ADDENDUM TO THE SR 167 COMPLETION PROJECT – STAGE 2 WETLAND AND STREAM ASSESSMENT REPORT

SR 167 Completion Project – Stage 2

SR 167/I-5 to SR 161 – New Expressway Project

Pierce County, Washington

Work Order: XL-5105 WIN: C16706T PIN: 316706

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1. Introduction

This addendum modifies and supplements the State Route (SR) 167 Stage 2 Wetland and Stream Assessment Report (Stage 2 WSAR) prepared for the Washington Department of Transportation (WSDOT) in support of the SR 167 Completion Project Phase 1 Improvements. This addendum provides corrections to the Stage 2 WSAR (WSDOT 2022a), revises previously estimated wetland boundaries with delineated boundaries, and identifies additional wetlands in the Stage 2 WSAR Addendum study area (Addendum study area) (Figure 1). This report should be read in conjunction with the Stage 2 WSAR. The Addendum study area, which is in addition to the study area reported in the Stage 2 WSAR, is within the Hylebos Creek and Fennel Creek-Puyallup River drainage basins and includes areas in unincorporated Pierce County and the cities of Fife, Milton, and Sumner, Washington (Figure 1). Revised and additional wetlands in the Addendum study area are shown in Figures 2-A through 2-C.









2. Climate and Precipitation

Section 4.2.1 in the Stage 2 WSAR incorrectly states historical average precipitation measurements were based on data for the period of record 1981 to 2021. Actual historical average precipitation measurements were based on data for the period of record 1981 to 2010. The period of record error in the Stage 2 WSAR does not affect the results of the precipitation analysis described in that report.

Additional precipitation evaluations were conducted for the 3-month periods prior to field investigations on May 19 and June 12, 2023, to determine if precipitation conditions were normal, drier than normal, or wetter than normal (Table 1). These analyses indicate that drier than normal precipitation conditions were present during the May and June field work.

Precipitation data for the 10 days preceding field work was also obtained to determine if light, moderate, or heavy precipitation occurred prior to field work. Based on precipitation data obtained from the Natural Resource Conservation Service (NRCS) Tacoma No. 1 WETS station, it did not rain in the 10 days preceding field work in May, and there was 0.20 inch of rain in the 10 days preceding field work in June (NRCS 2023; NOAA 2023) (Tables 2 and 3).

Observations of new seedling growth within the Addendum study area indicated that the field work was being conducted within the growing season. Daily high temperatures in the 10 days preceding field work averaged 77.5 degrees and 73.6 degrees Fahrenheit in May and June, respectively (NOAA 2023).

	Long-Term Rainfall Records				Results of Precedent Precipitation Analysis:
Month	3 Yrs. in 10 Less Than	3 Yrs. in 10 More Than	Rainfall	Condition Dry, Wet, Normal ^a	Drier than Normal, Normal, Wetter than Normal
June 2023	1.00	1.89	0.32	Dry	Drier than normal
May 2023	1.15	2.50	0.62	Dry	Drier than normal
April 2023	1.98	3.54	3.30	Normal	Drier than normal
March 2023	3.18	4.78	2.41	Dry	Drier than normal
February 2023	2.29	4.40	1.79	Dry	Normal

Table 1. Monthly Precipitation Data for Tacoma, Washington.

^a Conditions are considered normal if they fall within the low and high range around the average.

Date	Precipitation (inches)
2023-05-09	0.00
2023-05-10	0.00
2023-05-11	0.00
2023-05-12	0.00
2023-05-13	0.00
2023-05-14	0.00
2023-05-15	0.00
2023-05-16	0.00
2023-05-17	0.00
2023-05-18	0.00
Total	0.00

Table 2. Precipitation 10 Days Prior to May Field Work,TACOMA NO. 1, WA: May 9–May 18, 2023.

Table 3. Precipitation 10 Days Prior to June Field Work,TACOMA NO. 1, WA: June 2–June 11, 2023.

Date	Precipitation (inches)
2023-06-02	0.00
2023-06-03	0.00
2023-06-04	0.00
2023-06-05	0.00
2023-06-06	0.00
2023-06-07	0.00
2023-06-08	0.00
2023-06-09	0.14
2023-06-10	0.06
2023-06-11	0.00
Total	0.20

3. Wetlands

3.1. Revised Wetland Boundaries

Based on additional field work and review of delineation data, the boundaries of three wetlands described in the Stage 2 WSAR, Wetland 01 (W01), Wetland 136 (W136), and Wetland 17/65 (W17/65), have been revised (Figures 3-A, 3-B, and 3-F). The Stage 2 WSAR incorrectly used an estimated boundary instead of the delineated boundary at the western end of W01, and this has now been corrected to show the delineated boundary. Portions of the estimated boundaries of W136 and W17/65 have been updated to reflect delineations conducted on May 19 and June 12, 2023, respectively. The revised boundaries resulted in the following changes in wetland areas: W01 decreased by 0.02 acre, W136 decreased by 0.46 acre, and W17/65 increased by 0.07 acre. Table 4 includes the revised wetland areas.

Changes to the wetland boundaries do not affect the wetlands' classifications, ratings, or functions, nor do they have a substantial effect on buffer widths due to the presence of impervious surfaces that constrain buffers. The Stage 2 Mitigation Plan (WSDOT 2022b) is currently being revised to include an impact assessment to evaluate potential effects to the wetlands based on the revised boundaries and will be included with permit application submittals.

3.2. Additional Wetlands

Three additional wetlands, Wetland 149 (W149), Wetland 150 (W150), and Wetland 151 (W151), were identified within the Addendum study area (Table 4) (Figures 3-C, 3-D, and 3-E). The wetlands, delineated on May 19, 2023, are within the city of Fife and have a total area of 2.51 acres. They are rated as Category IV wetlands with palustrine emergent (PEM) vegetation and depressional hydrogeomorphic (HGM) classes. Portions of W151 boundaries were estimated by desktop analysis.

The areas surrounding three sign structures near the intersection of SR 410 and Traffic Avenue in Sumner were investigated for the presence of wetlands on June 12, 2023 (Figure 2-C). No wetlands were identified in these areas.

3.3. Summary of Revised and Additional Wetlands

Revised and additional wetlands within the Addendum study area are summarized in Table 4 and shown in Figures 3-A through 3-F. These figures also show the locations of wetland and upland soil pits. Detailed descriptions of each wetland are included in Tables 5 through 10.

Addendum Appendix A includes wetland delineation data sheets. See Section 3.4 of this addendum for additional information on wetland functions and Addendum Appendices B and C for wetland rating forms and detailed functional assessment summaries.

	Wetland Classification							
Wetland ^a	Revised/ Additional	Cowardin ^b	HGM ^c	Ecology ^d	Local Jurisdiction	Previous Wetland Size (acre)	Wetland Size (acre)	Buffer Width (feet)
1	Revised	PEM	Depressional	III	III	2.30	2.28	60 ^e
17/65	Revised	PEM, PSS, PFO	Depressional	I	I	71.13	71.20	150 ^f /165 ^g
136	Revised	PEM	Depressional	III	III	3.48	3.02 ^h	60 ^e
149	Additional	PEM	Depressional	IV	IV	NA	0.40	40 ^e
150	Additional	PEM	Depressional	IV	IV	NA	0.09	40 ^e
151	Additional	PEM	Depressional	IV	IV	NA	2.02 ^h	40 ^e
					Total	76.91	79.01	NA

 Table 4. Revised and Additional Wetlands in the Addendum Study Area.

^a Wetland identifier.

^b Federal Geographic Data Committee or NWI Class based on vegetation:
 PEM = palustrine emergent, PSS = palustrine scrub-shrub PFO = palustrine forested.

^c Hydrogeomorphic classification of wetland based on source and direction of hydrologic conditions and local geomorphology.

^d Ecology rating, which is consistent with the local jurisdiction requirements of the City of Fife.

^e Wetland buffer width according to the City of Fife Wetlands Ordinance (Fife Municipal Code 17.17.230).

^f Wetland buffer width according to the City of Milton Wetlands Ordinance (Milton Municipal Code 18.16.320.C).

^g Wetland buffer width according to Pierce County Wetland Ordinance (Pierce County Code 18E.20.020).

^h Wetland extends outside of the study area.



Previous Wetland Boundary Survey Points



HERRERA

Esri, Aerial (2022)





Previous Wetland Boundary Survey Points



HERRERA Esri, Aerial (2022)

ts/Y2016/16-06277







Table 5.	Wetland 1	Summary.
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WETLAND 1 – INFORMATION SUMMARY					
Location	North side of I-5, from approx	imately 54th Avenue East, east to 65th Avenue East			
Date(s) Evaluated	7/13/2018, 3/23/2022 ^a				
		Local Jurisdiction	Fife, WA		
		Ecology Rating (2014)	Category III		
		Local Rating	Category III		
	P	City of Fife Buffer Width	60 feet with mitigation measures		
		Wetland Size	2.28 acres ^a		
		Cowardin Class	PEM		
		HGM Class	Depressional		
The state		Wetland Data Sheet(s)	Appendix A: W1-SP1, W1-SP3		
		Upland Data Sheet(s)	Appendix A: W1-SP2, W1-SP4		
	Wetland	Delineation			
Dominant Vegetation	Herbaceous: reed canary (<i>Ranunculus repens</i>), ve	ygrass (<i>Phalaris arundinace</i> lvet grass (<i>Holcus lanatus</i>),	ea), creeping buttercup and <i>Agrostis</i> spp.		
Soils	Wetland 1 contained hyd 10YR 4/2, and Gley 3/N This included layers with Depleted Matrix (F3) and	Iric soils. Soil matrices of 10 were observed within the up redoximorphic concentration I Redox Dark Surface (F6).	ric soils. Soil matrices of 10YR 2/2, 10YR 3/1, 10YR 3/2, were observed within the upper 16 inches of the soil profile. redoximorphic concentrations that met soil indicators Redox Dark Surface (F6).		
Hydrology	Groundwater and surface wetland. Primary indicate	e flows are the primary sour ors high water table (A2) an	ces of hydrology for this d saturation (A3) were met.		
Rationale for Delineation	on All three wetland parame	ters were met.			
	Wetland Rati	ng and Functions			
Rationale for Local RatingThe City of Fife Municipal Code (FMC) classifies wetlands based on the Wash State Wetland Rating System (FMC 17.17.020). Wetland 1 rates as a Categor			tlands based on the Washington tland 1 rates as a Category III.		
FunctionsThe wetland has moderalow habitat functions.		ate hydrologic functions, high water quality functions, and			
Wetland Buffers					
Buffer Condition The wetland buffer condition with I-5 on one side and o		lition is poor, consisting of a narrow, mowed strip of grass commercial development on the other side. 54th Avenue d to the west. The buffer is also disturbed by the presence of experiencing homelessness.			

^a Wetland size was corrected to reflect field work conducted March 23, 2022.

Wetland 17/65 Information Summary					
Location	East of and adjacent to I-	5, north of the Interurban Trail			
Date(s) Evaluated	Date(s) Evaluated 8/13/2018, 4/29/2019, 6/5/2019, 3/16/2022, 6/12/2023 ^a				
		Local Jurisdiction	Unincorporated Pierce County, WA; Milton, WA		
	and a second	Ecology Rating (Hruby 2014)	Category I		
		Pierce County and City of Milton Rating	Category I		
STR THE		Pierce County and City of Milton Buffer Widths	150 feet/165 feet		
		Wetland Size	71.20 acres ^a		
		Cowardin Classification	PEM, PSS, PFO		
		HGM Classification	Depressional		
Wetland Data Sheet(s)	Appendix A: W17-SP1, W	, /17-SP3, W17-SP4, W17-SP7	, W65-SP1, W65-SP3		
Upland Data Sheet(s)	Appendix A: W17-SP2, W	/17-SP5, W17-SP6, W65-SP2			
	Wetland E	Delineation			
Dominant Vegetation	Dominant Vegetation Wetland 17/65 (W17/65) contains PEM, PSS, and PFO communities. PEM vegetation is dominated by reed canarygrass. The PSS community is dominated Pacific willow (<i>Salix lasiandra</i>) and Douglas spirea (<i>Spiraea douglasii</i>). The PFO community is dominated by Pacific willow and black cottonwood (<i>Populus</i> <i>balsamifera</i> ssp. <i>trichocarna</i>)				
Soils	PEM portion of the wetland (W nd redox dark surface (F6), w meet the indicator for histosol the indicator for hydrogen sulfi the indicator for depleted matr W17-SP2 and W65-SP2. Soils tan silt loam, Semiahmoo mud	V17-SP1) meet indicators hile soils in the northeastern (A1). Soils in the PSS de (A4). Soils in the PFO ix (F3). Nearby uplands are s in W17/65 are mapped by ck, and Tisch silt, all of			
Hydrology	Soils in the PSS, PFO, ar during the 2019 field visits in August of 2018, but oxi Groundwater, precipitation this wetland. Hylebos Cre wetland. Ditches flow out and back into the wetland	Id northeastern PEM areas we s. Soil was not saturated in the dized rhizospheres along livin n, and overbank flooding cont ek runs through this wetland a of the wetland into Hylebos C I in the northeast corner of the	ere saturated to the surface e southwestern PEM portion g roots (C3) were observed. ribute to the hydrology of and is the outlet of the reek. Stream 20 flows out of wetland.		
Rationale for Delineation	All three wetland paramet	ters were met.			
Wetland Rating and Functions					
Rationale for Local Rating	Rationale for Local Rating Pierce County and the City of Milton use the 2014 Ecology rating system (Hruby 2014) to classify wetlands per Pierce County Policy RM2015-2, which updates PCC 18E.30.020.D, and MMC 18.16.310.B, respectively.				
Functions Water quality and hydrologic functions are of high quality. The wetland provides moderate habitat functions.					
	Wetland	d Buffers			
Buffer Condition The condition of the buffer surrounding W17/65 is poor. The buffer is highly disturbed, consisting of interstate highway, paved trail, residential and industrial development, the Interurban Trail, and agricultural fields.					

Table 6. Wetland 17/65 Summary.

^a Wetland size was updated based on field work conducted June 12, 2023.

WETLAND 136 – INFORMATION SUMMARY					
Location:	ion: South of I-5, west of 54th Avenue East				
Date(s) Evaluated	Date(s) Evaluated 3/23/22, 5/19/2023 ^a				
	WALKS !!	Local Jurisdiction	City of Fife		
Section and section of	A A A A A A A A A A A A A A A A A A A	Ecology Rating (2014)	Category III		
	MAS	Local Rating	Category III		
		City of Fife Buffer Width	60 feet with mitigation measures		
		Wetland Size	3.02 acres ^a		
		Cowardin Class	PEM		
	America and a second	HGM Class	Depressional		
HEAL .		Wetland Data Sheet(s)	Appendix A: W136-SP1		
Dominant Vegetation Herbaceous: reed canaar		Upland Data Sheet(s) Delineation rygrass hydric soils. Soil matrices of 10	Appendix A: W136-SP2, W136-SP3 0YR 4/1 and 2.5YR 4/1 were		
	observed within the upp redoximorphic concentra and hydrogen sulfide (A	er 16 inches of the soil profile. ations that met hydric soil indic 4).	This included a layer with cators Depleted Matrix (F3)		
Hydrology	gy Groundwater and surface flows are the primary sources of hydrology for this wetland. Primary indicators high water table (A2), saturation (A3), and hydrogen sulfide odor (C1) were met.				
Rationale for Delineation	n All three wetland param	neters were met.			
Wetland Rating and Functions					
Rationale for Local Rating The FMC classifies wet System (FMC 17.17.02)		lands based on the Washington State Wetland Rating 0). Wetland 136 rates as a Category III.			
Functions The wetland has moderate hydrologic and water quality functions, and low hab functions.					
Wetland Buffers					
Buffer Condition	Buffer Condition The buffer is in poor condition and consists of I-5 to the north, 54th Avenue East to the east and commercial and industrial development to the south. Wapato Creek and additional commercial development is located to the west.				

Table 7. Wetland 136 Summary.

^a Wetland size was updated based on field work conducted May 19, 2023.

Wetland 149 Information Summary					
Location	South of I-5, east of 54th	n Avenue East			
Date(s) Evaluated	5/19/23				
		Local Jurisdiction	City of Fife		
		Ecology Rating (2014)	Category IV		
		Local Rating	Category IV		
		City of Puyallup Buffer Width	40 feet with mitigation measures		
		Wetland Size	0.40 acre		
		Cowardin Class	PEM		
CONTRACTOR SOUND		HGM Class	Depressional		
		Wetland Data Sheet(s)	Appendix A: W149-SP1		
		Upland Data Sheet(s)	Appendix A: W149-SP2		
	Wetland	Delineation			
Dominant Vegetation	Shrub: Himalayan black	berry (<i>Rubus armeniacus</i>) varass, catchwood bodstraw (Caliam anarine)		
Soils	Soil pit SP1 dug in Wetla dark surface (A12).	and 149 contained hydric soils	Indicators included thick		
Hydrology	Hydrology Precipitation provides the primary hydrologic inputs to this wetland. Primary indicators high water table (A2) and saturation (A3) were met.				
Rationale for Delineation	All three wetland parame	eters were met.			
Wetland Rating and Functions					
Rationale for Local Rating The FMC classifies wetla System (FMC 17.17.020)		ands based on the Washington State Wetland Rating)). Wetland 149 rates as a Category IV.			
Functions	The wetland has modera functions. Function sum	ate hydrologic and water qualit maries are provided Table 11 a	y functions, and low habitat and Appendix C.		
Wetland Buffers					
Buffer Condition	Pr ConditionThe buffer is in poor condition. Roads and industrial development surround the wetland. I-5 North and a freeway offramp are to the north, south, and east. 54th Avenue East borders the wetland's western boundary.				

Table 8. Wetland 149 Summary.

Wetland 150 Information Summary												
Location	South of I-5, west of 54th	h Avenue East										
Date(s) Evaluated	5/19/23											
	A Contraction of the	Local Jurisdiction	City of Fife									
		Ecology Rating (2014)	Category IV									
		Local Rating	Category IV									
	ALA.	City of Puyallup Buffer Width	40 feet with mitigation measures									
	A Constant of the	Wetland Size	0.09 acre									
		Cowardin Class	PEM									
CARL PRANCES		HGM Class	Depressional									
		Wetland Data Sheet(s)	Appendix A: W150-SP1									
	A set of the set of	Upland Data Sheet(s)	Appendix A: W150-SP2									
Dominant Vagatation	Wetland											
Soils	Soil pit SP1 dug in Wetla hydrogen sulfide (A4). T	and 150 contained hydric soils. here was prominent redox fror	. Indicators included n 0 to 12 inches.									
Hydrology	Precipitation provides the indicators high water tab	e primary hydrologic inputs to le (A2) and saturation (A3) we	this wetland. Primary re met.									
Rationale for Delineation	All three wetland parame	eters were met.										
	Wetland Ratin	ng and Functions										
Rationale for Local Rating	The FMC classifies wetla System and on habitat s Category IV.	ands based on the Washingtor core (FMC 17.17.020). Wetlan	n State Wetland Rating Id 150 rates as a									
Functions	unctionsThe wetland has moderate hydrologic functions, and low high water quality and low habitat functions. Function summaries are provided Table 11 and Appendix C.											
	Wetlar	nd Buffers										
Buffer Condition	The buffer is in poor con wetland. I-5 North and a 54th Avenue East borde	dition. Roads and industrial de freeway offramp are to the no rs the wetland's eastern bound	evelopment surround the rth, south, and west. dary.									

Table 9. Wetland 150 Summary.

Wetland 151 Information Summary												
Location	South of I-5, east of 54th	Avenue East to 62nd Avenue	East									
Date(s) Evaluated	5/19/23											
CONTRACTOR I		Local Jurisdiction	City of Fife									
		Ecology Rating (2014)	Category IV									
Section State		Local Rating	Category IV									
A Star Star May		City of Puyallup Buffer Width	40 feet									
The second second		Wetland Size	2.02 acres									
		Cowardin Class	PEM									
		HGM Class	Depressional									
		Wetland Data Sheet(s)	Appendix A: W151-SP1									
		Upland Data Sheet(s)	Appendix A: W151-SP2									
	Wetland	Delineation										
Dominant Vegetation	Tree: black cottonwood											
	Shrub: Himalayan blackt	perry warass creeping buttercup										
Soils	Soil pit SP1 dug in Wetla	and 151 contained hydric soils.	Indicators included sandv									
	gleyed matrix (S4) and lo	pamy gleyed matrix (F2).	,									
Hydrology	The wetland is located in inputs to this wetland. Pr	a ditch. Precipitation provides	s the primary hydrologic) was met.									
Rationale for Delineation	All three wetland parame	eters were met.										
	Wetland Ratin	ng and Functions										
Rationale for Local Rating	The FMC classifies wetla System and on habitat so Category IV.	ands based on the Washingtor core (FMC 17.17.020). Wetlan	n State Wetland Rating Id 151 rates as a									
Functions	The wetland has modera functions. Function sumr	ate hydrologic and water qualit maries are provided Table 11 a	y functions, and low habitat and Appendix C.									
	Wetlar	nd Buffers										
Buffer Condition	Buffer Condition The buffer is in poor condition. Roads and industrial development surround the wetland. I-5 North is to the north and 54th Avenue East is to the west. Industrial development and disturbed grass fields are to the south and east.											

Table 10. Wetland 151 Summary.

3.4. Functions of Additional Wetlands

In general, the additional wetlands analyzed for this addendum (W149, W150, and W151) provide moderate levels of water quality functions, moderate levels of hydrologic functions, and low levels of habitat functions (Table 11; Appendices B and C). Functions provided by the additional wetlands in the Addendum study area are summarized in Table 11 and are further described for each wetland below.

		Wetland	
Function/Value ^a	W149	W150	W151
Sediment Removal	-	_	_
Nutrient and Toxicant Removal	+	+	+
Flood Flow Alteration	+	+	+
Erosion Control and Shoreline Stabilization	-	-	_
Production and Export of Organic Matter	x	х	х
General Habitat Suitability	-	-	-
Habitat for Aquatic Invertebrates	-	-	_
Habitat for Amphibians	-	_	_
Habitat for Wetland Associated Mammals	-	-	-
Habitat for Wetland–Associated Birds	-	-	-
General Fish Habitat	-	-	_
Native Plant Richness	-	-	_
Educational or Scientific Value	-	_	_
Uniqueness and Heritage	-	_	_

Table 11. Functions and Values of Wetlands in the Study Area.

^a "–" means that the function is not present; "x" means that the function is present is of lower quality; and "+" means the function is present and is one of the principal wetland functions.

W149, W150, and W151 are depressional wetlands in median areas (W149 and W150) or roadside ditches (W151) associated with I-5. They have moderate potential to improve water quality due to intermittent outflow, which increases retention time for stormwater and other pollutants that discharge to the wetlands from adjacent development. The wetlands are in a highly developed drainage basin with degraded water quality issues, which increases their value to society.

W149 and W151 provide moderate hydrologic functions, and W150 provides low hydrologic functions. All wetlands receive direct stormwater inputs from surrounding land surfaces and have the capacity to store water during flood events due to intermittent outflow.

W149, W150, and W151 have low potential to provide habitat functions due to the lack of vegetation structure, habitat features, and connectivity to other functional habitats. The wetlands are surrounded by high-intensity development and land uses that further decrease their potential to provide habitat in the area.

4. References

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

Project Site:	<u>SR 167 C</u>	Comple	etion, Stage 1A			Cit	ty/County:	Fife/I	Pierce		Sampling [Date:	7/13	/18	
Applicant/Owner:	WSDOT									State: WA	Sampling F	Point:	<u>W1</u>	<u>SP1</u>	
Investigator(s):	D.Miller, I	M.Hag	edorn, E.Henric	<u>hsen</u>				Se	ection,	Township, Rar	ge: <u>Sec.7,</u>	T.20N, R.	.4E		
Landform (hillslope, ter	rrace, etc.)): <u>r</u> e	oadside ditch			Local relie	ef (concave	, conve	x, non	e): <u>concave</u>		Slop	e (%):	<u>1</u>	
Subregion (LRR):	<u>A</u>			Lat:	<u>47.241446</u>			Long:	<u>-122.3</u>	345927		Datum:	NAD 1	983 H	IARN
Soil Map Unit Name:	Sultan s	ilt loar	<u>n</u>							NWI clas	sification:	PEM			
Are climatic / hydrologi	c conditior	ns on t	he site typical fo	or this ti	me of year?	Yes	\boxtimes	No		(If no, explain	in Remarks.)				
Are Vegetation 🛛 🖾,	Soil	□,	or Hydrology	□ , s	significantly di	sturbed?	Are "Nor	mal Cir	cumst	ances" present	?	Yes	\boxtimes	No	
Are Vegetation \Box ,	Soil	□,	or Hydrology	□, r	naturally probl	ematic?	(If neede	ed, expl	ain an	y answers in R	emarks.)				

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

Hydrophytic Vegetation Present?	Yes	\boxtimes	No		
Hydric Soil Present?	Yes	\boxtimes	No		Is the Sampled Area Yes 🛛 No 🗌
Wetland Hydrology Present?	Yes	\boxtimes	No		
Remarks: A portion of the area that we delineated was County, although the western portion of Wet	mowed land 1 is	thus in Fif	disturl e.	bed.	Some tire tracks from mowing, but not a "significant disturbance." Point is in Pierce

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
1			_	Number of Dominant Species	1	(A)
2				That Are OBL, FACW, or FAC:	<u> </u>	(7)
3				Total Number of Dominant	1	(B)
4				Species Across All Strata:	-	(2)
50% =, 20% =		= Total Cove	r	Percent of Dominant Species	100%	(A/B)
Sapling/Shrub Stratum (Plot size: N/A)				That Are OBL, FACW, or FAC:	10070	(,,,,,)
1				Prevalence Index worksheet:		
2				Total % Cover of:	Multiply by:	
3				OBL species	x1 =	
4				FACW species	x2 =	
5				FAC species	x3 =	
50% =, 20% =		= Total Cove	r	FACU species	x4 =	
<u>Herb Stratum (</u> Plot size: <u>1 M</u>)				UPL species	x5 =	
1. <u>Phalaris arundinacea</u>	<u>89%</u>	<u>yes</u>	FACW	Column Totals: (A)		(B)
2. <u>Ranunculus acriformis</u>	<u>1%</u>	no	FAC	Prevalence Index = B/A =	: <u></u>	
3				Hydrophytic Vegetation Indicators:		
4				1 – Rapid Test for Hydrophytic Vegetat	tion	
5				2 - Dominance Test is >50%		
6				\Box 3 - Prevalence Index is $\leq 3.0^1$		
7				4 - Morphological Adaptations ¹ (Provid	e supporting	
8				data in Remarks or on a separate s	heet)	
9				5 - Wetland Non-Vascular Plants ¹		
10				Problematic Hydrophytic Vegetation ¹ (I	Explain)	
11				4		
50% = <u>45</u> , 20% = <u>18</u>	<u>90%</u>	= Total Cove	r	Indicators of hydric soil and wetland hydrolo be present, unless disturbed or problematic.	ogy must	
Woody Vine Stratum (Plot size: NA)						
1						
2				Hydrophytic	Ne	_
50% =, 20% =		= Total Cove	r	Present?	NO	
% Bare Ground in Herb Stratum 10%						
Remarks: Vegetative cover would likely be 1	00% if not for	tire tracks.				

Project Site: <u>SR 167 Completion, Stage 1A</u>

SOIL

SOIL								Sampling Point: \	V1-SP1		
Profile Desc	ription: (Describe t	o the dept	h needed to do	ocument the ind	licator or confir	m the absenc	e of indicators.))			
Depth	Matrix			Redox	Features						
(inches)	Color (moist)	%	Color (moi	st) %	Type ¹	Loc ²	Texture		Remark	s	
<u>0-1.5</u>	<u>10YR 2/2</u>	100					silt loam				
<u>1.5-10.5</u>	<u>10YR 3/1</u>	<u>95</u>	<u>10YR 3/6</u>	<u>5</u>	<u>C</u>	M	sandy silt	loam			
<u>10.5-15.5</u>	Gley1 3/N	<u>100</u>					loamy sand				
¹ Type: C= Co	ncentration, D=Dep	letion, RM=	Reduced Matrix	x, CS=Covered o	or Coated Sand	Grains. ² L	Location: PL=Por	e Lining, M=Matri	ĸ		
Hydric Soil I	ndicators: (Applica	ble to all L	.RRs, unless o	therwise noted.	.)		Indicato	rs for Problemat	c Hydric S	Soils ³ :	
Histoso	ol (A1)			Sandy Redox (S	S5)		□ 2	cm Muck (A10)			
Histic E	pipedon (A2)			Stripped Matrix	(S6)		🗆 R	ed Parent Materia	al (TF2)		
Black H	listic (A3)			Loamy Mucky N	/lineral (F1) (exc	ept MLRA 1)		ery Shallow Dark	Surface (T	F12)	
☐ Hydrog	en Sulfide (A4)			Loamy Gleyed I	Matrix (F2)			ther (Explain in R	emarks)		
Deplete	ed Below Dark Surfa	ce (A11)		Depleted Matrix	(F3)						
Thick D	ark Surface (A12)		\boxtimes	Redox Dark Su	rface (F6)						
□ Sandy	Mucky Mineral (S1)			Depleted Dark S	Surface (F7)		³ Indicato	rs of hydrophytic	egetation	and	
□ Sandy	Gleyed Matrix (S4)			Redox Depress	ions (F8)		wetlar	nd hydrology mus s disturbed or prol	t be presei blematic.	nt,	
Restrictive L	ayer (if present):										
Type:											
Depth (inches	s):					Hydric Soils	Present?	Yes	\boxtimes	No	
Remarks:											

HYDROLOGY

Wetl	and Hydrology Indicat	ors:												
Prima	ary Indicators (minimum	of one r	equired	; check	all that	t apply)			Sec	ondary Indicators (2 or r	nore requir	ed)		
	Surface Water (A1)					Water-Stained Leave	s (B9)			Water-Stained Leaves	s (B9)			
\boxtimes	High Water Table (A2))				(except MLRA 1, 2, 4	4A, and 4B)			(MLRA 1, 2, 4A, and	4B)			
\boxtimes	Saturation (A3)					Salt Crust (B11)				Drainage Patterns (B1	0)			
	Water Marks (B1)					Aquatic Invertebrates	(B13)			Dry-Season Water Ta	ble (C2)			
	Sediment Deposits (B	2)				Hydrogen Sulfide Ode	or (C1)			Saturation Visible on Aerial Imagery (C9)				
	Drift Deposits (B3)					Oxidized Rhizosphere	es along Living Roots	s (C3)		Geomorphic Position (D2)				
	Algal Mat or Crust (B4	or Crust (B4)								Shallow Aquitard (D3)				
	Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6)									FAC-Neutral Test (D5)			
Surface Soil Cracks (B6)									Raised Ant Mounds (D6) (LRR A)					
□ Inundation Visible on Aerial Imagery (B7) □						Other (Explain in Remarks)				Frost-Heave Hummoc	ks (D7)			
	Sparsely Vegetated C	oncave S	Surface	(B8)										
Field	Observations:													
Surfa	ce Water Present?	Yes		No	\boxtimes	Depth (inches):								
Wate	r Table Present?	Yes	\boxtimes	No		Depth (inches):	<u>14"</u>							
Satu (inclu	ration Present? Ides capillary fringe)	Yes	\boxtimes	No		Depth (inches):	<u>surface</u>	Wetlar	nd Hy	drology Present?	Yes	\boxtimes	No	
Desc	ribe Recorded Data (str	eam gau	ge, mo	nitoring	well, a	erial photos, previous i	nspections), if availat	ole:						
Rem	arks:													

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

Project Site:	<u>SR 167 C</u>	omple	etion, Stage 1A			Ci	ty/County:	Fife/	Pierce	<u>!</u>	Sampling [Date:	7/13	8/18	
Applicant/Owner:	WSDOT									State: WA	Sampling F	Point:	<u>W1</u>	SP2	
Investigator(s):	D.Miller, N	M.Hag	edorn, E.Henric	<u>hsen</u>				Se	ection,	Township, Rang	ge: <u>Sec.7,</u>	T.20N, R.	.4E		
Landform (hillslope, ter	race, etc.)	: <u>ro</u>	<u>padside</u>			Local relie	ef (concave	, conve	x, non	ne): <u>convex</u>		Slop	e (%):	<u>1</u>	
Subregion (LRR):	<u>A</u>			Lat	47.241516			Long:	<u>-122.</u>	345874		Datum:	NAD 1	983 H	IARN
Soil Map Unit Name:	<u>Sultan s</u>	ilt Ioan	<u>n</u>							NWI clas	sification:	UPL			
Are climatic / hydrologi	c conditior	ns on t	he site typical fo	or this ti	me of year?	Yes	\boxtimes	No		(If no, explain i	n Remarks.)				
Are Vegetation	Soil	□,	or Hydrology	□,	significantly d	isturbed?	Are "Nor	mal Cir	cumst	ances" present?	•	Yes	\boxtimes	No	
Are Vegetation \Box ,	Soil	□,	or Hydrology	□,	naturally prob	lematic?	(If neede	ed, expl	ain an	y answers in Re	marks.)				

