

**WETLAND DELINEATION / DETERMINATION REPORT COVER FORM**

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach this form to the front of an unbound report or include a hard copy of the completed form with a CD/DVD that includes a single PDF file of the report cover form and report (minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF attachment of the completed cover form and report may be e-mailed to [Wetland\\_Delineation@dsl.state.or.us](mailto:Wetland_Delineation@dsl.state.or.us). For submittal of PDF files larger than 10 MB, e-mail instructions on how to access the file from your ftp or other file sharing website. Fees can be paid by check or credit card. Make the check payable to the Oregon Department of State Lands. To pay the fee by credit card, call 503-986-5200.

<input checked="" type="checkbox"/> Applicant <input type="checkbox"/> Owner Name, Firm and Address: <b>Tillamook County</b> <b>201 Laurel Ave</b> <b>Tillamook, OR 97141</b>	Business phone # <b>503-842-1809</b> Mobile phone # (optional) E-mail:
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<input type="checkbox"/> Authorized Legal Agent, Name and Address:	Business phone # Mobile phone # E-mail:
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I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.  
 Typed/Printed Name: \_\_\_\_\_ Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_ Special instructions regarding site access: **None**

**Project and Site Information** (using decimal degree format for lat/long., enter centroid of site or start & end points of linear project)

Project Name: <b>Oregon Solutions - Southern Flow Corridor</b>	Latitude: <b>45.4725</b>	Longitude: <b>-123.8736</b>
Proposed Use: <b>Restoration</b>	Tax Map # <b>1S R10 Sections 14, 22-25, 25AC</b>	
Project Street Address (or other descriptive location): <b>730 acres north of Highway 131 and west of Highway 101. South of Wilson River, east of Tillamook Bay and the Trask River.</b> City: <b>Tillamook</b> County: <b>Tillamook</b>	Township <b>1S</b> Range <b>10W</b> Section <b>14, 22-25, 25AC</b>	
	Tax Lot(s) <b>many, see page 2 of WDR</b>	
	Waterway: <b>Wilson River, Hall Slough, Trask River</b> River Mile: <b>many</b>	
NWI Quad(s): <b>Tillamook</b>		

**Wetland Delineation Information**

Wetland Consultant Name, Firm and Address: <b>MCS Corp</b> <b>3895 SW 94th Ave</b> <b>Portland, OR 97225</b>	Phone # <b>503-349-4470</b> Mobile phone # E-mail: <b>greta@murdoffcs.com</b>
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge. Consultant Signature: <i>Greta Presley</i> Date: <b>6/17/2015</b>	
Primary Contact for report review and site access is <input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent	
Wetland/Waters Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Study Area size: <b>729.8ac</b> Total Wetland Acreage: <b>709.4ac</b>	

**Check Box Below if Applicable:**

**Fees:**

<input checked="" type="checkbox"/> R-F permit application submitted <input type="checkbox"/> Mitigation bank site <input checked="" type="checkbox"/> Wetland restoration/enhancement project (not mitigation) <input type="checkbox"/> Industrial Land Certification Program Site <input type="checkbox"/> Reissuance of a recently expired delineation Previous DSL # _____ Expiration date _____	<input type="checkbox"/> Fee payment submitted \$ <b>406.00</b> <input type="checkbox"/> Fee (\$100) for resubmittal of rejected report <input type="checkbox"/> No fee for request for reissuance of an expired report
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<b>Other Information:</b>	Y	N	
Has previous delineation/application been made on parcel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	If known, previous DSL # _____
Does LWI, if any, show wetland or waters on parcel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**For Office Use Only**

DSL Reviewer: _____	Fee Paid Date: ____ / ____ / ____	DSL WD # _____
Date Delineation Received: ____ / ____ / ____	DSL Project # _____	DSL Site # _____
Scanned: <input type="checkbox"/> Final Scan: <input type="checkbox"/>	DSL WN # _____	DSL App. # _____



# Oregon Solutions - Southern Flow Corridor

## Wetland Delineation Report

June 2015

*Prepared for:*

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## **Acronyms and Abbreviations**

DSL	Oregon Department of State Lands
Corps	U.S. Army Corps of Engineers
EFU	Exclusive Farm Use
HGM	hydrogeomorphic
LWI	local wetlands inventory
NWI	National Wetlands Inventory (U.S. Department of Agriculture [USDA])
NRCS	Natural Resources Conservation Service
NHC	Northwest Hydraulic Consultants
OHWM	Ordinary High Water Mark
OSP	Oregon Solutions Project
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
SF	Square feet

## 1.0 Introduction

Five rivers enter the Tillamook Bay estuary: the Miami, Kilchis, Wilson, Trask, and Tillamook. Flooding occurs frequently in the lower reaches of the Wilson, Trask, and Tillamook, typically between October and April. High tides combine with storm surges, heavy rainfall, and snowmelt, causing coastal and inland flooding. Fourteen major river and coastal floods have been recorded in the Tillamook Basin since 1916. Flood losses in Tillamook County exceeded \$60 million from 1996 through 2000 and included damages to homes, farmland, businesses, and infrastructure. Additional flood losses have been incurred by the Tillamook community since 2000.

In response to these frequent flood events, Port of Tillamook Bay (POTB), Tillamook County, the City of Tillamook, several state and federal agencies, non-profit organizations, and local business interests have worked together to identify solutions to Tillamook Valley's ongoing flood problem. Numerous investigations, studies, and collaborative evaluations of potential flood reduction actions that have taken place since 1994 led to the designation of flooding in central Tillamook County as an Oregon Solutions project (OSP)<sup>1</sup> by the governor of Oregon.

The Southern Flow Corridor project is part of the OSP, providing flooding solutions for the Wilson River to reduce flood levels and prevent future flood damages. The Southern Flow Corridor is the largest area (approximately 642 acres) in the OSP designated for restoration by removing extensive levees and fill to create a more unobstructed flood pathway out to Tillamook Bay. New levees will be constructed and some existing levees improved further inland to protect existing agricultural areas while also allowing river flood flows to pass through and blocking high tides and coastal storm surges. This project will return a large area (approximately 520 acres) of agricultural wetlands to functioning tidal wetlands by connecting the area back to the influence of Tillamook Bay.

The purpose of this wetland delineation is to (1) document the extent and character of the wetlands within the study area and (2) show the area of likely jurisdiction. The study area lies generally northwest of Tillamook, Oregon (Appendix A, Figure 1). It is made up of numerous large tax lots on maps 1S 10W 22, 1S 10W 23, 1S 10W 24, 1S 10W 25, and 1S 10W 25AC (Appendix A, Figures 2a, 2b, 2c). The majority of the lots are currently zoned as Exclusive Farm Use (EFU) with some light industrial areas.

This report describes the methodology used to complete the delineation, describes the existing conditions of the study area, and discusses the results of the wetland delineation. Figures and reference maps are included in Appendix A; wetland delineation data forms are included in Appendix B; and site photographs are included in Appendix C. Appendix D includes additional tables and information. Literature citations may be found in Appendix E.

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<sup>1</sup> *The Oregon Solutions Program is a community governance program initiated by the Oregon Sustainability Act of 2001 housed in the Portland State University National Policy Consensus Center. The Oregon Solutions Program "brings representatives from the business, nonprofit, and civic sector to make commitments, take on specific roles and responsibilities, leverage and pool resources, [and solve problems]." (Oregon Solutions 2014)*

## 1.1 Landscape Setting and Land Use

The study area is located in the Coastal Lowlands subregion of the Coast Range ecoregion (EPA 2011), sitting above Tillamook Bay on a flat terrace below the western flank of the Coastal Mountain Range. It is located in the Trask River watershed (hydrologic unit code [HUC] 1710020304) and the Tillamook Bay-Frontal Pacific Ocean watershed (HUC 1710020308), in the Northern Oregon Coast subbasin.

The study area is bordered to the north by the Wilson River and to the northeast by Hall Slough, to the west and southwest by Tillamook Bay and the Trask River, and to the east by agricultural fields (Appendix A, Figure 1). The City of Tillamook forms the southeast border of the study area. The study area is topographically located close to sea level and mostly flat with variations generally originating from human manipulation, e.g., levees and other fills. Study area elevations range from approximately -2 to 10 feet above mean sea level (MSL).

The study area is located north and west of the City of Tillamook, Township 1 South, Range 10 West, Sections 14, 22, 23, 24, 25, and 25AC (Appendix A, Figure 2) in Tillamook County, Oregon. As shown in Figure 2, the study area includes the following tax lots:

- Tax Map 1S R10 14: 100 and 400
- Tax Map 1S R10 22: 100 and 200
- Tax Map 1S R10 23: 200, 700, 800, 801, 900, 1400, and 1500
- Tax Map 1S R10 24: 600
- Tax Map 1S R10 25: 200
- Tax Map 1S R10 25AC: 100, 200, and 4500

The study area is contiguous with an area of wetlands mapped by the National Wetlands Inventory (NWI) (USFWS 2008; Appendix A, Figure 3) that extend to the south and southwest. The Local Wetland Inventory (LWI) also maps wetlands throughout the study area (Wilson, Scoles, Brophy 1997; Appendix A, Figure 4). Soils mapped within the study area are typical of the Tillamook area (NRCS 2008; Appendix A, Figure 5).

The study area is zoned agriculture, either intensive use or mixed range. The area surrounding the study area is also generally zoned for agricultural use: A small portion to the southeast of the study area, within the city limits, is zoned commercial, industrial, and low-density residential.

Approximately 400 acres is currently in public ownership and 125 acres is proposed for purchase by Tillamook County. Approximately 185 acres of the study area is presently used for agricultural purposes.

For the purposes of the wetland delineation, the SFC project area was reduced from 758.6 to 729.8 acres to account for the length of Dougherty Slough to the east that was not included in the scope of the wetland/waters investigations. Henceforth, the term "study area" refers to the 729.8-acre wetlands/waters study area and the SFC project area refers to the 758.6-acre study area.



## 1.2 Site Alterations

The majority of the study area was historically (as well as some currently) used for agricultural purposes. Historic construction of the levee system converted much of the tidal wetlands to drier, mostly disconnected agricultural lands.

A small portion of the study area, located at the south east corner, has a long history of industrial uses. The history of the industrial area is presented in detail in the findings of a Phase II environmental assessment report (Anderson Geological, Inc. 2014). In summary, numerous sawmilling operations occupied the 66-acre industrial area beginning in 1885. In 1926, veneer manufacturing also began along the eastern portion of the industrial area. The sawmilling operations ceased in the mid-1960's and the log ponds were drained. Fill material was placed on the southeast corner of the west log pond and is currently overgrown with vegetation.

## 1.3 Precipitation Data and Analysis

The following tables provide precipitation recorded at the National Weather Service station in Astoria (closest station) for the months of the site visits. On average, precipitation was slightly above normal for the year. The months preceding the site visits were generally above average.

**Table 1. Summary of Precipitation Data between May 2014 and September 2014 for Tillamook, Oregon**

Category	May	June	July	August	September	Total Year to Date
Recorded Precipitation (inches)	5.00	2.10	1.75	0.73	3.69	54.86
Monthly Precipitation Average (inches)	4.72	3.58	1.38	1.31	3.00	54.00
Percent of Normal Recorded	106%	59%	127%	56%	123%	101%

Source: NOAA 2014

Daily precipitation data for the day of, day before, and 2 weeks prior to the field visits are provided in Appendix D. The WETS tables are also included in this appendix for reference purposes.

## 2.0 Methods

The proposed project may generally be divided into two main activity categories:

1. Restoration, which generally includes removal of levees, fill, and floodgates, and placement of fills to decommission man-made infrastructure (e.g., drainage ditches).
2. Fill for the purpose of constructing new levees, floodgates, and associated infrastructure.

State and federal wetland jurisdiction for each of the proposed activity types played a key role in determining the methods and resolution of the required wetland delineation (see "Jurisdiction" section

below): Because the extent of the Highest Observed Tide (HOT) – the jurisdictional wetland boundary - encompasses most of the project area (generally excepting the tops of the highest berms), all areas below the HOT elevation are essentially regulated as “wetlands” by the agencies, regardless of whether they exhibit wetland characteristics. Moreover, because the project mainly involves restoration of former wetlands, rather than wetland loss due to development, a high degree of delineation accuracy is less important (see below). However, in areas where fill and removal is proposed for construction of new or improved levees and related infrastructure, we conducted a standard wetland delineation.

### **Standard Delineation Methods**

Potential wetlands were identified prior to site visits using U.S. Geological Survey (USGS) Topographic Quadrangle Maps (USGS, Tillamook, OR 1985); U.S. Fish and Wildlife Service (USFWS) NWI Mapping (Tillamook quad, USFWS 1982); the Soil Survey of Tillamook County, Oregon, (Fillmore 2006); and the Local Wetland Inventory (Wilson, Scoles, Brophy 1997).

MCS Corp and Latimer Environmental staff conducted wetland delineation fieldwork on May 16, July 14-16, August 22, and September 15-17, 2014.

