# Appendix D. WETS Table

WETS Table Page 1 of 3

#### **USDA Field Office Climate Data**

		Temperatu Degreens				Precip (In		ration ned)			
						70% ci will				p[]	454
Honth	avg   daily     max	avg dsity min	avq	ауд	N. W. H.	less than	1111	more than	1	note) ntl ntl	enow fall
January	47.9	35.7	41.8	6,59	7	4,23	ï	7,94	ī	13 %	0.6
February	52,8	37.3	4591	5.51		3-83	ì.	6.56	ä	12 1	1.2
March	58.0	39.7	46 49	4.70		3254	i	5,49	i	13 1	0.0
Maril 1	63.4	42.6	55.0	3.46	ö	2.44	Ĺ	4.10	ï	9 1	0.0
YAY	I folio	47.6	5RaH I	2.70	P	112	ï	3.26	ï	1.7	0.0
June	75.8	52.1	64.0	1.83	ò	1-11	ì	2,22	ř	5.1	0.0
July	82.6	56.0	6913	0.83	Ü	0.29	÷	1,00	ij.	2 1	0.0
August	83,0	56.1	h9.6	1.00	1	0.21	į.	1,16	ij.	3.1	0.0
September	77.7	52.1	64.9	1.93	1	0.86	ì	2.41	î.	4.5	0.0
October	B5.9	45 ab II	55 g.H	4.4F	ř	1.85	k	4,25	î	8 3	0.0
Hovember	1 53.4 1	40.2	46.8	6.79		4.43	ŕ	8.16	į.	13 T	0.1
December	47.0	35.9	41.5	9,23	1-	4.85	1	8.65	ű.	13	U,6
Aunual			+		ļ	40.45	Ė	50.63	i	i	
Average	64.8	45.1	55.0	******	İ		į		1-	)	
Average				46.05	i		Ė		1-	98 (	1.7

#### GROWING SEASON DATES

	Iemboternie					
Probability	24 F or higher	78 F or higher	32 F or higher			
	Beginning and Ending Dates Growing Susson Length					
50 percent ()	1/25 to 1/ 7   346 days	2715 to 127 4   292 days	3/24 to 11/1: 232 days			
70 permut *	> 365 days > 365 days	3/ 7 to 12/12 307 days	3/16 to 11/1 248 days			

http://agacis.rcc-acis.org/41005/wets/results

9/13/2016

\* Forcent chance of the growing season occurring between the Beginning and Ending dates.

total 1911+2016 prop-

Station : OR6334, OREGON CITY ----- Unit = Inches

yr ja	n fec	mar	apr	may	300	301	aug	360	oct	POA		
40000	0 0-1-0-0-1							$0\to \infty = 0$			been	
11										3.49	4.82	8.31
12 9.1	0 5:27	2,15	2.89	2.17	4.12	0.61	5.16	1,26	4:19	6.71	7,11	50,74
13 8.1	6 1.28	5.79	4.11	2,36	4.23	0.67	0.74	3,01	4,50	7.50	3,79	45,16
1412.7	9 5.07	4.07	4.26	2.11	2.55	0.17	0.00	3.85	4.50	5.07	3.16	47.60
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17 4.				1.67	1.48	0.02	0.100	2.24	0.03	4.23	18.71	
18 6 4				1.16	0.01	0.67	0.74	(7, 38	5.07	5.06		39.26
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20 5.8				1,25	3,03	1.18	1.39	5.76	5,01	7.1E		50.80
21 8.5				2,06	1.50		0.16	2.89		12.12		49,50
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32 6.4	1 M3.63	8.25	3.81						4.83	9.41	6.82	43,16
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	4 MH 97				2.05	1.35	11.45			12.70		65.55
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52 6.1				0.89	3,30	0.00	0,09	0.42	0,87			31,77
5316.7					1.50	0.04	1,53	2.40	5.39			58,52
5411.2				2,17	3.76	0.69	2.18	1.01	3.91	5.61		19,17
55, 310					1,37	1.39	0,100	3,46	7.88		11.20	
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58 9.4	3 6.93	2,67	5.38	0.61	3.26	0.00	0.04	1.40	1.73	0.21		46.75
5910.4				3.7%	2.00		0.17	3.61	4.17	3.34		44.82
50 A.S	1 4.04	6.64	4.00	5.80	0.64	0.00	1.33	1.20	3.40	12.68	4.18	49.50

http://agacis.rec-acis.org/41005/wets/results

9/13/2016

WETS Table Page 3 of 3

61 5.22 11.74 7.01 3.47 4.14 0.60 0.57 0.85 0.84 4.04 6.01 6.65 51.14 62 2.13 4.33 5.88 4.05 3,62 1,15 0.05 1.37 2.43 4.36 11.70 3.00 44.16 4.99 5.33 5.06 4.36 1.74 1.30 0.54 1.46 3.58 7,73 6413.64 1.22 1.85 1.07 2.90 0.76 0.95 1,72 9.65 14,78 54,19 4.43 1,22 0.75 0.03 1.91 6510.67 1.99 1.47 3.42 0.24 1.50 2.54 7.26 8.87 40.67 66 9,75 2.19 1.29 1.31 1.26 0.31 1,72 3:32 B.29 44.14 6.43 1.67 6,60 67 8.65 2.76 6.08 3.54 1.17 0.00 0.00 0.81 6.36 2.74 M6.24 40.87 2.52 1.95 3.60 3.44 7.89 14.56 65.44 68 5.53 8.87 0.50 4 . 95 3.83 7. 69 3,23 69ML0.47 3,92 2,99 9.44 2.23 4.48 0.09 0.11 4.50 5.00 3,77 9,15 56,15 7014,05 6.03 3.01 3.76 1.81 0.69 0.09 0.00 2.15 3.59 8,69 9,36 \$3,23 7110.08 4.50 6.27 4.33 0.37 1,50 3.79 4.37 7.66 10.25 58.69 2.41 3.16 6,71 0.71 72 9,17 6.53 4.81 2.87 0.73 0.50 4.41 1.04 6.47 9.79 53.74 73 5.90 2.34 4.00 1.79 1.62 2.23 0.08 1.40 3,18 M4.00 14.21 11.93 52,66 74 9.57 6.70 8.04 2.81 2.63 1.18 2.82 0.06 0.40 2.44 7.21 6.87 50.73 75 H. 28 2.44 4,53 5.51 5.57 1,43 2.12 0.74 3.31 7.79 49.56 D.OH h . 25 76 6,33 8,11 3,64 83,55 7,12 11.57 0.87 2.30 1,25 1.20 0.98 1.69 32.66 17 1.65 3.52 4.20 0.77 4.31 1.41 0.60 3.01 4.41 2.92 M/:17 11.49 44.54 3,27 39,75 2.36 0.51 TR 5.96 4.53 1.88 5.84 4.45 1.71 1.53 2.88 4.73 5.70 79 2.90 8.99 3.30 3.94 5.49 0.70 0.52 0.98 M3.14 3,75 7.73 44.14 3.91 1.30 3,79 0.18 0.22 1.56 7,60 12,61 52,29 8011.38 4.38 3.71 1,65 91 1.84 4.51 3,13 2,55 1.83 4.52 0.28 0.00 2.84 4,79 5:49 11:42 43:20 82 7.75 MB.22 4.37 1.66 1.05 1.27 5.18 0.22 1.76 4.25 5,42 10,39 53,55 83 8.70 8.93 7,97 2.50 2.11 4.24 2,57 MD:53 2,16 9,82 F. 78 56.21 6.24 12,34 5,53 3.82 5.19 4.60 0.00 0.03 84 3.29 4.27 45.31 85 0.46 M3.64 4.39 1.38 0.93 M2,51 0.43 0.52 2.65 3,59 6:47 M3:05 30:02 7,99 3,19 2.40 M2.89 0.57 1,92 MO.00 MO.93 M2.08 M6.93 86M6,56 67 7.92 4.44 6.00 2.71 M2.11 M0.49 M1.62 0.23 0.84 0.29 2.28 H10.77 39.67 88 9.17 2.04 4.91 5.85 M3.58 1,94 0.59 0.08 M1.51 0.18 11.24 3,43,44,52 89 5.18 3.18 M7.08 2.02 M2.23 1.05 0.58 1.45 1.10 M2.25 3.69 3.98 33.79 4.94 90M9.65 M4.58 2.78 2.50 M1.92 M2.46 0.48 1.00 0.47 15.94 3,31 40,12 7,65 91 3.50 4.26 3,71 4.63 4,40 2.32 0.06 1 :: 61 0.15 2.98 92 E.24 4.40 1,12 5.10 0.16 0.41 0.25 0.76 1.86 4.19 4.46 M6.51 34.55 93 3.74 6.15 1.11 H5.24 4.24 M1.73 M2.23 M0.23 0.00 M1.43 1.91 M6.48 34.49 94M5.38 M6.33 4.12 2.14 1.71 1.53 0.08 0.00 1.10 M7.22 M8.74 6.62 44.97 0.76 95 7.61 5.44 4.23 3.08 1,54 Ml.97 1.62 MZ.93 4.82 M11,00 M8,36 54,16 0.11 M2.25 M5.33 M9.96 M16.13 71.03 96 9.17 12.05 3.86 5.63 M5.00 0.91 0.63 4.02 M5.70 M3.97 97M8.45 M2.20 3,47,48,65 0.63 4.91 M2.37 M2.38 1.01 1.54 98M8.91 M4.86 4.68 M1.19 4.99 H1.03 0.43 0.02 1.13 M4.21 11.32 9.74 52.51 99 9.14 10.01 5.60 3.43 3,41 1.76 0.20 0,84 0,19 82,70 M5.01 42.31 GM4.86 M6.29 M3.08 M2.26 M3.25 M1.41 M0.46 0.02 M0.48 M3.88 M2.50 M2.90 31.47 1M1.25 M1.33 M5.02 M2.62 | 1.60 M1.61 M0.73 | 1.05 M0.80 M2.65 M6.52 M9.54 34.92 0.37 3.96 M5.55 M3.58 M1.50 M2.09 0.29 MO.49 0.47 M2.81 M10.18 40.12 3M7.60 M3.80 M7.85 M5.58 M0.52 M0.70 0.00 1.02 M3.02 M6.20 9.30 45.74 3.20 M2.27 M5.62 1.89 4.35 33.06 4M5.98 3.33 H1.74 H2.38 2.15 0.15 5M2.26 0.78 M5.43 M3.13 M4.57 M2.06 0.57 M0.50 M1.58 M3.19 M6.91 9.91 40.89 GM13.20 M2.90 M4.17 G.28 1.01 M0.09 M0.06 M1.75 M1.59 M12.41 M2.34 45.00 8M7.92 M3.53 M6.10 M0.38 M3 - 44 M1.53 M0.45 MT.34 M3.43 35.15 9 6.06 M3.22 4.08 1.30 0.98 1.05 NO.17 0.69 1.60 M2.01 M6.70 M5.23 35.57 10M5.39 3.65 M6.04 MI.16 M3.52 M3.72 (r.20 0.17 M2.94 M5.73 7.91 11.43 54.88 11M5.35 5.17 M8.25 M5.58 3,32 M1.48 1.10 M0.00 M1.04 M9.14 M4.30 44.73 12M9.24 M3.11 M9.43 4.84 M3.16 M3.54 M0.79 M0.00 M0.09 M7.92 M9.00 M9.74 60.86 13MB.56 2,48 HL.05 M2.69 M0.12 M0.00 M5.56 M1.05 M3.94 M2.08 23.43 3.93 M2.59 M1.33 0.91 M0.77 1.56 M6.66 M3.39 M5.08 42.48 14M3,21 M3,83 M9,02 15M3.28 M3.99 5.52 2.35 M1.00 0.32 0.26 0.80 0.56 M4.31 MT.50 M14.15 44.44 16HT, 35 M3.43 M5.47 3.45 1.12 M1.49 M0.43 M0.07

Product generated by ACIS - NOAA Regional Climate Centers

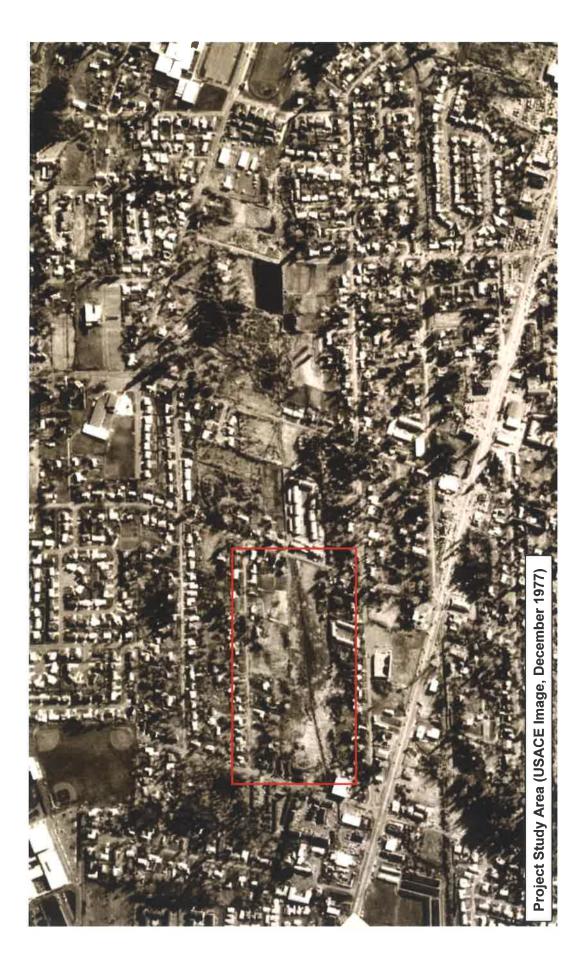
# Appendix E. Historic Aerial Imagery

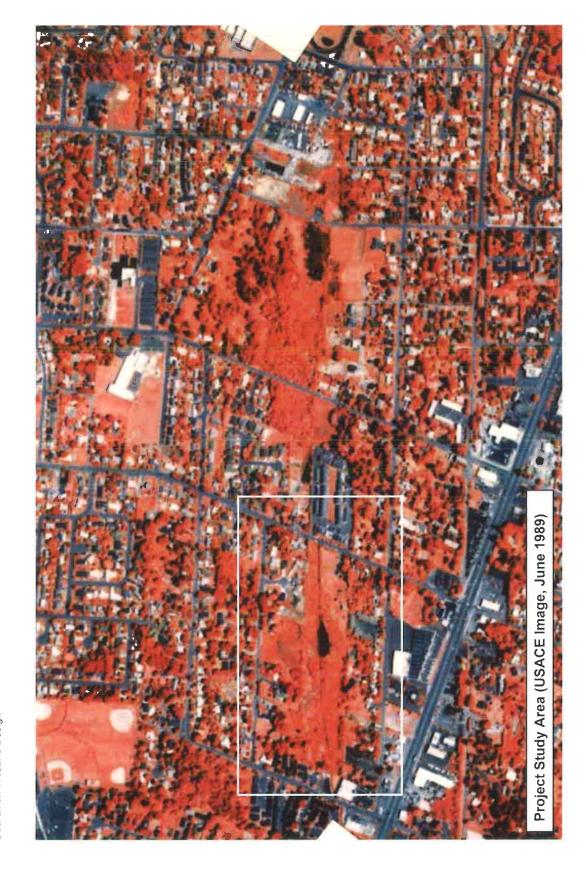








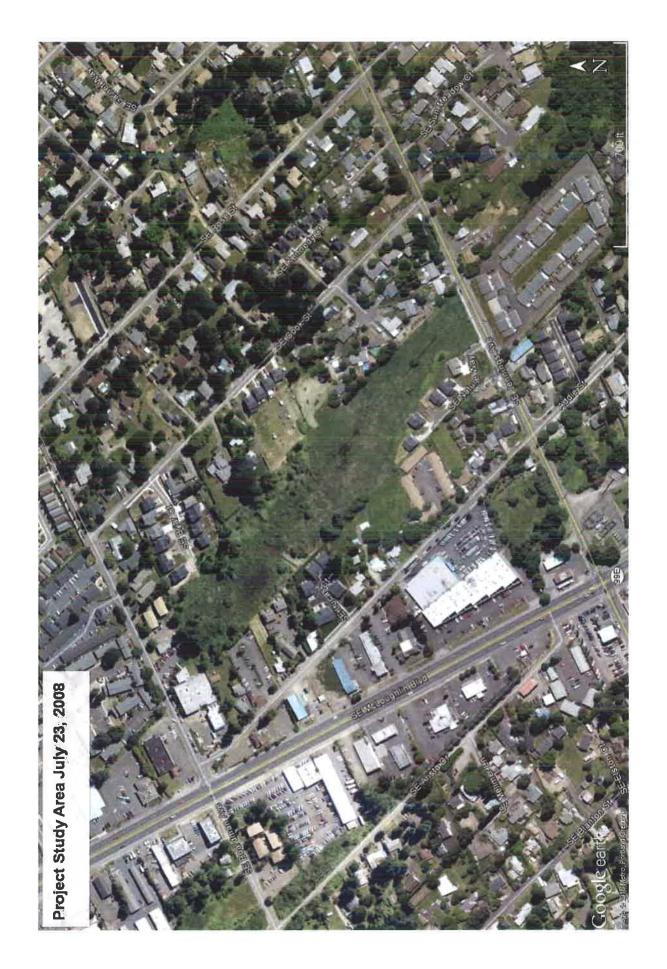




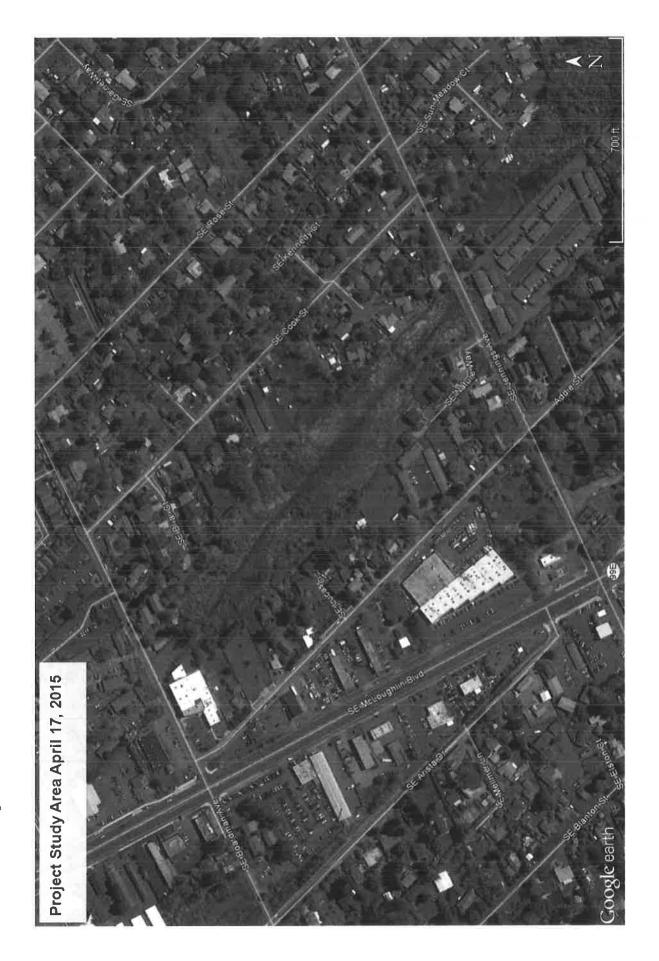








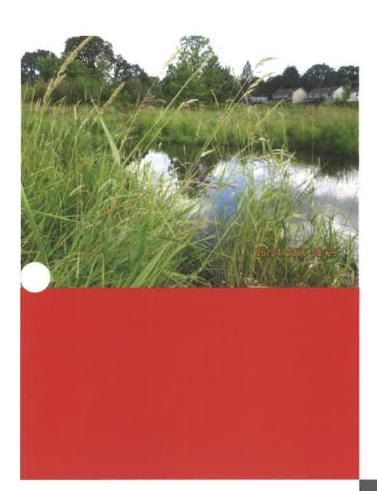






# Appendix C. Civil Design Plans





## Water Quality Resource Area

Boardman Wetland Design Project

Clackamas County Oregon

February 14, 2017

#### Contents

1	Introd	uction	1			
2	Water Quality Resource Area					
3	Propo	sed Development within the WQRA	3			
	3.1	Sanitary Sewer Line Rehabilitation	3			
	3.2	Wetland Enhancement	3			
	3.3	Public Space Development	3			
	3.4	Project Effects	4			
4	Proje	ct Mitigation	5			
		Tables				
		dth of WQRA Vegetated Corridor mmary of Project-related Impacts				

#### **Appendices**

Appendix A. Figures

Appendix B. Wetland Delineation Report

Appendix C. Civil Design Plans

#### **Abbreviations and Acronyms**

EPSC Erosion Prevention Control Plan
HCA Habitat Conservation Area

M Medium Density

Metro Portland Metropolitan region

OLWSD Oak Lodge Water Services District

PEM Palustrine Emergent

PPWF Primary Protect Water Feature

R Residential

UGB urban growth boundary VC vegetated corridor

WQRA Water Quality Resource Area

ZDO Zoning and Development Ordinance

#### 1 Introduction

The application for a Water Quality Resource Area (WQRA) Development Permit has been prepared for the Oak Lodge Water Services District (OLWSD) Boardman Wetland Design Project (project) in compliance with requirements outlined in Section 709 of the Clackamas County Zoning and Development Ordinance (ZDO). The project area lies within the Portland Metropolitan region (Metro) urban growth boundary (UGB) in the northwestern portion of Clackamas County, Oregon, east of Oregon Route 99E, and north of the City of Gladstone (Figure 1, all figures are located in Appendix A). The 8.4-acre Boardman Wetlands are bordered by SE Boardman Avenue to the north, SE Cook Street to the east, SE Jennings Avenue to the south, and SE Addie Street to the west (Figure 2). The Boardman Creek drainage basin, comprised of the South and North Boardman basins, covers approximately 1,327 acres. The basin consists of 21 miles of piped creek and 4 miles of open stream. Boardman Creek enters the wetland area from a culvert beneath SE Jennings Avenue, flows approximately 1,500 feet northwest through the central portion of the wetland and exits the area via a culvert beneath SE Boardman Avenue. Boardman Creek discharges the Boardman Wetlands, flows along the Trolley Trail, through Stringfield Family Park, and enters the Willamette River at Walta Vista Street. The majority of Boardman Creek is piped beneath existing development in the area. The Boardman Wetlands and Boardman Creek are primary protected water features according to 709.02(B) and 709.02(C), respectively. These features are also mapped as primary protected water resources on the Title 3 map for Section 2e2e18 from Metro's Regional Land Information.

OLWSD is proposing improvements to wetland and utility function within the 8.4-acre Boardman Wetlands. The project would replace the sanitary sewer line and manholes, provide wetland enhancement and functional uplift for approximately half of the wetland site, and develop a public boardwalk trail system through the wetland. OLWSD has a sanitary sewer maintenance easement through the site and recently purchased approximately half of the wetland area and two adjacent residential lots on SE Addie Street. Both residential lots will be re-developed to provide parking and an outdoor classroom for use by the community and the nearby schools; however, the majority of development will occur outside of the WQRA. The proposed project activities would not result in removal of WQRA area and would not change the existing WQRA category.

## 2 Water Quality Resource Area

Subsection 709.06(B)(1)(a) of the Clackamas County ZDO states than a WQRA Map Verification shall be required for development that is proposed to be in the WQRA. The mapped WQRA on the Title 3 map for Township 2E, Range 2E, Section 18 shows the majority of the proposed project area is categorized as a Primary Protect Water Feature (PPWF) and as a Wetland Area (Appendix A). The WQRA mapped along Boardman Creek and the Boardman Wetlands occurs on the following taxlot parcels:

- 22E18CA02716
- 22E18CA04101
- 22E18CA04407
- 22E18CA04200
- 22E18CA04300

Per Section 709.02(E) and Table 709-1, the width of the WQRA vegetated corridor (VC) for a Primary Protected Water Resource with slopes <25% is 50 feet from the edge of bankfull stage and the delineated edge of a protected wetland (Table 1). Because the VC exhibits less than 25% canopy cover and greater than 10% surface coverage of nonnative vegetation, the WQRA is considered a degraded existing vegetated corridor per Table 709-2. The corridor is dominated by residential development including impervious surfaces and landscaped lawns. In the absence of development the corridor is comprised mainly of invasive reed canary grass and Himalayan blackberry.

The Boardman Wetlands are drained by Boardman Creek which passes through the central portion of the project area and wetland. The 50-foot vegetated corridor for Boardman Creek occurs entirely within the Boardman Wetlands. A wetland delineation was performed in the project area in June 2016 by a qualified wetland specialist pursuant to the Oregon Department of State Lands wetland delineation procedures. The wetland delineation report concluded approximately 4.7 acres of Palustrine Emergent (PEM) Semipermanently Flooded wetland habitat (PEM1F) are present within the project area (Appendix B).

Table 1. Width of WQRA Vegetated Corridor

Water Resource	Protected Water Resource Type	Slope Adjacent to Protected Water Source	Starting point from Measurements from Water Resource	Width of Vegetated Corridor
Boardman Creek	Primary	<25	Edge of bankfull stage	50 feet
Delineated wetland	Primary	<25	Delineated edge of protected wetland	50 feet

Boardman Creek and the majority of the Boardman Wetlands are located in an area zoned Urban Low Density Residential R-7) while the most westerly taxlots (22E18CA04200 and 22E18CA04300) are zoned Medium Density (M) Residential (MR-1). The project area is located within the Metro UGB. The overall contiguous area of vegetative cover is low structure, non-native and invasive in nature.

## 3 Proposed Development within the WQRA

#### 3.1 Sanitary Sewer Line Rehabilitation

A sanitary sewer line was installed beneath Boardman Creek in 1961 and is currently managed by OLWSD. The line has reached the end of the design life and must be replaced. The line extends approximately 1500 feet through the center of the wetland and connects three lateral lines that service adjacent residences to the main trunk line. The existing sanitary sewer line through the wetland will be replaced with a new pipeline. Proposed repair to the sanitary sewer line will be completed using trenchless technology. Three existing lateral sewer lines will be restored to the main trunk line once repairs have been made. In accordance with Section 709.04(K), this action is considered maintenance, repair or improvement of utility facilities. Because portions of the WQRA would be restored and vegetation removed will be replaced with native vegetation, the proposed sanitary sewer line rehabilitation activities would be exempt from requirements of Section 709. Ingress and egress to the site will occur from the SE Addie Street lots and via the OLWSD easement located on the SE Jennings and SE Boardman Streets. The proposed action will be localized to OLWSD's sewer line easement and will not intrude further into surrounding WQRA and will not be discussed further in this application.

#### 3.2 Wetland Enhancement

The majority of the WQRA is dominated by non-native, invasive plant species. The proposed wetland enhancement component of the project includes removing some of the invasive and non-native communities, and planting mixes of native trees and herbaceous vegetation designed to function in riparian and buffer/upland areas as well as riparian fringe and seasonally flooded areas. A series of features will be constructed throughout the wetland enhancement area for the purposes of enhancing hydrologic function. These features include hummocks and hollows, a small pond and a simulated beaver dam foundation. An existing beaver dam located on Boardman Creek in the northern portion of the project area would be removed. Although the mapped WQRA will experience temporary impacts during restoration work, the acreage of the WQRA will not be impacted and restoration activities are expected to increase the overall function of the wetland and its associated surface water features. The purpose of the proposed restoration is to enhance Boardman Wetlands and Boardman Creek, and is part of local efforts to enhance the Boardman-Rinearson Wetland Complex. Restoration work is exempt from the requirements of Section 709 as outlined in 709.04(E); therefore, these restoration activities will not be discussed further in this application.