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

Hydrophytic Vegetation Present?	Yes	\boxtimes	No						
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes		No	\boxtimes
Wetland Hydrology Present?	Yes		No	\boxtimes					
Remarks: Near Flag W1-30, a portion of the area that v	ve delin	eated	was n	nowed	thus disturbed. Some tire tracks from mowing, but not a "si	onifican	t distu	rhanc	e "

temarks: Near Flag W1-30, a portion of the area that we delineated was mowed, thus disturbed. Some tire tracks from mowing, but not a "significant disturbance." Point is in Pierce County, although the western portion of Wetland 1 is in Fife.

VEGETATION – Use scientific names of plants

1.	Tree Stratum (Plot size: N/A)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:	
3.	1 2			_	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
50% = 20% =	3 4				Total Number of Dominant Species Across All Strata: 2	(B)
Sapling/Shrub Stratum (Plot size: NA) That Are OBL, FACW, or FAC: Log (vot) 1.	50% =, 20% =		= Total Cove	er	Percent of Dominant Species) (A/B)
1.	Sapling/Shrub Stratum (Plot size: N/A)				That Are OBL, FACW, or FAC:	<u>)</u> (A/B)
2	1				Prevalence Index worksheet:	
3	2				Total % Cover of: Mu	ltiply by:
4	3				OBL species x1	=
5	4				FACW species x2	=
50% =, 20% =	5				FAC species x3	=
Herb Stratum (Plot size: 1M) UPL species x5 = 1. Phalaris arundinacea 38< yes	50% =, 20% =		= Total Cove	er	FACU species x4	=
1. Phalaris arundinacea 38 yes FACW Column Totals:(A)(B) 2. Ranunculus repens 35 yes FAC Prevalence Index = B/A =	Herb Stratum (Plot size: <u>1 M</u>)				UPL species x5	=
2. Ranunculus repens 35 yes FAC Prevalence Index = B/A =	1. <u>Phalaris arundinacea</u>	<u>38</u>	yes	FACW	Column Totals:(A)	(B)
3. Plantago lanceolata 2 no FACU Hydrophytic Vegetation Indicators: 4. Poa sp. 5 no □ 1 - Rapid Test for Hydrophytic Vegetation 5	2. <u>Ranunculus repens</u>	<u>35</u>	<u>yes</u>	FAC	Prevalence Index = B/A =	
4. Poa sp. 5 no 1 1 Rapid Test for Hydrophytic Vegetation 5	3. <u>Plantago lanceolata</u>	<u>2</u>	no	FACU	Hydrophytic Vegetation Indicators:	
5.	4. <u>Poa sp.</u>	<u>5</u>	no		1 – Rapid Test for Hydrophytic Vegetation	
6	5				2 - Dominance Test is >50%	
7	6				□ 3 - Prevalence Index is <u><</u> 3.0 ¹	
8 9 10 10 11 50% = 40, 20% = 16 80 80 = Total Cover Woody Vine Stratum (Plot size: NA) 1 2 50% =, 20% = = Total Cover % Bare Ground in Herb Stratum 20 Dead grass by fence about 20% of plot. (R.V. lot may spray herbicide.)	7				4 - Morphological Adaptations ¹ (Provide sup	porting
9 5 - Wetland Non-Vascular Plants ¹ 10 Problematic Hydrophytic Vegetation ¹ (Explain) 11	8				data in Remarks or on a separate sheet)	
10	9				5 - Wetland Non-Vascular Plants ¹	
11	10				Problematic Hydrophytic Vegetation ¹ (Expla	in)
50% = 40, 20% = 16 80 = Total Cover Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 1.	11					
Woody Vine Stratum (Plot size: NA) I. I.<	50% = <u>40</u> , 20% = <u>16</u>	<u>80</u>	= Total Cove	er	be present, unless disturbed or problematic.	ust
1 Hydrophytic 2 Hydrophytic Vegetation Yes No □ 50% =, 20% = = Total Cover Present? No □ % Bare Ground in Herb Stratum 20	Woody Vine Stratum (Plot size: NA)				· · ·	
2 Hydrophytic 50% =, 20% = = Total Cover Vegetation Yes No % Bare Ground in Herb Stratum 20 Present? Remarks: Dead grass by fence about 20% of plot. (R.V. lot may spray herbicide.)	1					
50% =, 20% = = Total Cover Present? % Bare Ground in Herb Stratum 20 Pad grass by fence about 20% of plot. (R.V. lot may spray herbicide.)	2				Hydrophytic	
% Bare Ground in Herb Stratum 20 Remarks: Dead grass by fence about 20% of plot. (R.V. lot may spray herbicide.)	50% =, 20% =		= Total Cove	er	Present?	
Remarks: Dead grass by fence about 20% of plot. (R.V. lot may spray herbicide.)	% Bare Ground in Herb Stratum 20					
	Remarks: Dead grass by fence about 20% c	of plot. (R.V. lo	ot may spray h	erbicide.)		

Project Site: <u>SR 167 Completion, Stage 1A</u>

SOIL

SOI	L									Sampling F	oint: W1	-SP2		
Prof	ile Desc	ription: (Describe t	o the depth	needed to d	locument	the indica	tor or confi	rm the absence	e of indicato	ors.)				
D	Pepth	Matrix				Redox Fe	atures							
(incl	hes)	Color (moist)	%	Color (mo	oist)	%	Type ¹	Loc ²	Texture			Remarks		
	0-4	<u>10YR 2/2</u>	100						silt loan	n <u>small gra</u>	avel, likely	/ from ac	ljacent R.	V. lot
4	4- <u>16</u>	<u>7.5YR 3/2</u>	<u>100</u>						silt loan	<u>1</u>				
_														
-														
_														
_														
_														
_														
1Тур	e: C= Co	ncentration, D=Depl	etion, RM=I	Reduced Mati	rix, CS=Co	overed or C	Coated Sand	Grains. ² L	ocation: PL=	Pore Lining, M=	=Matrix			
Hyd	ric Soil I	ndicators: (Applica	ble to all L	RRs, unless	otherwise	e noted.)			Indic	ators for Prob	lematic I	Hydric S	oils³:	
	Histosc	ol (A1)			Sandy F	Redox (S5)				2 cm Muck (A	A10)			
	Histic E	pipedon (A2)			Stripped	Matrix (S	6)			Red Parent M	/laterial (TF2)		
	Black H	listic (A3)			Loamy M	Mucky Min	eral (F1) (ex	cept MLRA 1)		Very Shallow	Dark Su	rface (TF	12)	
	Hydrog	en Sulfide (A4)			Loamy (Gleyed Ma	trix (F2)			Other (Explai	n in Rem	arks)		
	Deplete	ed Below Dark Surfa	ce (A11)		Deplete	d Matrix (F	3)							
	Thick D	ark Surface (A12)			Redox E	Dark Surfa	ce (F6)							
	Sandy	Mucky Mineral (S1)			Deplete	d Dark Sur	face (F7)		³ India	ators of hydrop	hytic veg	etation a	ind	
	Sandy	Gleyed Matrix (S4)			Redox E	Depression	s (F8)		ur	less disturbed	or proble	matic.	·,	
Rest	trictive L	ayer (if present):												
Туре	e:													
Dept	th (inches	s):						Hydric Soils F	Present?		Yes		No	\boxtimes
Rem	arks:	No indicators obser	ved.											

HYDROLOGY

Wetla	and Hydrology Indica	tors:											
Prima	ary Indicators (minimun	n of one r	Secondary Indicators (2 or more required)										
	Surface Water (A1)					Water-Stained Leaves (B9)			Water-Stained Leaves	s (B9)			
	High Water Table (A2	2)				(except MLRA 1, 2, 4A, and 4B)			(MLRA 1, 2, 4A, and	4B)			
	Saturation (A3)					Salt Crust (B11)			Drainage Patterns (B	10)			
	Water Marks (B1)					Aquatic Invertebrates (B13)			Dry-Season Water Ta	able (C2)			
	Sediment Deposits (E	32)				Hydrogen Sulfide Odor (C1)			Saturation Visible on	Aerial Imag	ery (C	9)	
	Drift Deposits (B3)					Oxidized Rhizospheres along Living Roo	ots (C3)		Geomorphic Position	(D2)			
	Algal Mat or Crust (B4	4)				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 Stresses Plants (D1) (LRR A)			Raised Ant Mounds (I	D6) (LRR A)		
	Inundation Visible on Aerial Imagery (B7)					Other (Explain in Remarks)			Frost-Heave Hummocks (D7)				
	Sparsely Vegetated Concave Surface (B8)												
Field	Observations:												
Surfa	ce Water Present?	Yes		No	\boxtimes	Depth (inches):							
Wate	r Table Present?	Yes		No	\boxtimes	Depth (inches):							
Satur (inclu	Saturation Present? Yes I No (includes capillary fringe)			\boxtimes	Depth (inches):	Wetla	Wetland Hydrology Present?				No		
Desc	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:												
Rema	Remarks: No indicators observed.												

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

Project/Site: SR 167 Stage 2	City/County: Fife/Pierce	Sa	Sampling Date: 23-Mar-22			
Applicant/Owner: WSDOT		State: WA	Sampling Point: W01-SP3			
Investigator(s): J. Hearsey, L. Domingez	Section, Township, Range	5 7 T 201	N R _4E			
Landform (hillslope, terrace, etc.): Ditch	Local relief (concave, convex, none): <u>concave</u> Slope: <u>5.0</u>					
Subregion (LRR): LRR A Lat.:	47.242030 Lo	ng.: 122.356655	Datum: NAD 1983 H			
Soil Map Unit Name: Sultan silt loam		NWI classific	ation: None			
Are climatic/hydrologic conditions on the site typical for this time of ye Are Vegetation	ar? Yes No Iy disturbed? Are "Norm 	(If no, explain in Ra	emarks.) esent? Yes • No 🔿			
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	problematic? (If needed	, explain any answers	s in Remarks.)			

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🔍 No 🔾	Is the Sampled Area
Hydric Soil Present?	Yes $ullet$ No $igodot$	
Wetland Hydrology Present?	Yes 💿 No 🔿	within a wetland?

Remarks:

Lat/Long estimated from aerial image. Hydrophytic vegetation, hydric soil, and wetland hydrology are all present at site. Sampled area is within a wetland.

VEGETATION - Use scientific names of pla	nts.	Dominant _Species? _		
Tree Stratum (Plot size: 3 m rad)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1	0	0.0%		Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2	0	0.0%		
3	0	0.0%		Total Number of Dominant
4	0	0.0%		Species Across All Strata: (B)
	0	= Total Cove	r	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1	0	0.0%		
2		0.0%		Prevalence Index worksheet:
2.				I otal % Cover of: Multiply by:
3				$\begin{array}{c} \text{OBL specilies} \\ 0 \\ \end{array} \begin{array}{c} 0 \\ \end{array} x \\ 1 \\ \end{array} = \\ 0 \\ \end{array}$
±5				FACW species $100 \times 2 = 200$
5		0.0%		FAC species $0 \times 3 = 0$
Herb Stratum (Plot size: 1 m rad)	0	= Total Cove	r	FACU species $0 \times 4 = 0$
1 Phalaris arundinacea	100	✔ 100.0%	FACW	UPL species $\frac{0}{2}$ x 5 = $\frac{0}{2}$
2	0	0.0%		Column Totals: <u>100</u> (A) <u>200</u> (B)
3	0	0.0%		Prevalence Index = $B/A = 2.000$
<u>4</u>	0	0.0%		
5	0	0.0%		Hydrophytic Vegetation Indicators:
с. б	0	0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
7	0	0.0%		\checkmark 2 - Dominance Test is > 50%
8	0	0.0%		✓ 3 - Prevalence Index is \leq 3.0 ¹
9	0	0.0%		4 - Morphological Adaptations ¹ (Provide supporting
10	0	0.0%		data in Remarks or on a separate sheet)
11	0	0.0%		5 - Wetland Non-Vascular Plants
	100	= Total Cove	r	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: <u>1 m rad</u>)	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2				Hydronbytic
Z		0.0%		Vegetation
	0	= Total Cove	r	Present? Yes 🔍 No 🔾
% Bare Ground in Herb Stratum: _0				
Remarks:				

Site meets the rapid test, dominance test, and prevalence index indicators. Hydrophytic vegetation is present at site.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Depui		Matrix			Red	ox Featı	ires		_	
(inches)	Color (moist)	%	Color	(moist)	%	Type ¹	Loc ²	Texture	Remar
0-3	10YR	3/2	100						Silt Loam	
3-16	10YR	4/2	60	5YR	4/4	20	С	м	Sand	w/gravel
				Gley 1	3/10GY	20	D	М	Sand	w/gravel
Type: C=Conc Hydric Soil I Histosol (#	centration. D ndicators: A1) pedon (A2)	=Depletion (Applicat	n. RM=Rec	luced Matrix, RRs, unles	CS=Covere s otherwis	ed or Coa e noted S5) < (S6)	ted Sand Gi	rains ² Loc	cation: PL=Pore Linir Indicators for 2 cm Muck	ng. M=Matrix Problematic Hydric Soils (A10) Material (TF2)
 Inside Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) 				 Loamy Mucky Mineral (F1) (except in MLRA 1) Loamy Gleyed Matrix (F2) ✓ Depleted Matrix (F3) ✓ Redox Dark Surface (F6) ✓ Depleted Dark Surface (F7) ✓ Redox depressions (F8) 					 Other (Explain in Remarks) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. 	
lestrictive La	ayer (if pre	sent):								
Туре:									Hydric Soil Pros	ent? Voc 🔍 No
Depth (inch	nes):								Hydric Soli Pres	

Hydrology

Wetland Hydrology Indicators:										
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required)										
Surface Water (A1)	Water-Stained Leaves (B9) (MLRA 1, 2,									
✓ High Water Table (A2)	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 Imagery (C9)								
Drift deposits (B3)	Oxidized Rhizospheres on 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)										
Field Observations:										
Surface Water Present? Yes O No •	Depth (inches):									
Water Table Present? Yes No	Depth (inches): 4									
Saturation Present? (includes capillary fringe) Yes • No	Depth (inches): 0	lydrology Present? Tes \odot NO \bigcirc								
Describe Recorded Data (stream gauge, monit	or well, aerial photos, previous inspections), if avai	ilable:								
Remarks:										
Site meets the indicators for high water table	(A2) and saturation (A3). Site contains wetland hyd	drology.								

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

Project/Site: SR 167 Stage 2	City/County: Fife/Pierce	Sa	Sampling Date: 23-Mar-22		
Applicant/Owner: WSDOT		State: WA	Sampling Point: W01-SP4		
Investigator(s): J. Hearsey, L. Domingez	Section, Township, Range	S 7 T 20N	R_4E		
Landform (hillslope, terrace, etc.): Gulch or Gully	Local relief (concave, convex, none): concave Slope: 1.0 % /				
Subregion (LRR): LRR A Lat.:	47.241986 Lo	Datum: NAD 1983 H			
Soil Map Unit Name: Sultan silt loam		NWI classifica	ation: None		
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes $ullet$ No $igodot$	(If no, explain in Re	emarks.)		
Are Vegetation 🔽 , Soil 🔽 , or Hydrology 🗹 significant	ly disturbed? Are "Norma	l Circumstances" pre	sent? Yes 🖲 No 🔾		
Are Vegetation . , Soil , or Hydrology naturally p	problematic? (If needed,	explain any answers	in Remarks.)		

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes \bigcirc	No 🖲	Is the Sampled Area	
Hydric Soil Present?	Yes \bigcirc	No 🖲		
Wetland Hydrology Present?	Yes \bigcirc	No 🖲	within a Wetland?	

Remarks:

Lat/Long estimated from aerial image. Sampled area is not within a wetland.

Tree Stratum (Plot size: 3 m rad)	Absolute % Cover	_Species? Rel.Strat. Cover	Indicator	Dominance Test worksheet:
	0		Status	Number of Dominant Species
2	0			
2	0	0.0%		Total Number of Dominant
3	0			Species Across All Strata: (B)
4,		0.0%		Percent of dominant Species
apling/Shrub Stratum_ (Plot size: 2 m rad)	0	= Total Cov	er	That Are OBL, FACW, or FAC:(A/B)
1. Prunus laurocerasus	20	✓ 100.0%	UPL	Prevalence Index worksheet:
2.	0	0.0%		Total % Cover of: Multiply by:
3.	0	0.0%		0BL species 0 x 1 = 0
4.	0	0.0%		$\frac{1}{16}$
5.	0	0.0%		$\frac{1}{10}$
		- Total Car		FAC species 33 $x_3 = 237$
erb Stratum (Plot size: 1 m rad)			er	FACU species $\frac{4}{20}$ x 4 = $\frac{10}{100}$
1 Hypochaeris radicata	4	3.6%	FACU	UPL species $\frac{20}{100}$ x 5 = $\frac{100}{100}$
2 Vicia americana	4	3.6%	FAC	Column Totals: <u>131</u> (A) <u>429</u> (B)
3 Phalaris arundinacea	8	7.2%	FACW	Prevalence Index = $B/A = 3.275$
4 Agrostis gigantea	95	✔ 85.6%	FAC	
5	0	0.0%		Hydrophytic Vegetation Indicators:
6	0	0.0%		L 1 - Rapid Test for Hydrophytic Vegetation
7	0	0.0%		2 - Dominance Test is > 50%
8	0	0.0%		□ 3 - Prevalence Index is ≤3.0 1
9	0	0.0%		\Box 4 - Morphological Adaptations ¹ (Provide supporting
0	0	0.0%		data in Remarks or on a separate sheet)
1	0	0.0%		5 - Wetland Non-Vascular Plants ¹
1.	111	= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
Voody Vine Stratum (Plot size: <u>1 m rad</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0	0.0%		
2	0	0.0%		Hydrophytic Vegetation
	0	= Total Cov	er	Present? Yes V No 🔍
% Bare Ground in Herb Stratum: _0				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Pui	Matrix			Red	ox Feat	ures		_	
(inches)	Color (moist)	%	Color (moist)	%	<u>Type¹</u>	Loc ²	Texture	Remarks
0-5	10YR	2/1	50					sand	mixed matrix
0-5	10YR	4/3	50					sand	mixted matrix
5-16	10YR	4/3	100	·				Sand	
pe: C=Conc	centration. D	=Depletion	n. RM=Red	uced Matrix, CS=Covere	ed or Coa	ted Sand Gr	ains ² Loo	cation: PL=Pore Lining	g. M=Matrix
Hydric Soil I Histosol (A Histic Epip Black Histi Hydrogen Depleted I Thick Dark Sandy Mu Sandy Gle	ndicators: A1) bedon (A2) ic (A3) Sulfide (A4) Below Dark S < Surface (A: ck Mineral (S yed Matrix ((Applicat Gurface (A: 12) 51) 54)	le to all L	RRs, unless otherwis Sandy Redox Stripped Matri Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Si Depleted Dark Redox depress	(S5) (S5) Mineral (Matrix (F ix (F3) urface (F6 Surface sions (F8)	•) F1) (except 52) 5) (F7)	in MLRA 1)	Indicators for F 2 cm Muck (Red Parent I Other (Expla 3Indicators of hydrowetland hydrologunless disturbe	Problematic Hydric Soils ³ (A10) Material (TF2) ain in Remarks) rophytic vegetation and ogy must be present, d or problematic.
estrictive La	ayer (if pre	sent):							
Type:	nes):							Hydric Soil Prese	nt? Yes 🔿 No 🖲
Depth (inch									

Hydrology

I

Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA High Water Table (A2) 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B1) Water Marks (B1) Aquatic Invertebrates (B13) Drift deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on Living Roots (C3) Agal Mat or Crust (B4) Presence of Reduced Iron (C4) Inon Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stuned or Stressed Plants (D1) (LRR A) Inudation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Field Observations: Saturation Present? Surface Soil Cracks (B6) Depth (inches): Saturation Present? Yes No No Depth (inches): Wetland Hydrology Present? Yes No Remarks: No Depth (inches): Water-Stained Leaves (B) No No evidence of wetland hydrology. No evidence of wetland hydrology.	Wetland Hydrology Indicators:											
□ Surface Water (A1) □ Water-Stained Leaves (B9) (except MLRA □ 4A, and 4B) □ High Water Table (A2) 1, 2, 4A, and 4B) □ An, and 4B) □ □ Saturation (A3) □ Galt 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 Imagery (C9) □ Diff deposits (B3) □ Oxidized Rnizospheres on 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) Saturation Present? Yes No ● □	Primary Indicators (minimum of one required; check all that apply)Secondary Indicators (minimum of two required)											
□ High Water Table (A2) 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 Areital Imagery (C9) □ Diff deposits (B3) □ Oxidized Rhizospheres on 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) □ □ □ □ □ Field Observations: □ □ □ □ □ □<	Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,									
□ Saturation (A3) □ Saturation (B1) □ 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 on 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) □ □ □ □ □ Field Observations: □ □ □ □ □ □ □ Saturation Present? Yes No ● □	High Water Table (A2)	1, 2, 4A, and 4B)	4A, and 4B)									
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 on 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) Depth (inches): Wetland Hydrology Present? Yes No ● Gaturation Present? Yes No ● Depth (inches): Wetland Hydrology Present? Yes No ● Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: No evidence of wetland hydrology. No evidence of wetland hydrology.	Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)									
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on 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) Depth (inches): Wetland Hydrology Present? Yes No Genematic: No Depth (inches): Wetland Hydrology Present? Yes No Remarks: No evidence of wetland hydrology. Yes No Previous inspections), if available:	Water Marks (B1)	Aquatic Invertebrates (B13)	Dry Season Water Table (C2)									
□ Drift deposits (B3) □ Oxidized Rhizospheres on 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) □ Sturface 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) ■ ■ ■ ■ Field Observations: ■ ■ ■ ■ ■ Surface Water Present? Yes No ● Depth (inches): □ Water Table Present? Yes No ● Depth (inches): ■ Wetland Hydrology Present? Yes No ● Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: ■ ■ ■ ■ Remarks: No evidence of wetland hydrology. ■ ■ ■ ■<	Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)									
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) Pepth (inches):	Drift deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)	Geomorphic Position (D2)									
□ 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) □ Depth (inches): □ Field Observations:	Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)									
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) Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): No Remarks: No evidence of wetland hydrology.	Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	FAC-neutral Test (D5)									
Inundation Visible on Aerial Imagery (B7) ○ Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Cincludes capillary fringe) Yes No Depth (inches): Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology.	Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)									
□ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Image: Concave Surface (B8) Water Table Present? Yes No Depth (inches): Image: Concave Surface (B8) Water Table Present? Yes No Depth (inches): Image: Concave Surface (B8) Saturation Present? Yes No Image: Concave Surface (B8) Wetland Hydrology Present? Yes No Image: Concave Surface (B8) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology.	Inundation Visible on Aerial Imagery (E	B7) Other (Explain in Remarks)	Frost Heave Hummocks (D7)									
Field Observations: Surface Water Present? Yes No Depth (inches): Image: Constraint of the second s	Sparsely Vegetated Concave Surface (E	B8)										
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes (includes capillary fringe) Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Depth (inches): Bepth (inches): Wetland Hydrology Present? Yes No No Pepth (inches): Bepth (inches): Wetland Hydrology Present? Yes No No Pepth (inches): Bepth (inches): Wetland Hydrology Present? Yes No No Pepth (inches): Bepth (inches): Wetland Hydrology Present? Yes No No Pepth (inches): Bepth (inches): Bepth (inches): Bepth (inches): Bepth (inches): Wetland Hydrology Present? Yes No No Pepth (inches): Bepth (inches): Bep	Field Observations:											
Water Table Present? Yes No Depth (inches): Saturation Present? Yes (includes capillary fringe) Yes No Depth (inches): Wetland Hydrology Present? Yes No No Depth (inches): Depth (inches): Wetland Hydrology Present? Yes No <p< td=""><td>Surface Water Present? Yes O</td><td>No Depth (inches):</td><td></td></p<>	Surface Water Present? Yes O	No Depth (inches):										
Saturation Present? (includes capillary fringe) Yes No Depth (inches): Wetland Hydrology Present? Yes No Inc Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: No No </td <td>Water Table Present? Yes 🔾</td> <td>No Depth (inches):</td> <td></td>	Water Table Present? Yes 🔾	No Depth (inches):										
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: No evidence of wetland hydrology.	Saturation Present? (includes capillary fringe) Yes O	No Depth (inches): Wetland Hy	ydrology Present? Tes C NO C									
Remarks: No evidence of wetland hydrology.	Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:											
Remarks: No evidence of wetland hydrology.												
No evidence of wetland hydrology.	Remarks:											
	No evidence of wetland hydrology.											
Project/Site: SR 167, Stage 1B	City/County: Milton / Pierce County Sampl											
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Applicant/Owner: WSDOT		State: WA	Sampling Point: W17-SP1									
Investigator(s): G. Richotte, A. Hoenig	Section, Township, Rang	e: S 7 T 20	N R_4E									
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, con	vex, none): concave	Slope: <u>0.0</u> % / <u>0.0</u> °									
Subregion (LRR): LRR A Lat.:	47.243534 L	ong.: -122.33514	Datum: NAD 1983									
Soil Map Unit Name: Tisch silt, Semiahmoo muck		NWI classifi	cation: None									
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes $ullet$ No $igodot$	(If no, explain in R	lemarks.)									
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	ly disturbed? Are "Norn	nal Circumstances" pr	esent? Yes 🖲 No 🔾									
Are Vegetation . , Soil , or Hydrology naturally p	problematic? (If neede	d, explain any answer	s in Remarks.)									

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🖲 No 🔿	Is the Sampled Area
Hydric Soil Present?	Yes 🔍 No 🔾	restriction = Meetics do restriction $restriction = restriction = rest$
Wetland Hydrology Present?	Yes 🔍 No 🔾	within a wetland?

Remarks:

No wetland indicators present. Climatic conditions are drier than normal (WETS table, Port of Tacoma station)

Tree Stratum_ (Plot size: 3m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2,	0	0.0%		
3	0	0.0%		Total Number of Dominant Species Across All Strata: 1 (B)
4	0	0.0%		
Sapling/Shrub Stratum (Plot size: 2 m)	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1	0	0.0%		Prevalence Index worksheet:
2.	0	0.0%		Total % Cover of: Multiply by:
3.	0	0.0%		OBL species $0 \times 1 = 0$
4.	0	0.0%		FACW species $100 \times 2 = 200$
5.	0	0.0%		EAC species $0 \times 3 = 0$
	0	= Total Cov	er	EACH species $0 \times 4 = 0$
lerb Stratum (Plot size: 1 m)				
1. Phalaris arundinacea	100	✔ 100.0%	FACW	$\frac{1}{2} \frac{1}{2} \frac{1}$
2	0	0.0%		$\begin{array}{c} \text{Column fotals:} \underline{100} \\ \text{(A)} \\ \underline{200} \\ \text{(b)} \end{array}$
3	0	0.0%		Prevalence Index = $B/A = 2.000$
4	0	0.0%		Hydrophytic Vegetation Indicators:
5	0	0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
6	0	0.0%		\checkmark 2 - Dominance Test is > 50%
7				\checkmark 3 - Prevalence Index is <3.0 ¹
8				$\square \mathbf{A} = \mathbf{M} \mathbf{a} \mathbf{b} \mathbf{a} \mathbf{b} \mathbf{c} \mathbf{c} \mathbf{c} \mathbf{c} \mathbf{c} \mathbf{c} \mathbf{c} c$
9				data in Remarks or on a separate sheet)
10	0			\Box 5 - Wetland Non-Vascular Plants 1
11		= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
Noody Vine Stratum (Plot size: 1m)				¹ Indicators of hydric soil and wetland hydrology must
1	0	0.0%		be present, unless disturbed or problematic.
2	0	0.0%		Hydrophytic
	0	= Total Cov	er	Vegetation Present? Yes • No O
% Bare Ground in Herb Stratum: _0				

Vegetation meets rapid test for hydrophytic Vegetation, dominance test, and prevalence index

Profile Descr	iption: (De	scribe to t	the depth	needed to a	locument	the ind	icator or c	onfirm the	absence of indicators.)				
Depth		Matrix			Red	ox Featı	ires						
(inches)	Color (moist)	%	Color (1	noist)	%	Type ¹	Loc ²	Texture	Remarks			
0-8	10YR	3/2	95	7.5YR	3/4	5	C	M	silty loam				
8-14	10YR	4/1	80	7.5YR	3/4	20	C	M	silty loam				
				-	-				-				
1Type: C-Con				ucod Matrix		d or Coa	tod Sand G	rains 21 oc	ation: DI-Poro Lining M-	Matrix			
Hydric Soil T	ndicators	(Applicat			othorwis				Indicators for Brobl	ematic Hydric Sails ³			
		(Applicat				(SE)	.)						
	hi) hedon (Δ2)				oped Matri	x (S6)							
	$ic (\Delta 3)$				mv Muckv	Mineral (F1) (excent	in MIRA 1)		Idi (IFZ) Romarka)			
	Sulfide (A4)				mv Gleved	Matrix (F	:2) :2)			Remarks)			
	Bolow Dark	' Surfaco (A1	11)		leted Matr	ix (F3)	_)						
	k Surface (A	12)	,	Red	ox Dark Si	urface (F6	5)		2				
		12)		Dep	leted Dark	Surface	, (F7)		"Indicators of hydrophy wetland bydrology m	rtic vegetation and			
		51)		Red	ox depress	sions (F8)			unless disturbed or p	problematic.			
Sandy Gle	eyed Matrix (54)											
	ayei (ii pie	sent):											
Type:									Hydric Soil Present?				
Depth (inc	hes):												
Remarks:													
Soil meets hy	dric soil inc	licator A1	2.										

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; ch	Secondary Indicators (minimum of two required)	
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	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 Imagery (C9)
Drift deposits (B3)	 Oxidized Rhizospheres on 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)		
Field Observations:		
Surface Water Present? Yes O No •	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	
Saturation Present? Yes O No •	Depth (inches): Wetland Hy	drology Present? Yes 👻 NO 🖯
Describe Recorded Data (stream gauge, monitor	well, aerial photos, previous inspections), if availa	ble:
Remarks:		
Hydrology indicator C3 is present. Secondary indi	cator D5 is also met.	

Project/Site: SR 167, Stage 1B	City/County: Milton / Pierce C	County S	ty Sampling Date: <u>13-A</u>			
Applicant/Owner: WSDOT		State: WA	Sampling Point:	W17-SP2		
Investigator(s): G. Richotte, A. Hoenig	Section, Township, Range	s 7 T 20	N R _4E			
Landform (hillslope, terrace, etc.): hillslope	Local relief (concave, conv	ex, none): concave	Slope:	<u>0.1</u> % /00 °		
Subregion (LRR): LRR A Lat.:	47.243534 Lo	ong.: -122.33514	Datur	n: NAD 1983		
Soil Map Unit Name: Tisch silt, Semiahmoo muck		NWI classifi	cation: None			
Are climatic/hydrologic conditions on the site typical for this time of y	ear? Yes $ullet$ No $igodot$	(If no, explain in R	lemarks.)			
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significan	tly disturbed? Are "Norm	al Circumstances" pr	esent? Yes 🖲	No 🔿		
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally	problematic? (If needed	l, explain any answer	rs in Remarks.)			

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🔿 No 🖲	Is the Sampled Area
Hydric Soil Present?	Yes 🔾 No 🖲	
Wetland Hydrology Present?	Yes \bigcirc No \bigcirc	within a Wetland?

Remarks:

No wetland indicators are present. Climatic conditions are drier than normal (WETS table, Port of Tacoma station). Vegetation is regularly mowed due to Olympic pipeline right of way.

