project/Site:	TAL-1923 C	ottage Lake		Cit	tv/Countv:	Cottag	e Lake, King Count	tv Sam	pling Date:	11/30/2021
Applicant/Owner:							State:		pling Point:	TP-B2
Investigator(s):										
Landform (hillslope, terrace,										Slope (%): 2
Subregion (LRR):	A		Lat		47.758	94878	Long: -12	22.09130149	Datum	· · · · -
Soil Map Unit Name:										lone
Are climatic / hydrologic con										
Are Vegetation, S	Soil . or	Hvdroloav	sianific	antly dis	sturbed?	Are "N	Normal Circumstan		Yes X	( No
Are Vegetation, S							eded, explain any a	•		
SUMMARY OF FINDI										
		•	-	-	ing poin	it looutiono,		<u>Jontant Toatt</u>	100, 010.	
Hydrophytic Vegetation P	resent?	Yes <u>X</u> Yes				4h - 0 l	•			
Hydric Soil Present?				<u>x</u>		the Sampled A		(a.a.	No. V	
Wetland Hydrology Prese	1112	Yes		<u> </u>	v	vithin a Wetland	ar r	es		-
Remarks: Hydrologic C VEGETATION - Use s	Conditions Well A									
VEGETATION - USE S	cientine nan	nes or plants	5.							
							Dominance Te			
			Abso	lute	Dominant	Indicator	Number of Dom	•		
Tree Stratum (Plot size		/	<u>%</u> C	over	Species?	Status	That Are OBL, I	FACW, or FAC:	3	8 (A)
1. Acer macrophyllum / B	igleaf maple, Biç	g-leaf maple		60	Yes	FACU				
2. Alnus rubra / Red alde	r			40	Yes	FAC	Total Number of			
3							Species Across	All Strata:	5	5(B)
4										
			1	00	= Total Co	over	Percent of Dom	•		
Sapling/Shrub Stratum	-						That Are OBL, I	-ACW, or FAC:	60	0.0 (A/B
1. Rubus spectabilis / Sa		nonberry		75	Yes	FAC	Brovalanco Inc	lex worksheet:		
2. Acer circinatum / Vine	maple			20	Yes	FAC	Total % Co		Multipl	ly by:
3							OBL species	0	x 1 =	0
4							FACW species		x 2 =	0
5							FAC species	135	x 3 =	405
	_			95	= Total Co	over	FACU species	65	x 4 =	260
Herb Stratum (Plot size				_			UPL species	0	x 5 =	0
1. Polystichum munitum /	Western sword	fern	·	5	Yes	FACU	Column Totals:		(A)	665 (B
2			·						_ (()	(2
3			·			·	Prevalence	ce Index = B/A =	= 3.3	33
4										
6.							Hydrophytic V	egetation Indic	ators:	
7.							1 - Rapid T	Test for Hydroph	ytic Vegetatio	'n
8.				•				ance Test is >50		
9.								ence Index ≤3.0¹		
9: 10.								ological Adaptati		supporting
10								d Non-Vascular		
				5	= Total Co	N/Or	Problemati	ic Hydrophytic V	'egetation <sup>1</sup> (E:	xplain)
Woody Vine Stratum (F	Plot size:	5)		<u> </u>		WCI				
							<sup>1</sup> Indicators of hy		-	gy must
1 2.			·				be present, unle	ess disturbed or	problematic.	
			·	0	= Total Co	over	Hydrophytic			
% Bare Ground in Herb S	tatum			<u> </u>			Vegetation			
							Present?	Yes	X No	
							i resent:			
Remarks:										

Project/Site: TAL-1923 Cottage Lake		City/County:	Cottag	e Lake / King County	Sampling	g Date:	05/11/2022
	on Miller	<i>y</i>					TP-C1
Investigator(s): J. Prater, Talasaea Consultants		Section. Tow	nship, Range:	NW	1/4 SEC24 T2	-	
Landform (hillslope, terrace, etc): Terrace					concave		ope (%): 0
Subregion (LRR): A	Lat:			Long: -122.091		Datum:	-
Soil Map Unit Name: Everett very gravelly sand							one
Are climatic / hydrologic conditions on the site typical for this ti							
Are Vegetation, Soil, or Hydrology						Yes X	No
Are Vegetation, Soil, or Hydrology							
SUMMARY OF FINDINGS - Attach site map sho							
			LIOCALIONS,	, transects, importa	int leature:	5, 810.	
Hydrophytic Vegetation Present? Yes X	No						
Hydric Soil Present? Yes X			the Sampled				
Wetland Hydrology Present? Yes X	No	w	ithin a Wetlan	d? Yes	X No	<u> </u>	
Remarks:							
VEGETATION - Use scientific names of plants.							
				Dominance Test wo	rksheet:		
	Absolute	Dominant	Indicator	Number of Dominant	Species		
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	That Are OBL, FACW	, or FAC:	3	(A)
1. Alnus rubra / Red alder	20	Yes	FAC				
2. Populus balsamifera ssp. trichocarpa / Black cottonwood	10	Yes	FAC	Total Number of Dom	inant		
3				Species Across All St	rata:	5	(B)
4.							
	30	= Total Co	ver	Percent of Dominant	Species		
Sapling/Shrub Stratum (Plot size: 15 )				That Are OBL, FACW	, or FAC:	60.0	) (A/B)
1. Rubus spectabilis / Salmon berry, Salmonberry	85	Yes	FAC				
2. Physocarpus capitatus / Ninebark	25	No	FACW	Prevalence Index we			
3. Cornus sericea ssp. sericea / Red osier dogwood	8	No	FACW	Total % Cover o		Multiply	
4. Acer circinatum / Vine maple	6	No	FAC	OBL species			0
5. Lonicera involucrata / Coast twinberry	4	No	FAC	FACW species			66
	128	= Total Co	ver	FAC species			375
Herb Stratum (Plot size: 5 )		_		FACU species			148
1. Polystichum munitum / Western sword fern	12	Yes	FACU	UPL species		-	0
2.				Column Totals:	270 (A	A) <u>8</u>	389 (B)
3.							
4.				Prevalence Ind	ex = B/A =	3.29	)
5.				Lludronbutic Verete	tion Indicator		
6.				Hydrophytic Vegeta			
7.				1 - Rapid Test fo X 2 - Dominance T		vegetation	
8.				3 - Prevalence Ir			
9.						1 (Drovida a	upporting
10.				4 - Morphologica 5 - Wetland Non-			upporting
11.				Problematic Hyd			
	12	= Total Co	ver		rophytic vege	tation (Exp	Jan )
Woody Vine Stratum (Plot size: 5 )		_		1Indicators of hydric a	all and watlar	d hydrolog	v muot
1. Hedera helix / English ivy	100	Yes	FACU	<sup>1</sup> Indicators of hydric s			ymusi
2.				be present, unless dis	surbed or pro	plematic.	
	100	= Total Co	ver	Hydrophytic			
% Bare Ground in Herb Statum		_		Vegetation Present?	Yes X	No	
Remarks:							
Tonuno.							

SOIL
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Depth	ription: (Describe to t Matrix	ne depth néé		Features	or contirm	the absel	nce of indicator	5.j		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	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	М	Crse Sndy Lm	Gravel		
		·								
<sup>1</sup> Type: C=Cor	ncentration, D=Depletio	n, RM=Reduc	ced Matrix, CS=Cove	red or Coate	ed Sand Gra	ains.	2Loca	tion: PL=Pore Lining, M=Matrix.		
	ndicators: (Applicable							s for Problematic Hydric Soils <sup>3</sup> :		
Histosol			Sandy Red	-				cm Muck (A10)		
	pipedon (A2)		Stripped M					ed Parent Material (TF2)		
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLF								ery Shallow Dark Surface (TF12)		
· ·	n Sulfide (A4)			yed Matrix (F	-2)		0	ther (Explain in Remarks)		
	Below Dark Surface (A	A11)	Depleted N							
Thick Dark Surface (A12) Redox Dark Surface (F6)								tors of hydrophytic vegetation and		
Sandy M	Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)						W	etland hydrology must be present,		
Sandy G	Sandy Gleyed Matrix (S4)     Redox Depressions (F8)							nless disturbed or problematic.		
	ayer (if present):									
Type:	ches):						Hudria Sail D	rocont? Voc V No		
Depth (in	cnes):						Hydric Soil P	resent? Yes X No		
YDROLOG	iΥ									
Wetland Hyd	rology Indicators:									
Primary Indic	ators (minimum of one	required; che	ck all that apply)					dary Indicators (minimum of two required)		
Surface	Water (A1)		Water-Stair	ned Leaves (	B9) <b>(exc</b>	ept	W	ater-Stained Leaves (B9) (MLRA 1, 2,		
X High Wa	ter Table (A2)		MLRA 1	l, 2, 4A, and	4B)		4A, and 4B)			
X Saturatio	on (A3)		Salt Crust (	B11)			Drainage Patterns (B10)			
Water M	arks (B1)		Aquatic Inv	ertebrates (E	313)		Dry-Season Water Table (C2)			
Sedimer	nt Deposits (B2)		Hydrogen S	Sulfide Odor	(C1)		Saturation Visible on Aerial Imagery (C9)			
	oosits (B3)			hizospheres	. ,	a Roots (C				
	it or Crust (B4)			of Reduced In		3	Shallow Aquitard (D3)			
	osits (B5)			Reduction i		ls(C6)	FAC-Neutral Test (D5)			
	Soil Cracks (B6)			Stressed Pla		. ,		aised Ant Mounds (D6) (LRR A)		
	on Visible on Aerial Ima	acri (P7)								
	Vegetated Concave S	0,(,,		lain in Rema	185)		FI	rost-Heave Hummocks (D7)		
Field Observ	ations:									
Surface Wate		es No	o X Depth (ind	ches):						
Water Table F		es X No			10					
Saturation Pr		es X No			8	Wotla	nd Hydrology P	Present? Yes X No		
(includes cap		<u> </u>				Wetta	ina riyarology r			
Describe Rec	orded Data (stream ga	uge, monitorir	ng well, aerial photos	, previous in	spections),	if available	9:			
Domortice										
Remarks:										

Project/Site: TAL-1923 Cottage Lake		City/County	Cottag	e Lake / King County	Sampling Date	: 05/11/2022
	Miller	eng/eeung:		State: WA		
		Section Tow	nship, Range:			
		,	1, 0			
Landform (hillslope, terrace, etc): Terrace			concave, conve	ex, none):	oncave	
				Long: -122.091		tum: NAD83
Soil Map Unit Name: Everett very gravelly sandy						None
Are climatic / hydrologic conditions on the site typical for this time			_			
Are Vegetation, Soil, or Hydrology				Normal Circumstances" p	resent? Yes	X No
Are Vegetation, Soil, or Hydrology	naturally pro	oblematic?	(If ne	eded, explain any answer	s in Remarks.)	
SUMMARY OF FINDINGS - Attach site map show	ving sam	pling poin	t locations,	transects, importa	int features, etc	· ·
Hydrophytic Vegetation Present? Yes X N	lo					
Hydric Soil Present? Yes X N	lo	-	the Sampled	Δrea		
	lo	-	ithin a Wetlan		X No	
		- **			<u> </u>	
Remarks:						
VEGETATION - Use scientific names of plants.						
· · · · · ·				Dominance Test wo	rkehoot:	
	Absolute	Dominant		Number of Dominant	•	
Tree Stratum (Plot size: 30 )	% Cover		Status	That Are OBL, FACW	, or FAC:	(A)
1. Populus balsamifera ssp. trichocarpa / Black cottonwood	15	Yes	FAC			
2. Acer circinatum / Vine maple	8	Yes	FAC	Total Number of Dom	inant	
3. Alnus rubra / Red alder	5	No	FAC	Species Across All St	rata:	5 (B)
4. Acer macrophyllum / Bigleaf maple, Big-leaf maple	4	No	FACU			
	32	= Total Co	ver	Percent of Dominant	Species	
Sapling/Shrub Stratum (Plot size: 15)		_		That Are OBL, FACW	, or FAC:	80.0 (A/B)
1. Physocarpus capitatus / Ninebark	40	Yes	FACW			
2. Lonicera involucrata / Coast twinberry	20	Yes	FAC	Prevalence Index we	orksheet:	
3. Acer circinatum / Vine maple	15	No	FAC	Total % Cover o	f: Mu	Itiply by:
4. <i>Rubus spectabilis /</i> Salmon berry, Salmonberry		No	FAC	OBL species	0 x 1 =	0
5. Sambucus racemosa / Red elderberry	5	No	FACU	FACW species	40 x 2 =	80
5. Sambucus racemosa rived elderberry	92	= Total Co		FAC species	75 x 3 =	225
Lierh Streture (Distaire) 5	92		vei	FACU species	114 x 4 =	456
Herb Stratum (Plot size: 5_)				UPL species	0 x 5 =	0
1				Column Totals:	229 (A)	761 (B)
2					(*)/	(=)
3				Prevalence Ind	ex = B/A =	3.32
4					JX - DIA -	0.02
5				Hydrophytic Vegeta	tion Indicators:	
6					r Hydrophytic Vegeta	ation
7				X 2 - Dominance T		
8				3 - Prevalence Ir		
9.					I Adaptations <sup>1</sup> (Provi	ido cupporting
10.						ide supporting
11.					-Vascular Plants <sup>1</sup>	<i>(</i> <b>– – – – – – – – –</b> <i>–</i> <b>–</b> <i>– – – – – – – – – –</i>
	0	= Total Co	ver	Problematic Hyd	rophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 5 )						
1. Hedera helix / English ivy	100	Yes	FACU	<sup>1</sup> Indicators of hydric s		
	100	163	1400	be present, unless dis	sturbed or problemat	ic.
2						
	100	= Total Co	ver	Hydrophytic		
% Bare Ground in Herb Statum				Vegetation		
				Present?	Yes X No	
Remarks:						

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Profile Descrip Depth	ption: (Describe to tl Matrix	ne depth neede		e indicator Features	or confirm	the abse	nce of indicators.)			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-11	10YR 2/1	100			<u> </u>		Lm Crse Sand			
11-18	10YR 4/2	96	10YR 3/4	4	С	М	Loamy Sand			
				·						
<sup>1</sup> Type: C=Conc	entration, D=Depletio	n RM=Reduce	d Matrix, CS=Cove	red or Coate	ad Sand Gr	ains	<sup>2</sup> l ocation: Pl	_=Pore Lining, M=Matrix.		
						anns.		-		
Histosol (/	dicators: (Applicable	to all LKKS, u	Sandy Red	-			2 cm Muc	oblematic Hydric Soils <sup>3</sup> :		
	pedon (A2)		Stripped Ma					ent Material (TF2)		
Black Hist					F1) (excer	ot MI RA 1		llow Dark Surface (TF12)		
	Black Histic (A3)         Loamy Mucky Mineral (F1) (except MLR/           Hydrogen Sulfide (A4)         Loamy Gleyed Matrix (F2)							(plain in Remarks)		
		A11)		-	_)					
	X         Depleted Below Dark Surface (A11)         Depleted Matrix (F3)           Thick Dark Surface (A12)         Redox Dark Surface (F6)							hydrophytic vegetation and		
	Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)							ydrology must be present,		
Sandy Gleyed Matrix (S4) Redox Depressions (F8)								sturbed or problematic.		
					,			·····		
Type:	yer (if present):									
Depth (incl	nes):		_				Hydric Soil Present	? Yes X No		
Remarks:										
HYDROLOG	1									
	ology Indicators:									
	tors (minimum of one	required; check						licators (minimum of two required)		
Surface W			Water-Stair		. , .	ept		ained Leaves (B9) (MLRA 1, 2,		
	er Table (A2)			, 2, 4A, and	l 4B)		4A, and 4B)			
X Saturation			Salt Crust (	,			Drainage Patterns (B10)			
Water Ma	rks (B1)		Aquatic Inv	ertebrates (I	313)		Dry-Season Water Table (C2)			
	Deposits (B2)			Sulfide Odor	. ,		Saturation Visible on Aerial Imagery (C9)			
Drift Depo			Oxidized RI		-	ig Roots (C		hic Position (D2)		
	or Crust (B4)		Presence o					Aquitard (D3)		
Iron Depo			Recent Iron					tral Test (D5)		
	oil Cracks (B6)		Stunted or S			(LRR A)		nt Mounds (D6) (LRR A)		
	n Visible on Aerial Ima	0,00,00	Other (Expl	ain in Rema	irks)		Frost-Hea	ave Hummocks (D7)		
Sparsely	Vegetated Concave S	urtace (B8)								
Field Observa										
Surface Water			X Depth (inc							
Water Table Pr		es <u>X</u> No			8					
Saturation Pres		es <u>X</u> No	Depth (inc	hes):	6	Wetla	and Hydrology Present	? Yes X No		
(includes capill	ary fringe)									
Describe Reco	rded Data (stream ga	uge, monitoring	well, aerial photos,	previous in	spections),	if available	e:			
Remarks:										

Project/Site: TAL-1923 Aaron Miller		City/County	Cottag	e Lake / King County	Sampling Date:	05/11/2022
	Miller	eng/eeungi		State: WA		
	-	Section Town	nship, Range:		SEC24 T26N R6E	
Landform (hillslope, terrace, etc):Depression						
Subregion (LRR): A				Long: -122.09104		um: NAD83
Soil Map Unit Name: Everett very gravelly sandy						None
Are climatic / hydrologic conditions on the site typical for this time						None
Are Vegetation, Soil, or Hydrology						X No
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS - Attach site map show						
· · · · ·			liocations,	transects, important	leatures, etc.	
	lo			_		
Hydric Soil Present? Yes X N	lo		the Sampled			
Wetland Hydrology Present? Yes X N	lo	_ wi	thin a Wetland	d? Yes <u>X</u>	No	
Remarks:						
VEGETATION - Use scientific names of plants.						
				Dominance Test works	heet:	
	Absolute	Dominant	Indicator	Number of Dominant Sp	ecies	
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	That Are OBL, FACW, o	r FAC:	3 (A)
1. Populus balsamifera ssp. trichocarpa / Black cottonwood	45	Yes	FAC			
2. Alnus rubra / Red alder	15	Yes	FAC	Total Number of Domina	nt	
3				Species Across All Strat	a:	4 (B)
4						
	60	= Total Cov	ver	Percent of Dominant Sp		
Sapling/Shrub Stratum (Plot size: 15 )				That Are OBL, FACW, o	FAC:	75.0 (A/B)
1. Rubus spectabilis / Salmon berry, Salmonberry	85	Yes	FAC	Prevalence Index work	sheet:	
2. <i>Physocarpus capitatus /</i> Ninebark	15	No	FACW	Total % Cover of:		iply by:
3. Alnus rubra / Red alder	10	No	FAC		$\frac{1}{x 1 =}$	0
4				· · · · · · · · · · · · · · · · · · ·	5 x 2 =	-
5				· · · · · · · · · · · · · · · · · · ·	55 x 3 =	465
	110	= Total Cov	/er	· · · · · · · · · · · · · · · · · · ·	00 x 4 =	400
Herb Stratum (Plot size: 5 )				· · ·	0 x 5 =	0
1					70 (A)	895 (B)
2					、 ,	、 ,
4				Prevalence Index	= B/A =	3.31
5				Hydrophytic Vegetation	n Indicators:	
6				1 - Rapid Test for H		tion
7				X 2 - Dominance Test		
8				3 - Prevalence Inde		
9				4 - Morphological A	daptations1 (Provid	de supporting
10				5 - Wetland Non-Va		
11				Problematic Hydrop	hytic Vegetation <sup>1</sup> (	(Explain )
	0	= Total Cov	ver			
Woody Vine Stratum (Plot size: 5 )				<sup>1</sup> Indicators of hydric soil	and wetland hydro	ology must
1. <u>Hedera helix / English ivy</u>	100	Yes	FACU	be present, unless distu	rbed or problemation	С.
2						
% Bare Ground in Herb Statum	100	_ = Total Cov	/er	Hydrophytic Vegetation Present? Y	es <u>X</u> No	
Remarks:						

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Profile Descr Depth	iption: (Describe to th Matrix	ne depth need		e indicator Features	or confirm	the abser	nce of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 2/1	100					Sandy Loam	
8-18	10YR 2/1	95	10YR 3/4	5	С	М	Silt Loam	
					· ·			
					· ·			
					· ·			
							·	
<sup>1</sup> Type: C=Con	centration, D=Depletio	n, RM=Reduce	d Matrix, CS=Cover	ed or Coate	ed Sand Gra	ains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix.
Hydric Soil In	dicators: (Applicable	to all LRRs, u	nless otherwise n	oted.)			Indicators for I	Problematic Hydric Soils <sup>3</sup> :
Histosol (	(A1)		Sandy Redo	ox (S5)			2 cm M	uck (A10)
Histic Ep	ipedon (A2)		Stripped Ma	trix (S6)			Red Pa	rent Material (TF2)
Black His	stic (A3)		Loamy Muc	ky Mineral (	F1) (excep	ot MLRA 1	) Very Sł	nallow Dark Surface (TF12)
Hydroger	n Sulfide (A4)		Loamy Gley	ed Matrix (F	=2)		Other (	Explain in Remarks)
Depleted	Below Dark Surface (A	<b>\11</b> )	Depleted Ma	atrix (F3)				
Thick Da	rk Surface (A12)		X Redox Dark	Surface (F	6)		<sup>3</sup> Indicators o	f hydrophytic vegetation and
Sandy M	ucky Mineral (S1)		Depleted Da	ark Surface	(F7)		wetland	l hydrology must be present,
Sandy Gl	eyed Matrix (S4)		Redox Depr	essions (F8	3)		unless	disturbed or problematic.
Restrictive La	ayer (if present):							
Type:								
Depth (inc	hes):						Hydric Soil Prese	nt? Yes <u>X</u> No
Remarks:								
rtomanto.								
HYDROLOG	Y							
Wetland Hydi	rology Indicators:							
Primary Indica	itors (minimum of one	required; check	all that apply)				Secondary I	ndicators (minimum of two required)
Surface \	Vater (A1)	•	Water-Stain	ed Leaves (	(B9) <b>(exce</b>	ept	Water-S	Stained Leaves (B9) (MLRA 1, 2,
X High Wat	er Table (A2)		MLRA 1	, 2, 4A, and	I 4B)		4A,	and 4B)
X Saturatio	n (A3)		Salt Crust (I	311)			Drainag	je Patterns (B10)
Water Ma			Aquatic Inve	ertebrates (E	313)			ason Water Table (C2)
	t Deposits (B2)		Hydrogen S					ion Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)		Oxidized Rh	izospheres	along Livin	g Roots (C	(3) Geomo	rphic Position (D2)
	t or Crust (B4)		Presence of			•		/ Aquitard (D3)
Iron Depo			Recent Iron			ls (C6)		eutral Test (D5)
	Soil Cracks (B6)		Stunted or S	Stressed Pla	ants (D1)	(LRR A)		Ant Mounds (D6) (LRR A)
	n Visible on Aerial Ima	gery (B7)	Other (Expla			、 ,		eave Hummocks (D7)
	Vegetated Concave S				- /			
Field Observa	ations:							
Surface Water		s No	X Depth (inc	hes):				
Water Table P		es X No	· ·		8			
Saturation Pre		es X No	· ·		4	Wetla	nd Hydrology Prese	nt? Yes X No
(includes capi							na nyarorogy ricco	
Describe Reco	orded Data (stream gai	uge, monitoring	well, aerial photos,	previous in	spections),	it available	2:	
Remarks:								

Project/Site:	TAL-1923 Cottage Lake		City/County:	Cottage	e Lake / King County	Sampling D	ate: 05	/11/2022
Applicant/Owner:		Miller			State: WA			TP-C4
Investigator(s): J			Section, Tow	vnship, Range:	NW1			
	:): Hillslope		Local relief (	concave, convex				(%): 2
Subregion (LRR):	Α	Lat:	47.758	80409	Long: -122.090	90235	Datum:	· · ·
	Everett very gravelly sandy			ercent slopes	NWI classifi	cation:	None	
Are climatic / hydrologic condition	ons on the site typical for this time	e of year?	Yes X	No	(If no, explain in Ren	narks.)		
Are Vegetation, Soil	, or Hydrology	significantly	disturbed?	Are "N	Iormal Circumstances" p	resent? Yes	s X	No
Are Vegetation, Soil	, or Hydrology	naturally pro	oblematic?	(If nee	ded, explain any answer	s in Remarks.)		
SUMMARY OF FINDING	S - Attach site map show	/ing sam	pling poir	nt locations,	transects, importa	int features,	etc.	
Hydrophytic Vegetation Prese	ent? Yes X N	lo						
Hydric Soil Present?	Yes N			s the Sampled A	Area			
Wetland Hydrology Present?			-	ithin a Wetland		No	х	
		·	-					
Remarks:								
VEGETATION - Use scie	entific names of plants.							
					Dominance Test wor	rkahaat:		
			<b>D</b> · · ·					
		Absolute	Dominant		Number of Dominant That Are OBL, FACW	•	3	(A)
Tree Stratum (Plot size:	) trichocarpa / Black cottonwood	<u>% Cover</u>	Species?		That Ale OBL, FACW	, 01 FAC	J	(A)
	Inchocarpa / Black collonwood	<u>20</u>	Yes	FAC	Total Number of Dom	inant		
2. <u>Alnus rubra / Red alder</u>		12	Yes	FAC	Species Across All St		4	(B)
3 4.								(D)
4.		32	= Total Co		Percent of Dominant	Species		
Sapling/Shrub Stratum (Pl	otsize: 15 )				That Are OBL, FACW	•	75.0	(A/B)
1. Rubus spectabilis / Salmo	·	50	Yes	FAC				(,,,,,)
2. Physocarpus capitatus / N		8	No	FACW	Prevalence Index wo	orksheet:		
3. Alnus rubra / Red alder	Inepark	5	No	FAC	Total % Cover of	f:	Multiply by:	
4.					OBL species	0 x 1 =	= 0	
5.					FACW species	8 x 2 =	= 16	
0		63	= Total Co	over	FAC species	87 x 3 =	261	
Herb Stratum (Plot size:	5)	0			FACU species	85 x 4 =	340	
1.	,				UPL species	0 x 5 =	=0	
2.					Column Totals:	180 (A)	617	(B)
3.								
4.					Prevalence Inde	ex = B/A =	3.43	
5.						tion Indicators		
6.		-			Hydrophytic Vegetat		antation	
7.					1 - Rapid Test for	• • •	getation	
8.					X 2 - Dominance To 3 - Prevalence In			
9.					4 - Morphologica		rovido cupr	orting
10.					5 - Wetland Non-			orung
11.					Problematic Hyd			<b>,</b> )
		0	= Total Co	over			on (Explain	1)
Woody Vine Stratum (Plot	size: <u> </u>				<sup>1</sup> Indicators of hydric s	oil and wetland h	wdrology m	uet
1. Hedera helix / English ivy		85	Yes	FACU	be present, unless dis			uot
2								
		85	= Total Co	over	Hydrophytic			
% Bare Ground in Herb Statu	ım				Vegetation			
					Present?	Yes X	No	
Remarks:								