#### 3.3 Public Space Development

A component of the proposed project is to provide recreation and educational opportunities for the surrounding communities. The project proposes to develop a public space to provide parking and an outdoor classroom for the surrounding community and nearby Candy Lane Elementary School (see Appendix C for plan set). This development will occur on taxlots 22E18CA04200 and 22E18CA04300 located on SE Addie Street.

The majority of this development will occur outside the WQRA. The project proposes to construct an elevated boardwalk path that circumnavigates the wetland feature. Approximately 1800 feet of boardwalk would be constructed within WQRA categorized as a Primary Protected Water Resource. Due to the elevated boardwalk design and construction method, permanent impacts to the WQRA only include the area occupied by each helical screw pile. Because the boardwalk will be founded with helical screw piles, decking can be constructed from an elevated position, eliminating the need for temporary construction impacts within WQRA. The boardwalk alignment was chosen to minimize impacts to high quality wetland features. There would be up to two public ingress/egress routes to the boardwalk from taxlot 22E18CA04200 on SE Addie Street. The two pervious pavement paths connecting the boardwalk to the parking area will be 4-foot and 8-foot wide. Path construction includes excavating soils to a depth of approximately 6-8 inches, backfilling with crushed rock, and placing forms pervious pavers. Rockwalls will be installed in the WQRA to create viewing and resting opportunities for users of the public space (see Appendix C for plan set).

#### 3.4 Project Effects

Development within the WQRA will be avoided to the extent possible; however, the project will result in temporary and permanent impacts to the WQRA. Approaches were implemented during the project design phase to minimize development impacts resulting from the footprint of boardwalk and trail system. During the design phase several alternatives were evaluated and subsequently dismissed due to the higher level of impacts. A path constructed at grade would have required substantial grading and fill within the WQRA and would have resulted in reducing water quality functions within the WQRA. A floating boardwalk design was also dismissed. This design option would have allowed the boardwalk to rest on the ground surface during periods of lower water disrupting the natural physical processes necessary for healthy plant survival and increasing the design footprint. The proposed elevated boardwalk allows those critical functions to be preserved while eliminating the need for grading and thereby minimizing the footprint of the design (Appendix C).

The project design team evaluated several path alignment alternatives through and around the wetland area using a wetland habitat map (Figure 4, Appendix A), created early during project development. This wetland habitat map highlighted areas of Oregon Ash, spirea, willow, and reed canary grass. The project team utilized this information to formulate a path alignment that would minimize impacts to the higher quality wetlands containing Oregon ash, spirea, and willow. The project also includes an extensive planting plan around the boardwalk within the WQRA. Several native plant pallets will be used to increase plant success and overall plant diversity. The diverse plants include species adapted to upland, riparian, emergent wetlands and open water environments can be found on the planting plan sheets found in Appendix C.

Although impact-reduction approaches would be incorporated, minor temporary and permanent impacts to the WQRA are anticipated during construction of the boardwalk and trail system, and during placement of rock walls (Appendix C).

Table 2. Summary of Project-related Impacts

Construction Element	Impact Type	Location	Acreage	Square Feet
Boardwalk	Permanent	PPWF	0.007	284
Rockwalls	Permanent	PPWF	0.002	108
	Temporary	PPWF	0.019	836
	Permanent	Corridor	0.005	241
	Temporary	Corridor	0.033	1444
Pervious Path	Permanent	PPWF	0.008	344
	Temporary	PPWF	0.016	706
	Permanent	Corridor	0.025	1100
	Temporary	Corridor	0.037	1616

Overall, proposed project activities will create functional uplift in the WQRA by increasing canopy cover, reducing non-native and invasive plant species, and planting native communities that represent the vegetative composition though would naturally occur on site.

## 4 Project Mitigation

All temporary and permanent impacts to trees, vegetation, and soils will be mitigated on site in accordance with section 709.10 of the Clackamas County ZDO. Boardwalk design, layout, and installation technique will minimize impacts and limit disturbance to vegetation and soils in riparian and upland areas while still achieving overall project goals. Construction footprints and impacts would be minimized by developing and implementing a Construction Management Plan (Appendix C) and an Erosion Prevention and Sediment Control (EPSC) Plan (Appendix C) as outlined in 709.08. A construction work easement would be clearly marked and those areas of the WQRA not authorized for disturbance would be identified on project plans and in the field. At a minimum, the areas of the WQRA proposed to be graded for utility and restoration work will be delineated with silt fencing. All stormwater inlets will be protected for the duration of the project and will remain in place after construction activities are completed until soils on site have stabilized. The work area around the manhole within the wetland will be isolated and dewatered. Water removed from the work area will be pumped north and discharged in an area outside the WQRA. When not in use, equipment (excavators, graders, pavers, cement mixers, personnel vehicles, etc.) and material will be staged and/or stockpiled outside the WQRA on the SE Addie Street residential tax lots, 22E18CA04200 and 22E18CA04300. Project personnel and equipment ingress and egress for the site will occur mainly on the SE Addie Street lots, as well as through the OLWSD easements from SE Jennings Avenue (Figure 2). Native landscaping materials will be used and will be harvested locally where possible. Trees within the WQRA not proposed for removal during restoration work would be protected from impacts from construction equipment and native soils will be conserved onsite. Areas within the degraded WQRA that are disturbed and undisturbed by construction will be mitigated using a mix of native vegetation that would naturally occur in riparian, upland and

seasonally or permanently flooded wetlands (see planting plans, Appendix C). All debris will be removed from the project area and bare areas will be vegetated with native vegetation. Approximately 13,500 trees and herbaceous vegetation starts will be planted throughout the entire 4.7-acre wetland area as part of the proposed project. Monitoring of planting establishment will be conducted by OLWSD during until plant establishment is complete and invasive plant communities have been reduced to ensure the survivorship of newly planted native species. By implementing the mitigation and construction best management practices outlined above, the boardwalk and trail system will not impact the overall ecological function, size or value of the WQRA.

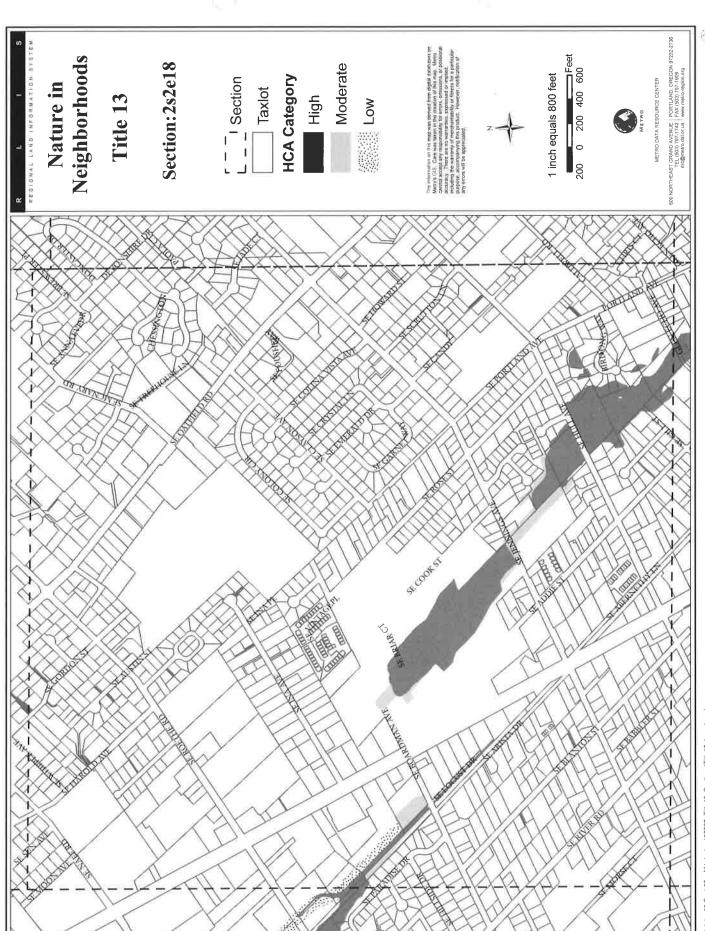


# Appendix A. Figures

# HABITAT CONSERVATION AND WATER QUALITY RESOURCE AREAS



FIGURE 2



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Figure 3. Habitat Conservation Area Map

WETLAND AND VEGETATION INVENTORY

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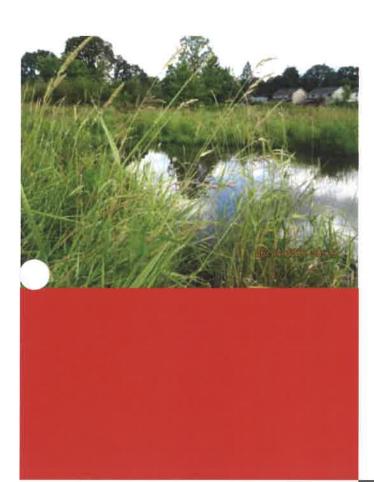
BOA

FIGURE 4



## Appendix B. Wetland Delineation Report





# Wetlands and Waterbodies Delineation Report

**Boardman Wetland Design** 

Clackamas County, Oregon

January 9, 2017

#### Contents

1	Land	dscape Setting and Land Use	1
2	Site	Alterations	2
3	Prec	ipitation Data and Analysis	3
4		nods	
	4.1 4.2 4.3	Review of Existing Materials  Wetlands  4.2.1 Vegetation  4.2.2 Soils  4.2.3 Hydrology  Ordinary High Water Mark	4 5 6
5	Desc 5.1 5.2	Cription of All Wetlands and Other Non-Wetland Waters  Delineated Wetlands  Waters of the State/United States	6
6	Devi	ation from LWI or NWI	8
7	Марр	ping Methods	.,,,,8
8	Addit	tional Information	9
9	Resu	ults and Conclusions	9
10	Discl	laimer	10
11	Refe	rences	11
		Tables	
		Summary of Precipitation between April and June 2016 in Oregon City, Clackamas Count	
_		Study Area Soils	

#### **Appendices**

Appendix A. Figures

Appendix B. Delineation Data Forms

Appendix C. Ground Level Photographs

Appendix D. WETS Table

Appendix E. Historic Aerial Imagery

## 1 Landscape Setting and Land Use

Oak Lodge Sanitary District (OLSD) is proposing to improve wetland functions for approximately half of the 8.4-acre wetland known as the Boardman Wetlands, which is part of the Boardman Wetland Design project (project), (Figure 1; all figures are located in Appendix A). The project would provide rehabilitation or replacement of the sanitary sewer line and manholes in the wetland, wetland enhancement, and construction areas of the public boardwalk trail system through a portion of the wetland. OLSD has a sewer maintenance easement through the site and recently purchased approximately half of the wetland area and two adjacent residential lots on SE Addie Street: parcels 22E18CA04200 and 22E18CA04300 (Figure 2). At least one of the residential lots would be re-developed to provide parking, a public restroom, and an outdoor classroom for the nearby Candy Lane Elementary School. These lots have a direct connection to the Boardman Wetlands.

The 5.5-acre Boardman Wetland Design project study area is located within the United States Geological Survey (USGS) Gladstone Quadrangle Map (USGS 1984), Township 2 South, Range 2 East, Section 18 (Figure 1). The study area lies within the Portland Metropolitan region (Metro) urban growth boundary (UGB) in the northwestern portion of Clackamas County, Oregon, east of Oregon Route 99E, and north of the City of Gladstone. The Boardman Wetlands are bordered by SE Boardman Avenue to the north, SE Cook Street to the west, SE Jennings Avenue to the south, and SE Addie Road to the west.

As defined by the Environmental Protection Agency (EPA), the project study area occurs within the Willamette Valley Ecoregion. The Willamette Valley Ecoregion is defined by the Willamette River and consists of broad alluvial flats and low basalt hills, with soils of deep alluvial silts from river deposits and dense heavy clays from fluvial deposits. The Willamette Valley Ecoregion is relatively low gradient, and historically, the Willamette River was extensively braided. These factors contribute to the current hydrology of the valley, characterized by numerous oxbow lakes, ponds and wetlands as well as sluggish, meandering streams and rivers (EPA 2016). The project study area occurs in the EPA Level IV Ecoregion 3c, Prairie Terraces. This ecoregion supports Oregon white oak prairies, and in wetter areas supports Oregon ash and Douglas fir. This ecoregion was historically comprised of seasonal wetlands and ponds, and currently many streams are channelized, ditched, and/or diverted (EPA 2016).

The Boardman Creek drainage basin, comprised of the South and North Boardman basins, covers approximately 1,327 acres. The basin consists of 21 miles of piped creek and 4 miles of open stream. Boardman Creek begins in the Boardman Wetlands, flows along the Trolley Trail, through Stringfield Family Park, and enters the Willamette River at Walta Vista Street (NCUWC 2016). The majority of Boardman Creek is piped beneath existing development in the area. The Boardman Wetlands habitat is classified as a Palustrine Emergent (persistent) Seasonally Flooded (PEM1C) wetland by the National Wetland Inventory (NWI, Figure 3; [USFWS 2016a]).

Elevations within the Boardman Wetland Design project study area are between 67 and 75 feet above sea level. The majority of the study area is flat with slopes of less than

3 percent occurring mainly along the boundaries where the wetland area transitions to residential development. Boardman Creek enters the study area from a culvert beneath SE Jennings Avenue and travels approximately 1,500 feet from southeast to northwest forming several ponds through the central portion of the study area (Figure 5A). The creek discharges to a culvert beneath SE Boardman Avenue north of the East Side Athletic Club, located at 4606 SE Boardman Avenue (Figure 5A).

The project study area is bordered by residential development zoned R-7 (Urban Low Density Residential) occurring on SE Boardman Avenue to the north, SE Cook Street to the east, and SE Jennings Avenue to the south; development zoned MR-1 (Medium Density Residential) occurs on SE Addie Street to the west.

## 2 Site Alterations

Land surveys completed in the 1880s show that Boardman Creek was originally a large, unrestricted, terrace wetland with numerous small tributaries (WSM 2014). As the area began to be settled, the wetlands were extensively ditched and converted to a series of stream channels. In the early 1900s the wetlands were effectively drained for agricultural purposes (WSM 2014). The land was subsequently converted to commercial, industrial, and residential development, and was modified further by construction of the local road system and placement of utility infrastructure. Aerial imagery dating back to 1936 indicates the area may have been used for agricultural purposes (See Historic Aerial Imagery in Appendix E). The majority of SE Addie Street was developed with residences at this time but very little development had occurred on SE Jennings Avenue or SE Cook Street. No residences or businesses had been developed on SE Boardman Avenue and Boardman Creek appears to have been ditched. Agricultural uses of the wetland area apparently ceased between 1956 and 1966. Residential and infrastructure development in the area continued steadily until recently. A sanitary sewer trunk line was installed through the wetland, beneath Boardman Creek, in 1961. The majority of disturbance within the project study area over the past 15 years is associated with residential development on SE Briar Court, SE Cook Street, SE Nature Way, and SE Lucas Court (See Google Earth aerial imagery in Appendix E).

Currently the remaining wetlands are surrounded by residential development to the north, east, and west, and SE Jennings Avenue to the south. As shown in aerial imagery, the majority of the area surrounding the Boardman Wetlands had been previously developed (Appendix E). Between 2002 and 2005, four single-family dwellings were construction on SE Cook Street; parcels were also developed on SE Briar Court and SE Nature Way. In July 2007 parcels were developed on SE Lucas Court. By 2008, all development in residential areas surrounding the wetlands was completed and no other apparent site alterations have occurred since.

The historic and ongoing development of the surrounding area has degraded the overall quality of the vegetation and habitat in the study area. Previous development has significantly altered natural drainage in the area through ditching, piping, rerouting, and the installation of culverts. Areas with large amounts of impervious surface decrease infiltration and increase stormwater discharge to the wetland area. Residential development has resulted in fill material being placed along the borders of adjacent

parcels that surround the study area. Remaining, undeveloped portions of the Boardman Wetlands are vegetated; however, non-native and invasive species are abundant due to historic development and ongoing disturbance.

## 3 Precipitation Data and Analysis

The project study area lies within Clackamas County, which is situated at the western base of the northern Oregon Cascade Mountain Range. According to the National Climatic Data Center, the project study area is within U.S. Climate Division 2, Willamette Valley. The Oregon Climate Service describes this division as similar to a Mediterranean climate, with warm, dry summers and cool, wet winters (Taylor and Bartlett 1993). The growing season in this area lasts from February 15 to December 4 (292 days) (NRCS 2016a; Appendix D). Annual average temperatures recorded at the closest Natural Resources Conservation Service (NRCS) Climate Analysis for Wetlands (WETS) station in Oregon City (OR6334) range from 45.1°F to 64.8°F (NRCS 2016a). Average annual precipitation recorded at the WETS station is 46.05 inches (NRCS 2016a). The cooler months are the wettest, with the majority of annual rainfall occurring between November and March. Conversely, the warmer months are driest; average rainfall is less than 2 inches per month between June and September (NRCS 2016a).

Recorded precipitation data for the 3 months preceding the field survey, conducted on June 22 and June 24, 2016, were gathered from the nearest weather station in Oregon City, Oregon (Station 356334, Appendix D), and compared to the average precipitation range reported in the WETS table (Table 3-1 and Appendix D). Rainfall throughout the study area was average and normal for the month of April, below average and not within normal range during May, and below average, but within the normal range for June. Approximately 0.97 inches of rainfall was recorded during the 2 weeks prior to the field survey (June 8 - June 21, 2016). Approximately 0.52 inches of rainfall was recorded on June 22, and no rainfall was recorded on June 24. The precipitation for the water year to the date of the wetland survey (October 2015 - June 2016) is 48.62 inches; approximately 115 percent of the average water year of 42.29 inches for the same period (NRCS 2016a).

Because the current water year is above average, below average and out of normal range precipitation during the month of May is not expected to have influenced the presence or absence of vegetation, hydrologic indicators, or wetlands in the study area. Observed precipitation data in the months leading up to the field investigation was analyzed using the Direct Antecedent Rainfall Evaluation Method (NRCS 2015); climate in area was drier than normal.

Table 3-1. Summary of Precipitation between April and June 2016 in Oregon City, Clackamas County, Oregon

	Recorded	Monthly	Percent of	30% chance (inches) <sup>1</sup>		
Month	Precipitation (inches)	Precipitation Average (inches)	Average Recorded	Less Than	More Than	
April	3.45	3.46	99.7%	<2.44	>4.10	
May	1.12	2.70	41.2%	<1.72	>3.26	
June	1.49	1.83	81.4%	<1.11	>2.22	

Source: NRCS 2016a (See WETS table in Appendix D)

## 4 Methods

## 4.1 Review of Existing Materials

- USGS Topographical, Gladstone Quadrangle Map
- NWI, Gladstone Quadrangle Map (U.S. Fish and Wildlife Service [USFWS] 2016a)
   (Figure 3, Appendix A)
- Soil Survey of Clackamas County, Oregon (Gerig 1985) (Figure 4, Appendix A)
- Precipitation data from Climate Analysis for Wetlands (WETS) OR6334, Oregon City, Oregon (NRCS 2016a, Appendix F)
- Hydric Soils List, Clackamas County, Oregon (NRCS 2016b) (Figure 4, Appendix A)

## 4.2 Wetlands

Field investigations were conducted by HDR on June 22 and 24, 2016. The NWI identified one PEM1C wetland, which covers the majority of the study area (Figure 3, Appendix A).

The wetland area was delineated using the methods described in the United States Army Corps of Engineers' (USACE) Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Environmental Laboratory 2010).

Sample plots (labeled SP on figures) were taken in areas to confirm the presence and characteristics of wetland and upland areas. Plots were selected by initial observation of topographic depressions, wetland vegetation, visual evidence of hydrology, and examination of soil samples. At sites exhibiting positive indicators of wetland characteristics, multiple soil pits were dug in conjunction with analysis of vegetative and hydrologic indicators to aid in the determination of wetland boundaries. Once a plot site was selected, a soil pit was dug, soils, hydrology and vegetation were investigated, and results were recorded using the USACE Wetland Determination Data Form

<sup>&</sup>lt;sup>1</sup> 30 percent chance less than or more than ranges for normal precipitation.

(Appendix B). In many areas, the wetland continues offsite and no corresponding upland plot exists within the project study area. In areas highly modified by fill placement, the wetland boundary was determined by observed changes in vegetation communities and hydrological features similar to those observed at representative wetland sample plots in which data was collected. In these cases, test soil pits were dug to confirm the presence of wetland soils. Landscape elevations were reviewed on maps and in the field to aid in determining the wetland boundary in these areas.

Sample plot locations are shown in Figure 5A-5E in Appendix A and data forms associated with sample plots are included in Appendix B. Representative site photographs from sample plots and observation points are included in Appendix C. Methods used to determine the presence of hydric soil, hydrology, and hydrophytic vegetation are discussed below. Variations to the standard methodology, if necessary, are indicated on the data forms.

#### 4.2.1 Vegetation

At each plot, the percent absolute cover for each species was visually estimated and recorded. Herbaceous cover was assessed within a 10-foot radius plot, and trees, shrubs, and woody vines were estimated within a 30-foot radius plot (Environmental Laboratory 1987, 2010). In accordance with USACE methodology, greater than 50 percent of the dominant plant species must be classified as hydrophytic or have a prevalence index less than or equal to 3.00 for a site to display a positive wetland vegetation indicator.

The dominant plant species were identified using standard taxonomic references (Guard 2010; Pojar and MacKinnon 2004; and Cooke 1997). The wetland indicator status for each species was determined in accordance with the National Wetland Plant List (Environmental Laboratory 2014; USACE 2016). Vegetation was recorded as obligate (OBL), facultative-wetland (FACW), facultative (FAC), facultative upland (FACU), or upland (UPL).

At the time of the wetland delineation surveys some of the herb species, including grasses and sedges, did not have additional characteristics present to help species identification. All dominant plants were identified to species level and the wetland indicator status was recorded on the datasheet. Non-dominant plants that could not be identified to the species level were omitted from the analysis. If necessary, the most common indicator status for the genus was selected to determine dominance based on the National Wetland Plant List. These instances are noted on the data sheets, where applicable.

#### 4.2.2 Soils

Soils at each representative wetland and upland sample plot were typically inspected to a depth of 15 to 26 inches to determine the presence or absence of hydric soil indicators based on the NRCS Indicators of Hydric Soils (NRCS 2010). Soil samples were moistened when necessary to aid in the determination of soil matrix and redoximorphic features (if present): hue, value, and chroma colors (Munsell Color Services, 2009). Soil texture was evaluated using field methods described by USACE and NRCS.

Figure 4 shows the mapped soils in the study area. Table 4-1 provides soil names, hydric status, and the approximate percentage of each soil in the study area (NRCS 2016b).

Table 4-1. Study Area Soils

Soil Type (Map Unit Symbol)	Percentage of Study Area	Hydric Status
Cove silty clay loam (25)	84.5	Hydric
Woodburn silt loam, 3 to 8 percent slopes (91B)	15.5	Non-hydric, hydric inclusions

Source: NRCS 2016b

Cove silty clay loam soils are deep, poorly-drained soils on floodplains formed in clayey alluvium. The surface layer of these soils is typically comprised of black silty clay loam (Gerig 1985). Woodburn silt loam soils are deep, moderately well-drained soil occurring on broad valley terraces. Surface layers are comprised of very dark brown and dark brown silt loam (Gerig 1985).

#### 4.2.3 Hydrology

To document wetland hydrology characteristics, primary and secondary indicators were investigated at each of the sample plots. These indicators included the presence of inundation or standing water at the surface, saturation, drainage patterns, hydrogen sulfide odor, iron deposits, high water table, and/or reduced iron when using an Alpha-alpha dipyridyl solution (alpha-alpha).

## 4.3 Ordinary High Water Mark

The ordinary high water mark (OHWM) for waterways in the study area was determined in the field using the methodology outlined in the USACE Regulatory Guidance Letter 05-05 (USACE 2005). The USACE guidance is consistent with the definition of OHWM put forth by the Oregon Department of State Lands (DSL). For purposes of the Clean Water Act (CWA), OHWM is "that line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE 2005). These indicators were not observed in the field for Boardman Creek or any other water feature present on site.

## 5 Description of All Wetlands and Other Non-Wetland Waters

## 5.1 Delineated Wetlands

The Boardman Wetlands encompass approximately 8.4 total acres (Figure 5A). One wetland, Wetland A, was delineated within the 5.5-acre study area (Figure 2). Wetland A is approximately 4.7 acres and is located in a topographic depression (Figure 5A). The majority of Wetland A classifies as Palustrine Emergent Semipermanently Flooded habitat (PEM1F, [USFWS 1979]), and classifies as a Depressional wetland

hydrogeographically (Adamus 2001). A total of 15 sample plots (SP1 to SP15) were completed in the project study area. Ten sample plots were determined to be within the wetland boundary and five sample plots were determined to be within upland areas. In many areas the wetland continues outside the boundaries of the study area; in such cases, a paired upland plot was not completed due to access restrictions.

The majority of the wetland has open herbaceous cover with isolated pockets of shrubs and trees that occur mainly along the wetland borders and within the northern portion of the project study area. Herbaceous vegetation in the wetland is dominated by reed canary grass (*Phalaris arundinacea*, FACW). The tree and shrub community of the wetland is dominated by Oregon ash (*Fraxinus latifolia*, FACW) and willow species (*Salix* ssp., FAC/FACW). The wetland and upland vine community, where present, is solely dominated by Himalayan blackberry (*Rubus armeniacus*, FAC). The surrounding upland community varies widely, but is mainly comprised of Oregon ash (*Fraxinus latifolia*, FACW), facultative willow species (*Salix* ssp.), reed canary grass (*Phalaris arundinacea*, FACW), common velvet grass (*Holcus lanatus*), and Himalayan blackberry (*Rubus armeniacus*, FAC; See datasheets in Appendix B).

The wetland hydrology is primarily influenced by Boardman Creek and stormwater runoff from surrounding residential development that is conveyed to the wetland by several stormwater outfalls (Figure 5A-5C). Boardman Creek enters the wetland area from a culvert beneath SE Jennings Avenue, flows approximately 1,500 feet northwest through the central portion of the wetland and exits the area via a culvert beneath SE Boardman Avenue. A total of five stormwater outfalls discharge to the wetland (Figure 5A-5C). Additionally, one unmapped, open air outfall was encountered just east of the project study area (PP16, Figure 5C). Due to topographic position, field observations of highly saturated conditions, and presence of surface water throughout most of the wetland area, hydrology may also be attributed to groundwater inputs. Multiple historic aerial images evaluated over a number of years at different times of the year indicate a large portion of the study area appears to be saturated/flooded for most of the year. Historical aerial images available from the US Army Corps of Engineers and Google Earth date back to July 1936 and are shown in Appendix E. Surface saturation is visible in all images beginning in 1977; high water table is assumed throughout the wetland area for all years except years of extreme drought.

Soils within the wetland area are mapped as Cove silty clay loam (25) and Woodburn silt loam, 3 to 8 percent slopes (91B); both are hydric soils (NRCS 2016b). Soils at SP4 and SP6 were problematic due to lack of hydric soil indicators; the problematic soils procedure outlined in the Western Mountains, Valley, and Coast Regional Supplement was applied (Environmental Laboratory 2010). Problematic soil situation 4b(6), Seasonally Ponded Soils, was applied when evaluating SP4 and SP6 and soils were considered hydric. Landscape setting is likely to concentrate flow away from the sample plot in both cases.