Tree Stretum (Plot size: 3 m)	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
1	<u>-70 COVEI</u>		Status	Number of Dominant Species
1		0.0%		$\frac{1}{1}$
2				Total Number of Dominant
3 4				Species Across All Strata: (B)
4	0	= Total Cov	er	Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 2 m)				That Are OBL, FACW, or FAC:(A)
1	0	0.0%		Prevalence Index worksheet:
2	0	0.0%		Total % Cover of: Multiply by:
3	0	0.0%		OBL species $0 \times 1 = 0$
4.	0	0.0%		FACW species $5 \times 2 = 10$
5	0	0.0%		FAC species $35 \times 3 = 105$
	0	= Total Cov	er	FACIL species $60 \times 4 = 240$
erb Stratum (Plot size: 1 m)				$\frac{1}{1} \frac{1}{1} \frac{1}$
1. Tanacetum vulgare	60	✔ 60.0%	FACU	$\begin{bmatrix} 0 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ $
2. Poa annua	30	30.0%	FAC	$\begin{bmatrix} \text{Column fotals:} & 100 \\ \end{bmatrix} (A) & 355 \\ \end{bmatrix} (B)$
3_Rubus armeniacus	5	5.0%	FAC	Prevalence Index = $B/A = 3.550$
4. Phalaris arundinacea	5	5.0%	FACW	Hydrophytic Vegetation Indicators:
5	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
6	0	0.0%		$\square 2 - \text{Dominance Test is } 50\%$
7				\square 3 - Prevalence Index is $\leq 3.0^{1}$
8				
9			·	data in Remarks or on a separate sheet)
10				5 - Wetland Non-Vascular Plants ¹
11		= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
Noody Vine Stratum (Plot size: 1 m)				¹ Indicators of hydric soil and wetland hydrology must
1	0	0.0%		be present, unless disturbed or problematic.
2				Hydronhytic
۷	0	= Total Cov	er	Vegetation Present? Yes No •
% Para Ground in Harb Stratum, a				

Vegetation does not meet any hydrophytic vegetation criteria. Vegetation is mowed.

Profile Descri	ption: (De	scribe to t	the depth	needed to document	the ind	icator or c	onfirm the	absence of indicato	rs.)		
Depth		Matrix		Red	ox Featu	ures					
(inches)	Color (moist)	%	Color (moist)	%	<u>Type¹</u>	Loc ²	Texture		Remarks	
0-14	10YR	3/2	100					sandy loam	gra	vel in profile	
. <u> </u>				·							
¹ Type: C=Conc	entration. D	=Depletior	n. RM=Redu	iced Matrix, CS=Covere	d or Coa	ted Sand G	rains ² Loca	ation: PL=Pore Lining	. M=Matr	ix	
Hydric Soil I	ndicators:	(Applicat	ole to all L	RRs, unless otherwis	e noted	.)		Indicators for P	roblema	tic Hydric Soils ³ :	
Histosol (A	1)			Sandy Redox (S5)			2 cm Muck (#	A10)		
Histic Epip	edon (A2)			Stripped Matrix	k (S6)			Red Parent M	1aterial (T	F2)	
Black Histi	c (A3)			Loamy Mucky	Mineral (F1) (except	in MLRA 1)	Other (Explai	in in Rem	arks)	
Hydrogen	Sulfide (A4))		Loamy Gleyed	Matrix (F	-2)					
Depleted E	Below Dark	Surface (A1	11)	Depleted Matri	x (F3)						
Thick Dark	Surface (A	12)		Redox Dark Su	irface (Fe	5)		³ Indicators of hydr	ophytic ve	egetation and	
Sandy Mud	ck Mineral (S	S1)		Depleted Dark	Surface	(F7)		wetland hydrolo	gy must l	be present,	
Sandy Gle	yed Matrix (S4)		Redox depress	ions (F8)			unless disturbed	l or probl	ematic.	
Restrictive La	iyer (if pre	sent):									
Туре:								Hydric Soil Broco	+7 V		
Depth (inch	nes):							Hydric Soli Presei	itr t		
Remarks:											
Very compact	soils in ga	s pipeline	corridor.	No hydric soil indicat	ors are	present.					
, .		••									

Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA High Water Table (A2) 1, 2, 4A, and 4B) Saturation (A3) Satt Crust (B1) 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 on Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Wetland Hydrology Present? Yes No Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: No hydology indicators present.	Wetland Hydrology Indicator	s:						
□ Surface Water (A1) □ Water-Stained Leaves (B9) (except MLRA □ 4A, and 4B) □ High Water Table (A2) 1, 2, 4A, and 4B) □ 4A, and 4B) □ Saturation (A3) □ □ □ □ □ Water Marks (B1) □ □ □ □ □ □ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □<	Primary Indicators (minimum	n of one	<u></u>	Secondary Indicators (minimum of two required)				
High Water Table (A2) 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 Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on 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) Pepth (inches):	Surface Water (A1)	Surface Water (A1) Water-Stained Leaves (B9) (except MLRA				Water-Stained Leaves (B9) (MLRA 1, 2,		
□ 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 Imagery (C9) □ Drift deposits (B3) □ Oxidized Rhizospheres on 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 Solis (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) ■ ■ ■ ■ ■ ■ Field Observations: □ □ ■ ■ ■ ■ ■ ● ● Sutration Present? Yes <	High Water Table (A2)			1, 2, 4A, and 4B)		4A, and 4B)		
□ 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 on 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) □ Depth (inches): □ □ Water Table Present? Yes No □ Depth (inches): □ wetland Hydrology Present? Yes No ● Saturation Present? Yes No □ Depth (inches): □ wetland Hydrology Present? Yes <t< td=""><td>Saturation (A3)</td><td></td><td></td><td>Salt Crust (B11)</td><td></td><td>Drainage Patterns (B10)</td></t<>	Saturation (A3)			Salt Crust (B11)		Drainage Patterns (B10)		
□ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ Saturation Visible on Aerial Imagery (C9) □ Drift deposits (B3) □ Oxidized Rhizospheres on 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) □ Depth (inches): □ □ Water Table Present? Yes No ● Depth (inches): □ Wetland Hydrology Present? Yes No ● Saturation Present? Yes No ● Depth (inches): □ Wetland Hydrology Present? Yes No ● Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:	Water Marks (B1)			Aquatic Invertebrates (B13)		Dry Season Water Table (C2)		
□ Drift deposits (B3) □ Oxidized Rhizospheres on 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) Field Observations: Surface Water Present? Yes No ● Depth (inches): □ Water Table Present? Yes No ● Depth (inches): □ Saturation Present? Yes No ● Depth (inches): □ Saturation Present? Yes No ● Depth (inches): □ Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: No hydology indicators present.	Sediment Deposits (B2)			Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)		
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) Depth (inches):	Drift deposits (B3)			Oxidized Rhizospheres on Living	Roots (C3)	Geomorphic Position (D2)		
□ 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) □ Depth (inches): □ Water Table Present? Yes No ● Depth (inches): □ Saturation Present? Yes No ● Depth (inches): □ Saturation Present? Yes No ● Depth (inches): □ Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: No ● Remarks: No hydology indicators present. No No ●	Algal Mat or Crust (B4)			Presence of Reduced Iron (C4)		Shallow Aquitard (D3)		
□ 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) □ □ □ □ □ Field Observations:	Iron Deposits (B5)			Recent Iron Reduction in Tilled S	oils (C6)	FAC-neutral Test (D5)		
□ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No ● Depth (inches): □ Water Table Present? Yes No ● Depth (inches): □ Saturation Present? Yes No ● Depth (inches): □ Includes capillary fringe) Yes No ● Depth (inches): □ Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: No hydology indicators present.	Surface Soil Cracks (B6)	Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A)				Raised Ant Mounds (D6) (LRR A)		
□ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches):	Inundation Visible on Aerial	Imagery	(B7)	Other (Explain in Remarks)		Frost Heave Hummocks (D7)		
Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Constraints: Remarks: No hydology indicators present.	Sparsely Vegetated Concave	e Surface	(B8)					
Saturation Present? (includes capillary fringe) Yes No Depth (inches): Wetland Hydrology Present? Yes No Image: No Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: No Image: No	Field Observations: Surface Water Present? Y Water Table Present? Y	res ○ res ○	No 💿 No 💿	Depth (inches):				
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: No hydology indicators present.	Saturation Present? (includes capillary fringe)	'es 🔿	No 🖲	Depth (inches):	Wetland Hydro	ology Present? Yes 🔾 No 🖲		
Remarks: No hydology indicators present.	Describe Recorded Data (stre	am gaug	ge, monito	r well, aerial photos, previous insp	ections), if available	2:		
No hydology indicators present.	Remarks:							
	No hydology indicators preser	nt.						

Project/Site: SR 167, Stage 1B	City/County: Pierce County		Sampling Date: 29-Apr-19				
Applicant/Owner: WSDOT		State: WA	Sampli	ng Point:	W17-SP3		
Investigator(s): S. Wall, J. LeCerc	Section, Township, Range	: S 5	T _20N	R _4E			
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, conv	ex, none): conc	ave	Slope:	0.0 % / 00 °		
Subregion (LRR): LRR A Lat.:	47.24468 Lo	ng.: -122.33122	2	Datur	n: NAD 1983		
Soil Map Unit Name: Tisch silt		NWI cla	assification: P	EM			
Are climatic/hydrologic conditions on the site typical for this time of ye Are Vegetation , Soil , or Hydrology significant Are Vegetation , Soil , or Hydrology naturally p	ar? Yes • No ly disturbed? Are "Norm problematic? (If needed	(If no, explain al Circumstance , explain any an	n in Remarks.) s" present? swers in Rema	Yes 🖲 arks.)	No O		

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🖲	No O	Is the Sampled Area		
Hydric Soil Present?	Yes 🖲	No O	within a Watland?	Yes 🖲 No 🔾	
Wetland Hydrology Present?	Yes 🖲	No O	within a wetland?		

Remarks:

PSS wetland pit. All three wetland parameters present.

Tree Stratum (Plot size: 3 m)	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
1.	0	0.0%		Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4	0	0.0%		
apling/Shrub Stratum (Plot size: 2 m)	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. Salix lasiandra	70	✔ 100.0%	FACW	Prevalence Index worksheet:
2	0	0.0%		Total % Cover of: Multiply by:
3	0	0.0%		OBL species 0 x 1 = 0
4	0	0.0%		FACW species <u>160</u> x 2 = <u>320</u>
5	0	0.0%		FAC species $1 \times 3 = 3$
	70	= Total Cov	er	FACU species $0 \times 4 = 0$
erb Stratum (Plot size: <u>1 m</u>)				$\begin{array}{c} 0 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\$
1. Phalaris arundinacea	90	⊻ 98.9%	FACW	$\begin{bmatrix} 1 & 1 & 2 \\ 1 & 2 \\ 2 & 3 \\ 2 & 3 \\ 2 & 3 \\ 3 & 3 $
2. Solanum dulcamara	1	1.1%	FAC	
3	0	0.0%		Prevalence Index = B/A = 2.006
4	0			Hydrophytic Vegetation Indicators:
5	0			✓ 1 - Rapid Test for Hydrophytic Vegetation
6	0			✓ 2 - Dominance Test is > 50%
7	0			✓ 3 - Prevalence Index is \leq 3.0 ¹
8	0			1 - 4 - Morphological Adaptations ¹ (Provide supporting
9	0			data in Remarks or on a separate sheet)
0	0			\square 5 - Wetland Non-Vascular Plants 1
1	91	= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
Voody Vine Stratum (Plot size: 1m)			•	¹ Indicators of hydric soil and wetland hydrology must
1.	0	0.0%		be present, unless disturbed or problematic.
2.	0	0.0%		Hydrophytic
	0	= Total Cov	er	Vegetation Present? Yes No
% Bare Ground in Herb Stratum: 10				

Rapid test, dominance test, and prevalence index indicators were met.

Depth Matrix				Redox Fea	tures						
(inches)	Color (moist)	%	Color (mo	ist) <u></u> %	Type ¹	Loc ²	Texture	Remarks		
+3-0									organic matter		
0-8	10YR	2/2	100					silt			
8-11	2.5Y	5/3	100					ash	ash? Puffy texture		
11-16	10YR	5/2	50	7.5YR	5/8 50	С	М	silt			
Type: C=Con	 centration. D	=Depletio	n. RM=Red	luced Matrix, CS	=Covered or Co	ated Sand G	rains ² Loc	ation: PL=Pore Lining	g. M=Matrix		
Hydric Soil I	ndicators:	(Applicat	ole to all L	RRs, unless of	therwise note	d.)		Indicators for F	Problematic Hydric Soils ³ :		
Histosol (A1)			Sandy	Redox (S5)			2 cm Muck ((A10)		
Histic Epi	pedon (A2)			Strippe	ed Matrix (S6)			Red Parent I	Material (TF2)		
Black Hist	ic (A3)			Loamy	Mucky Mineral	(F1) (except	in MLRA 1)	Other (Expla	ain in Remarks)		
🖌 Hydrogen	Sulfide (A4)	1		Loamy	Gleyed Matrix	(F2)			,		
Depleted	Below Dark	Surface (A:	11)	Deplet	ed Matrix (F3)						
Thick Dar	k Surface (A	12)		Redox	Dark Surface (F6)		³ Indicators of hyd	rophytic vegetation and		
Thick Dark Surface (A12) Depleted Dark Surface (F7)						e (F7)		wetland hydrology must be present.			
Sandy Mu	Sandy Muck Mineral (S1)					8)		unless disturbed or problematic.			
Sandy Mu	yed Matrix (57)									
Sandy Mu	eyed Matrix (ayer (if pre	sent):									
Sandy Mu Sandy Gle Sestrictive La Type:	eyed Matrix (ayer (if pre	sent):									
Sandy Mu Sandy Gle Sestrictive La Type: Depth (inc	eyed Matrix (ayer (if pre hes):	sent):						Hydric Soil Prese	nt? Yes 🖲 No 🔾		
Sandy Mu Sandy Gle Sestrictive L Type: Depth (incl Remarks:	eyed Matrix (ayer (if pre hes):	sent):						Hydric Soil Prese	nt? Yes 🖲 No 🔾		
Sandy Mu Sandy Gle Sestrictive L Type: Depth (incl Remarks: 1 indicator r	eyed Matrix (ayer (if pre hes):	sent):						Hydric Soil Prese	nt? Yes 🖲 No 🔾		
Sandy Mu Sandy Gle Sandy Gle Cestrictive L Type: Depth (incl Remarks: 1 indicator p	eyed Matrix (ayer (if pre hes): present.	sent):						Hydric Soil Prese	nt? Yes 🖲 No 🔾		
Sandy ML Sandy Gle Sestrictive L Type: Depth (inc Remarks: 1 indicator p	eyed Matrix (ayer (if pre hes): present.	sent):						Hydric Soil Prese	nt? Yes 🖲 No 🔾		
Sandy ML Sandy Gle Sestrictive L Type: Depth (inc Remarks: 4 indicator p	eyed Matrix (ayer (if pre hes):	sent):						Hydric Soil Prese	nt? Yes 🖲 No 🔾		

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) ✓ Water-Stained Leaves (B9) (except MLRA Water-Stained Leaves (B9) (MLRA 1, 2, 1, 2, 4A, and 4B) 4A, and 4B) High Water Table (A2) Salt Crust (B11) ✓ Saturation (A3) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry Season Water Table (C2) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Saturation Visible on Aerial Imagery (C9) Drift deposits (B3) Oxidized Rhizospheres on 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) Frost Heave Hummocks (D7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) **Field Observations:** Yes 🖲 No \bigcirc Surface Water Present? Depth (inches): 1 Yes 🖲 No \bigcirc Water Table Present? 0 Depth (inches): Yes 🔍 No 🔾 Wetland Hydrology Present? Saturation Present? Yes 💿 No \bigcirc 0 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: Remarks: Water table present at surface. Indicators A1, A2, A3, B5, B9, C1, and D5 present.

US Army Corps of Engineers

Project/Site: SR 167 Stage 2	City/County: Milton/Pierce		Sampling Date: 16-Mar-22		
Applicant/Owner: WSDOT		State: WA	Sampling Poin	t: W17-SP4	
Investigator(s): GP, NB	Section, Township, Range	S 1 T	20N R _04E		
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): concave Slope: <u>1.0</u> %				
Subregion (LRR): LLR A Lat.:	47.235078 Lo	ng.: -122.324411	Da	atum: NAD 1983 H	
Soil Map Unit Name: Briscot loam		NWI class	ification: None		
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes $ullet$ No $igcap$	(If no, explain ir	n Remarks.)		
Are Vegetation . , Soil , or Hydrology significant	ly disturbed? Are "Norma	l Circumstances"	present? Yes 🤇	● No ○	
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If needed,	explain any answ	ers in Remarks.)		

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🖲 No 🔾	Is the Sampled Area
Hydric Soil Present?	Yes 🔍 No 🔾	10 the samples Alex
Wetland Hydrology Present?	Yes 🔍 No 🔾	within a wetland?

Remarks:

All three wetland parameters are met.Wetland is located approximatley 50 feet south of cottonwood at fence line.

	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: <u>3 m</u>)	% Cover	Cover	Status	Number of Dominant Species
1. Populus balsamifera	60	✓ 100.0%	FAC	That are OBL, FACW, or FAC: (A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4.	0	0.0%		
apling/Shrub Stratum (Plot size: 2 m)	60	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1,	0	0.0%		Prevalence Index worksheet:
2.	0	0.0%		Total % Cover of: Multiply by:
3.	0	0.0%		OBL species $0 \times 1 = 0$
4.	0	0.0%		FACW species 105 x 2 = 210
5	0	0.0%		FAC species $60 \times 3 = 180$
	0	= Total Cov	er	FACU species $0 \times 4 = 0$
lerb Stratum (Plot size: 1 m)				UPL species $0 \times 5 = 0$
1. Phalaris arundinacea	100	✓ 95.2%	FACW	Column Totals: 165 (A) 390 (B)
2. Ranunculus occidentalis	5_	4.8%	FACW	
3	0			Prevalence Index = $B/A = 2.364$
4	0			Hydrophytic Vegetation Indicators:
5	0			✓ 1 - Rapid Test for Hydrophytic Vegetation
6				✓ 2 - Dominance Test is > 50%
7				✓ 3 - Prevalence Index is \leq 3.0 ¹
8	0			$\begin{bmatrix} -1 \\ -1 \end{bmatrix}$
9				data in Remarks or on a separate sheet)
0				5 - Wetland Non-Vascular Plants ¹
1		= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
Voody Vine Stratum (Plot size:)			-	¹ Indicators of hydric soil and wetland hydrology must
1.	0	0.0%		be present, unless disturbed or problematic.
2.	0	0.0%		Hydrophytic
	0	= Total Cov	er	Vegetation Present? Yes No
% Bare Ground in Herb Stratum: o				

Remarks:

Vegetation meet the rapid test for hydrophytic vegetation, dominance test, and prevelance index.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth		Matrix			Red	ox Featu	ires				
(inches)	Color (moist)	%	Color (n	noist)	%	Type ¹	Loc ²	Texture	Remarks	
0-8	10YR	2/1	100						Silty Clay		
8-16	7.5YR	3/1	95	2.5YR	5/4	5	С	М	Silty Clay Loam	gravel I y	
·									·		
¹ Type: C=Cond Hydric Soil I	¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)										
Histosol (A	A1)			Sano	dy Redox (S5)			2 cm Muck (A	.10)	
Histic Epip	pedon (A2)			Strip	ped Matrix	(S6)			Red Parent M	aterial (TF2)	
Black Hist	ic (A3)			Loar	ny Mucky I	Mineral (F	=1) (except	in MLRA 1)	Other (Explain	n in Remarks)	
□ black midd (AS) □ black midd (A) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) ☑ Redox Dark Surface (F6) □ Sandy Muck Mineral (S1) □ Depleted Dark Surface (F7) □ Sandy Gleyed Matrix (S4) □ Redox depressions (F8)							³ Indicators of hydro wetland hydrolog unless disturbed	ophytic vegetation and gy must be present, or problematic.			
Restrictive La	ayer (if pre	sent):									
Туре:											
Depth (incl	hes):								Hydric Soil Presen	it? Yes 🖲 No 🔾	
Remarks:											
Hydric soil inc	licator F6 is	met.									

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; c	heck all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	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 Imagery (C9)
Drift deposits (B3)	Oxidized Rhizospheres on 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)		
Field Observations:		
Surface Water Present? Yes O No O	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	
Saturation Present? Yes O No O	Depth (inches): Wetland Hy	drology Present? Yes 👻 NO 🖯
Describe Recorded Data (stream gauge, monitor	well, aerial photos, previous inspections), if availa	able:
Remarks:		
Soil pit located at the edge of the wetland. Stand	ding water observed within 10 feet of test pit. Den	se clay layer at 16 inches may cause aquitard.
Secondary hydrology indicators D2 and D5 are m	net.	

Project/Site: SR 167 Stage 2	City/County: Milton/Pierce		Sampling Date: 16-Mar-22		
Applicant/Owner: WSDOT		State: WA	Sampling Point:	W17-SP5	
Investigator(s): GP, NB	Section, Township, Range	S _1 T _2	20N R _04E		
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, conve	<u>1.0</u> % /0.6 °			
Subregion (LRR): LRR A Lat.:	47.235078 Lo	1g.: -122.324411	Datu	n: NAD 1983 H	
Soil Map Unit Name: Briscot loam		NWI classif	ication: None		
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes $ullet$ No $igodot$	(If no, explain in	Remarks.)		
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	ly disturbed? Are "Norma	l Circumstances" p	resent? Yes 🖲	No \bigcirc	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	problematic? (If needed,	explain any answe	rs in Remarks.)		

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 💿 No 🔾	Is the Sampled Area
Hydric Soil Present?	Yes 🔿 No 🖲	25 the complete Alexa 25 Yes \bigcirc No \textcircled{O}
Wetland Hydrology Present?	Yes 🔿 No 🖲	within a wetland?

Remarks:

Upland pit located approximatley 8feet east of SP-1, on slope up to fallow agricultrual field.

		_Species?		
Tree Stratum (Plot size: 3 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1 Populus balsamifera	40	100.0%	FAC	Number of Dominant Species
2	0	0.0%		
3		0.0%		Total Number of Dominant
3		0.0%		Species Across All Strata: (B)
т		- Total Cov		Percent of dominant Species
Sapling/Shrub Stratum (Plot size: 2 m)			CI	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. Rubus armeniacus	5	✓ 100.0%	FAC	Prevalence Index worksheet:
2.	0	0.0%		Total % Cover of: Multiply by:
3.	0	0.0%		$0 \text{BL species} \qquad 0 \qquad \text{x 1} = 0$
4.	0	0.0%		FACW species $30 \times 2 = 60$
5.	0	0.0%		FAC speciles $122 \times 3 = 366$
	5	= Total Cov	er	$\mathbf{FACII} \text{ species } \begin{array}{c} 0 \\ \mathbf{x} \mathbf{A} = \end{array} $
Herb Stratum (Plot size: 1 m)				
1. Phalaris arundinacea	25	23.4%	FACW	$\begin{array}{c} \text{OPL specilles} & \hline & x \text{ 5} = \\ \hline \\ \text{OPL specilles} & \hline \\ x \text{ 5} = \\ \hline \\ \text{OPL specilles} & \hline \\ x \text{ 5} = \\ \hline \\ \text{OPL specilles} & \hline \\ x \text{ 5} = \\ \hline \\ \text{OPL specilles} & \hline \\ x \text{ 5} = \\ \hline \\ \text{OPL specilles} & \hline \\ x \text{ 5} = \\ \hline \\ \text{OPL specilles} & \hline \\ x \text{ 5} = \\ \hline \\ \text{OPL specilles} & \hline \\ x \text{ 5} = \\ \hline \\ \text{OPL specilles} & \hline \\ x \text{ 5} = \\ \hline x \text{ 5} = \\ \hline \\ x \text{ 5} = \\ \hline x \text{ 5} = \\ $
2. Ranunculus occidentalis	5	4.7%	FACW	Column lotals: 152 (A) 420 (b)
3 Agrostis capillaris	50	✔ 46.7%	FAC	Prevalence Index = $B/A = 2.803$
4. Cirsium arvense	20	18.7%	FAC	Hydronhytic Vegetation Indicators
5. Rumex crispus	5	4.7%	FAC	1 - Panid Test for Hydrophytic Vegetation
6. Vicia americana	2	1.9%	FAC	\square 1 - Rapid Test for Hydrophytic Vegetation
7	0	0.0%		\checkmark 2 - Dominance Test is > 50%
8	0	0.0%		\checkmark 3 - Prevalence Index is $\leq 3.0^{-1}$
9	0	0.0%		4 - Morphological Adaptations ¹ (Provide supporting
10	0	0.0%		
11	0	0.0%		
	107	= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 1 m)				¹ Indicators of hydric soil and wetland hydrology must
1	0	0.0%		be present, unless disturbed or problematic.
2	0	0.0%		Hydrophytic
	0	= Total Cov	er	Present? Yes I No
% Bare Ground in Herb Stratum: $_{ m 0}$				
				1

Vegetation meet dominance test and prevelance index.

Depth		Matrix			Redox Feat	ures					
(inches)	Color (moist) %		%	Color (moist) <u>%</u>	Type ¹	Loc ²	Texture	Remarks		
0-8	10YR	2/2	100					Silty Clay			
8-16	2.5YR	4/3	98	7.5YR 4,	4 2	С	м	Silt Loam	Gravelly		
Type: C=Con	 centration. D	=Depletior	n. RM=Red	uced Matrix, CS=C	overed or Coa		rains ² Loc	ation: PL=Pore Lining	g. M=Matrix		
Hydric Soil I	indicators:	(Applicat	ole to all L	RRs, unless othe	rwise noted	.)		Indicators for F	Problematic Hydric Soils ³ :		
Histosol (A1)			Sandy Re	dox (S5)			2 cm Muck ((A10)		
Histic Epi	pedon (A2)			Stripped	Matrix (S6)			Red Parent Material (TF2)			
Black Hist	ic (A3)			Loamy M	ucky Mineral (F1) (except	in MLRA 1)				
Hydrogen	Sulfide (A4)			Loamy G	eyed Matrix (I	F2)			/		
Depleted	Below Dark S	Surface (A1	11)	Depleted	Matrix (F3)			3 Tadicators of hydrophytic vacatation and			
Thick Dar	k Surface (A	12)	,	Redox Da	rk Surface (F	6)					
Sandy Mu	ick Mineral (9	/		Depleted	Dark Surface	(F7)		wetland hydrol	ogy must be present.		
Sandy Mu	eved Matrix (51) S4)		Redox de	pressions (F8)		unless disturbed or problematic.			
lestrictive L	ayer (if pre	sent):									
Туре:									~ ~ ~		
Depth (inc	hes):							Hydric Soil Prese	ent? Yes 🔾 No 🖲		
Remarks:											

Hydrology

Wetland Hydrology Indicat	ors:				
Primary Indicators (minimu	um of one	required; o		Secondary Indicators (minimum of two required)	
Surface Water (A1)			Water-Stained Leaves (B9) (exception 1, 2, 4A, and 4B)	ot MLRA	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)			 Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Sc Stunted or Stressed Plants (D1) (I 	Roots (C3) bils (C6) LRR A)	 Drainage Patterns (B10) Dry Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aeri Sparsely Vegetated Conca	ial Imagery ave Surface	(B7) (B8)	Other (Explain in Remarks)		Frost Heave Hummocks (D7)
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes O Yes O Yes O	No () No () No ()	Depth (inches):]] Wetland Hyd	irology Present? Yes 🔾 No 🖲
Describe Recorded Data (st	ream gaug	ge, monito	r well, aerial photos, previous inspe	ections), if availab	ole:
Remarks: Secondary hydrology indica	itor D5 is p	oresent. No	primary indicators are present.		

US Army Corps of Engineers

Project/Site: SR 167 Stage 2	City/County: Unincorporat	ed Pierce County	Sampling Date: 2023-06-12
Applicant/Owner: WSDOT		State: Washington	Sampling Point: W17-SP6
Investigator(s): RP, JH	Section, Township, Range:	S5, T20N, R4E	
Landform (hillslope, terrace, etc.): Slope	Local relief (concave, con	ex, none): <u>None</u>	Slope (%): <u>2</u>
Subregion (LRR): A Lat: 47	. 248689 Lc	ng: <u>-122.327732</u>	Datum: NAD 83
Soil Map Unit Name: Semiahmoo muck		NWI classifica	ation: None
Are climatic / hydrologic conditions on the site typical for this time of ye	ar?YesNo 🖌	_ (If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Nor	mal Circumstances" p	resent? Yes 🚩 No
Are Vegetation, Soil, or Hydrology naturally provide the second se	oblematic? (If neede	d, explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	J sampling point loca	tions, transects,	, important features, etc

Hydrophytic Vegetation Present?	Yes	No			
Hydric Soil Present?	Yes	No 🖌	Is the Sampled Area		
Wetland Hydrology Present?	Yes	No	within a Wetland?	Yes	No
Remarks:			•		

Upland test pit located upslope of W17-SP7. No wetland indicators present. When considering the three prior months (March, April, May) as a whole, drier than normal precipitation conditions were present prior to field work on June 12, 2023.

VEGETATION – Use scientific names of plants.

0	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>3</u> m)	% Cover	Species?	Status	Number of Dominant Species
1. Robinia pseudoacacia	90	 ✓ 	FACU	That Are OBL, FACW, or FAC: <u>1</u> (A)
_{2.} Prunus avium	10		FACU	Tatal Number of Daminant
3.				Species Across All Strata: 3 (B)
4				
·	100%	- Total Co		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 2m)	100/0	10tal C0	VEI	That Are OBL, FACW, or FAC: <u>33.3</u> (A/B)
1				Prevalence Index worksheet:
··				Total % Cover of:Multiply by:
2				OBL species $0 x_1 = 0$
3				FACW species <u>3</u> x 2 = <u>6</u>
4				FAC species 80 $x_3 = 240$
5				EACLI species 140 $x_4 = 560$
_		= Total Co	ver	$\frac{1}{100} = \frac{1}{100} = \frac{1}$
Herb Stratum (Plot size: <u>1m</u>)				$\frac{1}{2} \text{ OPL species } \frac{1}{2} \text{ and } \frac{1}{2} an$
1. Lolium perenne	70	<u> </u>	FAC	Column Totals: 223 (A) 806 (B)
2. Lolium arundinaceum	40	 ✓ 	FACU	Prevalence Index = $B/A = 3.61$
3. Hordeum murinum	10		FAC	Hydrophytic Vegetation Indicators:
_{4.} Phalaris arundinacea	3		FACW	1 - Rapid Test for Hydrophytic Vegetation
_{5.} Malva neglecta	2			2 - Dominance Test is >50%
6.				$\frac{1}{2} = \frac{2}{2} = \frac{1}{2} = \frac{1}$
7				$-$ 0 - 1 revalence index is ± 3.0
8.				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
3 10				Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must
11	1050/			be present, unless disturbed or problematic.
Weady Vina Stratum (Plataiza: 1m)	125%	= Total Cov	/er	
1			<u> </u>	Hydrophytic
2				Vegetation Present? Yes No
% Bare Ground in Herb Stratum 0		= Total Cov	/er	
Remarks:				1
	-			
Vegetation does not meet any indica	ators fo	r hydro	phytic	vegetation.