Wetland delineation followed standard criteria outlined in the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual (USACE Manual) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coastal Areas* (2010 Supplement), regardless of proposed activity type. For an area to be considered a wetland using the USACE Manual, it must meet criteria for hydrology, hydric soils, and hydrophytic vegetation. Thus, for each wetland, we recorded hydrology, soils, and vegetation data on Routine Wetland Determination Field Data Forms (Appendix B), at least one data plot each for the wetland and in the adjacent upland. Additional “test plots” were routinely taken to confirm that hydric soils and hydrology indicators were present in areas that contained marginal wetland vegetation; however, test plots are generally only used to guide the wetland boundary determination and not usually recorded on data forms.

### **Mapping Method and Accuracy**

For areas proposed for restoration activities, data plots were provided in areas where we noted a significant deviation from wetlands mapped on the NWI or LWI (OAR 141-090-0035) or to provide data needed to develop the wetland functional assessment.<sup>2</sup>

All flagged delineation boundaries were surveyed to digital format using a mapping-grade GPS. Existing survey control (provided by Tillamook County) was used to ensure data was collected at sub-meter accuracy (generally within 0.5 meter).

### **Jurisdiction**

Because the study area is tidally influenced, regulatory jurisdiction by the Oregon Department of State Lands (DSL) and USACE are governed by OAR 141-085-0515 and 33 CFR Part 328, respectively. Both agencies have agreed to use the Highest Observed Tide (HOT) as the regulatory wetland boundary for

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<sup>2</sup> DSL generally requires delineation accuracy to only be within 50 feet for restoration projects (OAR 141-090-0035 11 (b)).

this project (see Appendix D), which is documented as occurring at elevation 11.9 feet above mean sea level (DSL 2010).

Figures 6a-6q show the HOT as elevation contours of 11.9 feet overlain on the study area map: Closed polygons (in red) show those areas occurring above the HOT that would likely be non-jurisdictional, pending agency concurrence.

## 2.1 Hydrology

Wetland delineation data forms adapted from the 2010 Supplement were used to record hydrology, soils, and vegetation data at numerous representative sample points located within the study area (Appendix B). Hydrology observations were recorded at each plot. Data collected included presence/absence and depth of saturation and/or inundation and the presence/absence of other primary and secondary wetland hydrology indicators. Soil pits were used to measure depth of saturation and depth to free water, when present. While soils indicators were particularly unreliable (due to tilling, and the entire study area being mapped with hydric soils), hydrology indicators were concomitant with subtle changes in vegetation. A lack of vegetation was construed as an indicator of wetland conditions in some areas (i.e., heavily forested areas).

Water feature boundaries were determined by flagging the limits of the Ordinary High Water Mark (OHWM) of each feature. According to DSL administrative rules, the OHWM is defined as “the line on the bank or shore to which the high water ordinarily rises annually in season (ORS 274-005)” (DSL 2003). The OHWM also marks the boundary for designated “Waters of the United States”. Although the HOT elevation likely represents the jurisdictional boundary in most, if not all cases, the OHWM was still determined in the field for the purpose of characterizing existing drainages and other waters. OHWM was determined by noting physical indications of seasonal scour, flooding, deposition, ponding, and/or related active channel processes. Typical field indicators include the limits of litter, debris and drift lines, the deposition of fines, a distinct change in the vegetative community, textural changes in soils, and the presence of a distinct change in topography or natural line of inundation along the margin of a water feature.

## 2.2 Soils

At each sample plot, soils pits were excavated to a depth of at least 16 inches (where possible) to determine presence or absence of hydric soil conditions. In areas where excavation to at least 16 inches could not be attained, pits were dug as deep as possible and the reason why deeper excavation was not possible (e.g., presence of large dense cobbles or other refusal) was recorded in the soil remarks section of the data form. Soil hue, value, and chroma were determined using Munsell Soil Color Charts (Munsell Color Services 2000).

The Natural Resources Conservation Service (NRCS) maps seven soil types within the study area (Appendix A, Figure 4). Specifically, Brenner Silt Loam (Map Unit 1A), Coquille Silt Loam (Map Unit 3A), Nehalem Silt Loam (Map Unit 73A), Urban land-Udorthents complex (Map Unit 101B), Fluvaquents-Histosols complex, diked (Map Unit 102A), Coquille silt loam, diked (Map Unit 103A), and Coquille-

Brenner-Nehalem association (Map Unit 104A) are mapped within the study area (Figure 4). NRCS considers all but the Nehalem Silt Loam to be hydric or contain hydric inclusions.

## **2.3 Vegetation**

The study area can be divided into four general land use classes that influence vegetation: agricultural, historically industrial, and undisturbed. In the agricultural areas, hydrology and vegetation (and to some extent, soils) have been manipulated for decades and may be considered an Atypical Situation. Soils and hydrology may have been altered in the historically industrial area, which may influence what type of vegetation thrives there, e.g., blackberry or other invasive species, which may also be considered an Atypical Situation. In the undisturbed portions of the study area, hydrology has been manipulated by existing levees and various drainage facilities, but most of the associated lands have been largely undisturbed since the construction of the levees and drainage.

Plots were placed as close as possible (generally well within 20 feet), using a 5-foot sample radius for herbs and shrubs/saplings and a 30-foot sample radius for trees. Plot configuration and size were adjusted in some areas to account for the presence of differing adjacent plant communities, topographic variation, and/or other landscape characteristics. Vegetation data collected within each plot included scientific name, stratum, wetland indicator status, and absolute percent cover by strata (visually estimated) for all identifiable plants within the sample plot. Absolute cover estimates were then converted to relative percent cover and dominant species determined using the 50/20 Rule (see USACE Manual). Hydrophytic vegetation was considered prevalent if greater than 50 percent of dominant species from all strata were classified as OBL, FACW, or FAC.

## **3.0 Results**

Based on the available survey drawings, HOT mapping, and results of the field delineation, the wetland/waters area within the proposed study area is approximately 709.4 acres. Of the 709.4 acres of wetlands/waters, the following types are present: farmed herbaceous wetlands (403.4 acres), unfarmed herbaceous wetlands (126.5-acre), scrub-shrub wetland (31-acre), forested wetlands (69.1-acre), saltwater wetlands (21.5-acre), and riverine habitat/waterways (57.9-acre).

Appendix A includes a wetland delineation map showing locations of these potential jurisdictional features, as well as the locations of data points and photo locations. Appendix B includes the data forms completed for the study area. Appendix C includes photographs of representative wetland types mapped in the study area.

### **3.1 Description of All Wetlands and Other Non-Wetland Waters**

All of the wetlands and other waters within the study area are directly connected or adjacent to each other and to Tillamook Bay; therefore, all wetlands/waters features within the study area will likely be considered jurisdictional by DSL and the Corps. In addition, all flagged wetlands and other waters lie below the 11.9 foot HOT line (Appendix A, Figures 6a-6q) and are, therefore, likely jurisdictional (see Section 2.0). Within the 729.8-acre study area, approximately 20.4 acres were above the 11.9 elevation

Section 2.0). Within the 729.8-acre study area, approximately 20.4 acres were above the 11.9 elevation and, therefore, likely not considered jurisdictional. Conversely, the remaining 709.4 acres would be likely be considered jurisdictional. Due to the extensive jurisdictional area within the study area, the flagged wetlands and waters are group by vegetation type and discussed as a group below.

### **3.1.1 Farmed Herbaceous Wetlands**

The majority of the wetlands within the study area are herbaceous, agricultural (farmed) wetlands. Historically these areas were cleared and diked. The system of levees and drainage channels does not prevent the wetlands from achieving sufficient hydrology during the growing season. The levees and drainage channels are in place to make agricultural practices such as haying and pasturing possible in an otherwise flooded area.

Vegetation within these wetlands primarily consists of reed canarygrass (*Phalaris arundinacea*, FACW), colonial bentgrass (*Agrostis capillaris*, FAC), soft rush (*Juncus effusus*, FACW), tall fescue (*Festuca arundinaca*, FAC), velvet grass (*Holcus lanatus*, FAC), Italian ryegrass (*Lolium perenne*, FAC), and meadow foxtail (*Alopecurus pratensis*, FAC).

Soils in these wetlands have been somewhat altered or manipulated from a long history of agricultural practices. Soils are typically brown to very dark grayish brown (10YR 3/3 and 3/2) silt loams and silty clay loams in the upper 6-8 inches. Soils in the upper profiles are mostly disturbed (drilled, tilled) or compacted (cows). Below the A horizon, soils generally contained redoximorphic features such as mottles and lower chromas.

The primary hydrologic indicators most commonly observed in the farmed wetlands were soil saturation and oxidized rhizopheres. The data plots were excavated during the late spring and summer, so the water table was somewhat lower than ideal. The FAC-neutral test was a common secondary indicator. Adjacent upland plots displayed better drainage and lacked any primary hydrologic indicators. In general these wetlands connect to drainage channels which flow in to sloughs via overland or subsurface flow.

The boundaries of the farmed wetlands were initially indicated by changes in vegetation toward more weedy, upland species, but were substantiated by soil (redoximorphic features) and hydrologic (soil saturation) indicators. Vegetation and soils are actively managed or disturbed by livestock, so best professional judgment and hydrology indicators were the more reliable bases for boundary determination. In many areas, topographic changes tightly corresponded to soil and hydrology changes. Numerous soil test plots were excavated to confirm the wetland boundaries as they were being flagged, but were not recorded.

### **3.1.2 Herbaceous Wetlands**

The non-agricultural herbaceous wetlands are generally mapped just outside the farmed fields, in areas that are too wet to farm. Vegetation within these wetlands primarily consists of reed canarygrass, colonial bentgrass, soft rush, and slough sedge (*Carex obnupta*, OBL).

Soils sampled were typically silt loams to silty clay loams with low chroma (10YR 2/2 to 3/2). Due to the redox concentrations in greater than 5% abundance, the soils met the criteria for the redox dark surface indicator. Several areas contained highly altered soils, likely due to dredge spoils.

Hydrology criteria were met by the presence of oxidized rhizospheres in the soil test pits. The FAC-neutral test was a common secondary indicator. Due to the relatively late timing of the field investigations and the well drained character of the dredge spoils, hydrology was an unreliable indicator for many plots. Therefore, the boundaries for the herbaceous wetlands were determined by the presence of hydrophytic vegetation and presence/absence of redox concentrations.

### **3.1.3 Forested Wetlands**

Several forested wetlands are located within the study area. These are generally outside agricultural boundaries and are relatively undisturbed. Vegetation within these wetlands primarily consists of Sitka spruce (*Picea sitchensis*, FAC), willows (*Salix* spp, FACW), salmonberry (*Rubus spectabilis*, FAC), and slough sedge in the understory.

Soils in these wetlands are generally homogenous and undisturbed. Soils are typically very dark gray to very dark grayish brown (10YR 3/2 and 3/1) silt loams and silty clay loams. Redoximorphic features included distinct to prominent concentrations.

The primary hydrologic indicator most commonly observed in the forested wetlands was oxidized rhizospheres. Adjacent upland plots displayed better drainage and lacked any primary hydrologic indicators.

The boundaries of the forest wetlands were generally based on changes in topography but were substantiated by soil (redoximorphic features) indicators. Most of the forested wetlands within the study area are bounded by levees and the elevation of inundation marked by a change in soil indicators. Numerous soil test plots were excavated to confirm the wetland boundaries as they were being flagged, but were not recorded.

### **3.1.5 Other Waters**

Numerous sloughs, canals, and manmade ditches were documented within the study area. Most of these drainages were not flagged separately from the adjacent wetlands. The west bank of Hall Slough was flagged at the eastern end of the study area. The channel banks of Hall Slough are generally steep and artificially created above approximately six feet during levee construction. Sparse vegetation grows below the flagged OHWM due to tide fluctuations. Above the OHWM, reed canarygrass dominates the herbaceous edge with trees and shrubs further up the levee banks.

Typical agricultural ditches consist of steep to vertical banks vegetated by reed canarygrass, slough sedge, spreading rush (*Juncus patens*, FACW) and aquatics such as water milfoil (*Myriophyllum* sp) and duckweed (*Lemna* sp). These trapezoidal ditches are generally linear and designed to drain agricultural fields.

### **3.2 Deviation from LWI or NWI**

The NWI (Appendix A, Figure 3) maps the entire study area as either freshwater forested/scrub-shrub or freshwater emergent wetland.

The 1997 LWI maps much of the study area as "probable wetland" "mosaics" because access was denied at that time.

### **3.3 Mapping Method**

Flagged wetland/water boundaries and data plots were surveyed using a handheld GPS to an approximate accuracy of 0.5 foot and digitally mapped using AutoCAD®. Wetland boundaries and sample plots shall be identified on the ground with stakes, flags, and/or identified on an aerial photo and/or the wetland map, such that the boundaries and sample plots can be readily relocated in the field during a site visit.