In the northeastern portion of the study area the natural landscape has been modified by placement of fill associated with residential development on SE Briar Court. This modification has likely shifted the natural wetland boundary west and modified natural hydrology. In this area hydrology and wetland vegetation were comparable to SP10 (Figure 5C) and was used primarily to determine the wetland boundary. Additionally, test pits were dug (See Photo 34 is Appendix C for example of test pit) along the boundary

and wetland soils were confirmed by strong hydrogen sulfide odor and the presence of redoximorphic features within the upper 6 inches of soil profiles (Photo 35, Appendix C).

The wetland continues offsite along the study area boundaries to the south and southeast (Figure 5B, 5C, and 5E). Most parcels that border the wetland area to the east of the study area have been filled; therefore, the wetland is not expected to continue offsite in this area.

### 5.2 Waters of the State/United States

Boardman Creek enters the study area from a culvert beneath SE Jennings Avenue and travels approximately 1,500 feet from southeast to northwest forming several ponds through the central portion of the study area (Figure 5A). The creek discharges to a culvert beneath the east parking lot of the East Side Athletic Club located at 4606 SE Boardman Avenue (Figure 5A) and eventually discharges to the Willamette River at a point approximately 3,000 feet northwest of the project area, as the crow flies. Boardman Creek is an at-grade stream with an unconsolidated bottom and no defined bed and bank; therefore, no OHWM was determined during field surveys. Due to the relatively flat landscape and extensive presence of reed canary grass, the creek channel is not apparent though much of the wetland corridor. Large ponds, backwater channels and areas of standing water are prevalent through the study area. The thalweg of Boardman Creek is likely the lowest point in the area where water collects, channelizes and moves offsite. Based on these characteristics and considering the additional hydrologic inputs, Boardman Creek acts as a discharge point for the surrounding headwater wetland area. No fish species occur in Boardman Creek (Streamnet 2016).

## 6 Deviation from LWI or NWI

The Local Wetland Inventory (LWI) did not show any mapped wetlands within the project study area. The Boardman Wetlands are classified as a Palustrine Emergent (persistent) Seasonally Flooded (PEM1C) wetland habitat by the NWI (USFWS 2016a; Figure 4). However, based on historic aerial imagery (Appendix E) and field observations (Appendix A and Appendix C), it is likely that surface water and high water table persists throughout the year; therefore Wetland A should be classified as a Palustrine Emergent (persistent) Semipermanently flooded (PEM1F) wetland habitat.

## 7 Mapping Methods

During the field delineation, data plot locations, wetland boundaries, and OHWM boundaries were recorded using a resource grade Trimble GeoXH 6000 Global Positioning System (GPS). Mapping accuracy of the unit is 50 cm (1.64 feet) using post-processed differential data correction after being downloaded. Once post-processing was completed, the data were overlain onto the National Agriculture Imagery Program (NAIP) aerial photographs used for field maps with the project, and GPS data using GIS software. The data illustrated on Figure 5A-5C has a sub-meter mapping accuracy using post-processed differential data correction.

## 8 Additional Information

USACE and DSL will assert jurisdiction over water and wetland features that meet regulatory authority as defined by the following:

- USACE will assert jurisdiction over traditional navigable waters, which includes all
  the waters described in 33 C.F.R. § 328.3(a)(1), and 40 C.F.R. § 230.3 (s)(1). The
  agencies will assert jurisdiction over wetlands adjacent to traditional navigable
  waters, including over adjacent wetlands that do not have a continuous surface
  connection to traditional navigable waters.
- DSL regulates "waters" (including rivers and wetlands) for the State of Oregon. DSL regulates waters using volume amounts of materials (i.e., sediments) removed or filled into a regulated water resource and location of activity. Waters of the state are regulated under the Removal/Fill Law (Oregon Revised Statue [ORS] 196.795–990) are defined under OAR 141-085-0515.

Based on observations made at the site of surface or clear subsurface connections to regulated waters, including the Willamette River, and best professional judgment, Wetland A and Boardman Creek would be considered jurisdictional and regulated by both USACE and DSL:

- Wetland A meets the jurisdictional definition of a wetland by both USACE and DSL as defined in 33 C.F.R. § 328.7 and OAR 141-085-0515(4).
- Boardman Creek is connected via surface drainage to the Willamette River, which is considered jurisdictional to USACE and DSL and would be considered jurisdictional per 33 C.F.R. § 328.3(f).
- Boardman Creek within the project study area is not a fish-bearing stream and does
  not serve as critical habitat to any species listed under the Endangered Species Act
  (USFWS 2016b). No sensitive species are known to occur within the wetland
  (ORBIC 2016). Many wildlife species, including ducks, songbirds, red-tailed hawks,
  and nutria, were observed using the wetlands during field surveys.

## 9 Results and Conclusions

Within the project study area there is one wetland (Wetland A) and one surface water resource (Boardman Creek). Wetland A is approximately 4.7 acres, classified as a PEM1F wetland habitat located in a topographic depression that receives water from Boardman Creek, stormwater conveyance system discharges, and likely from groundwater inputs. Boardman Creek is a low-gradient, perennial, non-fish bearing stream moving through developed, residential areas in unincorporated Clackamas County to its confluence with the Willamette River. Both Wetland A and Boardman Creek would be considered jurisdictional to the USACE and DSL.

## 10 Disclaimer

This report documents the investigation, best professional judgment, and conclusions of the investigators. It should be considered a Preliminary Jurisdictional Determination and used at your own risk until it has been approved in writing by the DSL in accordance with OAR 141-090-0005 through 141-090-0055, and the USACE in accordance with Section 404 of the CWA (OAR 141-090-0035 [7][k]).

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# Appendix A. Figures

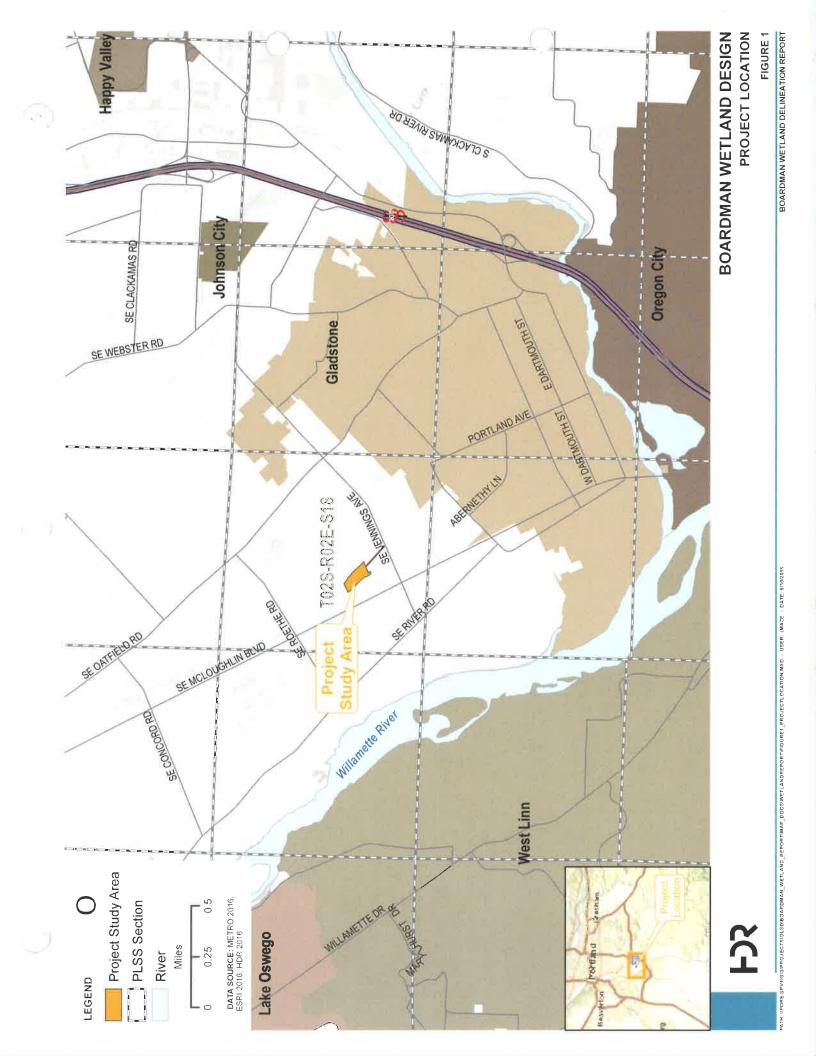
Figure 1. Project Location

Figure 2. Taxlots

Figure 3. NWI

Figure 4. NRCS Soil Survey

Figure 5. Wetland Delineation (A-E)



BOARDMAN WETLAND DESIGN
TAXLOTS

LINEATION REPORT

BOARDMAN WETLAND DESIGN
NATIONAL WETLAND INVENTORY



BOARDMAN WETLA

INEATION REPORT



FIGURE 5A

WETLAND DELINEATION INDEX

# WETLAND DELINEATION **BOARDMAN WETLAND DESIGN**

FIGURE 5B

INEATION REPORT

PATH WPORE-SRV4/GISIPROJ

DOGRDBANI WELLAND DEPOREMANT DOGSVELLANDER FOR PERCHERCE WELLANDDER LAND HER DAZE DATE DOG 2016

BOARDMAN WETLAND DELINEATION REPORT



BOARDMAN WETLA,

INEATION REPORT

BOARDMAN WETLAND DESIGN WETLAND DELINEATION

# Appendix B. Delineation Data Forms



**Data Sheet Summary Index** 

Associated Wetland	Plot ID	Met Vegetation Criteria	Met Soils Criteria	Met Hydrology Criteria	Is Plot within a Wetland?
Wetland A	SP1	Yes	Yes	Yes	Yes
Wetland A	SP2	Yes	Yes	Yes	Yes
Wetland A	SP3	Yes	Yes	Yes	Yes
Wetland A	SP4	Yes	Yes	Yes	Yes
Wetland A	SP5	No	No	Yes	No
Wetland A	SP6	Yes	Yes	Yes	Yes
Wetland A	SP7	Yes	Yes	Yes	Yes
Wetland A	SP8	Yes	Yes	Yes	Yes
Wetland A	SP9	Yes	Yes	No	No
Wetland A	SP10	Yes	Yes	Yes	Yes
Wetland A	SP11	Yes	No	No	No
Wetland A	SP12	Yes	No	No	No
Wetland A	SP13	Yes	No	No	No
Wetland A	SP14	Yes	No	No	No
Wetland A	SP15	Yes	Yes	Yes	Yes

Project/Site: Boardman Creek  Applicant/Owner: OLSD  Investigators: Irina Lapina Jennifer Maz	City/Count	ty: CI	ackamas Co	ou. , S	Sampling Date	6/22/2	016	
···								
Investigators: Irina Lapina Jennifer Maz			State	OR S	Sampling Poin	t: SP1		
	ze		Section, Tov	vnship, Range	S 18 T 28	S R	2E	
dform (hillslope, terrace, etc.): Floodplain	Le	ocal Relief (co	ncave, conv	ex, none): Co	ncave	Slop	be(%) 1	
Subregion (LRR): A Lat: 45.39	92985	Long	: -122.6098	365	Datum:	NAD83		
Soil Map Unit Name: Cove silty clay loam				NWI Classificati	on: PEM1C			
Are climatic / hydrologic conditions on the site typical for this time	of year?	Yes X	No	(If No, expla	in in Remarks	)		
Are Vegetation , Soil , Hydrology , significantl	ly disturbed?	A	Are "Normal	Circumstances"	present? Y	es X	No	
Are Vegetation, Soil, Hydrology, naturally p	roblematic?		(If needed,	explain any ans	wers in Rema	rks.)		
SUMMARY OF FINDINGS - Attach a site map sho	owing san	npling poi	nt locatio	ns, transect	s, importa	nt featu	res, et	c.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes X No		ampled Area						
Wetland Hydrology Present? Yes X No	within a	Wetland?		Yes X	No			
Sunny, 58-80 deg F, no rain past 3 days.  VEGETATION— Use scientific names of plants.	Absolute	Dominant	Indicator					
·	% Cover	Species	<u>Status</u>	Dominance 1	est Workshe	et:		
Tree Stratum					ominant Speci		1	(A)
Shrub Stratum				mat Are Obt	., FACW, or F	AC:	,	( ,)
Herb Stratum (Plot size: 6 Ft )				Total Number				(D)
Phalaris arundinacea	100	Y	FACW	Species Acros	ss all Strata:		1	(B)
Vine Stratum_	100	_=Total Cover		Percent of Do That Are OBL	minant Specie , FACW, or FA		100.0%	(A/B
				Prevalence In	ndex Worksh	eet:		
				Total % C	Cover of:	Mult	iply by:	
				OBL species	0	x 1 =	0	
				FACW specie	s 100	x 2 =	200	
				FAC species	0	x 3 =	0	
				FACU specie	s 0	x 4 =	0	
				UPL species	0	x 5 =	0	
				Column Total	s: 100	(A)	200	(B)
				Prevale	nce Index = B	/A=	2.00	
				Hydrophytic V	egetation Inc	licators:		
				X Rapid Te	st for Hydroph	ytic Veget	ation	
				X Dominano	ce Test > 50%			
					ce Index ≤ 3.0			
						<b>.</b>		
				data in Re	gical Adaptation	separate	sheet)	
					tic Hydrophyti	-		
				must be pres	hydric soil and ent, unless dis			
% Bare Ground in Herb Stratum 0				Hydrophy Vegetation P		es X	No	

Depth		Matrix				Dodov	Features					
(inchee)	Colo	r (moist)	%		Color (moist)			1 Loc 2	Texture		Rem	arks
(inches)				-	Color (Illoist)	70	Туре	, E00 -	SILTY CLAY		Oi moist	aiks
0 to 1	10YR	2/2	100	-	0 EVD 0 E/4		_	- 14	SILTY CLAY		A	
1 to 11	10YR	2/2	20	-	2.5YR 2.5/1	60	D_	M	SILTY CLAY	-		
1 to 11		0.5/4	400	-	5YR 3/4	20	<u>c</u>	PL	-		Daranahla	ale alauad
11 to 22	G1	2.5 / 1	100						SILTY CLAY		B very bla	ск, діеуеа
22 to 24	5Y	3 / 1	90		5YR 4/6	10	<u>C</u>	PL	SILTY CLAY		Depleted	
<sup>1</sup> Type: C=Conce	entration, [	D=Depletion,	RM=R	educe	d Martix, CS=	Covered or	Coated	Sand Gra	ins. 4_ocation: PL	.=Pore Lining, N	/I=Matrix,	
Hydric Soil Inc	dicators:								Indicators for Pr	oblematic Hy	dric Soils	3
Histosol (A1)	)				Sandy Redox	S5)			2 cm Muck (A1	0)		
Histic Epiped	don (A2)				Stripped Matrix	(S6)			Red Parent Ma	,		
Black Histic (	(A3)				Loamy Mucky	Mineral (F1)	(except M	LRA 1)		Dark Surface (TF1	2)	
Hydrogen Su	ulfide (A4)				Loamy Gleyed	Matrix (F2)			Other (Explain	·	_,	
✓ Depleted Belo	low Dark Sui	rface (A11)			Depleted Matri	x (F3)				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Thick Dark S	Surface (A12)	)			Redox Dark Si	ırface (F6)			3 Indicators of hyd	rophytic vegetatic	n and wetl	and
Sandy Mucky	y Mineral (S	1)			Depleted Dark	Surface (F7	)		hydrology must b	e present,		
Sandy Gleye	ed Matrix (S4	.)			Redox Depres	sions (F8)			unless disturbed	or problematic		
Restrictiv	ve Layer (	if observed	l):									
Туре:									1			
Depth (inches	es):								Hydric Soil Presen	it? Ye	s X	No
		ha-dipyridyl rea	agent i	aint de	epletions, very p	rominently b	łack orgar	nic material	(muck) filtered in horizons	below.		
HYDROLOGY Wetland Hydr	rology Ind	icators:					lack organ	nic material	(muck) filtered in horizons	below		
HYDROLOGY	rology Ind	icators:					lack orgar	nic material		below.	num of two	o required)
HYDROLOGY  Wetland Hydr  Primary Indicat	rology Ind tors (minim	icators:			eck all that ap	ply) ained Leave			Secondary Ir	ndicators (minim Stained Leaves (B		
HYDROLOGY Wetland Hydr Primary Indicat Surface Wate	rology Ind tors (minim er (A1) Table (A2)	icators:			eck all that ap	ply) ained Leave and 4B)			Secondary Ir Water-S 4A, and	ndicators (minim Stained Leaves (B 4B)		
Wetland Hydr Primary Indicat Surface Wate High Water T Saturation (A	rology Ind tors (minim er (A1) Table (A2)	icators:			eck all that ap Water-S 1, 2, 4A Salt Crus	ply) ained Leave and 4B)	s (B9) (ex		Secondary Ir Water-S 4A, and Drainag	ndicators (minim Stained Leaves (B 4B) e Patterns (B10)	9) (MLRA	
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HYDROLOGY  Wetland Hydr Primary Indicat  Surface Wate High Water T  Saturation (A  Water Marks  Sediment De  Drift Deposits	rology Ind tors (minim er (A1) Table (A2) A3) 5 (B1) eposits (B2) s (B3)	icators:			eck all that ap Water-S' 1, 2, 4A Salt Crus Aquatic I Hydrogei	ply) ained Leave and 4B) at (B11) nvertebrates a Sulfide Odd	s (B9) (ex (B13) or (C1) es along L	cept MLRA	Secondary Ir  Water-S 4A, and  Drainag  Dry-Sea  Saturati  Geomor	ndicators (minim Stained Leaves (B 4B) e Patterns (B10) ason Water Table on Visible on Aeri phic Position (D2	9) (MLRA ( (C2) al Imag (C	1, 2,
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Wetland Hydr Primary Indicat Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or ( Iron Deposits Surface Soil ( Inundation Vi Sparsely Veg Field Observat Surface Water Water Table Pr Saturation Pres (includes capilli	rology Ind tors (minim er (A1) Table (A2) A3) 5 (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aer getated Cond tions: Present? resent?	icators: num of one is rial Imagery (B7 cave Surface (B Yes Yes Yes	require  7) 38)  X X	ed; che No No No	eck all that ap  Water-Si 1, 2, 4A  Salt Crus Aquatic I Hydrogei Oxidized Presence Recent II Stunted Other (E	ply) ained Leave and 4B) at (B11) nvertebrates a Sulfide Odd Rhizospher e of Reduced on Reductio or Stressed I explain in Rer th (inches): th (inches):	s (B9) (ex (B13) or (C1) es along L d Iron (C4) n in Tilled Plants (D1 narks)	cept MLRA iving Roots Soils (C6) ) (LRR A)  20 14	Secondary Ir  Water-S 4A, and  Drainag  Dry-Sea  Saturati  Geomor  Shallow  FAC-Ne  Paised  Frost-Ho	ndicators (minim stained Leaves (B 4B) e Patterns (B10) ason Water Table on Visible on Aeri phic Position (D2 Aquitard (D3) autral Test (D5) Ant Mounds (D6) eave Hummocks	9) (MLRA (C2) al Imag (C2) ) (LRR A) (D7)	9)

WETLAND DETERMINATION DATA	FORM - V	Western Me	ountains,	V~lleys, and	d Coast Re	gion		
Project/Site: Boardman Creek	City/Count	y: Cla	ackamas Co	ou, S	ampling Date:	6/22/2	016	
Applicant/Owner: OLSD			State	OR S	Sampling Point	t: SP2		
Investigators: Irina Lapina Jennifer Ma	ze	5	Section, Tov	nship, Range	S 18 T 2S	R	2E	
dform (hillslope, terrace, etc.): Floodplain	Lo	ocal Relief (co	ncave, conv	ex, none): Nor	ie	Slop	oe(%) 0	
Cubregion (LRR): A Lat: 45.3	93633	Long:	-122.6110	020	Datum: N	NAD83		
Soil Map Unit Name: Cove silty clay loam				NWI Classification	on: PEM1C			
Are climatic / hydrologic conditions on the site typical for this time	of year?	Yes X	No	(If No, explai	in in Remarks)	)		
Are Vegetation , Soil , Hydrology , significant	ly disturbed?	A	re "Normal	Circumstances"	present? Ye	es X	No	
	roblematic?		(If pooded	explain any ansv	wore in Domar	·ke )		
				, ,				
SUMMARY OF FINDINGS - Attach a site map she Hydrophytic Vegetation Present? Yes X No	owing san	npiing poii	it iocatio	ns, transect	s, importar	it ieatt	ires, et	C.
Hydric Soil Present? Yes X No	le the Sa	ampled Area						
Wetland Hydrology Present? Yes X No		Wetland?		Yes X	No			
Remarks:								
Sunny, 58-80 deg F, no rain past 3 days,								
	Absolute	Dominant	Indicator					
<b>VEGETATION</b> Use scientific names of plants.	% Cover	Species	Status	Dominance T	est Workshee	et:		
Tree Stratum				Number of Do	minant Specie	es		
Shrub Stratum				That Are OBL	., FACW, or FA	₹C:	1	(A)
Herb Stratum (Plot size: 6 Ft )				Total Number	of Dominant			
Phalaris arundinacea	80	Y	FACW	Species Acros			1	(B)
Juncus effusus	10	N	FACW	D t of D.				
Typha latifolia	10	N	OBL	Percent of Do			100.0%	(A/B)
Callitriche heterophylla	3	N	OBL	Prevalence In	dev Worksho	oot:		
	103	=Total Cover		Total % C			tiply by:	
Vine Stratum_					13	x 1 =		
				OBL species	00	x 2 =	: 180	
				FACW species	s 0	x 3 =		
				FAC species	0	x 4 =		
				FACU specie	s 0	x 5 =		
				UPL species				
				Column Totals	3: 103	(A)	193	(B)
				Prevalei	nce Index = B/	/A=	1.87	
				Hydrophytic V				
					st for Hydrophy		tation	
				, i				
				X Dominano	ce Test > 50%			
				X Prevalenc	e Index ≤ 3.0			
				, ,	gical Adaptatio emarks or on a	•		orting
				Problema	tic Hydrophytic	১ Vegetat	tion (Exp	plain)
					hydric soil and ent, unless dis			
% Bare Ground in Herb Stratum 0				Hydrophy Vegetation Pr		es X	No	
narks: (Include photo numbers here or on a separate sheet.)								

Depth	Matrix			Redox F	eatures		
	or (moist)	%	Color (moist)	%	Type 1 Loc 2	Texture	Remarks
0 to 18	,		Ţ-141 (111-1-)			SILTY MUCK	Muck
¹Type: C=Concentration,	D=Depletion, RM:	=Reduce	ed Martix, CS=Co	vered or	Coated Sand Grain		
Hydric Soil Indicators:			0. 4. 0. 4 (05			<b>Indicators for Problem</b>	atic Hydric Soils: 3
Histosol (A1)			Sandy Redox (S5	,		2 cm Muck (A10)	
Histic Epipedon (A2)			Stripped Matrix (S	,		Red Parent Material (T	F2)
Black Histic (A3)			Loamy Mucky Mir		except MLRA 1)	Very Shallow Dark Sur	face (TF12)
✓ Hydrogen Sulfide (A4)			Loamy Gleyed Ma	` '		Other (Explain in Rema	arks)
Depleted Below Dark S			Depleted Matrix (F				
Thick Dark Surface (A1:			Redox Dark Surfa	, ,		3 Indicators of hydrophytic	vegetation and wetland
Sandy Mucky Mineral (8	·		Depleted Dark Su			hydrology must be prese	
Sandy Gleyed Matrix (S	64)		Redox Depression	ns (F8)		unless disturbed or probl	ematic
Restrictive Layer	(if observed):						
Туре:						Undeia Cail Decauto	Vac V Na
Depth (inches):						Hydric Soil Present?	Yes X No
Remarks: Soils too saturated to detern							
	**						
Wetland Hydrology Inc Primary Indicators (mining) Surface Water (A1)		uired; ch	_	•	s (B9) (except MLRA		
Primary Indicators (mini		uired; ch	Water-Stain 1, 2, 4A and	ed Leaves (4B)	s (B9) (except MLRA		s (minimum of two required eaves (B9) (MLRA 1, 2,
Primary Indicators (mining Surface Water (A1)		uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E	ed Leaves (4B) (311)		Water-Stained L 4A, and 4B)	eaves (B9) (MLRA 1, 2,
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)		uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve	ed Leaves 4B) 311) artebrates	(B13)	Water-Stained L 4A, and 4B)  Drainage Patter	ns (B10)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	mum of one is req	uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve	ed Leaves (4B) (311) ertebrates ( ulfide Odo	(B13)	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa	ns (B10) ter Table (C2)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	mum of one is req	uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve	ed Leaves 4B) 311) rtebrates ulfide Odo sizosphere	(B13) r (C1) s along Living Roots ((	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa	ns (B10) ter Table (C2) le on Aerial Imag.(C9)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	mum of one is req	uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve  Hydrogen St Oxidized Rh Presence of	ed Leaves 4B) 311) Intebrates of the color o	(B13) r (C1) s along Living Roots (G Iron (C4)	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	mum of one is req	uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve  Hydrogen St Oxidized Rh Presence of	ed Leaves 4B) 311) Intebrates of the color o	(B13) r (C1) s along Living Roots ((	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Po	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2)
Primary Indicators (minin  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)	mum of one is req	uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron	ed Leaves 4B) 311) Intebrates ulfide Odo izosphere Reduced Reduction	(B13) r (C1) s along Living Roots (G Iron (C4)	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Pos  Shallow Aquitare  FAC-Neutral Te	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)	mum of one is req	uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron	ed Leaves (4B) (311) (artebrates of the color of the colo	(B13) r (C1) s along Living Roots (for Iron (C4) in Tilled Soils (C6) rlants (D1) (LRR A)	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Pos  Shallow Aquitare  FAC-Neutral Te	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)	mum of one is requ ) S) erial Imagery (B7)	uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Presence of Recent Iron Stunted or S	ed Leaves (4B) (311) (artebrates of the color of the colo	(B13) r (C1) s along Living Roots (for Iron (C4) in Tilled Soils (C6) tlants (D1) (LRR A)	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Poi Shallow Aquitare FAC-Neutral Te Paised Ant Mou	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on A6  Sparsely Vegetated Con	mum of one is requ ) S) erial Imagery (B7)	uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Presence of Recent Iron Stunted or S	ed Leaves (4B) (311) (artebrates of the color of the colo	(B13) r (C1) s along Living Roots (for Iron (C4) in Tilled Soils (C6) tlants (D1) (LRR A)	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Poi Shallow Aquitare FAC-Neutral Te Paised Ant Mou	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on A6  Sparsely Vegetated Con	mum of one is required.  S)  Brial Imagery (B7)  Incave Surface (B8)	uired; ch	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Presence of Recent Iron Stunted or S Other (Expla	ed Leaves (4B) (311) (artebrates of the color of the colo	(B13) r (C1) s along Living Roots (for Iron (C4) in Tilled Soils (C6) tlants (D1) (LRR A)	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Poi Shallow Aquitare FAC-Neutral Te Paised Ant Mou	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on A6  Sparsely Vegetated Confield Observations:	mum of one is required.  S)  Brial Imagery (B7)  Incave Surface (B8)		Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron Stunted or S Other (Expla	ed Leaves (4B) (311) Intebrates (ulfide Odo (izosphere Reduced Reduction Stressed P	(B13) r (C1) s along Living Roots (( Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A) arks)	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Por Shallow Aquitar FAC-Neutral Te Paised Ant Mou Frost-Heave Hu	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on A6  Sparsely Vegetated Confield Observations:  Surface Water Present?	mum of one is required in the state of the s	X No	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Presence of Recent Iron Stunted or S Other (Expla	ed Leaves (4B) (311) (reterrates of all fide Odo (izosphere) Reduced Reduction (Stressed Pain in Rem	(B13) r (C1) s along Living Roots (C) Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A) arks)	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Poi Shallow Aquitare FAC-Neutral Te Paised Ant Mou	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on A6  Sparsely Vegetated Confered Observations:  Surface Water Present?  Water Table Present?  Saturation Present?  (includes capillary fringe)	mum of one is required in the second of the	X No X No X No	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron Stunted or S Other (Expla	ed Leaves (4B) (311) (artebrates (1B) (311) (	(B13) r (C1) s along Living Roots (C1) Iron (C4) in Tilled Soils (C6) Ilants (D1) (LRR A) arks)  2 0 0	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Por Shallow Aquitar FAC-Neutral Te Paised Ant Mou Frost-Heave Hu	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Active Sparsely Vegetated Confield Observations:  Surface Water Present?  Water Table Present?	mum of one is required in the second of the	X No X No X No	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron Stunted or S Other (Expla	ed Leaves (4B) (311) (artebrates (1B) (311) (	(B13) r (C1) s along Living Roots (C1) Iron (C4) in Tilled Soils (C6) Ilants (D1) (LRR A) arks)  2 0 0	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Por Shallow Aquitar FAC-Neutral Te Paised Ant Mou Frost-Heave Hu	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) ✓ Water Marks (B1) ✓ Sediment Deposits (B2) ✓ Drift Deposits (B3) ✓ Algal Mat or Crust (B4) ✓ Iron Deposits (B5) ✓ Surface Soil Cracks (B6) ✓ Inundation Visible on A6 ✓ Sparsely Vegetated Cor  Field Observations:  Surface Water Present?  Water Table Present?  Saturation Present?  (includes capillary fringe)	mum of one is required in the second of the	X No X No X No	Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron Stunted or S Other (Expla	ed Leaves (4B) (311) (artebrates (1B) (311) (	(B13) r (C1) s along Living Roots (C1) Iron (C4) in Tilled Soils (C6) Ilants (D1) (LRR A) arks)  2 0 0	Water-Stained L 4A, and 4B)  Drainage Patter  Dry-Season Wa  Saturation Visib  Geomorphic Por Shallow Aquitar FAC-Neutral Te Paised Ant Mou Frost-Heave Hu	ns (B10) ter Table (C2) le on Aerial Imag.(C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)