SOI	
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Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix		Redox	Features	;			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 16	10YR 2/2	100					Silt Loam	Cobble throughout
-								
-								
¹ Type: C=Co	oncentration, D=Dep	oletion, RM=R	educed Matrix, CS	=Covered	or Coate	d Sand Gr	ains. ² Loo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applic	able to all LF	Rs, unless other	wise note	ed.)		Indicato	ors for Problematic Hydric Soils ³ :
Histosol	(A1)		_ Sandy Redox (S	5)			2 cr	n Muck (A10)
Histic Ep	oipedon (A2)		Stripped Matrix	(S6)			Rec	l Parent Material (TF2)
Black Hi	stic (A3)		Loamy Mucky N	ineral (F1) (except	: MLRA 1)	Ver	y Shallow Dark Surface (TF12)
Hydroge	n Sulfide (A4)		Loamy Gleyed N	latrix (F2))		Oth	er (Explain in Remarks)
Depleted	d Below Dark Surfac	xe (A11)	Depleted Matrix	(F3)			<u>,</u>	
Thick Da	ark Surface (A12)		_ Redox Dark Sur	face (F6)			³Indicato	ors of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)		_ Depleted Dark S	Surface (F	7)		wetla	nd hydrology must be present,
Sandy G	Bleyed Matrix (S4)		_ Redox Depressi	ons (F8)			unles	s disturbed or problematic.
	_ayer (if present):							
Туре:								
Depth (ind	ches):		_				Hydric Soil	Present? Yes No 🔽
Hydric s	oil indicators	s not pres	sent.					
HYDROLO	GY							
Wetland Hy	drology Indicators						_	
Primary Indic	cators (minimum of o	one required; o	check all that apply	·)			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)		Water-Stair	ned Leave	es (B9) (e	xcept	V	Vater-Stained Leaves (B9) (MLRA 1, 2,
High Wa	iter Table (A2)		MLRA 1	, 2, 4A, a	nd 4B)			4A, and 4B)
Saturatio	on (A3)		Salt Crust (B11)			C	orainage Patterns (B10)
Water M	arks (B1)		Aquatic Inv	ertebrates	s (B13)			Pry-Season Water Table (C2)
Sedimer	nt Deposits (B2)		Hydrogen S	Sulfide Od	or (C1)		s	aturation Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)		Oxidized R	hizospher	es along	Living Roo	ts (C3) G	Geomorphic Position (D2)
Algal Ma	at or Crust (B4)		Presence c	f Reduce	d Iron (C4	4)	s	hallow Aquitard (D3)
Iron Dep	oosits (B5)		Recent Iror	n Reductio	on in Tille	d Soils (C6) F	AC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted or	Stressed	Plants (D	1) (LRR A)) R	aised Ant Mounds (D6) (LRR A)
Inundatio	on Vis ble on Aerial	Imagery (B7)	Other (Exp	lain in Rer	marks)		F	rost-Heave Hummocks (D7)
Sparsely	Vegetated Concav	e Surface (B8)					
Field Obser	vations:							
Surface Wate	er Present?	′es No	Depth (inc	hes):		_		
Water Table	Present?	′es No	Depth (inc	hes):				
Saturation P (includes cap	resent?) billary fringe)	′es No	Depth (inc	hes):		_ Wetla	and Hydrolog	y Present? Yes No
Describe Re	corded Data (stream	n gauge, monii	toring well, aerial p	hotos, pre	evious ins	pections), i	if available:	
Remarks:								
		adicate		+				
vvetiand	nyarology II	naicators	s not preser	II.				

Project/Site: SR 167 Stage 2	City/County: Unincorpor	ated Pierce County	Sampling Date: 2023	-06-12
Applicant/Owner: WSDOT		State: Washington	Sampling Point: <u>W17-</u>	SP7
Investigator(s): RP, JH	Section, Township, Rang	_{e:} <u>S5, T20N, R4E</u>		
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, co	nvex, none): <u>Concave</u>	Slope (%)	<u>1</u>
Subregion (LRR): A Lat: 47	.248501	Long: -122.326634	Datum: NA	vD 83
Soil Map Unit Name: Semiahmoo muck		NWI classifica	tion: PEM	
Are climatic / hydrologic conditions on the site typical for this time of ye	ar?YesNo_	(If no, explain in Re	marks.)	
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "N	ormal Circumstances" pr	esent?Yes 🔽 N	io
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If need	ded, explain any answers	s in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point lo	cations, transects,	important feature	es, etc.

Hydrophytic Vegetation Present?	Yes 🔽 No	
Hydric Soil Present?	Yes 🔽 No	Is the Sampled Area
Wetland Hydrology Present?	Yes 🖌 No	within a Wetland? Yes <u>Ves</u> No
Remarks:		

All three wetland indicators are present. When considering the three prior months (March, April, May) as a whole, drier than normal precipitation conditions were present prior to field work on June 12, 2023.

VEGETATION – Use scientific names of plants.

2m	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 500)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: <u>3</u> (A)
2				Total Number of Dominant
3.				Species Across All Strata: 3 (B)
4				(-)
··		- Total Ca	vor	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 2m)		10tai 00		That Are OBL, FACW, or FAC: 100 (A/B)
<u> </u>				Prevalence Index worksheet:
··				Total % Cover of: Multiply by:
2				OBL species 20 x 1 = 20
3				FACW species $60 \qquad x = 120$
4				EAC species $60 \times 3 = 180$
5				$\frac{1}{1} = \frac{1}{1} = \frac{1}$
_		= Total Co	over	$\frac{1}{100} \text{ species } \frac{1}{200} \text{ species } \frac{1}{200} \text{ species } \frac{1}{2000} \text{ species } \frac{1}{200000000000000000000000000000000000$
Herb Stratum (Plot size: <u>1m</u>)				UPL species 0 $x_5 = 0$
1. Phalaris arundinacea	60	 ✓ 	FACW	Column Totals: 140 (A) 320 (B)
2. Lolium perenne	50	 ✓ 	FAC	Prevalence Index = $B/A = 2.29$
3. Typha latifolia	20	 ✓ 	OBL	Hydrophytic Vegetation Indicators:
4. Ranunculus repens	10		FAC	1 - Rapid Test for Hydrophytic Vegetation
5				2 Dominanco Tost is >50%
6				2 - Dominance results >50 %
7				V 3 - Prevalence index is ≤3.0
/				4 - Morphological Adaptations' (Provide supporting
8				Motional New Veccular Dianta ¹
9				
10				Problematic Hydrophytic Vegetation' (Explain)
11				Indicators of hydric soil and wetland hydrology must
	140%	= Total Co	ver	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)				
1				Hydrophytic
2.				Vegetation
		= Total Cov	ver	Present? Yes Vo No
% Bare Ground in Herb Stratum				
Remarks:				1

Vegetation meets the dominance test and prevalence index for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix		Redo	K Features	5			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 16	10YR 2/1	100					Silt Loam	Partially decayed organic material throughout
16 - 20	10YR 5/1	100					Sand	
20 -		100					Silty Clay	layers from 20+ were accessed with a soil auger
-								
				<u> </u>	·			
				<u> </u>	. <u> </u>			
¹ Type: C=Co	oncentration, D=Dep	pletion, RM=R	educed Matrix, CS	=Covered	d or Coate	d Sand Gra	ains. ² Lo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applic	able to all Li	RRs, unless other	wise note	ed.)		Indicato	ors for Problematic Hydric Soils":
Histosol	(A1)		_ Sandy Redox (S	65) (00)			2 cr	n Muck (A10)
Histic Ep	olpedon (A2)		_ Stripped Matrix	(S6) lineral (E1) (oxoonf		Rec	I Parent Material (TF2)
	n Sulfide (A4)		Loamy Gleved I	Matrix (F2) (except	WILKA I)	Ver Oth	er (Explain in Remarks)
Depleted	d Below Dark Surfac		Depleted Matrix	(F3))			
 Thick Data 	ark Surface (A12)		Redox Dark Su	face (F6)			³ Indicate	ors of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)		Depleted Dark S	Surface (F	7)		wetla	ind hydrology must be present,
Sandy G	Bleyed Matrix (S4)		_ Redox Depress	ions (F8)			unles	s disturbed or problematic.
Restrictive I	_ayer (if present):							
Туре:								
Depth (in	ches):						Hydric Soil	Present? Yes <u>No</u>
Remarks:								
Hydric s	oil indicator	Δ12 nres	ent					
l lyune s								
HYDROLO	GY							
Wetland Hv	drology Indicators	:						
Primary India	ators (minimum of	one required:	check all that apply	()			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)	<u>ine requireu</u>	Water-Stai	ned Leave	es (B9) (e	xcent	<u>0000</u>	Vater-Stained Leaves (B9) (MLRA 1 2
✓ High Wa	iter Table (A2)			1 2 4A a	and 4B)	, ocpt	'	4A and 4B)
✓ Saturatio	(A3)		Salt Crust	(B11)	ina 40)		Г	Prainage Patterns (B10)
Water M	arks (B1)		Aquatic Inv	(ertebrate	s (B13)			Dry-Season Water Table (C2)
Sedimer	nt Deposits (B2)		Hvdrogen	Sulfide Oc	dor (C1)			Saturation Visible on Aerial Imagery (C9)
Drift Dep	posits (B3)		Oxidized F	hizospher	res along	Living Roo	ts (C3)	Geomorphic Position (D2)
Algal Ma	at or Crust (B4)		Presence of	of Reduce	d Iron (C4	l)	· / s	hallow Aquitard (D3)
Iron Dep	oosits (B5)		Recent Iro	n Reductio	on in Tille	d Soils (C6) <u>/</u> F	AC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted or	Stressed	Plants (D	1) (LRR A)) F	aised Ant Mounds (D6) (LRR A)
Inundati	on Vis ble on Aerial	Imagery (B7)	Other (Exp	lain in Re	marks)		F	rost-Heave Hummocks (D7)
Sparsely	Vegetated Concav	e Surface (B8	5)					
Field Obser	vations:							
Surface Wat	er Present?	/es No	Depth (ind	ches):				
Water Table	Present?	res 🖌 No	Depth (ind	ches): 7		_		
Saturation P	resent?	res 🖌 No	Depth (ind	hes): 0		Wetla	and Hydrolog	y Present? Yes 🖌 No
(includes cap	oillary fringe)		toring well agricle	hotos pr	avious inc	nections)	if available:	
		i yauye, mum	toring weil, actidi p			peccions), 1		
Remarks								
						-		
Primary	hydrology in	dicators	A2 and A3	are pr	esent	. Secor	ndary hyd	drology indicator D5 is

also present.

Project/Site: SR 167, Stage 1B	City/County: Milton / Pierce C	ounty	Sampling Date: <u>05-</u>	Jun-19
Applicant/Owner: WSDOT		State: WA	Sampling Point:	W65-SP1
Investigator(s): JH, RLB (Stell)	Section, Township, Range	: s _5 t _2	20N R _4E	
Landform (hillslope, terrace, etc.):	Local relief (concave, conv	ex, none): concave	Slope:	<u>1.0</u> % /0.6 °
Subregion (LRR): LRR A Lat.:	47.24876 Lo	ng.: -122.32656	Datu	m: NAD 1983
Soil Map Unit Name: Semiahmoo muck		NWI classif	fication: <u>PEM</u>	
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes \bigcirc No $oldsymbol{igodol}$	(If no, explain in	Remarks.)	
Are Vegetation 🗹 , Soil 🗌 , or Hydrology 🗌 significant	ly disturbed? Are "Norm	al Circumstances" p	resent? Yes \bigcirc	No 🖲
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	problematic? (If needed	, explain any answe	ers in Remarks.)	

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🖲	No O	Is the Sampled Area	
Hydric Soil Present?	Yes 🖲	No \bigcirc		Yes 🔍 No 🔿
Wetland Hydrology Present?	Yes 🖲	No O	within a Wetland?	

Remarks:

Peat soil! W65 was later determined to share hydrology with W17. Later referenced as W17/65. Conditions are drier than normal. Vegetation disturbed from agricultural activities. All three wetland parameters present.

VEGETATION - Use scientific names of plan	ts.	Dominant		
Tree Stratum (Plot size: 5m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1.	0	0.0%		Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2	0	0.0%		
3.	0	0.0%		Total Number of Dominant
4	0	0.0%		
Sapling/Shrub Stratum (Plot size: 3m)	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1	0	0.0%		Prevalence Index worksheet:
2.	0	0.0%		Total % Cover of: Multiply by:
3	0	0.0%		OBL species 0 x 1 = 0
4.	0	0.0%		FACW species $100 \times 2 = 200$
5	0	0.0%		FAC species $0 \times 3 = 0$
(Distring, 1m)	0	= Total Cov	er	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: Im)	400		51011	UPL species $0 \times 5 = 0$
		▶ 100.0%	FACW	Column Totals: <u>100</u> (A) <u>200</u> (B)
2				Provolonco Indox = P/A = 2,000
3				
4.		0.0%		Hydrophytic Vegetation Indicators:
5		0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
6				✓ 2 - Dominance Test is > 50%
7	0	0.0%		✓ 3 - Prevalence Index is ≤3.0 1
8		0.0%		4 - Morphological Adaptations ¹ (Provide supporting
9	0	0.0%		data in Remarks or on a separate sheet)
10	0	0.0%		\square 5 - Wetland Non-Vascular Plants 1
11.	100	= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 1m)	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	0	0.0%		Hydrophytic
	0	= Total Cove	er	Vegetation Present? Yes • No O
% Bare Ground in Herb Stratum:				

Remarks:

Agricultural pasture; plants have been historically disturbed--> more heavily and recently ~40' to the north. Rapid test, dominance test, and prevalence index present.

Depth		Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	<u>Type¹</u>	Loc ²	Texture	Remarks
0-6	10YR	3/1	100					Muck	roots & undecomposed organics
6-16+						 			all peat/decomposed organic_material (5yr 4
Type: C=Con Hydric Soil 1 Histosol (Histic Epi Black Hist	icentration. D Indicators: (A1) pedon (A2) tic (A3)	=Depletior (Applicat	n. RM=Redu Ne to all L	uced Matrix, CS=Coveree RRs, unless otherwise Sandy Redox (S Stripped Matrix Loamy Mucky N	d or Coa e noted 55) : (S6) 4ineral (ted Sand Gi .) F1) (except	rains ² Loc	Tation: PL=Pore Lining Indicators for P 2 cm Muck (/ Red Parent N Other (Explain	. M=Matrix roblematic Hydric Soils ³ : A10) faterial (TF2) in in Remarks)
Hydroger Depleted Thick Dar Sandy Mu Sandy Gla	Below Dark S Relow Dark S Rk Surface (A uck Mineral (S eyed Matrix (S	Surface (A1 12) 51) 54)	11)	Loarny Gleyed I Depleted Matrix Redox Dark Su Depleted Dark Redox depressi	Matrix (F3) rface (F6 Surface ons (F8)	5) (F7)		³ Indicators of hydr wetland hydrolo unless disturbed	ophytic vegetation and gy must be present, I or problematic.
	ayer (if pre	sent):							
Denth (inc	hes).							Hydric Soil Preser	nt? Yes $ullet$ No $igcap$
DATTARVET									

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; ch	eck all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,
✓ High Water Table (A2)	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 Imagery (C9)
Drift deposits (B3)	Oxidized Rhizospheres on 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)		
Field Observations:		
Surface Water Present? Yes O No •	Depth (inches):	
Water Table Present? Yes No	Depth (inches): 6	
Saturation Present? Yes No	Depth (inches): 0	drology Present? Yes 👻 No 🖯
Describe Recorded Data (stream gauge, monitor v	well, aerial photos, previous inspections), if availa	able:
Remarks:		
Several algal mats. Areas of ponding to the north	and east of plot within PEM portion of W65. A2 a	and A3 indicators present.

Project/Site: SR 167, Stage 1B	City/County: Milton / Pierce C	ounty	Sampling Da	te: <u>05-Jun-19</u>	
Applicant/Owner: WSDOT		State: WA	Sampling	Point: W	55-SP2
Investigator(s): JH, RLB (Stell)	Section, Township, Range	: s 5 t	20N R	4E	
Landform (hillslope, terrace, etc.): hillslope	Local relief (concave, conv	ex, none): concave	e Slo	pe: <u>7.0</u> %	/ <u>4.0</u> °
Subregion (LRR): LRR A Lat.: 4	17.24904 Lo	ng.: -122.32668		Datum: NA	D 1983
Soil Map Unit Name: Alderwood gravelly sandy loam 8-15%		NWI class	ification: None	e	
Are climatic/hydrologic conditions on the site typical for this time of yea	ar? Yes 🔾 No 🖲	(If no, explain i	n Remarks.)		
Are Vegetation 🗹 , Soil 🗹 , or Hydrology 🗌 significantl	y disturbed? Are "Norma	al Circumstances"	present? Y	es 🔾 No	ullet
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	roblematic? (If needed	, explain any answ	vers in Remark	s.)	

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🖲	No O	Is the Sampled Area
Hydric Soil Present?	Yes \bigcirc	No 🖲	
Wetland Hydrology Present?	Yes \bigcirc	No 🖲	within a Wetland?

Remarks:

W65 was later determined to share hydrology with W17 and was combined into one wetland for rating (W17/65). Plot located just upslope of wetland edge in very disturbed, weedy pasture. Conditions drier than normal. Vegetation indicator present, but no hydrology or soil indicators.

Dominant

VEGETATION - Use scientific names of plants.

		_species? _		
	Absolute	Rel.Strat. 1	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 5m)	% Cover	Cover s	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: 3 (B)
4	0	0.0%		
Sapling/Shrub Stratum (Plot size: 3m)	0	= Total Cover	r	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1	0	0.0%		Prevalence Index worksheet:
2	0	0.0%		Total % Cover of: Multiply by:
3	0	0.0%		OBL species $0 \times 1 = 0$
4.	0	0.0%		FACW species $0 \times 2 = 0$
5.	0	0.0%		EAC species $71 \times 3 = 213$
	0	= Total Cover	•	FACU species $7 \times 4 = 28$
Herb Stratum (Plot size: 1m)		_		10 x 5 = 50
1. Trifolium repens	25	✔ 28.4%	FAC	$\frac{1}{2} \frac{1}{2} \frac{1}$
2	25	✔ 28.4%	FAC	$\begin{array}{c} \text{Column lotals:} \underline{00} (A) \underline{291} (B) \end{array}$
3	20	✓ 22.7%	FAC	Prevalence Index = $B/A = 3.307$
4. Matricaria chamomilla	10	11.4%	UPL	Hydrophytic Vegetation Indicators
5. Plantago lanceolata	5	5.7%	FACU	
6. Senecio vulgaris	2	2.3%	FACU	I - Rapid Test for Hydrophytic Vegetation
7	1	1.1%	FAC	✓ 2 - Dominance Test is > 50%
8	0	0.0%		☐ 3 - Prevalence Index is ≤3.0 ¹
9	0	0.0%		4 - Morphological Adaptations ¹ (Provide supporting
10	0	0.0%		data in Remarks or on a separate sheet)
11	0	0.0%		\Box 5 - Wetland Non-Vascular Plants ¹
11.	88	= Total Cover	r	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 1 m)				¹ Indicators of hydric soil and wetland hydrology must
1.	0	0.0%		be present, unless disturbed or problematic.
2.	0	0.0%		Hydrophytic
	0	- Total Cover		Vegetation Ves • No
0/ David Constant in Hard Charleson a				Present? 103 C 110 C
% Bare Ground in Herb Stratum: 0				

Remarks:

#2 in herb stratum is Geranium sp., presumed FAC. #3 is Sonchus sp., presumed FAC, #7 is Rumex sp., presumed FAC. Dominance test indicator present.

Depth Matrix Redox Features (inches) Color (moist) % Type ¹ Loc ² Texture Remarks	
(inches) Color (moist) % Color (moist) % Type ¹ Loc ² Texture Remarks	
0-16 10YR 5/2 76 10YR 4/6 2 C M Silty Clay redox depletions	
0-16 10YR 6/1 20 D M Silty Clay	
0-16 2.5YR 5/8 2 C M Silty Clay	
¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ :	
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10)	
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2)	
Black Histic (A3)	
Hydrogen Sulfide (A4) Loamy Gleved Matrix (F2)	
Depleted Below Dark Surface (A11) Depleted Matrix (F3)	
Thick Dark Surface (A12)	
Inick Dark Surface (A12) Depleted Dark Surface (F7) worthand bydeboary must be present	
Sandy Muck Mineral (S1) Bedrox depressions (F8) unless disturbed or problematic.	
Sandy Gleyed Matrix (S4)	
Restrictive Layer (if present):	
Type:	
Depth (inches):	
Remarks:	
Chunks of redox concentrations, depletions, rocks (gravel/cobble) mixed throughout soil profile. No hydric soil indicators present.	

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; c	heck all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	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 Imagery (C9)
Drift deposits (B3)	Oxidized Rhizospheres on 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)		
Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Image: Saturation Present? Saturation Present? Yes No Image: Saturation Present? (includes capillary fringe) Yes No Image: Saturation Present?	Depth (inches): Depth (inches): Depth (inches): Wetland Hy	ydrology Present? Yes 🔿 No 🖲
Describe Recorded Data (stream gauge, monitor	well, aerial photos, previous inspections), if availa	able:
Remarks:		
No hydology indicators present.		

Project/Site: SR 167, Stage 1B	City/County: Milton /	Pierce County	Sampling Date: 05-Jun-19			
Applicant/Owner: WSDOT		State: WA	Sampl	ing Point:	W65-SP3	
Investigator(s): JH, RLB (Stell)	Section, Township	o, Range: S 5	T _20N	R _4E		
Landform (hillslope, terrace, etc.): toe of slope	Local relief (conca	ve, convex, none): CON	cave	Slope:	<u>1.0</u> % /0.6 °	
Subregion (LRR): LRR A Lat.:	47.24680	Long.: -122.325	80	Datur	n: NAD 1983	
Soil Map Unit Name: Semiahmoo muck		NWI d	lassification:	None		
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes \bigcirc N	o 🖲 🛛 (If no, expla	in in Remarks.	.)		
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	ly disturbed? Are	e "Normal Circumstanc	es" present?	Yes 🖲	No 🔿	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	oroblematic? (If	needed, explain any a	nswers in Rem	narks.)		

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🖲	No O	Is the Sampled Area	
Hydric Soil Present?	Yes 🖲	No \bigcirc		Yes 🔍 No 🔿
Wetland Hydrology Present?	Yes 🖲	No O	within a Wetland?	

Remarks:

W65 was later determined to share hydrology with W17 and was combined into one wetland for rating (W17/65). Conditions drier than normal. All three wetland parameters present.

Tree Stratum (Plot size: 5m)	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
1. Populus balsamifera	70	✔ 63.6%	FAC	That are OBL, FACW, or FAC: 4 (A)
2. Salix lasiandra	30	✔ 27.3%	FACW	
3. Salix sitchensis	10	9.1%	FACW	Total Number of Dominant Species Across All Strata: 4 (B)
4.	0	0.0%		
Sapling/Shrub Stratum (Plot size: 3m)	110	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. Spiraea douglasii	15	✔ 100.0%	FACW	Prevalence Index worksheet:
2.	0	0.0%		Total % Cover of: Multiply by:
3	0	0.0%		OBL species $0 \times 1 = 0$
4.	0	0.0%		FACW species $105 \times 2 = 210$
5	0	0.0%		FAC species $70 \times 3 = 210$
	15	= Total Cov	er	EACH species $0 \times 4 = 0$
lerb Stratum (Plot size: 1m)				$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $
1. Phalaris arundinacea	50	✔ 100.0%	FACW	$\begin{array}{c} \text{operator} \\ \ operator \\ \text{operator} \\ \ operator} \\ operator$
2	0	0.0%		$\begin{bmatrix} \text{Column Totals:} & 1/5 \\ \end{bmatrix} (A) & 420 \\ \end{bmatrix} (B)$
3	0	0.0%		Prevalence Index = $B/A = 2.400$
4	0	0.0%		Hydrophytic Vegetation Indicators:
5	0	0.0%		 I - Rapid Test for Hydrophytic Vegetation
6	0	0.0%		✓ 2 - Dominance Test is > 50%
7	0	0.0%		\checkmark 3 - Prevalence Index is <3.0 ¹
8				
9				data in Remarks or on a separate sheet)
10	0			\Box 5 - Wetland Non-Vascular Plants ¹
11				Problematic Hydrophytic Vegetation ¹ (Explain)
	50	= Total Cov	er	
Woody Vine Stratum (Plot size: 1m)				be present, unless disturbed or problematic.
1	0			
2	0	0.0%		Vegetation
	0	= Total Cov	er	Present? Yes • No ·
% Bare Ground in Herb Stratum: _50				

Rapid test, dominance test, and prevalence index indicators were met.

Dauth		Matrix			Podo	v Foatu	IFAE			
Deptn (inches)	Color (\sim (moist) % Color (moist) % Type ¹ Loc ²		Color (moist) %		Loc ²	Texture	Remarks		
0-4	10YR	3/1	100						Clay Loam	w/ gravel; duff and roots
4-9	10YR	3.5/1	98	10YR	3/6	2	С	PL	Clay Loam	large cobble
9-14+	10YR	5/1	98	10YR	5/8	2	С	M	Sandy Clay	
					= = =					
Type: C=Cono	centration. D	=Depletior	n. RM=Red	uced Matrix, CS	S=Covered	or Coat	ted Sand Gr	ains ² Loc	ation: PL=Pore Linin	ng. M=Matrix
Histosol (/ Histic Epip Black Hist Hydrogen Depleted Thick Darl Sandy Mu	A1) pedon (A2) ic (A3) Sulfide (A4) Below Dark : k Surface (A ick Mineral (Surface (A1 12) 51)	.1)	Sandy Stripp Loamy ∠ Loamy ✓ Deple Redox Deple Redox	v Redox (S ed Matrix y Mucky M y Gleyed M ted Matrix ted Dark Surf ted Dark S	5) (S6) ineral (f 1atrix (F (F3) face (F6 Surface (ons (F8)	(F7) (except	in MLRA 1)	2 cm Muck 2 cm Muck Red Parent Other (Expl ³ Indicators of hydro wetland hydro unless disturb	(A10) Material (TF2) lain in Remarks) drophytic vegetation and logy must be present, ed or problematic.
	aver (if pre	sent):			•	. ,				-
Type: Depth (incl	<u>d nine</u> hes): <u>12</u>								Hydric Soil Pres	ent? Yes $ullet$ No $igcap$
Remarks:										
ockets of sa	nd. F3 indio	cator pres	ent.							

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required	; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	✓ Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	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 Imagery (C9)
Drift deposits (B3)	Oxidized Rhizospheres on 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)		
Field Observations:		
Surface Water Present? Yes O No O	Depth (inches):	
Water Table Present? Yes O No O	Depth (inches):	
Saturation Present? (includes capillary fringe) Yes • No	Depth (inches): 0	ydrology Present? Yes 🖲 NO 🖯
Describe Recorded Data (stream gauge, monit	or well, aerial photos, previous inspections), if avail	able:
Remarks:		
Saturated to the surface. Primary indicators A	3 and B8 present. Secondary indicators B9, B10, D2	, and D5 also present.

Project/Site: SR 167 Stage 2	City/County: Fife/Pierce	5	Sampling Date: 23-Mar-22	_
Applicant/Owner: WSDOT		State: WA	Sampling Point: W136-SP1	
Investigator(s): LD, JH	Section, Township, Range:	s 12 t 20	ON R_3E	
Landform (hillslope, terrace, etc.): Swale	Local relief (concave, conve	x, none): convex	Slope: 5.0 % / 2.9	<u>)</u> •
Subregion (LRR): LRR A Lat.:	47.240395 Loi	ng.: -122.361799	Datum: NAD 1983	Н
Soil Map Unit Name: Sultan silt loam		NWI classifi	cation: None	_
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes $ullet$ No $igodot$	(If no, explain in R	Remarks.)	
Are Vegetation 🔽 , Soil 🔽 , or Hydrology 🗹 significant	ly disturbed? Are "Norma	l Circumstances" pr	resent? Yes 🖲 No 🔾	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	problematic? (If needed,	explain any answer	rs in Remarks.)	

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 🖲	No O	Is the Sampled Area	
Hydric Soil Present?	Yes 🖲	No \bigcirc		
Wetland Hydrology Present?	Yes 🖲	No O	within a Wetland?	

Remarks:

All three wetland parameters are met. Wetland is in a ditch adjacent to the northbound lanes of I-5. Vegetation, soils and hydrology are significantly disturbed due to regular ditch maintenance.

Tree Stratum (Plot size: 3m)	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
1	0	0.0%		That are OBL, FACW, or FAC:1(A)
2	0	0.0%		
3	0	0.0%		Total Number of Dominant Species Across All Strata: 1 (B)
4	0	0.0%		
Sapling/Shrub Stratum (Plot size: 2m)	0	= Total Cov	er	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1,	0	0.0%		Prevalence Index worksheet:
2.	0	0.0%		Total % Cover of: Multiply by:
3	0	0.0%		OBL species $0 \times 1 = 0$
4	0	0.0%		FACW species 100 x 2 = 200
5	0	0.0%		FAC species $0 \times 3 = 0$
	0	= Total Cov	er	FACU specilles $0 \times 4 = 0$
Herb Stratum (Plot size: 1m)		_		$\frac{1}{100} \text{ species} \qquad \frac{1}{100} \text{ species} \qquad \frac{1}$
1. Phalaris arundinacea	100	✓ 100.0%	FACW	$\begin{array}{c} \text{Column Total of } 100 \text{(A)} 200 \text{(B)} \end{array}$
2	0	0.0%		
3	0	0.0%		Prevalence Index = B/A =
4	0			Hydrophytic Vegetation Indicators:
5	0			✓ 1 - Rapid Test for Hydrophytic Vegetation
6	0			✓ 2 - Dominance Test is > 50%
7	0			✓ 3 - Prevalence Index is \leq 3.0 ¹
8	0			4 - Morphological Adaptations ¹ (Provide supporting
9	0	0.0%		data in Remarks or on a separate sheet)
10	0	0.0%		\Box 5 - Wetland Non-Vascular Plants 1
11.	100	= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 1 m)				¹ Indicators of hydric soil and wetland hydrology must
1.	0	0.0%		be present, unless disturbed or problematic.
2.	0	0.0%		Hydrophytic
	0	= Total Cov	er	Vegetation Present? Yes No
% Bare Ground in Herb Stratum: $_{ m 0}$				

Vegetation meets rapid test, dominance test, and prevelance index.

Depth		Matrix			Redox Fe	eatures						
(inches)	Color (moist)	%	Color (mo	ist) 9	<u>6 Type¹</u>	Loc ²	Texture	Remarks			
0-9	10YR	4/1	100					Loamy clay				
9-16	2.5YR	4/1	70	5YR	4/4 3	60 C	М	Loamy clay	Prominent depletions			
						,						
							·					
Type: C=Con	centration. D	=Depletion	n. RM=Red	uced Matrix, CS	=Covered or	Coated Sand G	irains ² Loc	ation: PL=Pore Lining	g. M=Matrix			
Hydric Soil I	Indicators:	(Applicat	ble to all L	RRs, unless ot	therwise no	ted.)		Indicators for I	Problematic Hydric Soils ³ :			
Histosol (/	A1)			Sandy	Redox (S5)			2 cm Muck ((A10)			
Histic Epir	pedon (A2)			Strippe	ed Matrix (S6)		Red Parent	Material (TF2)			
Black Hist	tic (A3)			Loamy	Mucky Miner	al (F1) (except	t in MLRA 1)	Other (Expla	ain in Remarks)			
 Hydrogen 	Sulfide (A4)			Loamy	Gleyed Matr	ix (F2)						
Depleted	Below Dark S	Surface (A	11)	✓ Deplet	ed Matrix (F3	5)						
Thick Dar	k Surface (A	12)		Redox	Dark Surface	e (F6)		³ Indicators of hydrophytic vegetation and				
Sandy Mu	ick Mineral (S	51)		Deplet	Depleted Dark Surface (F7)				wetland hydrology must be present,			
Sandy Gle	eyed Matrix (S4)		Redox	depressions	(F8)		unless disturbe	ed or problematic.			
estrictive L	ayer (if pre	sent):										
Туре:												
Depth (inc	hes):							Hydric Soil Prese	ent? Yes 🔍 No 🔾			
Remarks:												

Wetland Hydrology Indica	ators:			
Primary Indicators (minin	num of one	required;	check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)			Water-Stained Leaves (B9) (except	MLRA Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)			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 Imagery (C9)
Drift deposits (B3)			Oxidized Rhizospheres on Living Ro	ots (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	s (C6) FAC-neutral Test (D5)
Surface Soil Cracks (B6))		Stunted or Stressed Plants (D1) (LR	R A) Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Ae	erial Imagery	(B7)	Other (Explain in Remarks)	Frost Heave Hummocks (D7)
Sparsely Vegetated Con	cave Surface	(B8)		
Field Observations:				
Surface Water Present?	Yes \bigcirc	No 🖲	Depth (inches):	
Water Table Present?	Yes 🖲	No \bigcirc	Depth (inches): 6	
Saturation Present? (includes capillary fringe)	Yes 🖲	No \bigcirc	Depth (inches): 0	Wetland Hydrology Present? Yes 👻 NO 🖯
Describe Recorded Data (stream gaug	ge, monito	r well, aerial photos, previous inspec	tions), if available:
Remarks:				
Hydrology indicators A3 a	nd C1 are n	net.		