### **3.4 Additional Information**

## **4.0 Conclusions**

Based on the results of the 2014 routine wetland delineations, the jurisdictional wetland/waters area within the proposed study area is approximately 709.4 acres. Of the flagged wetlands/waters, the following types are present: farmed herbaceous wetlands, unfarmed herbaceous wetlands, forested wetlands and riverine habitat/waterways.

MCS Corp and Latimer Environmental conducted wetland delineation fieldwork on May 16, July 14-16, August 22, and September 15-17, 2014.

## **5.0 Disclaimer**

*This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of my knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.*





## **APPENDIX A**

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### Figures

- Figure 1: Location Map
- Figure 2a and b: Tax Lot Map
- Figure 3: NWI Map
- Figure 4a and b: County Soil Survey Map
- Figure 5a-c: Aerial Photograph
- Figure 6a-q: Wetland Delineation Maps





3895 SW 94th Ave  
Portland, OR 97225

latimer environmental LLC

35 SE 76th Ave  
Portland OR 97215  
503-208-3706



CLIENT:

Northwest Hydrological  
Consultants

PROJECT:

Tillamook Southern Flow  
Corridor  
Wetland Delineation Report

TITLE:

Location Map

LEGEND:

 Project Vicinity



Plotted: 3/18/2015

FIGURE NO.

1



3895 SW 94th Ave  
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CLIENT:

Northwest Hydrological  
Consultants

PROJECT:

Tillamook Southern Flow  
Corridor

Wetland Delineation Report

TITLE:

Tax Map

LEGEND:

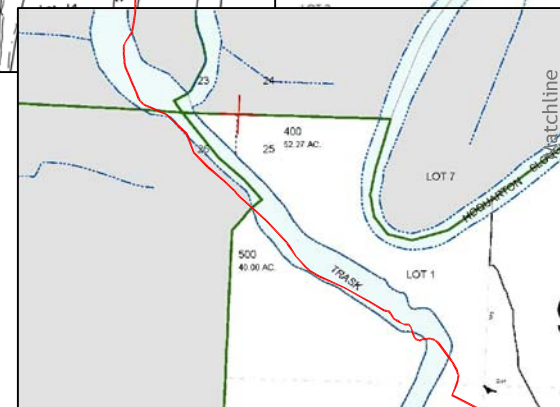
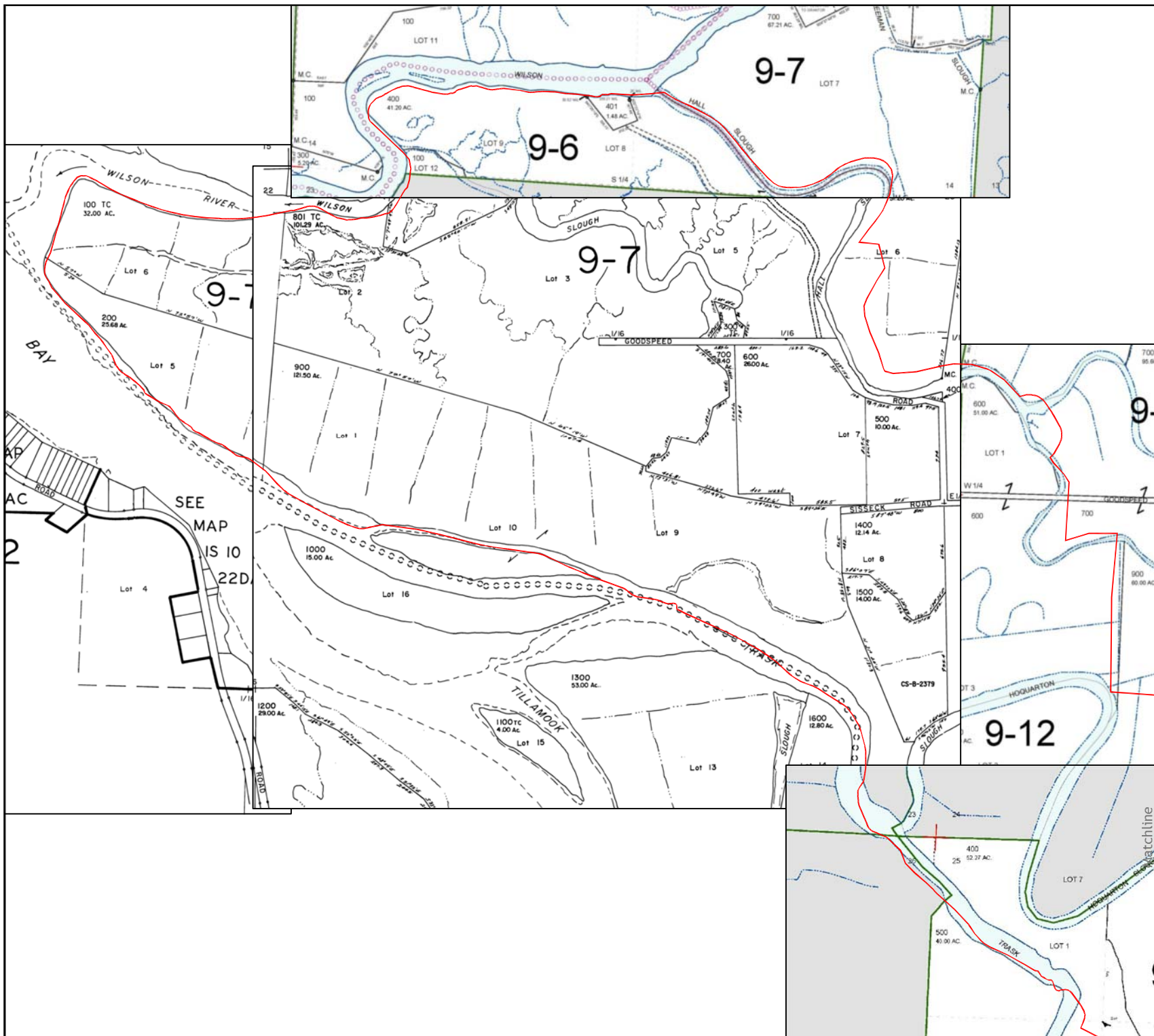
 Study Area

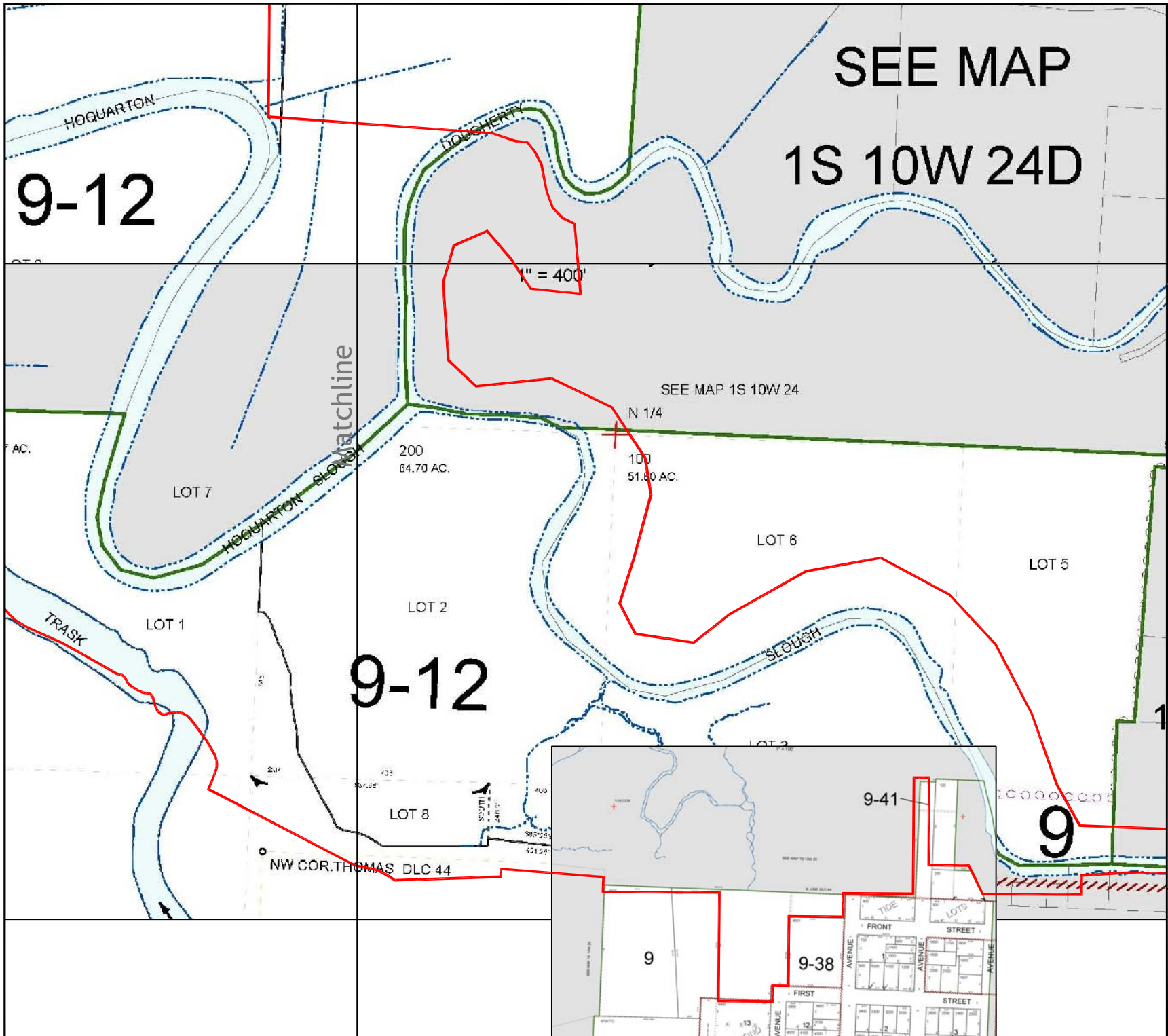


Plotted: 3/18/2015

FIGURE NO.

2a





SEE MAP  
1S 10W 24D

9-12

9-12

9



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CLIENT:

Northwest Hydrological  
Consultants

PROJECT:

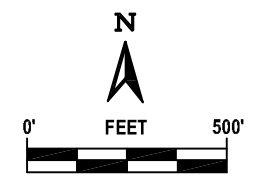
Tillamook Southern Flow  
Corridor  
Wetland Delineation Report

TITLE:

Tax Map

LEGEND:

Study Area



Plotted: 3/18/2015

FIGURE NO.

2b



- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other



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CLIENT:

Northwest Hydrological  
Consultants

PROJECT:

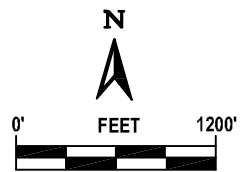
Tillamook Southern Flow  
Corridor  
Wetland Delineation Report

TITLE:

NWI Map

LEGEND:

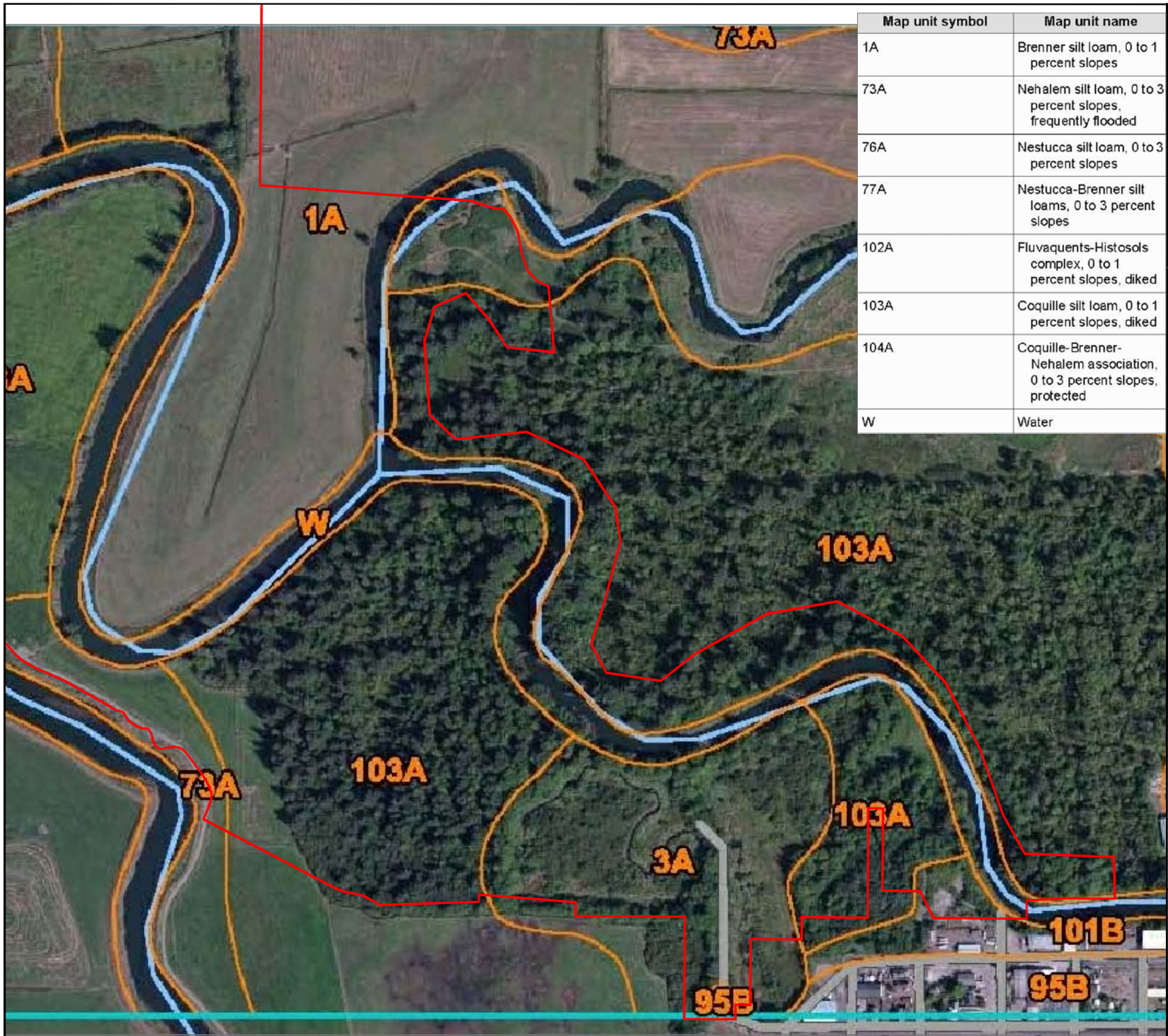
Study Area



Plotted: 3/18/2015

FIGURE NO.