WETLAND DETERMINATION DATA	A FORM -	Western M	ountains	, Walleys, and C	oast Reg	ion		
Project/Site: Boardman Creek	City/Cour	ity: CI	ackamas Co	ou, Samp	oling Date:	6/22/20	016	
Applicant/Owner: OLSD			State	: OR Sam	pling Point:	SP3		
Investigators: Irina Lapina Jennifer Ma	aze		Section, Tov	vnship, Range S 1	B T 2\$	R	2E	
dform (hillslope, terrace, etc.): Floodplain	L	ocal Relief (co	ncave, conv	ex, none): None		Slop	e(%) 0	)
Subregion (LRR): A Lat: 45.3	393930	Long	-122.612	345	Datum: NA	\D83		
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slop	oes			NWI Classification:	PEM1C			
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes X	No	(If No, explain in	Remarks)			
Are Vegetation , Soil , Hydrology , significan	tly disturbed?	? <i>p</i>	re "Normal		sent? Yes	s X	No	
Are Vegetation , Soil , Hydrology , naturally	problematic?		(If needed	explain any answers	in Remarks	s )		
SUMMARY OF FINDINGS - Attach a site map sh	owina sa	mnlina noi:	•				res el	tc
Hydrophytic Vegetation Present? Yes X No	iowing sai	inpling poli	it locatio	no, transcoto, n	inportant	reatu	103, 01	
Hydric Soil Present? Yes X No	Is the S	ampled Area						
Wetland Hydrology Present? Yes X No		a Wetland?		Yes X	No			
Remarks: Sunny, 58-80 deg F, no rain past 3 days,								
VEGETATION Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Worksheet	:		
Tree Stratum (Plot size: 30 Ft )				Number of Domin				
Salix lasiandra	50	Υ	FACW	That Are OBL, FA			4	(A)
Salix bebbiana	20	Y	FACW	Total Number of D	ominant			
Salix scouleriana	15 85	Y	FAC	Species Across al			5	(B)
Charle Charles	65	=Total Cover		D				
Shrub Stratum (Plot size: 30 Ft ) Rosa woodsii	20	Ϋ́	FACU	Percent of Domina That Are OBL, FA		£	80.0%	(A/B
Fraxinus latifolia	5	N	FACU	Prevalence Index	Workshee	<b>+</b> -		
Salix bebbiana	5	Ň	FACW	Total % Cove			iply by:	
Salix scouleriana	5	N	FAC	OBL species	0	x 1 =	р <b>іу</b> бу. 0	
	35	=Total Cover		FACW species	140	x 2 =	280	
Herb Stratum (Plot size: 6 Ft )				·	30	x 3 =	90	
Phalaris arundinacea	60	Υ	FACW	FACIL analisa	20	x 4 =	80	
Solanum dulcamara	10	N	FAC	FACU species	0	x 5 =	0	
Vine Stratum	70	=Total Cover		UPL species  Column Totals:	190	(A)	450	(B)
VIIIO GRACUIT				Prevalence	Index = R/A	=	2.37	
				Hydrophytic Vege				
				Rapid Test for			ation	
				X Dominance Te				
				X Prevalence In	dex ≤ 3.0			
				Morphological data in Remar	•			oorting
				Problematic H				plain)
				Indicators of hydr must be present,	ic soil and w	vetland h	nydrolog	. ,
% Bare Ground in Herb Stratum 0				Hydrophytic Vegetation Prese			No	
narks: (Include photo numbers here or on a separate sheet.)								
(								

Depth	Matrix		T.		eatures		
(inches) Color	moist)	%	Color (moist)	%	Type 1 Loc 2	Texture	Remarks
0 to 21 10YR	2/1 1	00				SILT LOAM	
¹Type: C=Concentration, D=	Depletion, RM:	=Reduce	d Martix, CS=Cove	ered or	Coated Sand Grain	s. <sup>2</sup> Location: PL=Pore Lini	ng, M=Matrix.
Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Depleted Below Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Restrictive Layer (if Type: Depth (inches):  Remarks: Positive reaction to alpha, alph.	observed):	t Sticky s	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Miner Loamy Gleyed Matr Depleted Matrix (F3 Redox Dark Surface Depleted Dark Surface Redox Depressions	ral (F1) (ix (F2) i) e (F6) ace (F7)	except MLRA 1)	Indicators for Problematic  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface  Other (Explain in Remarks)  Indicators of hydrophytic veg hydrology must be present, unless disturbed or problema	e (TF12) ) etation and wetland
Wetland Hydrology India Primary Indicators (minimum		uired; ch		d Leaves	(RQ) (eycent MI RA		ninimum of two required
	m of one is reqi	uired; ch	Water-Stained 1, 2, 4A and 4 Salt Crust (B1 Aquatic Inverted Hydrogen Sulf Oxidized Rhiz Presence of R Recent Iron R	B)  ebrates ( fide Odor cosphere Reduced eduction	r (C1) s along Living Roots ( Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A)	Water-Stained Leav 4A, and 4B)  Drainage Patterns (I  Dry-Season Water T	Pes (B9) (MLRA 1, 2, B10) Fable (C2) In Aerial Imag.(C9) In (D2) 3) (D5) (D6) (LRR A)

Application   Content	WETLAND DETERMINATION DATA	A FORM - V	Vestern M	ountains	, Yalleys, an	d Coast Reg	ion	
	Project/Site: Boardman Creek	City/Count	y: Cl	lackamas Co	DU11.,	Sampling Date:	6/22/2016	
	Applicant/Owner: OLSD			State	OR	Sampling Point:	SP4	
Solid Map In Name:   Cover sity clay loam	Investigators: Irina Lapina Jennifer Ma	aze		Section, Tov	vnship, Range	S 18 T 2S	R 2E	
Soil Map Unit Name:   Cover althy clay loan   Care climatic / Pigen 1   Pigen 1   Care climatic / Pigen 1   Pi	ntform (hillslope, terrace, etc.): Floodplain	Lo	ocal Relief (co	oncave, conv	ex, none): No	ne	Slope(%)	0
Are climatic / hydrologic conditions on the site typical for this time of year?  Are Vegetation   Soil   Hydrology   significantly disturbed?   Are "Nomal Circumstances" present?   Yes   X   No    Are Vegetation   Soil   Hydrology   significantly disturbed?   Are "Nomal Circumstances" present?   Yes   X   No    Are Vegetation   Soil   Hydrology   significantly disturbed?   Are "Nomal Circumstances" present?   Yes   X   No    BUMMARY OF FINDINGS - Attach   a site map showing sampling point locations, transects, importants.    Bummary   Yes   X   No    Bydric Soil Present?   Yes   X   No    Bydric Soil Present?   Yes   X   No    Wetland Hydrology Present?   Yes   X   No    Wetland Hydrolog	Supregion (LRR): A Lat: 45.3	394430	Long	: -122.6128	396	Datum: NA	D83	
Are Vegetation   Soil   Hydrology   anignificantly disturbed?   Are "Normal Circumstances" present?   Ves   X   No   North-Vegetation   Soil   Hydrology   anianally problematic?   (If needed, explain any answers in Remarks.)	Soil Map Unit Name: Cove silty clay loam				NWI Classificat	tion: PEM1C		
Solid   Hydrology   Network   Solid   Hydrology   Network   Subminance   Solid   Hydrology   Network   Subminance   Solid   Hydrology   Network   Subminance   Solid   Hydrology   Network   Netwo	Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes X	No	(If No, expla	ain in Remarks)		
SUMMARY OF FINDINGS - Attach	Are Vegetation , Soil , Hydrology , significan	ntly disturbed?	-	Are "Normal	Circumstances"	present? Yes	X No	
SUMMARY OF FINDINGS - Attach	Are Vegetation , Soil , Hydrology , naturally	problematic?		(If needed	evolain any ans	Swere in Demarks	. \	
Mydro Soil Present?   Yes   X   No   No   No   No   No   No   No	2 - 1 - 2 - 2 - 2 - 2 - 2		entina met				•	.4.
Mydric Soil Present?	17.1	lowing san	ipinig poi	ni localio	ns, transec	s, important	reatures, e	ic.
Vestand Hydrology Present?   Yes   X   No		le the Sa	mnlad Araa					
VEGETATION	Motland Hudralagy Present?		•		Yes X	( No		
VEGETATION	705 X 110							
Tree Stratum						_		
Shrub Stratum   (Plot size: 30 Ft   Shrub Stratum   (Plot size: 30 Ft   Shrub Stratum   (Plot size: 30 Ft   Stratum   (Plot size: 30 Ft   Stratum   (Plot size: 6 Ft   Stratum		% Cover	<u>Species</u>	<u>Status</u>	Dominance '	Test Worksheet:		
Shrub Stratum   (Plot size: 30 Ft   )	111003120. 3010	5	V	EACH				(A)
Total Number of Dominant Species Across all Stratus   Species   Species Across all Stratus   Species	Corylus comuta			1,400	That Are Ob	_, 1 ACVV, 01 1 AC		( )
Physocarpus capitatus	Shrub Stratum (Plat size, 20 Ft		= I otal Cover					(D)
Percent of Dominant Species   Sefection   Percent of Dominant Species   Sefection   Sef	(110031201 3010 )	5	Υ	FACW	Species Acro	ss all Strata:	3	(B)
Phalaris arundinacea	:	_			Percent of Do	ominant Species	66 7%	. (Δ/R
Phalaris arundinacea   2 N   NL   Total % Cover of   Multiply by:   Number   Numb	Herb Stratum (Plot size: 6 Et )		- Total Cover		That Are OBL	, FACW, or FAC	50.770	, (7/0
Not   Total % Cover of:   Multiply by:	(11003120	80	Υ	FACW	Prevalence I	ndex Worksheef	t:	
Vine Stratum       FACW species       85       x 2       = 170         FAC species       0       x 3       0         FACU species       5       x 4       20         UPL species       0       x 5       0         Column Totals:       90       (A)       190       (B)         Prevalence Index = B/A=       2.11         Hydrophytic Vegetation Indicators:         Rapid Test for Hydrophytic Vegetation       X       Dominance Test > 50%         X       Prevalence Index ≤ 3.0       No         Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)       Problematic Hydrophytic Vegetation (Explain)         Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Hydrophytic         Wegetation Present?       Yes       X       No					Total % (	Cover of:	Multiply by:	
FAC species  FAC pecies  FAC pecies  FAC species  FAC pecies  FAC pecies  FAC species  FAC speci		82	=Total Cover		OBL species	0	x 1 = 0	
FACU species  FACU species  5  x 4 = 20  UPL species  0  x 5 = 0  Column Totals:  90  (A)  190  (B)  Prevalence Index = B/A=  Rapid Test for Hydrophytic Vegetation  X  Dominance Test > 50%  X  Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present?  Yes X  No	Vine Stratum_				FACW specie	es 85	x 2 = 170	)
UPL species 0 x 5 = 0  Column Totals: 90 (A) 190 (B)  Prevalence Index = B/A= 2.11  Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes X No					FAC species	0	x 3 = 0	
Column Totals: 90 (A) 190 (B)  Prevalence Index = B/A= 2.11  Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes X No					FACU specie	es 5	x 4 = 20	
Prevalence Index = B/A= 2.11  Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes X No					UPL species	0	x 5 = 0	
Prevalence Index = B/A= 2.11  Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes X No					Column Total	90	(A) 190	(B)
Hydrophytic Vegetation Indicators:  Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					o o ramini i o ram	·		
Rapid Test for Hydrophytic Vegetation  X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					Prevale	nce Index = B/A=	= 2.11	
X Dominance Test > 50%  X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					Hydrophytic \	/egetation Indic	ators:	
X Prevalence Index ≤ 3.0  Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					Rapid Te	st for Hydrophytic	: Vegetation	
Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					X Dominan	ce Test > 50%		
data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No					X Prevalen	ce Index ≤ 3.0		
Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes X No								
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No							'	
must be present, unless disturbed or problematic.  Hydrophytic  Vegetation Present? Yes X No								
% Bare Ground in Herb Stratum 0 Vegetation Present? Yes X No								
	% Bare Ground in Herb Stratum 0					43	X No	
parks: (Include photo numbers here or on a separate sheet.)	arks: (Include photo numbers here or on a separate sheet.)							

D C C Coated :	ack of indic	Indicators for Problematic F  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic	Hydric Soils: 3  TF12)  ation and wetland  c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
D C C Coated :	M M PL Sand Grain LRA 1)	SILTY CLAY LOAM  SILTY CLAY LOAM  SILTY CLAY LOAM  SILTY CLAY LOAM  ins. 2Location: PL=Pore Lining  Indicators for Problematic I  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  3 Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	Dark when wet Oa layer, dry duff A  g, M=Matrix.  Hydric Soils: 3  TF12)  ation and wetland c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
C C Coated	PL Sand Grain  LRA 1)	SILTY CLAY LOAM  SILTY CLAY LOAM  SILTY CLAY LOAM  SILTY CLAY LOAM  ins. 2Location: PL=Pore Lining  Indicators for Problematic I  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  3 Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	Dark when wet Oa layer, dry duff A  g, M=Matrix.  Hydric Soils: 3  TF12)  ation and wetland c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
C coated :	PL Sand Grain LRA 1)	SILTY CLAY LOAM  SILTY CLAY LOAM  ins. 2Location: PL=Pore Lining  Indicators for Problematic I  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  3 Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	A  G, M=Matrix.  Hydric Soils: 3  TF12)  ation and wetland  c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
coated and a coate	Sand Grain	Indicators for Problematic I  Indicators for Problematic I  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	A  G, M=Matrix.  Hydric Soils: 3  TF12)  ation and wetland  c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
coated and a coate	Sand Grain	Indicators for Problematic I  Indicators for Problematic I  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	g, M=Matrix.  Hydric Soils: 3  TF12)  ation and wetland  c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
coated and a coate	Sand Grain	Indicators for Problematic I  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  3 Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	Hydric Soils: 3  TF12)  ation and wetland  c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
xcept M	LRA 1)  ack of indic	Indicators for Problematic I  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	Hydric Soils: 3  TF12)  ation and wetland  c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
due to la	ack of indic	2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (T Vother (Explain in Remarks)  3 Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	TF12) ation and wetland c.  Yes X No applied, Hydrophytic vegetation tional area of wetland boundary
due to la	ack of indic	Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	ation and wetland c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
due to la	ack of indic	Red Parent Material (TF2)  Very Shallow Dark Surface (T  Other (Explain in Remarks)  Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	ation and wetland c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
due to la	ack of indic	Very Shallow Dark Surface (T  Other (Explain in Remarks)  Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	ation and wetland c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
r at gen	tle toe of sl	Other (Explain in Remarks)  3 Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	ation and wetland c.  Yes X No  applied, Hydrophytic vegetation tional area of wetland boundary
r at gen	tle toe of sl	3 Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	Yes X No applied, Hydrophytic vegetation tional area of wetland boundary
r at gen	tle toe of sl	hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	Yes X No applied, Hydrophytic vegetation tional area of wetland boundary
r at gen	tle toe of sl	hydrology must be present, unless disturbed or problematic  Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	Yes X No applied, Hydrophytic vegetation tional area of wetland boundary
r at gen	tle toe of sl	Hydric Soil Present?  ators; problematic hydric soil procedure a lope just east of sample plot along transit	Yes X No applied Hydrophytic vegetation tional area of wetland boundary
r at gen	tle toe of sl	ators; problematic hydric soil procedure a	applied. Hydrophytic vegetation tional area of wetland boundary
r at gen	tle toe of sl	ators; problematic hydric soil procedure a	applied. Hydrophytic vegetation tional area of wetland boundary
r at gen	tle toe of sl	ators; problematic hydric soil procedure a	applied. Hydrophytic vegetation tional area of wetland boundary
r at gen	tle toe of sl	lope just east of sample plot along transit	tional area of wetland boundary
			, a
		Secondary Indicators (mir	nimum of two required)
B9) (ex	cept MLRA	·	-
		4A, and 4B)	
140)		Drainage Patterns (B1	10)
		Dry-Season Water Tal	ble (C2)
	ivina Baata	Saturation Visible on A	Aerial Imag (C9)
-	-	✓ Geomorphic Position (	(D2)
, ,		Shallow Aquitard (D3)	
	, ,	FAC-Neutral Test (D5)	·
	(LINIX A)	Paised Ant Mounds (D	, ,
KS)		Frost-Heave Hummoc	:ks (D7)
	12		
		Wetland Hydrology Present?	Yes X No
	11	, 2223,	
ons), if a	vailable:	, I	
(((carconnarri	13) C1) along L pn (C4) Tilled nts (D1	13) C1) along Living Roots on (C4) i Tilled Soils (C6) nts (D1) (LRR A)	4A, and 4B)  Drainage Patterns (B' Dry-Season Water Ta Saturation Visible on a Son (C4)  Tilled Soils (C6)  Tits (D1) (LRR A)  Dry-Season Water Ta Saturation Visible on a Sa

WETLAND DETERMINATION DATA	A FORM - 1		ountains, ackamas Co		d Coast	_		216	
Project/Site: Boardman Creek  Applicant/Owner: OLSD	City/Court	ty. Ci	State		Sampling I			510	
								٥٦	
			·	vnship, Range		T 2S		2E	
dform (hillslope, terrace, etc.): Terrace		•	,	rex, none): Co		NIA F		e(%) 2	:-3
Subregion (LRR): A Lat: 45.3		Long	: -122.6136			n: NAI	J83		
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slop				NWI Classificat					
Are climatic / hydrologic conditions on the site typical for this time		Yes X	No	(If No, expla					
	ntly disturbed?	γ Α	Are "Normal	Circumstances"	present?	Yes	Х	No	
Are Vegetation , Soil , Hydrology , naturally	problematic?		(If needed,	explain any ans	wers in Re	emarks.	.)		
SUMMARY OF FINDINGS - Attach a site map sh	nowing sar	mpling poi	nt locatio	ns, transect	s, impo	rtant	featu	res, et	tc.
Hydrophytic Vegetation Present? Yes No X									
Hydric Soil Present? Yes No X		ampled Area							
Wetland Hydrology Present? Yes X No	within a	Wetland?		Yes	No	Х			
Sunny, 58-80 deg F, no rain past 3 days,	Absolute	Dominant	Indicator						
<b>VEGETATION</b> — Use scientific names of plants.	% Cover	Species	Status	Dominance 1	Гest Work	sheet:			
Tree Stratum				Number of D	ominant S <sub>l</sub>	pecies			
Shrub Stratum (Plot size: 30 Ft )				That Are OBI	_, FACW,	or FAC	1	1	(A)
Crataegus monogyna	3	Υ	FAC	Total Number	of Domina	ant			
	3	=Total Cover		Species Acro	ss all Strat	ta:		4	(B)
Herb Stratum (Plot size: 6 Ft )				Descent of De	main and Co				
Lapsana communis	15	Y	FACU	Percent of Do That Are OBL				25.0%	(A/B
Hedera helix	7	Y	FACU	Prevalence li	ndey Worl	kehoot			
Phalaris arundinacea	3	N.	FACW	Total % C		N3HOUL		iply by:	
Bromus tectorum  Convolvulus arvensis	2	N N	NL NL	OBL species	over or.	0	x 1 =	101y by. 0	
Convolvulus arvensis	29		NL	FACW species		3	x 2 =	6	
Vine Stratum	20	=Total Cover		·	:5	3	x 3 =	9	
(Plot size: 30 Ft )				FAC species		97	x 4 =	388	
Rubus armeniacus	75	Y	FACU	FACU specie	s	0	x 5 =	0	
	75	=Total Cover		UPL species					(2)
				Column Total	s:	103	(A)	403	(B)
				Prevale	nce Index	= B/A=	:	3.91	
				Hydrophytic \	/egetatior	Indica	ators:		
				Rapid Te	st for Hydr	ophytic	Veget	ation	
				Dominan	ce Test > 5	50%			
				Prevalend	ce Index ≤	3.0			
					gical Adap emarks or				oorting
				Problema	itic Hydrop	hytic V	egetati	on (Ex	plain)
				Indicators of must be pres					
% Bare Ground in Herb Stratum 0				Hydrophy Vegetation P		Yes		No 2	X
yarks: (Include photo numbers here or on a separate sheet,)									
West side of plot reduced due to position along fence and parki	ng lot.								

(inches) Color (n		Redox Fea		- <b>-</b> .					
<u> </u>	moist) %	Color (moist) %	Type 1 Loc 2	Texture	Remarks				
0 to 18 10YR	2 / 1 100			CLAY LOAM	Soil uniform througho sample.				
Type: C=Concentration, D=I	Depletion, RM=Redu	ced Martix, CS=Covered or Co	pated Sand Grains.	. 2Location: PL=Pore Li	ning, M=Matrix.				
lydric Soil Indicators:				Indicators for Problemat	ic Hydric Soils: 3				
Histosol (A1)		Sandy Redox (S5)		2 cm Muck (A10)					
Histic Epipedon (A2)			Red Parent Material (TF2)						
Black Histic (A3)	l	cept MLRA 1)	Very Shallow Dark Surface (TF12)						
Hydrogen Sulfide (A4)			Other (Explain in Remarks)						
Depleted Below Dark Surface	;e (A11)	Depleted Matrix (F3)  Redox Dark Surface (F6)							
Thick Dark Surface (A12)	L		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.						
Sandy Mucky Mineral (S1)	Į								
Sandy Gleyed Matrix (S4)	Į	Redox Depressions (F8)		unices distarbed of problem					
Restrictive Layer (if	observed):								
Туре:				Hydric Soil Present?	Yes No X				
Depth (inches):				nyanc Son Fresent?	162 NO Y				
Vetland Hydrology Indica Primary Indicators (minimun					(minimum of two required)				
	rface Water (A1) Water-Stained Leaves (B9) (except MLRA				Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)				
High Water Table (A2)		Salt Crust (B11)							
Saturation (A3) Water Marks (B1)		Aquatic Invertebrates (B	13)	Drainage Patterns (B10)					
Sediment Deposits (B2)		C1)	Dry-Season Water Table (C2)						
Drift Deposits (B3)		along Living Roots (C	(C3) Saturation Visible on Aerial Imag. (C9)						
		Presence of Reduced Iro	n (C4)	✓ Geomorphic Position (D2)					
Algal Mat or Crust (B4)		Iron Deposits (B5)  Recent Iron Reduction in Tilled Soils (C6)							
Algal Mat or Crust (B4) Iron Deposits (B5)		Recent Iron Reduction in	Tilled Soils (C6)	Shallow Aquitard (					
		Recent Iron Reduction in  Stunted or Stressed Plan	, ,	FAC-Neutral Test	(D5)				
Iron Deposits (B5)	Imagery (B7)		nts (D1) (LRR A)	FAC-Neutral Test Paised Ant Mound	(D5) ls (D6) (LRR A)				
Iron Deposits (B5) Surface Soil Cracks (B6)	0 , , ,	Stunted or Stressed Plan	nts (D1) (LRR A)	FAC-Neutral Test	(D5) ls (D6) (LRR A)				
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav	0 , , ,	Stunted or Stressed Plan	nts (D1) (LRR A)	FAC-Neutral Test Paised Ant Mound	(D5) ls (D6) (LRR A)				
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav	0 , , ,	Stunted or Stressed Plar Other (Explain in Remark	nts (D1) (LRR A)	FAC-Neutral Test Paised Ant Mound	(D5) ls (D6) (LRR A)				
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav	re Surface (B8)	Stunted or Stressed Plan Other (Explain in Remark  O X Depth (inches):	nts (D1) (LRR A)	FAC-Neutral Test Paised Ant Mounc Frost-Heave Humi	(D5) Is (D6) (LRR A) mocks (D7)				
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Field Observations: Surface Water Present?	re Surface (B8)  Yes N	Stunted or Stressed Plar Other (Explain in Remark  O X Depth (inches): Depth (inches):	nts (D1) (LRR A)	FAC-Neutral Test Paised Ant Mound	(D5) Is (D6) (LRR A) mocks (D7)				
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes N Yes X N Yes X N	Other (Explain in Remark  O X Depth (inches): Depth (inches): Depth (inches):	20 14	FAC-Neutral Test Paised Ant Mounc Frost-Heave Humi	(D5) Is (D6) (LRR A) mocks (D7)				
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Tield Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes N Yes X N Yes X N	Stunted or Stressed Plan Other (Explain in Remark  O X Depth (inches): Depth (inches):	20 14	FAC-Neutral Test Paised Ant Mounc Frost-Heave Humi	(D5) Is (D6) (LRR A) mocks (D7)				
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Tield Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes N Yes X N Yes X N	Other (Explain in Remark  O X Depth (inches): Depth (inches): Depth (inches):	20 14	FAC-Neutral Test Paised Ant Mounc Frost-Heave Humi	(D5) Is (D6) (LRR A) mocks (D7)				