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J	J		-

Depth (inches)	Matrix		Redox	Features				
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-15	10YR 2/1	100	×/				Sandy Loam	
15-18	10YR 2/2	100					Crse Sndy Lm	Gravel
					·			
	centration, D=Depletio	n PM-Roducod	Matrix CS-Covo	rod or Coate	d Sand Cr	aine	21 000	tion: PL=Pore Lining, M=Matrix.
	· •					ams.		
-	dicators: (Applicable	to all LRRS, ur		-				s for Problematic Hydric Soils <sup>3</sup> :
Histosol (	. ,		Sandy Rede					cm Muck (A10)
Black His	ipedon (A2)		Stripped Ma					ed Parent Material (TF2) ery Shallow Dark Surface (TF12)
	n Sulfide (A4)		Loamy Gley					ther (Explain in Remarks)
	Below Dark Surface (	۵ <u>11)</u>	Depleted M		2)		0	
	rk Surface (A12)	<b>¬</b> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Redox Dark		6)		<sup>3</sup> Indicat	tors of hydrophytic vegetation and
	ucky Mineral (S1)		Depleted Da					etland hydrology must be present,
	leyed Matrix (S4)		Redox Depi					iless disturbed or problematic.
					,,		u	
Restrictive La Type:	ayer (if present):							
Depth (inc	hes):		_				Hydric Soil P	resent? Yes No X
<b>DROLOG</b>	Y rology Indicators:							
-	itors (minimum of one	required: check	all that apply)				Second	dary Indicators (minimum of two required
	Water (A1)	- 1	Water-Stain	ed Leaves (	(B9) <b>(exce</b>	ept		ater-Stained Leaves (B9) (MLRA 1, 2,
	er Table (A2)		MLRA 1	, 2, 4A, and	4B)	•		4A, and 4B)
Saturation			Salt Crust (				Dr	rainage Patterns (B10)
Water Ma			Aquatic Inve	ertebrates (E	313)		Dr	y-Season Water Table (C2)
Sediment	t Deposits (B2)		Hydrogen S	ulfide Odor	(C1)		Sa	aturation Visible on Aerial Imagery (C9)
Drift Depo	osits (B3)		Oxidized R	nizospheres	along Livin	g Roots (C	3) Ge	eomorphic Position (D2)
Algal Mat	t or Crust (B4)		Presence of	f Reduced I	ron (C4)		St	nallow Aquitard (D3)
Iron Depo	osits (B5)		Recent Iron	Reduction	in Tilled Soi	ls (C6)	FA	AC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted or S	Stressed Pla	ants (D1)	(LRR A)	Ra	aised Ant Mounds (D6) (LRR A)
Sunace S	N.C. 11.1 A			ain in Doma				
	n Visible on Aerial Ima	igery (B7)	Other (Expl		rks)		Fr	ost-Heave Hummocks (D7)
Inundatio	N VISIBLE ON AERIAL IMA		Other (Expl		rks)		Fr	ost-Heave Hummocks (D7)
Inundatio Sparsely	Vegetated Concave S ations:	urface (B8)			rks)		Fr	ost-Heave Hummocks (D7)
Inundatio Sparsely Field Observa	Vegetated Concave S ations: Present? Ye	urface (B8)	X Depth (inc	hes):			Fr	ost-Heave Hummocks (D7)
Inundatio Sparsely Field Observa Gurface Water Vater Table Pi	Vegetated Concave S ations: Present? Ye resent? Ye	urface (B8) es No _ esX No _	X Depth (inc	hes):	16	14/-4/-		
Inundatio Sparsely Field Observa Surface Water Vater Table Pr Saturation Pre	Vegetated Concave S ations: Present? Ye resent? Ye esent? Ye	urface (B8)	X Depth (inc	hes):		Wetla	Fr	
Inundatio Sparsely Field Observa Surface Water Vater Table Pi Saturation Pre includes capil	Vegetated Concave S ations: Present? Ye resent? Ye esent? Ye	urface (B8) es <u>No</u> es <u>X</u> No es <u>X</u> No	X Depth (inc Depth (inc Depth (inc	hes): hes): hes):	<u>16</u> 14		nd Hydrology P	
Inundatio Sparsely Field Observa Surface Water Nater Table Pi Saturation Pre includes capil	Vegetated Concave S ations: Present? Ye resent? Ye esent? Ye llary fringe)	urface (B8) es <u>No</u> es <u>X</u> No es <u>X</u> No	X Depth (inc Depth (inc Depth (inc	hes): hes): hes):	<u>16</u> 14		nd Hydrology P	
Inundatio Sparsely Field Observa Surface Water Nater Table Pi Saturation Pre includes capil	Vegetated Concave S ations: Present? Ye resent? Ye esent? Ye llary fringe)	urface (B8) es <u>No</u> es <u>X</u> No es <u>X</u> No	X Depth (inc Depth (inc Depth (inc	hes): hes): hes):	<u>16</u> 14		nd Hydrology P	
Inundatio Sparsely Field Observa Surface Water Vater Table Pi Saturation Pre includes capil Describe Reco	Vegetated Concave S ations: Present? Ye resent? Ye esent? Ye llary fringe)	urface (B8) es <u>No</u> es <u>X</u> No es <u>X</u> No	X Depth (inc Depth (inc Depth (inc	hes): hes): hes):	<u>16</u> 14		nd Hydrology P	
Inundatio Sparsely ield Observa Surface Water Vater Table Pl Saturation Pre ncludes capil Describe Reco	Vegetated Concave S ations: Present? Ye resent? Ye esent? Ye llary fringe)	urface (B8) es <u>No</u> es <u>X</u> No es <u>X</u> No	X Depth (inc Depth (inc Depth (inc	hes): hes): hes):	<u>16</u> 14		nd Hydrology P	
Inundatio Sparsely ield Observa iurface Water Vater Table Pr iaturation Pre ncludes capil Describe Reco	Vegetated Concave S ations: Present? Ye resent? Ye esent? Ye llary fringe)	urface (B8) es <u>No</u> es <u>X</u> No es <u>X</u> No	X Depth (inc Depth (inc Depth (inc	hes): hes): hes):	<u>16</u> 14		nd Hydrology P	

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J	J		-

Profile Descrip Depth	ption: (Describe to t Matrix	ne aepth neede		ne indicator « Features	or confirm t	ne abser	ice of indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-19	10YR 3/2	100	(,				Sandy Loam		
19-24	7.5YR 4/4	100				<u> </u>	Sandy Loam		
		<u> </u>							
		<u> </u>							
<sup>1</sup> Type: C=Conc	entration, D=Depletio	n, RM=Reduce	d Matrix, CS=Cove	ered or Coate	ed Sand Grai	ns.	<sup>2</sup> Location: Pl	=Pore Lining, M=Matrix.	
Hydric Soil Inc	dicators: (Applicable	e to all LRRs, u	nless otherwise n	noted.)			Indicators for Pr	oblematic Hydric Soils <sup>3</sup> :	
Histosol (A			Sandy Red				2 cm Muc		
	pedon (A2)		Stripped M					nt Material (TF2)	
Black Hist				cky Mineral (		MLRA 1		low Dark Surface (TF12)	
• •	Sulfide (A4)			yed Matrix (F	-2)		Other (Ex	plain in Remarks)	
Depleted I	Below Dark Surface (A	A11)	Depleted N						
Thick Dark	k Surface (A12)		Redox Dar	k Surface (F6	6)			ydrophytic vegetation and	
Sandy Mu	cky Mineral (S1)		Depleted D	ark Surface	(F7)		wetland h	ydrology must be present	t,
Sandy Gle	eyed Matrix (S4)		Redox Dep	pressions (F8	3)		unless dis	sturbed or problematic.	
Restrictive La	yer (if present):								
Туре:									
Depth (inch	nes):						Hydric Soil Present	Yes No	) <u>X</u>
	ology Indicators:								
-	ors (minimum of one	required: check	all that apply)				Secondary Ind	icators (minimum of two r	oquired)
Surface W				ned Leaves (	(B9) (exce	ot		ained Leaves (B9) (MLF	
	er Table (A2)			1, 2, 4A, and		, se		nd 4B)	un 1, <u>2</u> ,
Saturation			Salt Crust (					Patterns (B10)	
Water Mar				(BTT) vertebrates (E	213)			on Water Table (C2)	
	Deposits (B2)			Sulfide Odor	-			n Visible on Aerial Imager	v (C9)
Drift Depo				hizospheres	. ,	Roots (C		hic Position (D2)	y (00)
	or Crust (B4)			of Reduced Ir		10013 (0		quitard (D3)	
Iron Depos				n Reduction i	. ,	(C6)		tral Test (D5)	
	oil Cracks (B6)			Stressed Pla				nt Mounds (D6) (LRR A)	
	N Visible on Aerial Ima	aery (B7)		lain in Rema				ave Hummocks (D7)	
	/egetated Concave S				11(3)				
Field Observa	tions:								
Surface Water	Present? Ye	es <u>No</u>	X Depth (inc	ches):					
Water Table Pro	esent? Ye	es No	X Depth (inc	ches):					
Saturation Pres	sent? Ye	es X No	Depth (inc	ches):	17	Wetla	nd Hydrology Present	? Yes No	0 <u>X</u>
(includes capilla	ary fringe)								
Describe Reco	rded Data (stream ga	uge, monitoring	well, aerial photos	, previous in	spections), if	available	2:		
Remarks:									

Project/Site:	TAL-1923 Cottage Lake		Citv/County	v: Cotta	ge Lake, King Cour	ntv Sam	pling Date:	08/19/2022
Applicant/Owner:					State:			TP-C4.2
	J. Prater, Talasaea Consultants			wnship, Range:				
Landform (hillslope, terrace, e	· ·				ex, none):			Slope (%): 1
	A				Long:			
	Everett very gravelly sandy loa							None
	itions on the site typical for this time						•	
	il X, or Hydrology si						Yes	X No
	il, or Hydrologyn				eded, explain any			
	GS - Attach site map showi						-	
				int locations	, папзестз, пп	portant leat		
Hydrophytic Vegetation Pre								
Hydric Soil Present?	Yes No			Is the Sampled				
Wetland Hydrology Present	t? Yes No		- '	within a Wetlan	id?	Yes	No	_
Remarks:								
<b>VEGETATION - Use sc</b>	ientific names of plants.							
					Dominance Te	est worksheet:		
		Absolute	Dominan	nt Indicator		minant Species		
Tree Stratum (Plot size:	30)	% Cover	Species			FACW, or FAC:	2	4 (A)
1. Alnus rubra / Red alder	/	35	Yes	FAC	,	,		( )
	<i>b. trichocarpa /</i> Black cottonwood	15	Yes		Total Number of	of Dominant		
					Species Acros	s All Strata:	6	6 (B)
4.					•			( )
		50	= Total C	Cover	Percent of Dor	ninant Species		
Sapling/Shrub Stratum (I	Plot size: 15 )					FACW, or FAC:	66	6.7 (A/B)
1. Rubus spectabilis / Salm		20	Yes	FAC		,		( )
2. Sambucus racemosa / F		5	No	FACU	Prevalence In	dex worksheet	:	
3. Cornus alba / Red osier		5	No	FACW	Total % C	over of:	Multip	ly by:
4.					OBL species	0	x 1 =	0
5.					FACW species	15	x 2 =	30
		30	= Total C	Cover	FAC species	73	x 3 =	219
Herb Stratum (Plot size:	5)		_		FACU species	15	x 4 =	60
1. Epilobium ciliatum / Sler	/	10	Yes	FACW	UPL species	10	x 5 =	50
2. Lolium / Ryegrass		10	Yes		Column Totals	113	(A)	359 (B)
3. Holcus lanatus / Commo	on velvetgrass, Common velvet grass	1	No	FAC				
4. Ranunculus repens / Cro		1	No	FAC	Prevalen	ice Index = B/A	=3.*	18
5. Trifolium repens / White		1	No	FAC	l hadro a ha di a b	/	- 4	
6.						egetation India		
7.						Test for Hydroph		)r1
8.						ance Test is >50		
9.						ence Index ≤3.0		
10.						ological Adaptat Id Non-Vascular	-	supporting
11.		-						(valein)
		23	= Total C	Cover		tic Hydrophytic \	/egetation* (E	xpiairi )
Woody Vine Stratum (Pl	ot size: 5 )				Indicators of h	ydric soil and w	otland bydrold	av must
1. Hedera helix / English iv	y	10	Yes	FACU		less disturbed of		0,
2.					be present, un		problematic.	
		10	= Total C	Cover	Hydrophytic			
% Bare Ground in Herb Sta	atum		_		Vegetation Present?	Yes	No	
Remarks:					-			
Komunto.								

SOIL
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(inches)				x Features				
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	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		М	Coarse Sand	
		·						
Type: C=Con	centration, D=Depletic	on, RM=Reduce	d Matrix, CS=Cove	ered or Coate	d Sand Gra	ains.	²Loca	tion: PL=Pore Lining, M=Matrix.
lydric Soil In	dicators: (Applicable	e to all LRRs, u	Inless otherwise r	noted.)			Indicators	o for Problematic Hydric Soils <sup>3</sup> :
Histosol (	(A1)		Sandy Rec	lox (S5)			2	cm Muck (A10)
Histic Epi	ipedon (A2)		Stripped M	atrix (S6)			Re	ed Parent Material (TF2)
Black His	stic (A3)		Loamy Mu	cky Mineral (I	F1) (excep	ot MLRA 1		ery Shallow Dark Surface (TF12)
Hydroger	n Sulfide (A4)		Loamy Gle	yed Matrix (F	-2)		Ot	her (Explain in Remarks)
_ · ·	Below Dark Surface (	A11)	Depleted N		,			
	rk Surface (A12)	,		k Surface (F6	6)		<sup>3</sup> Indicat	ors of hydrophytic vegetation and
	ucky Mineral (S1)			ark Surface	,			etland hydrology must be present,
	leyed Matrix (S4)			pressions (F8				less disturbed or problematic.
estrictive La	ayer (if present):							
Туре:								
Depth (inc	ches):						Hydric Soil P	resent? Yes No
Vetland Hydr								
-	rology Indicators: ators (minimum of one	required; check	all that apply)				Second	lary Indicators (minimum of two required
rimary Indica		required; check		ned Leaves (	B9) <b>(exc</b>	ept		lary Indicators (minimum of two required ater-Stained Leaves (B9) (MLRA 1, 2,
rimary Indica	ators (minimum of one Water (A1)	required; check	Water-Stai		, , ,	ept		• • • • •
rimary Indica Surface V High Wat	ators (minimum of one Water (A1) er Table (A2)	required; check	Water-Stai	1, 2, 4A, and	, , ,	ept	W	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
rimary Indica Surface V High Wat Saturation	ators (minimum of one Water (A1) ter Table (A2) n (A3)	required; check	Water-Stai	<b>1, 2, 4A, and</b> (B11)	4B)	ept	W. Dr	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10)
rimary Indica Surface V High Wat Saturation Water Ma	ators (minimum of one Water (A1) eer Table (A2) n (A3) arks (B1)	required; check	Water-Stai	<b>1, 2, 4A, and</b> (B11) vertebrates (E	<b>4B)</b> 313)	ept	W. Dr Dr	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2)
rimary Indica Surface V High Wat Saturation Water Ma Sediment	Ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	required; check	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen	<b>1, 2, 4A, and</b> (B11) vertebrates (E Sulfide Odor	4 <b>B)</b> 313) (C1)		W Dr Sa	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
rimary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo	ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)	required; check	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen S Oxidized R	<b>1, 2, 4A, and</b> (B11) vertebrates (E Sulfide Odor Rhizospheres	4 <b>B)</b> 313) (C1) along Livin		W Dr Sa (3) Ge	Ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2)
rimary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat	ators (minimum of one Water (A1) iter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	required; check	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o	<b>1, 2, 4A, and</b> (B11) vertebrates (E Sulfide Odor chizospheres of Reduced Ir	<b>4B)</b> (C1) along Livin ron (C4)	g Roots (C	— W — Dr — Dr — Sa (3) — Ge _ St	Ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) anage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3)
rimary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	ators (minimum of one Water (A1) iter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	required; check	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iron	<b>1, 2, 4A, and</b> (B11) vertebrates (E Sulfide Odor chizospheres of Reduced Ir n Reduction i	<b>4B)</b> (C1) along Livin ron (C4) n Tilled Soi	g Roots (C	(3) (23) (24) (24) (24) (24) (24) (24) (24) (24	Ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) comorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5)
rimary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S	Ators (minimum of one Water (A1) ere Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)		Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence o Recent Iron Stunted or	<b>1, 2, 4A, and</b> (B11) vertebrates (E Sulfide Odor thizospheres of Reduced Ir n Reduction i Stressed Pla	<b>4B)</b> (C1) along Livin ron (C4) n Tilled Soi ants (D1)	g Roots (C	(3) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	Ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
rimary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio	ators (minimum of one Water (A1) iter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	agery (B7)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence o Recent Iron Stunted or	<b>1, 2, 4A, and</b> (B11) vertebrates (E Sulfide Odor chizospheres of Reduced Ir n Reduction i	<b>4B)</b> (C1) along Livin ron (C4) n Tilled Soi ants (D1)	g Roots (C	(3) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	Ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) comorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5)
rimary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely	ators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S	agery (B7)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence o Recent Iron Stunted or	<b>1, 2, 4A, and</b> (B11) vertebrates (E Sulfide Odor thizospheres of Reduced Ir n Reduction i Stressed Pla	<b>4B)</b> (C1) along Livin ron (C4) n Tilled Soi ants (D1)	g Roots (C	(3) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	Ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
rimary Indica Surface V High Wat Saturatio Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely	Ators (minimum of one Water (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations:	agery (B7)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence o Recent Iron Stunted or	<b>1, 2, 4A, and</b> (B11) vertebrates (E Sulfide Odor thizospheres of Reduced Ir n Reduction i Stressed Pla Iain in Rema	<b>4B)</b> (C1) along Livin ron (C4) n Tilled Soi ants (D1)	g Roots (C	(3) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	Ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely Field Observa	Ators (minimum of one Water (A1) ere Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y	agery (B7) Surface (B8)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence o Recent Iron Stunted or Other (Exp	1, 2, 4A, and (B11) vertebrates (E Sulfide Odor thizospheres of Reduced Ir n Reduction i Stressed Pla Islain in Reman	4B) 313) (C1) along Livin ron (C4) in Tilled Soi ants (D1) rks)	g Roots (C	(3) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	Ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
rimary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely ield Observa Vater Table P	ators (minimum of one Water (A1) wer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y resent? Y	agery (B7) Surface (B8) les No les No	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iron Stunted or Other (Exp Depth (in Depth (in	1, 2, 4A, and (B11) vertebrates (E Sulfide Odor thizospheres of Reduced Ir n Reduction i Stressed Pla idain in Rema	4B) 313) (C1) along Livin ron (C4) in Tilled Soi ants (D1) rks)	g Roots (C ils (C6) <b>(LRR A)</b>	(3) W Dr Sa St F4 F7 Fr	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
rimary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely ield Observa Vater Table P iaturation Pre	ators (minimum of one Water (A1) water (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y resent? Y	agery (B7) Surface (B8) les No les No	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence o Recent Iron Stunted or Other (Exp	1, 2, 4A, and (B11) vertebrates (E Sulfide Odor thizospheres of Reduced Ir n Reduction i Stressed Pla idain in Rema	4B) 313) (C1) along Livin ron (C4) in Tilled Soi ants (D1) rks)	g Roots (C ils (C6) <b>(LRR A)</b>	(3) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Surface S ield Observa Surface Water Vater Table P Saturation Pre ncludes capil	ators (minimum of one Water (A1) water (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y resent? Y	agery (B7) Burface (B8) les No les No les No	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iron Stunted or Other (Exp Depth (in Depth (in Depth (in	1, 2, 4A, and (B11) vertebrates (E Sulfide Odor thizospheres of Reduced Ir n Reduction i Stressed Pla alain in Rema ches): ches):	4B) (C1) along Livin ron (C4) n Tilled Soi ants (D1) rks)	g Roots (C ils (C6) (LRR A) Wetla		ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
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Project/Site:	TAL-1923	Cottage Lake		City/County	: Cotta	ge Lake, King Cou	nty Sa	mpling Date:	08/19	9/2022
Applicant/Owner:		Aaron an	d Jasmine Mil	ler		State:	WA Sa			'-C5
Investigator(s):							NW1.4 SEC	24 T26N R6E		
Landform (hillslope, terrad	ce, etc):	Slope		Local relief	(concave, conv	ex, none):	none		Slope (%	b): 1
Subregion (LRR):	A	· ·				Long:		Datu		
Soil Map Unit Name:									None	
Are climatic / hydrologic c										
Are Vegetation X	. Soil X . c	or Hydrology	significant	lv disturbed?	Are "	Normal Circumsta	nces" present?	Yes	X No	0
Are Vegetation	. Soil	or Hydrology	naturally p	roblematic?	(If ne	eded, explain any	answers in Rer	marks.)	<u> </u>	
SUMMARY OF FINE										
						, 1141130013, 111		iuies, etc.		
Hydrophytic Vegetation	Present?	Yes	No	- I.						
Hydric Soil Present?	10	Yes	_ No	_	s the Sampled					
Wetland Hydrology Pre	sent?	Yes	_ NOX		within a Wetlan	nd?	Yes	N0		
Remarks:										
VEGETATION - Use	scientific na	mes of plants								
		-				Dominance T	est worksheet			
			Absolute	e Dominant	t Indicator		minant Species			
Troo Stratum (Plot of	70: 20	)	% Cove				, FACW, or FAC		3	(A)
Tree Stratum (Plot si 1. Alnus rubra / Red al		)	<u>/// COVE</u> 15		FAC	matrice obe,			<u> </u>	_ (/ /)
		/ Plack cottonwoo			FAC FAC	Total Number	of Dominant			
2. Populus balsamifera	1 1					Species Acros			4	(B)
3						Species Acios	S All Strata.		4	_ (D)
4						Porcent of Do	minant Species			
On a line (Ohmuh, Ohmuh, ohmu		40	25	= Total Co	over		, FACW, or FAC		75.0	(A/B)
Sapling/Shrub Stratum						mat Are OBL,	FACVV, OF FAC	<i></i>	5.0	_ (A/B)
1						Prevalence In	dex workshee	ət:		
2							Cover of:		iply by:	
3						OBL species	0	x 1 =		
						FACW species	s 0	x 2 =		
5						FAC species	85	x 3 =	255	
Liszh Otzsturz (Dist si		<b>`</b>	0	= Total Co	over	FACU species	0	x 4 =	0	
Herb Stratum (Plot si		)	50	¥	540	UPL species		x 5 =	125	
1. <u>Trifolium repens / W</u>			50	Yes	FAC	Column Totals		(A)	380	(B)
2. Lotus corniculatus /	,		5	<u>No</u>	FAC			_ ` / _		
3. <u>Rumex obtusifolius</u>	Broadleaf dock,	Bitter dock	5	<u>No</u>	FAC	Prevaler	nce Index = B/A	<u>م</u> =	3.45	
4. <i>Lolium /</i> Ryegrass			25	Yes	<u>NI</u>					
5				<u></u>		Hydrophytic	Vegetation Ind	licators:		
6				· ·		1 - Rapid	Test for Hydrop	phytic Vegetaf	tion	
				· ·		X 2 - Domin	nance Test is >5	50%		
8						3 - Preval	lence Index ≤3.	.0 <sup>1</sup>		
						4 - Morph	ological Adapta	ations <sup>1</sup> (Provid	de suppor	ting
10							nd Non-Vascula			•
11							tic Hydrophytic		(Explain)	
			85	= Total Co	over			<b>J</b>	. /	
Woody Vine Stratum	(Plot size:	5 <u>)</u>				<sup>1</sup> Indicators of h	hydric soil and v	wetland hvdrc	loav must	t
1							less disturbed		0,	
2									-	
			0	= Total Co	over	Hydrophytic				
% Bare Ground in Herb	Statum	45				Vegetation				
						Present?	Yes	No		
Remarks:										
1										