Project/Site: SR 167 Stage 2	City/County: Fife/Pierce		Sampling Date: 23-Mar-22		
Applicant/Owner: WSDOT		State: WA	Sampling Point:	W136-SP2	
Investigator(s): LD, JH	Section, Township, Range	: s _12 T _	20N R _3E		
Landform (hillslope, terrace, etc.): Slope	Local relief (concave, conv	ex, none): none	Slope:	40.0 % / <u>21.8</u> °	
Subregion (LRR): LRR A Lat.:	47.240420 Lo	ng.: -122.361808	Dat	um:	
Soil Map Unit Name: Sultan silt loam		NWI class	ification: None		
Are climatic/hydrologic conditions on the site typical for this time of ye Are Vegetation 🖌 , Soil 🖌 , or Hydrology ✔ significant Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	ar? Yes • No ly disturbed? Are "Norm roblematic? (If needed	(If no, explain ir al Circumstances" , explain any answ	n Remarks.) present? Yes ④ vers in Remarks.)	No O	

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present?	Yes ● Yes ○	No () No ()	Is the Sampled Area	Yes 🔿 No 🔍
Wetland Hydrology Present?	Yes \bigcirc	No 🖲	within a Wetland?	
Remarks:				

Upland pit on road slope adjacent to I-5

VEGETATION - Use scientific names of pla	nts.	Dominant Species?	
	Absolute	Rel.Strat. Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 3 m)	% Cover	Cover Status	Number of Dominant Species
1	0	0.0%	That are OBL, FACW, or FAC: (A)
2	0	0.0%	Total Number of Dominant
3	0	0.0%	Species Across All Strata: <u>1</u> (B)
4,	0	0.0%	
	0	= Total Cover	Percent of dominant Species That Are OBL_EACW_or_EAC*100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 2 m)			
1,	0	0.0%	Prevalence Index worksheet:
2	0	0.0%	Total % Cover of: Multiply by:
3	0	0.0%	OBL species x 1 =
4	0	0.0%	FACW species $0 \times 2 = 0$
5	0	0.0%	FAC species X 3 =303
	0	= Total Cover	FACU species $6 \times 4 = 24$
Herb Stratum (Plot size: 1 m)		_	UPL species $\frac{0}{100} \times 5 = \frac{0}{100}$
1. Agrostis gigantea	99	✓ <u>92.5%</u> FAC	Column Totals: 107 (A) 327 (B)
2. Plantago lanceolata	6	5.6% FACU	
3. Vicia americana	2		Prevalence Index = $B/A = 3.056$
4	0	0.0%	Hydrophytic Vegetation Indicators:
5	0	0.0%	1 - Panid Test for Hydronbytic Vegetation
6	0	0.0%	\checkmark 2 - Dominance Test is > 50%
7	0	0.0%	
8	0	0.0%	
9	0	0.0%	4 - Morphological Adaptations ¹ (Provide supporting
10	0	0.0%	S - Wotland Non Vaccular Dianta 1
11	0	0.0%	
	107	= Total Cover	Problematic Hydrophytic Vegetation ⁺ (Explain)
Woody Vine Stratum (Plot size:)	0	0.0%	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,			
2			Vegetation
	<u> </u>		Present? Tes C NO C
% Bare Ground in Herb Stratum: <u>0</u>			
Remarks:			
Vegetation meets dominance test.			

Depth	<u> </u>	Matrix		Red	ox Featu	ires		
(inches)	Color (m	noist)	%	Color (moist)	%	Type ¹	Loc ²	TextureRemarks
0-16	10YR	4/2	100					Gravelly loam
					-			-
					-	- ,		
Type: C=Concer	ntration. D=	=Depletior	. RM=Redu	ced Matrix, CS=Covere	d or Coa	ted Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=Matrix
Hydric Soil Ind	dicators: (Applicab	le to all Ll	RRs, unless otherwis	e noted	.)		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)			Sandy Redox (S5)			2 cm Muck (A10)
Histic Epiped	don (A2)			Stripped Matrix	(S6)			Red Parent Material (TF2)
Black Histic	(A3)			Loamy Mucky	Mineral (F1) (except	in MLRA 1)	Other (Explain in Remarks)
	ulfide (A4)			Loamy Gleyed	Matrix (F	2)		
Depleted Be	low Dark Su	urface (A1	.1)	Depleted Matri	x (F3)			
Thick Dark S	Surface (A12	2)			rtace (Ft)) (FZ)		³ Indicators of hydrophytic vegetation and
Sandy Muck	Mineral (S1	1)			Surrace	(F7)		wetland hydrology must be present,
Sandy Gleye	ed Matrix (S	4)			ions (F8)			uniess disturbed of problematic.
	er (if pres/	ent):						
Restrictive Lay								Hydric Soil Brosont? Yes 🔿 No 🌒
Restrictive Lay Type:								
Restrictive Lay Type: Depth (inches	·s):							
Restrictive Lay Type: Depth (inchest Remarks:	s):							
Type:	:s): ndicators n	net.						
Restrictive Lay Type: Depth (inche: Remarks: o hydric soil in	<u>s):</u> ndicators n	net.						
Restrictive Lay Type: Depth (inche Remarks: o hydric soil in	ndicators n	net.						

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one requir	ed; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	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 Imagery (C9)
Drift deposits (B3)	Oxidized Rhizospheres on 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)		
Field Observations		
Surface Water Present? Yes O No	Depth (inches):	
Water Table Present? Yes O No (Depth (inches):	
Saturation Present? Yes O No (Depth (inches):	d Hydrology Present? Tes 🗢 NO 🖲
Describe Recorded Data (stream gauge, mo	nitor well, aerial photos, previous inspections), if a	vailable:
Remarks:		
No evidence of wetland hydrology		
, , ,		

Project/Site: SR 167 Stage 2	City/County: Fife/Pierce	Sampling Date: 2023-05	5-19
Applicant/Owner: WSDOT	State:	Washington Sampling Point: W136-SI	P3
Investigator(s): RP, LD	Section, Township, Range: S12, T	20N, R3E	
Landform (hillslope, terrace, etc.): Ditch	Local relief (concave, convex, none	e): <u>Concave</u> Slope (%): <u>1</u>	
Subregion (LRR): A Lat: 47	2.23939350 Long: -12	2.35738733 Datum: NAD 8	83
Soil Map Unit Name: Sultan silt Ioam		NWI classification: None	
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes No 🔽 (If no,	explain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Normal Circu	umstances" present? Yes 🗹 No _	
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, explain	n any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations,	transects, important features,	etc.

Hydrophytic Vegetation Present?	Yes 🖌	No			
Hydric Soil Present?	Yes	No 🖌	Is the Sampled Area		
Wetland Hydrology Present?	Yes	No 🖌	within a Wetland?	Yes	No
Remarks:			•		

When considering the three prior months (Feb, March, April) as a whole, drier than normal precipitation conditions were present prior to the field visit on May 19, 2023. Hydrophytic vegetation present. Test pit lacks hydric soil and hydrology indicators.

VEGETATION – Use scientific names of plants.

2	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 3 m)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: <u>3</u> (A)
2.				
3				Total Number of Dominant
3				Species Across Air Strata. <u> </u>
4		<u> </u>		Percent of Dominant Species
0 1 (0) 1 0) 1 (0) 1 (0) 2 m		= Total Co	ver	That Are OBL, FACW, or FAC: 100 (A/B)
Sapling/Shrub Stratum (Plot size: 2 111)	4.0			Prevalence Index worksheet:
1. Rubus armeniacus	10	<u> </u>	FAC	Total % Cover of: Multiply by:
2				$\frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{10000} \frac{1}{10000000000000000000000000000000000$
3.				OBL species $\underline{0}$ $x \uparrow = \underline{0}$
4				FACW species 0 $x^2 = 0$
··				FAC species $90 x 3 = 270$
J	10%			FACU species <u>4</u> x 4 = <u>16</u>
Horp Stratum (Plot size: $1 \mathrm{m}$)	10%	= Total Co	ver	UPL species $0 \times 5 = 0$
<u>Herb Stratum</u> (Flot size. <u>111</u>)	60			Column Totals: 94 (A) 286 (B)
	00			
2. Lolium perenne	20	<u> </u>	FAC	Prevalence Index = $B/A = 3.04$
3. Galium aparine	2		FACU	Hydrophytic Vegetation Indicators:
4. Plantago lanceolata	2		FACU	1 - Rapid Test for Hydrophytic Vegetation
5				✓ 2 - Dominance Test is >50%
6.				3 - Prevalence Index is <3.01
7				A Merchelesical Adaptations ¹ (Dravide supporting
8				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
10		<u> </u>		¹ Indicators of hydric soil and wetland hydrology must
11	0.49/			be present, unless disturbed or problematic.
Weady V in a Stratum (Distained 1 m)	84%	= Total Cov	/er	
Woody vine Stratum (Piot size. 1111)				
1				Hydrophytic
2				Vegetation
		= Total Cov	/er	
% Bare Ground in Herb Stratum				
Remarks:				
Vegetation meets the dominance tes	st for hy	/drophy	/tic veg	getation.

Profile Desc	ription: (Describe	e to the depth	needed to docur	nent the i	ndicator	or confirm	n the absence	of indicators.)
(inches)	Color (moist)	%	Color (moist)	<u>x Feature</u> %	s Type ¹	\log^2	Texture	Remarks
0 - 16	10YR 3/2	100					Sandy Loam	Approx 20% gravel
	10111 0/2							
-								
-								
-								
-								
							·	
-								
¹ Type: C=Co	oncentration, D=De	pletion, RM=R	educed Matrix, CS	S=Covered	d or Coate	ed Sand Gr	rains. ² Loo	cation: PL=Pore Lining, M=Matrix.
Historel			Sondy Doday (eu.)			n's for Froblematic Hydric Solls .
Histic Er	(AT) binedon (A2)		_ Sanuy Reuox ((S6)			2 Ci	Parent Material (TE2)
Black Hi	stic (A3)		Loamy Mucky M	(00) /lineral (F	1) (except	MLRA 1)	Ver	Shallow Dark Surface (TF12)
Hydroge	n Sulfide (A4)		Loamy Gleved	Matrix (F2))		Oth	er (Explain in Remarks)
Depleted	Below Dark Surfa	ce (A11)	_ Depleted Matrix	(F3)	,			
Thick Da	ark Surface (A12)		_ Redox Dark Su	rface (F6)			³ Indicato	ors of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)		Depleted Dark	Surface (F	7)		wetla	nd hydrology must be present,
Sandy G	leyed Matrix (S4)		_ Redox Depress	ions (F8)			unles	s disturbed or problematic.
Restrictive I	_ayer (if present):							
Type:			<u> </u>					
Depth (inc	ches):						Hydric Soil	Present? Yes No
HYDROLO	GY							
Wetland Hy	drology Indicators							
Primary Indic	ators (minimum of	one required;	check all that appl	y)			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ined Leav	es (B9) (e	xcept	V	Vater-Stained Leaves (B9) (MLRA 1, 2,
High Wa	ter Table (A2)		MLRA	1, 2, 4A, a	and 4B)			4A, and 4B)
Saturatio	on (A3)		Salt Crust	(B11)				rainage Patterns (B10)
Water M	arks (B1)		Aquatic In	vertebrate	s (B13)		C	ry-Season Water Table (C2)
Sedimer	nt Deposits (B2)		Hydrogen	Sulfide O	dor (C1)		S	aturation Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)		Oxidized F	Rhizosphe	res along	Living Roc	ots (C3) $_$ C	eomorphic Position (D2)
	it or Crust (B4)		Presence	of Reduce	a Iron (C4	+) d Calla (CC	"	
Iron Dep	Soil Crocks (BS)		Recent Iro	n Reducti	Dianta (D) F	AC-Neutral Test (D5)
	on Vis ble on Aerial	Imagery (B7)	Other (Evr	oliesseu Jain in Re	marks)) <u> </u>	rost-Heave Hummocks (D7)
Sparsel	Vegetated Concav	/e Surface (B8			marksj		'	
Field Obser	vations:)					
Surface Wat	er Present?	Yes No	Denth (in	ches).				
Water Table	Present?	Vos No	Depth (in	ches):		—		
Saturation P	resent?	Voc No	Depth (in	choc):		Woth	and Hydrolog	v Brosont? Yos No
(includes cap	oillary fringe)	165 <u> </u>		ches)				
Describe Re	corded Data (strear	n gauge, moni	toring well, aerial	photos, pr	evious ins	pections),	if available:	
Remarks [.]								
No wetla	and hydrolog	gy indica	tors presen	τ.				

Project/Site: SR 167 Stage 2	City/County: Fife/Pierce		Sampling Date: 2023-05-19
Applicant/Owner: WSDOT		State: Washington	Sampling Point: W149-SP1
Investigator(s): RP, LD	Section, Township, Range	S7, T20N, R4E	
Landform (hillslope, terrace, etc.): Depression	_ Local relief (concave, conv	vex, none): <u>Concave</u>	Slope (%): <u>1</u>
Subregion (LRR): A Lat: 47	7.24003383 Lo	ong: <u>122.35598533</u>	Datum: NAD 83
Soil Map Unit Name: Sultan silt Ioam		NWI classifica	_{ation:} None
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes No 🔽	(If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Nor	mal Circumstances" pr	resent? Yes No _
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If neede	d, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point loca	ations, transects,	important features, etc.

Hydrophytic Vegetation Present?	Yes 🖌 No	-	
Hydric Soil Present?	Yes 🔽 No	Is the Sampled Area	
Wetland Hydrology Present?	Yes 🖌 No	within a Wetland?	Yes No
Remarks [.]			

Wetland test pit located in area between I-5 northbound and freeway off ramp. All three wetland indicators are present. When considering the three prior months as a whole, drier than normal precipitation conditions were present prior to field work.

VEGETATION – Use scientific names of plants.

0	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 3 m)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 1 (A)
2.				
3				I otal Number of Dominant Species Across All Strata: 1 (B)
4				Percent of Dominant Species
Conling/Chrub Stratum (Distaire: 2 m)		_ = Total Co	over	That Are OBL, FACW, or FAC: 100 (A/B)
				Prevalence Index worksheet:
1				Total % Cover of Multiply by
2				$\frac{1}{OBL \text{ species } 0} \frac{1}{x + 1} = 0$
3				$\frac{196}{196}$
4.				FACW species $\frac{30}{2}$ $x^2 = \frac{100}{6}$
5				FAC species $\frac{2}{2}$ x 3 = $\frac{6}{2}$
		- Tatal Ca		FACU species 2 x 4 = 8
Herb Stratum (Plot size [,] 1 m)		= 1 otal Co	over	UPL species $0 \times 5 = 0$
1. Phalaris arundinacea	98	~	FACW	Column Totals: 102 (A) 210 (B)
2 Galium aparine	2		FACU	2.06
3 Rubus armeniacus	2		FAC	Prevalence index = B/A =
3. <u></u>				Hydrophytic vegetation indicators:
4				1 - Rapid Test for Hydrophytic Vegetation
5				
6				\checkmark 3 - Prevalence Index is ≤3.0 ¹
7				4 - Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9.				5 - Wetland Non-Vascular Plants ¹
10.				Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must
· · · ·	102%	= Total Co	ver	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 1 m)			VCI	
1.				Hydrophytic
2				Vegetation
۲		Tatal Oa		Present? Yes <u>No</u>
% Bare Ground in Herb Stratum			ver	
Remarks:				
Vegetation meets the dominance te	st rapid	test		
	and r	revale:	nce ind	ex for hydrophytic vegetation
	anu p			ex juj nyalopnytic vegetation.

SOIL

Profile Desc	ription: (Describe	to the dep	oth needed to docu	ment the	indicato	r or confirm	the absence	of indicators.)
Depth (inchos)	Matrix	0/_	Redo	ox Feature	es Tunc ¹		Texturo	Demarka
<u>(incries)</u> 0 - 14	10YR 2/1	70		70	Type		Silt Loam	Remains
14. 20	10VP //1	70	7 570 5/6	30	<u> </u>		Sandy Loom	
14-20	101K 4/1	/0	7.5TK 5/0	30	<u> </u>		Sanuy Loam	
-								
-								
-								
-								
- 1Turney 0-0							21 -	
Hydric Soil	Indicators: (Applic	able to al	I=Reduced Matrix, C	S=Covere	ed or Coa	ted Sand Gr	ains. Lo	cation: PL=Pore Lining, M=Matrix.
Histosol			Sandy Podoy ((95)	leu.j			m Muck (A10)
Histic Fr	(AT) Dipedon (A2)		Stripped Matrix	(S6)			2 ci Rec	Parent Material (TF2)
Black Hi	stic (A3)		Loamy Mucky	Mineral (F	1) (excel	ot MLRA 1)	Ver	v Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy Gleved	Matrix (F	2)		Oth	er (Explain in Remarks)
Depleted	d Below Dark Surfac	e (A11)	Depleted Matri	x (F3)	,			
✓ Thick Da	ark Surface (A12)	. ,	Redox Dark Su	urface (F6)		³ Indicato	ors of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)		Depleted Dark	Surface (F7)		wetla	ind hydrology must be present,
Sandy G	Bleyed Matrix (S4)		Redox Depress	sions (F8)			unles	ss disturbed or problematic.
Restrictive I	Layer (if present):							
Туре:								
Depth (ind	ches):						Hydric Soil	Present? Yes V No
Remarks:								
Uvdric s	oil indicator	12 pr	ocont					
i iyunc s		AIZ pr	esent.					
	GY							
	dralagy Indiastors							
	ators (minimum of c		d: aback all that ann	50			Saaa	ndary Indiantora (2 ar mara required)
		ne require		iy)				
Sunace	vvater (AT)		water-Sta		/es (B9) (except	V	vater-Stained Leaves (B9) (MLRA 1, 2,
Hign wa	ater Table (A2)			1, 2, 4A,	and 4B)		-	4A, and 4B)
Vatar M	on (A3) Jarka (D4)			(BTT)			L	
	arks (DT)				$\frac{1}{2}$ (BI3)		L	Seturation Visible on Asticl Imagen (CO)
	(D2)					a Livina Doo	to (C2)	Securation Visible on Aerial Imagery (C9)
	DOSILS (BS)		Oxidized I	of Poduc	od Iron ((y Living Roo M	is (C3) <u> </u>	challow Aquitard (D3)
Iron Der	ac of Clust (D4)		Presence		ion in Till	od Sails (CG	 a) ∠	
Surface	Soil Cracks (B6)		Recent in	r Stresser	l Plants (ο1) (I RR Δ') <u>•</u> [Paised Ant Mounds (D6) (I RR A)
Oundeti	on Vis ble on Aerial	Imagery (F	(Fx Other (Fx	nlain in R	emarks)		, <u> </u>	rost-Heave Hummocks (D7)
Indiridation	Vegetated Concav	e Surface	(B8)	plainini	cinantoj		'	
Field Obser	vations:	c ounace	(60)					
Surface Wat	er Present? V	~~~	No 🖌 Depth (in	ches).				
Water Table	Procent?	(oc /	No Dopth (in	(hoc): 1)			
Seturation D	resent?		No Depth (in	$\frac{1}{2}$				
(includes cap	pillary fringe)	es <u> </u>		iches). <u> </u>		wetta	and Hydrolog	y Present? res No
Describe Re	corded Data (stream	i gauge, m	onitoring well, aerial	photos, p	revious ir	spections),	if available:	
Hydrology	indicators A2 and	d A3 pre	sent. Secondary i	indicato	r D5 als	o present.		
Remarks:								

Project/Site: SR 167 Stage 2	City/County: Fife/Pierce	Sampling	g Date: 2023-05-19
Applicant/Owner: WSDOT		State: Washington Sampling	g Point: W149-SP2
Investigator(s): <u>RP, LD</u>	Section, Township, Range	S7, T20N, R4E	
Landform (hillslope, terrace, etc.): Slope	Local relief (concave, conv	/ex, none): <u>None</u>	Slope (%): <u>3</u>
Subregion (LRR): Lat: 47	7.24000403 Lo	ong: -122.35599176	Datum: NAD 83
Soil Map Unit Name: Sultan silt Ioam		NWI classification: NC	one
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes No 🔽	(If no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Nor	mal Circumstances" present?	Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If neede	d, explain any answers in Rem	arks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point loca	tions, transects, import	tant features, etc.

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

Upland test pit located on road slope upslope of W149-SP1. Hydrophytic vegetation is present. Test pit lacks hydric soils and wetland hydrology.

VEGETATION – Use scientific names of plants.

3	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 3 m)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: <u>3</u> (A)
2.				
3				I otal Number of Dominant Species Across All Strate: 3 (P)
0				Species Across Air Strata (B)
4				Percent of Dominant Species
Sopling/Shrub Stratum (Blot aize: 2 m)		= Total Co	ver	That Are OBL, FACW, or FAC: <u>100</u> (A/B)
<u>Sapling/Shirub Stratum</u> (Flot Size: <u>2 m</u>)	10		EAC	Prevalence Index worksheet:
	10		FAC	Total % Cover of: Multiply by:
2				$\frac{1}{OBL \text{ species } 0} = \frac{1}{x + 1} = 0$
3				$\frac{1}{140}$
4				120
5.				FAC species $\frac{40}{5}$ $x^3 = \frac{120}{00}$
	10%	= Total Co	ver	FACU species 5 $x 4 = 20$
Herb Stratum (Plot size:)				UPL species $0 x 5 = 0$
1. Phalaris arundinacea	70	~	FACW	Column Totals: <u>115</u> (A) <u>280</u> (B)
2. Holcus lanatus	30	~	FAC	Prevalence Index = $B/A = 2.43$
3. Galium aparine	5		FACU	Hydrophytic Vegetation Indicators:
4.				1 - Rapid Test for Hydrophytic Vegetation
5.				2 - Dominance Test is >50%
6				
7				$_$ 3 - Prevalence index is ≤ 3.0
8.				4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10.				Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must
	105%	- Total Ca		be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	100/0	- 10tal C0	/ei	
1				the beaute de
··				Hydrophytic
2				Present? Yes <u>No</u>
% Bare Ground in Herb Stratum		= I otal Cov	/er	
Remarks:				1
Nondrie.				
Vegetation meets the dominance te	st for hy	ydrophy	tic veg	getation.

SOIL

Depth	Matrix		Redox Features	_	
(inches)	Color (moist)	%	Color (moist) % Type' Loc ²	Texture	Remarks
0 - 16	10YR 5/3	100		Loamy Sand	Gravel throughout
-					
-					
-					
-					
-					
¹ Type: $C=C$	oncentration D=De	nletion RM	=Peduced Matrix_CS=Covered or Coated Sand	Grains ² Lo	cation: PI = Pore Lining M=Matrix
Hvdric Soil	Indicators: (Appli	cable to al	LRRs. unless otherwise noted.)	Indicat	ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S5)	2 0	m Muck (A10)
Histic E	pipedon (A2)		Stripped Matrix (S6)	2 0 Re	d Parent Material (TF2)
Black H	istic (A3)		Loamy Mucky Mineral (F1) (except MLRA	1) Ver	y Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	, Oth	ner (Explain in Remarks)
Deplete	d Below Dark Surfa	ice (A11)	Depleted Matrix (F3)		
Thick Da	ark Surface (A12)		Redox Dark Surface (F6)	³ Indicat	ors of hydrophytic vegetation and
Sandy N	Aucky Mineral (S1)		Depleted Dark Surface (F7)	wetla	and hydrology must be present,
Sandy C	Gleyed Matrix (S4)		Redox Depressions (F8)	unle	ss disturbed or problematic.
Restrictive	Layer (if present):				
Туре:					
Depth (in	ches):			Hydric Soi	I Present? Yes No
HYDROLO	GY				
HYDROLO Wetland Hy	GY drology Indicators	s:			
HYDROLO Wetland Hy Primary India	GY drology Indicators cators (minimum of	s: one require	d: check all that apply)	Secc	ndary Indicators (2 or more required)
HYDROLO Wetland Hy Primary India Surface	GY drology Indicators cators (minimum of Water (A1)	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except	<u>Secc</u>	ndary Indicators (2 or more required) Nater-Stained Leaves (B9) (MLRA 1, 2,
HYDROLO Wetland Hy Primary India Surface High Wa	GY drology Indicators cators (minimum of Water (A1) ater Table (A2)	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<u>Secc</u>	ndary Indicators (2 or more required) Nater-Stained Leaves (B9) (MLRA 1, 2, 4A. and 4B)
HYDROLO Wetland Hy Primary India Surface High Wa Saturati	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	<u>Secc</u>	ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
HYDROLO Wetland Hy Primary India Surface High Wa Saturati Water M	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1)	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	<u>Secc</u>	ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2)	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hvdrogen Sulfide Odor (C1)	<u>Secc</u> \ [[Indary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Dei	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)	s: one require	 <u>d; check all that apply)</u> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R 	<u>Secc</u> \ [[[[]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Orift Dep Algal Ma	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4)	<u>Secc</u> \ [[coots (C3) [Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (<u>Secc</u> \ []]]]]]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
HYDROLO Wetland Hy Primary India Surface High Wa Saturation Water M Sediment Drift Del Algal Ma Iron Dep Surface	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR	<u>Secc</u> \ [[[[2:oots (C3) [[[] C6) F	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundati	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aeria	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR 67) Other (Explain in Remarks)	<u>Secc</u> \ [[[[[[[] [] [] [] [] []] [] []] []] []] []]] []]]] [] _]	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatii Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Concar	s: one require	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR 7) Other (Explain in Remarks)	<u>Secc</u> \ []] [[]] [[]] 	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Concar vations:	s: one require I Imagery (E ve Surface	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR 7) Other (Explain in Remarks) (B8)	<u>Secc</u> \ [[[[coots (C3) [[[A) [Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatie Vater M Sedimen Drift Deg Algal Ma Iron Deg Surface Inundati Sparselg Field Obser Surface Wat	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Concar vations: ter Present?	s: one require I Imagery (E ve Surface	d; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Stunted or Stressed Plants (D1) (LRR 67) Other (Explain in Remarks) [88) No Depth (inches):	<u>Secc</u> \ [[[[] C6)	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water N Sedimen Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wate Water Table	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Conca vations: ter Present?	s: one require	d; check all that apply)	<u>Secc</u> [[20ots (C3) [[[A) F [Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatii Water N Sedimel Drift Deg Algal Ma Iron Deg Surface Inundati Sparsely Field Obser Surface Wate Water Table Saturation P	drology Indicators <u>cators (minimum of</u> Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Concar vations: ter Present? Present?	s: one require	d; check all that apply)	Secc [[[[[[] C6)	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatii Water M Sedimen Drift Deg Algal Ma Iron Deg Surface Inundati Sparselg Field Obser Surface Wate Water Table Saturation P (includes ca	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Concar vations: ter Present? Present? pillary fringe)	s: one require	d; check all that apply)	<u>Secc</u> \ [[[200ts (C3) [[C6) F A) F F	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) gy Present? Yes No
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Orift Deg Algal Ma Iron Deg Surface Inundati Sparsely Field Obser Surface Wate Water Table Saturation P (includes cag Describe Re	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Concar vations: ter Present? Present? present? present? pillary fringe) coorded Data (streat	I Imagery (E ve Surface Yes Yes Yes	d; check all that apply)	<u>Secc</u> \ [[[[[[] C6) <u>✔</u> F A) F A) F etland Hydrolog	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) gy Present? Yes No
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Vater N Sedimei Algal Ma Iron Deg Surface Inundati Sparsely Field Obser Surface Wate Vater Table Saturation P (includes ca] Describe Re No primary	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Conca vations: ter Present? Present? pillary fringe) corded Data (stread y hydrology indic	s: one require I Imagery (E ve Surface Yes Yes Yes m gauge, m cators are	d; check all that apply)	Seco \ [[[[[200ts (C3) [[200ts (C3) [[[[] [[[[[[[[[[[] [[[[[[[[] [[[[] [[[[[] [[[] [[[[] [[] [] [[] [[] [[] [] [] [[] [] [_] [Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) gy Present? Yes No esent.
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water N Sedimel Drift Deg Algal Ma Iron Deg Surface Inundati Sparsely Field Obser Surface Wate Water Table Saturation P (includes ca] Describe Re No primary Remarks:	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) fon Vis ble on Aeria y Vegetated Concar vations: ter Present? Present? Present? pillary fringe) coorded Data (stream y hydrology indic	s: one require I Imagery (E ve Surface Yes Yes Yes Tes m gauge, m cators are	d; check all that apply)	Seco \ [[[[[[] C6)	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) gy Present? Yes No esent.
HYDROLO Wetland Hy Primary India Surface High Wa Saturatii Water N Sedimen Drift Deg Algal Ma Iron Deg Surface Inundati Sparselg Field Obser Surface Wate Water Table Saturation P (includes cal Describe Re No primary Remarks:	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Concar vations: ter Present? Present? Present? pillary fringe) corded Data (stream r hydrology indic	s: one require	d; check all that apply)	Secc \ [] [[] [] [] [] []] etland Hydrolog sator, D5 is pr	andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) gy Present? Yes No esent.
HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Deg Algal Ma Iron Deg Surface Inundati Sparsely Field Obser Surface Wate Vater Table Saturation P (includes cal Describe Re No primary Remarks:	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Concar vations: ter Present? Present? Present? pillary fringe) corded Data (stream y hydrology indic	s: one require	d; check all that apply)	<u>Secc</u> \ [[[[[[[] C6) <u>✔</u> F A) F F etland Hydrolog s), if available: cator, D5 is pr	Andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) gy Present? Yes No esent.

Project/Site: SR 167 Stage 2	_ City/County: Fife/Piero	ce	Sampling Date:	2023-05-19
Applicant/Owner: WSDOT		State: Washington	Sampling Point:	W150-SP1
Investigator(s): LD	_ Section, Township, Ran	_{ge:} <u>S12, T20N, R3E</u>		
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, c	onvex, none): <u>Concave</u>	e Slo	pe (%): <u>1</u>
Subregion (LRR): A Lat: 4	7.24051344	Long: -122.3579093	38 Datu	m: NAD 83
Soil Map Unit Name: Sultan silt Ioam		NWI classific	ation: None	
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No	(If no, explain in Red	emarks.)	
Are Vegetation, Soil, or Hydrology significant	tly disturbed? Are "N	lormal Circumstances" p	oresent? Yes	No
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If nee	ded, explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showir	ng sampling point lo	cations, transects	, important fe	atures, etc.
Hydrophytic Vegetation Present? Yes 🖌 No				

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u> </u>	Is the Sampled Area within a Wetland? Yes <u>Ý</u> No
Remarks:		

All three wetland indicators are present. Wetland located between I-5 offramp and northbound lanes. When considering the three prior months (February, March, April) as a whole, drier than normal precipitation conditions were present prior to field work.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 5 m)	% Cover	Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 1 (A)	
2				Total Number of Dominant	
3.				Species Across All Strata: 1 (B)	
4	_			(=)	
· ·		- Total Ca		Percent of Dominant Species	-
Sapling/Shrub Stratum (Plot size: 2 m)		- 10tal C0	vei	That Are OBL, FACW, or FAC: 100 (A/E	3)
<u></u>				Prevalence Index worksheet:	
··				Total % Cover of: Multiply by:	
2				OBL species $0 x_1 = 0$	
3				FACW species $100 \times 2 = 200$	
4				EAC species 0 $x_3 = 0$	
5				$\frac{1}{2} = \frac{1}{2} = \frac{1}$	
		= Total Co	ver	FACU species 0 $x 4 = 0$	
Herb Stratum (Plot size: <u>1 m</u>)				UPL species $0 \times 5 = 0$	
1. Phalaris arundinacea	100	~	FACW	Column Totals: 100 (A) 200 (B	5)
2				Prevalence Index = R/A = 2.00	
3.				Hydrophytic Vegetation Indicators:	
4				1 Danid Test for Ludranbutis Vegetation	
0				2 - Dominance Test is >50%	
6			<u> </u>	<u>✓</u> 3 - Prevalence Index is ≤3.0 ¹	
7				4 - Morphological Adaptations ¹ (Provide supporting	ng
8				data in Remarks or on a separate sheet)	
9				5 - Wetland Non-Vascular Plants ¹	
10.				Problematic Hydrophytic Vegetation ¹ (Explain)	
11				¹ Indicators of hydric soil and wetland hydrology must	
	100%	- Total Cov		be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size:)		- 10tai 00v			
1				Liver a shutia	
2				Vegetation	
۲ <u>۲</u>		T-1-1-0		Present? Yes <u>V</u> No	
% Bare Ground in Herb Stratum		= I otal Cov	ver		
Remarks:					
i tomano.					

Vegetation meets the rapid test, dominance test, and prevalence index for hydrophytic vegetation.