Project/Site: Boardman Creek	A FORM - ' City/Coun		l <b>ountains</b> lackamas Co		Coast Required Policy Description	•	016	
Applicant/Owner: OLSD			State		npling Point:	SP6		
Investigators: Irina Lapina Jennifer Ma	aze		Section, Tov	vnship, Range S			2E	
dform (hillslope, terrace, etc.): Depression	L	ocal Relief (c		/ex, none): Conca		Slop	e(%) 0	)
Subregion (LRR): A Lat: 45.3	394824	Long	: -122.613	623	Datum: N	AD83	, ,	
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slop	oes			NWI Classification	PEM1C			
Are climatic / hydrologic conditions on the site typical for this time		Yes X	No	(If No, explain i	n Remarks)			
Are Vegetation , Soil , Hydrology , significan	itly disturbed?	,	Are "Normal	Circumstances" pre	esent? Ye	s X	No	
	problematic?		(If needed	explain any answe	re in Demark	(e.)		
			25 50			-		
SUMMARY OF FINDINGS - Attach a site map sh Hydrophytic Vegetation Present? Yes X No	lowing sai	mpning poi	nt locatio	ns, transects,	importan	t ieatu	res, et	.C.
Hydric Soil Present? Yes X No	le the S	ampled Area						
Wetland Hydrology Present? Yes X No		a Wetland?		Yes X	No			
Remarks:								
Sunny, 58-80 deg F, no rain past 3 days. Transitional area, soil	pit was dug ~	-4-5 feet east	of SP5; 6 fee	et east of SP5 is floo	oded			
<b>VEGETATION</b> — Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Tes	t Workshoo	4.		
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u> )				Number of Domi				
Fraxinus latifolia	20	Υ	FACW	That Are OBL, F			5	(A)
	20	=Total Cover		Total Number of	Dominant			
Shrub Stratum (Plot size: 30 Ft )				Species Across a	all Strata:		6	(B)
Physocarpus capitatus	30	Y	FACW	Percent of Demir	ant Cassion			
Spiraea douglasii Crataegus monogyna	20	Y Y	FACW	Percent of Domir That Are OBL, F			83.3%	(A/B)
Oracio gue monogyna	80	=Total Cover	TAO	Prevalence Inde	x Worksher	et:		
Herb Stratum (Plot size: 6 Ft )		rotal cover		Total % Cov			iply by:	
Phalaris arundinacea	65	Υ	FACW	OBL species	0	x 1 =	0	
Convolvulus arvensis	3	N	NL	FACW species	147	x 2 =	294	
Juncus effusus	2	N	FACW	FAC species	20	x 3 =	60	
	70	=Total Cover		FACU species	15	x 4 =	60	
Vine Stratum (Plot size: _30 Ft )				UPL species	0	x 5 =	0	
Rubus armeniacus	15	Υ	FACU	· ·	182	(A)	414	(B)
	15	=Total Cover		Column Totals:		(, ,)		(5)
				Prevalence	Index = B/A	<i>f</i> =	2.27	
				Hydrophytic Veg	etation Indi	cators:		
				Rapid Test fo	or Hydrophyt	ic Veget	ation	
				X Dominance	est > 50%			
				X Prevalence I	ndex ≤ 3.0			
				Morphologica data in Rema				orting
				Problematic	Hydrophytic	Vegetati	on (Exp	plain)
				Indicators of hyd				
% Bare Ground in Herb Stratum 5				Hydrophytic Vegetation Pres		×	No	
)arks: (Include photo numbers here or on a separate sheet.)								

	tion: (Des	cribe to the Matrix	depth i	ieeae	ea to accument			Commi	the absence of Indicators.)			
Depth (inches) Color (moist)		% Color (mois		Color (moist)	Redox Features  % Type 1 Loc 2			Texture	Remarks			
1 to 16	10YR	2 / 1	100		Color (moist)	/0	, ype	LOC -	SILT LOAM	Nomano		
16 to 18	101R	2/1	99		10YR 4/1				SILT LOAM			
¹Type: C=Conce				educe		vered or				ng, M=Matrix		
Hydric Soil Ind	licators:				Candy Baday (CE				Indicators for Problematic	Hydric Soils: 3		
Histosol (A1)	a= (A2)			r-n	Sandy Redox (S5				2 cm Muck (A10)			
Histic Epipedo			Stripped Matrix (S Loamy Mucky Min		(avaant M	I DA 1)	Red Parent Material (TF2)					
Black Histic (A3)							(except ivi	LIXA I)	Very Shallow Dark Surface (TF12)			
Hydrogen Sulfide (A4)  Depleted Below Dark Surface (A11)					Loamy Gleyed M				Other (Explain in Remarks)			
			Depleted Matrix ( Redox Dark Surfa									
Thick Dark Surface (A12)					Depleted Dark Sun	` '			<sup>3</sup> Indicators of hydrophytic vege	etation and wetland		
	Sandy Mucky Mineral (S1)								hydrology must be present, unless disturbed or problema	tic.		
Sandy Gleyed	Matrix (S4	)		LJ	Redox Depressio	ns (Fö)			anioss distarbed of problema			
Restrictive	e Layer (	if observe	d):									
Type:									Hydric Soil Present?	Yes X No		
Depth (inches	Depth (inches):							Tryuno con Frederic.	100 X 110			
HYDROLOGY												
Wetland Hydro Primary Indicate	0.0		require	d; che	eck all that apply	′)			Secondary Indicators (m	ninimum of two required)		
✓ Surface Wate ✓ High Water Ta	. ,				Water-Stair 1, 2, 4A and		s (B9) (ex	cept MLRA	Water-Stained Leave 4A, and 4B)	es (B9) (MLRA 1, 2,		
Saturation (A3					Salt Crust (	B11)				240)		
· ·	Water Marks (B1)				Aquatic Invertebrates (B13)				Drainage Patterns (B10)			
Sediment Deposits (B2)					Hydrogen Sulfide Odor (C1)				Dry-Season Water Table (C2) Saturation Visible on Aerial Imag.(C9)			
Drift Deposits (B2)					Oxidized RI	nizosphere	s along L	iving 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)						Paised Ant Mounds (D6) (LRR A)					
Inundation Visible on Aerial Imagery (B7)  Other (Explain in Remarks)						Frost-Heave Hummocks (D7)						
Sparsely Vege							,		Flost-neave nullillic	icks (D1)		
Field Observat	ions:											
Surface Water I	Present?	Yes	Х	No	Depth	(inches):		2				
Water Table Pre	esent?	Yes	X	No	Depth	(inches):		9				
	ent?	Yes	Х	No	Depth	(inches):		2	Wetland Hydrology Present	? Yes X No		
Saturation Pres												
Saturation Pres (includes capilla Describe Recorded		am gauge, mo	onitoring	well, a	erial photos, previ	ous inspec	tions), if a	available;				
(includes capilla		am gauge, mo	onitoring	well, a	erial photos, previ	ous inspec	tions), if a	available;				
(includes capilla		am gauge, mo	onitoring	well, a	erial photos, previ	ous inspec	tions), if a	available;				

oject/Site: Boardman Creek oplicant/Owner: OLSD	City/Coun	ty: Cl	ackamas Co	ou,	Sampling I	Date:	6/22/2	016	
oplicant/Owner: OLSD								.010	
			State	OR	Sampling	Point:	SP7		
vestigators: Irina Lapina Jennifer M	Maze		Section, Tov	vnship, Range	S 18	T 2S	R	2E	
dform (hillslope, terrace, etc.): Depression	L	ocal Relief (co	ncave, con	/ex, none): Co	ncave		Slop	pe(%) C	)
ubregion (LRR):    A	5.394832	Long	: -122.6136	31	Datu	m: NA	D83		
oil Map Unit Name: Woodburn silt loam, 3 to 8 percent sl	lopes			NWI Classificat	ion: PEI	M1C			
e climatic / hydrologic conditions on the site typical for this ti		Yes X	No	(If No, expla	ain in Rem	arks)			
	antly disturbed?		Are "Normal	` Circumstances'		,	Х	No	
, , , ,	ly problematic?	•							
			,	explain any ans			,		4
SUMMARY OF FINDINGS - Attach a site map solution by the state of the s	snowing sai	npiing poi	nt locatio	ns, transec	is, impo	nanı	reatt	ires, e	ic.
Hydric Soil Present? Yes X No	le the C	ampled Area							
Mathematic Incident and December 1		ampied Area Wetland?		Yes >	. No				
emarks:				163	140				
sunny, 58-80 deg F, no rain past 3 days.									
	Absoluto	Dominant	Indicator	1					
<b>EGETATION</b> Use scientific names of plants,	Absolute % Cover	Dominant Species	Indicator Status	Dominance '	Test Worl	(sheet			
Tree Stratum (Plot size: 30 Ft )				Number of D					
Fraxinus latifolia	20	Υ	FACW	That Are OB				5	(A)
	20	=Total Cover		Total Numba	r of Domin	ont			
Shrub Stratum (Plot size: 30 Ft )				Total Numbe Species Acro				6	(B)
Physocarpus capitatus	30	Υ	FACW						- ' '
Spiraea douglasii	30	Υ	FACW	Percent of Do				83.3%	(A/E
Crataegus monogyna	20	Υ	FAC	That Are OBI	-, FACVV,	or FAC			
	80	=Total Cover		Prevalence I	ndex Wor	kshee	t:		
Herb Stratum (Plot size: 6 Ft )				Total % (	Cover of:			tiply by:	
Phalaris arundinacea	65	Y	FACW	OBL species		0	x 1 =	= 0	
Convolvulus arvensis	3	N	NL	FACW specie	es	147	x 2 =	294	
Juncus effusus	2	N	FACW	FAC species		20	x 3 =	60	
	70	=Total Cover		FACU specie	es	15	x 4 =	60	
Vine Stratum (Plot size: 30 Ft )				UPL species		0	x 5 =	= 0	
Rubus armeniacus	15	Υ	FACU	Column Tota	le:	182	(A)	414	(B)
	15	=Total Cover		Coldiniii Tota	ъ.		` '		` ′
				Prevale	ence Index	: = B/A:	-	2.27	
				Hydrophytic '	Vegetatio	n Indic	ators:		
				Rapid Te	st for Hyd	rophytic	c Vege	tation	
				X Dominan	ce Test >	50%			
				X Prevalen	ce Index ≤	≨ 3.0			
				Morpholo	gical Ada	ptations			
					emarks or		•	•	
					atic Hydro		•	•	. ,
				Indicators of must be pre					
Bare Ground in Herb Stratum 5				Hydroph Vegetation P	-	Yes	х	No	

Depth (inches) Color (  0 to 15 10YR  Type: C=Concentration, D=  Hydric Soil Indicators:	Matrix (moist) 3 / 2 =Depletion, R	% 100		Color (moist)	%	Features Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 to 15 10YR  1Type: C=Concentration, D=	3 / 2	100		,					
<sup>1</sup> Type: C=Concentration, D=								SILT LOAM	
		101-176	educe	d Martix, CS=Co	vered or	Coated S	 Sand Grain		/I=Matrix.
ityuric bon indicators.	=								1
[ ] History (A4)				Condy Boday (CE	,			<b>Indicators for Problematic Hy</b>	dric Soils:
Histosol (A1)				Sandy Redox (S5 Stripped Matrix (S				2 cm Muck (A10)	
Histic Epipedon (A2)				Loamy Mucky Mir	,	(aveant MI	BA 1)	Red Parent Material (TF2)	
☑ Black Histic (A3) ☑ Hydrogen Sulfide (A4)						(except ivit	-NA 1)	☐ Very Shallow Dark Surface (TF1	2)
Depleted Below Dark Surfa	aco (A11)			Loamy Gleyed Ma Depleted Matrix (I				Other (Explain in Remarks)	
Thick Dark Surface (A12)	ice (ATT)			Redox Dark Surfa					
Sandy Mucky Mineral (S1)				Depleted Dark Su	. ,			<sup>3</sup> Indicators of hydrophytic vegetation	n and wetland
Sandy Gleyed Matrix (S4)				Redox Depressio	` '	,		hydrology must be present, unless disturbed or problematic.	
Salidy Gleyed Matrix (34)				Nedox Deplessio	115 (1 0)				
Restrictive Layer (if	observed)	:							
Type:								Hydric Soil Present? Ye	s X No
Depth (inches):								riyane con resent.	3 X 110
Wetland Hydrology Indic Primary Indicators (minimu  Surface Water (A1)		equire	ed; che	eck all that apply		s (B9) (exc	ent MIRA	Secondary Indicators (minim	
✓ High Water Table (A2)				1, 2, 4A and		3 (DO) (CXC	opt WEIV	Water-Stained Leaves (B 4A, and 4B)	9) (MLRA 1, 2,
Saturation (A3)				Salt Crust (	B11)			Drainage Patterns (B10)	
Water Marks (B1)				Aquatic Inve	ertebrates	(B13)		Dry-Season Water Table	(C2)
Sediment Deposits (B2)				✓ Hydrogen S	ulfide Odo	or (C1)		Saturation Visible on Aeri	
Drift Deposits (B3)				Oxidized Rh	nizosphere	es along Li	ving Roots (	(C3) Geomorphic Position (D2	•
Algal Mat or Crust (B4)				Presence of	f Reduced	I Iron (C4)		Shallow Aquitard (D3)	,
Iron Deposits (B5)				Recent Iron	Reduction	n in Tilled S	Soils (C6)	✓ FAC-Neutral Test (D5)	
Surface Soil Cracks (B6)				Stunted or S	Stressed F	Plants (D1)	(LRR A)	Paised Ant Mounds (D6)	(LRR A)
Inundation Visible on Aeria	I Imagery (B7)			Other (Expl	ain in Rem	narks)		Frost-Heave Hummocks	,
Sparsely Vegetated Conca	ve Surface (B8	3)							,
Field Observations:									
Surface Water Present?	Yes	Х	No	Depth	(inches):		6		
Water Table Present?	Yes	Х	No	Depth	(inches):		0		
Saturation Present?	Yes	X	No	Depth	(inches):		0	Wetland Hydrology Present?	Yes X No
(includes capillary fringe) Describe Recorded Data (streat	m dallac moni				zuo mopeti	money, II d'	vullable.		

Project/Site: Boardman Creek City/County: Clackamas Couy Sampling Date: 6/24/2016  Applicant/Owner: OLSD State: OR Sampling Point: SP8  Investigators: Irina Lapina Jennifer Maze Section, Township, Range S 18 T 2S R 2E  Inform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope(%)  Subregion (LRR): A Lat: 45.394198 Long: -122.611585 Datum: NAD83  Soil Map Unit Name: Cove silty clay loam NWI Classification: PEM1C  Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)	0
Investigators: Irina Lapina  Jennifer Maze  Section, Township, Range S 18  T 2S  R 2E  pform (hillslope, terrace, etc.):  Floodplain  Lat: 45.394198  Local Relief (concave, convex, none):  Concave  Slope(%)  Datum: NAD83  Soil Map Unit Name:  Cove silty clay loam  NWI Classification:  PEM1C	0
pform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope(%) Subregion (LRR): A Lat: 45.394198 Long: -122.611585 Datum: NAD83  Soil Map Unit Name: Cove silty clay loam NWI Classification: PEM1C	0
Soil Map Unit Name: Cove silty clay loam  Lat: 45.394198  Long: -122.611585  Datum: NAD83  NWI Classification: PEM1C	0
Soil Map Unit Name: Cove silty clay loam NWI Classification: PEM1C	
, and the same same same same same same same sam	
Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No	
Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features,	etc.
Hydrophytic Vegetation Present? Yes X No	
Hydric Soil Present? Yes X No Is the Sampled Area	
Wetland Hydrology Present? Yes X No within a Wetland? Yes X No	
Remarks: Cloudy, 56-67 deg F, 0.3in precip.	
VEGETATION Use scientific names of plants.  Absolute	
Tree Stratum  Species  Status  Dominance Test Worksheet:  Number of Dominant Species	
Shrub Stratum (Plot size: 30 Ft )  Shrub Stratum (Plot size: 30 Ft )	(A)
Posa woodsii 60 V FACU	
Spiraea douglasii 30 Y FACW Species Across all Strata: 5	(B)
Crataegus monogyna 25 Y FAC	, ,
115 =Total Cover Percent of Dominant Species 60.0 That Are OBL, FACW, or FAC:	6 (A/B
Herb Stratum   (Plot size: 6 Ft)	
Phalaris arundinacea 5 Y FACW Prevalence Index Worksheet:	
5 =Total Cover Total % Cover of: Multiply by	
Vine Stratum (Plot size: 30 Ft )	
Rubus armeniacus 7 Y FACU FACW species 33 X 2 = 7	
FAC species 25 x 3 = 7	
FACU species $67 \times 4 = 26$	3
UPL species 0 x 5 = 0	
Column Totals: 127 (A) 413	(B)
Prevalence Index = B/A= 3.25	
Hydrophytic Vegetation Indicators:	
Rapid Test for Hydrophytic Vegetation	
X Dominance Test > 50%	
Prevalence Index ≤ 3.0	
Morphological Adaptations (Provide su data in Remarks or on a separate shee	
Problematic Hydrophytic Vegetation (I	xplain)
Indicators of hydric soil and wetland hydro must be present, unless disturbed or probl	
## Hydrophytic  We Bare Ground in Herb Stratum <1   Hydrophytic  Vegetation Present? Yes X No	
arks: (Include photo numbers here or on a separate sheet.)	

(inches)	Depth Matrix inches) Color (moist)				Redox Features					Remarks		
	Color	(moist)	%		Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture		Ren	narks
0 to 13	10YR	2/1	100						LOAM		A - Loam mucky	, black and
13 to 15	10YR	2/1	95		7.5YR 3/4	5		M	LOAM			
¹Type: C=Cond	centration, [	D=Depletion,	RM=R	educe	ed Martix, CS=Co	overed or	Coated S	Sand Gra	ins. <sup>2</sup> Location: F	L=Pore Lining,	M=Matrix	e
Hydric Soil In	ndicators:								Indicators for I	roblematic H	ydric Soil	s: <sup>3</sup>
Histosol (A1	)				Sandy Redox (S5	5)			2 cm Muck (A	10)		
Histic Epipe	don (A2)				Stripped Matrix (\$	36)			Red Parent N	•		
Black Histic	(A3)				Loamy Mucky Mi	neral (F1) (	except MI	.RA 1)		` ′	-10)	
✓ Hydrogen St	ulfide (A4)				Loamy Gleyed M	atrix (F2)				Dark Surface (TF n in Remarks)	- 12)	
Depleted Be	elow Dark Sui	face (A11)			Depleted Matrix (	F3)			Other (Explai	i iii Neiliaiks)		
Thick Dark S	rk Surface (A12)				Redox Dark Surfa	ace (F6)			<sup>3</sup> Indicators of hy			don d
Sandy Muck	ndy Mucky Mineral (S1)				Depleted Dark St	urface (F7)			hydrology must	aropnytic vegetat be present.	ion and wei	land
Sandy Gleye	ed Matrix (S4	)			Redox Depressio	ns (F8)				d or problematic.		
Restrictiv	Restrictive Layer (if observ		d):									
Туре:			,						Hydria Sail Bross	n+2 V	'00 V	No
Depth (inche	Depth (inches):								Hydric Soil Prese	nt? Y	es X	No
Remarks:												
Wetland Had	rology Indi											
-	tore (minim		require	ad: ch	ack all that annly	<i>(</i> )						
Primary Indica			require	ed; ch	eck all that apply		(B0) (ovo	ont MI DA	•	ndicators (mini		
Primary Indica  Surface Wat	ter (A1)		require	ed; ch	eck all that apply  Water-Stair 1, 2, 4A and	ned Leaves	(B9) (exc	ept MLRA	√ Water-	Stained Leaves (		
Primary Indica  Surface Wat  High Water	ter (A1) Table (A2)		require	ed; ch	Water-Stair	ned Leaves d 4B)	(B9) (exc	ept MLRA	Water- 4A, an	Stained Leaves ( d 4B)	B9) (MLRA	
Primary Indica  Surface Wat  High Water  Saturation (A	ter (A1) Table (A2) A3)		require	ed; ch	Water-Stair 1, 2, 4A and Salt Crust (	ned Leaves d 4B) B11)		ept MLRA	Water- 4A, an	Stained Leaves (	B9) (MLRA	
Primary Indica  Surface Wat  High Water  Saturation (A)  Water Marks	ter (A1) Table (A2) A3) s (B1)		require	ed; ch	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve	ned Leaves d 4B) B11) ertebrates (	B13)	ept MLRA	Water- 4A, an	Stained Leaves ( d 4B)	B9) (MLRA )	
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De	ter (A1) Table (A2) A3) s (B1) eposits (B2)		require	ed; ch	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve	ned Leaves d 4B) B11) ertebrates (l ulfide Odor	B13) (C1)		Water- 4A, an  ✓ Draina  Dry-Se  Satura	Stained Leaves (d 4B) ge Patterns (B10 ason Water Tabl	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)		require	ed; ch	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve	ned Leaves d 4B) B11) ertebrates (l ulfide Odor nizospheres	B13) (C1) s along Liv		Water- 4A, an  ✓ Draina  Dry-Se  Satura	Stained Leaves ( d 4B) ge Patterns (B10 ason Water Tabl	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4)		s require	ed; ch	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI	ned Leaves d 4B) B11) ertebrates (l ulfide Odor nizospheres f Reduced l	B13) (C1) s along Liv Iron (C4)	ving Roots	Water- 4A, an  ✓ Draina  □ Dry-Se  □ Satura  ✓ Geome	Stained Leaves (d 4B) ge Patterns (B10 ason Water Tabl	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4)		s require	ed; ch	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI  ✓ Presence o Recent Iron	ned Leaves d 4B) B11) ertebrates ( ulfide Odor nizospheres f Reduced I Reduction	B13) (C1) s along Live lron (C4) in Tilled S	ving Roots Soils (C6)	Water- 4A, an  ✓ Draina  Dry-Se  Satura  ✓ Geome ✓ Shallo	Stained Leaves ( d 4B) ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6)	um of one is		ed; ch	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI  ✓ Presence o Recent Iron Stunted or	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed PI	B13) (C1) s along Liver (C4) in Tilled Seants (D1)	ving Roots Soils (C6)	Water- 4A, an  ✓ Draina  Dry-Se  Satura  ✓ Geome ✓ Shallo  ✓ FAC-N	Stained Leaves (d 4B) ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D v Aquitard (D3)	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6)			ed; ch	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI  ✓ Presence o Recent Iron	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed PI	B13) (C1) s along Liver (C4) in Tilled Seants (D1)	ving Roots Soils (C6)	Water-4A, an  Praina  Dry-Se  Satura  Geom  Shallo  FAC-N  Paised	Stained Leaves (d. 4B) ge Patterns (B10 ason Water Tabl tion Visible on Ae priphic Position (D v Aquitard (D3) eutral Test (D5)	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation V Sparsely Ve	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) /isible on Aer	um of one is	7)	ed; ch	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI  ✓ Presence o Recent Iron Stunted or	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed PI	B13) (C1) s along Liver (C4) in Tilled Seants (D1)	ving Roots Soils (C6)	Water-4A, an  Praina  Dry-Se  Satura  Geom  Shallo  FAC-N  Paised	Stained Leaves (d. 48)  ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D v Aquitard (D3) eutral Test (D5) Ant Mounds (D6	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation V Sparsely Ve	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) /isible on Aer	um of one is	7)	ed; ch	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI  ✓ Presence o Recent Iron Stunted or	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed PI	B13) (C1) s along Liver (C4) in Tilled Seants (D1)	ving Roots Soils (C6)	Water-4A, an  Praina  Dry-Se  Satura  Geom  Shallo  FAC-N  Paised	Stained Leaves (d. 48) ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D v Aquitard (D3) eutral Test (D5) Ant Mounds (D6	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation V Sparsely Ve	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c rust (B4) ts (B5) I Cracks (B6) //sible on Aer getated Conc	um of one is	.7) (B8)	No	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed PI	B13) (C1) s along Liver (C4) in Tilled Seants (D1)	ving Roots Soils (C6)	Water-4A, an  Praina  Dry-Se  Satura  Geom  Shallo  FAC-N  Paised	Stained Leaves (d. 48) ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D v Aquitard (D3) eutral Test (D5) Ant Mounds (D6	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation V Sparsely Ve	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) //isible on Aer egetated Concentrions: r Present?	um of one is ial Imagery (B ave Surface (	·7) B8)		Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI ✓ Presence o Recent Iron Stunted or S Other (Expl	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed Pl ain in Rema	B13) (C1) s along Liver (C4) in Tilled Seants (D1)	ving Roots Soils (C6)	Water-4A, an  ✓ Draina  Dry-Se  Satura  ✓ Geome  ✓ Shallo  ✓ FAC-N  Paisec  Frost-H	Stained Leaves (d 4B) ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D v Aquitard (D3) eutral Test (D5) Ant Mounds (D6 deave Hummocks	B9) (MLRA ) e (C2) erial Imag.(C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation V Sparsely Ve Field Observa	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) /isible on Aer egetated Concentrons: r Present?	um of one is ial Imagery (B cave Surface ( Yes	7) B8)	No	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI ✓ Presence o Recent Iron Stunted or S Other (Expl	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed PI ain in Rema	B13) (C1) s along Liver (C4) in Tilled Seants (D1)	ving Roots Soils (C6) (LRR A)	Water-4A, an  Praina  Dry-Se  Satura  Geom  Shallo  FAC-N  Paised	Stained Leaves (d 4B) ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D v Aquitard (D3) eutral Test (D5) Ant Mounds (D6 deave Hummocks	B9) (MLRA ) e (C2) erial Imag.(C	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation V Sparsely Ve Field Observa Surface Water Water Table P Saturation Pre (includes capil	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) /isible on Aer egetated Concentrions: r Present? essent? llary fringe)	um of one is ial Imagery (B cave Surface ( Yes Yes Yes	7) B8) X X	No No No	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI ✓ Presence o Recent Iron Stunted or S Other (Expl	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed PI ain in Rema (inches): (inches):	B13) (C1) s along Liv lron (C4) in Tilled S ants (D1)	ving Roots Soils (C6) (LRR A) 7 0	Water-4A, an  ✓ Draina  Dry-Se  Satura  ✓ Geome  ✓ Shallo  ✓ FAC-N  Paisec  Frost-H	Stained Leaves (d 4B) ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D v Aquitard (D3) eutral Test (D5) Ant Mounds (D6 deave Hummocks	B9) (MLRA ) e (C2) erial Imag.(C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation V Sparsely Ve Field Observa Surface Water Water Table P Saturation Pre (includes capil	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) /isible on Aer egetated Concentrions: r Present? essent? llary fringe)	um of one is ial Imagery (B cave Surface ( Yes Yes Yes	7) B8) X X	No No No	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI ✓ Presence o Recent Iron Stunted or S Other (Expl	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed PI ain in Rema (inches): (inches):	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1)	ving Roots Soils (C6) (LRR A) 7 0	Water-4A, an  ✓ Draina  Dry-Se  Satura  ✓ Geome  ✓ Shallo  ✓ FAC-N  Paisec  Frost-H	Stained Leaves (d 4B) ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D v Aquitard (D3) eutral Test (D5) Ant Mounds (D6 deave Hummocks	B9) (MLRA ) e (C2) erial Imag.(C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	1, 2,
Primary Indica Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation V Sparsely Ve Field Observa Surface Water Water Table P Saturation Pre (includes capil	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) /isible on Aer egetated Concentrions: r Present? essent? llary fringe)	um of one is ial Imagery (B cave Surface ( Yes Yes Yes	7) B8) X X	No No No	Water-Stair 1, 2, 4A and Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI ✓ Presence o Recent Iron Stunted or S Other (Expl	ned Leaves d 4B) B11) ertebrates (i ulfide Odor nizospheres f Reduced I Reduction Stressed PI ain in Rema (inches): (inches):	B13) (C1) s along Liv Iron (C4) in Tilled S ants (D1)	ving Roots Soils (C6) (LRR A) 7 0	Water-4A, an  ✓ Draina  Dry-Se  Satura  ✓ Geome  ✓ Shallo  ✓ FAC-N  Paisec  Frost-H	Stained Leaves (d 4B) ge Patterns (B10 ason Water Tabl tion Visible on Ae orphic Position (D v Aquitard (D3) eutral Test (D5) Ant Mounds (D6 deave Hummocks	B9) (MLRA ) e (C2) erial Imag.(C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	1, 2,