S	0	11	L

Depth	Matrix		Red							
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	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			
Type: C=Con	centration, D=Depletic	on, RM=Reduc	ced Matrix, CS=Cov	vered or Coate	ed Sand Gra	ains.	²Loca	tion: PL=Pore	e Lining, M=Ma	trix.
ydric Soil Ir	ndicators: (Applicable	e to all LRRs,	unless otherwise	noted.)			Indicators	for Problem	natic Hydric So	oils³:
Histosol	(A1)		Sandy Re	dox (S5)				cm Muck (A1		
Histic Ep	ipedon (A2)		Stripped	Matrix (S6)			Re	ed Parent Ma	terial (TF2)	
Black His	stic (A3)		Loamy M	ucky Mineral (	(F1) <b>(exce</b> p	ot MLRA 1	) Ve	ery Shallow D	ark Surface (Tl	=12)
Hydroge	n Sulfide (A4)		Loamy G	eyed Matrix (	F2)		Ot	her (Explain	in Remarks)	
Depleted	Below Dark Surface (	A11)	Depleted	Matrix (F3)						
Thick Da	rk Surface (A12)		Redox Da	rk Surface (F	6)		<sup>3</sup> Indicat	tors of hydrop	hytic vegetatio	n and
Sandy M	ucky Mineral (S1)		Depleted	Dark Surface	(F7)		we	etland hydrolo	ogy must be pre	esent,
Sandy G	leyed Matrix (S4)		Redox De	pressions (F8	3)		un	less disturbe	d or problemati	c.
ostrictivo L	ayer (if present):				-				-	
Type:	ayer (il present).									
Depth (ind	ches).						Hydric Soil P	resent?	Yes	No
-	rology Indicators:		of all that apply)				Saaaaa		o (minimum of	
letland Hyd rimary Indica Surface	rology Indicators: ators (minimum of one Water (A1) ter Table (A2)	required; cheo	Water-Sta	ined Leaves . <b>1, 2, 4A, and</b> : (B11)	. , .	ept	W			
Vetland Hyd rimary Indica Surface V High Wa Saturatio	rology Indicators: ators (minimum of one Water (A1) ter Table (A2)	required; cheo	Water-Sta MLRA Salt Crus	1, 2, 4A, and	4B)	ept	W. Dr	ater-Stained 4A, and 4B rainage Patte	Leaves (B9)	
<b>/etland Hyd</b> rimary Indica Surface High Wa Saturatic Water Ma	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) nn (A3)	required; chec	Water-Sta MLRA Salt Crus Aquatic Ir	a <b>1, 2, 4A, and</b> t (B11)	B13)	ept	W. Dr Dr	ater-Stained <b>4A, and 4B</b> ainage Patte y-Season Wa	Leaves (B9) ( ) rns (B10)	MLRA 1, 2
Vetland Hyd rimary Indica Surface V High Wa Saturatio Water Ma Sedimen	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1)	required; cheo	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger	a <b>1, 2, 4A, and</b> t (B11) nvertebrates (I	B13) (C1)		W Dr Sa	ater-Stained <b>4A, and 4B</b> ainage Pattery-Season Wa aturation Visit	Leaves (B9) () rns (B10) ater Table (C2) ole on Aerial Im	MLRA 1, 2
Vetland Hyd rimary Indica Surface V High Wa Saturatic Water Ma Sedimen Drift Dep	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)	required; cheo	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized	t (B11) wertebrates (I Sulfide Odor	<b>1 4B)</b> B13) (C1) ⊧ along Livin		W Dr Sa C3) Ge	ater-Stained <b>4A, and 4B</b> ainage Patte y-Season Wa	Leaves (B9) () rns (B10) ater Table (C2) pole on Aerial Im position (D2)	MLRA 1, 2
Jetland Hyd       rimary Indica       Surface V       High Wa       Saturatica       Water Ma       Sedimen       Drift Dep       Algal Ma	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	required; cheo	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence	t <b>1, 2, 4A, and</b> t (B11) ivertebrates (I Sulfide Odor Rhizospheres	B13) (C1) along Livin ron (C4)	ng Roots (C	W Dr Sa C3) Ga St	ater-Stained <b>4A, and 4B</b> ainage Patte y-Season Wa aturation Visit eomorphic Po nallow Aquita	Leaves (B9) ( ) rns (B10) ater Table (C2) ole on Aerial Im osition (D2) rd (D3)	MLRA 1, 2
Jetland Hyd       rimary Indica       Surface V       High Wa       Saturatic       Water Ma       Sedimen       Drift Dep       Algal Ma       Iron Dep	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	required; cheo	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In	<b>1, 2, 4A, and</b> t (B11) wertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction	B13) (C1) along Livin ron (C4) in Tilled So	ng Roots (C	C3) W	ater-Stained <b>4A, and 4B</b> rainage Patte y-Season Wa aturation Visit comorphic Po- nallow Aquitan AC-Neutral Te	Leaves (B9) ( ) rns (B10) ater Table (C2) ole on Aerial Im osition (D2) rd (D3) ist (D5)	MLRA 1, 2 agery (C9)
Iteliand Hyd       rimary Indica       Surface V       High Wa       Saturation       Water Ma       Sedimen       Drift Dep       Algal Ma       Iron Dep       Surface S	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)		Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted c	<b>1, 2, 4A, and</b> (B11) vvertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla	B13) (C1) along Livin ron (C4) in Tilled Soi ants (D1)	ng Roots (C	C3) W Dr Sa Sa St FA Ra	ater-Stained <b>4A, and 4B</b> y-Season Wa aturation Visit comorphic Po- nallow Aquitan C-Neutral Te- aised Ant Mor	Leaves (B9) ( ) mrs (B10) ater Table (C2) ble on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR	MLRA 1, 2 agery (C9)
Vetland Hyd rimary Indica Surface V High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	agery (B7)	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted c	<b>1, 2, 4A, and</b> t (B11) wertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction	B13) (C1) along Livin ron (C4) in Tilled Soi ants (D1)	ng Roots (C	C3) W Dr Sa Sa St FA Ra	ater-Stained <b>4A, and 4B</b> y-Season Wa aturation Visit comorphic Po- nallow Aquitan C-Neutral Te- aised Ant Mor	Leaves (B9) ( ) rns (B10) ater Table (C2) ole on Aerial Im osition (D2) rd (D3) ist (D5)	MLRA 1, 2 agery (C9)
Vetland Hyd rimary Indica Surface V High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S	agery (B7)	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted c	<b>1, 2, 4A, and</b> (B11) vvertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla	B13) (C1) along Livin ron (C4) in Tilled Soi ants (D1)	ng Roots (C	C3) W Dr Sa Sa St FA Ra	ater-Stained <b>4A, and 4B</b> y-Season Wa aturation Visit comorphic Po- nallow Aquitan C-Neutral Te- aised Ant Mor	Leaves (B9) ( ) mrs (B10) ater Table (C2) ble on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR	MLRA 1, 2 agery (C9)
Vetland Hyd rimary Indica Surface V High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations:	agery (B7) urface (B8)	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted c	<b>1, 2, 4A, and</b> (B11) avertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla plain in Rema	B13) (C1) along Livin ron (C4) in Tilled Soi ants (D1)	ng Roots (C	C3) W Dr Sa Sa St FA Ra	ater-Stained <b>4A, and 4B</b> y-Season Wa aturation Visit comorphic Po- nallow Aquitan C-Neutral Te- aised Ant Mor	Leaves (B9) ( ) mrs (B10) ater Table (C2) ble on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR	MLRA 1, 2 agery (C9)
Vetland Hyd rimary Indica Surface V High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely Veta Observ Urface Wate	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y	agery (B7) urface (B8)	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted c Other (Ex	1, 2, 4A, and (B11) avertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla plain in Rema	B13) (C1) along Livin ron (C4) in Tilled Soi ants (D1)	ng Roots (C	C3) W Dr Sa Sa St FA Ra	ater-Stained <b>4A, and 4B</b> y-Season Wa aturation Visit comorphic Po- nallow Aquitan C-Neutral Te- aised Ant Mor	Leaves (B9) ( ) mrs (B10) ater Table (C2) ble on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR	MLRA 1, 2 agery (C9)
Interference       Surface       Surface       High Wa       Saturation       Water Main       Sedimen       Drift Dep       Algal Ma       Iron Dep       Surface       Surface       Iron Dep       Surface       Iron Dep       Surface       Iron Dep       Surface       Iron Dep       Inundation       Sparsely       Inter Table F	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Ye	agery (B7) urface (B8) es No es No	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted c Other (Ex	a <b>1, 2, 4A, and</b> t (B11) avertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla plain in Remain nches):	a <b>4B)</b> (C1) along Livin ron (C4) in Tilled So ants (D1) arks)	ig Roots (C ils (C6) <b>(LRR A)</b>	C3) W Dr Sa Sa St FA Ra	<b>4A, and 4B</b> <b>4A, and 4B</b> y-Season Wa aturation Visit eomorphic Po nallow Aquita AC-Neutral Te aised Ant Mon ost-Heave Hu	Leaves (B9) ( ) mrs (B10) ater Table (C2) ble on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR	MLRA 1, 2 agery (C9) R A)
Vetland Hyd         rimary Indica         Surface V         High Wa         Saturatic         Water Ma         Sedimen         Drift Dep         Algal Ma         Iron Dep         Surface S         Inundatic         Sparsely         Steld Observ         urface Wate         /ater Table F         aturation Pre-	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Yesent? Yesent? Yesent?	agery (B7) urface (B8) es No es No	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted c Other (Ex	a <b>1, 2, 4A, and</b> t (B11) avertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla plain in Remain nches):	a <b>4B)</b> (C1) along Livin ron (C4) in Tilled So ants (D1) arks)	ig Roots (C ils (C6) <b>(LRR A)</b>	W Dr Sa Sa St FA Fr	<b>4A, and 4B</b> <b>4A, and 4B</b> y-Season Wa aturation Visit eomorphic Po nallow Aquita AC-Neutral Te aised Ant Mon ost-Heave Hu	Leaves (B9) ( ) rns (B10) ater Table (C2) ole on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR ummocks (D7)	MLRA 1, 2 agery (C9) R A)
Vetland Hyd rimary Indica Surface V High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely Veter Table F aturation Pre ncludes capi	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Yesent? Yesent? Yesent?	agery (B7) urface (B8) es No es No es No	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted c Other (Ex Other (Ex	A, 2, 4A, and (B11) ivertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla plain in Remain nches):	a <b>4B)</b> (C1) along Livin ron (C4) in Tilled Sol ants (D1) arks) <u>30</u>	ils (C6) (LRR A) Wetla		<b>4A, and 4B</b> <b>4A, and 4B</b> y-Season Wa aturation Visit eomorphic Po nallow Aquita AC-Neutral Te aised Ant Mon ost-Heave Hu	Leaves (B9) ( ) rns (B10) ater Table (C2) ole on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR ummocks (D7)	MLRA 1, 2 agery (C9) R A)
Vetland Hyd rimary Indica Surface V High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely Netlet Observ urface Wate faturation Pre ncludes capi	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Present? Yesent? Hary fringe)	agery (B7) urface (B8) es No es No es No	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted c Other (Ex Other (Ex	A, 2, 4A, and (B11) ivertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla plain in Remain nches):	a <b>4B)</b> (C1) along Livin ron (C4) in Tilled Sol ants (D1) arks) <u>30</u>	ils (C6) (LRR A) Wetla		<b>4A, and 4B</b> <b>4A, and 4B</b> y-Season Wa aturation Visit eomorphic Po nallow Aquita AC-Neutral Te aised Ant Mon ost-Heave Hu	Leaves (B9) ( ) rns (B10) ater Table (C2) ole on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR ummocks (D7)	MLRA 1, 2 agery (C9) R A)
Vetland Hyd rimary Indica Surface V High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely Netlet Observ urface Wate faturation Pre ncludes capi	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Present? Yesent? Hary fringe)	agery (B7) urface (B8) es No es No es No	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted c Other (Ex Other (Ex	A, 2, 4A, and (B11) ivertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla plain in Remain nches):	a <b>4B)</b> (C1) along Livin ron (C4) in Tilled Sol ants (D1) arks) <u>30</u>	ils (C6) (LRR A) Wetla		<b>4A, and 4B</b> <b>4A, and 4B</b> y-Season Wa aturation Visit eomorphic Po nallow Aquita AC-Neutral Te aised Ant Mon ost-Heave Hu	Leaves (B9) ( ) rns (B10) ater Table (C2) ole on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR ummocks (D7)	MLRA 1, 2, agery (C9)
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Vetland Hyd         rimary Indica         Surface V         High Wa         Saturatic         Water Ma         Sedimen         Drift Dep         Algal Ma         Iron Dep         Surface S         Inundatic         Sparsely         Steld Observ         urface Wate         /ater Table F         aturation Pre-         ncludes capi         escribe Rec	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Present? Yesent? Hary fringe)	agery (B7) urface (B8) es No es No es No	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted c Other (Ex Other (Ex	A, 2, 4A, and (B11) ivertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla plain in Remain nches):	a <b>4B)</b> (C1) along Livin ron (C4) in Tilled Sol ants (D1) arks) <u>30</u>	ils (C6) (LRR A) Wetla		<b>4A, and 4B</b> <b>4A, and 4B</b> y-Season Wa aturation Visit eomorphic Po nallow Aquita AC-Neutral Te aised Ant Mon ost-Heave Hu	Leaves (B9) ( ) rns (B10) ater Table (C2) ole on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR ummocks (D7)	MLRA 1, 2 agery (C9) R A)
etland Hyd imary Indica Surface V High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely eld Observ urface Wate ater Table F aturation Pre accludes capi	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Present? Yesent? Hary fringe)	agery (B7) urface (B8) es No es No es No	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted c Other (Ex Other (Ex	A, 2, 4A, and (B11) ivertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction r Stressed Pla plain in Remain nches):	a <b>4B)</b> (C1) along Livin ron (C4) in Tilled Sol ants (D1) arks) <u>30</u>	ils (C6) (LRR A) Wetla		<b>4A, and 4B</b> <b>4A, and 4B</b> y-Season Wa aturation Visit eomorphic Po nallow Aquita AC-Neutral Te aised Ant Mon ost-Heave Hu	Leaves (B9) ( ) rns (B10) ater Table (C2) ole on Aerial Im osition (D2) rd (D3) est (D5) unds (D6) (LR ummocks (D7)	MLRA 1, 2 agery (C9) R A)

Project/Site: TAL-1923 Cottage Lake		City/County:	Cottag	e Lake, King County Sampling Date: 08/19/2022
Applicant/Owner: Aaron and Jas	smine Mille	er s	0	State: WA Sampling Point: TP-C6
Investigator(s): T. Nightengale , Talasaea Consultants			nship, Range:	
Landform (hillslope, terrace, etc): Slope		Local relief (c	oncave, conve	x, none): none Slope (%):1
Subregion (LRR): A				Long: Datum: NAD83
Soil Map Unit Name: Everett very gravelly sandy loa				
Are climatic / hydrologic conditions on the site typical for this time				
Are Vegetation, SoilX_, or Hydrologys				
Are Vegetation, Soil, or Hydrologyn				
SUMMARY OF FINDINGS - Attach site map showi	ng sam	pling point	t locations,	transects, important features, etc.
Hydrophytic Vegetation Present? Yes No				· • · ·
Hydric Soil Present? Yes No	·	- Is	the Sampled	Area
Wetland Hydrology Present?   Yes   No	)		thin a Wetland	
Remarks:				
VEGETATION - Use scientific names of plants.				
VEGETATION - Use scientific fiames of plants.				
				Dominance Test worksheet:
	Absolute	Dominant	Indicator	Number of Dominant Species
Tree Stratum (Plot size: 30 )	% Cover		Status	That Are OBL, FACW, or FAC: 5 (A)
1. Populus balsamifera ssp. trichocarpa / Black cottonwood	30	Yes	FAC	
2. <u>Alnus rubra / Red alder</u>	20	Yes	FAC	Total Number of Dominant
3	· <u> </u>			Species Across All Strata: 7 (B)
4				Persent of Deminent Creation
	50	= Total Cov	/er	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15)	45	X	54.014/	That Are OBL, FACW, or FAC: 71.4 (A/B)
1. Cornus alba / Red osier	45	Yes	FACW	Prevalence Index worksheet:
2. <i>Rubus spectabilis /</i> Salmon berry, Salmonberry	25	Yes	FAC	Total % Cover of: Multiply by:
3. Alnus rubra / Red alder	5	No	FAC	$\overline{OBL \text{ species } 0}  \overline{x \ 1 = 0}$
4. Populus balsamifera ssp. trichocarpa / Black cottonwood	5	No	FAC	FACW species 66 x 2 = 132
5	80	= Total Cov		FAC species 104 x 3 = 312
Herb Stratum (Plot size: 5 )	00	_ = 10(a) COV		FACU species 7 x 4 = 28
Herb Stratum (Plot size: 5) 1. Festuca / Fescue	75	Yes	NI	UPL species 75 x 5 = 375
2. <i>Epilobium ciliatum /</i> Slender willow herb	20	No	FACW	Column Totals: 252 (A) 847 (B)
3. <i>Trifolium repens /</i> White clover	10	No	FAC	
4. Hypochaeris radicata / Hairy cats ear, Rough cat's-ear	5	No No	FACU	Prevalence Index = B/A = 3.36
5. Holcus lanatus / Common velvetgrass, Common velvet grass		No	FAC	
6. <i>Rumex obtusifolius /</i> Broadleaf dock, Bitter dock	2	No No	FAC	Hydrophytic Vegetation Indicators:
7. <i>Plantago lanceolata /</i> Ribwort, English plantain	1	No	FACU	1 - Rapid Test for Hydrophytic Vegetation
8. Juncus effusus / Common bog rush, Soft or lamp rush	1	No	FACW	$\underline{X}$ 2 - Dominance Test is >50%
9.				X 3 - Prevalence Index ≤3.01
10.				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
11.				5 - Wetland Non-Vascular Plants <sup>1</sup>
	119	= Total Cov	/er	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )
Woody Vine Stratum (Plot size: 5)	-	_		Indicators of hydric soil and watland hydrology must
1. Rubus armeniacus / Himalayan blackberry	2	Yes	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Hedera helix</i> / English ivy	1	Yes	FACU	
	3	= Total Cov	/er	Hydrophytic
% Bare Ground in Herb Statum				Vegetation
				Present? Yes No
				I
Remarks:				

SOI	L
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				x Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	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		М	Coarse Sand	
ype: C=Con	centration, D=Depletic	on, RM=Reduce	ed Matrix, CS=Cove	ered or Coate	ed Sand Gr	ains.	²Loca	tion: PL=Pore Lining, M=Matrix.
/dric Soil In	dicators: (Applicable	e to all LRRs.	unless otherwise r	noted.)				for Problematic Hydric Soils <sup>3</sup> :
Histosol (		,	Sandy Rec	-				cm Muck (A10)
	pedon (A2)		Stripped M					ed Parent Material (TF2)
Black His				cky Mineral (				ery Shallow Dark Surface (TF12)
	n Sulfide (A4)			eyed Matrix (I	-2)		O	ther (Explain in Remarks)
	Below Dark Surface (	A11)	Depleted N					
-	rk Surface (A12)			k Surface (F	,			tors of hydrophytic vegetation and
Sandy M	ucky Mineral (S1)		Depleted D	Dark Surface	(F7)		we	etland hydrology must be present,
Sandy Gl	eyed Matrix (S4)		Redox Dep	pressions (F8	3)		ur	less disturbed or problematic.
estrictive I a	ayer (if present):							
Type:								
Depth (inc	hes):						Hydric Soil P	resent? Yes No
JRULUG	Y							
etland Hydi	Y rology Indicators: tors (minimum of one	required; chec	k all that apply)				Second	dary Indicators (minimum of two require
etland Hydi imary Indica	ology Indicators:	required; chec		ned Leaves	(B9) <b>(exc</b>	ept		• • • • • • • • • • • • • • • • • • • •
etland Hydi imary Indica Surface V	rology Indicators: tors (minimum of one	required; chec	Water-Stai	ned Leaves ( 1, 2, 4A, and	· · ·	ept		• • •
etland Hydi imary Indica Surface V	rology Indicators: tors (minimum of one Vater (A1) er Table (A2)	required; chec	Water-Stai	1, 2, 4A, and	· · ·	ept	W	ater-Stained Leaves (B9) (MLRA 1, 2
etland Hydr imary Indica Surface V High Wat Saturatio	rology Indicators: ttors (minimum of one Vater (A1) er Table (A2) n (A3)	required; chec	Water-Stai MLRA Salt Crust	<b>1, 2, 4A, and</b> (B11)	I 4B)	ept	W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10)
etland Hydi imary Indica _ Surface V _ High Wat _ Saturatio _ Water Ma	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) arks (B1)	required; chec	Water-Stai Water-Stai MLRA Salt Crust Aquatic Inv	<b>1, 2, 4A, and</b> (B11) /ertebrates (B	<b>1 4B)</b> 313)	ept	W Dr Dr	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
etland Hydr imary Indica Surface V High Wat Saturatio Water Ma Sedimen	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2)	required; chec	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen	<b>1, 2, 4A, and</b> (B11) vertebrates (I Sulfide Odor	313) (C1)		W Dr Sa	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Interference       Interference       Surface       High       Saturatio       Water       Sediment       Drift	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3)	required; chec	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R	<b>1, 2, 4A, and</b> (B11) vertebrates (I Sulfide Odor Rhizospheres	1 <b>4B)</b> 313) (C1) along Livir		W Dr Dr Sa C3) Go	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2)
etland Hydr imary Indica Surface V High Wat Saturatio Water Ma Sediment Drift Dep Algal Mat	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4)	required; chec	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o	<b>1, 2, 4A, and</b> (B11) vertebrates (I Sulfide Odor Rhizospheres of Reduced I	1 <b>4B)</b> 313) (C1) along Livir ron (C4)	ng Roots (0	W Dr Dr St C3) Gr St	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3)
Interference       Interference       Surface       High Wat       Saturatio       Water Ma       Sediment       Drift Dependition       Algal Mat       Iron Depo	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) c or Crust (B4) posits (B5)	required; chec	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iro	<b>1, 2, 4A, and</b> (B11) vertebrates (I Sulfide Odor Rhizospheres of Reduced I n Reduction	1 <b>4B)</b> (C1) along Livir ron (C4) in Tilled So	ng Roots (C	C3) W Dr Sa Sr Sr X FA	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5)
etland Hydri imary Indica Surface V High Wat Saturatio Water Ma Sediment Drift Depu Algal Mat Iron Depu Surface S	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)		Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or	<b>1, 2, 4A, and</b> (B11) vertebrates (I Sulfide Odor Rhizospheres of Reduced I n Reduction Stressed Pla	I <b>4B)</b> (C1) along Livir ron (C4) in Tilled So ants (D1)	ng Roots (C	C3) W Dr Sa St Ra	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
etland Hydr imary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Depo Algal Mat Iron Depo Surface S Inundatio	rology Indicators: tors (minimum of one Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) c or Crust (B4) posits (B5)	agery (B7)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or	<b>1, 2, 4A, and</b> (B11) vertebrates (I Sulfide Odor Rhizospheres of Reduced I n Reduction	I <b>4B)</b> (C1) along Livir ron (C4) in Tilled So ants (D1)	ng Roots (C	C3) W Dr Sa St Ra	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5)
Indication       Surface V       Surface V       High Wat       Saturatio       Water Ma       Sediment       Drift Depend       Algal Mat       Iron Depend       Surface S       Inundatio       Sparsely	rology Indicators: itors (minimum of one Vater (A1) er Table (A2) n (A3) arks (B1) it Deposits (B2) posits (B3) c or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S	agery (B7)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iron Stunted or	<b>1, 2, 4A, and</b> (B11) vertebrates (I Sulfide Odor Rhizospheres of Reduced I n Reduction Stressed Pla	I <b>4B)</b> (C1) along Livir ron (C4) in Tilled So ants (D1)	ng Roots (C	C3) W Dr Sa St Ra	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
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Project/Site:	TAL-1923 Cottage Lake		City/County:	Cottage	e Lake, King County	Sampling	Date: (	08/19/2022
Applicant/Owner:	Aaron and	Jasmine Mille	r		State: WA			TP-C7
Investigator(s): T. I	Nightengale, Talasaea Consultant	ts	Section, Tow	nship, Range:		1.4 SEC24 T26	N R6E	
Landform (hillslope, terrace, e	tc): Slope					none	Slop	oe (%): 2
Subregion (LRR):	A	Lat:	47.7586	65517	Long: -122.090	084683	Datum:	NAD83
Soil Map Unit Name:	Everett very gravelly sandy	loam, 0 to 8 a	and 8 to 15 pe	ercent slopes	NWI classif	ication:	None	e
	tions on the site typical for this tim							
Are Vegetation X, Soi	I X_, or Hydrology	significantly	disturbed?	Are "N	lormal Circumstances" p	present? Y	′es X	No
Are Vegetation, Soi	I, or Hydrology	_naturally pro	oblematic?	(If nee	eded, explain any answe	rs in Remarks.)	l.	
SUMMARY OF FINDING	GS - Attach site map sho	wing sam	pling point	t locations,	transects, importa	ant features	, etc.	
Hydrophytic Vegetation Pres	sent? Yes	No						
Hydric Soil Present?	Yes	No X		the Sampled A	Area			
Wetland Hydrology Present		No X		ithin a Wetland		No		
			-					
Remarks:								
VEGETATION - Use sci	ientific names of plants.							
					Dominance Test wo	rkehoot:		
		Abaaluta	Deminent	Indiantar	Number of Dominant			
Tree Ctrature (Distaire)	20	Absolute	Dominant	Indicator	That Are OBL, FACW	•	2	(A)
Tree Stratum (Plot size:	) . <i>trichocarpa</i> / Black cottonwood	<u>% Cover</u> 20	<u>Species?</u> Yes	<u>Status</u> FAC	That Are ODE, I AGM	, or i AO	2	(へ)
- · · ·		20	Tes	FAC	Total Number of Dom	vinant		
2					Species Across All S		3	(B)
<i>A</i>								(=)
т		20	= Total Cov	ver	Percent of Dominant	Species		
Sapling/Shrub Stratum (F	Plot size: 15 )				That Are OBL, FACW	•	66.7	(A/B)
					,,			(/
					Prevalence Index w	orksheet:		
					Total % Cover of	of:	Multiply b	y:
1					OBL species	0 x 1	=0	
5.					FACW species		2 =2	
		0	= Total Cov	ver	FAC species	47 x 3	3 =14	1
Herb Stratum (Plot size:	5)		_		FACU species	0 x 4	1 =0	) <u> </u>
1. Trifolium repens / White		25	Yes	FAC	UPL species		5 = 42	5
2. Lolium / Ryegrass	<u> </u>	85	Yes	NI	Column Totals:	133 (A)	) 56	68 (B)
3. Epilobium ciliatum / Slen	der willow herb	1	No	FACW				
4. Ranunculus repens / Cro	wfoot, Creeping buttercup	2	No	FAC	Prevalence Ind	lex = B/A =	4.27	
5.	<u> </u>		-		Hydrophytic Vegeta	tion Indicators		
6.			-		1 - Rapid Test for			
7.					X 2 - Dominance T	• • •	egetation	
8.					3 - Prevalence li			
9.					4 - Morphologica		(Provide su	nnorting
10					5 - Wetland Non			pporting
11					Problematic Hyd			ain )
		113	= Total Cov	ver		lopitytic vegett		, and <i>j</i>
Woody Vine Stratum (Plo	ot size: <u> </u>				<sup>1</sup> Indicators of hydric s	soil and wetland	1 hydrology	must
1					be present, unless di			maor
2.								
		0	= Total Cov	ver	Hydrophytic			
% Bare Ground in Herb Sta	tum <u>15</u>				Vegetation			
					Present?	Yes	No	
Remarks:								