3



Map unit symbol	Map unit name
1A	Brenner silt loam, 0 to 1 percent slopes
73A	Nehalem silt loam, 0 to 3 percent slopes, frequently flooded
76A	Nestucca silt loam, 0 to 3 percent slopes
77A	Nestucca-Brenner silt loams, 0 to 3 percent slopes
102A	Fluvaquents-Histosols complex, 0 to 1 percent slopes, diked
103A	Coquille silt loam, 0 to 1 percent slopes, diked
104A	Coquille-Brenner-Nehalem association, 0 to 3 percent slopes, protected
W	Water



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**CLIENT:**  
**Northwest Hydrological Consultants**


**PROJECT:**  
**Tillamook Southern Flow Corridor**  
**Wetland Delineation Report**

**TITLE:**  
**Soils Map**

**LEGEND:**  
— Study Area



N



0' FEET 500'

Plotted: 3/18/2015

**FIGURE NO.**  
**4a**



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503-208-3706



CLIENT:

Northwest Hydrological  
Consultants

PROJECT:

Tillamook Southern Flow  
Corridor

Wetland Delineation Report

TITLE:

Soils Map

LEGEND:

Study Area



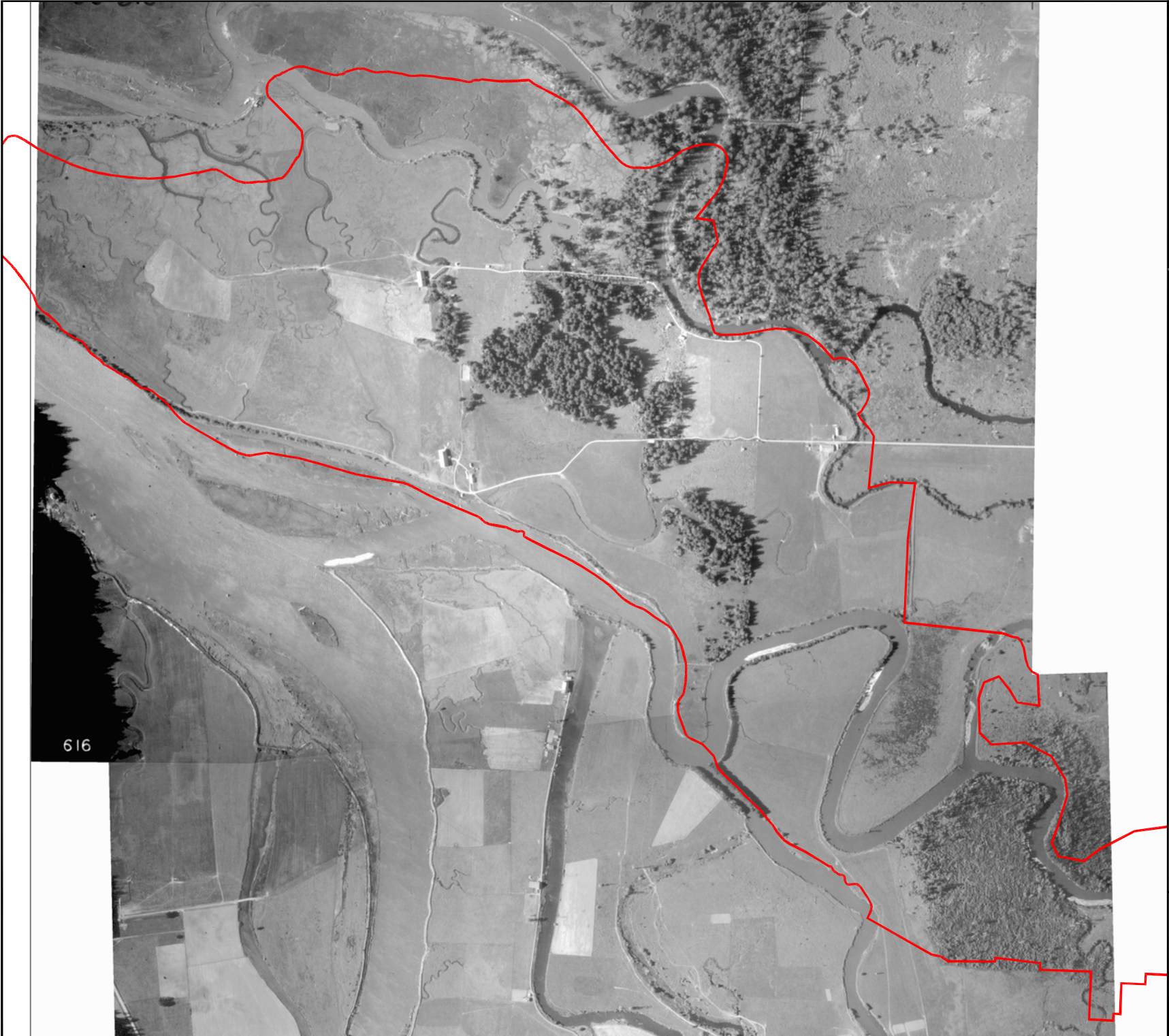
Plotted: 3/18/2015

FIGURE NO.

4b







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503-208-3706



CLIENT:

**Northwest Hydrological  
Consultants**

PROJECT:

**Tillamook Southern Flow  
Corridor**

TITLE:

**1939  
Historic Aerial Photograph**

LEGEND:

 Study Area (approx)

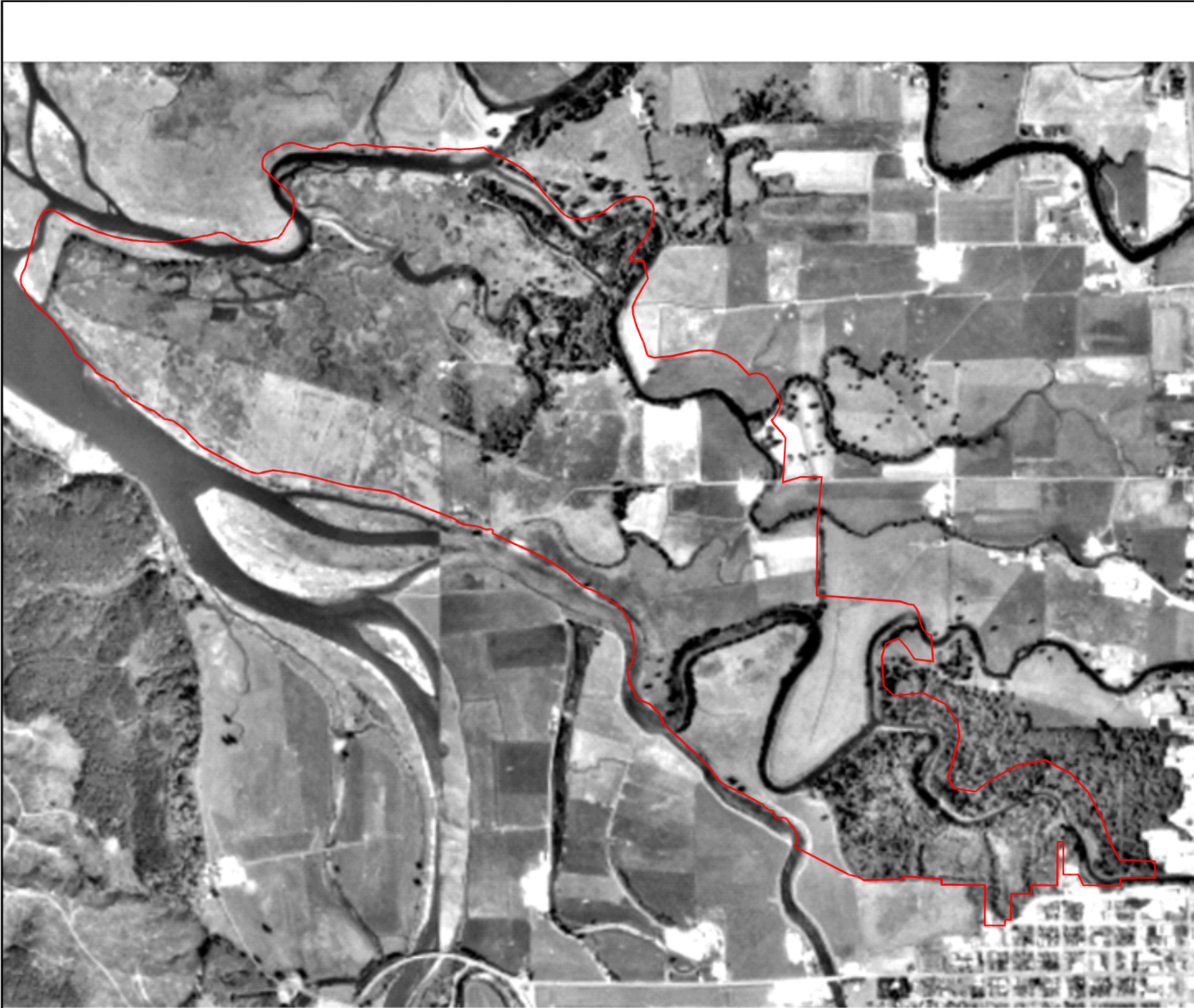


Not to Scale

Plotted: 6/8/2015

**FIGURE NO.**

**5a**



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**CLIENT:**

**Northwest Hydrological  
Consultants**

**PROJECT:**

**Tillamook Southern Flow  
Corridor**

**TITLE:**

**1995  
Historic Aerial Photograph**

**LEGEND:**

 Study Area (approx)