SOIL

Profile Desc	ription: (Describe	to the dep	oth needed to	document the	indicator	or confirm	the absence	e of indicators.)
Depth	Matrix			Redox Feature	s			
(inches)	Color (moist)	%	Color (moi	<u>st) %</u>	Type ¹	Loc ²	Texture	Remarks
0 - 12	10YR 2/2	98	7.5YR 4/6	2	<u>C</u>	М	Silt Loam	
-								
-								
						<u> </u>		·
-								
-					<u>.</u>			
-								
-								
	ncentration D=De	oletion RM	-Reduced Mat		d or Coate	d Sand Gr	aine ² Lo	ocation: PI =Pore Lining M=Matrix
Hvdric Soil	Indicators: (Appli	cable to al	LRRs. unless	otherwise not	ed.)			ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Re	dox (S5)	,		2 c	m Muck (A10)
Histic Er	pipedon (A2)		Stripped I	Matrix (S6)			Re	d Parent Material (TF2)
Black Hi	stic (A3)		Loamy M	ucky Mineral (F	1) (excep	t MLRA 1)	Vei	ry Shallow Dark Surface (TF12)
🖌 Hydroge	n Sulfide (A4)		Loamy G	eyed Matrix (F	2)		Oth	ner (Explain in Remarks)
Depleted	d Below Dark Surfac	ce (A11)	Depleted	Matrix (F3)				
Thick Da	ark Surface (A12)		Redox Da	rk Surface (F6)		³ Indicat	ors of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)		Depleted	Dark Surface (-7)		wetla	and hydrology must be present,
Sandy G	aver (if present):			pressions (F8)			unie	ss disturbed or problematic.
	mpacted gravel	and cob	ble					
Donth (in							Uvdria Cai	
Deptil (III	snes). <u>12</u>						Hydric 30	
Remarks.								
Hydric s	oil indicator	A4 is p	resent. P	rominent	redox	from 0-	-12 inche	es.
-								
HYDROLO	GY							
Wetland Hy	drology Indicators	:						
Primary India	cators (minimum of	one require	ed; check all that	t apply)			Seco	ondary Indicators (2 or more required)
Surface	Water (A1)		Wate	er-Stained Leav	ves (B9) (e	xcept	\	Water-Stained Leaves (B9) (MLRA 1, 2,
🖌 High Wa	iter Table (A2)		N	ILRA 1, 2, 4A,	and 4B)			4A, and 4B)
Saturation	on (A3)		Salt	Crust (B11)			[Drainage Patterns (B10)
Water M	arks (B1)		Aqua	atic Invertebrate	es (B13)		[Dry-Season Water Table (C2)
Sedimer	nt Deposits (B2)		Hydi	ogen Sulfide C	dor (C1)		5	Saturation Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)		Oxid	ized Rhizosphe	eres along	Living Root	ts (C3) (Geomorphic Position (D2)
Algal Ma	at or Crust (B4)		Pres	ence of Reduc	ed Iron (C	4)	{	Shallow Aquitard (D3)
Iron Dep	osits (B5)		Rec	ent Iron Reduct	ion in Tille	d Soils (C6)) <u> </u>	FAC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stur	ted or Stressed	l Plants (D	1) (LRR A)	F	Raised Ant Mounds (D6) (LRR A)
Inundati	on Vis ble on Aerial	Imagery (E	37) Othe	er (Explain in Re	emarks)		F	Frost-Heave Hummocks (D7)
Sparsely	Vegetated Concav	e Surface	(B8)					
Field Obser	vations:	1		the Grand A				
Surrace Wat	er Present?	res						
Water Table	Present?	res <u> </u>		oth (inches): /		—		
Saturation P	resent?	res 💆	No Dep	oth (inches): 0		Wetla	and Hydrolog	gy Present? Yes <u>*</u> No
Describe Re	corded Data (stream	n gauge, m	onitoring well, a	erial photos, p	revious ins	spections) i	f available:	
	•							-
						,poonono), i		

Primary hydrology indicators A2 and A3 are present.

Project/Site: SR 167 Stage 2	City/County: Fife/Pie	rce	Sampling Date: 2023-05-19
Applicant/Owner: WSDOT		State: Washington	Sampling Point: W150-SP2
Investigator(s): LD	Section, Township, Ra	ange: <u>S12, T20N, R3E</u>	
Landform (hillslope, terrace, etc.): Slope	Local relief (concave,	convex, none): None	Slope (%): 20
Subregion (LRR): Lat: _47	/.240422	_ Long: -122.357951	Datum: NAD 83
Soil Map Unit Name: Sultan silt Ioam		NWI classific	_{cation:} None
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes No _	 (If no, explain in F 	Remarks.)
Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Are	"Normal Circumstances"	present? Yes No
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If n	eeded, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site man showing	a sampling point	locations transects	s important features etc

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

Hydrophytic Vegetation Present?	Yes 🖌	No			
Hydric Soil Present?	Yes	No 🖌	Is the Sampled Area		
Wetland Hydrology Present?	Yes	No 🖌	within a Wetland?	Yes	No
Remarks:					

Upland test pit located upslope of W150-SP1. Hydrophytic vegetation present. Test pit lacks hydric soils and wetland hydrology. When considering the three prior months (February, March, April) as a whole, drier than normal precipitation conditions were present during field work.

VEGETATION – Use scientific names of plants.

2m	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 500)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 1 (A)
2				Total Number of Dominant
3				Species Across All Strata: 1 (B)
4.				
		= Total Co	ver	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 2m)				
1.				Prevalence Index worksheet:
2				Total % Cover of: Multiply by:
3				OBL species 0 $x_1 = 0$
3				FACW species $90 x 2 = 180$
4				FAC species $2 x 3 = 6$
5				FACU species $1 \times 4 = 4$
Hark Strature (Distained 1m)		= Total Co	ver	UPL species $3 \times 5 = 15$
Herb Stratum (Plot size: IIII)	00			$\frac{1}{205} = \frac{1}{205} $
	90		FACW	
2. Vicia sativa	3		UPL	Prevalence Index = $B/A = 2.14$
3. Equisetum arvense	2		FAC	Hydrophytic Vegetation Indicators:
4. Galium aparine	1		FACU	 1 - Rapid Test for Hydrophytic Vegetation
5				✓ 2 - Dominance Test is >50%
6.				$3 - $ Prevalence Index is $< 30^{1}$
7				Merrichlegical Adaptations ¹ (Dravide supporting
8.				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
ll	06%			be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 1m)	90%	= I otal Cov	/er	
(i lot size)				
1				Hydrophytic
2				Present? Yes No
% Paro Cround in Horb Stratum		= Total Cov	/er	
nemarity.				
Vegetation meets the rapid test and	domina	ance te	st for h	ydrophytic vegetation.

SOIL

Profile Description: (Describe to the dep	th needed to document the indicator or o	confirm the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	<u>Color (moist)</u> % <u>Type¹</u> <u>l</u>	Loc ² Texture Remarks
<u>0 - 16</u> 10YR 3/2 100		Silt Loam Fill material throughout
-		
-		
¹ Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, CS=Covered or Coated S	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
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 MI	LRA 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)	3
Thick Dark Sufface (A12)	Redox Dark Surface (F6)	indicators of hydrophytic vegetation and
Sandy Gleved Matrix (S4)	Depieted Dark Surface (F7) Redox Depressions (F8)	unless disturbed or problematic
Restrictive Laver (if present):		
Dopth (inches):		Hudria Sail Brasant? Vac. No.
Deptit (inches).		Rydric Soil Present? Tes No
Hydric soil indicators not pr	esent.	
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one require	d; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (exce	water-Stained Leaves (B9) (MLRA 1, 2,
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 Imagery (C9)
Drift Deposits (B3)	Oxidized Rhizospheres along Livi	ing 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 S	oils (C6) YAC-Neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) ((LRR A) Raised Ant Mounds (D6) (LRR A)
Inundation Vis ble on Aerial Imagery (B	Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)	
Field Observations:		
Surface Water Present? Yes	No Depth (inches):	
Water Table Present? Yes	No Cepth (inches):	
Saturation Present? Yes	No Cepth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos, previous inspec	ctions), if available:
Remarks:		
Primary hydrology indicato	rs not present. Secondary h	hydrology indicator D5 is present.

Project/Site: SR 167 Stage 2	_ City/County: Fife/Pierce	Samp	oling Date: 2023-05-19
Applicant/Owner: WSDOT		State: Washington Samp	oling Point: W151-SP1
Investigator(s): RP, LD	_ Section, Township, Range:	S7, T20N, R4E	
Landform (hillslope, terrace, etc.): Ditch	Local relief (concave, conve	ex, none): <u>Concave</u>	Slope (%): 0
Subregion (LRR): <u>A</u> Lat: <u>A</u>	17.23961632 Lor	_{ıg:} -122.35591415	Datum: <u>NAD 83</u>
Soil Map Unit Name: Sultan silt Ioam		NWI classification:	None
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No _	_ (If no, explain in Remark	s.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are "Norn	al Circumstances" present	? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed	, explain any answers in R	emarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point locat	ions, transects, imp	ortant features, etc.
Hydrophytic Vegetation Present? Yes <u>Ves</u> No			

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u>v</u> No <u>v</u> Yes <u>v</u> No <u>v</u> Yes <u>v</u> No <u>v</u>	Is the Sampled Area within a Wetland?	Yes 🖌 No
Remarks:			

All three wetland indicators are present. Wetland is in roadside ditch adjacent to south side of I-5 onramp. When considering the three prior months (February, March, April) as a whole, drier than normal precipitation conditions were present prior to field work.

VEGETATION – Use scientific names of plants.

2m	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 511)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1. Populus balsamifera	80	 ✓ 	FAC	That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4.				· · · · · · · · · · · · · · · · · · ·
	80%	= Total Co	Ver	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 2m)		_ 10101 00	VCI	That Are OBL, FACW, or FAC: 100 (A/B)
1.				Prevalence Index worksheet:
2				Total % Cover of:Multiply by:
2.				OBL species $0 x_1 = 0$
3			·	FACW species <u>75</u> x 2 = <u>150</u>
4			·	FAC species 85 $x_{3} = 255$
5				FACU species $0 x 4 = 0$
		= Total Co	ver	$\frac{1}{1} \text{Pl species } 0 \text{ x 5 = } 0$
Herb Stratum (Plot size: IM)				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
1. Phalaris arundinacea	75	<u> </u>	FACW	Column Totals: 100 (A) 403 (B)
2. Ranunculus repens	3		FAC	Prevalence Index = $B/A = 2.53$
3. Rubus armeniacus	2		FAC	Hydrophytic Vegetation Indicators:
4				1 - Rapid Test for Hydrophytic Vegetation
5.				✓ 2 - Dominance Test is >50%
6				$\frac{1}{2}$ 2 Browelense Index is $< 2.0^{1}$
7			·	\checkmark 3 - Flevalence index is ≤ 3.0
/				4 - Morphological Adaptations' (Provide supporting
8			<u> </u>	Wotland Nan Vasqular Dianta ¹
9				5 - Wettand Non-Vascular Flants
10				
11				Indicators of hydric soil and wetland hydrology must
	80%	= Total Cov	/er	be present, unless disturbed of problematic.
Woody Vine Stratum (Plot size:)				
1				Hydrophytic
2				Vegetation
		= Total Cov	/er	Present? Yes Yes No
% Bare Ground in Herb Stratum 20				
Remarks:				·

Vegetation meets the dominance test and prevalence index for hydrophytic vegetation.

SOIL

Profile Desc	cription: (Describe	to the dep	oth needed to docur	nent the	indicator	or confirm	n the absence	of indicators.)	
Depth <u>Matrix</u>		Redox Features							
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc	Texture	Remarks	
0-7	N 5/	100					Sand	Gley 1. Organic material in top 2 inches	
7 - 9	N 5/	90	7.5YR 5/8	10	<u>C</u>	Μ	Silty Clay Loam	Gley 1	
9 - 16	N 3/1	100					Silty Clay Loam	Gley 1	
-									
-									
·							·		
							. <u> </u>		
-									
¹ Type: C=Ce	oncentration, D=Dep	pletion, RM	=Reduced Matrix, CS	S=Covere	d or Coate	ed Sand Gr	ains. ² Loo	cation: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils':									
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) Depleted Matrix (F3) Thick Dark Surface (A12) Depleted Matrix (F3)									
TRICK Dark Surface (A12) Redox Dark Surface (F6)							wetland hydrology must be present		
Sandy Mucky Milleral (ST) Depleted Dark Surface (T)							unless disturbed or problematic		
Restrictive	Layer (if present):		<u> </u>						
Type:									
Depth (inches):							Hydric Soil	Present? Yes 🖌 No	
Remarks:									
Hydric soil indicators S4 and F2 present.									
HYDROLO	GY								
Wetland Hy	drology Indicators								
Primary India	cators (minimum of	one require	d; check all that appl	y)			Seco	ndary Indicators (2 or more required)	
Surface	Water (A1)		Water-Sta	ined Leav	ves (B9) (e	except	Water-Stained Leaves (B9) (MLRA 1, 2,		
High Wa	High Water Table (A2) MLRA 1, 2, 4A, and 4B)						4A, and 4B)		
✓ Saturation	✓ Saturation (A3) Salt Crust (B11)						Drainage Patterns (B10)		
Water M	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 Dep	Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2)								
Algal Ma	Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3)								
Iron Denosits (B5) Recent Iron Reduction in Tilled Soils (C6) V FAC-Neutral Test (D5)								AC-Neutral Test (D5)	
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (I RR 4) R	Raised Ant Mounds (D6) (LRR A)		
Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks)						, <u> </u>	rost-Heave Hummocks (D7)		
Sparsely Vegetated Concave Surface (B8)									
Field Obser	vations:)						
Surface Wat	er Present?	/es	No 🖌 Depth (in	ches):					
Water Table	Nater Table Present? Yes V No Denth (inches): 14								
Saturation Present? Yes V No Depth (inches): 7							tland Hydrology Present? Yes 🗸 No		
(includes capillary fringe)									
Describe Re	corded Data (stream	i yauye, m	onitoring well, aerial	ρποιοs, ρ	EVIOUS INS	spections),	II avalidule.		
Remarks:									
Primary hydrology indicator A3 is present. Secondary hydrology indicators D5 and C2									
present. Water table at 14 inches below the soil surface.									
WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: SR 167 Stage 2	City/County: Fife/Pierc	e Samplir	ng Date: 2023-05-19
Applicant/Owner: WSDOT		State: Washington Samplir	ng Point: W151-SP2
Investigator(s): RP, LD	_ Section, Township, Rang	_{ge:} <u>S7, T20N, R4E</u>	
Landform (hillslope, terrace, etc.): Slope	_ Local relief (concave, co	onvex, none): <u>None</u>	Slope (%): <u>3</u>
Subregion (LRR): A Lat: 47	7.2396409	Long: -122.3559182	Datum: NAD 83
Soil Map Unit Name: Sultan silt Ioam		NWI classification: N	lone
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes No	(If no, explain in Remarks.))
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "N	lormal Circumstances" present?	Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally pr	roblematic? (If nee	ded, explain any answers in Rer	marks.)
		<i></i>	

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

Hydrophytic Vegetation Present?	Yes 🖌	No			
Hydric Soil Present?	Yes	No 🖌	Is the Sampled Area		4
Wetland Hydrology Present?	Yes	No 🖌	within a Wetland?	Yes	No
Remarks:			•		

Upland test pit located upslope of W151-SP1. Hydrophytic vegetation present. Test pit lacks hydric soils and wetland hydrology. When considering the three prior months (February, March, April) as a whole, drier than normal precipitation conditions were present prior to field work.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 5 III)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1. Populus balsamifera	85	<u> </u>	FAC	That Are OBL, FACW, or FAC: <u>4</u> (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>4</u> (B)
4				Percent of Dominant Species
	85%	= Total Co	ver	That Are OBL. FACW. or FAC: 100 (A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1. Rubus armeniacus	65	~	FAC	Total % Cover of: Multiply by:
2				$\frac{1}{1} \frac{1}{1} \frac{1}$
3				$\frac{1}{2} = \frac{1}{2}$
4				FACW species $\frac{20}{175}$ $x_2 = \frac{40}{525}$
5.				FAC species $\frac{173}{0}$ x 3 = $\frac{323}{0}$
	65%	= Total Co	ver	FACU species $0 x 4 = 0$
Herb Stratum (Plot size:)				UPL species $0 \times 5 = 0$
1. Phalaris arundinacea	20	~	FACW	Column Totals: <u>195</u> (A) <u>565</u> (B)
2. Holcus lanatus	20	~	FAC	Prevalence index = $B/A = 2.90$
3. Ranunculus repens	5		FAC	Hydrophytic Vegetation Indicators:
4. Galium aparine	5		FAC	1 - Rapid Test for Hydrophytic Vegetation
5.				✓ 2 - Dominance Test is >50%
6.				$3 - $ Provalence Index is $< 3.0^{1}$
7				Orevide supporting
8				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
···-	50%	- Total Car		be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 1 m)	0070	= Total Cov	er	
1				Underschutig
2				Vegetation
<u></u>		- Total Car		Present? Yes 🖌 No
% Bare Ground in Herb Stratum 50			ei	
Remarks:				
Vegetation meets the dominance te	st for hy	/drophy	tic veg	getation.

<u>0 - 16</u> 10' <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>	tration, D=Dep				·	·	Silt Loam	cobble throughout
	tration, D=Dep				· ·	·		
- - - - - ype: C=Concen rdric Soil Indica - Histosol (A1)	tration, D=Dep			= = =	·	·		
- - - - - - - - - - - - - -	tration, D=Dep				· ·	·		
	tration, D=Dep				 	·	<u></u> .	
- - /pe: C=Concen dric Soil Indica - Histosol (A1)	tration, D=Dep	 						
- - /pe: C=Concen dric Soil Indica - Histosol (A1)	tration, D=Dep	 			·			
- - - - - - - - - - - - - - - - - - -	tration, D=Dep	 						
/pe: C=Concen dric Soil Indica Histosol (A1)	tration, D=Dep					<i>.</i>		-
/pe: C=Concen dric Soil Indica Histosol (A1)	tration, D=Dep							
vpe: C=Concen dric Soil Indica Histosol (A1)	tration, D=Dep							
dric Soil Indica Histosol (A1)	teres (Amulia	letion, RM=R	educed Matrix, CS	=Covered or	r Coatec	d Sand Gra	ains. ² Loo	cation: PL=Pore Lining, M=Matrix.
Histosol (A1)	itors: (Applic	able to all LF	Rs, unless other	wise noted.	.)		Indicato	ors for Problematic Hydric Soils ³ :
Listia Enimada		_	_ Sandy Redox (S	5)			2 cn	n Muck (A10)
HISTIC Epipedo	on (A2)	_	Stripped Matrix ((S6)			Red	l Parent Material (TF2)
Black Histic (A	(3)	_	Loamy Mucky M	ineral (F1) (except	MLRA 1)	Very	y Shallow Dark Surface (TF12)
Hydrogen Sul	fide (A4)	<u> </u>	Loamy Gleyed N	Aatrix (F2)			Othe	er (Explain in Remarks)
Depleted Belo	w Dark Surfac	e (A11)	_ Depleted Matrix	(F3) face (EC)			³ la dia ata	
Sandy Mucky	Mineral (S1)	—	_ Redux Dark Sur	ace (FO)			muicato	and hydrology must be present
Sandy Glever	Matrix (S4)	_	Bedox Depressi	ons (F8)			unles	as disturbed or problematic
strictive Layer	(if present):			0.10 (1 0)				
Type:	· · /							
Depth (inches)			_				Hydric Soil	Present? Yes No 🗸
							-	
DROLOGY								
etland Hydrolo	gy Indicators:							
imary Indicators	(minimum of c	one required;	check all that apply	/)			Secor	ndary Indicators (2 or more required)
Surface Wate	r (A1)		Water-Stair	ned Leaves	(B9) (ex	cept	W	Vater-Stained Leaves (B9) (MLRA 1.
High Water Ta	able (A2)		MLRA 1	. 2. 4A. and	(_ =) (== 1 4B)			4A. and 4B)
Saturation (A:	3)		Salt Crust (B11)	,		D	Prainage Patterns (B10)
Water Marks	, B1)		Aquatic Inv	ertebrates (F	B13)		D	Prv-Season Water Table (C2)
Sediment Der	osits (B2)		Hvdrogen §	Sulfide Odor	· (C1)		s	aturation Visible on Aerial Imagery (
Drift Deposits	(B3)		Oxidized R	hizospheres	along L	_ivina Root	s (C3) G	Geomorphic Position (D2)
Algal Mat or C	rust (B4)		Presence c	of Reduced In	ron (C4))	s (***) <u> </u>	hallow Aguitard (D3)
Iron Deposits	(B5)		Recent Iror	n Reduction	in Tilled	, I Soils (C6)	✓ F.	AC-Neutral Test (D5)
Surface Soil C	cracks (B6)		Stunted or	Stressed Pla	ants (D1) (LRR A)		aised Ant Mounds (D6) (LRR A)
- Inundation Vis	ble on Aerial	Imagery (B7)	Other (Exp	lain in Rema	arks)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	F	rost-Heave Hummocks (D7)
- Sparsely Veg	etated Concave	e Surface (B8	<u> </u>		,			
eld Observation	is:		<u>·</u>					
urfago Wator Dra	sent? Y	'es No	Depth (inc	hes):				
illace vvalel Fie	ent? Y	′es No	Depth (inc	,		-		
ater Table Prese		'es No	Depth (inc	hes):		- Wetla	nd Hydrolog	v Present? Yes No 🗸
ater Table Prese	2 V	6.0	/ Deptil (inc	1103).		_ ////	na nyarolog	
ater Table Prese aturation Present ncludes capillary	r? Y fringe)	<u> </u>						
ater Table Present aturation Present acludes capillary escribe Recorder	t? Y fringe) d Data (stream	gauge, moni	toring well, aerial p	hotos, previo	ous insp	pections), if	f available:	
ater Table Present aturation Present includes capillary escribe Recorder	t? Y fringe) d Data (stream	gauge, moni	toring well, aerial p	hotos, previo	ous insp	pections), if	f available:	
ater Table Present aturation Present includes capillary escribe Recorder	t? Y fringe) d Data (stream	ı gauge, moni	toring well, aerial p	hotos, previo	ious insp	pections), if	f available:	

Appendix B. Wetland Rating Summaries and Figures

RATING SUMMARY – Western Washington

Name of wetland (or ID #): SR 167 Completion -

Date of site visit: 7/13/2018, 3/23/2022

Rated by D. Miller, E. Henrichsen Trained by Ecology? 🛛 Yes 🗌 No Date of Training Sept. 2018

HGM Class used for rating Depressional Wetland has multiple HGM classes?
Ves
No

Additional HGM Classes (if multiple): n/a

Source of base aerial photo/map ESRI Aerial, 2021

Wetland 1

OVERALL WETLAND CATEGORY III (based on functions \square or special characteristics \square)

1. Category of wetland based on FUNCTIONS

Category III – Total score = 16 – 19					
FUNCTION	Improving Water Quality	Hydrologic	Habitat		
Enter the appropriate r	atings				
Site Potential	Μ	Μ	L		
Landscape Potential	М	Н	L		
Value	М	Н	М	ΤΟΤΑ	
Score Based on	6	8	4	18	
Ratings					

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,L 6 = H,M,L 6 = M,M,M 5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

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	B-1
Hydroperiods and location of outlets	D 1.4, H 1.2, D 1.1, D 4.1	B-2
Flow directions and associated features	n/a	B-2a
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	B-2
Map of the contributing basin	D 4.3, D 5.3	B-3
1 km Polygon: Area that extends 1 km from entire wetland edge—including	Н 2.1, Н 2.2, Н 2.3	B-4
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	B-5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	B-6

Water Quality Functions – Indicators that the site functions to improve water quality D 1.0. Does the site have the potential to improve water quality? D 1.1. Characteristics of surface water outflows from the wetland: Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). No = 0 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed plants > 1/2 of area points = 3 D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > 1/2 total area of wetland points = 4 Total for D 1 Add the points in the boxes above (F9 key) Rating of Site Potential If score is: 6-11 = M Record the rating on the first page D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 D 2.3. Are there other sources of pollutants coming into the wetland? No = 0 D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source:	
D 1.0. Does the site have the potential to improve water quality? D 1.1. Characteristics of surface water outflows from the wetland: Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). No = 0 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed plants > 1/2 of area points = 3 D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > 1/2 total area of wetland points = 4 Total for D 1 Add the points in the boxes above (F9 key) Rating of Site Potential If score is: 6-11 = M Record the rating on the first page D 2.1. Does the landscape have the potential to support the water quality function of the site? Yes = 1 D 2.2. Is >10% of the area within 150 ft of the wetland? No = 0 D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source: = 0 Total for D 2 Add the points in the boxes above Rating of Landscape Potential If score is: 1 or 2 = M Record the rating on the first page D 2.3. Is the water quality improvement provided by the site valuable to society? D 3.0. Is the water quality improvement provided	
 D 1.1. <u>Characteristics of surface water outflows from the wetland:</u> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 D 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i>. No = 0 D 1.3. <u>Characteristics and distribution of persistent plants</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed plants > 1/2 of area points = 3 D 1.4. <u>Characteristics of seasonal ponding or inundation</u>: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > 1/2 total area of wetland points = 4 Total for D 1 Add the points in the boxes above (F9 key) Rating of Site Potential If score is: 6–11 = M Record the rating on the first page D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Joes the wetland unit receive stormwater discharges? Yes = 1 D 2.2. Is >10% of the area within 150 ft of the wetland? No = 0 D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1–D 2.3? Source: a a a b a b a b a b a D 3.0. Is the water quality improvement provided by the site valuable to society? 	
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D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1–D 2.3? Source:	0
Source:	0
= 0 Add the points in the boxes above Total for D 2 Add the points in the boxes above Rating of Landscape Potential If score is: 1 or 2 = M Record the rating on the first page D 3.0. Is the water quality improvement provided by the site valuable to society? If score is: 1 or 2 = M If score is: 2 = M	No
Total for D 2Add the points in the boxes aboveRating of Landscape PotentialIf score is: 1 or 2 = MRecord the rating on the first pageD 3.0. Is the water quality improvement provided by the site valuable to society?	
Rating of Landscape PotentialIf score is: 1 or 2 = MRecord the rating on the first pageD 3.0. Is the water quality improvement provided by the site valuable to society?	2
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) lis No = 0	t? 0
D 3.2. Is the wetland in a basin or subbasin where an aquatic resource is on the 303(d) list? Yes = 1	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality	0
(answer YES if there is a TMDL for the basin in which the unit is found)? No = 0	
Total for D 3 Add the points in the boxes above	1
Rating of ValueIf score is: 1 = MRecord the rating on the first page	
COMMENTS: The wetland is in Hyelbos Creek-Frontal Commencement Bay subwatershed (HUC 12) which does not have T in place at the site. Wapato Creek is in the HUC 12 and has a 303d listing for bacteria wetland outlet is >1mile from Wapato Creek.	MDLs
Hydrologic Functions – Indicators that the site functions to reduce flooding and stream degradation	n
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> : Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	0
D 4.2. <u>Depth of storage during wet periods</u> : <i>Estimate the height of ponding above the bottom of the outlet. For wetlands wino outlet, measure from the surface of permanent water or if dry, the deepest part.</i> Marks are at least 0.5 ft to <2 ft from surface or bottom of outlet points = 3	h 3
D 4.3. <u>Contribution of the wetland to storage in the watershed</u> : <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is 10 to 100 times the area of the unit points = 3	g 3
Total for D 4 Add the points in the boxes above	6
Rating of Site PotentialIf score is: 6–11 = MRecord the rating on the first page	0

D 5.0. Does the landscape have the	potential to support hydrologic functi	ons of the site?		
D 5.1. Does the wetland receive storr	nwater discharges?	Yes = 1	1	
D 5.2. Is >10% of the area within 150) ft of the wetland in land uses that ge	nerate excess runoff? Yes = 1	1	
D 5.3. Is more than 25% of the contri	buting basin of the wetland covered w	vith intensive human land uses (residential at	1	
>1 residence/ac, urban, comm	ercial, agriculture, etc.)?	Yes = 1		
Total for D 5		Add the points in the boxes above	3	
Rating of Landscape Potential	If score is: 3 = H	Record the rating on the first page		
D 6.0. Are the hydrologic functions p	provided by the site valuable to societ	:y?		
D 6.1. The unit is in a landscape that	has flooding problems. Choose the des	scription that best matches conditions around the	2	
wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.				
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged				
human or natural resources (e.g., houses or salmon redds):				
Flooding occurs in a subbasin that is immediately down-gradient of unit points = 2				
If not applicable chosen above	2:			
Choose an item.				
Explanation for 0 points (if required	above):			
D 6.2. Has the site been identified as	important for flood storage or flood c	onveyance in a regional flood control plan?	0	
		No = 0		
Total for D 6		Add the points in the boxes above	2	
Rating of Value	If score is: 2–4 = H	Record the rating on the first page		

COMMENTS:

These questions apply to wetlands of all HGM	classes.	
HABITAT FUNCTIONS – Indicators that site functions to prov	vide important habitat	
H 1.0. Does the site have the potential to provide habitat?		
 H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed □ Emergent □ Scrub-shrub (areas where shrubs have >30% cover) □ Forested (areas where trees have >30% cover) If the unit has a Forested class, check if: □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested not support that package. 	1 structure points = 0	0
 H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated Seasonally flooded or inundated Saturated only Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 	3 types present points = 2 2 points	2
 Freshwater tidal wetland 	2 points	

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

H 1.3. Richness of plant species			_		1
Count the number of plant specie	es in the wetland that	t cover at le	ast 10 ft ² .		
Different patches of the same spe	cies can be combine	d to meet th	e size threshold and you d	o not have to name the	
species. Do not include Eurasian	milfoil, reed canaryg	grass, purple	loosestrife, Canadian thi	stle.	
If you counted:					
5–19 species points = 1					
H 1.4. Interspersion of habitats					0
Decide from the diagrams below	whether interspersion	on among Co	wardin plants classes (des	scribed in H 1.1), or the	
classes and unvegetated areas (ca	an include open wate	er or mudfla	ts) is high, moderate, low,	or none. If you have four or	
more plant classes or three classe	es and open water, th	ne rating is a	lways high.	Choose an item.	
None = 0 points	Low = 1 point	\bigcirc	Moderate = 2 points		
	·	\bigcirc	·		
All three diagrams in this row are	- Eh				
HIGH = 3 points	(* W) (25)				
H 1.5. Special habitat features:					0
Check the habitat features that a	re present in the wet	tland. <i>The nu</i>	mber of checks is the nun	nber of points.	
Large, downed, woody debris	within the wetland	(>4 in diame	ter and 6 ft long).		
□ Standing snags (dbh >4 in) wi	thin the wetland				
\square Undercut banks are present f	or at least 6.6 ft (2 m	and/or ov	erhanging plants extends a	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 (<i>cut shrubs or trees that have not vet weathered where wood is exposed</i>)					
\square At least 1/4 ac of thin-stemm	ed nersistent nlants	or woody br	anches are present in area	as that are permanently or	
seasonally inundated (structu	ires for egg-laving by	amnhihians)	is that are permanently of	
	n 25% of the wetland	daroa in ovo	/ ny stratum of plants (see h	1 1 1 for list of strata)	
	11 25% OF the wetland		iy stratum of plants (see r		-
			Add the po	ints in the boxes above	3
Rating of Site Potential	If score is: 0–6	= L	Record the	e rating on the first page	
H 2.0. Does the landscape have the pot	tential to support th	e habitat fu	nctions of the site?		
H 2.1. Accessible habitat (include only h	abitat that directly a	ibuts wetlan	d unit).		0
Calculate: % undisturbed habit	at <u>0.0</u> + [(% mode	erate and lov	v intensity land uses)0.0/2	.] <u>0.0</u> = <u>0.0</u> %	
If total accessible habitat is:	<10% of 1 km Polygo	n points =	0		
H 2.2. Undisturbed habitat in 1 km Poly	gon around the wetl	and.			0
Calculate: % undisturbed habit	at <u>3.6</u> + [(% mode	erate and lov	<pre>/ intensity land uses)11.9/</pre>	[2] <u>5.9</u> = <u>9.5</u> %	
Undisturbed habitat <10% of 1 kr	n Polygon points =	0			
H 2.3. Land use intensity in 1 km Polygo	n: If				-2
>50% of 1 km Polygon is high inte	ensity land use poir	nts = (-2)			
Total for H 2			Add the po	ints in the boxes above	-2
Rating of Landscape Potential	If score is: < 1	= L	Record the	e ratina on the first page	