S	0	11	L

Profile Desc Depth	ription: (Describe to t Matrix	he depth need		e indicator of Features	or confirm	the absei	nce of indicators	s.)			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks		
0-7	10YR 2/2	100	20.0. (0101)		.,,,,,		Crse Sndy Lm	Fill	. tornanto		
7-17	10YR 2/1	100		·			Crse Sndy Lm	<u></u>			
17-23	10YR 3/6						Coarse Sand				
11 20	1011(0/0			·			Course Cana				
				·							
				·	·						
				·	·						
				·							
<sup>1</sup> Type: C=Cor	ncentration, D=Depletion	on, RM=Reduce	ed Matrix, CS=Cove	red or Coate	d Sand Gra	ains.	²Loca	tion: PL=Po	ore Lining, M=I	Matrix.	
Hydric Soil I	ndicators: (Applicabl	e to all LRRs, ι	unless otherwise n	oted.)			Indicators	for Proble	matic Hydric	Soils <sup>3</sup> :	
Histosol	(A1)		Sandy Red	ox (S5)			2	cm Muck (A	(10)		
Histic Ep	oipedon (A2)		Stripped M	atrix (S6)			Re	ed Parent M	laterial (TF2)		
Black Hi	stic (A3)		Loamy Muc	ky Mineral (F	F1) <b>(excep</b>	ot MLRA 1	) Ve	ery Shallow	Dark Surface	(TF12)	
Hydroge	n Sulfide (A4)		Loamy Gle	yed Matrix (F	2)		Ot	ther (Explai	n in Remarks)		
Depleted	d Below Dark Surface (	A11)	Depleted N	latrix (F3)							
Thick Da	ark Surface (A12)		Redox Darl	<ul> <li>Surface (F6)</li> </ul>	6)		<sup>3</sup> Indicat	tors of hydro	ophytic vegeta	tion and	
Sandy M	lucky Mineral (S1)		Depleted D	ark Surface (	(F7)		we	etland hydro	ology must be	present,	
Sandy G	Bleyed Matrix (S4)		Redox Dep	ressions (F8	)		un	less disturb	ed or problem	atic.	
Restrictive I	ayer (if present):										
Туре:											
Depth (in	ches):						Hydric Soil P	resent?	Yes	NoX	x
Remarks:											
IYDROLOG	βY										
Wetland Hyd	Irology Indicators:										
Primary Indic	ators (minimum of one	required; check	k all that apply)				Second	dary Indicate	ors (minimum o	of two require	ed)
Surface	Water (A1)		Water-Stair	ned Leaves (	B9) (exc	ept	W	ater-Staine	d Leaves (B9)	(MLRA 1, 2	2,
High Wa	ter Table (A2)		MLRA 1	, 2, 4A, and	4B)			4A, and 4	B)		
Saturatio	on (A3)		Salt Crust (	B11)			Dr	ainage Pat	terns (B10)		
	arks (B1)			ertebrates (B	313)			-	Vater Table (C	2)	
	nt Deposits (B2)			Sulfide Odor	-			,	sible on Aerial	,	)
	posits (B3)			hizospheres	. ,	a Roots (C			Position (D2)	- 3 - 7 ( 7	·
	at or Crust (B4)			f Reduced In		.g ( .		nallow Aquit			
	oosits (B5)			Reduction in		ils (C6)		C-Neutral			
	Soil Cracks (B6)			Stressed Pla		. ,			ounds (D6) (I		
	on Visible on Aerial Ima	agery (B7)		ain in Remai					Hummocks (D		
	Vegetated Concave S				113)			Ust-i leave i		,	
Field Observ		. ,									
Surface Wate		'es No	X Depth (in	hes).							
			X Depth (ind X Depth (ind	-							
Water Table F			· · ·	-		10/041-	nd Hydrology P	roconto	Vee	No	v
Saturation Pr		les No	X Depth (ind	ines).		vvetia	nd Hydrology P	resent?	Yes	No	<u>X</u>
(includes cap	iliary lilinge)										
Describe Rec	orded Data (stream ga	uge, monitoring	g well, aerial photos	, previous ins	spections),	if available	9:				
Remarks:											

Project/Site:	TAL-1923	Cottage Lake			City/Coun	ity:	Cottag	ge Lake, King	County	Sam	pling Dat	:e: 0	8/19/2022
Applicant/Owner:		Aaron and	l Jasn	nine Mille	r	-		State	: WA	Sam	npling Poi		TP-C8
Investigator(s):	. Nightengale,	Talasaea Consulta	nts		Section, 1	Towns	ship, Range:		NW	1.4 SEC24			
Landform (hillslope, terrace,	etc):	Slope			Local relie	ef (co	ncave, conve	ex, none):		none		Slop	e (%): 2
Subregion (LRR):	-	4		Lat:				Long:				atum:	
Soil Map Unit Name:				n, 0 to 8 a								None	)
Are climatic / hydrologic con	ditions on the	site typical for this ti	me of	f year?	Yes X	(	No	(If no, ex	plain in Re	marks.)			
Are Vegetation X, S											Yes	Х	No
Are Vegetation, S	oil, o	or Hydrology	na	turally pro	blematic	?	(If nee	eded, explain	any answe	ers in Rem	arks.)		
SUMMARY OF FINDI												tc.	
Hydrophytic Vegetation P		Yes		· ·									
Hydric Soil Present?		Yes	No	Х	-	ls ti	he Sampled	Area					
Wetland Hydrology Prese	nt?	Yes	No	X	-		hin a Wetlan		Yes		No		
		100		~	-			u.					
Remarks:													
VEGETATION - Use s	cientific na	mes of plants.											
								Dominan	ce Test wo	orksheet:			
				Absolute	Domina	ant	Indicator	Number o	f Dominan	t Species			
Tree Stratum (Plot size:	30	)		% Cover	Species	s?	Status	That Are	OBL, FACV	V, or FAC:		2	(A)
1. Populus balsamifera s		/	-	25	Yes		FAC						
2.							·	Total Num	ber of Don	ninant			
3.								Species A	cross All S	strata:		3	(B)
4.													
				25	= Total	Cove	er	Percent o	f Dominant	Species			
Sapling/Shrub Stratum								That Are	OBL, FACV	V, or FAC:		66.7	(A/B)
1							·	Provalon	ce Index w	orkehoot			
2									I % Cover of			lultiply by	
3							·	OBL spec		0	x 1 =		
							·	FACW sp		0	_ <u>x</u> 2=		
5						_	· <u> </u>	FAC spec		46			
	_		-	0	= Total	Cove	er	FACU spe		0		0	
Herb Stratum (Plot size:	5	)						UPL spec		70	 x5=	350	
1. Lolium / Ryegrass				70	Yes		NI	Column T		116	(A)	488	
2. <u>Trifolium repens / Whit</u>		<u> </u>		20	Yes		FAC				_ ( )		<u> </u>
3. <u>Rumex obtusifolius / B</u>	roadleaf dock,	Bitter dock		1	No	)	FAC	Pre	valence Inc	lex = B/A =	=	4.21	
4 5.													
6.									tic Vegeta				
7							·		apid Test fo			tation	
8.							·		ominance <sup>-</sup>				
							·		revalence I				
							·		orphologic			wide sup	porting
10 11.							·		etland Nor				
···				91	= Total	Cove	er	Prob	lematic Hyd	drophytic \	/egetatior	1 <sup>1</sup> (Expla	in)
Woody Vine Stratum (F	Plot size:	5)	-	0.									
1 (i									s of hydric				nust
2.							·	be preser	it, unless d	isturbed or	problem	atic.	
				0	= Total	Cove	er	Hydrophy	/tic				
% Bare Ground in Herb S	tatum	30	-		_			Vegetation Present?	n	Yes	N	o	
Demenden								_					
Remarks:													

S	0	11	L

Profile Desc Depth	ription: (Describe to t Matrix	he depth neede		e indicator	or confirm t	the absei	nce of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	- Texture Remarks
0-10	10YR 2/1	100		/0	- ype	200	Crse Sndy Lm Fill
10-21	10YR 2/1	100			<u> </u>		Crse Sndy Lm
21-28	10YR 3/6	100			<u> </u>		Coarse Sand
21-20	101K 3/0						
							·
							·
<sup>1</sup> Type: C=Cor	ncentration, D=Depletion	on, RM=Reduced	d Matrix, CS=Cove	ered or Coate	ed Sand Grai	ns.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators: (Applicabl	e to all LRRs, u	nless otherwise r	noted.)			Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy Red	lox (S5)			2 cm Muck (A10)
Histic Ep	oipedon (A2)		Stripped M	atrix (S6)			Red Parent Material (TF2)
Black Hi	stic (A3)		Loamy Mu	cky Mineral (	F1) (except	MLRA 1	1) Very Shallow Dark Surface (TF12)
Hydroge	n Sulfide (A4)		Loamy Gle	yed Matrix (F	-2)		Other (Explain in Remarks)
Depleted	Below Dark Surface (	A11)	Depleted M	1atrix (F3)			
Thick Da	ark Surface (A12)		Redox Dar	k Surface (F6	6)		<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)		Depleted D	ark Surface	(F7)		wetland hydrology must be present,
Sandy G	leyed Matrix (S4)		Redox Dep	oressions (F8	3)		unless disturbed or problematic.
Restrictive I	ayer (if present):				-		
Туре:							
Depth (in	ches):		_				Hydric Soil Present? Yes No
Remarks:							
IYDROLOG	iΥ						
	rology Indicators:						
-	ators (minimum of one	required: check	all that apply)				Secondary Indicators (minimum of two require
	Water (A1)			ned Leaves (	(B9) (exce	pt	Water-Stained Leaves (B9) (MLRA 1, 2
	ter Table (A2)			1, 2, 4A, and	, ,		4A, and 4B)
Saturatio	. ,		Salt Crust				Drainage Patterns (B10)
	arks (B1)			ertebrates (E	212)		Dry-Season Water Table (C2)
	nt Deposits (B2)		·	Sulfide Odor	,		Saturation Visible on Aerial Imagery (C9
	,				. ,	Pooto (C	
	oosits (B3)			hizospheres		ROOLS (C	
	t or Crust (B4)			of Reduced Ir			Shallow Aquitard (D3)
	osits (B5)			n Reduction i			FAC-Neutral Test (D5)
	Soil Cracks (B6)			Stressed Pla		LRR A)	Raised Ant Mounds (D6) (LRR A)
	on Visible on Aerial Ima	0,00	Other (Exp	lain in Rema	rks)		Frost-Heave Hummocks (D7)
Sparsely	Vegetated Concave S	Surface (B8)				1	
Field Observ		,	<b>.</b>				
Surface Wate			X Depth (in				
Water Table F				ches):			
Saturation Pr		es No	X Depth (in	ches):		Wetla	and Hydrology Present? Yes No
(includes cap	illary fringe)						
Describe Rec	orded Data (stream ga	uae. monitorina	well, aerial photos	. previous in	spections), it	favailable	e:
		0, 0	, I	, <b>1</b>	. ,,		
Remarks:							

Project/Site <sup>.</sup>	TAL-1923 Cottage Lake		Citv/Countv <sup>.</sup>	Cottao	ge Lake, King Cour	tv Sam	noling Date	· 08/1	9/2022
	Aaron and J				State:		pling Point		
				vnship, Range:		NW14 SEC24			
						none	12011110	Slope (0	//)· 1
Subragion (LDD):	etc): Slope	L at:		concave, conve		none	Do		NAD83
Sublegion (LRR).	Everett very gravelly sandy l	$\_$ Lat. $\_$	and 9 to 15 n	orcont clonos		location:	Da	None	NAD03
	ditions on the site typical for this tim							NULLE	
	ioil X, or Hydrology						Vaa	V	10
								<u> </u>	10
	oil, or Hydrology	-							
SUMMARY OF FINDIN	NGS - Attach site map show			it locations,	, transects, im	portant feat	ures, etc	).	
Hydrophytic Vegetation Pr		No	-						
Hydric Soil Present?	Yes	No	ls	s the Sampled	Area				
Wetland Hydrology Prese	nt? Yes	No	w	ithin a Wetlan	<b>d?</b> ``	′es	No		
Remarks:									
VEGETATION - Use s	cientific names of plants.								
					Dominance Te	st worksheet:			
		Absolute	Dominant	Indicator	Number of Don				
Tree Stratum (Plot size:	30)	% Cover				FACW, or FAC:		3	(A)
	sp. trichocarpa / Black cottonwood	60	Yes	FAC		,			_ ( )
2. Alnus rubra / Red alder		10	No		Total Number o	f Dominant			
					Species Across			4	(B)
3				<u> </u>					_ (=)
			= Total Co	ver	Percent of Don	ninant Species			
Sanling/Shrub Stratum	(Plot size: 15 )					FACW, or FAC:		75.0	(A/B)
1. Cornus alba / Red osie		5	Yes	FACW	,	- ,			_ ( )
2. Rubus spectabilis / Sal		1	No	FAC	Prevalence In	dex worksheet:	:		
3. Alnus rubra / Red alder	· · · ·	1	No	FAC	Total % C	over of:	Mu	ultiply by:	
	sp. trichocarpa / Black cottonwood	1	No	FAC	OBL species	5	x 1 =	5	
5. Carex stipata / Awlfruit		5	Yes	OBL	FACW species	6	x 2 =	12	
	00090	13	= Total Co		FAC species	96	x 3 =		
Herb Stratum (Plot size:	· 5 )				FACU species	1	x 4 =	4	
1. Tellima grandiflora / Fri		1	No	FACU	UPL species	85	x 5 =	425	
2. Trifolium repens / White		15	No	FAC	Column Totals:	193	(A)	734	(B)
3. Lolium / Ryegrass		85	Yes	NI					
4. Rumex obtusifolius / Bi	roadleaf dock Bitter dock	1	No	FAC	Prevalen	ce Index = B/A =	=	3.8	
	d's foot trefoil, Bird's-foot trefoil	2	No	FAC					
6. Epilobium ciliatum / Sle			No	FACW		egetation Indic			
	Crowfoot, Creeping buttercup	5	No	FAC		Test for Hydroph		ation	
8.						ance Test is >50			
						ence Index ≤3.0 <sup>°</sup>			
10						ological Adaptati		vide suppor	rting
10						d Non-Vascular			
···· <u> </u>		110	= Total Co	ver	Problemat	ic Hydrophytic \	/egetation <sup>1</sup>	(Explain)	1
Woody Vine Stratum (F	Plot size: 5 )								
<u>1.</u>	() () () () () () () () () () () () () (					ydric soil and we	-		st
2.				<u> </u>	be present, unl	ess disturbed or	r problema	tic.	
<u> </u>		0	= Total Co	ver	Hydrophytic				
% Bare Ground in Herb S	tatum	0	_ 10101 00						
					Vegetation	Vaa	Na		
					Present?	res	No		
Remarks:							_	_	_

SOI	L
-----	---

Depth	ription: (Describe to t Matrix	-	Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	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	С	M	Crse Sndy Lm	
							0.00 0.00 2	
					<u> </u>			
				·				
Type: C=Co	ncentration, D=Depletic	on, RM=Reduce	ed Matrix, CS=Cove	red or Coate	d Sand Gra	ains.	²Loca	tion: PL=Pore Lining, M=Matrix.
-	Indicators: (Applicable	e to all LRRs, ι		-				for Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Red					cm Muck (A10)
	pipedon (A2)		Stripped Ma					ed Parent Material (TF2)
Black H	istic (A3)			ky Mineral (I		ot MLRA 1	) Ve	ery Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy Gley	/ed Matrix (F	2)		Ot	her (Explain in Remarks)
Deplete	d Below Dark Surface (	A11)	Depleted M	atrix (F3)				
	ark Surface (A12)	·		Surface (F6	6)		<sup>3</sup> Indicat	tors of hydrophytic vegetation and
	Aucky Mineral (S1)			ark Surface				etland hydrology must be present,
	Gleyed Matrix (S4)			ressions (F8				less disturbed or problematic.
_	Layer (if present):		·	×	,			
Type:	Layer (il present).							
Depth (ir	nches):						Hydric Soil P	resent? Yes No
Primary Indic Surface High Wa Saturati Water M Sedime	drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)	required; checl	Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S	ed Leaves ( , <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor nizospheres	<b>4B)</b> 313) (C1)		Wi Dr Sa	dary Indicators (minimum of two required ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2)
Algal Ma	at or Crust (B4)		Presence o	f Reduced Ir	on (C4)		Sh	nallow Aquitard (D3)
Iron Dep	posits (B5)		Recent Iron	Reduction i	n Tilled Soi	ils (C6)	X FA	C-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted or	Stressed Pla	nts (D1)	(LRR A)	Ra	aised Ant Mounds (D6) (LRR A)
	ion Visible on Aerial Ima	agery (B7)		ain in Rema				ost-Heave Hummocks (D7)
	y Vegetated Concave S		F		- /			
ield Observ		'es No	Depth (inc	hes).				
	er Present?			hes):				
Surface Wate			Lienth (inc					
urface Wate /ater Table	Present? Y	les No				Watle	nd Hydrology P	recent? Vec No
urface Wate Vater Table aturation Pr	Present? Y					Wetla	nd Hydrology P	resent? Yes No
Surface Wate Vater Table Saturation Pr ncludes cap	Present? Yersent? Yersent? Yersent?	íes No íes No	Depth (inc	hes):	spections),			resent? Yes No
Surface Wate Vater Table Saturation Pr Includes cap	Present? Y resent? Y billary fringe)	íes No íes No	Depth (inc	hes):	spections),			resent? Yes No
Surface Wate Vater Table Saturation Pr Includes cap	Present? Y resent? Y billary fringe)	íes No íes No	Depth (inc	hes):	spections),			resent? Yes No
Surface Wate Vater Table Saturation Princludes cap Describe Ref	Present? Y resent? Y billary fringe)	íes No íes No	Depth (inc	hes):	spections),			resent? Yes No
urface Wate /ater Table aturation Pr ncludes cap escribe Ree	Present? Y resent? Y billary fringe)	íes No íes No	Depth (inc	hes):	spections),			resent? Yes No
urface Wate /ater Table aturation Princludes cap escribe Ree	Present? Y resent? Y billary fringe)	íes No íes No	Depth (inc	hes):	spections),			resent? Yes No

Project/Site:	TAL-1923	Cottage Lake		City/Cour	ntv: C	ottage Lake.	King County	Sam	pling Date:	08/19/20	022
Applicant/Owner:		Aaron and	d Jasmine Mill	ler	·	<b>.</b>	State: V		pling Point:	TP-C1	10
Investigator(s):					lownship, Rar			W1.4 SEC2	4 T26N R6E		
Landform (hillslope, terra								none	S	Slope (%):	2
Subregion (LRR):	A	1	Lat:		5865517					n: NAD	
Soil Map Unit Name:									١	Vone	
Are climatic / hydrologic c	conditions on the s	site typical for this t	ime of year?	Yes X	K No	(If r	no, explain in	Remarks.)			
Are Vegetation X	, Soil <u>X</u> , c	r Hydrology	significantl	y disturbed	l? A	Are "Normal (	Circumstance	s" present?	Yes 🔰	X No	
Are Vegetation	, Soil, c	r Hydrology	naturally p	roblematic	? (	If needed, ex	kplain any ans	swers in Rem	arks.)		
SUMMARY OF FINI	DINGS - Attac	h site map sh	owing sam	npling po	oint locatio	ons, trans	ects, impo	ortant feat	ures, etc.		
Hydrophytic Vegetation	Present?	Yes	No								
Hydric Soil Present?		Yes	No X	-	Is the Samp	oled Area					
Wetland Hydrology Pre	esent?	Yes			within a We		Yes	s	No		
			· · ·	_							
Remarks:											
VEGETATION - Use	scientific na	mes of plants									
						Dem	-incurse Test	warkabaati			
			•• • •	- ·			ninance Test				
			Absolute				ber of Domir	•	,		•
Tree Stratum (Plot si			<u>% Cover</u>				LATE OBL, FA	CW, or FAC:	;	5 (A	A)
1. Populus balsamifera	, ,	/ Black cottonwood		Yes			l Number of F	Dominant			
2. <u>Cornus alba / Red o</u>			20	Yes	s FACV	<u> </u>	I Number of E			· //	D)
3						Spe	cies Across A	il Strata.	(	6 (E	B)
4					0	Bor	cent of Domin	ant Spacias			
Ogalian (Ohmuh Otastura		45	60	= Total	Cover			ACW, or FAC:	02	3.3 ( <i>I</i>	A (D)
Sapling/Shrub Stratum					54.0		LAIE OBL, FA	CW, OFFAC.	00	<u></u> (F	A/B)
1. <u>Rubus spectabilis /</u>			55	Yes		Prev	valence Inde	x worksheet:			
2. <u>Cornus sericea ssp.</u>		•	15	No			Total % Cov		Multip	ly by:	
3. Lonicera involucrata	,		30	Yes	s FAC		species	0	x 1 =	0	-
4				·	·		W species	25	x 2 =	50	
5					Causar	FAC	species	126	x 3 =	378	•
Herb Stratum (Plot si	izo: 5	`	100	= Total	Cover	FAC	U species	5	x 4 =	20	
1. Epilobium ciliatum /		)	5	Yes	s FACV	V UPL	species	15	x 5 =	75	•
2. Ranunculus repens			<u>5</u> 1	No			umn Totals:	171	(A)	523	- (B)
3.	7 Clowiool, Cleep					,					•
J							Prevalence	Index = B/A =	= 3.	06	
4 5											
6.						— Hyd		etation Indic			
7						-   _		st for Hydroph		n	
8.						<u> </u>		ce Test is >50			
0						_		ce Index ≤3.0			
10.						_	•	gical Adaptat		: supporting	g
11.						_		Non-Vascular			
			6	= Total	Cover	_	Problematic	Hydrophytic \	/egetation <sup>1</sup> (E	xplain)	
Woody Vine Stratum	(Plot size <sup>.</sup>	5)			0010						
1. Hedera helix / Englis		/	5	Yes	s FACI		-	ric soil and w	-		
2.						be p	present, unles	s disturbed or	r problematic.		
			5	= Total	Cover	Hvd	rophytic				
% Bare Ground in Hert	b Statum					-	etation				
						-	sent?	Yes	No		
Remarks:											
Lots of do	owned brush/brand	ches									

S	0	IL	
J	J		-

Profile Descri Depth	ption: (Describe to t Matrix	ne depth neede		e indicator of Features	or confirm t	he abser	nce of indicator	'S.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 2/1	100		/0		200	Sandy Loam	Roots
8-20	10YR 2/1						Sandy Loam	
		<u> </u>						
		<u> </u>						
<sup>1</sup> Type: C=Con	centration, D=Depletio	n, RM=Reduced	d Matrix, CS=Cove	red or Coate	d Sand Grai	ns.	²Loca	ation: PL=Pore Lining, M=Matrix.
-	dicators: (Applicable	to all LRRs, u	nless otherwise n	oted.)			Indicators	s for Problematic Hydric Soils <sup>3</sup> :
Histosol (	,		Sandy Red					cm Muck (A10)
	pedon (A2)		Stripped M					ed Parent Material (TF2)
Black His	tic (A3)		Loamy Muo	cky Mineral (F	F1) <b>(excep</b> t	MLRA 1)	) Ve	ery Shallow Dark Surface (TF12)
Hydroger	Sulfide (A4)			yed Matrix (F	-2)		0	ther (Explain in Remarks)
Depleted	Below Dark Surface (A	A11)	Depleted N	latrix (F3)				
Thick Dar	k Surface (A12)		Redox Dar	k Surface (F6	5)		³Indica	tors of hydrophytic vegetation and
Sandy Mu	ucky Mineral (S1)		Depleted D	ark Surface (	(F7)		W	etland hydrology must be present,
Sandy GI	eyed Matrix (S4)		Redox Dep	ressions (F8	)		ur	nless disturbed or problematic.
	yer (if present):							
Туре:								
Depth (inc	hes):		_				Hydric Soil P	Present? Yes NoX
IYDROLOG	Y							
Wetland Hydr	ology Indicators:							
Primary Indica	tors (minimum of one	required; check	all that apply)				Secon	dary Indicators (minimum of two required)
Surface V	Vater (A1)		Water-Stair	ned Leaves (	B9) (exce	pt	W	/ater-Stained Leaves (B9) (MLRA 1, 2,
High Wat	er Table (A2)		MLRA 1	I, 2, 4A, and	4B)			4A, and 4B)
Saturatio	ר (A3)		Salt Crust (	(B11)			D	rainage Patterns (B10)
Water Ma	rks (B1)		Aquatic Inv	ertebrates (B	313)		D	ry-Season Water Table (C2)
Sediment	Deposits (B2)			Sulfide Odor				aturation Visible on Aerial Imagery (C9)
Drift Depo	osits (B3)		Oxidized R	hizospheres	along Living	Roots (C	:3) G	eomorphic Position (D2)
	or Crust (B4)			of Reduced In				hallow Aquitard (D3)
Iron Depo	osits (B5)		Recent Iror	n Reduction in	n Tilled Soils	s (C6)	X F/	AC-Neutral Test (D5)
	oil Cracks (B6)			Stressed Pla				aised Ant Mounds (D6) (LRR A)
Inundatio	n Visible on Aerial Ima	gery (B7)		lain in Remai				rost-Heave Hummocks (D7)
Sparsely	Vegetated Concave S	urface (B8)			,			
Field Observa	itions:							
Surface Water	Present? Ye	es No	X Depth (inc	ches):				
Water Table P	resent? Ye	es No	X Depth (inc	ches):				
Saturation Pre	sent? Y	es No	X Depth (inc	ches):		Wetla	nd Hydrology F	Present? Yes NoX
(includes capil	lary fringe)							
Describe Reco	orded Data (stream ga	uge, monitoring	well, aerial photos	, previous ins	spections), it	favailable	:	
Remarks:								

Project/Site:	TAL-1923 Co	ottage Lake	(	Citv/Countv	: Cotta	ge Lake, King Count	v San	npling Date:	08/19/20	)22
Applicant/Owner:		Aaron and	Jasmine Miller					npling Point:	TP-C1	
Investigator(s):	T Nightengale Ta	alasaea Consultar	nts .		wnship, Range:		NW1.4 SEC2			·
									Slope (%):	2
Landform (hillslope, terr Subregion (LRR):	ace, eic).	Siope	Lat:			ex, none):			· · · ·	
						Long: -12		Datun		00
Soil Map Unit Name:								r	None	
Are climatic / hydrologic										
Are Vegetation X	_, Soil <u>X</u> , or	Hydrology	significantly	disturbed?	Are "	Normal Circumstance	es" present?		X No	
Are Vegetation	_, Soil, or	Hydrology	naturally pro	blematic?	(If ne	eded, explain any a	nswers in Rem	arks.)		
SUMMARY OF FIN	NDINGS - Attach	site map sho	owing samp	oling poir	nt locations	, transects, imp	ortant feat	ures, etc.		
Hydrophytic Vegetatio	on Present?	Yes	No			-				
Hydric Soil Present?		Yes			s the Sampled	Aroa				
	100000t0	Yee			-			Na		
Wetland Hydrology P	resent?	Yes		. v	vithin a Wetlan		es	No	_	
Remarks:										
VEGETATION - Us	se scientific nam	es of plants.								
						Dominance Tes	st worksheet:			
			Absolute	Dominant	t Indicator	Number of Dom				
Tree Stratum (Plot	size: 30	)	% Cover	Species?		That Are OBL, F			2 (A	7)
1. Pseudotsuga men		)	20	Yes	FACU	111017110 0002,1				.,
	· · · ·		20	165	FACU	Total Number of	Dominant			
2.								ſ	5 (B	2)
3						Species Across	All Strata.		5 (B	3)
4										
			20	= Total Co	over	Percent of Dom	•			
Sapling/Shrub Stratur						That Are OBL, F	ACW, or FAC:	40	).0 (A	√B)
1. Rubus spectabilis	/ Salmon berry, Salm	onberry	5	Yes	FAC					
2. Physocarpus capit	<i>tatus /</i> Ninebark		2	Yes	FACW	Prevalence Ind				
3.						Total % Co		Multip		
1						OBL species	0	x 1 =	0	
5.						FACW species	2	x 2 =	4	
			7	= Total Co	over	FAC species	22	x 3 =	66	
Herb Stratum (Plot	size 5	)				FACU species	25	x 4 =	100	
1. Lolium / Ryegrass		/	95	Yes	NI	UPL species	95	x 5 =	475	
2. Ranunculus repen		abuttoroup	<u>35</u>	No	FAC	Column Totals:	144	(A)	645	(B)
		•								
3. Lotus corniculatus			1	<u>No</u>	FAC	Prevalence	e Index = B/A	= 4.	48	
4. Rumex obtusifolius	s / Broadleaf dock, Bi	tter dock	1	No	FAC					
5						Hydrophytic Ve	egetation Indic	cators:		
6							est for Hydropi		on	
7							nce Test is >5(			
8.							nce Index ≤3.0			
9.							logical Adaptat		sunnortina	1
10.							l Non-Vascular		, oupporting	)
11.									(volain)	
			112	= Total Co	over		c Hydrophytic V	vegetation* (E	xpiain)	
Woody Vine Stratum	(Plot size:	5)		_						
1. Hedera helix / Eng			5	Yes	FACU	<sup>1</sup> Indicators of hy		,	0,	
2.	JIOTTVY					be present, unle	ess disturbed o	r problematic.		
Z			5	= Total Co		Liberdan and the state				
0/ Data Craund in Lla	who Chatum			_ = 10(a) C(	Jvei	Hydrophytic				
% Bare Ground in He	rd Statum					Vegetation Present?	Yes	No		
Domarka										
Remarks:	downed brush/branch	es								
		~~								
1										