Submeglon (LRR): A	WETLAND DETERMIN/ "'ON DAT	A FORM -	Western M	ountains	, ' lleys, an	d Coas	t Rec	gion		
Investigators   Irina Lapina   Jennifer Maze   Section, Township, Range S 18   T 28   R 2E	Project/Site: Boardman Creek	City/Coun	nty: C	lackamas Co	Dlury	Sampling	Date:	6/24/2	016	
	Applicant/Owner: OLSD			State	: OR	Sampling	Point:	SP9		
Soil Map Unit Name	Investigators: Irina Lapina Jennifer M	laze		Section, Tov	vnship, Range	S 18	T 2S	R	2E	
Soil Map Unit Name: Cove sitly clay loam  Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)  Are Vegetation , Soil , Hydrology , significantly disturbed?  Are "Normal Circumstances" present? Yes X No  Are Vegetation , Soil , Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Is the Sampled Area within a Wetland Pydrology Present? Yes No X within a Wetland?  Permarks:  Cloudy, 56-67 deg F, 0.3 in precip.  VEGETATION— Use scientific names of plants.  Tree Stratum (Plot size: 30 Ft ) Fraxinus latifolia  Phalains arundinacea  Equisetum arvense  (Plot size: 30 Ft )  Phalains arundinacea  Equisetum arvense  (Plot size: 30 Ft )  Rubus armeniacus  (Plot size: 30 Ft )  Rubus armeniacus  Remarks:  Total Cover  Total Cover  Total Cover Total Mumber of Dominant Species That Are OBL, FACW, or FAC: 2 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 3 (BR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (AR		L	ocal Relief (co	oncave, conv	/ex, none): No	ne		Slop	pe(%) 2	2% to w
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If No, explain in Remarks)  Are Vegetation	oubregion (LRR): A Lat: 45	.394624	Long	: -122.6119	928	Datu	um: N	AD83		
Are Vegetation , Soil , Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No Are Vegetation , Soil , Hydrology , naturally problematic? ((If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes No X Within a Wetland? Yes No X Yes No X Within a Wetland? Yes No X Yes	Soil Map Unit Name: Cove silty clay loam				NWI Classificat	tion: No	ne			
Are Vegetation Soil Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No Is the Sampled Area within a Wetland? Yes No X  Wetland Hydrology Present? Yes No X  Remarks: Cloudy, 56-67 deg F, 0.3in precip.  VEGETATION - Use scientific names of plants. Absolute Yes Species Status Cloudy, 56-67 deg F, 0.3in precip.  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  VEGETATION - Use scientific names of plants. Absolute Yes No X  Number of Dominant Species That Are OBL, FACW, or FAC: Q (A Yes No X Yes No X Yes No X  VIOLATION - Total Number of Dominant Species That Are OBL, FACW, or FAC: Q (A Yes No X Yes No	Are climatic / hydrologic conditions on the site typical for this tin	ne of year?	Yes X	No	(If No, expla	ain in Ren	narks)			
SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?	Are Vegetation , Soil , Hydrology , significa	ntly disturbed?	?	Are "Normal	Circumstances'	present?	Ye	s X	No	
SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No Is the Sampled Area within a Wetland? Yes No X  Wetland Hydrology Present? Yes No X  Remarks: Cloudy, 56-67 deg F, 0.3in precip.  VEGETATION— Use scientific names of plants.  Tree Stratum (Plot size: 30 Ft ) Fraxinus latifolia 75 Y FACW  Shrub Stratum Herb Stratum (Plot size: 6 Ft ) Phalairis arundinacea Equisetum arvense (Plot size: 30 Ft ) Rubus armeniacus (Plot size: 30 F	Are Vegetation , Soil , Hydrology , naturally	problematic?		(If needed,	explain any ans	swers in R	Remark	s.)		
Hydrophytic Vegetation Present?   Yes   X   No   No   Is the Sampled Area   Weldand Hydrology Present?   Yes   X   No   X   Weldand Hydrology Present?   Yes   No   X   Yes   No   Xes   Yes   Yes   No   Xes   Yes   Yes   No   Xes   Yes   Yes   No   Xes   Yes   Yes   Yes   Yes   Yes   Yes   No   Xes   Yes	SUMMARY OF FINDINGS - Attach a site map s	howing sa	mplina poi						res. e	tc.
Wetland Hydrology Present?         Yes         No         X         within a Wetland?         Yes         No         X           Remarks: Cloudy, 56-67 deg F, 0.3in precip.         VEGETATION Use scientific names of plants.         Absolute % Cover Species         Dominant Species         Dominant Species         Number of Dominant Species That Are OBL, FACW, or FAC:         2         (A           Shrub Stratum         Herb Stratum (Plot size: 6 Ft )         75         =Total Cover Total Number of Dominant Species That Are OBL, FACW, or FAC:         3         (B           Phalaris arundinacea         10         Y         FACW         Percent of Dominant Species Across all Strata:         3         (B           Vine Stratum         (Plot size: 30 Ft )         3         N         FAC         Percent of Dominant Species That Are OBL, FACW, or FAC:         66.7%         (A/           Vine Stratum         (Plot size: 30 Ft )         3         N         FAC         Prevalence Index Worksheet:         Total % Cover of:         Multiply by:         OBL species         0         x 1 = 0         FACW species         85         x 2 = 170         FAC species         3         x 3 = 9         FACU species         80         x 4 = 320         FACU species         80         x 4 = 320         X 4 = 320         X 4 = 320         X 4 = 320		<b>.</b>								
Remarks: Cloudy, 56-67 deg F, 0.3in precip.  VEGETATION— Use scientific names of plants.  Tree Stratum (Plot size: 30 Ft ) Fraxinus latifolia 75 Y FACW  Shrub Stratum (Plot size: 6 Ft ) Phalaris arundinacea 10 Y FACW Equisetum arvense 3 N FAC  Tine Stratum (Plot size: 30 Ft ) Phalaris arundinacea 10 Y FACW  Total Number of Dominant Species That Are OBL, FACW, or FAC: 2 (ABC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 2 (ABC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 2 (ABC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 3 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or FAC: 4 (BBC)  Total Number of Dominant Species That Are OBL, FACW, or F	Hydric Soil Present? Yes X No	Is the S	Sampled Area							
VEGETATION— Use scientific names of plants.    Tree Stratum	Wetland Hydrology Present? Yes No X	within a	a Wetland?		Yes	No	Х			
Tree Stratum (Plot size: 30 Ft ) Fraxinus latifolia 75 Y FACW  Shrub Stratum (Plot size: 6 Ft ) Phalaris arundinacea 10 Y FACW Equisetum arvense 13 N FAC  Vine Stratum (Plot size: 30 Ft ) Rubus armeniacus (Plot size: 30 Ft ) Rubus ar		Absolute	Danisant	la dia stan						
Total Number of Dominant Species   That Are OBL, FACW, or FAC:   2   (Are of Dominant Species   That Are OBL, FACW, or FAC:   2   (Are of Dominant Species   That Are OBL, FACW, or FAC:   2   (Are of Dominant Species   Total Number of Dominant Species   Across all Strata:   3   (Break of Dominant Species   Total Number of Dominant Species   Across all Strata:   3   (Break of Dominant Species   Total Number of Dominant Species   Across all Strata:   3   (Break of Dominant Species   Total Number of Dominant Species   Across all Strata:   3   (Break of Dominant Species   Total Number of Dominant Species   Total Number of Dominant Species   Across all Strata:   3   (Break of Dominant Species   Total Number of Dominant Species   Total Number of Dominant Species   Across all Strata:   3   (Break of Dominant Species   Total Number of Dominant Species   Total Number of Dominant Species   Across all Strata:   3   (Break of Dominant Species   Across all Strata:   3   (Break of Dominant Species   Total Number of Dominant Species   Total Number of Dominant Species   Across all Strata:   3   (Break of Dominant Species   Ac	<b>VEGETATION</b> — Use scientific names of plants.				Dominance '	Test Wor	ksheet	t:		
Total Number of Dominant Species Across all Strata:   3 (Bigned Stratum   Phalaris arundinacea   10   Y   FACW   FACW   Percent of Dominant Species That Are OBL, FACW, or FAC:   66.7% (A/FACW)   FACW   FACW   Percent of Dominant Species That Are OBL, FACW, or FAC:   66.7% (A/FACW)   FACW   FAC	<u>Tree Stratum</u> (Plot size: <u>30 Ft</u> )				Number of D	ominant S	Species	S		
Shrub Stratum	Fraxinus latifolia		Y	FACW	That Are OB	L, FACW,	or FA	C:	2	(A)
Herb Stratum		75	=Total Cover		Total Numbe	r of Domir	nant			
Phalaris arundinacea   10	Shrub Stratum				Species Acro	ss all Stra	ata:		3	(B)
Equisetum arvense	Herb Stratum (Plot size: 6 Ft )				Developt of De	amainant C				
13									66.7%	(A/B
Vine Stratum         (Plot size: 30 Ft )         80 Y FACU         FACU         FACW species         0 x 1 = 0         Multiply by:           80 = Total Cover         FACW species         85 x 2 = 170         FACW species         3 x 3 = 9         FACU species         80 x 4 = 320	Equisetum arvense		N	FAC	Prevalence I	ndex Wo	rkshed	of•		
Plot size: 30 Ft	V Marchine Ministry (Annual Control	13	=Total Cover				INSTIC		inly by:	
Rubus armeniacus    80	Vine Stratum (Plot size: 30 Ft )						0			
FAC species 3 x 3 = 9  FACU species 80 x 4 = 320	Rubus armeniacus	80	Y	FACU	· ·		85	x 2 =	170	
FACU species $80 \times 4 = 320$		80	=Total Cover		· ·		3			
1 ACO Species					·					
U = U = U						es	0	x 5 =		
Of L species					'	ls:				(B)
Prevalence Index = B/A= 2.97					Prevale	ence Inde	x = <i>B/A</i>	<b>!</b> =	2.97	
Hydrophytic Vegetation Indicators:					Hydrophytic '	Vegetatio	n Indi	cators:		
Rapid Test for Hydrophytic Vegetation					Rapid Te	st for Hyd	drophyt	ic Vege	tation	
X Dominance Test > 50%					X Dominan	ce Test >	50%			
X Prevalence Index ≤ 3.0					X Prevalen	ce Index :	≤ 3.0			
Morphological Adaptations (Provide supportin data in Remarks or on a separate sheet)										
Problematic Hydrophytic Vegetation (Explain								•	,	
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.										
Hydrophytic % Bare Ground in Herb Stratum 0  Vegetation Present? Yes X No	% Bare Ground in Herb Stratum 0						Yes	×	No	

Profile Descripti	Matrix			Redox F	eatures						
Depth (inches)	Color (moist)	%	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture		Rema	arks	
to	7		5YR 4/8	30	C	M	CLAY LOAM				
	10YR 2 / 2	100	0117 110				CLAY LOAM	Ai -	Many i	roots	
	10YR 2 / 1	10	10YR 4/1	60		·	CLAY LOAM	Bw -	- Comp	pacted	
	ntration, D=Depletion						ns. <sup>2</sup> Location: PL=Pore Lir	ning, M=M	latrix.		
Induin Cail Indi											-
Thick Dark Sur Sandy Mucky M Sandy Gleyed Restrictive Type:	n (A2) 3) ide (A4) w Dark Surface (A11) rface (A12) Mineral (S1) Matrix (S4)  Layer (if observe	ed):	Sandy Redox (S Stripped Matrix ( Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	(S6) ineral (F1) Matrix (F2) (F3) face (F6) curface (F7)		LRA 1)	Indicators for Problemation  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surfact  Other (Explain in Remark)  Indicators of hydrophytic vehydrology must be present, unless disturbed or problem.  Hydric Soil Present?	e (TF12) s) getation an			
hovel refusal at 16	6" due to soil compactic	n and presen	ice of root systems.								
marks: hovel refusal at 16 YDROLOGY Vetland Hydro	"due to soil compaction logy Indicators: rs (minimum of one i		check all that appl	•	(D0) (		Secondary Indicators (	(minimum	of two	requir	ed)
Primary Indicato  Surface Water	due to soil compactions:  logy Indicators:  rs (minimum of one in (A1)		check all that appl	ned Leave	s (B9) (exc	cept MLRA	Water-Stained Lea				ed)
yDROLOGY Vetland Hydro Primary Indicato  Surface Water High Water Tai	logy Indicators: (A1) ble (A2)		check all that appl	ined Leave nd 4B)	s (B9) (exc	cept MLRA	Water-Stained Lea 4A, and 4B)	aves (B9) (N			ed)
YDROLOGY Vetland Hydro Primary Indicato  Surface Water High Water Tal  Saturation (A3)	logy Indicators: rs (minimum of one i (A1) ble (A2)		check all that appl  Water-Stai 1, 2, 4A ar  Salt Crust	ined Leave nd 4B)		cept MLRA	Water-Stained Lea 4A, and 4B)  Drainage Patterns	(B10)	ILRA 1		ed∫
YDROLOGY Vetland Hydro Primary Indicato  Surface Water High Water Tai	logy Indicators: rs (minimum of one i (A1) ble (A2) ) B1)		check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv	ined Leaves nd 4B) (B11) vertebrates Sulfide Odd	(B13) r (C1)		Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible 6	(B10) (Table (C2)	ILRA 1	, 2,	ed)
YDROLOGY  Vetland Hydro Primary Indicato  Surface Water High Water Tal  Saturation (A3)  Water Marks (F	logy Indicators: Ins (minimum of one in (A1) Institute (A2) Institute (B2) Institute (B2) Institute (B2) Institute (B2) Institute (B2)		check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S	ined Leaves ad 4B) (B11) vertebrates Sulfide Odo Rhizosphere	(B13) r (C1) es along Li	cept MLRA	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible 6	(B10) (Table (C2)	ILRA 1	, 2,	ed
Marks: hovel refusal at 16  YDROLOGY  Vetland Hydro  Primary Indicato  Surface Water  High Water Tal  Saturation (A3)  Water Marks (F	logy Indicators: rs (minimum of one i (A1) ble (A2) ) B1) osits (B2) (B3)		check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen 3 Oxidized F	ined Leaves ad 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced	(B13) r (C1) es along Li Iron (C4)	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible (C3)	(B10) (B10) Table (C2) on Aerial Im	ILRA 1	, 2,	ed
YDROLOGY Vetland Hydro Primary Indicato Surface Water High Water Tal Saturation (A3) Water Marks (I Sediment Deposits (	logy Indicators: In (A1) In (B1) In (B2) In (B3) In (B4) In (B		check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized F Presence	ined Leaves ad 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction	(B13) or (C1) os along Li Iron (C4) on in Tilled S	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Position	(B10) Table (C2) on Aerial Im on (D2)	ILRA 1	, 2,	ed
Primarks:  Proposition of the pr	logy Indicators: urs (minimum of one i (A1) ble (A2) ) B1) osits (B2) (B3) rust (B4)		check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized F Presence	ined Leaves ad 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced	(B13) or (C1) os along Li Iron (C4) on in Tilled S	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Positi	(B10) (B10) Table (C2) on Aerial Im on (D2) D3) (D5)	ILRA 1	, 2,	ed
Water Marks (Formula Marks) Wetland Hydro Primary Indicato Surface Water High Water Tal Saturation (A3) Water Marks (Formula Marks) Sediment Deposits (Formula Marks) Iron Deposits (Formula Marks) Iron Deposits (Formula Marks) Iron Deposits (Formula Marks) Inundation Visi	logy Indicators: In (A1) In (B1) In (B2) In (B3) In (B4) In (B5) In (B6) In (B	s required;	check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized F Presence G Recent Iron	ined Leaves ad 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction	(B13) r (C1) ss along Li Iron (C4) n in Tilled (	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Positic  Shallow Aquitard (I	(B10) (B10) Table (C2) on Aerial Im on (D2) D3) (D5) s (D6) (LRF	ILRA 1	, 2,	ed
Water Marks (F. Sediment Deposits (F. Algal Mat or Cr. Iron Deposits (F. Surface Soil Cr. Iron Discount Property (F. Surface Soil Cr. Iron Deposits (F. Surface Soil Cr. Iron Discount Property (F. Surface Soil Cr. Iron Deposits	logy Indicators: In (A1) In (B1) In (B2) In (B3) In (B4) In (B5) In (B6) In (B	s required;	check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized F Presence G Recent Iron	ined Leaves and 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stressed F	(B13) r (C1) ss along Li Iron (C4) n in Tilled (	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Positic Shallow Aquitard (I)  FAC-Neutral Test (I)  Paised Ant Mound	(B10) (B10) Table (C2) on Aerial Im on (D2) D3) (D5) s (D6) (LRF	ILRA 1	, 2,	ed
YDROLOGY  Vetland Hydro Primary Indicato Surface Water High Water Tal Saturation (A3) Water Marks (B Sediment Depo Drift Deposits ( Algal Mat or Cr Iron Deposits ( Surface Soil Cr Inundation Visi Sparsely Veger	logy Indicators: Irs (minimum of one i (A1) ble (A2) ) B1) osits (B2) (B3) rust (B4) IB5) racks (B6) ible on Aerial Imagery (I tated Concave Surface	s required;	check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized F Presence G Recent Iron	ined Leaves and 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stressed F	(B13) r (C1) s along Li Iron (C4) n in Tilled (	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Positic Shallow Aquitard (I)  FAC-Neutral Test (I)  Paised Ant Mound	(B10) (B10) Table (C2) on Aerial Im on (D2) D3) (D5) s (D6) (LRF	ILRA 1	, 2,	ed
Wetland Hydro Primary Indicato Surface Water High Water Tal Saturation (A3) Water Marks (I Sediment Depo Drift Deposits ( Algal Mat or Cr Iron Deposits ( Surface Soil Cr Inundation Visi	logy Indicators: Ins (minimum of one in (A1) Institute (A2) Institute (B2) Institute (B3) Institute (B4) Institute (B4) Institute (B6) Instit	s required;	check all that appl Water-Stai 1, 2, 4A ar Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence Recent Iroi Stunted or	ined Leaves and 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stressed F	(B13) r (C1) s along Li Iron (C4) n in Tilled (	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Positic Shallow Aquitard (I)  FAC-Neutral Test (I)  Paised Ant Mound	(B10) (B10) Table (C2) on Aerial Im on (D2) D3) (D5) s (D6) (LRF	ILRA 1	, 2,	∌d'j
Primarks: Shovel refusal at 16  YDROLOGY  Vetland Hydro Primary Indicato Surface Water High Water Tal Saturation (A3) Water Marks (F Sediment Deposits (F Algal Mat or Cr Iron Deposits (F Surface Soil Cr Inundation Visi Sparsely Veger Surface Water P Water Table Pres	logy Indicators: Instruction (A1) Instruction (B1) Instruction (B2) Instruction (B3) Instruction (B4) Instruction (B6) Instru	s required; 37) (B8)	check all that appl  Water-Stai 1, 2, 4A ar  Salt Crust  Aquatic Inv  Hydrogen S  Oxidized F  Presence C  Recent Iron  Stunted or  Other (Exp	ined Leaves ad 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stressed F stain in Rem	(B13) r (C1) s along Li Iron (C4) n in Tilled (	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (I	wes (B9) (M (B10) Table (C2) on Aerial Im on (D2) D3) (D5) s (D6) (LRR mocks (D7)	nag (CS	, 2,	
YDROLOGY  Vetland Hydro Primary Indicato Surface Water High Water Tal Saturation (A3) Water Marks (I Sediment Depo Drift Deposits ( Algal Mat or Cr Iron Deposits ( Surface Soil Cr Inundation Visi Sparsely Veger Surface Water P	logy Indicators: Instruction (A1) Instruction (B1) Instruction (B2) Instruction (B3) Instruction (B4) Instruction (B6) Instru	s required; 37) (B8)	check all that appl  Water-Stai 1, 2, 4A ar  Salt Crust  Aquatic Inv  Hydrogen S  Oxidized F  Presence of Recent Iron  Stunted or  Other (Exp	ined Leaves ad 4B) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stressed F Islain in Rem in (inches):	(B13) r (C1) s along Li Iron (C4) n in Tilled (	ving Roots	Water-Stained Lea 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Positic Shallow Aquitard (I)  FAC-Neutral Test (I)  Paised Ant Mound	wes (B9) (M (B10) Table (C2) on Aerial Im on (D2) D3) (D5) s (D6) (LRR mocks (D7)	ILRA 1	, 2,	
Wetland Hydro Primary Indicato Surface Water High Water Tal Saturation (A3) Water Marks (I Sediment Deposits ( Algal Mat or Cr Iron Deposits ( Surface Soil Cr Inundation Visi Sparsely Veger Surface Water P Water Table Pres Saturation Prese (includes capillar	logy Indicators: Ins (minimum of one in (A1) Institute (A2) Instit	s required;  37) (88)  8 N	check all that appl  Water-Stai 1, 2, 4A ar  Salt Crust  Aquatic Inv  Hydrogen S  Oxidized F  Presence C  Recent Iron  Stunted or  Other (Exp	ined Leaves ad 48) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stressed F plain in Rem in (inches): in (inches): in (inches):	(B13)  r (C1)  es along Li  Iron (C4)  n in Tilled s  Plants (D1)  narks)	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (I	wes (B9) (M (B10) Table (C2) on Aerial Im on (D2) D3) (D5) s (D6) (LRR mocks (D7)	nag (CS	, 2,	
Wetland Hydro Primary Indicato Surface Water High Water Tal Saturation (A3) Water Marks (I Sediment Deposits ( Algal Mat or Cr Iron Deposits ( Surface Soil Cr Inundation Visi Sparsely Veger Surface Water P Water Table Pres Saturation Prese (includes capillar	logy Indicators: res (minimum of one i (A1) ble (A2) ) B1) osits (B2) (B3) rust (B4) B5) racks (B6) ible on Aerial Imagery (I tated Concave Surface ons: resent? Yes	s required;  37) (88)  8 N	check all that appl  Water-Stai 1, 2, 4A ar  Salt Crust  Aquatic Inv  Hydrogen S  Oxidized F  Presence C  Recent Iron  Stunted or  Other (Exp	ined Leaves ad 48) (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stressed F plain in Rem in (inches): in (inches): in (inches):	(B13)  r (C1)  es along Li  Iron (C4)  n in Tilled s  Plants (D1)  narks)	ving Roots Soils (C6)	Water-Stained Lea 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positi Shallow Aquitard (I	wes (B9) (M (B10) Table (C2) on Aerial Im on (D2) D3) (D5) s (D6) (LRR mocks (D7)	nag (CS	, 2,	

WETLAND DETERMINATION DATA	A FORM - V				nd Coas Sampling	_		16	
Project/Site: Boardman Creek	City/Count	y. Ci	ackamas Co				6/24/20	710	
Applicant/Owner: OLSD			State	•	Sampling		SP10	25	
Investigators: Irina Lapina Jennifer Ma				wnship, Range		T 2S	R :		0/ 1
dform (hillslope, terrace, etc.): Floodplain		`	·	vex, none): Co				e(%) 1	% to w
Cuoregion (LRR): A Lat: 45.3	395042	Long:	-122.612			um: NAD	)83		
Soil Map Unit Name: Cove silty clay loam				NWI Classifica					
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes X	No	(If No, expl	ain in Ren	narks)			
Are Vegetation , Soil , Hydrology , significan	tly disturbed?	A	\re "Normal	Circumstances	" present?	Yes	X	No	
Are Vegetation, Soil, Hydrology, naturally	problematic?		(If needed,	explain any an	swers in R	temarks.	)		
SUMMARY OF FINDINGS - Attach a site map sh	owing san	npling poi	nt locatio	ns, transec	ts, impo	ortant	featu	res, et	c.
Hydrophytic Vegetation Present? Yes X No									
Hydric Soil Present? Yes X No		ampled Area							
Wetland Hydrology Present? Yes X No	within a	Wetland?		Yes	X No				
Cloudy, 56-67 deg F, 0,3in precip.	Absolute	Dominant	Indicator						
<b>VEGETATION</b> Use scientific names of plants.	% Cover	Species	Status	Dominance	Test Wor	ksheet:			
Tree Stratum (Plot size: 30 Ft )				Number of E					(4)
Fraxinus latifolia	40	Υ	FACW	That Are OB	sL, FACW,	or FAC:		2	(A)
	40	=Total Cover		Total Numbe	er of Domir	nant			
Shrub Stratum				Species Acro	oss all Stra	ata:		3	(B)
Herb Stratum (Plot size: 6 Ft )				D					
Phalaris arundinacea	80	Y	FACW	Percent of D That Are OB				66.7%	(A/B)
Equisetum arvense	3	N	FAC	Prevalence	Indox Mo	rkehoot			
	83	=Total Cover			Cover of:	rksneet.		nlu hu	
Vine Stratum (Plot size: 30 Ft )						0	x 1 =	ply by: 0	
Rubus armeniacus	20	Υ	FACU	OBL species		120	x 2 =	240	
	20	=Total Cover		FACW speci		3	x 3 =	9	
				FAC species		20	x 4 =	80	
				FACU speci					
				UPL species		0	x 5 =	0	
				Column Tota	ıls:	143	(A)	329	(B)
				Preval	ence Index	x = R/A=		2.30	
				Hydrophytic				2.00	
					est for Hyd			ation	
							vegen	ation	
				X Dominar	nce Test >	50%			
				X Prevaler					
					ogical Ada Remarks o				oorting
				Problem	atic Hydro	phytic Ve	egetati	on (Ex	plain)
				Indicators o must be pre					
% Bare Ground in Herb Stratum 0				Hydroph Vegetation F		Yes	Х	No	
)arks: (Include photo numbers here or on a separate sheet.)									