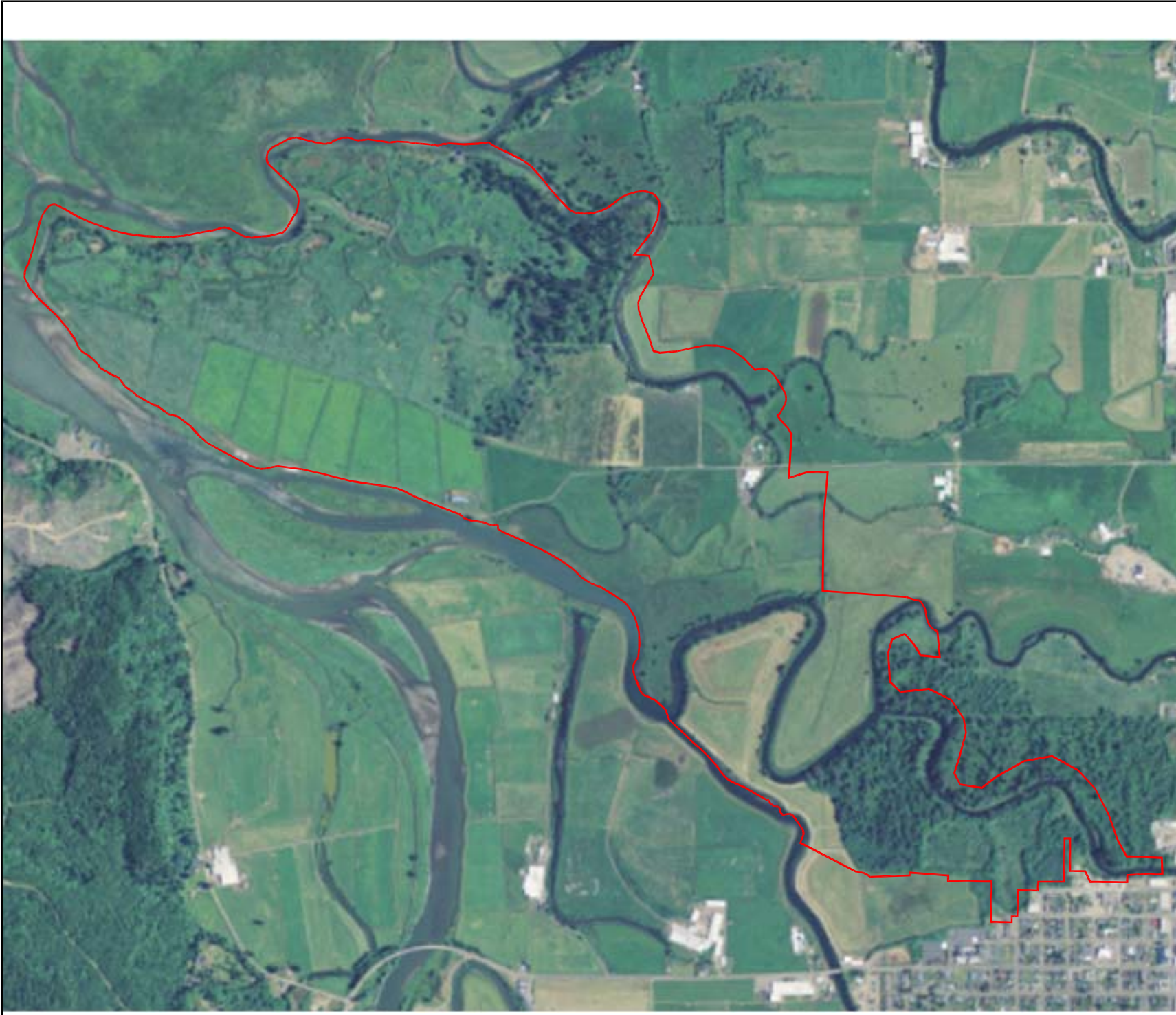


Not to Scale

Plotted: 6/8/2015

**FIGURE NO.**

**5b**



3895 SW 94th Ave  
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35 SE 76th Ave  
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503-208-3706



**CLIENT:**

**Northwest Hydrological  
Consultants**

**PROJECT:**

**Tillamook Southern Flow  
Corridor**

**TITLE:**

**2009  
Historic Aerial Photograph**

**LEGEND:**

 Study Area (approx)



Not to Scale

Plotted: 6/8/2015

**FIGURE NO.**

**5c**



CLIENT:

**Northwest  
Hydrological  
Consultants**







PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland Delineation**

LEGEND:

-  Preliminary Delineation Boundary
-  Highest Observed Tide (11.9 feet)
-  Study Area
-  Approximate Existing Fill
-  Matchlines
-  Tax Lot Lines

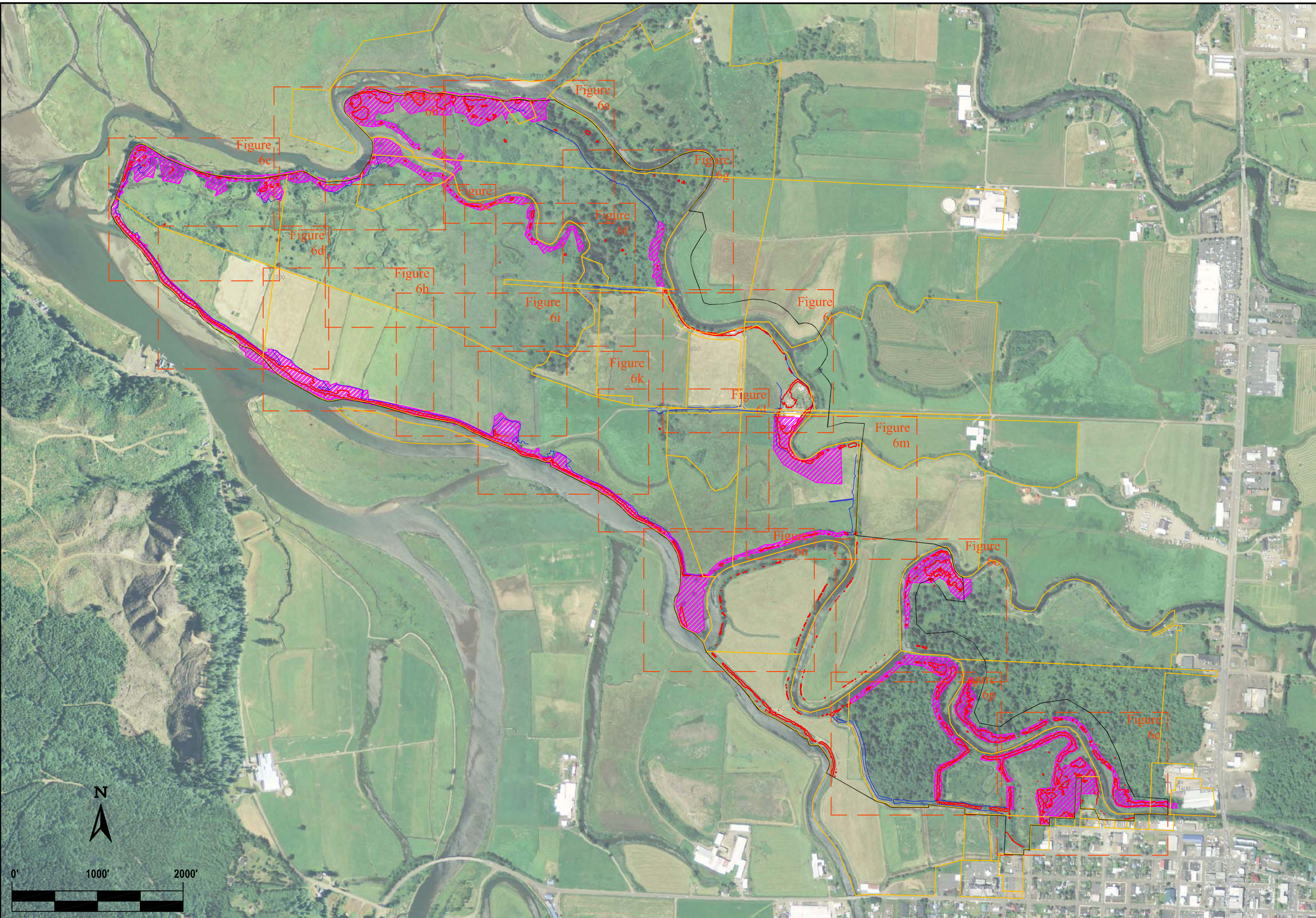
DWG DATA:

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

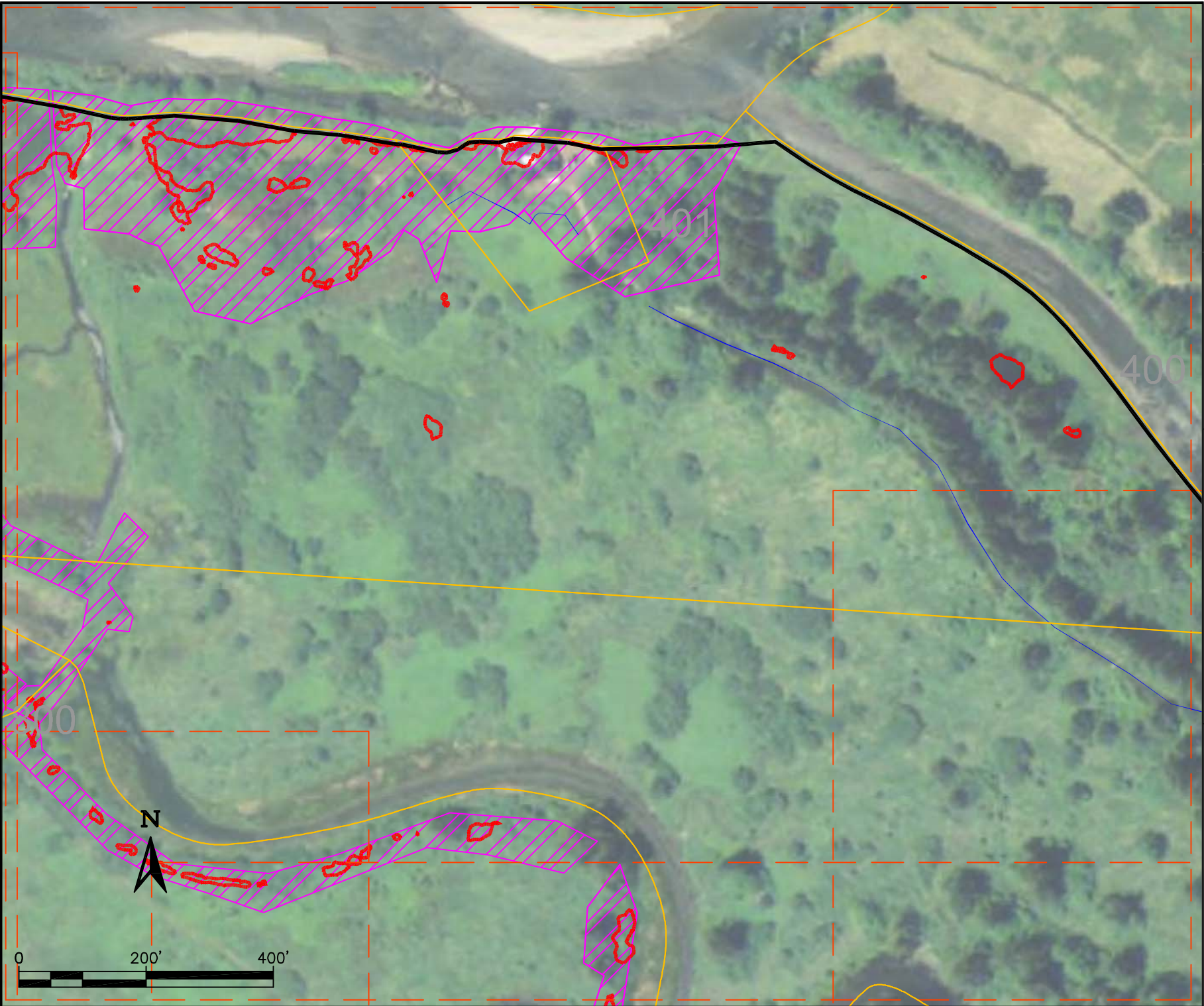
Plotted: 3/20/2016

Revised:

FIGURE NO.







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503-208-3708



**CLIENT:**

**Northwest  
Hydrological  
Consultants**

**PROJECT:**

**Tillamook  
Southern Flow  
Corridor**

**TITLE:**

**Preliminary  
Wetland  
Delineation**

**LEGEND:**

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

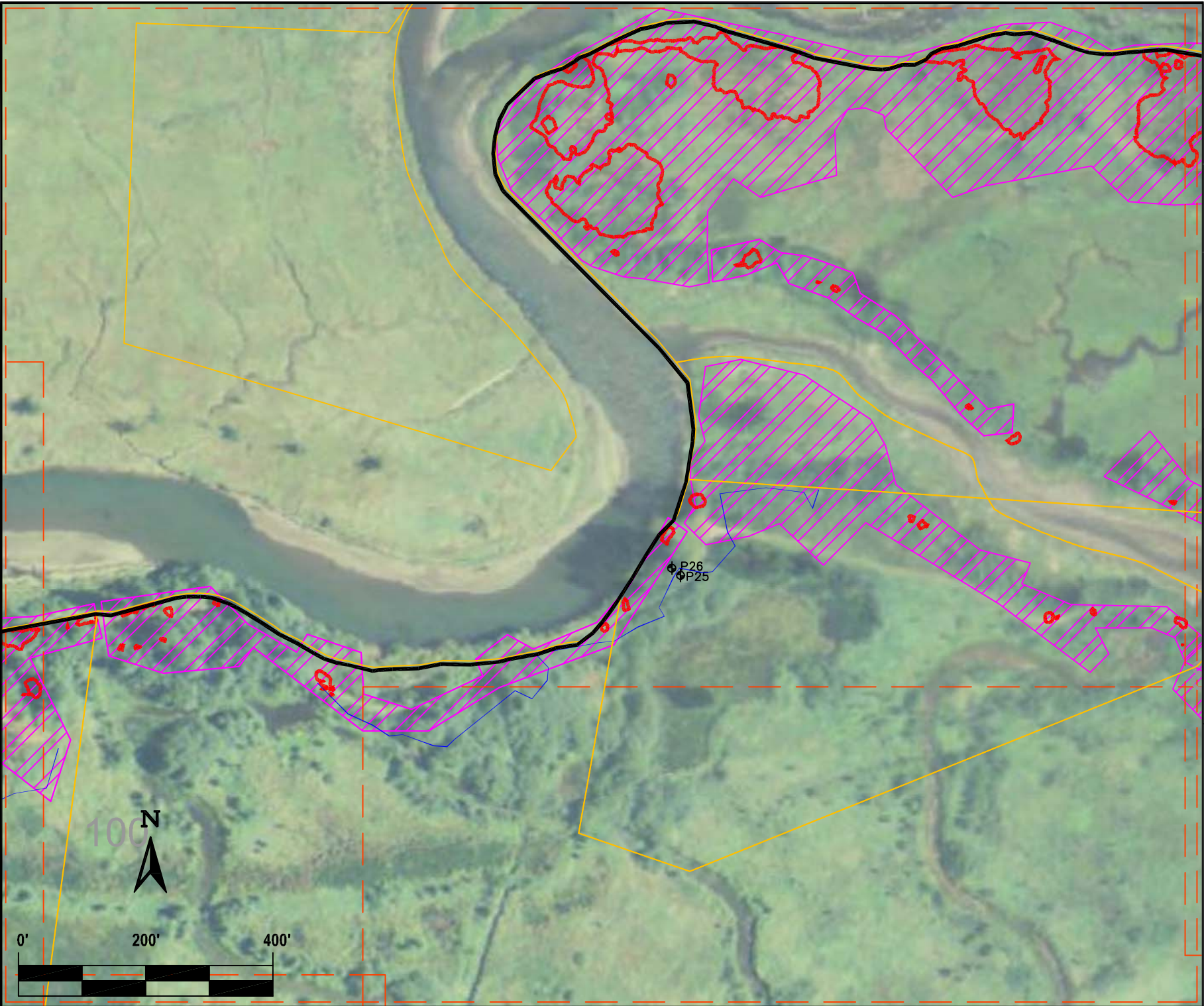
**DWG DATA:**

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FIGURE NO.