S	0	11	L

Profile Desc Depth	ription: (Describe to t Matrix	ne depth neede		ne indicator ( K Features	or confirm t	the abser	nce of indicator	s.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	R	emarks
0-4	10YR 2/2	100		/0	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	200	Sandy Loam	Fill	aino
4-14	10YR 2/2						Sandy Loam		
14-20	10YR 3/6						Coarse Sand		
14-20	10110 0/0	<u> </u>					Coarse Gana		
		<u> </u>							
<sup>1</sup> Type: C=Cor	ncentration, D=Depletic	n, RM=Reduced	d Matrix, CS=Cove	ered or Coate	d Sand Grai	ns.	²Loca	ition: PL=Pore Lin	ing, M=Matrix.
Hydric Soil I	ndicators: (Applicable	to all LRRs, u	nless otherwise r	noted.)			Indicators	for Problematic	Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy Rec	lox (S5)			2	cm Muck (A10)	
Histic Ep	oipedon (A2)		Stripped M	atrix (S6)			R	ed Parent Materia	l (TF2)
Black Hi	stic (A3)		Loamy Mu	cky Mineral (I	F1) (except	MLRA 1	)	ery Shallow Dark S	Surface (TF12)
Hydroge	n Sulfide (A4)		Loamy Gle	yed Matrix (F	2)		0	ther (Explain in Re	emarks)
Depleted	d Below Dark Surface (	A11)	Depleted N	Aatrix (F3)					
Thick Da	ark Surface (A12)		Redox Dar	k Surface (F6	5)		³Indica	tors of hydrophytic	vegetation and
Sandy M	lucky Mineral (S1)		Depleted D	ark Surface	(F7)		W	etland hydrology r	nust be present,
	Bleved Matrix (S4)			pressions (F8				less disturbed or	
					,				
Type:	ayer (if present):								
Depth (in	ches):						Hydric Soil P	resent? Yes	8 NoX
Remarks:									
IYDROLOG	βY								
Wetland Hyd	Irology Indicators:								
-	ators (minimum of one	reauired: check	all that apply)				Secon	darv Indicators (m	inimum of two required)
· · · ·	Water (A1)			ned Leaves (	B9) (exce	pt			es (B9) (MLRA 1, 2,
	iter Table (A2)			1, 2, 4A, and	, ,			4A, and 4B)	
Saturatio			Salt Crust		,		ח	rainage Patterns (	B10)
	arks (B1)			vertebrates (E	213)			ry-Season Water	
	nt Deposits (B2)			Sulfide Odor					n Aerial Imagery (C9)
	posits (B3)			hizospheres	. ,	Poote (C		eomorphic Positio	••••
	at or Crust (B4)			of Reduced Ir				nallow Aquitard (D	
	osits (B5)			n Reduction i				AC-Neutral Test (E	•
	Soil Cracks (B6)			Stressed Pla		LRR A)		aised Ant Mounds	
	on Visible on Aerial Ima / Vegetated Concave S		Other (Exp	lain in Rema	rks)		Fr	ost-Heave Humm	ocks (D7)
	-					1			
Field Observ									
Surface Wate			X Depth (in						
Water Table F		es <u>No</u>	• • •						
Saturation Pr		es <u>No</u>	X Depth (in	ches):		Wetla	nd Hydrology F	Present? Ye	s <u>No X</u>
(includes cap	illary fringe)								
Describe Rec	orded Data (stream ga	uge, monitoring	well, aerial photos	, previous ins	spections), if	favailable	e:		
	-	-							
Remarks:									

Project/Site:	TAL-1923 Cottage Lake		Citv/Countv:	Cottag	e Lake, King County	/ Sam	pling Date:	08/19	9/2022
	Aaron and J	asmine Mille	r		State:		pling Point:		-C12
Investigator(s): T I	Nightengale, Talasaea Consultants	s	Section Towr	nship Range		NW1.4 SEC24			
	tc): Slope							Slope (%	<u>b): 2</u>
Subregion (LRR):			47 7586	5517	Long:	2 09084683	Datur		AD83
	Everett very gravelly sandy le							None	
	tions on the site typical for this tim							tono	
	X , or Hydrology						Yes	X N	0
	il, or Hydrology							<u> </u>	
	GS - Attach site map show								
				i locations,	transects, imp		11e5, etc.		
Hydrophytic Vegetation Pres									
Hydric Soil Present?	Yes 1	No <u>X</u>	Is	the Sampled					
Wetland Hydrology Present	? Yes 1	No <u>X</u>	wi	thin a Wetland	d? Ye	s	No	_	
Remarks:									
VEGETATION - Use sci	ientific names of plants.								
					Dominance Tes	t worksheet:			
		Absolute	Dominant	Indicator	Number of Domi				
Tree Stratum (Plot size:	30 )	% Cover	Species?	Status	That Are OBL, F	•		4	(A)
	. trichocarpa / Black cottonwood	40	Yes	FAC				<u>.</u>	_ (* *)
		20	103		Total Number of	Dominant			
2 3.		20			Species Across			5	(B)
4								-	_ (= /
т		60	= Total Cov		Percent of Domin	nant Species			
Sapling/Shrub Stratum (F	Plot size: 15 )	0	_ = 10(a) 000		That Are OBL, F	•	8(	0.0	(A/B)
1. Rubus spectabilis / Salm		55	Yes	FAC					_ (//////
2. Lonicera involucrata / Co	· · · ·	30	Yes	FAC	Prevalence Inde	x worksheet:	:		
3. Cornus sericea ssp. seri	,	<u></u>	No	NI	Total % Co	ver of:	Multir	oly by:	
		15	INU		OBL species	0	x 1 =	0	
4 5					FACW species	5	x 2 =	10	
J		100	= Total Cov	/or	FAC species	126	x 3 =	378	
Herb Stratum (Plot size:	5)	100			FACU species	5	x 4 =	20	
1. Epilobium ciliatum / Slen		5	Yes	FACW	UPL species	35	x 5 =	175	
2. Ranunculus repens / Cro			No	FAC	Column Totals:	171	(A)	583	(B)
3.		I	INU	FAC					
3					Prevalence	e Index = B/A =	= 3.	.41	
5									
6.					Hydrophytic Ve	-			
7.						est for Hydroph		on	
					X 2 - Dominar				
0						nce Index ≤3.01			
10						ogical Adaptati		e suppor	ting
11.						Non-Vascular			
···· <u> </u>		6	= Total Cov	/er	Problematic	Hydrophytic V	/egetation <sup>1</sup> (E	xplain)	
Woody Vine Stratum (Plo	ot size: <u> </u>								
1. Hedera helix / English iv		5	Yes	FACU	<sup>1</sup> Indicators of hyd		-		ł
2.	,				be present, unles	ss disturbed or	problematic.		
-		5	= Total Cov	/er	Hydrophytic				
% Bare Ground in Herb Sta	tum				Vegetation Present?	Yes	No		
Remarks: Lots of downed	d brush/branches								

S	0	11	L

Depth	Matrix			Redox					
(inches)	Color (moist)	%	Color	(moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	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	
					·				
vne: C=Cor	centration, D=Deplet	tion RM=Redu	Iced Matrix	x CS=Cove	red or Coate	ed Sand Gr	ains	<sup>2</sup> 1 oca	tion: PL=Pore Lining, M=Matrix.
	ndicators: (Applicat								s for Problematic Hydric Soils <sup>3</sup> :
Histosol			,	Sandy Red	-				cm Muck (A10)
_	ipedon (A2)			Stripped Ma					ed Parent Material (TF2)
Black Hi					ky Mineral (I	F1) (exce	nt MI RA 1		ery Shallow Dark Surface (TF12)
_	n Sulfide (A4)		—		/ed Matrix (F				ther (Explain in Remarks)
	Below Dark Surface	(11)		Depleted M		2)		0	
		(ATT)	—			2)		3 la dia a	tore of budrophytic version and
_	rk Surface (A12)				CSurface (F6				tors of hydrophytic vegetation and
	ucky Mineral (S1)				ark Surface				etland hydrology must be present,
_ Sandy G	leyed Matrix (S4)			Redox Dep	ressions (F8	5)		ur	nless disturbed or problematic.
	ayer (if present):								
Type:									
Depth (in	ches):							Hydric Soil P	resent? Yes <u>No X</u>
DROLOG	Y								
etland Hyd	rology Indicators:	e required: che	eck all that					Second	dary Indicators (minimum of two require
etland Hyd		e required; che	eck all that		ned Leaves (	B9) <b>(exc</b>	ept		· · · · · ·
rimary Indica Surface	rology Indicators: ators (minimum of on Water (A1)	e required; che	eck all that	Water-Stair		, ,	ept		ater-Stained Leaves (B9) (MLRA 1, 2
etland Hyd Timary Indica Surface High Wa	rology Indicators: ators (minimum of on Water (A1) ter Table (A2)	e required; che	eck all that	Water-Stair MLRA 1	, 2, 4A, and	, ,	ept	W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
etland Hyd imary Indica Surface High Wa Saturatic	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3)	e required; che	eck all that 	Water-Stair MLRA 1 Salt Crust (	, <b>2, 4A, and</b> B11)	4B)	ept	W	<ul> <li>ater-Stained Leaves (B9) (MLRA 1, 2</li> <li>4A, and 4B)</li> <li>rainage Patterns (B10)</li> </ul>
etland Hyd imary Indica _ Surface _ High Wa _ Saturatio _ Water M	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1)	e required; che	eck all that 	Water-Stair MLRA 1 Salt Crust ( Aquatic Inv	, <b>2, 4A, and</b> B11) ertebrates (B	4 <b>B)</b> 313)	ept	W Di Di	<ul> <li>dater-Stained Leaves (B9) (MLRA 1, 2</li> <li>4A, and 4B)</li> <li>rainage Patterns (B10)</li> <li>ry-Season Water Table (C2)</li> </ul>
etland Hyd imary Indica Surface High Wa Saturatic Water M Sedimer	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2)	e required; che		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor	4 <b>B)</b> 313) (C1)		W Di Di Si	rater-Stained Leaves (B9)       (MLRA 1, 2         4A, and 4B)       rainage Patterns (B10)         ry-Season Water Table (C2)       aturation Visible on Aerial Imagery (C9)
etland Hyd imary Indic: Surface High Wa Saturatic Water M Sedimer Drift Dep	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)	e required; che		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor hizospheres	<b>4B)</b> 313) (C1) along Livir		— W — Di — Di — Si (3) _ G	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2)
Iteliand Hyd       Surface       High Wa       Saturatic       Water M       Sedimer       Drift Dep       Algal Ma	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	e required; che		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir	<b>4B)</b> 313) (C1) along Livir ron (C4)	ng Roots (C	(3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	Tater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3)
etland Hyd imary Indic: Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	e required; che		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iror	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir Reduction i	<b>4B)</b> (C1) along Livir ron (C4) n Tilled So	ng Roots (C ils (C6)	(3) F4	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5)
etland Hyd imary Indic: Surface High Wa Saturatic Water M Sedimer Drift Dep Nigal Ma Iron Dep Surface	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)			Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir I Reduction i Stressed Pla	<b>4B)</b> (C1) along Livir ron (C4) n Tilled So ants (D1)	ng Roots (C ils (C6)	(3) W	Tater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
etland Hyd imary Indic: Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	nagery (B7)		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir Reduction i	<b>4B)</b> (C1) along Livir ron (C4) n Tilled So ants (D1)	ng Roots (C ils (C6)	(3) W	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5)
etland Hyd imary Indic: Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ir Vegetated Concave	nagery (B7)		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir I Reduction i Stressed Pla	<b>4B)</b> (C1) along Livir ron (C4) n Tilled So ants (D1)	ng Roots (C ils (C6)	(3) W	Tater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Interference       Surface       High Wa       Saturatic       Water M       Sedimer       Drift Dep       Algal Ma       Iron Dep       Surface       Inundation       Sparsely       Seld Observer	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ir Vegetated Concave ations:	nagery (B7) Surface (B8)		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iron Stunted or Other (Expl	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir Reduction i Stressed Pla ain in Remai	<b>4B)</b> (C1) along Livir ron (C4) n Tilled So ants (D1)	ng Roots (C ils (C6)	(3) W	Tater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Vetland Hyd       rimary Indic:       Surface       High Wa       Saturatic       Water M       Sedimer       Drift Dep       Algal Ma       Iron Dep       Surface       Inundatic       Sparsely       Seld Observ	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ir Vegetated Concave ations: r Present?	nagery (B7) Surface (B8) Yes N		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iror Stunted or Other (Expl	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir Reduction i Stressed Pla ain in Remai	4B) (C1) along Livir ron (C4) in Tilled So ants (D1) rks)	ng Roots (C ils (C6) (LRR A)	(3) W	Tater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
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Indication         Surface         High Wa         Saturation         Water M         Sedimer         Drift Dep         Algal Ma         Iron Dep         Surface         Inundation         Sparsely         Ind Observ         Urface Water         Yater Table F         aturation Production	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ir Vegetated Concave ations: r Present? Present?	nagery (B7) Surface (B8) Yes N Yes N		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iror Stunted or Other (Expl Depth (inc Depth (inc	, <b>2, 4A, and</b> B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir Reduction i Stressed Pla ain in Remai	4B) (C1) along Livir ron (C4) in Tilled So ants (D1) rks)	ng Roots (C ills (C6) (LRR A)	(3) W Di Si Si Fi Fr	ater-Stained Leaves (B9)       (MLRA 1, 2         4A, and 4B)       rainage Patterns (B10)         ry-Season Water Table (C2)       aturation Visible on Aerial Imagery (C9)         eomorphic Position (D2)       hallow Aquitard (D3)         AC-Neutral Test (D5)       aised Ant Mounds (D6)         aised Hummocks (D7)       Imagery Hummocks (D7)
Vetland Hyd       rimary Indic:       Surface       High Wa       Saturatic       Water M       Sedimer       Drift Dep       Algal Ma       Iron Dep       Surface       Inundation       Sparsely       Steld Observ       Vater Table F       aturation Pro-	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ir Vegetated Concave ations: r Present? Present?	nagery (B7) Surface (B8) Yes N Yes N Yes N		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl Depth (inc Depth (inc	, 2, 4A, and B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir Reduction i Stressed Pla ain in Remain sches):	4B) (C1) along Livir ron (C4) n Tilled So ants (D1) rks)	ng Roots (C ils (C6) (LRR A) Wetla	(3) W Di Si Si Fi Fr Fr	ater-Stained Leaves (B9)       (MLRA 1, 2         4A, and 4B)       rainage Patterns (B10)         ry-Season Water Table (C2)       aturation Visible on Aerial Imagery (C9)         eomorphic Position (D2)       hallow Aquitard (D3)         AC-Neutral Test (D5)       aised Ant Mounds (D6)         aised Hummocks (D7)       Imagery (D7)
Vetland Hyd rimary Indic: Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Vetla Observ urface Wate faturation Pro- ncludes cap	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ir Vegetated Concave ations: r Present? Present? esent? llary fringe)	nagery (B7) Surface (B8) Yes N Yes N Yes N		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl Depth (inc Depth (inc	, 2, 4A, and B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir Reduction i Stressed Pla ain in Remain sches):	4B) (C1) along Livir ron (C4) n Tilled So ants (D1) rks)	ng Roots (C ils (C6) (LRR A) Wetla	(3) W Di Si Si Fi Fr Fr	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Vetland Hyd rimary Indic: Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Vetla Observ urface Wate faturation Pro-	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ir Vegetated Concave ations: r Present? Present? esent? llary fringe)	nagery (B7) Surface (B8) Yes N Yes N Yes N		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl Depth (inc Depth (inc	, 2, 4A, and B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir Reduction i Stressed Pla ain in Remain sches):	4B) (C1) along Livir ron (C4) n Tilled So ants (D1) rks)	ng Roots (C ils (C6) (LRR A) Wetla	(3) W Di Si Si Fi Fr Fr	ater-Stained Leaves (B9)       (MLRA 1, 2         4A, and 4B)       rainage Patterns (B10)         ry-Season Water Table (C2)       aturation Visible on Aerial Imagery (C9)         eomorphic Position (D2)       hallow Aquitard (D3)         AC-Neutral Test (D5)       aised Ant Mounds (D6)         aised Hummocks (D7)       Imagery (D7)
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etland Hyd imary Indic: Surface High Wa Saturatic Water M Sedimer Naturation Dep Algal Ma Naturation Dep Naturatica Naturatica Naturatica Naturatica Naturatica Naturatica Naturatica Naturatica Naturatica Naturatica Naturatica Naturatica Naturatica Naturatica  eld Observ aturation Pro- aturation Pro- aturation Pro- aturation Pro- aturation Rec	rology Indicators: ators (minimum of on Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ir Vegetated Concave ations: r Present? Present? esent? llary fringe)	nagery (B7) Surface (B8) Yes N Yes N Yes N		Water-Stair MLRA 1 Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl Depth (inc Depth (inc	, 2, 4A, and B11) ertebrates (E Sulfide Odor hizospheres f Reduced Ir Reduction i Stressed Pla ain in Remain sches):	4B) (C1) along Livir ron (C4) n Tilled So ants (D1) rks)	ng Roots (C ils (C6) (LRR A) Wetla	(3) W Di Si Si Fi Fr Fr	ater-Stained Leaves (B9)       (MLRA 1, 2         4A, and 4B)       rainage Patterns (B10)         ry-Season Water Table (C2)       aturation Visible on Aerial Imagery (C9)         eomorphic Position (D2)       hallow Aquitard (D3)         AC-Neutral Test (D5)       aised Ant Mounds (D6)         aised Hummocks (D7)       Imager (D7)
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Project/Site: TAL-1923 Cottage Lake		City/County	cottad	ge Lake, King County	Samp	ling Date:	08/19/2022
Applicant/Owner: Aaron and Jas					Samp		TP-C13
Investigator(s): T. Nightengale, Talasaea Consultants		Section, Tov	wnship, Range:		V1.4 SEC24	T26N R6E	
Landform (hillslope, terrace, etc): Slope		Local relief	(concave, conve	ex, none):	none	5	Slope (%): 2
Subregion (LRR): A				Long: -122.09			n: NAD83
Soil Map Unit Name: Everett very gravelly sandy loa	am, 0 to 8 a	and 8 to 15 p	percent slopes	NWI class	ification:	Ν	None
Are climatic / hydrologic conditions on the site typical for this time							
Are Vegetation X , Soil X , or Hydrology s				Normal Circumstances"	present?	Yes X	<no< td=""></no<>
Are Vegetation, Soil, or Hydrologyn	aturally pro	oblematic?	(If ne	eded, explain any answ	ers in Remar	rks.)	
SUMMARY OF FINDINGS - Attach site map showing	ing sam	pling poi	nt locations	, transects, import	ant featu	res, etc.	
Hydrophytic Vegetation Present? Yes No	D (						
Hydric Soil Present? Yes No			s the Sampled	Area			
Wetland Hydrology Present? Yes No			within a Wetlan	d? Yes	1	No	_
Remarks:							
VEGETATION - Use scientific names of plants.							
				Dominance Test w	orksheet:		
	Absolute	Dominan	t Indicator	Number of Dominar	t Species		
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	That Are OBL, FAC	W, or FAC:	3	3 (A)
1. Populus balsamifera ssp. trichocarpa / Black cottonwood	50	Yes	FAC				
2.				Total Number of Dor	minant		
3				Species Across All S	Strata:	5	5 (B)
4							
	50	= Total C	over	Percent of Dominan	•		
Sapling/Shrub Stratum (Plot size: 15 )				That Are OBL, FAC	<i>W</i> , or FAC:	60	0.0 (A/B)
1. Cornus alba / Red osier	55	Yes	FACW	Prevalence Index v	vorksheet:		
2. Lonicera involucrata / Coast twinberry	10	No	FAC	Total % Cover		Multip	ly by:
<ol> <li>Populus balsamifera ssp. trichocarpa / Black cottonwood</li> <li>Rubus spectabilis / Salmon berry, Salmonberry</li> </ol>	<u>5</u>	<u>No</u> No	FAC FAC	OBL species	0	x 1 =	0
			FAC	FACW species	56	x 2 =	112
5	75	= Total C	over	FAC species	166	x 3 =	498
Herb Stratum (Plot size: 5 )				FACU species	32	x 4 =	128
1. Ranunculus repens / Crowfoot, Creeping buttercup	95	Yes	FAC	UPL species	0	x 5 =	0
2. Geum macrophyllum / Large leaved avens, Large-leaved av		No	FAC	Column Totals:	254	(A)	738 (B)
3. Epilobium ciliatum / Slender willow herb	1	No	FACW				
4.				Prevalence In	dex = B/A =	2.9	91
5				Hydrophytic Veget	ation Indica	tors.	
6				1 - Rapid Test f			n
7				X 2 - Dominance		-	
8				X 3 - Prevalence			
9	·			4 - Morphologio		ons¹ (Provide	supporting
10				5 - Wetland No	-	-	
11				Problematic Hy	drophytic Ve	egetation <sup>1</sup> (E	xplain )
	97	= Total C	over				
Woody Vine Stratum (Plot size: 5)	00		FAOL	<sup>1</sup> Indicators of hydric	soil and wet	and hydrolo	ogy must
1. Hedera helix / English ivy	<u>20</u> 10	Yes Yes	FACU FACU	be present, unless o	listurbed or p	problematic.	
2. Hedera helix / English ivy	30	= Total C		l hadaa aha dha			
% Bare Ground in Herb Statum		= 10tal C	over	Hydrophytic			
				Vegetation Present?	Vec	No	
				Flesent?	Yes	No	
Remarks:							