Profile Descri	ption: (Des	cribe to the	depth	need	ed to document	the indic	cator or	confirm	the absence of Indicators.)	
Depth		Matrix				Redox F		_		
(inches)	Color	r (moist)	%		Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks
0 to 7	10YR	2/1	100	_					CLAY LOAM	Very black matrix
7 to 16	10YR	2/1	93		7.5YR 3/3	7	С	_M_	CLAY LOAM	Very black matrix
¹Type: C=Cond	centration, E	D=Depletion,	RM=Re	duce	ed Martix, CS=Co	vered or	Coated	Sand Gra	ins. <sup>2</sup> Location: PL=Pore Lining	, M=Matrix.
Thick Dark S Sandy Muck Sandy Gley	don (A2) (A3) ulfide (A4) elow Dark Sur Surface (A12) sy Mineral (S <sup>2</sup> ed Matrix (S4)	1)	d):		Sandy Redox (S5 Stripped Matrix (S Loamy Mucky Mir Loamy Gleyed Ma Depleted Matrix (F Redox Dark Surfa Depleted Dark Su Redox Depression	66) heral (F1) ( atrix (F2) F3) here (F6) hrace (F7)		LRA 1)	Indicators for Problematic E  2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dark Surface (T Other (Explain in Remarks)  3 Indicators of hydrophytic vegeta hydrology must be present, unless disturbed or problematic	F12) ation and wetland
HYDROLOG	rology Indi			J1-						
Surface War High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Surface Soil	ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) I Cracks (B6) //sible on Aer	ial Imagery (B cave Surface (	7)	a, en	eck all that apply  Water-Stain 1, 2, 4A and Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron Stunted or S Other (Explain	ed Leaves (4B) (311) (artebrates ( (ulfide Odor (izosphere (Reduced Reduction (Stressed P	(B13) r (C1) s along Li Iron (C4) in Tilled (	ving Roots Soils (C6)		(B9) (MLRA 1, 2, 0) ole (C2) herial Imag (C9) D2)
Field Observa Surface Wate Water Table F Saturation Pre (includes capi Describe Record	r Present? Present? esent? Ilary fringe)	Yes Yes Yes am gauge, mo	X X onitoring	No No No well, a	Depth (	(inches): (inches): (inches): ous inspect	tions), if a	16 10 vailable:	Wetland Hydrology Present?	Yes X No
Remarks: D2 - Within flood	plain									

WETLAND DETERMINATION	'ON DATA	FORM -	Western M	ountains,	Y leys, an	d Coast F	Region		
Project/Site: Boardman Creek		City/Coun	ty: CI	ackamas Co	ou, S	Sampling Dat	te: 6/24/2	2016	
Applicant/Owner: OLSD				State	OR	Sampling Po	int: SP11		
Investigators: Irina Lapina	Jennifer Maz	:e		Section, Tow	vnship, Range	S 18 T	2S R	2E	
. dform (hillslope, terrace, etc.): Terrace		L	ocal Relief (co	ncave, conv	ex, none): No	ne	Slo	pe(%) 2	2% to w
cubregion (LRR): A	Lat: 45.39	95042	Long	: -122.6128	313	Datum:	NAD83		
Soil Map Unit Name: Cove silty clay loam					NWI Classificat	ion: PEM1	С		
Are climatic / hydrologic conditions on the site typica	al for this time	of vear?	Yes X	No	(If No. expla	ain in Remarl	ks)		
Are Vegetation , Soil , Hydrology		y disturbed?			Circumstances"		Yes X	No	
Are Vegetation , Soil , Hydrology	, naturally p	•	,					110	
				•	explain any ans		,		
SUMMARY OF FINDINGS - Attach a sit	315	owing sar	npling poi	nt locatio	ns, transect	ts, import	ant featu	ıres, e	tc.
Hydrophytic Vegetation Present? Yes X	No								
Hydric Soil Present? Yes	No X		ampled Area Wetland?		.,				
Wetland Hydrology Present? Yes  Remarks:	No X	WILIIII d	vvetianur		Yes	No	X		
Cloudy, 56-67 deg F, 0.3in precip.  VEGETATION— Use scientific names of	plants.	Absolute	Dominant	Indicator					
	piarito.	% Cover	<u>Species</u>	<u>Status</u>	Dominance <sup>-</sup>	Test Worksh	ieet:		
Tree Stratum (Plot size: 30 Ft ) Salix X pendulina		40	Y	FAC	Number of D That Are OB			3	(A)
		40	=Total Cover		Total Number	r of Dominan	t .		
Shrub Stratum					Species Acro			4	(B)
Herb Stratum (Plot size: 6 Ft )									
Phalaris arundinacea		65	Υ	FACW	Percent of Do That Are OBL			75.0%	(A/B)
Impatiens noli-tangere		7	Y	FACW					
Equisetum arvense		3	N	FAC	Prevalence I				
Galium aparine		3	N	FACU	Total % (			tiply by:	
Rumex conglomeratus		3	N	FACW	OBL species	0			
Solanum dulcamara		3 84	N	FAC	FACW specie				
Vine Startum		04	=Total Cover		FAC species	46	3 x 3 =	138	
Vine Stratum (Plot size: 30 Ft )					FACU specie	es 53	3 x 4 =	212	
Rubus armeniacus		50	Y	FACU	UPL species	0	x 5 =	0	
		50	=Total Cover		Column Total	ls: 17	74 (A)	500	(B)
					Prevale	ence Index =	B/A=	2.87	
					Hydrophytic \	Vegetation I	ndicators:		
					Rapid Te	st for Hydrop	hytic Vege	tation	
					X Dominan	ce Test > 50	%		
					X Prevalen	ce Index ≤ 3.	.0		
						gical Adapta emarks or or			
					Problema	atic Hydrophy	∕tic Vegeta	tion (Ex	(plain)
					Indicators of must be pres				
					Hydrophy			. p. 55101	
% Bare Ground in Herb Stratum 0					Vegetation P		Yes X	No	
arks: (Include photo numbers here or on a sepa	rate sheet.)								

Depth		Matrix	0/	0-1-	(me:=!\		Features	Loo?	т	turo		omorko	
(inches)	Color (m	noist)	%	Color	(moist)	%	Type	Loc <sup>2</sup>	Tex	ture		emarks	
0 to 13	10YR	2/1	100						LOAM		Soils d	ark	
13 to 18	10YR	2/1	90	5YR	4/6	10		M,PL	CLAY LOAM				
18 to 26	10YR	2/1	65	10YF	₹ 3/6	15		M	CLAY LOAM				
Type: C=Conce	entration, D=D	epletion,	RM=Redu	ced Marti	x, CS=C	overed or	Coated	Sand Gra	ins. <sup>2</sup> Loca	ation: PL≂Pore l	Lining, M=Matr	ix.	
Thick Dark Su Sandy Mucky Sandy Gleyed	on (A2) A3) fide (A4) ow Dark Surface urface (A12) Mineral (S1) d Matrix (S4) e Layer (if c		[ [ [ [ [	Strippe Loamy Loamy Deplete Redox Deplete	Redox (S5 ed Matrix (S Mucky Min Gleyed Matrix ( Dark Surfa ed Dark Su Depressio	neral (F1) atrix (F2) F3) ace (F6) urface (F7)		LRA 1)	2 cm Red F Very 5 Other	Muck (A10) Parent Material (Ti Shallow Dark Surf r (Explain in Remains of hydrophytic gy must be presed disturbed or problem.	F2) face (TF12) arks) vegetation and v		x
emarks: Negative reaction		-dipyridyl re	eagent, Fea	tures may l	be masked	l by organi	c material	Pockets c	of moisture at 10"	but not consistent	tly saturated		_
emarks: Negative reaction  IYDROLOGY  Wetland Hydro  Primary Indicato	ology Indica	tors:		check all	that apply	<i>'</i> )			Seco	ondary Indicator	s (minimum of		red)
emarks: Negative reaction  YDROLOGY  Wetland Hydro  Primary Indicate  Surface Wate	ology Indica ors (minimum r (A1)	tors:		check all	that apply	/) ned Leave		Pockets of	Seco		s (minimum of		ed)
emarks: Negative reaction  YDROLOGY  Wetland Hydro  Primary Indicate  Surface Wate  High Water Ta	ology Indica ors (minimum r (A1) able (A2)	tors:		check all	that apply Vater-Stair	/) ned Leave: d 4B)			Seco	ondary Indicator Water-Stained L 4A, and 4B)	s (minimum of eaves (B9) (MLF		red)
emarks: Negative reaction  IYDROLOGY  Wetland Hydro  Primary Indicate  Surface Wate  High Water Ta  Saturation (AS	ology Indicators (minimum r (A1) able (A2)	tors:		check all	that apply Vater-Stair , 2, 4A and	/) ned Leave d 4B) B11)	s (B9) (exc		Seco	ondary Indicator Water-Stained L 4A, and 4B) Drainage Patter	s (minimum of eaves (B9) (MLF ns (B10)		red)
emarks: Negative reaction  IYDROLOGY  Wetland Hydro  Primary Indicate  Surface Wate  High Water Ta  Saturation (AS  Water Marks	ology Indicators (minimum r (A1) able (A2) 3) (B1)	tors:		check all	that apply Vater-Stair , 2, 4A and Salt Crust (	/) ned Leave d 4B) B11) ertebrates	s (B9) (exc		Seco	ondary Indicator Water-Stained L 4A, and 4B) Drainage Patterd Dry-Season Wat	s (minimum of eaves (B9) (MLF ns (B10) ter Table (C2)	RA 1, 2,	red)
Water Marks Sudder Marks Surface Wate High Water Ta Saturation (AS Water Marks Sediment Dep	ology Indicators (minimum r (A1) able (A2) 3) (B1) posits (B2)	tors:		check all	that apply Vater-Stair , 2, 4A and Salt Crust ( aquatic Inve lydrogen S	/) ned Leave: d 4B) B11) ertebrates ulfide Odd	s (B9) (exc (B13) or (C1)		Seco	ondary Indicator Water-Stained L 4A, and 4B) Drainage Patter Dry-Season Wat Saturation Visibl	s (minimum of .eaves (B9) (MLF ns (B10) ter Table (C2) le on Aerial Imag	RA 1, 2,	red)
YDROLOGY  Wetland Hydro  Primary Indicate  Surface Wate  High Water Ta  Saturation (Aa  Water Marks  Sediment Dep	plogy Indicators (minimum of (A1)) able (A2) (B1) posits (B2) (B3)	tors:		check all	that apply Vater-Stair , 2, 4A and Salt Crust ( aquatic Inve lydrogen S	ned Leave: d 4B) B11) ertebrates sulfide Odd	s (B9) (exc (B13) or (C1) es along Li	cept MLRA	Seco	ondary Indicator Water-Stained L 4A, and 4B) Drainage Patter Dry-Season Wat Saturation Visibl Geomorphic Pos	s (minimum of Leaves (B9) (MLF Ins (B10) ter Table (C2) le on Aerial Imag sition (D2)	RA 1, 2,	red)
YDROLOGY Wetland Hydro Primary Indicate Surface Wate High Water To Saturation (AC) Water Marks Sediment Dep Drift Deposits Algal Mat or C	plogy Indicators (minimum r (A1) able (A2) 33) (B1) posits (B2) (B3) Crust (B4)	tors:		check all	that apply Vater-Stair , 2, 4A and Salt Crust ( aquatic Inve lydrogen S Dxidized Ri	ned Leave: d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced	s (B9) (exc (B13) or (C1) es along Li Iron (C4)	cept MLRA	Seco	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro	s (minimum of leaves (B9) (MLF ns (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3)	RA 1, 2,	red)
emarks: Negative reaction  (YDROLOGY  Wetland Hydro  Primary Indicate  Surface Wate  High Water Ta  Saturation (AS  Water Marks  Sediment Dep  Drift Deposits  Algal Mat or Co	plogy Indicators (minimum r (A1) able (A2) (B1) posits (B2) (B3) Crust (B4) (B5)	tors:		check all	that apply Vater-Stair , 2, 4A and Salt Crust ( Aquatic Inve lydrogen S Oxidized RI Presence o	ned Leaves d 4B) B11) ertebrates sulfide Odo hizosphere f Reduced	s (B9) (exc (B13) or (C1) es along Li I Iron (C4) n in Tilled	cept MLRA ving Roots Soils (C6)	Seco	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard	s (minimum of leaves (B9) (MLF ns (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5)	RA 1, 2,	ed)
Wetland Hydro Primary Indicate Surface Wate High Water Ta Saturation (A3 Water Marks Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C	plogy Indicators (minimum r (A1) able (A2) able (A2) (B1) posits (B2) (B3) Crust (B4) (B5) Cracks (B6)	tors: of one is	required;	check all	that apply Vater-Stair , 2, 4A and Salt Crust ( aquatic Inve lydrogen S Dxidized Ri Presence o Recent Iron Stunted or S	ned Leave: d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reduction Stressed F	s (B9) (exc (B13) or (C1) es along Li I fron (C4) n in Tilled	cept MLRA ving Roots Soils (C6)	Seco	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Was Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	is (minimum of leaves (B9) (MLF ins (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) inds (D6) (LRR A	RA 1, 2,	red)
Wetland Hydro Primary Indicate Surface Wate High Water Ta Saturation (A3 Water Marks Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vis	plogy Indicators (minimum r (A1) able (A2) (B1) posits (B2) (B3) Crust (B4) (B5)	tors: of one is	required;	check all	that apply Vater-Stair , 2, 4A and Salt Crust ( equatic Inve lydrogen S Dxidized Ri Presence o	ned Leave: d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reduction Stressed F	s (B9) (exc (B13) or (C1) es along Li I fron (C4) n in Tilled	cept MLRA ving Roots Soils (C6)	Seco	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard	is (minimum of leaves (B9) (MLF ins (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) inds (D6) (LRR A	RA 1, 2,	red)
emarks: Negative reaction  IYDROLOGY  Wetland Hydro  Primary Indicate  Surface Wate  High Water Ta  Saturation (Aa  Water Marks  Sediment Dep  Drift Deposits  Algal Mat or O  Iron Deposits  Surface Soil O  Inundation Vis  Sparsely Veg	ology Indicators (minimum (A1)) able (A2) 3) (B1) cosits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial I	tors: of one is	required;	check all	that apply Vater-Stair , 2, 4A and Salt Crust ( aquatic Inve lydrogen S Dxidized Ri Presence o Recent Iron Stunted or S	ned Leave: d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reduction Stressed F	s (B9) (exc (B13) or (C1) es along Li I fron (C4) n in Tilled	cept MLRA ving Roots Soils (C6)	Seco	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Was Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	is (minimum of leaves (B9) (MLF ins (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) inds (D6) (LRR A	RA 1, 2,	red)
emarks: Negative reaction  (YDROLOGY  Wetland Hydro  Primary Indicate  High Water Ta  Saturation (A3  Water Marks  Sediment Deposits  Algal Mat or Co  Iron Deposits  Surface Soil Co  Inundation Vis  Sparsely Vegorield Observat	plogy Indicators (minimum (A1)) able (A2) 3) (B1) posits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial I etated Concave	tors: of one is magery (B'	required; 7) B8)	check all	that apply Vater-Stair , 2, 4A and Salt Crust ( equatic Invel lydrogen S Dxidized RI Presence o Recent Iron Stunted or S Other (Expl	ned Leaves d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reduction Stressed F ain in Rem	s (B9) (exc (B13) or (C1) es along Li I fron (C4) n in Tilled	cept MLRA ving Roots Soils (C6)	Seco	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Was Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	is (minimum of leaves (B9) (MLF ins (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) inds (D6) (LRR A	RA 1, 2,	ed)
Wetland Hydro Primary Indicate Surface Wate High Water Ta Saturation (A3 Water Marks Sediment Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vis Sparsely Vegr	ology Indicators (minimum r (A1) able (A2) able (A2) able (B1) cosits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial I etated Concave ions:	tors: of one is magery (B' e Surface (I	required; 7) B8)	check all	that apply Vater-Stair , 2, 4A and Salt Crust ( Aquatic Invel lydrogen S Dxidized Ri Presence of Recent Iron Stunted or S Other (Expl	ned Leave: d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reductior Stressed F ain in Rem	s (B9) (exc (B13) or (C1) es along Li I fron (C4) n in Tilled	cept MLRA ving Roots Soils (C6)	Seco	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Was Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	is (minimum of leaves (B9) (MLF ins (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) inds (D6) (LRR A	RA 1, 2,	red)
emarks: Negative reaction of the property of t	ology Indicators (minimum (A1)) able (A2) 3) (B1) cosits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial I etated Concave ions: Present?	magery (B e Surface (I Yes Yes	required; 7) B8) N	check all	that apply Vater-Stair , 2, 4A and Salt Crust ( Aquatic Invel lydrogen S Dxidized Ri Presence of Recent Iron Stunted or 3 Other (Expl Depth Depth	ned Leave: d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reduction Stressed F ain in Rem (inches): (inches):	s (B9) (exc (B13) or (C1) es along Li I fron (C4) n in Tilled	cept MLRA ving Roots Soils (C6)	Secc.	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Was Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	s (minimum of leaves (B9) (MLF ns (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) nds (D6) (LRR A mmocks (D7)	(C9)	ed)
Inundation Vis Surface Water Surface Water Field Observat Surface Water Field Saturation Pres	ology Indicators (minimum (A1)) able (A2) able (A2) able (B1) cosits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial I etated Concave ions: Present? esent?	tors: of one is magery (B' e Surface (I	required; 7) B8)	check all	that apply Vater-Stair , 2, 4A and Salt Crust ( Aquatic Invel lydrogen S Dxidized Ri Presence of Recent Iron Stunted or 3 Other (Expl Depth Depth	ned Leave: d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reductior Stressed F ain in Rem	s (B9) (exc (B13) or (C1) es along Li I fron (C4) n in Tilled	cept MLRA ving Roots Soils (C6)	Secc.	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Paised Ant Moul	s (minimum of leaves (B9) (MLF ns (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) nds (D6) (LRR A mmocks (D7)	(C9)	
Wetland Hydro Primary Indicate Surface Wate High Water Ta Saturation (AS Water Marks Sediment Deposits Algal Mat or O Iron Deposits Surface Soil O Inundation Vis Sparsely Vego Field Observat Water Table Pre	pology Indicators (minimum (A1)) able (A2) able (A2) able (B1) posits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial I etated Concave ions: Present? esent? ent?	magery (B e Surface (I Yes Yes Yes	required; 7) B8) N N	check all	that apply Vater-Stair , 2, 4A and Salt Crust ( Aquatic Invel Indicate Solve on the Stunted or solve) Depth Depth Depth Depth	ned Leaves d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reduction Stressed F ain in Rem (inches): (inches):	s (B9) (exc (B13) or (C1) es along Li I fron (C4) h in Tilled Plants (D1)	ving Roots Soils (C6)	Secc.	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Paised Ant Moul	s (minimum of leaves (B9) (MLF ns (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) nds (D6) (LRR A mmocks (D7)	(C9)	
Wetland Hydro Primary Indicate Surface Wate High Water Ta Saturation (AS Water Marks Sediment Dep Drift Deposits Algal Mat or O Iron Deposits Surface Soil O Inundation Vis Sparsely Vege Field Observat Water Table Pre Saturation Pres (includes capilla	pology Indicators (minimum (A1)) able (A2) able (A2) able (B1) posits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial I etated Concave ions: Present? esent? ent?	magery (B e Surface (I Yes Yes Yes	required; 7) B8) N N	check all	that apply Vater-Stair , 2, 4A and Salt Crust ( Aquatic Invel Indicate Solve on the Stunted or solve) Depth Depth Depth Depth	ned Leaves d 4B) B11) ertebrates sulfide Odd hizosphere f Reduced Reduction Stressed F ain in Rem (inches): (inches):	s (B9) (exc (B13) or (C1) es along Li I fron (C4) h in Tilled Plants (D1)	ving Roots Soils (C6)	Secc.	ondary Indicator: Water-Stained L 4A, and 4B) Drainage Patters Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Paised Ant Moul	s (minimum of leaves (B9) (MLF ns (B10) ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) nds (D6) (LRR A mmocks (D7)	(C9)	

WETLAND DETERMINATION DATA	A FORM - N	Nestern M	ountains	Y 'leys, and Co	ast Reç	noig		
Project/Site: Boardman Creek	City/Count	ty: CI	ackamas Co	ou, Sampli	ng Date:	6/24/2	016	
Applicant/Owner: OLSD			State	: OR Sampli	ing Point:	SP12		
Investigators: Irina Lapina Jennifer Ma.	ze		Section, Tov	vnship, Range S 18	T 2S	R	2E	
dform (hillslope, terrace, etc.): Terrace	Li	ocal Relief (co	ncave, conv	ex, none): Concave		Slop	oe(%) 2	5% to
oubregion (LRR): A Lat: 45.3	95324	Long	-122,613	130 D	atum: N/	AD83		
Soil Map Unit Name: Cove silty clay loam					None			
Are climatic / hydrologic conditions on the site typical for this time	of year?	Yes X	No	(If No, explain in F				
						- V	N.a.	
	tly disturbed?	Α	re "Normai	Circumstances" prese	nt? Ye:	s X	No	
Are Vegetation , Soil , Hydrology , naturally p	oroblematic?		(If needed,	explain any answers i	า Remark	.s.)		
SUMMARY OF FINDINGS - Attach a site map sh	owing san	npling poi	nt locatio	ns, transects, im	portan	t featu	res, et	c.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes No X	Is the Sa	ampled Area						
Wetland Hydrology Present? Yes No X	within a	Wetland?		Yes N	lo X			
Remarks:								
Cloudy, 56-67 deg F, 0.3in precip.								
	Absolute	Dominant	Indicator					
<b>VEGETATION</b> — Use scientific names of plants.	% Cover	Species	Status	Dominance Test W	orkshee!	t:		
Tree Stratum (Plot size: _30 Ft)				Number of Dominar	nt Specie:	s		
Fraxinus latifolia	45	Υ	FACW	That Are OBL, FAC	,		3	(A)
Populus balsamifera	10	N	FAC	Total Number of Do	:			
	55	=Total Cover		Total Number of Do Species Across all S			5	(B)
Shrub Stratum (Plot size: 30 Ft )								, ,
Corylus cornuta	3	Y	FACU	Percent of Dominan			60.0%	(A/B)
Rosa woodsii	3	Y	FACU	That Are OBL, FAC	√V, or FAC	J:		
Crataegus monogyna	2	N	FAC	Prevalence Index V	Vorkshee	et:		
Salix scouleriana	2	N	FAC	Total % Cover of	of:	Mult	tiply by:	
Spiraea douglasii	2	N	FACW	OBL species	0	x 1 =	0	
	12	=Total Cover		FACW species	125	x 2 =	250	
Herb Stratum (Plot size: 6 Ft )				FAC species	55	x 3 =	165	
Phalaris arundinacea	75	Υ	FACW	FACU species	22	x 4 =	88	
Equisetum arvense	40	Y	FAC	UPL species	0	x 5 =		
Lapsana communis	15	N	FACU	OPL species				<b>(D)</b>
Equisetum hyemale	3	N	FACW	Column Totals:	202	(A)	503	(B)
Galium aparine		N	FACU	Prevalence In	dex = B/A	<i>1</i> =	2.49	
Ranunculus spp.		N	FAC	Hydrophytic Vegeta				
Vicia americana	136	N	FAC	, , , ,			4-4in-	
Vine Observer		=Total Cover		Rapid Test for h	туаторпус	ic vegei	lation	
Vine Stratum_				X Dominance Tes	t > 50%			
				X Prevalence Inde	ex ≤ 3.0			
				Morphological A				oorting
						•	,	nloin)
				Problematic Hy		-	•	
				Indicators of hydric must be present, u				
% Bare Ground in Herb Stratum 0				Hydrophytic Vegetation Present	t? Yes	s X	No	
narks: (Include photo numbers here or on a separate sheet,)								

Type: C=Concentration, D=Del  Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Depleted Below Dark Surface ( Thick Dark Surface (A12)	/ 3 100	Color (moist)  uced Martix, CS=  Sandy Redox (  Stripped Matrix		Type <sup>1</sup> Loc <sup>2</sup> r Coated Sand Grain	Texture  SILT LOAM  as. 2Location: PL=Pore I	Remarks Uniform, dry fill materia Lining, M=Matrix.
Type: C=Concentration, D=Del  Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Depleted Below Dark Surface ( Thick Dark Surface (A12)		Sandy Redox (		r Coated Sand Grain		
Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Depleted Below Dark Surface (  Thick Dark Surface (A12)	pletion, RM=Redu	Sandy Redox (		r Coated Sand Grain	ns. <sup>2</sup> Location: PL=Pore I	_ining, M=Matrix.
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface ( Thick Dark Surface (A12)		l	05)			
Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Depleted Below Dark Surface ( Thick Dark Surface (A12)		l	OE)		<b>Indicators for Problems</b>	atic Hydric Soils: 3
Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface ( Thick Dark Surface (A12)		Stripped Matrix	55)		2 cm Muck (A10)	
Hydrogen Sulfide (A4)  Depleted Below Dark Surface (  Thick Dark Surface (A12)					Red Parent Material (TI	F2)
Depleted Below Dark Surface ( Thick Dark Surface (A12)		Loamy Mucky I	Mineral (F1)	(except MLRA 1)	Very Shallow Dark Surf	,
Thick Dark Surface (A12)		Loamy Gleyed	Matrix (F2)		Other (Explain in Rema	
	A11)	Depleted Matrix	x (F3)			,
		Redox Dark Su	ırface (F6)		3 Indicators of hydrophytic	vegetation and wetland
Sandy Mucky Mineral (S1)		Depleted Dark	Surface (F7	)	hydrology must be preser	nt,
Sandy Gleyed Matrix (S4)		Redox Depress	sions (F8)		unless disturbed or proble	∍matic.
Restrictive Layer (if ob	served):					
Туре:					Hydric Soil Present?	Yes No X
Depth (inches):					Hydric Son Fresent?	les No A
Vetland Hydrology Indicato Primary Indicators (minimum o  Surface Water (A1)				s (B9) (except MLRA		s (minimum of two required)
High Water Table (A2)		1, 2, 4A a		o (Bo) (oxoopt MEIV)	4A, and 4B)	eaves (B9) (MLRA 1, 2,
Saturation (A3)		Salt Crus	t (B11)		Drainage Patterr	ns (B10)
Water Marks (B1)		Aquatic Ir	nvertebrates	(B13)	Dry-Season Wat	
Sediment Deposits (B2)		Hydrogen	Sulfide Odd	or (C1)	Parana,	e on Aerial Imag (C9)
Drift Deposits (B3)		Oxidized	Rhizospher	es along Living Roots (	(C3) Geomorphic Pos	
Algal Mat or Crust (B4)			of Reduced	. ,	Shallow Aquitaro	,
Iron Deposits (B5)		Recent In	on Reductio	n in Tilled Soils (C6)	✓ FAC-Neutral Tes	
Surface Soil Cracks (B6)		Stunted of	or Stressed I	Plants (D1) (LRR A)		nds (D6) (LRR A)
Inundation Visible on Aerial Ima	agery (B7)	Other (Ex	plain in Ren	narks)	Frost-Heave Hur	, , , , ,
Sparsely Vegetated Concave S	Surface (B8)					
ield Observations:						
Surface Water Present?	Yes N	lo X Depi	th (inches):			
Water Table Present?	Yes N	lo X Dept	th (inches):			
Saturation Present?	Yes N	lo X Depi	th (inches):		Wetland Hydrology Pres	sent? Yes No X
(includes capillary fringe)						
emarks:	auge, monitoring we	ıı, aeriai photos, pre	vious inspe	ctions), if available:		

WETLAND DETERMINA つり DATA	A FORM - V	Western M	ountains,	14	_	•		
Project/Site: Boardman Creek	City/Coun	ty: CI	ackamas Co	ou., Sa	mpling Date:	6/24/20	16	
Applicant/Owner: OLSD			State	: OR Sa	ampling Point:	SP13		
Investigators: Irina Lapina Jennifer Ma	ze		Section, Tov	vnship, Range S	18 T 2S	R 2	2E	
dform (hillslope, terrace, etc.): Terrace	L	ocal Relief (co	ncave, conv	vex, none): Cond	ave	Slop	e(%) 1	.5% to
Subregion (LRR): A Lat: 45.3	93648	Long	: -122.612°	152	Datum: N/	4D83		
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slop	es			NWI Classification	n: PEM1C			
Are climatic / hydrologic conditions on the site typical for this time		Yes X	No	(If No, explain	in Remarks)			
	tly disturbed?			Circumstances" p	,	s X	No	
	problematic?	,		·			140	
			•	explain any answ				
SUMMARY OF FINDINGS - Attach a site map sh	owing sar	mpling poi	nt locatio	ns, transects	, important	i featui	res, et	ic.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes No X		ampled Area Wetland?		v				
Wetland Hydrology Present? Yes No X	Within a	· ••••••••••••••••••••••••••••••••••••		Yes	No X			
Remarks: Cloudy, 56-67 deg F, 0.3in precip.								
<b>3</b>								
VEGETATION Use scientific names of plants.	Absolute	Dominant	Indicator					
Tree Stratum	% Cover	<u>Species</u>	<u>Status</u>	Dominance Te	st Worksheet			
Tiee Stratum				Number of Don That Are OBL,			2	(A)
Shrub Stratum (Plot size: 30 Ft )				That Are OBL,	FACVV, OF FAC	J:	_	( ',
Salix scouleriana	25	Υ	FAC	Total Number o				
	25	=Total Cover		Species Across	all Strata:		3	(B)
Herb Stratum (Plot size: 6 Ft )				Percent of Dom	inant Species			
Holcus lanatus	40	Y	FAC	That Are OBL,			66.7%	(A/B)
Poa pratensis	10	N	FAC	Prevalence Inc	lav Warkehad	· · ·		
Ranunculus repens	7	N	FAC	Total % Co			ply by:	
polygonatum lapathifolium	5	N N	FACU	-	0	x 1 =	ріу Бу. О	
Lotius perenne	3	N.	FAC	OBL species	0	x 2 =	0	
Lotus corniculatus  Rumex crispus	1	N	FAC	FACW species		x 3 =		
Vicia americana		N N	FAC	FAC species	90		270	
Vida americana	70	=Total Cover	17.0	FACU species	70	x 4 =	280	
Vine Stratum		- Total Cover		UPL species	0	x 5 =	0	
(Plot size: 30 Ft )				Column Totals:	160	(A)	550	(B)
Rubus armeniacus	65	Υ	FACU					
	65	=Total Cover			ce Index = B/A		3.44	
				Hydrophytic Ve	getation Indi	cators:		
				Rapid Test	for Hydrophyt	ic Vegeta	ation	
				X Dominance	e Test > 50%			
				Prevalence	Index ≤ 3.0			
					cal Adaptation			oorting
				Problemation	c Hydrophytic	Vegetati	on (Ex	plain)
				Indicators of hy				
% Bare Ground in Herb Stratum 0				Hydrophyti Vegetation Pre		X	No	
				_				
harks: (Include photo numbers here or on a separate sheet.)								