6-a



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CLIENT:

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Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

DWG DATA:

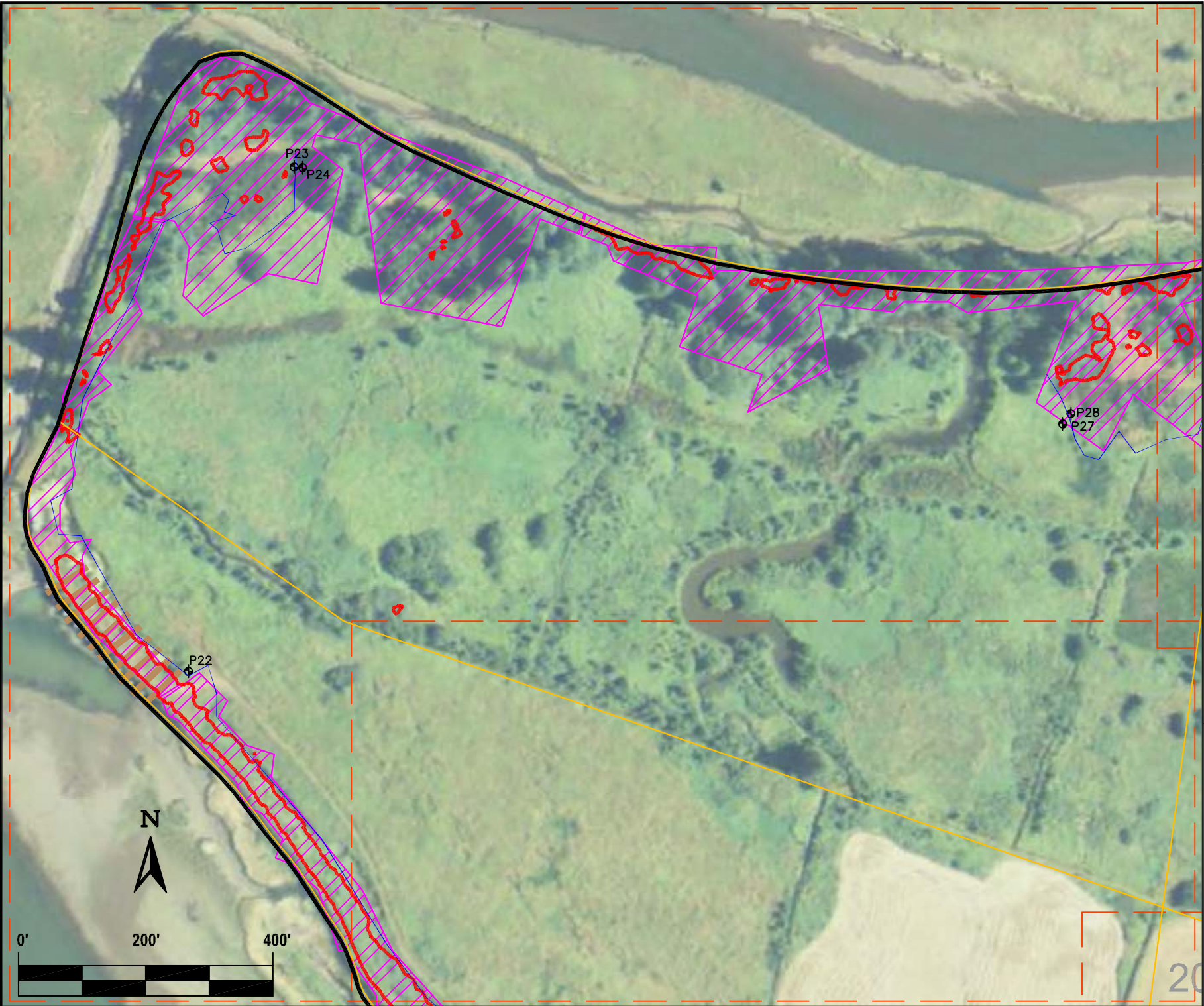
The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

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FIGURE NO.

6-b





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CLIENT:

**Northwest  
Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

DWG DATA:

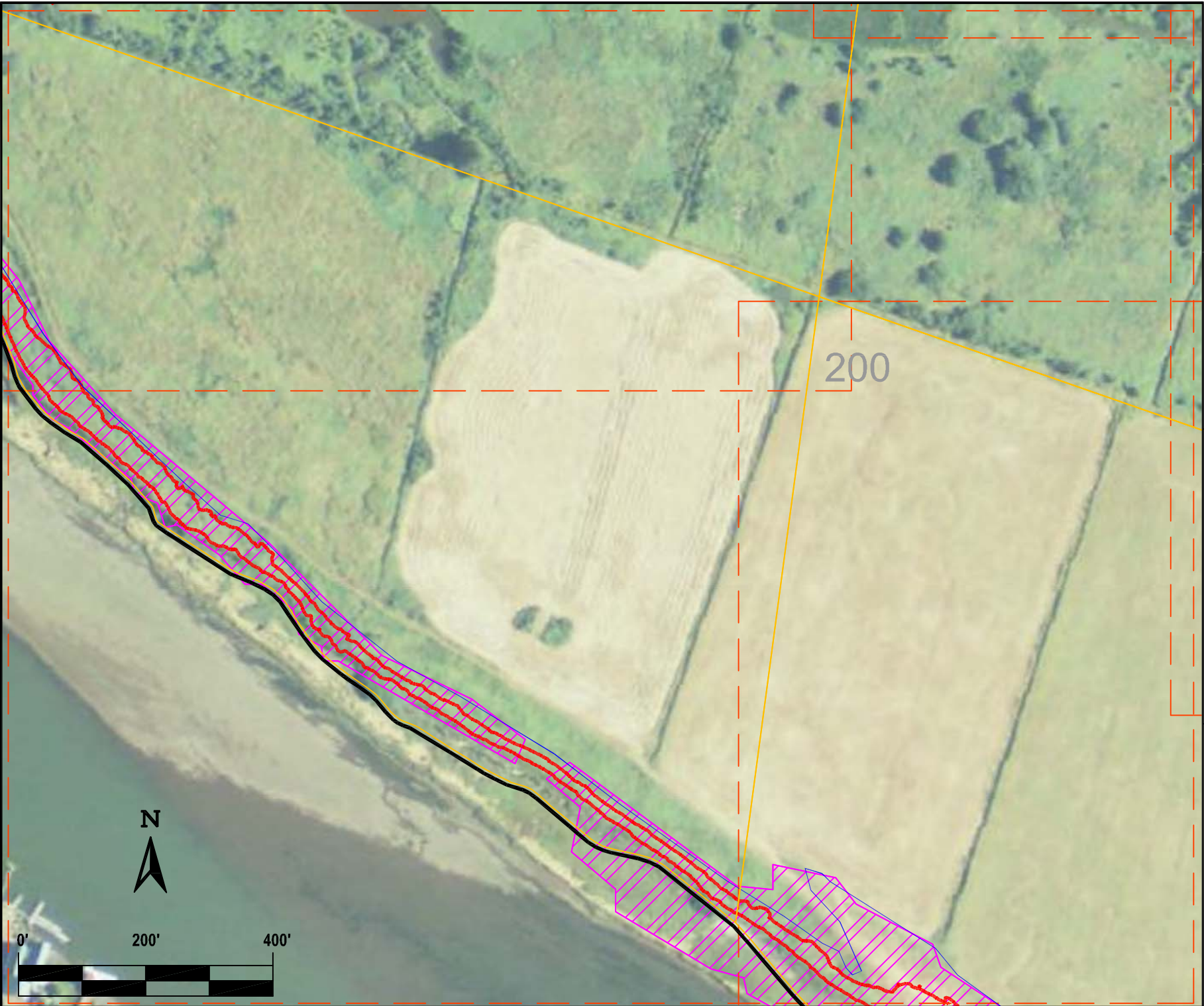
The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

FIGURE NO.

6-c

20



3895 SW 94th Ave  
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503-206-3706



CLIENT:

**Northwest  
Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

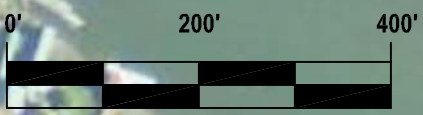
DWG DATA:

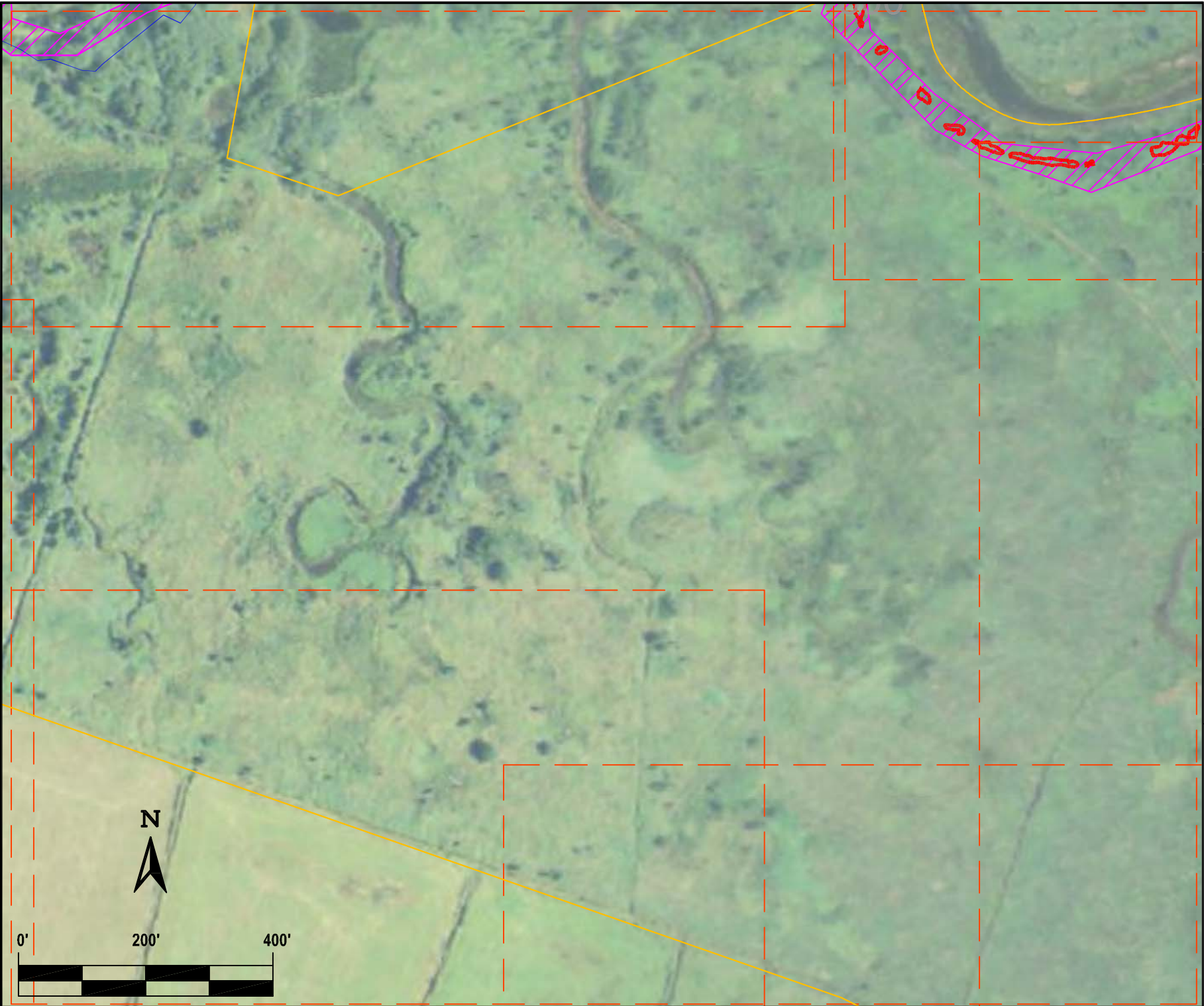
The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

FIGURE NO.