S	0	IL	
J	J		-

(inches)				Redox Feature				
(inches)	Color (moist)	%	Color (mo	oist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-9	10YR 2/2	100					Sandy Loam	Roots
9-21	10YR 2/2						Sandy Loam	
ype: C=Con	centration, D=Depletic	on, RM=Reduce	ed Matrix, C	S=Covered or C	coated Sand G	rains.	<sup>2</sup> Loca	tion: PL=Pore Lining, M=Matrix.
-	ndicators: (Applicable	e to all LRRs, ι		-				s for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)			ndy Redox (S5)				cm Muck (A10)
	ipedon (A2)			ipped Matrix (S6				ed Parent Material (TF2)
Black His	stic (A3)		Loa	amy Mucky Mine	eral (F1) (exce	pt MLRA 1	) Ve	ery Shallow Dark Surface (TF12)
Hydroge	n Sulfide (A4)		Loa	amy Gleyed Mat	rix (F2)		O	ther (Explain in Remarks)
Depleted	Below Dark Surface (	(A11)	De	pleted Matrix (F3	3)			
Thick Da	rk Surface (A12)		Re	dox Dark Surfac	e (F6)		³Indica	tors of hydrophytic vegetation and
Sandy M	ucky Mineral (S1)		De	pleted Dark Surf	ace (F7)		W	etland hydrology must be present,
Sandy G	leyed Matrix (S4)		Re	dox Depressions	s (F8)		ur	less disturbed or problematic.
estrictive L	ayer (if present):							
Туре:	ayer (ii present).							
Depth (ind	ches):						Hydric Soil P	resent? Yes No X
	Y rology Indicators:							
fetland Hyd Timary Indica Surface N High Wat Saturatio	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3)	required; checl	Wa Sal	ater-Stained Leav MLRA 1, 2, 4A, It Crust (B11)	and 4B)	cept	W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10)
<b>Tetland Hyd</b> rimary Indica Surface V High Wat Saturatio Water Ma	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1)	required; checl	Wa Sal Aq	MLRA 1, 2, 4A, It Crust (B11) uatic Invertebrat	and 4B) es (B13)	cept	W Di	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
Vetland Hyd rimary Indica Surface V High Wat Saturatio Water Ma Sedimen	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3)	required; chec	Wa Sa Aq Hy	ater-Stained Leav MLRA 1, 2, 4A, It Crust (B11)	and 4B) es (B13) Ddor (C1)		W D D S	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Iteland Hyd       Surface V       Surface V       High Wa'       Saturatio       Water Ma       Water Ma       Drift Dep	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)	required; chec	Wa Sal Aqi Hyi Ox	tter-Stained Leav MLRA 1, 2, 4A, It Crust (B11) uatic Invertebrat drogen Sulfide C idized Rhizospho	and 4B) es (B13) Odor (C1) eres along Livi			ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
Jetland Hyd       rimary Indica       Surface N       High Wai       Saturatio       Water Ma       Sedimen       Drift Dep       Algal Ma	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	required; chec	Wa Sal Aqi Hyi Ox Pre	ter-Stained Leav MLRA 1, 2, 4A, It Crust (B11) uatic Invertebrat drogen Sulfide C idized Rhizospho esence of Reduc	and 4B) es (B13) Odor (C1) eres along Livi ed Iron (C4)	ng Roots (C		ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3)
Iteliand Hyd       Surface V       High Wat       Saturatio       Water Ma       Sedimen       Drift Dep       Algal Ma       Iron Dep	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	required; checl	Wa Sal Aq Hyı Ox Re	MLRA 1, 2, 4A, MLRA 1, 2, 4A, It Crust (B11) uatic Invertebrate drogen Sulfide C idized Rhizosphe esence of Reduct cent Iron Reduct	and 4B) es (B13) Odor (C1) eres along Livi ed Iron (C4) tion in Tilled Sc	ng Roots (C pils (C6)	(3) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5)
Iteliand Hyd       rimary Indica       Surface V       High Wat       Saturatio       Water Ma       Sedimen       Drift Dep       Algal Ma       Iron Dep       Surface S	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)		Sai Aqi Hyi Ox Pre Re Stu	MLRA 1, 2, 4A, MLRA 1, 2, 4A, It Crust (B11) uatic Invertebrate drogen Sulfide C idized Rhizosphe esence of Reduct cent Iron Reduct unted or Stressed	and 4B) es (B13) Odor (C1) eres along Livi ed Iron (C4) tion in Tilled So d Plants (D1)	ng Roots (C pils (C6)	(3) W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Iteliand Hyd       rimary Indica       Surface N       High Wai       Saturatio       Water Ma       Sedimen       Drift Dep       Algal Ma       Iron Dep       Surface S       Inundatic	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	agery (B7)	Sai Aqi Hyi Ox Pre Re Stu	MLRA 1, 2, 4A, MLRA 1, 2, 4A, It Crust (B11) uatic Invertebrate drogen Sulfide C idized Rhizosphe esence of Reduct cent Iron Reduct	and 4B) es (B13) Odor (C1) eres along Livi ed Iron (C4) tion in Tilled So d Plants (D1)	ng Roots (C pils (C6)	(3) W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5)
rimary Indica Surface V High Wai Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations:	agery (B7) Surface (B8)	Wa Aq Hyq Ox Pre Re Stu Ott	tter-Stained Leav MLRA 1, 2, 4A, It Crust (B11) uatic Invertebrate drogen Sulfide C idized Rhizospho esence of Reduct cent Iron Reduct unted or Stressed her (Explain in R	and 4B) es (B13) Odor (C1) eres along Livi ed Iron (C4) tion in Tilled So d Plants (D1)	ng Roots (C pils (C6)	(3) W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
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Vetland Hyd rimary Indica Surface V High Wai Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic Sparsely	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y	agery (B7) Surface (B8) /es No /es No	Wa Sai Aq Ox Ox Re Stu Ott Ott	ter-Stained Leav <b>MLRA 1, 2, 4A,</b> It Crust (B11) uatic Invertebrati drogen Sulfide C idized Rhizosphe- esence of Reduct cent Iron Reduct unted or Stressed her (Explain in R repth (inches): pepth (inches):	and 4B) es (B13) Odor (C1) eres along Livi ed Iron (C4) tion in Tilled So d Plants (D1)	ng Roots (C bils (C6) (LRR A)	(3) W	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
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Vetland Hyd         rimary Indica         Surface N         High Wat         Saturatio         Water Ma         Sedimen         Drift Dep         Algal Ma         Iron Depi         Surface S         Inundatic         Sparsely         Steld Observ         urface Wate         /ater Table P         aturation Pre-         ncludes capi         escribe Record	rology Indicators: ators (minimum of one Water (A1) ter Table (A2) an (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ima Vegetated Concave S ations: r Present? Y esent? Y llary fringe)	agery (B7) Surface (B8) /es No /es No /es No	Wa Sal Aqi Ox Ox Re Stu Ott Ott D D D D	Atter-Stained Leav MLRA 1, 2, 4A, It Crust (B11) uatic Invertebrate drogen Sulfide C idized Rhizosphe esence of Reduct cent Iron Reduct unted or Stressed her (Explain in R hepth (inches): hepth (inches):	and 4B) es (B13) Odor (C1) eres along Livi æd Iron (C4) tion in Tilled Sc d Plants (D1) emarks)	ng Roots (C bils (C6) (LRR A)		ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)
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Project/Site: T/	AL-1923 Cottage Lake		City/County:	Cottag	ge Lake, King Count	y San	npling Date:	08/19	9/2022
Applicant/Owner:	Aaron and Ja	asmine Mille			State:		npling Point:		-C14
Investigator(s): T. Nigh				nship, Range:		NW1.4 SEC2			
Landform (hillslope, terrace, etc):					ex, none):	none		Slope (%	b): 2
Subregion (LRR):	A	Lat:	47.7586	65517	Long: -12	2.09084683	Datu	m: N	IAD83
Soil Map Unit Name:								None	
Are climatic / hydrologic conditions									
Are Vegetation X, Soil							Yes	X N	0
Are Vegetation , Soil									
SUMMARY OF FINDINGS	- Attach site map show	ving samp	oling point	t locations.	transects, imp	ortant feat	ures, etc.		
Hydrophytic Vegetation Present		• •		<b>,</b>			<u> </u>		
Hydric Soil Present?	Yes N Yes N	lo X		the Sampled	Aroa				
Wetland Hydrology Present?				thin a Wetland		es	No		
weitand Hydrology Present?	163 1		-				No		
Remarks:									
VEGETATION - Use scien	tific names of plants.								
	•				Dominance Tes	st workshoot.			
		Absolute	Dominant	Indiaator	Number of Dom				
Tree Stratum (Plot size:	30			Indicator	That Are OBL, F	•		5	(A)
1. Populus balsamifera ssp. tric		<u>% Cover</u> 50	<u>Species?</u> Yes	Status FAC	mat Are obe, i	AGW, 011AO.		5	(~)
	Chocarpa / Black Collonwood	<u>50</u>	No	FAC FAC	Total Number of	Dominant			
2. <u>Alnus rubra / Red alder</u>		10	INU	FAC	Species Across			6	(B)
3					0000007101000	/ in Oliulu.		0	_ (D)
4		60	= Total Cov		Percent of Domi	inant Species			
Sapling/Shrub Stratum (Plot	sizo: 15 )	00	_ = 10(a) COV	Vei	That Are OBL, F	•	8	3.3	(A/B)
1. Lonicera involucrata / Coast		30	Yes	FAC				0.0	_ (//////
2. Cornus alba / Red osier	twinderry	20	Yes	FAC FACW	Prevalence Ind	ex worksheet			
3. Sorbus sitchensis / Western	mountain ash	10	No	FACWFAC	Total % Co	over of:	Multi	ply by:	
4. Rubus spectabilis / Salmon b		10	No	FAC	OBL species	0	x 1 =	0	
5. Populus balsamifera ssp. tric		5	No	FAC	FACW species	30	x 2 =	60	
3. <u>r opulus balsariirera ssp. in</u>	chocarpa / Black collonwood	75	= Total Cov		FAC species	121	x 3 =	363	
Herb Stratum (Plot size:	5 )				FACU species	22	x 4 =	88	
1. Epilobium ciliatum / Slender		10	Yes	FACW	UPL species	0	x 5 =	0	
2. Ranunculus repens / Crowfo		5	Yes	FAC	Column Totals:	173	(A)	511	(B)
3.			103						
4.					Prevalenc	e Index = B/A	= 2	.95	
т. Б									
6					Hydrophytic Ve				
7.						est for Hydropl		on	
8.					X 2 - Domina				
-					X 3 - Prevale				
10.						logical Adapta		e suppor	ting
10						I Non-Vascular			
····		15	= Total Cov	/or	Problemation	c Hydrophytic '	Vegetation <sup>1</sup> (E	Explain)	
Woody Vine Stratum (Plot siz	ze: <u> </u>	10	_ 10101 001						
1. Hedera helix / English ivy		20	Yes	FACU	<sup>1</sup> Indicators of hy		-		t
2. Rubus laciniatus / Cut leaved	d blackborn, Cutlaaf blackborn		No	FACU	be present, unle	ess disturbed o	r problematic	•	
2. <u>Rubus laciniatus / Cut leaved</u>	u blackberry, Cullear blackberry	22	= Total Cov		L hudina in huittia				
% Bare Ground in Herb Statum					Hydrophytic				
					Vegetation		N -		
					Present?	Yes	No		
Remarks:					·				
. tername.									
1									

S	0	11	L

Profile Desc Depth	ription: (Describe to t Matrix	he depth need		the indicator of the indicator of the indicator of the second second second second second second second second s	or confirm	the abser	nce of indicator	rs.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/1	100					Sandy Loam	Roots
6-14							Sandy Loam	
14-18	10YR 3/6						Coarse Sand	
<sup>1</sup> Type: C=Co	ncentration, D=Depletic	n, RM=Reduc	ed Matrix, CS=Cov	vered or Coate	d Sand Gra	ains.	²Loca	ation: PL=Pore Lining, M=Matrix.
	ndicators: (Applicable							s for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy Re	edox (S5)			2	cm Muck (A10)
Histic E	pipedon (A2)			Matrix (S6)				ed Parent Material (TF2)
	istic (A3)		Loamy M	ucky Mineral (F	F1) <b>(exce</b> p	ot MLRA 1	)	ery Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy Gl	eyed Matrix (F	2)		0	ther (Explain in Remarks)
Deplete	d Below Dark Surface (	A11)	Depleted	Matrix (F3)				
Thick D	ark Surface (A12)		Redox Da	ark Surface (F6	3)		³Indica	tors of hydrophytic vegetation and
Sandy N	/lucky Mineral (S1)		Depleted	Dark Surface (	(F7)		W	etland hydrology must be present,
Sandy C	Bleyed Matrix (S4)		Redox De	epressions (F8	)		ur	nless disturbed or problematic.
	.ayer (if present):							
Type:	ahaa).						Under o 11 -	
Depth (ir	icnes):						Hydric Soil P	Present? Yes <u>No X</u>
Primary Indic Surface	drology Indicators: ators (minimum of one Water (A1) ater Table (A2)	required; chec	Water-Sta	ained Leaves () <b>1, 2, 4A, and</b>	, ,	ept	W	dary Indicators (minimum of two required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Saturati	. ,		Salt Crust	t (B11) ivertebrates (B	140)			rainage Patterns (B10)
	larks (B1) nt Deposits (B2)		·	Sulfide Odor	,			ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
	posits (B3)			Rhizospheres	. ,	a Poote (C		eomorphic Position (D2)
	at or Crust (B4)			of Reduced In		iy Rools (C		hallow Aquitard (D3)
	posits (B5)			on Reduction in		ils (C6)		AC-Neutral Test (D5)
	Soil Cracks (B6)			r Stressed Pla				aised Ant Mounds (D6) (LRR A)
	on Visible on Aerial Ima	agery (B7)		plain in Remar		(,		rost-Heave Hummocks (D7)
	y Vegetated Concave S	0,0,0						
Field Observ								
Surface Wate		es <u>No</u> No	· ·	· · · · · · · · · · · · · · · · · · ·				
Water Table		es <u>No</u> No	· ·	· · · · · · · · · · · · · · · · · · ·		Matia	nd Hudrology F	Present? Vos No Y
Saturation Pr (includes cap		es No	X Depth (i			vvetia	nd Hydrology F	Present? Yes <u>No X</u>
Describe Re	corded Data (stream ga	uge, monitorin	g well, aerial photo	os, previous ins	spections),	if available	2:	
Remarks:								
Komuno.								

Project/Site: TAL	1923 Cottage Lake		Citv/Countv:	Cottao	je Lake, King Coι	untv S	ampling Date:	08/19/2022
Applicant/Owner:								
Investigator(s): T. Nighte								
Landform (hillslope, terrace, etc):								
Subregion (LRR):	A	Lat:			Long:			im: NAD83
Soil Map Unit Name:								None
Are climatic / hydrologic conditions								
Are Vegetation, Soil	, or Hydrology si	gnificantly	disturbed?	Are "I	Normal Circumsta	ances" present	? Yes	X No
Are Vegetation, Soil								
SUMMARY OF FINDINGS -	Attach site map showi	ng samp	oling poin	t locations,	transects, in	nportant fe	atures, etc.	
Hydrophytic Vegetation Present?					•	•	·	
Hydric Soil Present?	Yes No	Х		the Sampled	Area			
Wetland Hydrology Present?				ithin a Wetlan		Yes	No X	
			-		-			<u> </u>
Remarks:								
	fic nomes of plants							
VEGETATION - Use scienti	ne names of plants.							
						Test workshee		
		Absolute	Dominant	Indicator		ominant Specie		
Tree Stratum (Plot size:		% Cover		Status	That Are OBL	., FACW, or FA	.C:	5 (A)
1. Malus fusca / Oregon crab app		40	Yes	FACW				
2. Populus balsamifera ssp. trich	ocarpa / Black cottonwood	30	Yes	FAC	Total Number			
3. Alnus rubra / Red alder		10	No	FAC	Species Acro	ss All Strata:		7 (B)
4								
		80	= Total Co	ver		minant Specie		
Sapling/Shrub Stratum (Plot si	ze: <u>15</u> )				That Are OBL	., FACW, or FA	.C: /	'1.4 (A/B)
1. Acer circinatum / Vine maple		65	Yes	FAC	Prevalence l	ndex workshe	et:	
2. <u>Rubus spectabilis / Salmon be</u>	rry, Salmonberry	40	Yes	FAC		Cover of:		ply by:
3. <u>Cornus alba / Red osier</u>		10	No	FACW	OBL species		x 1 =	0
4. Vaccinium ovatum / Evergreer	1 nuckleberry, California nuckle	2	No	FACU	FACW specie		x 2 =	100
5		447			FAC species		x 3 =	450
Llark Strature (Distaire)	F \	117	= Total Co	ver	FACU species	s 109	x 4 =	436
Herb Stratum (Plot size: 1. Polystichum munitum / Wester		15	Vee	FACU	UPL species	0	x 5 =	0
		<u>15</u> 5	Yes Yes	FACU FAC	Column Total	s: 309	(A)	986 (B)
2. <u>Athyrium filix-femina / Commo</u>		5	165	FAC				
3					Prevale	ence Index = B/	'A = 3	8.19
6.						Vegetation In		
7.							ophytic Vegetat	ion
8.						nance Test is >		
9.						alence Index ≤3		
10.					·	•	tations <sup>1</sup> (Provid	le supporting
11.						and Non-Vascu		<b>-</b>
		20	= Total Co	ver	Problema	atic Hydrophyti	c Vegetation <sup>1</sup> (	Explain)
Woody Vine Stratum (Plot size	e: <u> </u>		_		11	lessed of a second second		1
1. Hedera helix / English ivy	/	90	Yes	FACU		•	wetland hydro	
2. Rubus ursinus / California blad	ckberry	2	No	FACU	be present, u	niess disturbed	l or problematio	
		92	= Total Co	ver	Hydrophytic			
% Bare Ground in Herb Statum			_		Vegetation			
					Present?	Yes	X No	
						-		
Remarks:								
Lots of downed brus	invorancees							

S	0	IL	
J	J		-

	Matrix		Rede	ox Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 2/1	100					Sandy Loam	Roots
12-21	10YR 2/2						Sandy Loam	
ype: C=Conc	centration, D=Depletion	n, RM=Reduced	d Matrix, CS=Cov	vered or Coate	ed Sand Gra	ins.	²Loca	ation: PL=Pore Lining, M=Matrix.
-	dicators: (Applicable	to all LRRs, u	nless otherwise	noted.)				s for Problematic Hydric Soils <sup>3</sup> :
Histosol (	A1)		Sandy Re	dox (S5)			2	cm Muck (A10)
Histic Epi	pedon (A2)		Stripped I	Matrix (S6)			R	ed Parent Material (TF2)
Black Hist	tic (A3)		Loamy M	ucky Mineral (	F1) (except	t MLRA 1)	) <u> </u>	ery Shallow Dark Surface (TF12)
Hydrogen	Sulfide (A4)		Loamy G	eyed Matrix (F	=2)		0	ther (Explain in Remarks)
Depleted	Below Dark Surface (A	.11)	Depleted	Matrix (F3)				
Thick Dar	k Surface (A12)		Redox Da	ark Surface (Fe	6)		³Indica	tors of hydrophytic vegetation and
Sandy Mu	ucky Mineral (S1)		Depleted	Dark Surface	(F7)		w	etland hydrology must be present,
	eyed Matrix (S4)			pressions (F8				nless disturbed or problematic.
estrictive La	ver (if present):							
Type:								
Depth (incl	hes):						Hydric Soil F	resent? Yes No X
-	ology Indicators: tors (minimum of one re	equired; check	all that apply)					
Surface V							Secon	dary Indicators (minimum of two require
	Vater (A1)		Water-Sta	ained Leaves (	(B9) <b>(exce</b>	pt		
High Wate	vater (A1) er Table (A2)			ained Leaves ( <b>1, 2, 4A, and</b>	. , .	pt		
High Wate Saturatior	er Table (A2)			1, 2, 4A, and	. , .	pt	W	/ater-Stained Leaves (B9) (MLRA 1, 2
-	er Table (A2) n (A3)		MLRA Salt Crus	1, 2, 4A, and	I 4B)	pt	W D	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
Saturatior Water Ma	er Table (A2) n (A3)		MLRA Salt Crus Aquatic Ir	<b>1, 2, 4A, and</b> t (B11)	313)	pt	W D	<ul> <li>dater-Stained Leaves (B9) (MLRA 1, 2</li> <li>4A, and 4B)</li> <li>rainage Patterns (B10)</li> <li>ry-Season Water Table (C2)</li> </ul>
Saturatior Water Ma	er Table (A2) n (A3) rks (B1) Deposits (B2)		MLRA Salt Crus Aquatic Ir Hydroger	<b>1, 2, 4A, and</b> t (B11) nvertebrates (E sulfide Odor	B13) (C1)		W D S	<ul> <li>vater-Stained Leaves (B9) (MLRA 1, 2</li> <li>4A, and 4B)</li> <li>rainage Patterns (B10)</li> <li>ry-Season Water Table (C2)</li> <li>aturation Visible on Aerial Imagery (C9)</li> </ul>
Saturatior Water Ma Sediment Drift Depo	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3)		MLRA Salt Crus Aquatic Ir Hydroger Oxidized	<b>1, 2, 4A, and</b> t (B11) nvertebrates (E Sulfide Odor Rhizospheres	1 <b>4B)</b> 313) (C1) along Living		W D D S 3) G	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2)
Saturatior Water Ma Sediment Drift Depc	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)		MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence	<b>1, 2, 4A, and</b> t (B11) overtebrates (E Sulfide Odor Rhizospheres of Reduced Ir	1 <b>4B)</b> 313) (C1) along Living ron (C4)	, Roots (C	M D S S S	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3)
Saturatior Water Ma Sediment Drift Depc Algal Mat Iron Depo	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) ssits (B5)		MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	<b>1, 2, 4A, and</b> t (B11) overtebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction i	I <b>4B)</b> (C1) along Living ron (C4) in Tilled Soils	, Roots (C s (C6)	M D S S S F	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5)
Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) soil Cracks (B6)	nery (B7)	MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted o	<b>1, 2, 4A, and</b> t (B11) wertebrates (E sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla	A <b>4B)</b> (C1) along Living ron (C4) in Tilled Soil: ants (D1) (	, Roots (C s (C6)	3)R	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Saturatior Water Ma Sediment Drift Depc Algal Mat Iron Depo Surface S Inundation	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) ssits (B5)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted o	<b>1, 2, 4A, and</b> t (B11) overtebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction i	A <b>4B)</b> (C1) along Living ron (C4) in Tilled Soil: ants (D1) (	, Roots (C s (C6)	3)R	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5)
Saturatior Water Ma Sediment Drift Depc Algal Mat Iron Depo Surface S Inundatior Sparsely	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) soil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted o	<b>1, 2, 4A, and</b> t (B11) wertebrates (E sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla	A <b>4B)</b> (C1) along Living ron (C4) in Tilled Soil: ants (D1) (	, Roots (C s (C6)	3)R	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) soil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su	Inface (B8)	MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted o Other (Ex	<b>1, 2, 4A, and</b> t (B11) wertebrates (E sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla	A <b>4B)</b> (C1) along Living ron (C4) in Tilled Soil: ants (D1) (	, Roots (C s (C6)	3)R	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) soil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su titions: Present? Yes	s No _	MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted o Other (Ex X Depth (i	<b>1, 2, 4A, and</b> t (B11) overtebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema	<b>4B)</b> 313) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	, Roots (C s (C6)	3)R	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su ttions: Present? Yes	s No _	MLRA     Salt Crus     Aquatic Ir     Hydroger     Oxidized     Presence     Recent Ir     Stunted o     Other (Ex     X Depth (i     X Depth (i	A 1, 2, 4A, and t (B11) avertebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema	<b>4B)</b> 313) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	, Roots (C s (C6) <b>LRR A)</b>	3)R	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Saturatior Water Ma Sediment Drift Depc Algal Mat Iron Depo Surface S Inundatior Sparsely eld Observa urface Water fater Table Pre-	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Goil Cracks (B6) n Visible on Aerial Image Vegetated Concave Su ttions: Present? Yes sent? Yes	s No _ s No _	MLRA     Salt Crus     Aquatic Ir     Hydroger     Oxidized     Presence     Recent Irr     Stunted o     Other (Ex     X Depth (i     X Depth (i	A 1, 2, 4A, and t (B11) avertebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema	<b>4B)</b> 313) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	, Roots (C s (C6) <b>LRR A)</b>	3) R G S S F F	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely <b>ield Observa</b> urface Water /ater Table Pr aturation Pres	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Goil Cracks (B6) n Visible on Aerial Image Vegetated Concave Su ttions: Present? Yes sent? Yes	s No _ s No _ s No _ s No _	MLRA         Salt Crus         Aquatic Ir         Hydroger         Oxidized         Presence         Recent Irr         Stunted o         Other (Ex         X         Depth (i         X       Depth (i         X       Depth (i	A 1, 2, 4A, and t (B11) overtebrates (E 0 Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema nches): nches):	A 4B) B13) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	Roots (C s (C6) LRR A)	() () () () () () () () () ()	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely ield Observa urface Water /ater Table Pr aturation Pres	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Goil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su ttions: Present? Yes sent? Yes lary fringe)	s No _ s No _ s No _ s No _	MLRA         Salt Crus         Aquatic Ir         Hydroger         Oxidized         Presence         Recent Irr         Stunted o         Other (Ex         X         Depth (i         X       Depth (i         X       Depth (i	A 1, 2, 4A, and t (B11) overtebrates (E 0 Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema nches): nches):	A 4B) B13) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	Roots (C s (C6) LRR A)	() () () () () () () () () ()	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely ield Observa urface Water /ater Table Pr aturation Pres	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Goil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su ttions: Present? Yes sent? Yes lary fringe)	s No _ s No _ s No _ s No _	MLRA         Salt Crus         Aquatic Ir         Hydroger         Oxidized         Presence         Recent Irr         Stunted o         Other (Ex         X         Depth (i         X       Depth (i         X       Depth (i	A 1, 2, 4A, and t (B11) overtebrates (E 0 Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema nches): nches):	A 4B) B13) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	Roots (C s (C6) LRR A)	() () () () () () () () () ()	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Saturation Water Ma Sediment Drift Depc Algal Mat Iron Depo Surface S Inundation Sparsely <b>eld Observa</b> Inface Water ater Table Pr aturation Presence Secribe Reco	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Goil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su ttions: Present? Yes sent? Yes lary fringe)	s No _ s No _ s No _ s No _	MLRA         Salt Crus         Aquatic Ir         Hydroger         Oxidized         Presence         Recent Irr         Stunted o         Other (Ex         X         Depth (i         X       Depth (i         X       Depth (i	A 1, 2, 4A, and t (B11) overtebrates (E 0 Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema nches): nches):	A 4B) B13) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	Roots (C s (C6) LRR A)	() () () () () () () () () ()	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Saturation Water Ma Sediment Drift Depc Algal Mat Iron Depo Surface S Inundation Sparsely Mathematics Ind Observa Inface Water ater Table Pr aturation Pres Includes capill Describe Reco	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Goil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su ttions: Present? Yes sent? Yes lary fringe)	s No _ s No _ s No _ s No _	MLRA         Salt Crus         Aquatic Ir         Hydroger         Oxidized         Presence         Recent Irr         Stunted o         Other (Ex         X         Depth (i         X       Depth (i         X       Depth (i	A 1, 2, 4A, and t (B11) overtebrates (E 0 Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema nches): nches):	A 4B) B13) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	Roots (C s (C6) LRR A)	() () () () () () () () () ()	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V reld Observa urface Water fater Table Pr aturation Presencludes capill escribe Reco	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Goil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su ttions: Present? Yes sent? Yes lary fringe)	s No _ s No _ s No _ s No _	MLRA         Salt Crus         Aquatic Ir         Hydroger         Oxidized         Presence         Recent Irr         Stunted o         Other (Ex         X         Depth (i         X       Depth (i         X       Depth (i	A 1, 2, 4A, and t (B11) overtebrates (E 0 Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema nches): nches):	A 4B) B13) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	Roots (C s (C6) LRR A)	() () () () () () () () () ()	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Saturatior Water Ma Sediment Drift Depc Algal Mat Iron Depo Surface S Inundatior Sparsely eld Observa Inface Water ater Table Pr turation Pres cludes capill	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Goil Cracks (B6) n Visible on Aerial Imag Vegetated Concave Su ttions: Present? Yes sent? Yes lary fringe)	s No _ s No _ s No _ s No _	MLRA         Salt Crus         Aquatic Ir         Hydroger         Oxidized         Presence         Recent Irr         Stunted o         Other (Ex         X         Depth (i         X       Depth (i         X       Depth (i	A 1, 2, 4A, and t (B11) overtebrates (E 0 Sulfide Odor Rhizospheres of Reduced Ir on Reduction i r Stressed Pla plain in Rema nches): nches):	A 4B) B13) (C1) along Living ron (C4) in Tilled Soil: ants (D1) ( rks)	Roots (C s (C6) LRR A)	() () () () () () () () () ()	Ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)

Project/Site: TAL-1923 Cottage Lake		Citv/Countv:	Cottag	e Lake, King Coun	itv Sar	npling Date:	08/19/202
Applicant/Owner: Aaron and J	lasmine Mille	r		State:	WA Sar	npling Point:	
Investigator(s): T. Nightengale, Talasaea Consultant							
Landform (hillslope, terrace, etc): Slope							
Subregion (LRR): A	Lat:			Long:			m: NAD8
Soil Map Unit Name: Everett very gravelly sandy I							None
Are climatic / hydrologic conditions on the site typical for this tim							
Are Vegetation, Soil, or Hydrology						Vec	X No
Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology		blematic?	(If new		newers in Per		<u> </u>
	-						
SUMMARY OF FINDINGS - Attach site map show			it locations,	transects, im	portant feat	ures, etc.	
Hydrophytic Vegetation Present? Yes X	No						
Hydric Soil Present? Yes I	No X	Is	s the Sampled	Area			
Wetland Hydrology Present? Yes I	No X	w	ithin a Wetland	<b>1?</b> Y	/es	No X	
Remarks: VEGETATION - Use scientific names of plants.							
VEGETATION - Use scientific fiames of plants.							
				Dominance Te			
	Absolute	Dominant	Indicator	Number of Don	ninant Species		
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	That Are OBL,	FACW, or FAC	: <u> </u>	3 (A)
1. Populus balsamifera ssp. trichocarpa / Black cottonwood	65	Yes	FAC				
2. Alnus rubra / Red alder	5	No	FAC	Total Number of	of Dominant		
3				Species Across	s All Strata:		5 (B)
4							
	70	= Total Co	over	Percent of Dom	ninant Species		
Sapling/Shrub Stratum (Plot size: 15 )		_		That Are OBL,	FACW, or FAC	: 6	0.0 (A/E
1. Rubus spectabilis / Salmon berry, Salmonberry	35	Yes	FAC				
2. Cornus alba / Red osier	20	Yes	FACW	Prevalence Inc		:	
3. Corylus cornuta / Beaked hazelnut	20	Yes	FACU	Total % C			ply by:
4. Acer circinatum / Vine maple	10	No	FAC	OBL species	0	x 1 =	0
5. Spiraea douglasii / Douglas spiraea	5	No	FACW	FACW species	25	x 2 =	50
· · · · · · · · · · · · · · · · · · ·	90	= Total Co	over	FAC species	115	x 3 =	345
Herb Stratum (Plot size: 5)		_		FACU species	115	_ x 4 =	460
1.	5			UPL species	5	x 5 =	25
2.				Column Totals:	260	(A)	880 (I
3.							
4				Prevalen	ce Index = B/A	=3	.38
5							
6.				Hydrophytic V	•		
7					Test for Hydrop		ion
8.				X 2 - Domina			
0					ence Index ≤3.0		
9 10.					ological Adapta	-	e supporting
11.					d Non-Vascula		
· · · · · · · · · · · · · · · · · · ·	5	- Total Ca		Problemat	ic Hydrophytic	Vegetation <sup>1</sup> (	Explain )
Weady Vina Stratum (Diataiza: 5)		_ = Total Co	JVEI				
Woody Vine Stratum (Plot size: 5)	05	Vaa	FACU	<sup>1</sup> Indicators of h	ydric soil and w	etland hydro	logy must
1. <u>Hedera helix / English ivy</u>	95	Yes	FACU	be present, unl	ess disturbed c	or problemation	
2							
	95	= Total Co	over	Hydrophytic			
% Bare Ground in Herb Statum				Vegetation Present?	Yes	X No	
Remarks:							
Lots of downed brush/branches							