Depth		Matrix				eatures					
(inches)	Color (	moist)	%	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Re	marks	
0 to 6 10	/R	2/2	100					SILTY CLAY LOAM			
6 to 9 10°	/R	2/2	99	5YR 5/6	1	C		SILTY CLAY LOAM			
9 to 18 10°	/R	2/2	100		-			SILTY CLAY LOAM			
Type: C=Concentra	tion, D=	Depletion,	RM=Reduce	d Martix, CS=C	overed or	Coated	Sand Grai	ns. <sup>2</sup> Location: PL=Pore Lin	ning, M=Matri	Х.	
Hydric Soil Indica	tors:							Indicators for Problemati	ic Hydric So	ils: 3	
Histosol (A1)				Sandy Redox (S	5)				ic ityuric 50	113.	
Histic Epipedon (A	(2)			Stripped Matrix (	S6)			2 cm Muck (A10)			
Black Histic (A3)				Loamy Mucky M	ineral (F1)	(except MI	LRA 1)	Red Parent Material (TF2)	•		
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)							Very Shallow Dark Surface Other (Explain in Remarks	,			
Depleted Below D	ark Surfa	ice (A11)		Depleted Matrix	(F3)			Other (Explain in Nemarks	3)		
Thick Dark Surfac	e (A12)			Redox Dark Surf	ace (F6)			<sup>3</sup> Indicators of hydrophytic veg	getation and w	etland	
Sandy Mucky Min				Depleted Dark S	urface (F7)			hydrology must be present,			
Sandy Gleyed Ma	rix (S4)			Redox Depression	ons (F8)			unless disturbed or problem	natic.		
Restrictive La	ıyer (if	observe	d):								
Туре:								Hadda Oath Day 10	Var	N4 -	v
Depth (inches):								Hydric Soil Present?	Yes	No	Х
YDROLOGY			at 18"; assume	ed no dry season	water table	· ·					
YDROLOGY Wetland Hydrolog Primary Indicators	y <b>Indic</b> minimu	ators:		eck all that appl	у)		and MI DA	Secondary Indicators (	minimum of t	wo requi	red)
IYDROLOGY Wetland Hydrolog Primary Indicators (	<b>y Indic</b> minimu )	ators:			y) ned Leaves		cept MLRA	Water-Stained Lea			red)
Wetland Hydrolog Primary Indicators ( Surface Water (A1 High Water Table	<b>y Indic</b> minimu )	ators:		eck all that appl	y) ned Leave: d 4B)		cept MLRA	Water-Stained Leaver 4A, and 4B)	ves (B9) (MLR.		red)
Wetland Hydrolog Primary Indicators (  Surface Water (Af  High Water Table  Saturation (A3)	<b>y Indic</b> minimu )	ators:		eck all that appl Water-Stai 1, 2, 4A an	y) ned Leaves d 4B) (B11)	s (B9) (exc	cept MLRA	Water-Stained Lead 4A, and 4B)  Drainage Patterns	ves (B9) (MLR.		red)
YDROLOGY Wetland Hydrolog Primary Indicators (A1 Surface Water (A1 High Water Table	y Indic minimu ) (A2)	ators:		eck all that appl Water-Stai 1, 2, 4A an Salt Crust	y) ned Leaves d 4B) (B11) ertebrates	s (B9) (exc (B13)	cept MLRA	Water-Stained Lear 4A, and 4B)  Drainage Patterns  Dry-Season Water	ves (B9) (MLR. (B10) Table (C2)	A 1, 2,	red)
Wetland Hydrolog Primary Indicators (  Surface Water (A1  High Water Table  Saturation (A3)  Water Marks (B1)	y Indic minimu ) (A2)	ators:		eck all that appl Water-Stai 1, 2, 4A an Salt Crust Aquatic Inv	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odd	s (B9) (exc (B13) r (C1)		Water-Stained Lear 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of	ves (B9) (MLR. (B10) Table (C2) on Aerial Imag	A 1, 2,	red)
Wetland Hydrolog Primary Indicators ( Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit	y Indic minimu ) (A2)	ators:		eck all that appl Water-Stai 1, 2, 4A an Salt Crust Aquatic Inv Hydrogen S Oxidized R	y) ned Leave: d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced	s (B9) (exc (B13) r (C1) ss along Li Iron (C4)	ving Roots	Water-Stained Lear 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of  Geomorphic Position	ves (B9) (MLR. (B10) Table (C2) on Aerial Imag on (D2)	A 1, 2,	red)
Wetland Hydrolog Primary Indicators ( Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3	y Indic minimu ) (A2) s (B2)	ators:		eck all that appl Water-Stai 1, 2, 4A an Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence of	y) ned Leaves d 4B) (B11) ertebrates Gulfide Odo hizosphere of Reduced	s (B9) (exc (B13) r (C1) es along Li Iron (C4) n in Tilled \$	ving Roots Soils (C6)	Water-Stained Lear 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of	ves (B9) (MLR. (B10) Table (C2) on Aerial Imag on (D2) D3)	A 1, 2,	red)
Wetland Hydrolog Primary Indicators ( Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3 Algal Mat or Crust	y Indic minimu ) (A2) s (B2) (B4)	ators:		eck all that appl Water-Stai 1, 2, 4A an Salt Crust Aquatic Inv Hydrogen S Oxidized R	y) ned Leaves d 4B) (B11) ertebrates Gulfide Odo hizosphere of Reduced	s (B9) (exc (B13) r (C1) es along Li Iron (C4) n in Tilled \$	ving Roots Soils (C6)	Water-Stained Lead 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3)	A 1, 2,	red)
Wetland Hydrolog Primary Indicators ( Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3 Algal Mat or Crust Iron Deposits (B5)	y Indic minimu ) (A2) s (B2) (B4)	ators: m of one is	required; ch	eck all that appl Water-Stai 1, 2, 4A an Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence of	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed F	s (B9) (exc (B13) r (C1) es along Li Iron (C4) h in Tilled \$	ving Roots Soils (C6)	Water-Stained Lead 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test (I	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3) (D5) s (D6) (LRR A)	A 1, 2,	red)
YDROLOGY  Wetland Hydrolog Primary Indicators ( Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3 Algal Mat or Crust Iron Deposits (B5) Surface Soil Cracl	y Indic minimu ) (A2) s (B2) (B4) ss (B6) on Aeria	ators: m of one is	required; che	eck all that appl  Water-Stai 1, 2, 4A an  Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed F	s (B9) (exc (B13) r (C1) es along Li Iron (C4) h in Tilled \$	ving Roots Soils (C6)	Water-Stained Lead 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Position Shallow Aquitard (E) FAC-Neutral Test (E) Paised Ant Mounds	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3) (D5) s (D6) (LRR A)	A 1, 2,	red)
Wetland Hydrolog Primary Indicators ( Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3 Algal Mat or Crust Iron Deposits (B5) Surface Soil Cracl Inundation Visible Sparsely Vegetate	y Indic minimu ) (A2) s (B2) (B4) cs (B6) on Aeria d Conca	ators: m of one is	required; che	eck all that appl  Water-Stai 1, 2, 4A an  Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed F	s (B9) (exc (B13) r (C1) es along Li Iron (C4) h in Tilled \$	ving Roots Soils (C6)	Water-Stained Lead 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Position Shallow Aquitard (E) FAC-Neutral Test (E) Paised Ant Mounds	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3) (D5) s (D6) (LRR A)	A 1, 2,	red)
Wetland Hydrolog Primary Indicators ( Surface Water (Af High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Cracl Inundation Visible Sparsely Vegetate Sield Observations	y Indic minimu ) (A2) s (B2) (B4) on Aeria d Conca	ators: m of one is I Imagery (B ve Surface (	required; che	eck all that appl  Water-Stai 1, 2, 4A an  Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Stunted or Other (Exp	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed F lain in Rem (inches):	s (B9) (exc (B13) r (C1) es along Li Iron (C4) h in Tilled \$	ving Roots Soils (C6)	Water-Stained Lead 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Position Shallow Aquitard (E) FAC-Neutral Test (E) Paised Ant Mounds	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3) (D5) s (D6) (LRR A)	A 1, 2,	red)
Wetland Hydrolog Primary Indicators ( Surface Water (Af High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Cracl Inundation Visible Sparsely Vegetate Field Observations Surface Water Presen	y Indic minimu ) (A2) s (B2) (B4) on Aeria d Conca	ators: m of one is I Imagery (B ve Surface ( Yes Yes	required; che	eck all that appl  Water-Stai 1, 2, 4A an  Salt Crust  Aquatic Inv  Hydrogen S  Oxidized R  Presence of Recent Iror  Stunted or  Other (Exp	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed F dain in Rem (inches): (inches):	s (B9) (exc (B13) r (C1) es along Li Iron (C4) h in Tilled \$	ving Roots Soils (C6)	Water-Stained Lead 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test (I Paised Ant Mounds Frost-Heave Humm	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3) (D5) s (D6) (LRR A)	A 1, 2, (C9)	
Wetland Hydrolog Primary Indicators ( Surface Water (Af High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Cracl Inundation Visible Sparsely Vegetate Field Observations	y Indic minimu ) (A2) s (B2) (B4) on Aeria d Conca	ators: m of one is I Imagery (B ve Surface (	required; che	eck all that appl  Water-Stai 1, 2, 4A an  Salt Crust  Aquatic Inv  Hydrogen S  Oxidized R  Presence of Recent Iror  Stunted or  Other (Exp	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed F lain in Rem (inches):	s (B9) (exc (B13) r (C1) es along Li Iron (C4) h in Tilled \$	ving Roots Soils (C6)	Water-Stained Lead 4A, and 4B)  Drainage Patterns  Dry-Season Water  Saturation Visible of Geomorphic Position Shallow Aquitard (E) FAC-Neutral Test (E) Paised Ant Mounds	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3) (D5) s (D6) (LRR A)	A 1, 2, (C9)	red)
Wetland Hydrolog Primary Indicators ( Surface Water (Af High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Cracl Inundation Visible Sparsely Vegetate Field Observations Surface Water Present Saturation Present? (includes capillary free	y Indic minimu ) (A2) s (B2) (B4) ss (B6) on Aeria d Conca	ators: m of one is I Imagery (B ve Surface ( Yes Yes Yes	7) B8) No No	eck all that appl  Water-Stai 1, 2, 4A an  Salt Crust  Aquatic Inv  Hydrogen S  Oxidized R  Presence of Recent Iror  Stunted or  Other (Exp	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed F dain in Rem (inches): (inches):	s (B9) (exc (B13) r (C1) s along Li Iron (C4) h in Tilled s Plants (D1) harks)	ving Roots Soils (C6) (LRR A)	Water-Stained Lead 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test (I Paised Ant Mounds Frost-Heave Humm	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3) (D5) s (D6) (LRR A)	A 1, 2, (C9)	
Wetland Hydrolog Primary Indicators ( Surface Water (Af High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B6) Surface Soil Cracl Inundation Visible Sparsely Vegetate Field Observations Surface Water Present Saturation Present?	y Indic minimu ) (A2) s (B2) (B4) ss (B6) on Aeria d Conca	ators: m of one is I Imagery (B ve Surface ( Yes Yes Yes	7) B8) No No	eck all that appl  Water-Stai 1, 2, 4A an  Salt Crust  Aquatic Inv  Hydrogen S  Oxidized R  Presence of Recent Iror  Stunted or  Other (Exp	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed F dain in Rem (inches): (inches):	s (B9) (exc (B13) r (C1) s along Li Iron (C4) h in Tilled s Plants (D1) harks)	ving Roots Soils (C6) (LRR A)	Water-Stained Lead 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test (I Paised Ant Mounds Frost-Heave Humm	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3) (D5) s (D6) (LRR A)	A 1, 2, (C9)	
Wetland Hydrolog Primary Indicators ( Surface Water (Af High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Cracl Inundation Visible Sparsely Vegetate Field Observations Surface Water Present Saturation Present? (includes capillary free	y Indic minimu ) (A2) s (B2) (B4) ss (B6) on Aeria d Conca	ators: m of one is I Imagery (B ve Surface ( Yes Yes Yes	7) B8) No No	eck all that appl  Water-Stai 1, 2, 4A an  Salt Crust  Aquatic Inv  Hydrogen S  Oxidized R  Presence of Recent Iror  Stunted or  Other (Exp	y) ned Leaves d 4B) (B11) ertebrates Sulfide Odo hizosphere of Reduced n Reduction Stressed F dain in Rem (inches): (inches):	s (B9) (exc (B13) r (C1) s along Li Iron (C4) h in Tilled s Plants (D1) harks)	ving Roots Soils (C6) (LRR A)	Water-Stained Lead 4A, and 4B)  Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (I FAC-Neutral Test (I Paised Ant Mounds Frost-Heave Humm	ves (B9) (MLR. (B10) Table (C2) on Aerial Imagon (D2) D3) (D5) s (D6) (LRR A)	A 1, 2, (C9)	

WETLAND DETERMINATION DATA	A FORM - N	Western M	ountains	, <sup>y</sup> leys, and Co	ast Reg	ion		
Project/Site: Boardman Creek	City/Coun	ty: Cl	ackamas Co	ou, Sampl	ing Date:	6/24/20	016	
Applicant/Owner: OLSD			State	: OR Samp	ling Point:	SP14		
Investigators: Irina Lapina Jennifer Ma	ize		Section, Tov	vnship, Range S 18	T 2S	R	2E	
dform (hillslope, terrace, etc.): Floodplain	L	ocal Relief (co	ncave, conv	ex, none): Concave		Slop	e(%) 2	2% to N
Subregion (LRR): A Lat: 45.3	393830	Long	-122.612	522	Datum: NA	D83		
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slop	oes			NWI Classification:	None			
Are climatic / hydrologic conditions on the site typical for this time		Yes X	No	(If No, explain in F	Remarks)			
	tly disturbed?			Circumstances" prese	•	s X	No	
	problematic?	,					- 110	
			•	explain any answers i		5		
SUMMARY OF FINDINGS - Attach a site map sh	owing sar	npling poi	nt locatio	ns, transects, in	portant	featu	res, e	tc.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes No X		ampled Area Wetland?		Van	N. V			
Wetland Hydrology Present? Yes No X Remarks:	***************************************	Wolland:		Yes !	No X			
Cloudy, 56-67 deg F, 0.3in precip								
VEGETATION Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test V	Vorksheet	:		
Tree Stratum				Number of Domina	nt Species	i		(4)
Shrub Stratum (Plot size: 30 Ft )				That Are OBL, FAC	CW, or FAC	):	3	(A)
Fraxinus latifolia	3	Υ	FACW	Total Number of Do	minant			
	3	=Total Cover		Species Across all	Strata:		4	(B)
Herb Stratum (Plot size: 6 Ft )				Danasak of Danain as	-1 0			
Holcus lanatus	75	Υ	FAC	Percent of Dominar That Are OBL, FAC		:	75.0%	(A/B)
Lotus corniculatus	70	Υ	FAC	Prevalence Index	Morkeboo	4.		
Vicia americana	10	N	FAC				بيط براهن	
Juncus effusus	5	N	FACW	Total % Cover	or: 0	x 1 =	iply by: 0	
	160	=Total Cover		OBL species	8	x 2 =	16	
Vine Stratum (Plot size: 30 Ft )				FACW species		x 3 =		
Rubus armeniacus	5	Υ	FACU	FAC species	155		465	
	5	=Total Cover		FACU species	5	x 4 =	20	
				UPL species	0	x 5 =	0	
				Column Totals:	168	(A)	501	(B)
				Prevalence Ir	ndev = R/A	=	2.98	
				Hydrophytic Vegeta			2.00	
				Rapid Test for			ation	
				·		c veget	ation	
				X Dominance Tes	st > 50%			
				X Prevalence Ind				
				Morphological / data in Remark	s or on a s	separate	sheet)	
				Problematic Hy	'drophytic \	√egetati	on (Ex	plain)
				Indicators of hydric must be present, u				
% Bare Ground in Herb Stratum 0				Hydrophytic Vegetation Presen	it? Yes	х	No	
narks: (Include photo numbers here or on a separate sheet.)								

Profile Descri	iption: (De		depth need	ed to document			confirm t	he absence of Indicators.)			
Depth		Matrix				eatures	4 1 0				
(inches)	Colc	or (moist)	%	Color (moist)	%	Туре	1 Loc 2			marks	
0 to 12	10YR	2/2	100					CLAY LOAM			
12 to 16	10YR	4 / 1	95	5YR 4/6	5	_ D	M,PL_	CLAY LOAM	Depleted		<b>ә</b> у
¹Type: C=Con	centration,	D=Depletion,	RM=Reduce	ed Martix, CS=Co	overed or	Coated	Sand Grai	ns. <sup>2</sup> Location: PL=Pore Linin	ıg, M=Matrix		
Hydric Soil In Histosol (A' Histic Epipe Black Histic Hydrogen S	1) edon (A2) : (A3)			Sandy Redox (S5 Stripped Matrix (S Loamy Mucky Min	36) neral (F1)	(except M	ILRA 1)	Indicators for Problematic  2 cm Muck (A10)  Red Parent Material (TF2)  Very Shallow Dark Surface		<u>ls:</u> 3	
Depleted Be Thick Dark Sandy Muc Sandy Gley	Hydrogen Sulfide (A4)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F7)  Redox Depressions (F8)							Other (Explain in Remarks)  3 Indicators of hydrophytic vege hydrology must be present, unless disturbed or problemat		tland	
Restricti Type: Depth (inch		(if observe	d):					Hydric Soil Present?	Yes	No	x
Remarks:	/-										
HYDROLOG  Wetland Hyd Primary Indica  Surface Wa High Water	Irology Ind ators (minir		required; ch	neck all that apply Water-Stair 1, 2, 4A and	ned Leaves d 4B)	s (B9) (ex	cept MLRA	Secondary Indicators (m Water-Stained Leave 4A, and 4B)			red)
Drift Depos Algal Mat o Iron Deposi Surface Soi Inundation Sparsely Ve	cs (B1) Deposits (B2) its (B3) r Crust (B4) its (B5) il Cracks (B6 Visible on Ae egetated Cor			Salt Crust ( Aquatic Inve Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl	ertebrates rulfide Odo hizosphere f Reduced Reductior Stressed F	or (C1) es along L Iron (C4) in in Tilled Plants (D1	Soils (C6)	Drainage Patterns (B  Dry-Season Water Ta  Saturation Visible on  ✓ Geomorphic Position  Shallow Aquitard (D3  FAC-Neutral Test (D3  Paised Ant Mounds (  Frost-Heave Hummo	able (C2) Aerial Imag.(C) (D2) 3) 5) (D6) (LRR A)	<b>39</b> )	
Field Observ	ations:										
Surface Water		Yes		•	(inches):						
Water Table I		Yes			(inches):			Wetland Hydrology Present	? Yes	Ne	Х
Saturation Pr		Yes	No	X Depth	(inches):			Wettand Hydrology Fresent	1 162	NC	, ^
(includes cap Describe Record		eam gauge, mo	onitoring well, a	aerial photos, previ	ous inspec	tions), if a	available:				
Remarks: D2 - adjacent to	floodplain										

WETLAND DETERMINATION DATA	A FORM - V	Western M	ountains,	V⁻¹leys, and Co	ast Reg	jion		
Project/Site: Boardman Creek	City/Count	ty: CI	ackamas Co	ou. , Sampl	ing Date:	6/24/2	016	
Applicant/Owner: OLSD			State	OR Samp	ling Point:	SP15		
Investigators: Irina Lapina Jennifer Ma	aze		Section, Tov	vnship, Range S 18	T 2S	R	2E	
dform (hillslope, terrace, etc.): Slope	L	ocal Relief (co	ncave, conv	ex, none): Concave	;	Slop	e(%) 3	to E
Subregion (LRR): A Lat: 45.3	393875	Long	-122.6124	140 [	Datum: NA	\D83		
Soil Map Unit Name: Woodburn silt loam, 3 to 8 percent slop	pes			NWI Classification:	None			
Are climatic / hydrologic conditions on the site typical for this tim	e of year?	Yes X	No	(If No, explain in I	Remarks)			
Are Vegetation , Soil , Hydrology , significan	ntly disturbed?	· A	re "Normal	Circumstances" prese	ent? Yes	s X	No	
Are Vegetation , Soil , Hydrology , naturally	problematic?		(If needed.	explain any answers i	in Remark	s.)		
SUMMARY OF FINDINGS - Attach a site map sh	nowing sar	npling poi	•				res, et	c.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No		ampled Area Wetland?		Van I	M.			
, s, les V MO		· ••••••		Yes I	No			
Remarks: Cloudy, 56-67 deg F, 0.3in precip.								
VEGETATION Use scientific names of plants.	Absolute % Cover	Dominant	Indicator					
<u>Tree Stratum</u> (Plot size: 30 Ft )	76 COVEL	<u>Species</u>	<u>Status</u>	Dominance Test V				
Fraxinus latifolia	5	Υ	FACW	Number of Domina That Are OBL, FAC			2	(A)
	5	=Total Cover						
Shrub Stratum				Total Number of Do Species Across all			2	(B)
Herb Stratum (Plot size: 10 Ft )								(-/
Scirpus microcarpus	85	Υ	OBL	Percent of Dominar			100.0%	(A/B)
Phalaris arundinacea	5	N	FACW	That Are OBL, FAC	,vv, or FAC	<i>7</i> :		
Juncus effusus	2	N	FACW	Prevalence Index	Workshee	t:		
Lotus corniculatus	2	N	FAC	Total % Cover			iply by:	
	94	=Total Cover		OBL species	85	x 1 =		
Vine Stratum				FACW species	12	x 2 =		
				FAC species	2	x 3 =	6	
				FACU species	0	x 4 =		
				UPL species	0	x 5 =	0	
				Column Totals:	99	(A)	115	(B)
				Prevalence Ir	ndex = B/A	=	1,16	
				Hydrophytic Vegeta	ation Indic	ators:		
				X Rapid Test for	Hydrophyti	c Veget	ation	
				X Dominance Tes	st > 50%			
				X Prevalence Ind	ex ≤ 3.0			
				Morphological <i>i</i> data in Remark				orting
				Problematic Hy	drophytic \	√egetati	ion (Exp	plain)
				Indicators of hydric must be present, u				
% Bare Ground in Herb Stratum 0				Hydrophytic Vegetation Presen	it? Yes	х	No	
parks: (Include photo numbers here or on a separate sheet.)								

**US Army Corps of Engineers** 

De	pth		Matrix				Redox I	Features			
	ches)	Cold	or (moist)	%		Color (moist)	%	Type	1 Loc <sup>2</sup>	Texture	Remarks
0	to 12	10YR	2/2	100						CLAY LOAM	
12	to 16	10YR	4 / 1	95		5YR 4/6	5	D	M	CLAY LOAM	
1Typ	e: C=Cor	ncentration,	D=Depletion,	RM=Re	duce	ed Martix, CS=Co	vered or	Coated	Sand Gra	ains. 2Location: PL=Pore Lining	g, M=Matrix.
Hyd	lric Soil	Indicators:								Indicators for Problematic 1	Hydric Soils: 3
	Histosol (A	11)			Ш	Sandy Redox (S5)	)			2 cm Muck (A10)	
		edon (A2)				Stripped Matrix (S	,			Red Parent Material (TF2)	
	Black Histi					Loamy Mucky Min	eral (F1)	(except N	ILRA 1)	Very Shallow Dark Surface (	TF12)
	, ,	Sulfide (A4)			Щ	Loamy Gleyed Ma				Other (Explain in Remarks)	,
	•	Below Dark Si	, ,			Depleted Matrix (F	,				
		Surface (A1:	·			Redox Dark Surfa	, ,			<sup>3</sup> Indicators of hydrophytic veget	ation and wetland
	•	cky Mineral (S	•			Depleted Dark Su	•	)		hydrology must be present, unless disturbed or problemation	
L	Sandy Gle	yed Matrix (S	(4)			Redox Depression	is (F8)			unless disturbed of problemati	J.
	Restrict	ive Layer	(if observe	d):							
	Туре:									Hydric Soil Present?	Yes X No
	Depth (inc	hes):								,	7
Rema	rks: rated soils										
HYD	ROLOG	GY									
		drology Inc cators (minir		s required	d; ch	eck all that apply	)			Secondary Indicators (mi	nimum of two required)
p-0	Surface W	ater (A1) r Table (A2)				Water-Stain 1, 2, 4A and		s (B9) (ex	cept MLRA	Water-Stained Leaves 4A, and 4B)	s (B9) (MLRA 1, 2,
	Saturation					Salt Crust (E	311)			Drainage Patterns (B	10)
	Water Mar	, ,				Aquatic Inve	rtebrates	(B13)		Dry-Season Water Ta	·
		Deposits (B2)	)			Hydrogen Su	ulfide Odd	or (C1)		Saturation Visible on A	
	Drift Depo	, , ,				Oxidized Rh	izosphere	es along L	iving Roots	Geomorphic Position	
	Algal Mat	or Crust (B4)				Presence of	Reduced	Iron (C4)	)	Shallow Aquitard (D3)	` '
	Iron Depos	sits (B5)				Recent Iron	Reduction	n in Tilled	Soils (C6)	FAC-Neutral Test (D5	
	Surface So	oil Cracks (B6	3)			Stunted or S	Stressed F	Plants (D1	I) (LRR A)	Paised Ant Mounds (	
	Inundation	Visible on A	erial Imagery (B	37)		Other (Expla	in in Ren	narks)		Frost-Heave Hummod	cks (D7)
	Sparsely ∖	egetated Cor	ncave Surface (	(B8)							
Fiel	d Observ	vations:									
Sı	urface Wat	er Present?	Yes		No	X Depth (	inches):				
W	ater Table	Present?	Yes	X	No	Depth (	inches):		16		
Sa	aturation P	resent?	Yes	X	No	Depth (	inches):		0	Wetland Hydrology Present?	? Yes X No
		pillary fringe)							2 11		
Desc	ribe Recoi	ded Data (str	ream gauge, mo	onitoring v	veii, a	erial photos, previo	us insped	ctions), if a	available:		
Rema	rks:										=

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