6-d





3895 SW 94th Ave  
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36 SE 78th Ave  
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503-208-3708



**CLIENT:**

**Northwest  
Hydrological  
Consultants**

**PROJECT:**

**Tillamook  
Southern Flow  
Corridor**

**TITLE:**

**Preliminary  
Wetland  
Delineation**

**LEGEND:**

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

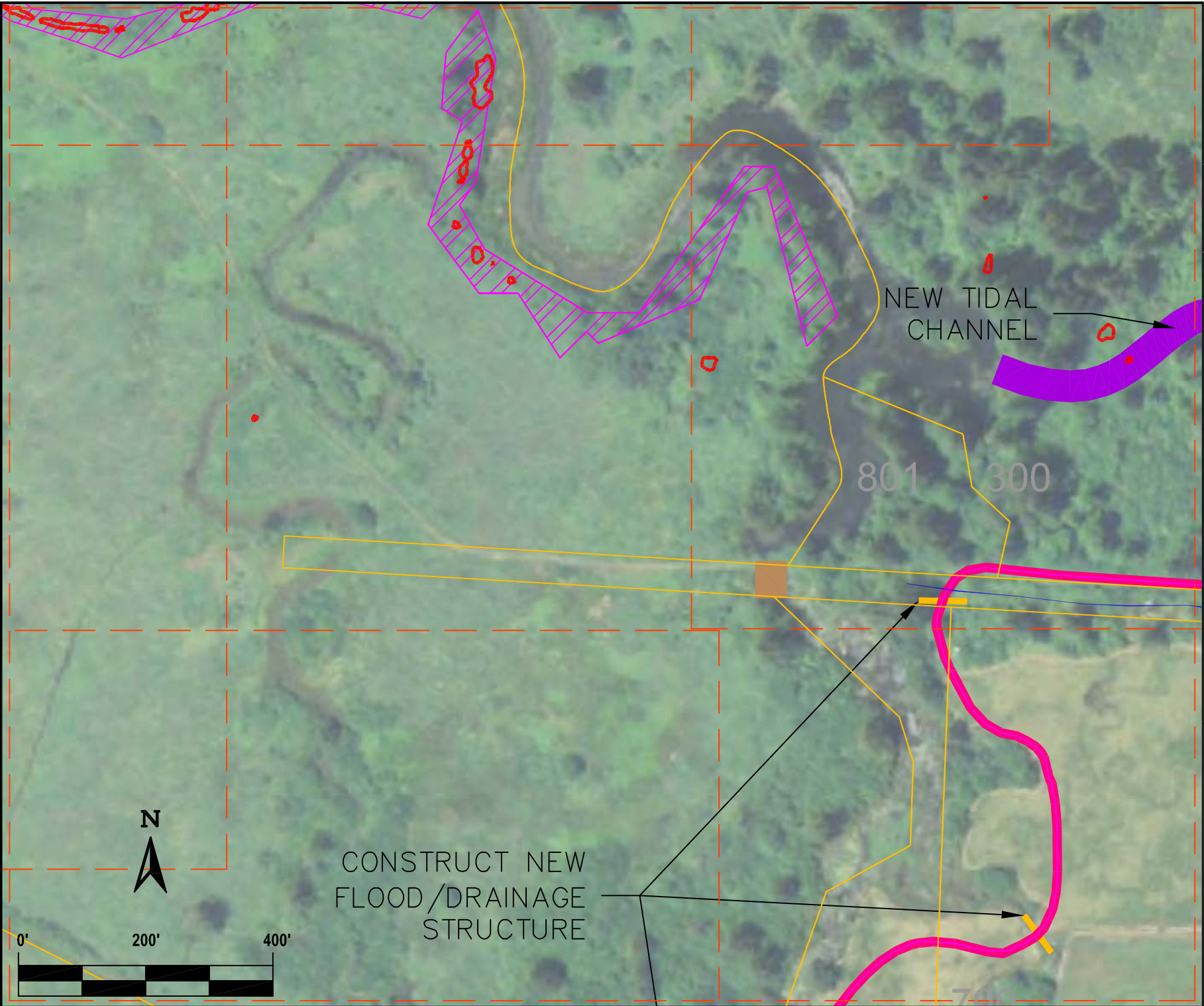
**DWG DATA:**

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

**FIGURE NO.**

**6-e**



3895 SW 94th Ave  
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CLIENT:

**Northwest  
Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

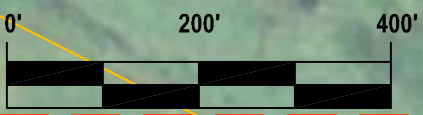
DWG DATA:

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

FIGURE NO.

**6-f**

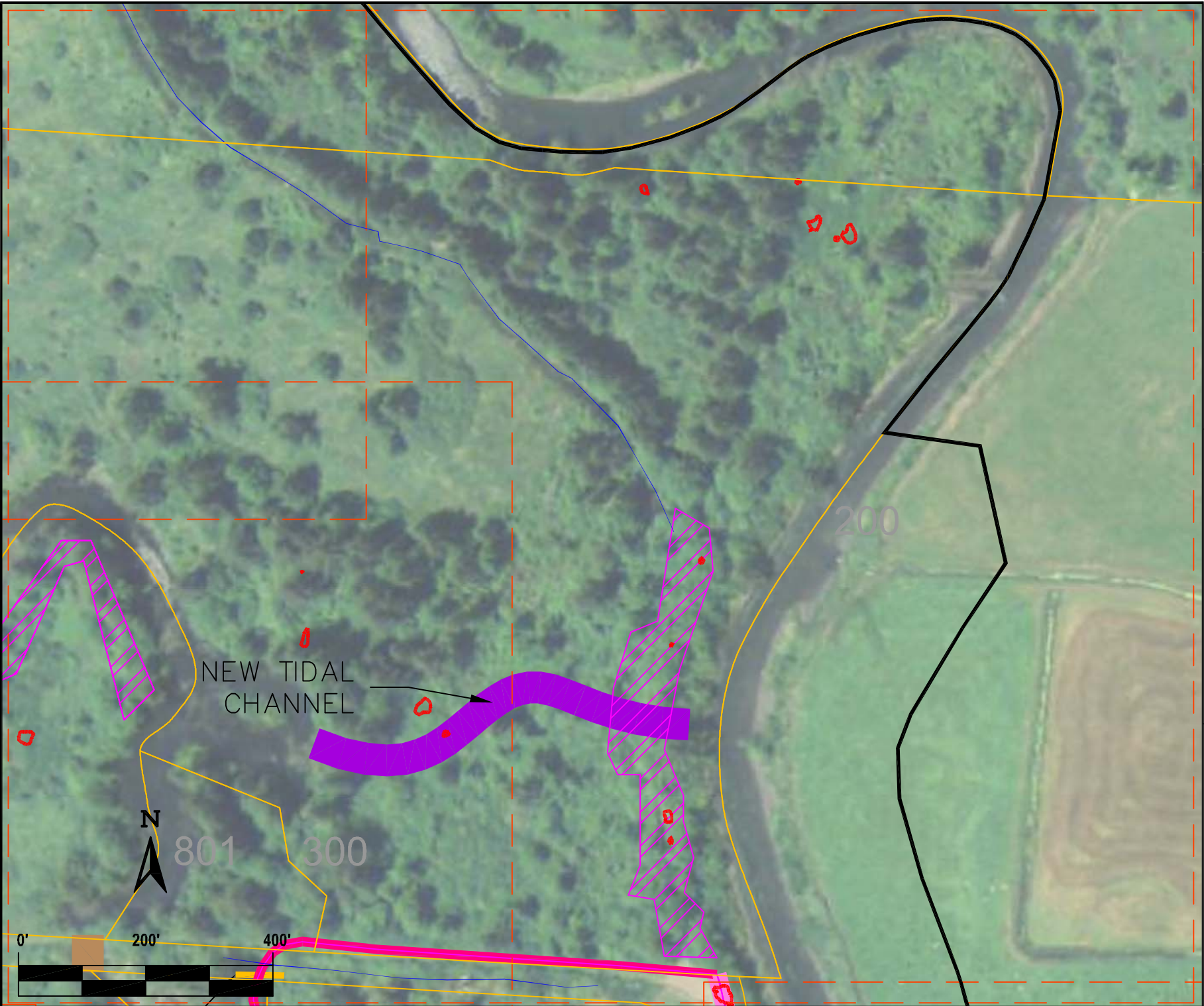


CONSTRUCT NEW  
FLOOD/ DRAINAGE  
STRUCTURE

NEW TIDAL  
CHANNEL

801 300

760



3895 SW 94th Ave  
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36 SE 78th Ave  
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503-208-3708



**CLIENT:**

**Northwest  
Hydrological  
Consultants**

**PROJECT:**

**Tillamook  
Southern Flow  
Corridor**

**TITLE:**

**Preliminary  
Wetland  
Delineation**

**LEGEND:**

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# ● Data Plot
- PP# > Photo Point
- Matchlines
- Tax Lot Lines

**DWG DATA:**

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

**FIGURE NO.**

**6-g**



3895 SW 94th Ave  
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36 SE 78th Ave  
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CLIENT:

**Northwest  
Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

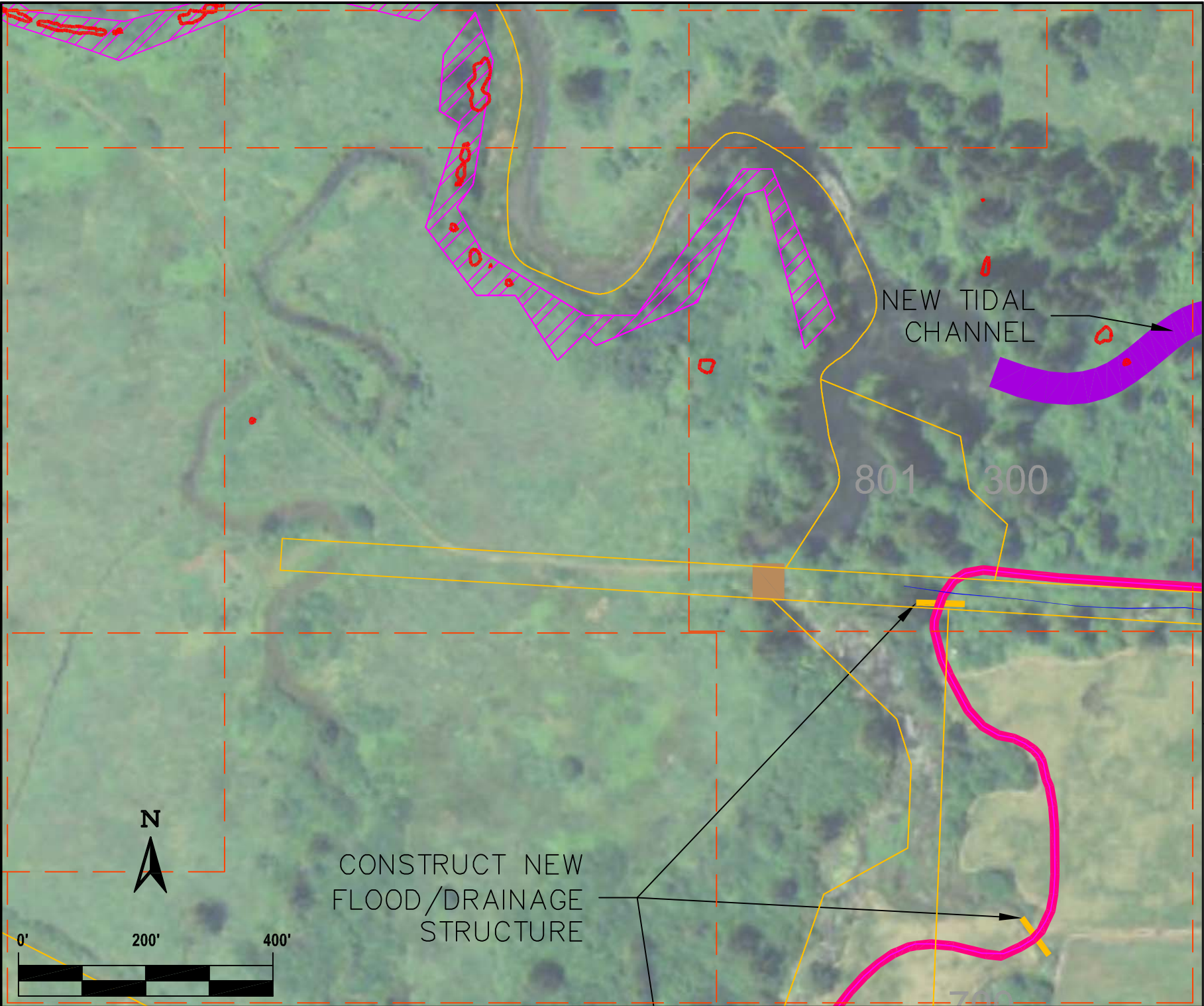
DWG DATA:

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

FIGURE NO.