S	0	IL	
J	J		-

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric         Histosol (A1)       Stripped Matrix (S6)       2 cm Muck (A10)         Black Histic Call       Loamy Mucky Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (A11)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)       Other (Explain in Remarks)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       ************************************	Depth	ption: (Describe to Matrix	-		dox Features				
13-19       10/17 3/6       Cree Sindy Lm         Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.       *Location: PL=Pore Lining, Methods (S5)         Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.       *Location: PL=Pore Lining, Methods (S5)         Histos (14)       Sandy Redox (S5)       Indicators (rop Problematic Hydro         Histos (14)       Sandy Redox (S5)       2 om Muck (A10)         Histos (14)       Learny Glayed Matrix (F2)       Other (Explain Remarks)         Depleted Betw Dark Surface (A11)       Depleted Dark Surface (F7)       Verter Stallow Dark Surface (A11)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       Verter Stallow Dark Surface (A12)         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)       Verter Stallow Dark Surface (F7)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       Verter Stallow Dark Surface (F7)         Batrictive Layer (If present):       Type:       Verter (If present):       Verter Stallow Carcer (F8)         YPROLOGY       Water Stallow Carcer (F1)       Water Stallow Carcer (F1)       Water Stallow Carcer (F1)         Saturation (A3)       Saturation (C1)       Saturation (C1)       Saturation Visite Carcer (F1)         Saturation (A3)       Saturation (C1)       Saturation Visite Carcer (F1)       Second	(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.       *Location: PL=Pare Lining, M=         Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric         Histosci (A1)       Sandy Redox (S3)       Indicators for Problematic Hydric         Black Histic (A3)       Loarny Gleyed Matrix (F3)       Peel Parent Haterial (TF2)         Brack Histic (A3)       Loarny Gleyed Matrix (F3)       "Indicators for Problematic Hydric         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       "Indicators of hydrophydic vegeta         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       "Indicators of hydrophydic vegeta         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       "Indicators of hydrophydic vegeta         Sandy Mucky Mineral (S1)       Depleted Data Surface (F6)       "Indicators of hydrophydic vegeta         Sandy Mucky Mineral (S1)       Redox Depressions (F8)       unless disturbed or problem         Restrictive Layer (If present):       Type:       Muck (A10)       Secondary Indicators:         Surface Kirks (B1)       Aquadic Inmetherates (B13)       Water Table (C3)       Water Table (C3)       Secondary Indicators (B10)         Surface Kirks (B1)       Aquadi Inmetherates (B13)       Dry-Season Water Table (C3)       Secondary Indicators (G8)       Secontonary Longan Sulface C4(C1)       Se	0-13	10YR 2/2	100					Sandy Loam	Roots
Aydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric         Histosol (A1)       Sandy Redox (S5)       Red Parent Material (TF2)       Red Parent Material (TF2)         Black Histos (A3)       Loamy Wlucky Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (A10)       Other (Explain in Remarks)         Depleted Bow Dark Surface (A11)       Depleted Matrix (F2)       Other (Explain in Remarks)         Sandy Gleyd Matrix (S4)       Redox Dark Surface (F6)       "indicators of hydrophytic vegeta         Sandy Gleyd Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem         Retrictive Layer (If present):       Type:	13-19	10YR 3/6						Crse Sndy Lm	
Yeric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators (A)       Indicators for Problematic Hydric         Histosol (A1)       Sandy Redox (S5)       Red Parent Material (TF2)       Red Parent Material (TF2)         Black Histo (A3)       Loamy Mudxy Mineral (F1) (except MLRA 1)       Very Shalow Dark Surface (A10)       Period Develow Dark Surface (A11)       Depleted Dark Surface (F6)       "Indicators of hydrophytic vegeta         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be       unless disturbed or problem         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)       wetland hydrology must be       unless disturbed or problem         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem       Wetland hydrology must be         Vertand Hydrology Indicators:       "Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of marks (B1)       Water-Stained Leaves (B9)       Water-Stained Leaves (B9)       A, and 4B)         Sutrace Water (A1)       Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Darainge Patterns (B10)       Drainage Patterns (B10) <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
Yeric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators (A)       Indicators for Problematic Hydric         Histosol (A1)       Sandy Redox (S5)       Red Parent Material (TF2)       Red Parent Material (TF2)         Black Histo (A3)       Loamy Mudxy Mineral (F1) (except MLRA 1)       Very Shalow Dark Surface (A10)       Period Develow Dark Surface (A11)       Depleted Dark Surface (F6)       "Indicators of hydrophytic vegeta         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be       unless disturbed or problem         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)       wetland hydrology must be       unless disturbed or problem         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem       Wetland hydrology must be         Vertand Hydrology Indicators:       "Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of marks (B1)       Water-Stained Leaves (B9)       Water-Stained Leaves (B9)       A, and 4B)         Sutrace Water (A1)       Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Darainge Patterns (B10)       Drainage Patterns (B10) <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
Yeric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators (A)       Indicators for Problematic Hydric         Histosol (A1)       Sandy Redox (S5)       Red Parent Material (TF2)       Red Parent Material (TF2)         Black Histo (A3)       Loamy Mudxy Mineral (F1) (except MLRA 1)       Very Shalow Dark Surface (A10)       Period Develow Dark Surface (A11)       Depleted Dark Surface (F6)       "Indicators of hydrophytic vegeta         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be       unless disturbed or problem         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)       wetland hydrology must be       unless disturbed or problem         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem       Wetland hydrology must be         Vertand Hydrology Indicators:       "Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of marks (B1)       Water-Stained Leaves (B9)       Water-Stained Leaves (B9)       A, and 4B)         Sutrace Water (A1)       Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Darainge Patterns (B10)       Drainage Patterns (B10) <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
Yeric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators (A)       Indicators for Problematic Hydric         Histosol (A1)       Sandy Redox (S5)       Red Parent Material (TF2)       Red Parent Material (TF2)         Black Histo (A3)       Loamy Mudxy Mineral (F1) (except MLRA 1)       Very Shalow Dark Surface (A10)       Period Develow Dark Surface (A11)       Depleted Dark Surface (F6)       "Indicators of hydrophytic vegeta         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be       unless disturbed or problem         Sandy Gleyed Matrix (S4)       Redox Dark Surface (F7)       wetland hydrology must be       unless disturbed or problem         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem       Wetland hydrology must be         Vertand Hydrology Indicators:       "Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of marks (B1)       Water-Stained Leaves (B9)       Water-Stained Leaves (B9)       A, and 4B)         Sutrace Water (A1)       Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Darainge Patterns (B10)       Drainage Patterns (B10) <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
York: Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric         Histosol (A1)       Sandy Redox (S5)       Red Parent Material (TF2)       Red Parent Material (TF2)         Black Histo (A3)       Loarny Wudky Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (A10)       Other (Explain in Remarks)         Depleted Dark Surface (A12)       Redox Dark Surface (F6)       "Indicators of hydrophytic vegeta         Sandy Cleved Matrix (S4)       Depleted Dark Surface (F7)       wetland hydrology must be         Sandy Cleved Matrix (S4)       Redox Dark Surface (F7)       wetland hydrology must be         Sandy Cleved Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem         Retrictive Layer (If present):       Type:       Hydric Soil Present? Yes         Depth (inches):       MLRA 1, 2, 4A, and 4B)       4A, and 4B)         Surface Water (A11)       Water-Stained Leaves (B9)       Water-Stained Leaves (B9)         Water Marks (B1)       Aquatic Invertebrates (B13)       Drainage Patterns (B10)         Surface Vater (A1)       Water-Stained Leaves (B13)       Drainage Patterns (B10)         Surface Vater (B1)       Aquatic Invertebrates (B13)       Drainage Patterns (B10)         Surface Vater Present?       Yes       No X									
Histosol (A1)	Type: C=Cond	centration, D=Deple	tion, RM=Reduc	ced Matrix, CS=C	overed or Coat	ed Sand Gra	ins.	²Loca	ation: PL=Pore Lining, M=Matrix.
Histosol (A1)	Hydric Soil In	dicators: (Applica	ble to all LRRs,	unless otherwis	e noted.)			Indicators	s for Problematic Hydric Soils <sup>3</sup> :
Histic Epipedon (A2)       Stripped Matrix (S6)       Red Parent Material (TF2)         Biack Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (A11)         Depleted Below Dark Surface (A12)       Redox Dark Surface (F6)       "Indicators of hydrophytic vegeta         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrophytic vegeta         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrophytic vegeta         Redrox Depressions (F8)       unless disturbed or problem         Retrictive Layer (If present):       Type:         Type:       Depleted Attrix (F2)         Bestrictive Layer (If present):       Yes         Type:       Depleted Staturbed or problem         Surface Water (A1)       Water-Stained Leaves (B9) (except         High Water Table (A2)       Matr 1, 2, 4A, and 4B)         Staturation (A3)       Satt Crust (B11)         Staturation (A3)       Satt Crust (B13)         Staturation (A3)       Saturation (C1)         Staturation (K8)       Presence of Reduced fron (C1)         Staturation (K8)       Receent Ion Reduction in Tiled Solis (C6)         Staturation Visible on Aerial Imagery (B7)       Staturation (Sible on Aerial Imagery (B7)         Staturation K8(B6)       Stunted or Stressed Plants (D1) (LRR	-				-				-
Black Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (A11)         Depleted Bow Dark Surface (A12)       Redox Dark Surface (F6)       "Indicators of hydrophytic vegetal wetland hydrology must be unless disturbed or problem (E4)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       "Indicators of hydrophytic vegetal wetland hydrology must be unless disturbed or problem (E4)         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem (F8)         Type:	Histic Epi	pedon (A2)		Strippe	d Matrix (S6)				
Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       ************************************				Loamy	Mucky Mineral	(F1) <b>(excep</b>	t MLRA 1)		ery Shallow Dark Surface (TF12)
Thick Dark Surface (A12)       Redox Dark Surface (F6)       *Indicators of hydrophylic vegeta         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem         Exetrictive Layer (if present):       Type:       Hydric Soil Present? Yes	Hydrogen	Sulfide (A4)							
Thick Dark Surface (A12)       Redox Dark Surface (F6)       *Indicators of hydrophylic vegeta         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem         Exetrictive Layer (if present):       Type:       Hydric Soil Present? Yes	Depleted	Below Dark Surface	e (A11)	Deplete	d Matrix (F3)				
Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       wetland hydrology must be unless disturbed or problem         Sandy Gleyed Matrix (S4)       Redox Depressions (F8)       unless disturbed or problem         Type:						-6)		<sup>3</sup> Indicat	tors of hydrophytic vegetation and
									etland hydrology must be present,
Listrictive Layer (if present):       Type:         Depth (inches):									nless disturbed or problematic.
Type:									
Depth (inches):       Hydric Soil Present?       Yes         temarks:       Image: Secondary Indicators:       Image: Surface Water (A1)       Secondary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of one required; check all that apply)       Mater Stained Leaves (B9)       Water-Stained Leaves (B9)       Water-Stained Leaves (B9)       Water-Stained Leaves (B9)       Mater-Stained Leaves (B9)       Mater-Stained Leaves (B9)       A, and 4B)       Drainage Patterns (B10)       Dry-Season Water Table (C)       Saturation Visible on Aerial B(0)       Dry-Season Water Table (C)       Saturation Visible on Aerial Inagery (B7)       Saturation or Crust (B4)       Presence of Reduced Iron (C4)       Saturation (D3)       Saturation Present?       Yes       Mater Satur		., ., prosentj.							
DROLOGY         Vetland Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum)         Sufface Water (A1)       Water-Stained Leaves (B9)       Water-Stained Leaves (B9)         High Water Table (A2)       MIRA 1, 2, 4A, and 4B)       Water-Stained Leaves (B10)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       minutation Visible on Aerial Imagery (B7)       Vestar Able Present?         Indicators Present?       Yes       No       Depth (inches):       minutation Visible on Aerial Imagery		hes):						Hydric Soil P	resent? Yes No
Wetland Hydrology Indicators:       Secondary Indicators:         trimary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum	emarks:								
Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum         Surface Water (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9)         High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       Water-Stained Leaves (B9)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation (X3)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       Wetland Hydrology Present? Yes       Yes         No       X       Depth (inches):       Wetland Hydrology Present? Yes       Yes	/DROLOG	Y							
Surface Water (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9)         High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       4A, and 4B)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       Depth (inches):	Netland Hydr	ology Indicators:							
High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       4A, and 4B)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       No       X       Depth (inches):       Wetland Hydrology Present? Yes       Yes         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present? Yes	Primary Indica	tors (minimum of or	ne required; che	ck all that apply)				Second	dary Indicators (minimum of two requi
Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       No       Z       Depth (inches):       Wetland Hydrology Present? Yes       Yes         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present? Yes       Yes	Surface V	Vater (A1)		Water-S	Stained Leaves	(B9) (exce	pt	W	ater-Stained Leaves (B9) (MLRA 1
Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       Wetland Hydrology Present?       Yes         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes	High Wate	er Table (A2)		MLF	RA 1, 2, 4A, and	d 4B)			4A, and 4B)
Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       Wetland Hydrology Present?       Yes         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes	-							Dr	
Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       No       Z       Depth (inches):				Aquatic	Invertebrates (	B13)			
Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       Depth (inches):									aturation Visible on Aerial Imagery (C
Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       Vestar Concave Surface (B8)       Vestar Concave Surface (B8)         Wetland Hydrology Present?       Yes       No       X       Depth (inches):         Saturation Present?       Yes       No       X       Depth (inches):         includes capillary fringe)       Yes       No       X       Depth (inches):         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Vestinal Blace						. ,	Roots (C		6,00
Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6)       (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes         Vater Table Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes         includes capillary fringe)       No       X       Depth (inches):       Wetland Hydrology Present?       Yes         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Sections in Sections), if available:					-		,	·	
Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6) (I         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D         Sparsely Vegetated Concave Surface (B8)       Stunted or Stressed Plants (D1)       (LRR A)       Raised Ant Mounds (D6) (I         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):       Vater Table Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       Yes<							s (C6)		
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D   Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8)   Field Observations: Surface Water Present?  YesNo _ XDepth (inches):No _ XNepth (inches):NO _ XNepth (inches):NO _ XNO _		. ,							
Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?       Yes         No       X       Depth (inches):         Vater Table Present?       Yes         No       X       Depth (inches):         Saturation Present?       Yes       No         Saturation Present?       Yes       No         No       X       Depth (inches):       Wetland Hydrology Present?         Yes       No       X       Depth (inches):       Wetland Hydrology Present?         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Yes			magery (B7)						
water Present?       Yes       No       X       Depth (inches):									
Vater Table Present?       Yes       No       X       Depth (inches):       Image: Comparison of the status         vaturation Present?       Yes       No       X       Depth (inches):       Image: Comparison of the status       Wetland Hydrology Present?       Yes         Includes capillary fringe)       Image: Comparison of the status       Image: Comparison of the status       Wetland Hydrology Present?       Yes         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Image: Comparison of the status       Image: Comparison of the status	ield Observa	ations:							
Vater Table Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes         includes capillary fringe)       Pescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Ves	Surface Water	Present?	Yes No	o X Depth	(inches):				
Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes         Saturation Present?       Yes       Depth (inches):       Wetland Hydrology Present?       Yes         Saturation Present?       Yes       Depth (inches):       Wetland Hydrology Present?       Yes         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Saturation Present?       Yes	Vater Table Pr	resent?			· · ·		1		
includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					· · ·		Wetla	nd Hydrology P	Present? Yes No
					· ·			- 07	
Remarks:		orded Data (stream	gauge, monitorir	ng well, aerial pho	otos, previous ir	nspections), i	f available	:	
Remarks:	Describe Reco								
	Describe Reco								

#### Attachment 2

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

## **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): <u>Wetland A</u> Date of site visit: <u>1/28/22</u> 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** [] (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		mprov Iter Q	/ing uality	Hy	drolo	ogic		Habita	ət	
		Circle the appropriate ratings								
Site Potential	Н	Μ	L	Н	Μ	L	Н	Μ	L	
Landscape Potential	Н	Μ	L	Н	Μ	L	Η	Μ	L	
Value	Η	Μ	L	Н	Μ	L	Н	Μ	L	TOT
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

'AL

#### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	Ι		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above			

## 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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 <b>dense, rigid</b> trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
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	

## 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) 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?
  - <u>X</u> 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.

#### **YES - Freshwater Tidal Fringe**

Wetland name or number <u>A</u>

# NO - go to 6YES - The wetland class is RiverineNOTE: The Riverine unit can contain depressions that are filled with water when the river is notflooding

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

SLOPE WETLANDS Water Quality Functions - Indicators that the site funct	tions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?		
<ul> <li>S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft ve 100 ft of horizontal distance)</li> <li>Slope is 1% or less</li> </ul>	ertical drop in elevation for every points = 3	
Slope is > 1%-2% Slope is > 2%-5% Slope is greater than 5%	points = 2 points = 1 points = 0	1
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use	e NRCS definitions): Yes = 3 No = 0	3
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutan Choose the points appropriate for the description that best fits the plants in have trouble seeing the soil surface (>75% cover), and uncut means not graz than 6 in.	the wetland. Dense means you	
Dense, uncut, herbaceous plants > 90% of the wetland area Dense, uncut, herbaceous plants > ½ of area	points = 6 points = 3	2
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	
Total for S 1	Add the points in the boxes above	6

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?	1
Yes = 1 No = 0	-
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0
Other sources Yes = 1 No = 0	0
Total for S 2Add 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 = 2No = 0	2
Total for S 3Add 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

SLOPE WETLANDS							
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros							
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 $> \frac{1}{8}$ in), or dense enough, to remain erect during surface flows.	1						
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1							
All other conditions points = 0							
<b>Rating of Site Potential</b> If score is: $X = M = 0 = L$ 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?
 0

Rating of Landscape Potential If score is: <u>1 = M X 0 = L</u>

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 = 2Surface flooding problems are in a sub-basin farther down-gradientpoints = 1No flooding problems anywhere downstreampoints = 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						
Total for S 6Add 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:

		etlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators H 1.0. Does the site have the potentia		provide important habitat	
•	•	s and strata within the Forested class. Check the	
		be combined for each class to meet the threshold	
-		c. Add the number of structures checked.	
Aquatic bed		4 structures or more: points = 4	
Emergent		3 structures: points = 2	-
X Scrub-shrub (areas where shr	ubs have > 30% cover)	2 structures: points = 1	2
<u>X</u> Forested (areas where trees h	ave > 30% cover)	1 structure: points = 0	
If the unit has a Forested clas	s, check if:		
X The Forested class has 3 out c that each cover 20% within tl		nopy, shrubs, herbaceous, moss/ground-cover)	
1 1.2. Hydroperiods			
Check the types of water regimes ( more than 10% of the wetland or 3		hin the wetland. The water regime has to cover descriptions of hydroperiods).	
Permanently flooded or inunc	lated	4 or more types present: points = 3	
Seasonally flooded or inundat	ed	3 types present: points = 2	2
Occasionally flooded or inund	ated	2 types present: points = 1	
X_Saturated only		1 type present: points = 0	
X Permanently flowing stream o			
X Seasonally flowing stream in,	or adjacent to, the wetland		
Lake Fringe wetland		2 points	
Freshwater tidal wetland		2 points	
H 1.3. Richness of plant species			
Count the number of plant species	in the wetland that cover	at least 10 ft <sup>2</sup> .	
		et the size threshold and you do not have to name	
•	ian milfoil, reed canarygro	ass, purple loosestrife, Canadian thistle	1
If you counted: > 19 species		points = 2	
5 - 19 species		points = 1	
< 5 species		points = 0	
1.4. Interspersion of habitats			
		ng Cowardin plants classes (described in H 1.1), or	
have four or more plant classes or		r mudflats) is high, moderate, low, or none. <i>If you</i>	
have jour of more plant classes of		ter, the ruting is ulways high.	
	$\left( \right)$		
			2
None = 0 points	Low = 1 point	Moderate = 2 points	
All three diagrams			
n this row	$\mathcal{I}$		
are <b>HIGH</b> = 3points			

Wetland name or number \_\_\_\_\_

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) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
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)	2
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated <i>(structures for egg-laying by amphibians)</i>	
Invasive plants cover less than 25% of the wetland area in every stratum of plants ( <i>see H 1.1 for list of strata</i> )	
Total for H 1Add 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 <i>only habitat that directly abuts wetland unit</i> ). <i>Calculate:</i> % undisturbed habitat <u>19</u> + [(% moderate and low intensity land uses)/2] <u>1.2</u> = <u>20.2</u> % 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						
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	2					
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity Total for H 2 Add the points in the boxes above	0					
Rating of Landscape Potential If score is: X 4-6 = H1-3 = M<1 = L Record the rating on the second the ratio the second the rating of the second the ratio the second the second the ratio the second the ratio the second the second the second the second the ratio the second the						

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? <i>Choose only the highest score that applies to the wetland being rated.</i>
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)
<ul> <li>It is mapped as a location for an individual WDFW priority species</li> </ul>
<ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>

— 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

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

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

Record the rating on the first page

2

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (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. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u> or access the list from here: <u>http://wdfw.wa.gov/conservation/phs/list/</u>)

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: <u>Old-growth west of Cascade crest</u> 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. <u>Mature forests</u> 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*).
- <u>X</u> **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 Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

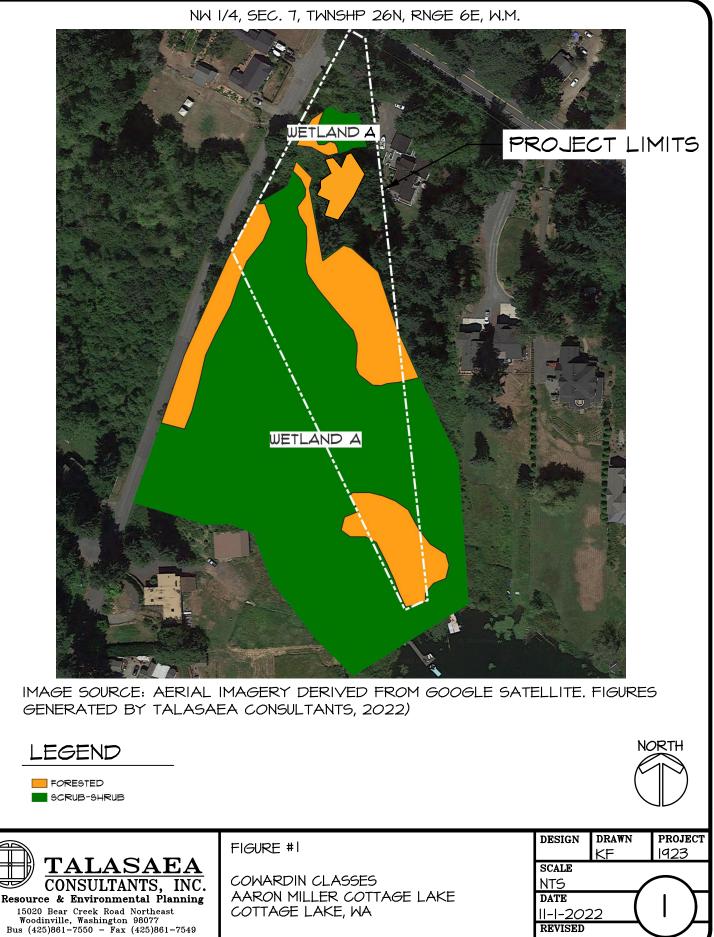
## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
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 <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>	
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?	Cat. I
Yes = Category I No - Go to SC 1.2	
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	Cat. I
than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)	
- At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or	Cat. II
contiguous freshwater wetlands. Yes = Category I No = Category 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	Cat. I
Conservation Value? Yes – Go to <b>SC 2.2</b> No – Go to <b>SC 2.3</b>	Cut. I
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	
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 <b>SC 3.3</b> No – Go to <b>SC 3.2</b>	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? Yes – Go to 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.	Cat. I
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	

SC 4.0. Forested Wetlands									
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i> <i>the wetland based on its functions.</i>									
— 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.									
<ul> <li>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).</li> </ul>									
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?									
<ul> <li>The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> </ul>									
— 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)	Cat. I								
Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon									
SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less									
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II								
— 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 <sup>2</sup> )									
Yes = Category I No = Category 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:									
<ul> <li>Long Beach Peninsula: Lands west of SR 103</li> </ul>									
— Grayland-Westport: Lands west of SR 105	Cat I								
<ul> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul>									
Yes – Go to SC 6.1 No = not an interdunal wetland for rating									
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = <b>Category I</b> No – Go to <b>SC 6.2</b>	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?	Cat. III								
Yes = <b>Category II</b> No – Go to <b>SC 6.3</b> SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?									
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									

Wetland name or number <u>A</u>

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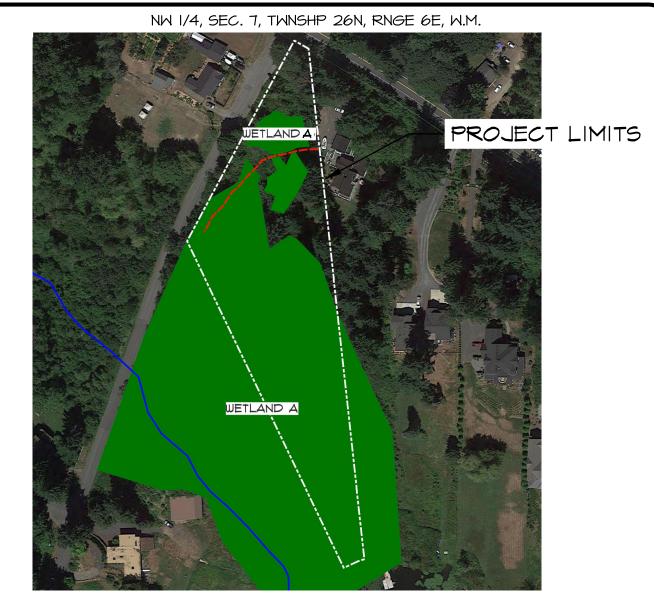