H 3.0. Is the habitat provided by the site	H 3.0. Is the habitat provided by the site valuable to society?					
H 3.1. Does the site provide habitat for sp	pecies valued in laws, regulations, or policies	s? Choose only the highest score that	1			
applies to the wetland being rated.						
WDFW Priority Habitats within 100 m:						
Aspen Stands	\Box Biodiversity Areas and Corridors	Herbaceous Balds				
Old Growth/Mature Forests	Oregon White Oak	🗆 Riparian				
Westside Prairies	🗆 Instream	Nearshore				
Caves	□ Cliffs	🗆 Talus				
⊠ Snags and Logs						
can be found, see: Washington Dep Washington, < <u>http://wdfw.wa.gov</u> < <u>https://wdfw.wa.gov/species-hab</u>	partment of Fish and Wildlife. 2008. Priority /publications/00165/wdfw00165.pdf>, or a /itats/at-risk/phs/list>.)	Habitat and Species List. Olympia, ccess the list from here:				
Site meets ANY of the following crit	teria:	points = 2				
It has 3 or more priority habi	tats within 100 m (checked above)					
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)						
It is mapped as a location for an individual WDFW priority species						
It is a Wetland of High Conse	rvation Value as determined by the Departr	nent of Natural Resources				
It has been categorized as an	important habitat site in a local or regional	comprehensive plan,				
in a Shoreline Master Plan, o	r in a watershed plan					
Site has 1 or 2 priority habitats with	hin 100 m (checked above)	points = 1				
Site does not meet any of the crite	ria above	points = 0				
Rating of Value	If score is: 1 = M	Record the rating on the first page				





🕻 🔄 🕽 150ft boundary













Delineated wetland boundary





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R:\Projects\Y2016\16-0627







Water Quality Atlas Map



Find	Project Name	Project Type	Project Status	÷
<i>a</i> a	Puyallup River Bacteria TMDL	TMDL Project	Approved	
æ	Puyallup River Multiparameter TMDL	TMDL Project	Approved	E Chlo

RATING SUMMARY – Western Washington

Name of wetland (or ID #):	SR 167 Completion Project –	Date of site visit: 8/13/2018,
	Wetland 17/65	4/29/2019,

Rated by G. Ritchotte Trained by Ecology? 🖂 Yes 🗌 No Date of Training June 2014

HGM Class used for rating Depressional Wetland has multiple HGM classes? □ Yes ⊠ No

Additional HGM Classes (if multiple): n/a

Source of base aerial photo/map Google Earth Aerial, 2018

OVERALL WETLAND CATEGORY I (based on functions \square or special characteristics \square)

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 – 27

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Enter the appropriate i	ratings			
Site Potential	М	М	Н	
Landscape Potential	Н	Н	L	
Value	Н	Н	Н	TOTAL
Score Based on	8	8	7	23
Ratings				

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

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	B-7
Hydroperiods and location of outlets	D 1.4, H 1.2, D 1.1, D 4.1	B-8
Flow directions and associated features	n/a	B-8a
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	B-8
Map of the contributing basin	D 4.3, D 5.3	B-9
1 km Polygon: Area that extends 1 km from entire wetland edge—including	H 2.1, H 2.2, H 2.3	B-10
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	B-5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	B-6

	DEPRESSIONAL AND FLAT	S WETLANDS		
Water Quality Functions – Indicators that the site functions to improve water quality				
D 1.0. Does the site have the potent	ial to improve water quality?			
D 1.1. Characteristics of surface wate	er outflows from the wetland:			1
Wetland has an unconstricted,	or slightly constricted, surface outlet t	hat is permanently flowing poi	nts = 1	
D 1.2. The soil 2 in below the surface	(or duff layer) is true clay or true organ	nic (use NRCS definitions).	No = 0	0
D 1.3. Characteristics and distribution	<u>n of persistent plants</u> (Emergent, Scrub	-shrub, and/or Forested Coward	in classes):	5
Wetland has persistent, ungrat	zed plants > 95% of area points = 5			
D 1.4. Characteristics of seasonal por	nding or inundation:			4
This is the area that is ponded for at	least 2 months. See description in man	ual.		
Area seasonally ponded is > 1/	2 total area of wetland points = 4			
Total for D 1		Add the points in the boxes a	bove (F9 key)	10
Rating of Site Potential	If score is: 6–11 = M	Record the rating or	the first page	
D 2.0. Does the landscape have the	potential to support the water quality	function of the site?		
D 2.1. Does the wetland unit receive	stormwater discharges?		Yes = 1	1
D 2.2. Is >10% of the area within 150	ft of the wetland in land uses that gen	erate pollutants?	Yes = 1	1
D 2.3. Are there septic systems withi	n 250 ft of the wetland?		No = 0	0
D 2.4. Are there other sources of pol	lutants coming into the wetland that a	re not listed in questions D 2.1–D	2.3?	1
Source: Interurban Trail, landfill				
			Yes = 1	
Total for D 2		Add the points in the	boxes above	3
Rating of Landscape Potential	If score is: 3 or 4 = H	Record the rating or	the first page	
D 3.0. Is the water quality improven	nent provided by the site valuable to s	ociety?		
D 3.1. Does the wetland discharge di	rectly (i.e., within 1 mi) to a stream, riv	er, lake, or marine water that is	on the 303(d) list?	1
			Yes = 1	
D 3.2. Is the wetland in a basin or sul	bbasin where an aquatic resource is on	the 303(d) list?	Yes = 1	1
D 3.3. Has the site been identified in	a watershed or local plan as important	for maintaining water quality		0
(answer YES if there is a TMDL	for the basin in which the unit is found)?	No = 0	
Total for D 3		Add the points in the	boxes above	2
Rating of Value	If score is: 2–4 = H	Record the rating on	the first page	
COMMENTS:				

Hydrologic Functions – Indicators that the site functions to reduce flooding and stream degradation			
D 4.0. Does the site have the poter	ntial to reduce flooding and erosion?		
D 4.1. Characteristics of surface wat	ter outflows from the wetland:		0
Wetland has an unconstricted	d, or slightly constricted, surface outlet that	is permanently flowing points = 0	
D 4.2. Depth of storage during wet	periods: Estimate the height of ponding abo	ve the bottom of the outlet. For wetlands with	3
no outlet, measure from the s	surface of permanent water or if dry, the de	epest part.	
Marks are at least 0.5 ft to <2 ft from surface or bottom of outlet points = 3			
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing			5
surface water to the wetland to the area of the wetland unit itself.			
The area of the basin is less than 10 times the area of the unit points = 5			
Total for D 4		Add the points in the boxes above	8
Rating of Site Potential	If score is: 6–11 = M	Record the rating on the first page	

D 5.0. Does the landscape have th	e potential to support hydrologic funct	ions of the site?	
D 5.1. Does the wetland receive sto	ormwater discharges?	Yes = 1	1
D 5.2. Is >10% of the area within 1	50 ft of the wetland in land uses that ge	enerate excess runoff? Yes = 1	1
D 5.3. Is more than 25% of the con	tributing basin of the wetland covered v	with intensive human land uses (residential at	1
>1 residence/ac, urban, com	mercial, agriculture, etc.)?	Yes = 1	
Total for D 5		Add the points in the boxes above	3
Rating of Landscape Potential	If score is: 3 = H	Record the rating on the first page	
D 6.0. Are the hydrologic function	s provided by the site valuable to socie	ty?	
D 6.1. The unit is in a landscape that	at has flooding problems. Choose the de	scription that best matches conditions around the	2
wetland unit being rated. Do	not add points. Choose the highest scol	re if more than one condition is met.	
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged			
human or natural resources (e.g., houses or salmon redds):			
Flooding occurs in a subbasin that is immediately down-gradient of unit points = 2			
If not applicable chosen abo	ve:		
Choose an item.			
Explanation for 0 points (if required above):			
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?			0
		No = 0	
Total for D 6		Add the points in the boxes above	2
Rating of Value	If score is: 2–4 = H	Record the rating on the first page	

COMMENTS:

These questions apply to wetlands of all HGM classes.			
HABITAT FUNCTIONS – Indicators that site functions to provide important habitat			
H 1.0. Does the site have the potential to provide habitat?			
 H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed ⊠ Emergent ⊠ Scrub-shrub (areas where shrubs have >30% cover) If the unit has a Forested class, check if: ⊠ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon 	4 structures or more points = 4	4	
 H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods). ☑ Permanently flooded or inundated ☑ Seasonally flooded or inundated ☑ Saturated only ☑ Permanently flowing stream or river in, or adjacent to, the wetland □ Seasonally flowing stream in, or adjacent to, the wetland 	4 or more types present points = 3	3	
Lake Fringe Wetland Freshwater tidal wetland	2 points		

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

H 1.3. Richness of plant species Count the number of plant species Different patches of the same sp species. Do not include Eurasian If you counted: >19 species points = 2 H 1.4. Interspersion of habitats Decide from the diagrams below classes and unvegetated areas (a more plant classes or three class	ies in the wetland that co vecies can be combined to milfoil, reed canarygras whether interspersion a can include open water o ves and open water, the re	over at lease o meet the ss, purple i among Cov or mudflats <i>ating is al</i>	is t 10 ft ² . size threshold and you do not have to name the cosestrife, Canadian thistle. vardin plants classes (described in H 1.1), or the) is high, moderate, low, or none. <i>If you have four or</i> vays high. High points = 3	2
None = 0 points	Low = 1 point	\bigcirc	Moderate = 2 points	
All three diagrams in this row are				
HIGH = 3 points				
H 1.5. Special habitat features:				5
Check the habitat features that	are present in the wetlan	d. <i>The nur</i>	nber of checks is the number of points.	5
🛛 Large, downed, woody debr	is within the wetland (>4	in diamet	er and 6 ft long).	
Standing snags (dbh >4 in) w	within the wetland			
 Undercut banks are present stream (or ditch) in, or conti 	for at least 6.6 ft (2 m) ar guous with the wetland,	nd/or ove for at leas	hanging plants extends at least 3.3 ft (1 m) over a t 33 ft (10 m)	
Stable steep banks of fine m	aterial that might be used	d by beave	er or muskrat for denning (>30 degree slope) OR	
signs of recent beaver activit	ty are present (<i>cut shrubs</i>	, s or trees t	hat have not yet weathered where wood is exposed)	
At least 1/4 ac of thin-stemn seasonally inundated (<i>struct</i>	ned persistent plants or v ures for ega-laying by arr	woody bra nphibians)	nches are present in areas that are permanently or	
Invasive plants cover less that	an 25% of the wetland ar	ea in ever	v stratum of plants (see H 1.1 for list of strata)	
Total for H 1			Add the points in the boxes above	17
Rating of Site Potential	If score is: 15–18 :	= H	Record the rating on the first page	_,
H 2.0. Does the landscape have the po	ptential to support the h	abitat fun	ctions of the site?	
H 2.1 Accessible babitat (include $anly$	habitat that directly abut	ts wetland	unit)	0
Calculate: % undisturbed habit	itat 0 3+ [(% moderate an	nd low inte	unity land uses) $0/210 = 0.3\%$	0
If total accessible habitat is:	<10% of 1 km Polygon	points = 0	nisty fand uses/6/2] <u>o</u> = <u>one</u> /6	
H 2 2 Undisturbed babitat in 1 km Pol	vgon around the wetland	1 1		1
<i>Calculate</i> : % undisturbed hab	itat 11.4 + [(% moderate a	and low int	rensity land uses)8.7/2] 4.4 = 15.8 %	-
Undisturbed habitat 10–50% and	d >3 patches points = 1			
H 2.3. Land use intensity in 1 km Polyg	on: 79.6%			-2
>50% of 1 km Polygon is high int	ensity land use points =	= (-2)		-
Total for H 2			Add the points in the boxes above	-1
Rating of Landscape Potential	If score is: < 1 = L		Record the rating on the first page	

H 3.0. Is the habitat provided by the site	valuable to society?			
H 3.1. Does the site provide habitat for spe	ecies valued in laws, regulations, or policie	s? Choose only the highest score that	2	
applies to the wetland being rated.				
WDFW Priority Habitats within 100 m:				
□ Aspen Stands	Biodiversity Areas and Corridors	Herbaceous Balds		
□ Old Growth/Mature Forests	Oregon White Oak	🛛 Riparian		
U Westside Prairies	⊠ Instream	□ Nearshore		
Caves		🗆 Talus		
⊠ Snags and Logs				
can be found, see: Washington Depo Washington, < <u>http://wdfw.wa.gov/</u> < <u>https://wdfw.wa.gov/species-habit</u>	artment of Fish and Wildlife. 2008. Priority publications/00165/wdfw00165.pdf>, or a cats/at-risk/phs/list>.)	Habitat and Species List. Olympia, ccess the list from here:		
Site meets ANY of the following crite	eria:	points = 2		
It has 3 or more priority habita	ats within 100 m (checked above)			
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)				
It is mapped as a location for an individual WDFW priority species				
It is a Wetland of High Conservation	vation Value as determined by the Departr	nent of Natural Resources		
It has been categorized as an i	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 with	n 100 m (checked above)	points = 1		
Site does not meet any of the criteri	a above	points = 0		
Rating of Value	If score is: 2 = H	Record the rating on the first page		

lating of Value

f score is:

Record the rating on the first page







Legend

- Estimated ditch centerline Stream (Pierce County 2021) Delineated wetland boundary Estimated wetland
- boundary —— Delineated OHWM
- Estimated OHWM
- Wetland
- 「 _ _ J 150ft boundary ▲ Outlet Hydroperiod

Stream

- Permanently flowing stream
- Permanently flooded
- Saturated only
- Permanently flowing stream
- Figure B-8. Hydroperiod, 150-foot Boundary, and Location of Outlets for Wetland 17/65.









Legend	Figure B-9.
Contributing basin	Map of Contributing Basin for
Wetland	
Delineated wetland	^
boundary	(N) 0 500 1,000 2,000
Estimated wetland	Feet
boundary	HERRERA
	Esri, Aerial (2021)
	K:\Projects\Y2016\16-06277.000\Pro\WSAR_Rating_Figures_Stage2\WSAR_Rating_Figures_Stage2.aprx\Figx_ContributingBasin_WLX



Legend

- - 1-km boundary Wetland

Stream (Pierce County)

Delineated wetland

Estimated wetland

boundary

boundary

Habitat type



High intensity Low/Moderate Intensity Relatively undisturbed Relatively undisturbed and accessible

Figure B-10. Habitat Within a 1-km Boundary of Wetland 17/65.



RATING SUMMARY – Western Washington

 Name of wetland (or ID #):
 SR 167 Completion Project –
 Date of site visit: <u>3/23/2022</u>

 Wetland 136
 Wetland 136

 Rated by
 J. Hearsey
 Trained by Ecology? X Yes
 No Date of Training 2016

 HGM Class used for rating
 Depressional
 Wetland has multiple HGM classes?
 Yes X No

 NOTE: Form is not complete without the figures requested (figures can be combined).
 Yes X No

Source of base aerial photo/map ESRI Aerial, 2022

OVERALL WETLAND CATEGORY III (based on functions <u>X</u> or special characteristics _____)

1. Category of wetland based on FUNCTIONS

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate r	atings			
Site Potential	Н	Н	L	
Landscape Potential	М	Н	L	
Value	М	L	М	ΤΟΤΑΙ
Score Based on Ratings	7	7	4	18

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,H,L 7 = H,M,M 6 = H,M,L 6 = M,M,M 5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

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	B-11
Hydroperiods and location of outlets	D 1.4, H 1.2, D 1.1, D 4.1	B-12
Flow directions and associated features	n/a	B-12a
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	B-12
Map of the contributing basin	D 4.3, D 5.3	B-13
1 km Polygon: Area that extends 1 km from entire wetland edge—including	H 2.1, H 2.2, H 2.3	B-14
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	B-5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	B-6

DEPRESSIONAL AND FLATS WETLANDS			
Water Quality Functions – Indicators that the site functions to improve water quality			
D 1.0. Does the site have the potential to improve water quality?			
D 1.1. Characteristics of surface water outflows from the wetland:		3	
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outle	et) points = 3		
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).	No = 0	0	
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin c	lasses):	5	
Wetland has persistent, ungrazed plants > 95% of area points = 5			
D 1.4. <u>Characteristics of seasonal ponding or inundation</u> :		4	
This is the area that is ponded for at least 2 months. See description in manual.			
Area seasonally ponded is > 1/2 total area of wetland points = 4		42	
Total for D 1 Add the points in the boxes abov	/е (F9 кеу)	12	
Rating of Site Potential If score is: 12–16 = H Record the rating on th	e first page		
D 2.0. Does the landscape have the potential to support the water quality function of the site?			
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1	1	
D 2.2. Is >10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1	1	
D 2.3. Are there septic systems within 250 ft of the wetland?	N0 = 0	0	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1–D 2.	3 ? No	0	
- 0	NO		
- 0 Total for D 2	was abova	2	
Rating of Landscape Potential If score is: 1 or 2 = M Record the rating on the	e first nage	Z	
D 3 0. Is the water quality improvement provided by the site valuable to society?	e jiist page		
D 3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on	the 303(d) list?	0	
	No = 0	0	
D 3.2. Is the wetland in a basin or subbasin where an aquatic resource is on the 303(d) list?	Yes = 1	1	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality			
(answer YES if there is a TMDL for the basin in which the unit is found)?	No = 0		
Total for D 3 Add the points in the bo	oxes above	1	
Rating of ValueIf score is: 1 = MRecord the rating on th	e first page		
COMMENTS: The wetland is in the Hylebos Creek-Frontal Commencement Bay subwatershed (HUC 12) which	does not have		
TMDLs in place at the site. Wapato Creek is in the HUC 12 and has a 303d listing for bacteria.			
Hydrologic Functions – Indicators that the site functions to reduce flooding and stream degradation			
	<u> </u>		
D 4.0. Does the site have the potential to reduce flooding and erosion?		1	
D 4.0. Does the site have the potential to reduce flooding and erosion?D 4.1. Characteristics of surface water outflows from the wetland:		4	
D 4.0. Does the site have the potential to reduce flooding and erosion? D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4		4	
 D 4.0. Does the site have the potential to reduce flooding and erosion? D 4.1. <u>Characteristics of surface water outflows from the wetland</u>: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 D 4.2. <u>Depth of storage during wet periods</u>: <i>Estimate the height of ponding above the bottom of the outlet. For</i> 	wetlands with	4	
 D 4.0. Does the site have the potential to reduce flooding and erosion? D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For no outlet, measure from the surface of permanent water or if dry, the deepest part. 	wetlands with	4	
 D 4.0. Does the site have the potential to reduce flooding and erosion? D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks are at least 0.5 ft to <2 ft from surface or bottom of outlet points = 3 D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the grap of upstream having the storage in the watershed. 	wetlands with	4	

The area of the basin is less than 10 times the area of the unit | points = 5

Total for D 4

Rating of Site Potential

If score is: 12-16 = H

Add the points in the boxes above Record the rating on the first page 12

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?				
D 5.1. Does the wetland receive stormwater discharges? Yes = 1				1
D 5.2. Is >10% of the area within 15	0 ft of the wetland in land uses that $\mathfrak g$	generate excess runoff?	Yes = 1	1
D 5.3. Is more than 25% of the contr	ibuting basin of the wetland covered	with intensive human land uses (reside	dential at	1
>1 residence/ac, urban, comm	ercial, agriculture, etc.)?		Yes = 1	
Total for D 5		Add the points in the bo	oxes above	3
Rating of Landscape Potential	Rating of Landscape PotentialIf score is: 3 = HRecord the rating on the first page			
D 6.0. Are the hydrologic functions	provided by the site valuable to soc	iety?		
 D 6.1. <u>The unit is in a landscape that has flooding problems</u>. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Not applicable. If not applicable chosen above: There are no problems with flooding downstream of the wetland points = 0 Explanation for 0 points (if required above): 			0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? No = 0			0	
Total for D 6		Add the points in the bo	oxes above	0
Rating of Value	If score is: 0 = L	Record the rating on th	ne first page	
COMMENTS:				

These questions apply to wetlands of all HGM classes.		
HABITAT FUNCTIONS – Indicators that site functions to provide important habitat		
H 1.0. Does the site have the potential to provide habitat?		
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within	1 structure points = 0	0
the Forested class. Check the Cowardin plant classes in the wetland. Up to		
10 patches may be combined for each class to meet the threshold of 1/4 ac or		
more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures		
checked.		
Aquatic bed		
⊠ Emergent		
Scrub-shrub (areas where shrubs have >30% cover)		
Forested (areas where trees have >30% cover)		
If the unit has a Forested class, check if:		
The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs,		
herbaceous, moss/ground-cover) that each cover 20% within the Forested		
polygon		
H 1.2. Hydroperiods	1 type present points = 0	0
Check the types of water regimes (hydroperiods) present within the wetland. The		
water regime has to cover more than 10% of the wetland or 1/4 ac to count (see		
text for descriptions of hydroperiods).		
Permanently flooded or inundated		
Seasonally flooded or inundated		
Occasionally flooded or inundated		
Saturated only		
Permanently flowing stream or river in, or adjacent to, the wetland		
Seasonally flowing stream in, or adjacent to, the wetland		
Lake Fringe wetland	2 points	
Freshwater tidal wetland	2 points	

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

H 1.3. Richness of plant species			1
Count the number of plant spec	ies in the wetland that cover a	t least 10 ft ² .	
Different patches of the same sp	pecies can be combined to mee	t the size threshold and you do not have to name the	
species. Do not include Eurasian	n milfoil, reed canarygrass, pu	rple loosestrife, Canadian thistle.	
If you counted:			
5–19 species points = 1			
H 1.4. Interspersion of habitats			0
Decide from the diagrams below	whether interspersion amon	g Cowardin plants classes (described in H 1.1), or the	
classes and unvegetated areas (can include open water or mu	atiats) is nigh, moderate, low, or none. If you have four or	
more plant classes or three class	es und open water, the rating	is diwdys high. Woderate points = 2	
None = 0 points	low = 1 point	Moderate = 2 points	
All three diagrams in this row are			
HIGH = 3 points			
H 1.5. Special habitat features:			0
Check the habitat features that	are present in the wetland. <i>Th</i>	e number of checks is the number of points.	
\Box Large, downed, woody debris within the wetland (>4 in diameter and 6 ft long).			
\square Standing snags (dbh >4 in) within the wetland			
Undercut banks are present	for at least 6.6 ft (2 m) and/o	r overhanging plants extends at least 3.3 ft (1 m) over a	
stream (or ditch) in, or conti	guous with the wetland, for a	: least 33 ft (10 m)	
Stable steep banks of fine m	aterial that might be used by	peaver or muskrat for denning (>30 degree slope) OR	
signs of recent beaver activi	ty are present (<i>cut shrubs or ti</i>	ees that have not yet weathered where wood is exposed)	
□ At least 1/4 ac of thin-stemr	ned persistent plants or wood	y branches are present in areas that are permanently or	
seasonally inundated (struct	ures for egg-laying by amphib	ians)	
Invasive plants cover less the	an 25% of the wetland area in	every stratum of plants (see H 1.1 for list of strata)	
Total for H 1		Add the points in the boxes above	1
Rating of Site Potential	If score is: 0–6 = L	Record the rating on the first page	
H 2.0. Does the landscape have the pe	otential to support the habita	t functions of the site?	
H 2.1. Accessible habitat (include only	habitat that directly abuts we	tland unit).	0
Calculate: % undisturbed hab	itat <u>0.0</u> + [(% moderate and lov	v intensity land uses)0.0/2] 0 = 0%	
If total accessible habitat is:	<10% of 1 km Polygon point	s = 0	
H 2.2. Undisturbed habitat in 1 km Pol	ygon around the wetland.		0
Calculate: % undisturbed hab	itat 1.5_+ [(% moderate and lo	w intensity land uses)5.4/2] 2.7= 4.2%	
Undisturbed habitat <10% of 1 k	xm Polygon points = 0		
H 2.3. Land use intensity in 1 km Polyg	on: If		-2
>50% of 1 km Polygon is high int	ensity land use points = (-2)		
Total for H 2		Add the points in the boxes above	-2
Rating of Landscape Potential	If score is: < 1 = L	Record the rating on the first page	

H 3.0. Is the habitat provided by the site valuable to society?			
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that	1		
applies to the wetland being rated.			
Site meets ANY of the following criteria: points = 2			
It has 3 or more priority habitats within 100 m (see next page)			
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)			
It is mapped as a location for an individual WDFW priority species			
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources			
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: 1 = M

Record the rating on the first page





- boundary Estimated wetland
- boundary
- Wetland
- 🕻 🔄 🕽 150ft boundary
- Hydroperiod
- Seasonally flooded

Location of Outlets for Wetland 136.











Legend	Figure B-13.
Contributing basin	Map of Contributing Basin for
Wetland	Wetland 136.
Delineated wetland	0 290 580 1,160
boundary	Feet
Estimated wetland	Feet
boundary	Esri, Aerial (2021)



1-km boundary Wetland

Low/Moderate Intensity Relatively undisturbed



K:\Pro
RATING SUMMARY – Western Washington

Name of wetland (or ID #): SR 167 Completion Project – Date of site visit: <u>5/19/2023</u> Wetland 149

Rated byJ. LeClercTrained by Ecology? ⊠ Yes□ NoDate of TrainingOct. 2019

HGM Class used for rating Depressional Wetland has multiple HGM classes? □ Yes ⊠ No

Additional HGM Classes (if multiple): n/a

Source of base aerial photo/map ESRI Aerial, 2023

OVERALL WETLAND CATEGORY IV (based on functions \square or special characteristics \square)

1. Category of wetland based on FUNCTIONS

Category IV –	Total score = 9 –	15		
FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Enter the appropriate	ratings			
Site Potential	Μ	М	L	
Landscape Potential	Μ	Н	L	
Value	Μ	L	L	то
Score Based on Ratings	6	6	3	15

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,H,L 7 = H,M,L 6 = M,M,L 6 = M,M,L 5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

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	B-15
Hydroperiods and location of outlets	D 1.4, H 1.2, D 1.1, D 4.1	B-16
Flow directions and associated features	n/a	B-16a
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	B-16
Map of the contributing basin	D 4.3, D 5.3	B-17
1 km Polygon: Area that extends 1 km from entire wetland edge—including	H 2.1, H 2.2, H 2.3	B-18
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	B-5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	B-6

	DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Fu	inctions – Indicators that the site functions to improve water	r quality	
D 1.0. Does the site have the poter	to improve water quality?		2
Wetland has an intermittent	ter outnows from the weitand.		2
D 1.2. The soil 2 in below the surface	ce (or duff laver) is true clay or true organic (use NRCS definitions).	No = 0	0
D 1.3. Characteristics and distribution	on of persistent plants (Emergent, Scrub-shrub, and/or Forested Coward	lin classes):	5
Wetland has persistent, ungr	razed plants > 95% of area points = 5		-
D 1.4. Characteristics of seasonal po	onding or inundation:		0
This is the area that is ponded for a	t least 2 months. See description in manual.		
Area seasonally ponded is < 1	1/4 total area of wetland points = 0		
Total for D 1	Add the points in the boxes a	above (F9 key)	7
Rating of Site Potential	If score is: 6–11 = M Record the rating of	n the first page	
D 2.0. Does the landscape have the	e potential to support the water quality function of the site?		
D 2.1. Does the wetland unit receiv	e stormwater discharges?	Yes = 1	1
D 2.2. Is >10% of the area within 15	50 ft of the wetland in land uses that generate pollutants?	Yes = 1	1
D 2.3. Are there septic systems with	hin 250 ft of the wetland?	No = 0	0
D 2.4. Are there other sources of po	ollutants coming into the wetland that are not listed in questions D 2.1–I	2.3?	0
Source:		No = 0	
Total for D 2	Add the points in the	e boxes above	2
Rating of Landscape Potential	If score is: 1 or 2 = M Record the rating of	n the first page	
D 3.0. Is the water quality improve	ement provided by the site valuable to society?		
D 3.1. Does the wetland discharge of	directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is	on the 303(d) list? No = 0	0
D 3.2. Is the wetland in a basin or si	ubbasin where an aquatic resource is on the 303(d) list?	Yes = 1	1
D 3.3. Has the site been identified i	n a watershed or local plan as important for maintaining water quality		0
(answer YES if there is a TMD	DL for the basin in which the unit is found)?	No = 0	
Total for D 3	Add the points in the	e boxes above	1
Rating of Value	If score is: 1 = M Record the rating of	n the first page	
COMMENTS: The wetland is in the	e Hylebos Creek-Frontal Commencement Bay subwatershed (HUC 12) wh	nich does not have	
TMDLs in place at the site. V	Napato Creek is in the HUC 12 and has a 303(d) listing for bacteria. The v	wetland outlet is an	l
intermittently flowing culve	rt.		
Hydrologic Functions – I	ndicators that the site functions to reduce flooding and strea	am degradation	
D 4.0. Does the site have the poter	ntial to reduce flooding and erosion?		
D 4.1. Characteristics of surface wa	ter outflows from the wetland:		2
Wetland has an intermittentl	ly flowing stream or ditch points = 2		
D 4.2. Depth of storage during wet	periods: Estimate the height of ponding above the bottom of the outlet.	For wetlands with	0
no outlet, measure from the s	surface of permanent water or if dry, the deepest part.		
Marks of ponding less than 0	.5 ft (6 in) points = 0		
D 4.3. <u>Contribution of the wetland</u>	to storage in the watershed: Estimate the ratio of the area of upstream b	basin contributing	5
surface water to the wetland	to the area of the wetland unit itself.		
The area of the basin is less t	nan 10 times the area of the unit points = 5		
Total for D 4	Add the points in the	e boxes above	7
Rating of Site Potential	If score is: 6–11 = M Record the rating of	n the first page	

D 5.0. Does the landscape have th	e potential to support hydrologic func	tions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1			1
D 5.2. Is >10% of the area within 1	50 ft of the wetland in land uses that g	enerate excess runoff? Yes = 1	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at		1	
>1 residence/ac, urban, com	mercial, agriculture, etc.)?	Yes = 1	
Total for D 5 Add the points in the boxes above		3	
Rating of Landscape Potential	If score is: 3 = H	Record the rating on the first page	
D 6.0. Are the hydrologic function	s provided by the site valuable to socie	ety?	
D 6.1. <u>The unit is in a landscape tha</u> wetland unit being rated. Do The wetland captures surface human or natural resources Not applicable. If not applicable chosen abo There are no problems with Explanation for 0 points (if require	at has flooding problems. Choose the de not add points. <u>Choose the highest sco</u> e water that would otherwise flow dow (e.g., houses or salmon redds): ve: flooding downstream of the wetland ed above):	escription that best matches conditions around the o <u>re if more than one condition is met</u> . yn-gradient into areas where flooding has damaged points = 0	0
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		0	
Total for D 6		Add the points in the boxes above	0
Rating of Value	If score is: 0 = L	Record the rating on the first page	
COMMENTS:			

These questions apply to wetlands of all HGM HABITAT FUNCTIONS – Indicators that site functions to prov	classes.	
H 1.0. Does the site have the potential to provide habitat?		
 H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed ⊠ Emergent □ Scrub-shrub (areas where shrubs have >30% cover) □ Forested (areas where trees have >30% cover) If the unit has a Forested class, check if: □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon 	1 structure points = 0	0
 H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or adjacent to, the wetland 	1 type present points = 0	0
Lake Fringe wetland	2 points	

Freshwater tidal wetland		2 points	
H 1.3. Richness of plant species		-	0
Count the number of plant spec	ies in the wetland that cover at	least 10 ft ² .	
Different patches of the same su	pecies can be combined to meet	the size threshold and you do not have to name the	
species. Do not include Eurasia	n milfoil. reed canarvarass. pure	le loosestrife. Canadian thistle.	
If you counted:		········	
<5 species points = 0			
H 1 4 Interspersion of habitats			0
Decide from the diagrams below classes and unvegetated areas (more plant classes or three class	w whether interspersion among can include open water or mudf ses and open water, the rating is	Cowardin plants classes (described in H 1.1), or the lats) is high, moderate, low, or none. <i>If you have four or always high.</i> None points = 0	
None = 0 points	Low = 1 point	Moderate = 2 points	
All three diagrams in this row are		3	
HIGH = 3 points	(~~~~~) (2~) (~)		
		7	
H 1.5. Special habitat features:			0
Check the habitat features that	are present in the wetland. The	number of checks is the number of points.	
Large, downed, woody debr	ris within the wetland (>4 in dian	neter and 6 ft long).	
□ Standing snags (dbh >4 in) v	vithin the wetland	-	
Undercut banks are present	for at least 6 6 ft (2 m) and/or o	overhanging plants extends at least 3 3 ft (1 m) over a	
stream (or ditch) in, or cont	iguous with the wetland, for at l	east 33 ft (10 m)	
\square Stable steen banks of fine m	aterial that might be used by be	aver or muskrat for denning (>30 degree slope) OR	
signs of recent beaver activi	ity are present (cut shrubs or tre	es that have not vet weathered where wood is exposed)	
\square At least 1/4 ac of thin-stem	med persistent plants or woody	branches are present in areas that are permanently or	
seasonally inundated (struct	tures for ega-laving by amphibia	ns)	
\Box Invasive plants cover less th	an 25% of the wetland area in e	very stratum of plants (see H 1 1 for list of strata)	
Total for H 1		Add the points in the boxes above	0
Pating of Site Detential	If score is: 0, 6 - 1	Record the rating on the first page	0
		Record the rating on the jirst page	
H 2.0. Does the landscape have the p	otential to support the habitat	functions of the site?	
H 2.1. Accessible habitat (include only	nabitat that directly abuts wetle	and unit).	0
Calculate: % undisturbed hab	$\frac{0.0}{10}$ + [(% moderate and low	ntensity land uses)0.0/2] <u>0.0</u> = <u>0.0</u> %	
If total accessible habitat is:	<10% of 1 km Polygon points	= 0	
H 2.2. Undisturbed habitat in 1 km Po	lygon around the wetland.		0
<i>Calculate</i> : % undisturbed hab	pitat <u>2.4</u> + [(% moderate and low	ntensity land uses)6.6/2] <u>3.3</u> = <u>5.7</u> %	
Undisturbed habitat <10% of 1	km Polygon points = 0		
H 2.3. Land use intensity in 1 km Polyg	gon: 91.0%		-2
>50% of 1 km Polygon is high in	tensity land use points = (-2)		
Total for H 2		Add the points in the boxes above	-2
Rating of Landscape Potential	If score is: < 1 = L	Record the rating on the first page	

H 3.0. Is the habitat provided by	<pre>/ the site valuable to society?</pre>		
H 3.1. Does the site provide hab	tat for species valued in laws, regulations, or	policies? Choose only the highest score that	0
applies to the wetland bei	ng rated.		
WDFW Priority Habitats within 1	00 m:		
Aspen Stands	Biodiversity Areas and Corric	lors 🛛 Herbaceous Balds	
Old Growth/Mature Fo	rests 🛛 🗆 Oregon White Oak	🗆 Riparian	
Westside Prairies	🗆 Instream	Nearshore	
Caves	□ Cliffs	□ Talus	
Snags and Logs			
can be found, see: Washin Washington, < <u>http://wdfv</u> < <u>https://wdfw.wa.gov/sp</u>	<u>wDFW</u> : For complete descriptions of wDFW gton Department of Fish and Wildlife. 2008. F <u>v.wa.gov/publications/00165/wdfw00165.pd</u> ecies-habitats/at-risk/phs/list>.)	Priority Habitats, and the counties in which they Priority Habitat and Species List. Olympia, <u>f>,</u> or access the list from here:	
Site meets ANY of the follo	owing criteria:	points = 2	
It has 3 or more price	ority habitats within 100 m (checked above)		
It provides habitat ferror	or Threatened or Endangered species (any pla	ant or animal on the state or federal lists)	
It is mapped as a loc	ation for an individual WDFW priority species	S	
It is a Wetland of High	gh Conservation Value as determined by the P	Department of Natural Resources	
It has been categoria	zed as an important habitat site in a local or r	egional comprehensive plan,	
in a Shoreline Maste	er Plan, or in a watershed plan		
Site has 1 or 2 priority hab	itats within 100 m (checked above)	points = 1	
Site does not meet any of	the criteria above	points = 0	
Rating of Value	If score is: 0 = L	Record the rating on the first page	





Delineated wetland boundary Wetland [_] 150ft boundary Outlet Hydroperiod Saturated only

Figure B-16. Hydroperiod, 150-foot Boundary, and Location of Outlets for Wetland 149.