IMAGE SOURCE: AERIAL IMAGERY DERIVED FROM GOOGLE SATELLITE. FIGURES GENERATED BY TALASAEA CONSULTANTS, 2022)

## LEGEND

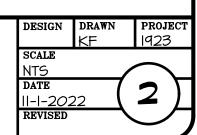
- PERMANENTLY FLOWING STREAM
- -- SEASONALLY FLOWING STREAM
- SATURATED ONLY





FIGURE #2

HYDROPERIODS AARON MILLER COTTAGE LAKE COTTAGE LAKE, WA



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

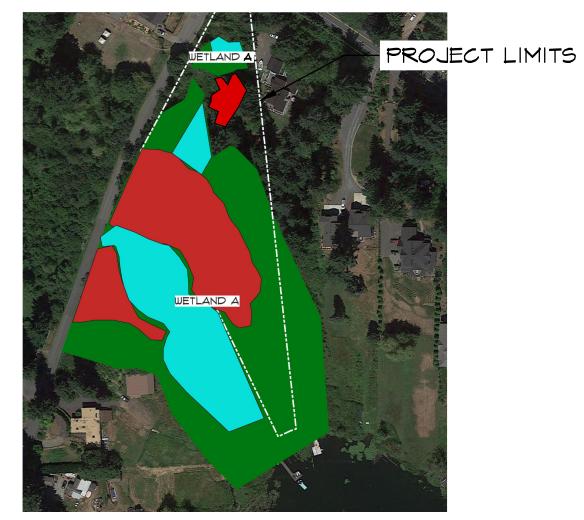


IMAGE SOURCE: AERIAL IMAGERY DERIVED FROM GOOGLE SATELLITE. FIGURES GENERATED BY TALASAEA CONSULTANTS, 2022)

## LEGEND

DENSE COVER TYPE

HERBACEOUS



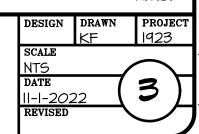
TREES & SHRUBS





FIGURE #3

VEGETATION AARON MILLER COTTAGE LAKE COTTAGE LAKE, WA



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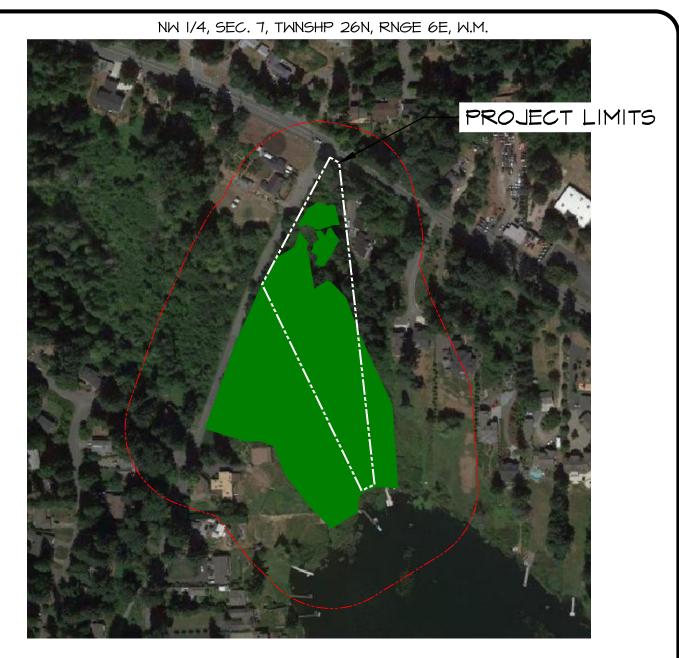


IMAGE SOURCE: AERIAL IMAGERY DERIVED FROM GOOGLE SATELLITE. FIGURES GENERATED BY TALASAEA CONSULTANTS, 2022)

## LEGEND



APPROXIMATE WETLAND LOCATION

225' WETLAND BUFFER





FIGURE #4

225' BUFFER AARON MILLER COTTAGE LAKE COTTAGE LAKE, WA

	1	N.T.S.
DESIGN	DRAWN	PROJECT
	KF	1923
SCALE		
NTS	/	$\frown$
DATE		$\Lambda$ $\nabla$
11-1-202	22	<del>4</del> ]]
REVISED		$\square$

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

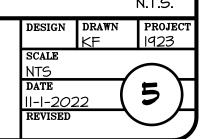
- APPROXIMATE WETLAND LOCATION
- ACCESSIBLE HABITAT
- MODERATE / LOW INTENSITY LAND USE
- IKM POLYGON





FIGURE #5

I KM POLYGON AARON MILLER COTTAGE LAKE COTTAGE LAKE, WA





N.T.S.

Water Category 5 - 303d

FIGURE #6 TALASAEA CONSULTANTS, INC. Resource & Environmental Planning 15020 Bear Creek Road Northeast Woodinville, Washington 98077 Bus (425)861-7550 - Fax (425)861-7549

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

DESIGN

SCALE

NTS

DATE

11-1-2022

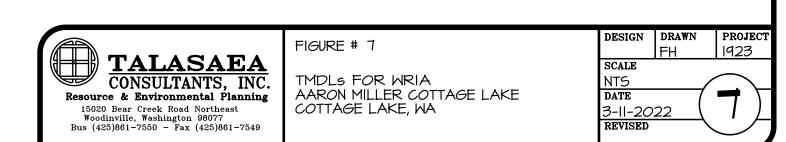
REVISED

DRAWN

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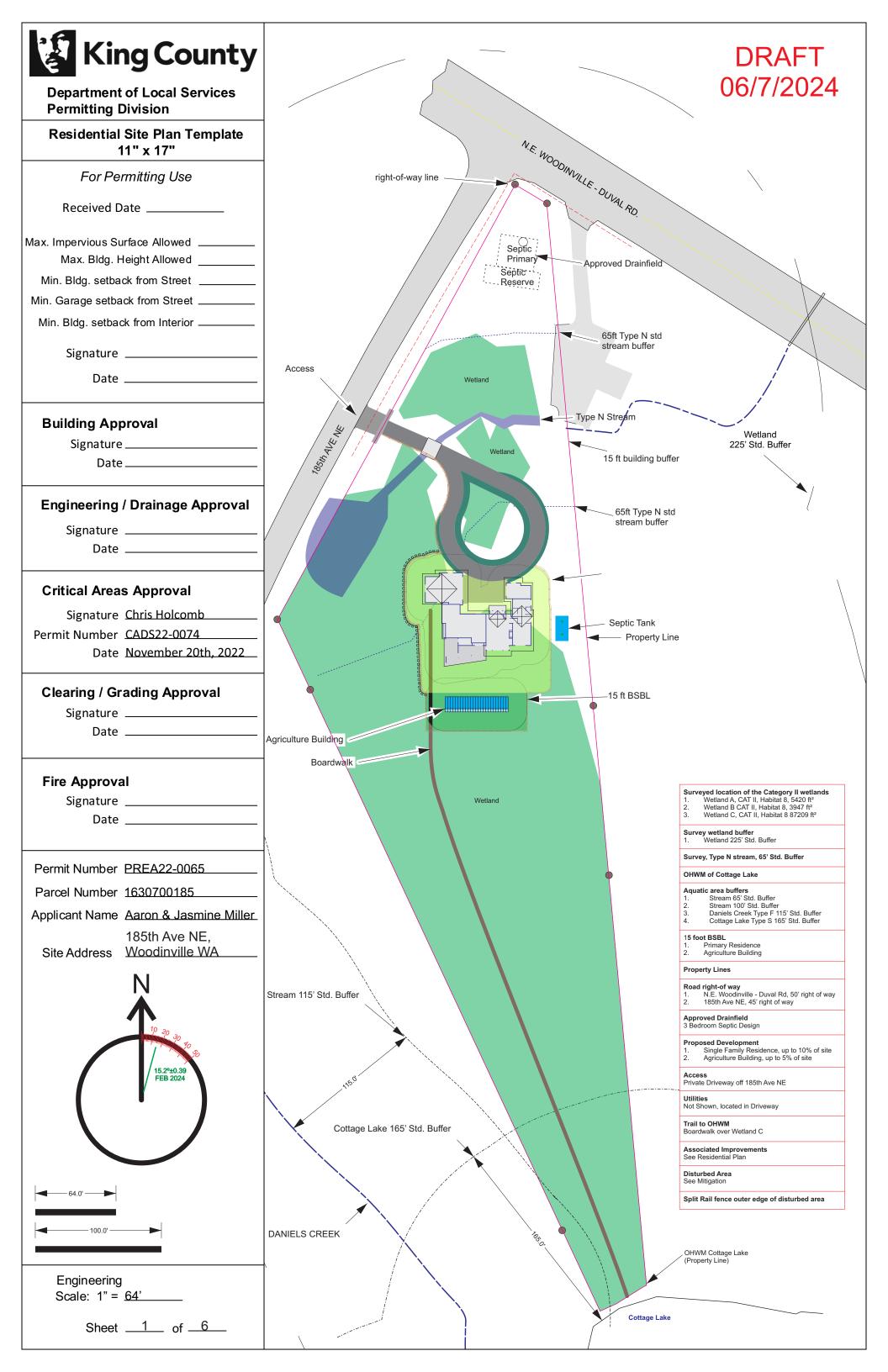
#### NW 1/4, SEC. 7, TWNSHP 26N, RNGE 6E, W.M,

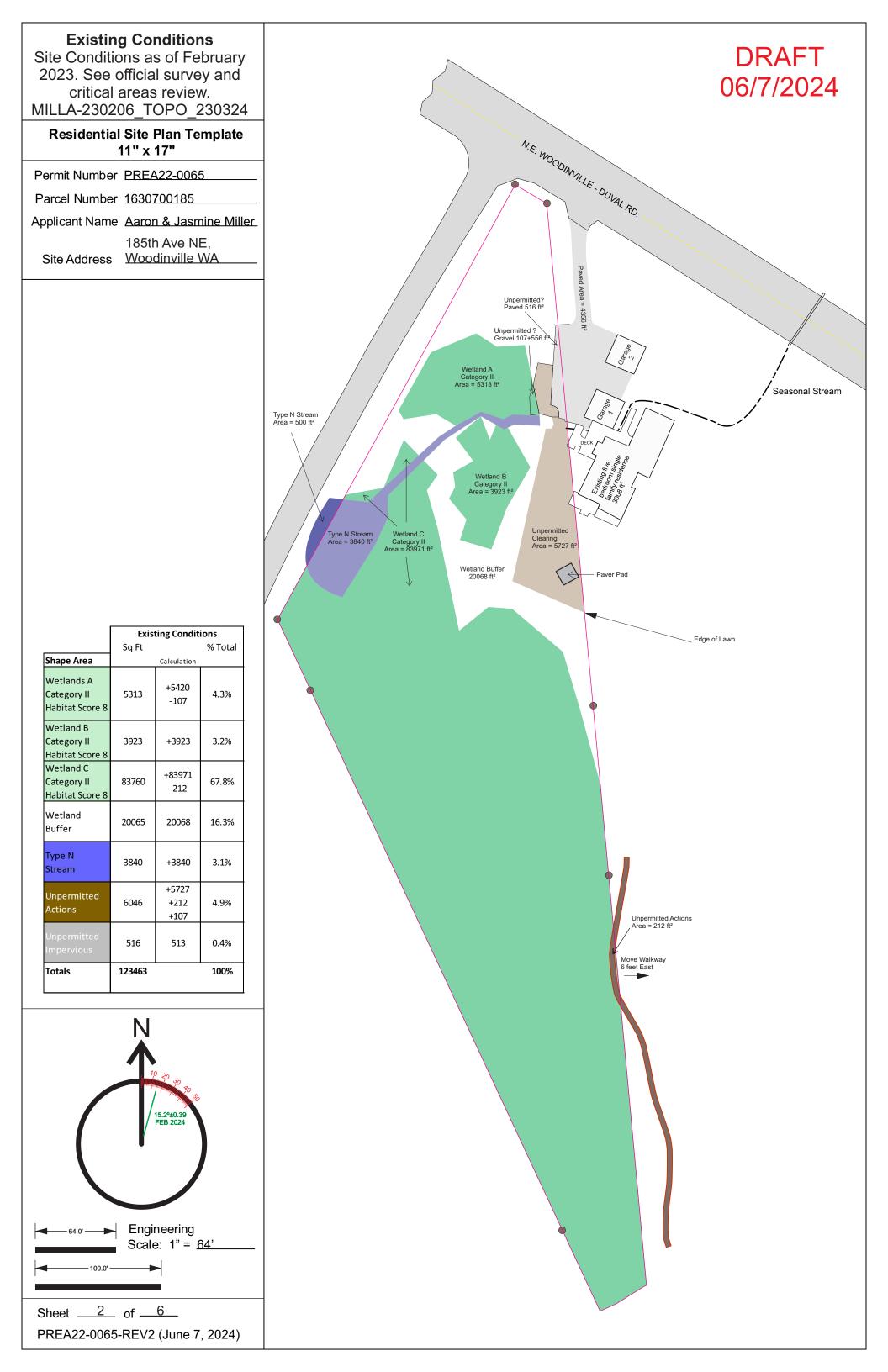
	ListingID	AU ID	Medium	Parameter	Category	Search Results - 1,945 Matched Waterbody Name	WRIA	WQ Improvement Project	WQ Atlas Map Lini
View	42139	17110012001213	Water	Bacteria	4B	UNNAMED CREEK (5050 AT W LAKE SAMMAMISH PKWY)	8 - Cedar-Sammamish	Tosh Creek Watershed Restoration Project 4B	42139
/iew	7464	17110012005104	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	7464
iew	13130	17110012000118	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	13130
liew	21989	17110012000119	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	21989
liew	45282	17110012000565	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO SWAMP CREEK)	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	45282
liew	72254	17110012000149	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO SWAMP CREEK)	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	72254
ïew	72255	17110012000566	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO SWAMP CREEK)	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	72255
/iew	72256	17110012005113	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	72256
/iew	74373	17110012005106	Water	Bacteria	4A	SWAMP CREEK	8 - Cedar-Sammamish	Swamp Creek Bacteria TMDL	74373
liew	15776	17110019004522	Water	Bacteria	4A	VENEMA CREEK	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	15776
liew	15798	17110019000562	Water	Bacteria	4A	PIPERS CREEK	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	15798
iew	74669	17110019004448	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74669
iew	74673	17110019004551	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74673
liew	74674	17110019004566	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74674
liew	74675	17110019004577	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74675
/iew	74676	17110019004600	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74676
/iew	74677	17110019004619	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO PIPERS CREEK)	8 - Cedar-Sammamish	Pipers Creek Bacteria TMDL	74677
/iew	7458	17110012000117	Water	Bacteria	4A	NORTH CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	7458
/iew	7459	17110012000115	Water	Bacteria	4A	NORTH CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	7459
/iew	45729	17110012000689	Water	Bacteria	4A	UNNAMED CREEK (TRIB TO NORTH CREEK)	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45729
/iew	45734	17110012000715	Water	Bacteria	4A	WOOD CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45734
/iew	45735	17110012000625	Water	Bacteria	4A	CRYSTAL CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45735
/iew	45736	17110012000618	Water	Bacteria	4A	FILBERT CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45736
/iew	45742	17110012000701	Water	Bacteria	4A	PALM CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45742
/iew	45743	17110012000652	Water	Bacteria	4A	NORTH CREEK	8 - Cedar-Sammamish	North Creek Bacteria TMDL	45743
						12345678910Last >>			

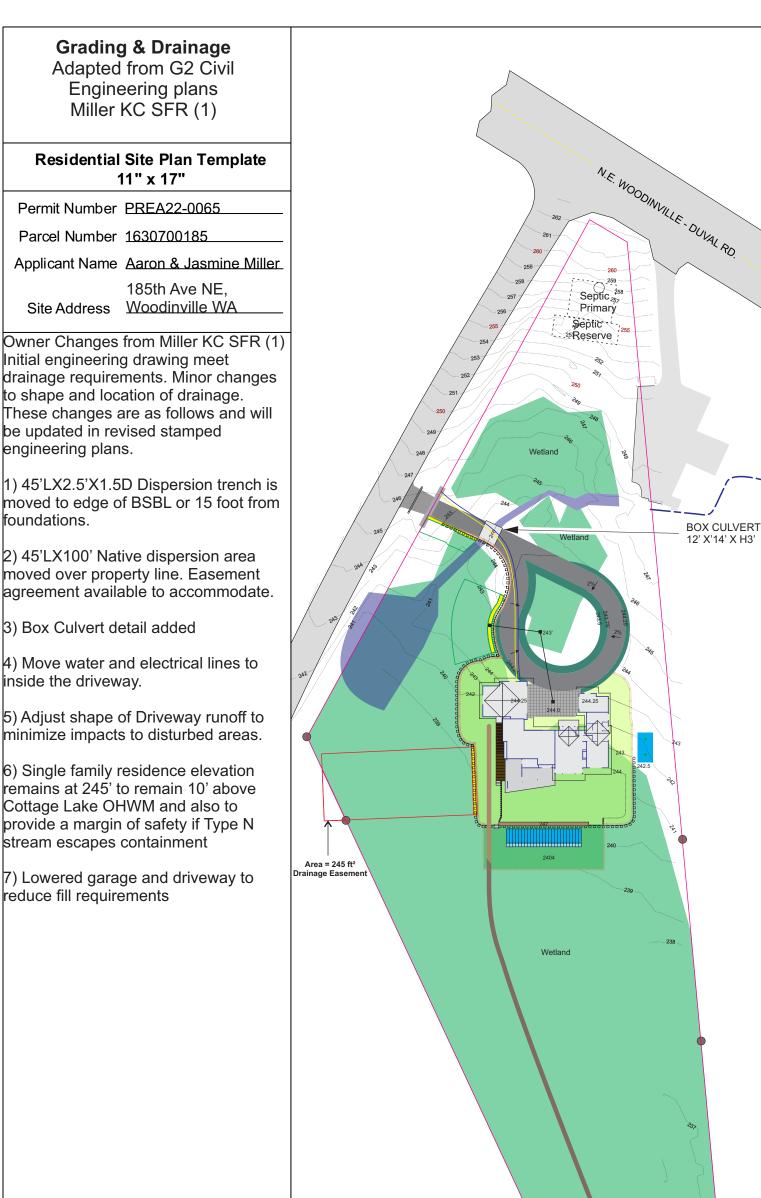


#### (New Search) (Modify Search) (Export)

Appendix B: Site Plan V2

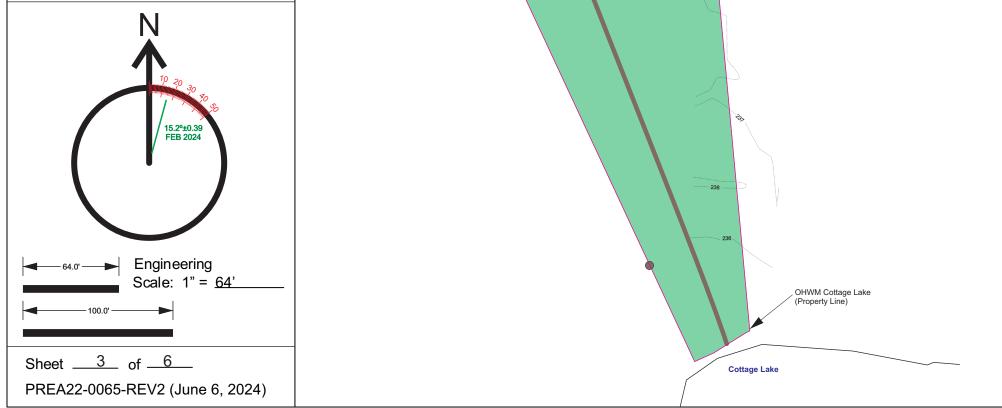


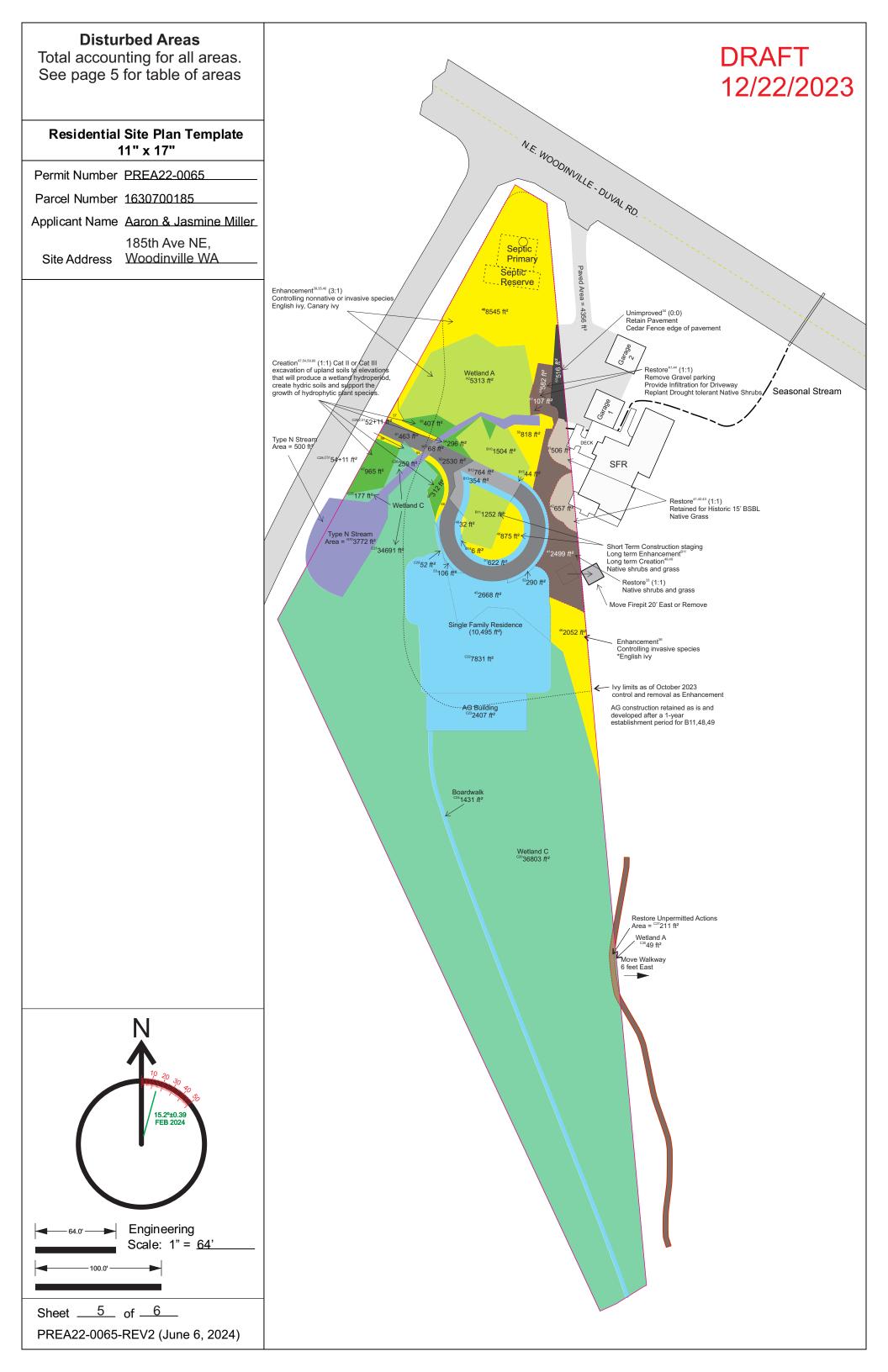




DRAFT

06/7/2024





Lot Area	123463	sf	9	Summary o	f Land Us	e	DEBITS		Unim	proved	Resto	re (1:1)	Creatio	n (1.5:1)	Rehabilitation (2:		1 Enhancement (3:1)		Print	
		-	-				Loss of Function					disturbed					Change g			
Area Definition	Area Key	Area ft <sup>2</sup>	Existing	Propo	osed	Change		Impacts	No impr	ovement	ar	eas	New W	Vetland		tion	biodiv		Priı	
Wetlands A	A2	5313				810		-	A2	5313	A1	107	59	407						
Category II, HS 8			5313	6123	5.0%	15.2%							54	296						
Wetland B	B10	1504							B10	1504							B11	1252		
Category II	B11	1252	3924	2756	2.23%	-1168														
Habitat Score 8	B12	764	5521	2750	2.2370	-29.8%													1 (	
	B(13:15) C20	404 36803							C20	36803			47	965					1	
	C21	34691							C21	34691			60	312						
	C22	7831																	1	
Wetland C	C23 C24	2407 1431							C25	259										
Category II	C25 C26	436	83974	73519	59.5%	-10455			C25	177									1	
Habitat Score 8	C27	211				-12.5%					C27	211								
	C28	52							C28	52										
	C29 C30	52 49							C30	49										
	C30	49 11							0.50	49										
	40	8545							40	8545	41	2499								
											42	657								
	45 46	2668							46	2052	43 44	506 582								
	46 2052		2052 965							40	875	44	JOZ							
	48, 49	907							49	32										
Wetland Buffer	50	818	21540	17104	12.00/	-4415			50	818									1	
	51,52,53 54	1018 296	21549	17134	13.9%	-20.5%														
	(55:58)	568							(55:58)	568										
	59	407																		
	60	312																	1	
	61 62	463 2530																	1	
Type N Stream	N70	3772	3840	3840	3.1%	0			N70	3772										
· · ·	N71 A1	68 107				0.0%			N71 63	68 516										
Unpermitted	(41:44)	4244	4867	516	0.4%	-4351			03	510										
	63	516				-89.4%														
Driveway							51,52,53	1018											1	
Paved							B13 B14	354 6												
-							B15	44							<u> </u>				l l	
Sholder			-	5242	4.2%		C29	52											1	
(Blue Wildrye)							C31 B12	<u>11</u> 764											1	
(Idaho Fescue)							61	463			1	1				ļ			1	
							62	2530												
Single Family			-	10499	8.5%		C22	7831											1	
Residence Ag Building			_	2407	1.9%		45 C23	2668 2407			1	+				ļ			1	
Boardwalk			-	1431	1.2%		C23	1431												
Total (ft <sup>2</sup> )		123467	123467	123467				19579		96094		4562		1980		0		1252		
Total (Acres)		2.83			100.00/			0.45		2.21		0.10		0.05		0.00		0.03		
% of Total Mitigation Credit			100%	100.0%	100.0%		Debit	<u>15.9%</u> 19579	Credit	77.8% 0	Credit	3.7% 4562	Credit	<u>1.6%</u> 1320	Credit	0.0%	Credit	<u>1.0%</u> 417	100.00%	
magadon cicult		1	1			1	DEDIT	±JJ/J	Cicuit			-1302	cicuit	1920	cicuit			71/		

Printed 6/5/2024

Print 11" x 17"

## DRAFT 06/7/2024