Esri, Aerial (2021)

Rating_Figu

age2.aprx\FigX_Hy

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Legend



Contributing basin

Wetland

Delineated wetland boundary

Figure B-17. Map of Contributing Basin for Wetland 149.





RATING SUMMARY – Western Washington

Name of wetland (or ID #): SR 167 Completion Project – Date of site visit: <u>5/19/2023</u> Wetland 150

Rated byJ. LeClercTrained by Ecology? \square NoDate of TrainingOct. 2019

HGM Class used for rating Depressional Wetland has multiple HGM classes? □ Yes ⊠ No

Additional HGM Classes (if multiple): n/a

Source of base aerial photo/map ESRI Aerial, 2023

OVERALL WETLAND CATEGORY IV (based on functions \square or special characteristics \square)

1. Category of wetland based on FUNCTIONS

Category IV – T	otal score = 9 –	15		
FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Enter the appropriate r	atings			
Site Potential	М	L	L	
Landscape Potential	М	Н	L	
Value	М	L	L	TOTA
Score Based on Batings	6	5	3	14

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	x

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	B-19
Hydroperiods and location of outlets	D 1.4, H 1.2, D 1.1, D 4.1	B-20
Flow directions and associated features	n/a	B-20a
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	B-20
Map of the contributing basin	D 4.3, D 5.3	B-21
1 km Polygon: Area that extends 1 km from entire wetland edge—including	H 2.1, H 2.2, H 2.3	B-22
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	B-5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	B-6

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions – Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	2
Wetland has an intermittently flowing stream or ditch points = 2	
D 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic (use NRCS definitions). No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):	5
Wetland has persistent, ungrazed plants > 95% of area points = 5	
D 1.4. Characteristics of seasonal ponding or inundation: Per GIS, 24.3% seasonally ponded	0
This is the area that is ponded for at least 2 months. See description in manual.	
Area seasonally ponded is < 1/4 total area of wetland points = 0	
Total for D 1Add the points in the boxes above (F9 key)	7
Rating of Site PotentialIf score is: 6–11 = MRecord the rating on the first page	
D 2.0. Does the landscape have the potential to support the water quality function of the site?	T
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1	1
D 2.2. Is >10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1	1
D 2.3. Are there septic systems within 250 ft of the wetland? No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1–D 2.3?	0
Source: No = 0	
Total for D 2 Add the points in the boxes above	2
Rating of Landscape PotentialIf score is: 1 or 2 = MRecord the rating on the first page	
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? No = 0	0
D 3.2. Is the wetland in a basin or subbasin where an aquatic resource is on the 303(d) list? Yes = 1	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality	0
(answer YES if there is a TMDL for the basin in which the unit is found)? No = 0	
Total for D 3 Add the points in the boxes above	1
Rating of ValueIf score is: 1 = MRecord the rating on the first page	
COMMENTS: The wetland is in the Hylebos Creek-Frontal Commencement Bay subwatershed (HUC 12) which does not have	
TMDLs in place at the site. Wapato Creek is in the HUC 12 and has a 303(d) listing for bacteria.	
Hydrologic Functions – Indicators that the site functions to reduce flooding and stream degradation	
Hydrologic Functions – Indicators that the site functions to reduce flooding and stream degradation D 4.0. Does the site have the potential to reduce flooding and erosion?	
Hydrologic Functions – Indicators that the site functions to reduce flooding and stream degradation D 4.0. Does the site have the potential to reduce flooding and erosion? D 4.1. Characteristics of surface water outflows from the wetland:	2
Hydrologic Functions – Indicators that the site functions to reduce flooding and stream degradation D 4.0. Does the site have the potential to reduce flooding and erosion? D 4.1. Characteristics of surface water outflows from the wetland: Wetland has an intermittently flowing stream or ditch points = 2	2
Hydrologic Functions – Indicators that the site functions to reduce flooding and stream degradation D 4.0. Does the site have the potential to reduce flooding and erosion? D 4.1. Characteristics of surface water outflows from the wetland: Wetland has an intermittently flowing stream or ditch points = 2 D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with	2
Hydrologic Functions – Indicators that the site functions to reduce flooding and stream degradation D 4.0. Does the site have the potential to reduce flooding and erosion? D 4.1. Characteristics of surface water outflows from the wetland: Wetland has an intermittently flowing stream or ditch points = 2 D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.	2

D 4.3. <u>Contribution of the wetland to storage in the watershed</u>: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is 10 to 100 times the area of the unit | points = 3 Total for D 4 Add the points in the boxes above 5

Rating of Site Potential

If score is: 0–5 = L

Record the rating on the first page

D 5.0. Does the landscape have the	potential to support hydrologic func	tions of the site?	
D 5.1. Does the wetland receive sto	rmwater discharges?	Yes = 1	1
D 5.2. Is >10% of the area within 15	50 ft of the wetland in land uses that g	enerate excess runoff? Yes = 1	1
D 5.3. Is more than 25% of the cont	ributing basin of the wetland covered	with intensive human land uses (residential at	1
>1 residence/ac, urban, comr	nercial, agriculture, etc.)?	Yes = 1	
Total for D 5		Add the points in the boxes above	3
Rating of Landscape Potential	If score is: 3 = H	Record the rating on the first page	2
D 6.0. Are the hydrologic functions	provided by the site valuable to soci	ety?	
 D 6.1. <u>The unit is in a landscape that has flooding problems</u>. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Not applicable. If not applicable chosen above: There are no problems with flooding downstream of the wetland points = 0 Explanation for 0 points (if required above): 			he 0 ged
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?			0
Total for D 6		Add the points in the boxes above	0
Rating of Value	If score is: 0 = L	Record the rating on the first page	2
COMMENTS:			

These questions apply to wetlands of all HGM HABITAT FUNCTIONS – Indicators that site functions to prov	ride important habitat	
H 1.0. Does the site have the potential to provide habitat?		
 H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed ⊠ Emergent □ Scrub-shrub (areas where shrubs have >30% cover) □ Forested (areas where trees have >30% cover) If the unit has a Forested class, check if: □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested nolygon 	1 structure points = 0	0
 H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated □ Seasonally flooded or inundated □ Occasionally flooded or inundated □ Saturated only □ Permanently flowing stream or river in, or adjacent to, the wetland 	2 types present points = 1	1

Freshwater tidal wetland		2 points	
H 1.3. Richness of plant species		•	0
Count the number of plant spec	cies in the wetland that cover at l	east 10 ft ² .	Ũ
Different patches of the same su	pecies can be combined to meet	he size threshold and you do not have to name the	
species. Do not include Eurasia	n milfoil, reed canarvarass, purp	le loosestrife. Canadian thistle.	
If you counted:			
<5 species points = 0			
H 1 4 Interspersion of habitats			0
Decide from the diagrams below	w whether interspersion among (owardin plants classes (described in H 1 1) or the	Ŭ
classes and unvegetated areas	(can include open water or mudf	ats) is high, moderate, low, or none. If you have four or	
more plant classes or three clas	ses and open water. the ratina is	always high. None points = 0	
None = 0 points	Low = 1 point	Moderate = 2 points	
All three diagrams in this row are			
HIGH = 3 points	(r kr) (15) ((s)		
		y	
H 1.5. Special habitat features:			0
Check the habitat features that	are present in the wetland. The	number of checks is the number of points.	
□ Large, downed, woody debr	ris within the wetland (>4 in diam	eter and 6 ft long).	
\square Standing snags (dbh >4 in) y	within the wetland		
	t for at least 6.6 ft (2 m) and/or o	verbanging plants extends at least 3.2 ft (1 m) over a	
stream (or ditch) in or cont	iguous with the wetland for at la	act 33 ft (10 m)	
\square Stable steep banks of fine m	actorial that might he used by he	ast 55 ft (10 fil)	
signs of recent betwer activi	ity are present (cut shrubs or trac	we that have not vet weathered where wood is exposed)	
Signs of recent beaver active \square	ncy are present (cut shrubs of tree	s that have not yet weathered where wood is exposed)	
At least 1/4 at of thin-sterm	tures for one lowing by emphibie	orationes are present in areas that are permanently or	
	ures for egg-idying by amphibia	15)	
	ian 25% of the wetiand area in ev		
Total for H 1		Add the points in the boxes above	1
Rating of Site Potential	If score is: 0–6 = L	Record the rating on the first page	
H 2.0. Does the landscape have the p	otential to support the habitat f	unctions of the site?	
H 2.1. Accessible habitat (include only	habitat that directly abuts wetla	nd unit).	0
Calculate: % undisturbed hab	oitat <u>0.0</u> + [(% moderate and low i	ntensity land uses)0.0/2] <u>0.0</u> = <u>0.0</u> %	
If total accessible habitat is:	<10% of 1 km Polygon points	= 0	
H 2.2. Undisturbed habitat in 1 km Po	lygon around the wetland.		0
Calculate: % undisturbed hab	oitat <u>2.6</u> + [(% moderate and low i	ntensity land uses)5.9/2] <u>3.0</u> = <u>5.6</u> %	
Undisturbed habitat <10% of 1	km Polygon points = 0		
H 2.3. Land use intensity in 1 km Poly	gon: 91.6%		-2
>50% of 1 km Polygon is high in	tensity land use points = (-2)		
Total for H 2		Add the points in the boxes above	-2
Rating of Landscape Potential	If score is: < 1 = L	Record the rating on the first page	

H 3.0. Is the habitat provided by the site valuable to society?			
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that</i>			0
applies to the wetland being rated.			
WDFW Priority Habitats within 100 m:			
□ Aspen Stands	Biodiversity Areas and Corridors	Herbaceous Balds	
□ Old Growth/Mature Forests	Oregon White Oak	🗆 Riparian	
U Westside Prairies	□ Instream	□ Nearshore	
Caves	□ Cliffs	Talus	
□ Snags and Logs			
<pre>(Priority habitats listed by WDFW: Fo can be found, see: Washington Depa Washington, <<u>http://wdfw.wa.gov/r</u> <<u>https://wdfw.wa.gov/species-habit</u></pre>	pr complete descriptions of WDFW priority intment of Fish and Wildlife. 2008. Priority publications/00165/wdfw00165.pdf>, or a ats/at-risk/phs/list>.)	nabitats, and the counties in which they Habitat and Species List. Olympia, ccess the list from here:	
Site meets ANY of the following crite	ria:	points = 2	
It has 3 or more priority habita	its within 100 m (checked above)		
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)			
It is mapped as a location for an individual WDFW priority species			
It is a Wetland of High Conserver	vation Value as determined by the Departr	nent of Natural Resources	
It has been categorized as an i	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 withi	n 100 m (checked above)	points = 1	
Site does not meet any of the criteria	a above	points = 0	
Rating of Value	If score is: $0 = 1$	Record the rating on the first page	

ating of Value

f score is: 0

Record the rating on the first page





Legend Delineated wetland boundary Wetland Lisoft boundary	Figure B-20. Hydroperiod, 150-foot Boundary, and Location of Outlets for Wetland 150.
Outlet Hydroperiod Saturated only Seasonally flooded	O 35 70 140 Feet Feet Feet Esri, Aerial (2021)





Logond	
	Figure D-21.
Contributing basin	Wap of Contributing Basin for Wetland 150.
Wetland	
Delineated wetland boundary	N 0 50 100
	HERRERA
	Esri, Aerial (2021)
	K:\Projects\Y2016\16-06277-000\Pro\WSAR_Rating_Figures_Stage2\WSAR_Rating_Figures_Stage2.apv

200 Feet

res_Stage2\WSAR_Rating_Figures_Stage2.aprx\FigX_Contr



K:\Projects\Y2016\16-06277-000\Pro\WSAR_Rating_Figures_Stage2\WSAR_Rating_Figures_Stage2.aprx\FigX_Habitat1KM_WLX

RATING SUMMARY – Western Washington

Name of wetland (or ID #): SR 167 Completion Project – Date of site visit: <u>5/19/2023</u> Wetland 151

Rated byJ. LeClercTrained by Ecology? ⊠ Yes□ NoDate of TrainingOct. 2019

HGM Class used for rating Depressional Wetland has multiple HGM classes? □ Yes ⊠ No

Additional HGM Classes (if multiple): n/a

Source of base aerial photo/map ESRI Aerial, 2023

OVERALL WETLAND CATEGORY IV (based on functions \square or special characteristics \square)

1. Category of wetland based on FUNCTIONS

Category IV – Total score = 9 – 15				
FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Enter the appropriate	ratings			
Site Potential	М	М	L	
Landscape Potential	М	Н	L	
Value	Μ	L	L	TOTAL
Score Based on Ratings	6	6	3	15

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,L 6 = H,M,L 6 = M,M,M 5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

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	B-23
Hydroperiods and location of outlets	D 1.4, H 1.2, D 1.1, D 4.1	B-24
Flow directions and associated features	n/a	B-24a
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	B-24
Map of the contributing basin	D 4.3, D 5.3	B-25
1 km Polygon: Area that extends 1 km from entire wetland edge—including	H 2.1, H 2.2, H 2.3	B-26
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	D-5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	D-6

	DEPRESSIONAL AND FLATS W	/ETLANDS		
Water Quality Functions – Indicators that the site functions to improve water quality				
D 1.0. Does the site have the potenti	al to improve water quality?			
D 1.1. Characteristics of surface water	r outflows from the wetland:			2
Wetland has an intermittently f	flowing stream or ditch points = 2			
D 1.2. The soil 2 in below the surface	(or duff layer) is true clay or true organic (<i>u</i>	ise NRCS definitions).	No = 0	0
D 1.3. Characteristics and distribution	<u>n of persistent plants</u> (Emergent, Scrub-shru	ub, and/or Forested Cowardir	n classes):	5
Wetland has persistent, ungraz	ed plants > 95% of area points = 5			
D 1.4. Characteristics of seasonal pon	ding or inundation:			0
This is the area that is ponded for at l	east 2 months. See description in manual.			
Area seasonally ponded is < 1/4	4 total area of wetland points = 0			
Total for D 1	A	dd the points in the boxes ab	ove (F9 key)	7
Rating of Site Potential	If score is: 6–11 = M	Record the rating on	the first page	
D 2.0. Does the landscape have the p	potential to support the water quality func	ction of the site?		
D 2.1. Does the wetland unit receive s	stormwater discharges?		Yes = 1	1
D 2.2. Is >10% of the area within 150	ft of the wetland in land uses that generate	e pollutants?	Yes = 1	1
D 2.3. Are there septic systems within	n 250 ft of the wetland?		No = 0	0
D 2.4. Are there other sources of poll	utants coming into the wetland that are no	t listed in questions D 2.1–D	2.3?	0
Source:			No = 0	
Total for D 2		Add the points in the	boxes above	2
Rating of Landscape Potential	If score is: 1 or 2 = M	Record the rating on	the first page	
D 3.0. Is the water quality improvem	ent provided by the site valuable to societ	ty?		
D 3.1. Does the wetland discharge dir	ectly (i.e., within 1 mi) to a stream, river, la	ake, or marine water that is o	n the 303(d) list?	0
			No = 0	
D 3.2. Is the wetland in a basin or sub	basin where an aquatic resource is on the	303(d) list?	Yes = 1	1
D 3.3. Has the site been identified in a	a watershed or local plan as important for i	maintaining water quality		0
(answer YES if there is a TMDL j	for the basin in which the unit is found)?		No = 0	
Total for D 3		Add the points in the	boxes above	1
Rating of Value	If score is: 1 = M	Record the rating on	the first page	
COMMENTS: The wetland is in the H	lylebos Creek-Frontal Commencement Bay	subwatershed (HUC 12) which	ch does not have	
TMDLs in place at the site. Wa	apato Creek is in the HUC 12 and has a 303	(d) listing for bacteria.		
Hydrologic Functions – Inc	dicators that the site functions to re-	duce flooding and strear	n degradation	
D 4.0. Does the site have the potenti	al to reduce flooding and erosion?			-
D 4.1. Characteristics of surface water	r outflows from the wetland:			2
Wetland has an intermittently	flowing stream or ditch points = 2			
D 4.2. Depth of storage during wet pe	eriods: Estimate the height of ponding abov	ve the bottom of the outlet. F	or wetlands with	0
no outlet, measure from the su	rface of permanent water or if dry, the dee	pest part.		
Marks of ponding less than 0.5	ft (6 in) points = 0			
D 4.3. Contribution of the wetland to	storage in the watershed: Estimate the rat	io of the area of upstream ba	sin contributing	5

surface water to the wetland to the area of the wetland unit itself.

The area of the basin is less than 10 times the area of the unit | points = 5

Total for D 4

Rating of Site Potential

Add the points in the boxes above Record the rating on the first page 7

D 5.0. Does the landscape have the	potential to support hydrologic func	tions of the site?	
D 5.1. Does the wetland receive sto	rmwater discharges?	Yes = 1	1
D 5.2. Is >10% of the area within 15	50 ft of the wetland in land uses that g	enerate excess runoff? Yes = 1	1
D 5.3. Is more than 25% of the cont	ributing basin of the wetland covered	with intensive human land uses (residential at	1
>1 residence/ac, urban, comr	nercial, agriculture, etc.)?	Yes = 1	
Total for D 5		Add the points in the boxes above	3
Rating of Landscape Potential	If score is: 3 = H	Record the rating on the first page	
D 6.0. Are the hydrologic functions	provided by the site valuable to socio	ety?	
 D 6.1. <u>The unit is in a landscape that has flooding problems</u>. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met</u>. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): Not applicable. If not applicable chosen above: There are no problems with flooding downstream of the wetland points = 0 Explanation for 0 points (if required above): 			0
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?			0
Total for D 6		Add the points in the boxes above	0
Rating of Value	If score is: $0 = 1$	Record the rating on the first page	<u> </u>
COMMENTS:			

These questions apply to wetlands of all HGM HABITAT FUNCTIONS – Indicators that site functions to prov	classes. vide important habitat	
H 1.0. Does the site have the potential to provide habitat?		
 H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of 1/4 ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. □ Aquatic bed ⊠ Emergent □ Scrub-shrub (areas where shrubs have >30% cover) □ Forested (areas where trees have >30% cover) If the unit has a Forested class, check if: □ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon 	1 structure points = 0	0
 H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated Seasonally flooded or inundated Saturated only Permanently flowing stream or river in, or adjacent to, the wetland 	2 types present points = 1	1
Lake Fringe wetland	2 points	

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

 Freshwater tidal wetland 2 points 	
H 1.3. Richness of plant species	0
Count the number of plant species in the wetland that cover at least 10 ft ² .	
Different patches of the same species can be combined to meet the size threshold and you do not have to name th	ne
species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle.	
If you counted:	
<5 species points = 0	
H 1.4. Interspersion of habitats	0
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the	e
classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have	four or
more plant classes or three classes and open water, the rating is always high. None points =	0
None = 0 points Low = 1 point Moderate = 2 points	
All three diagrams in this row are	
HIGH = 3 points $(N_{\rm H})$	
H 1.5. Special habitat features:	0
Check the habitat features that are present in the wetland. The number of checks is the number of points.	_
\square Large, downed, woody debris within the wetland (>4 in diameter and 6 ft long).	
\square Standing snags (dhb >4 in) within the wetland	
\Box Undersut banks are present for at least 6.6 ft (2 m) and (or everbanging plants extends at least 2.2 ft (1 m) as	ora
ctroam (or ditch) in or contiguous with the wetland, for at least 22 ft (10 m)	era
Stream (of ditch) in, of contiguous with the weight μ have a reaction for density (20 denses alone) (
Stable steep banks of fine material that might be used by beaver of muskrat for demining (>30 degree slope) of sizes of recent heaver activity are present (sut chrybs or trace that have not yet weathered where wead is ave	
signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exp	Josed)
At least 1/4 ac of thin-stemmed persistent plants or woody branches are present in areas that are permanent	ly or
seasonally inundated (structures for egg-laying by amphibians)	
□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
Total for H 1 Add the points in the boxes above	/e 1
Rating of Site PotentialIf score is: 0–6 = LRecord the rating on the first potential	ige
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	0
<i>Calculate</i> : % undisturbed habitat <u>0.0</u> + [(% moderate and low intensity land uses)0.3/2] <u>0.2</u> = <u>0.2</u> %	
If total accessible habitat is: <pre><10% of 1 km Polygon points = 0</pre>	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	0
<i>Calculate</i> : % undisturbed habitat 2.1+ [(% moderate and low intensity land uses)10.2/2] 5.1 = 7.2%	
Undisturbed habitat <10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: 87.7%	-2
>50% of 1 km Polygon is high intensity land use points = (-2)	
Add the points in the boxes above	/e -2

H 3.0. Is the habitat provided by the site valuable to society?						
H 3.1. Does the site provide h	abitat for species valued in laws, regulation	s, or policies? Choose only the highest score that	0			
applies to the wetland	being rated.					
WDFW Priority Habitats withi	n 100 m:					
Aspen Stands	\Box Biodiversity Areas and C	orridors 🛛 Herbaceous Balds				
Old Growth/Mature	Forests 🛛 Oregon White Oak	🗆 Riparian				
Westside Prairies	🗆 Instream	Nearshore				
Caves	□ Cliffs	🗆 Talus				
Snags and Logs						
(<u>Priority habitats listed by WDFW</u> : For complete descriptions of WDFW priority habitats, and the counties in which they can be found, see: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington, < <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf></u> , or access the list from here: < <u>https://wdfw.wa.gov/species-habitats/at-risk/phs/list</u> >.)						
Site meets ANY of the following criteria: points = 2						
It has 3 or more priority habitats within 100 m (checked above)						
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)						
It is mapped as a location for an individual WDFW priority species						
It is a Wetland of	□ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources					
□ It has been categorized as an important habitat site in a local or regional comprehensive plan,						
in a Shoreline Ma	in a Shoreline Master Plan, or in a watershed plan					
Site has 1 or 2 priority habitats within 100 m (checked above) points = 1						
Site does not meet any of the criteria above points = 0						
Rating of Value	If score is: 0 = L	Record the rating on the first page				

Rating of Value





Legend Delineated wetland boundary Estimated wetland boundary	Figure B-24. Hydroperiod, 150-foot Boundary, and Location of Outlets for Wetland 151.
Wetland J 150ft boundary Outlet	0 125 250 500 Feet
Hydroperiod ZZZ Occasionally flooded XXX Saturated only	Esri, Aerial (2021)







Legend	Figure B-25.			
Contributing basin	Map of Contributing Basin for			
Wetland	Wetland 151.			
Delineated wetland boundary Estimated wetland boundary	O 125 250 500 Feet Feet Keynetes/y2016/16/06277 000/Yro/WSAR_Plating .Figures_Stage2.apn/Figx_ContributingEtasin,WLX			



Legend

- - 1-km boundary Wetland

Stream (Pierce County)

Delineated wetland

Estimated wetland

boundary

boundary

Habitat type



Low/Moderate Intensity Low/Moderate Intensity Relatively undisturbed

Figure B-26. Habitat Within a 1-km Boundary of Wetland 151.



Appendix C. Wetland Functional Assessment Summaries

Wetland ID: Wetland 149	Project: SR 167 Completion Project	Assessed By: J. LeClerc
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Date: 7/28/2023

Cowardin Class: PEM

Ecology Category: IV

Local Rating: IV

	Occu	rrence	Rationale		
Function (Value	v	N	(qualifiers and attributes present)	Principal Eurotion	Comments
Flood flow alteration	X		2, 6	X	Wetland receives surface flows from the freeway and can retain higher volumes of water during storm events.
Sediment removal		х	3		Dense herbaceous vegetation covers wetland, but excess sediment not present upgradient of wetland.
Nutrient and toxicant removal	Х		1, 4, 5	х	Stormwater inputs from I-5 contain heavy metals and other pollutants. Silty soils and dense herbaceous vegetation are present in wetland.
Erosion control & shoreline stabilization		Х	2		Not associated with any waterbody.
Production of organic matter and its export	Х		1, 6		Dense herbaceous vegetation present; outlet is intermittently flowing
General habitat suitability		Х	1		Wetland occurs within highly urban area adjacent to I-5 and lacks plant species diversity and interspersion of habitats.
Habitat for aquatic invertebrates		х	6		Within 2 km of other wetlands.
Habitat for amphibians		х	6		Within 2 km of other wetlands.
Habitat for wetland- associated mammals		Х			Permanent water not present within the wetland. Not suitable habitat for wetland-associated mammals.
Habitat for wetland- associated birds		X	2		Emergent vegetation present, but the wetland is located adjacent to I-5 and does not provide suitable habitat for wetland associated birds.
General fish habitat		Х			No fish; not suitable fish habitat.
Native plant richness		X			Low plant species diversity. Reed canarygrass dominates.
Educational or scientific use		X	2		Publicly owned ROW stormwater wetland but not suitable or accessible for these purposes.
Uniqueness & heritage		х			Not a unique or heritage wetland feature.

Source: Null, W.S., G. Skinner, and W. Leonard. 2000. Wetland functions characterization tool for linear projects. Washington State Department of Transportation, Environmental Affairs Office. Olympia.

Netland ID: Wetland 150	Project: SR 167 Completion Project	Assessed By: R. Plumb
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Date: 7/28/2023

Cowardin Class: PEM

Ecology Category: IV

Local Rating: IV

	Occui	rrence	Rationale		
Function/Value	Y	N	(qualifiers and attributes present)	Principal Function	Comments
Flood flow alteration	Х		2, 6	Х	Wetland receives surface flows from the freeway and can retain higher volumes of water during storm events.
Sediment removal		х	3		Dense herbaceous vegetation covers wetland, but excess sediment not present upgradient of wetland.
Nutrient and toxicant removal	Х		1, 4, 5	X	Stormwater inputs from I-5 contain heavy metals and other pollutants. Silty soils and dense herbaceous vegetation are present in wetland.
Erosion control & shoreline stabilization		х	2		Not associated with any waterbody.
Production of organic matter and its export	Х		1, 6		Dense herbaceous vegetation present; outlet is intermittently flowing
General habitat suitability		Х	1		Wetland occurs within highly urban area adjacent to I-5 and lacks plant species diversity and interspersion of habitats.
Habitat for aquatic invertebrates		х	6		Within 2 km of other wetlands.
Habitat for amphibians		х	6		Within 2 km of other wetlands.
Habitat for wetland- associated mammals		Х			Permanent water not present within the wetland. Not suitable habitat for wetland-associated mammals.
Habitat for wetland- associated birds		х	2		Permanent water not present within the wetland. Not suitable habitat for wetland-associated mammals.
General fish habitat		х			No fish; not suitable fish habitat.
Native plant richness		х			Low plant species diversity. Reed canarygrass dominates.
Educational or scientific use		x	2		Publicly owned ROW stormwater wetland but not suitable or accessible for these purposes.
Uniqueness & heritage		х			Not a unique or heritage wetland feature.

Source: Null, W.S.; G. Skinner, and W. Leonard. 2000. Wetland functions characterization tool for linear projects. Washington State Department of Transportation, Environmental Affairs Office. Olympia.

Netland ID: Wetland 151	Project: SR 167 Completion Project	Assessed By: R. Plumb
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Date: 7/28/2023

Cowardin Class: PEM

Ecology Category: IV

Local Rating: IV

	Occui	rence	Rationale		
Function/Value	Y	N	(qualifiers and attributes present)	Principal Function	Comments
Flood flow alteration	Х		2, 6	Х	Wetland receives surface flows from the freeway and can retain higher volumes of water during storm events.
Sediment removal		х	3		Dense herbaceous vegetation covers wetland, but excess sediment not present upgradient of wetland.
Nutrient and toxicant removal	Х		1, 4, 5	х	Stormwater inputs from I-5 contain heavy metals and other pollutants. Silty soils and dense herbaceous vegetation are present in wetland.
Erosion control & shoreline stabilization		Х	2		Not associated with any waterbody.
Production of organic matter and its export	Х		1, 6		Dense herbaceous vegetation present; outlet is intermittently flowing
General habitat suitability		Х	1		Wetland occurs within highly urban area adjacent to I-5 and lacks plant species diversity and interspersion of habitats.
Habitat for aquatic invertebrates		х	6		Within 2 km of other wetlands.
Habitat for amphibians		х	6		Within 2 km of other wetlands.
Habitat for wetland- associated mammals		Х			Permanent water not present within the wetland. Not suitable habitat for wetland-associated mammals.
Habitat for wetland- associated birds		х	2		Permanent water not present within the wetland. Not suitable habitat for wetland-associated mammals.
General fish habitat		Х			No fish; not suitable fish habitat.
Native plant richness		х			Low plant species diversity. Reed canarygrass dominates.
Educational or scientific use		Х	2		Publicly owned ROW stormwater wetland but not suitable or accessible for these purposes.
Uniqueness & heritage		Х			Not a unique or heritage wetland feature.

Source: Null, W.S.; G. Skinner, and W. Leonard. 2000. Wetland functions characterization tool for linear projects. Washington State Department of Transportation, Environmental Affairs Office. Olympia.