6-h



3895 SW 94th Ave  
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36 SE 78th Ave  
Portland, OR 97215  
503-208-3708



CLIENT:

**Northwest  
Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# ⊕ Data Plot
- PP# > Photo Point
- Matchlines
- Tax Lot Lines

DWG DATA:

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2016 Revised:

FIGURE NO.

**6-i**



3895 SW 94th Ave  
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36 SE 78th Ave  
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503-208-3708



CLIENT:

**Northwest  
Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

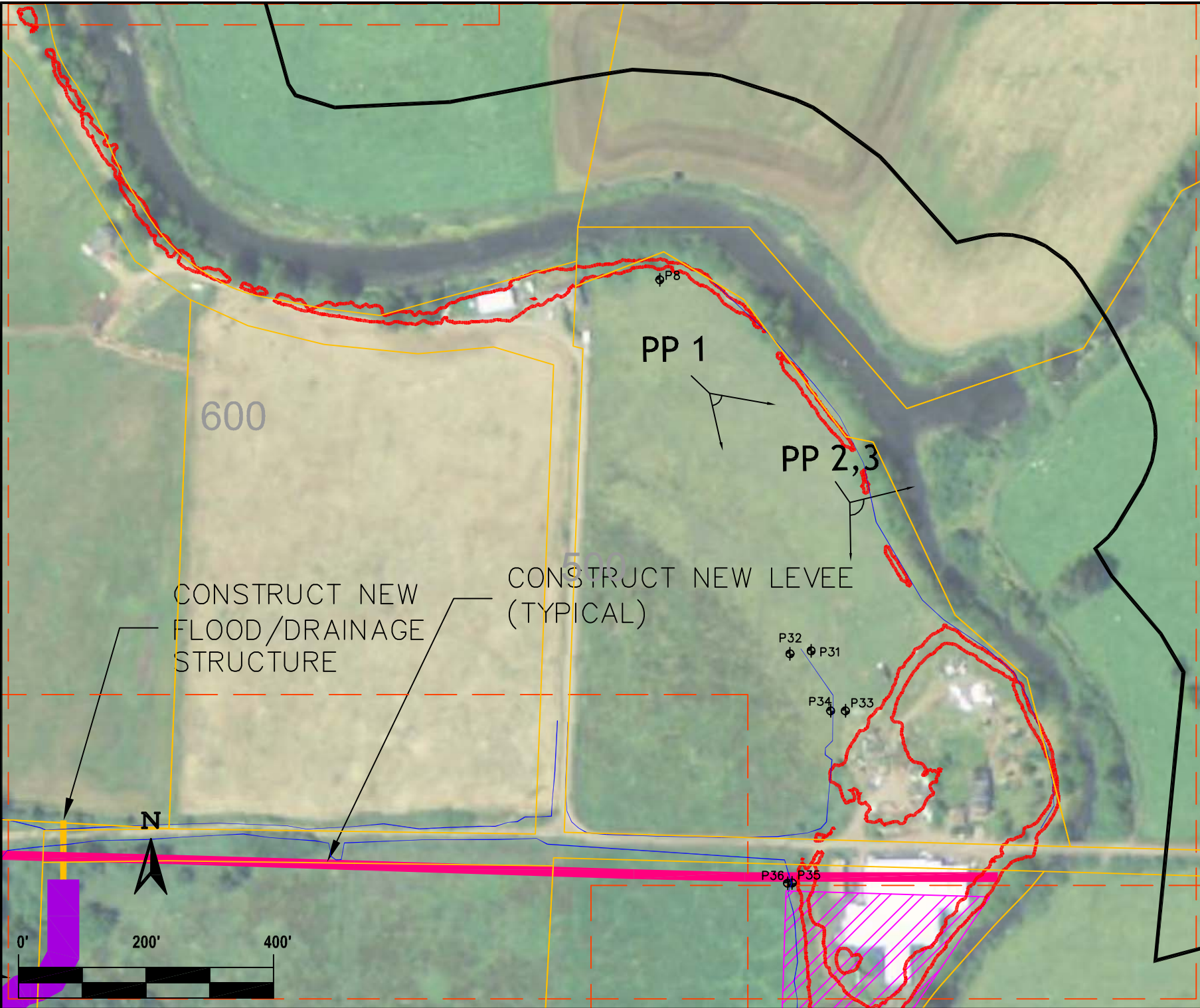
DWG DATA:

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

FIGURE NO.

6-j







3895 SW 94th Ave  
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36 SE 78th Ave  
Portland OR 97215  
503-208-3708



CLIENT:

**Northwest  
Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

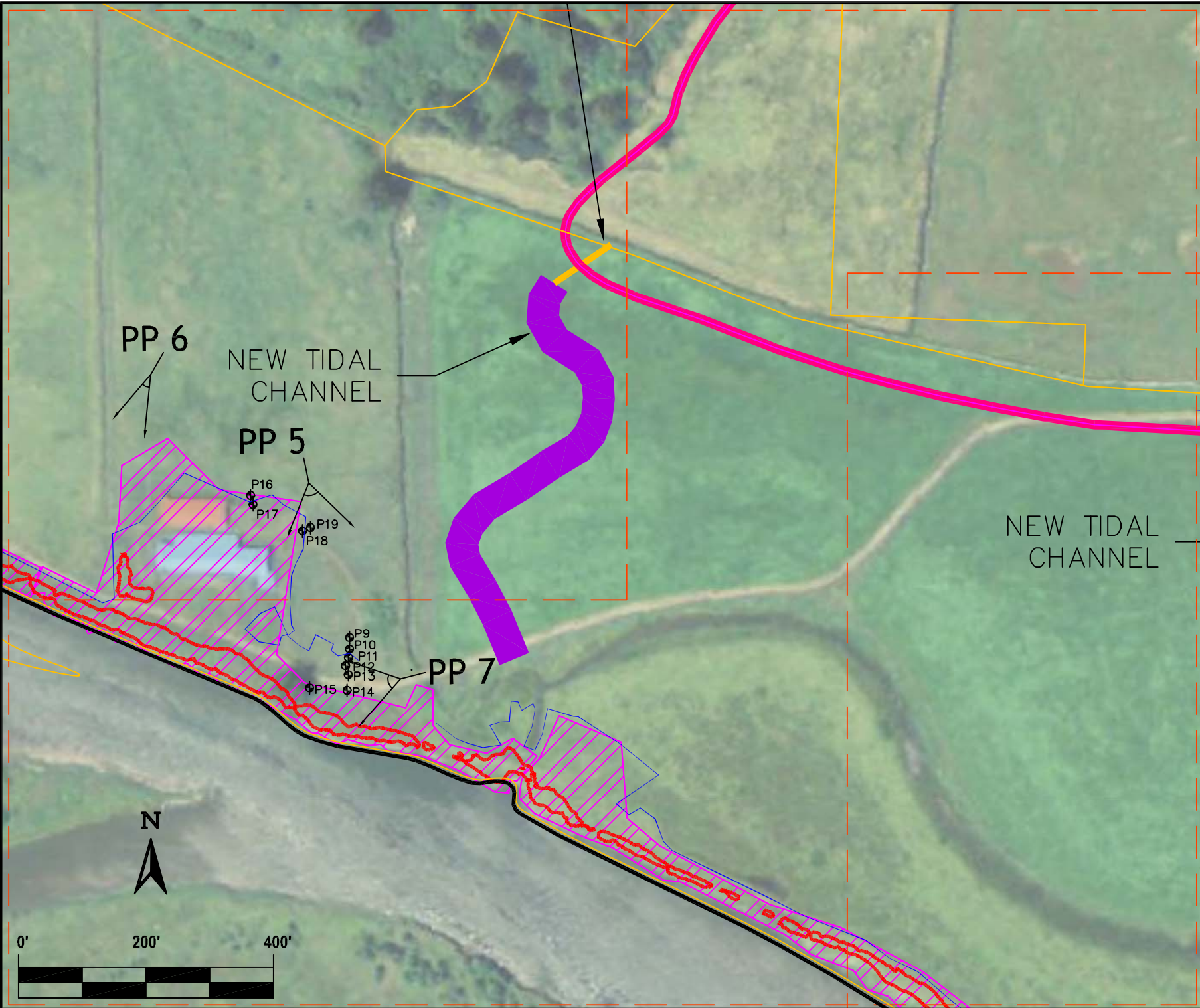
DWG DATA:

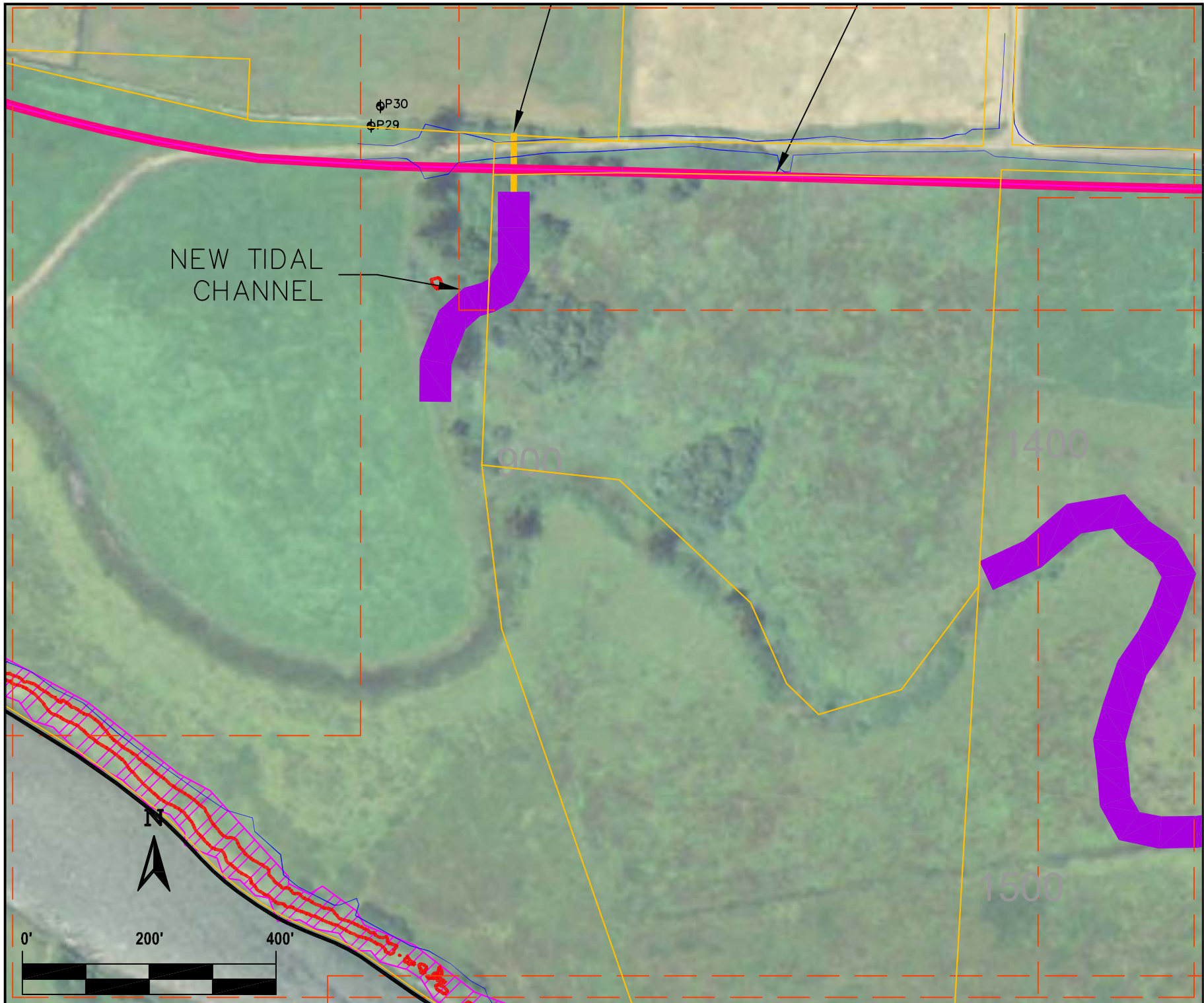
The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

FIGURE NO.

**6-k**





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503-208-3708



CLIENT:

**Northwest  
Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

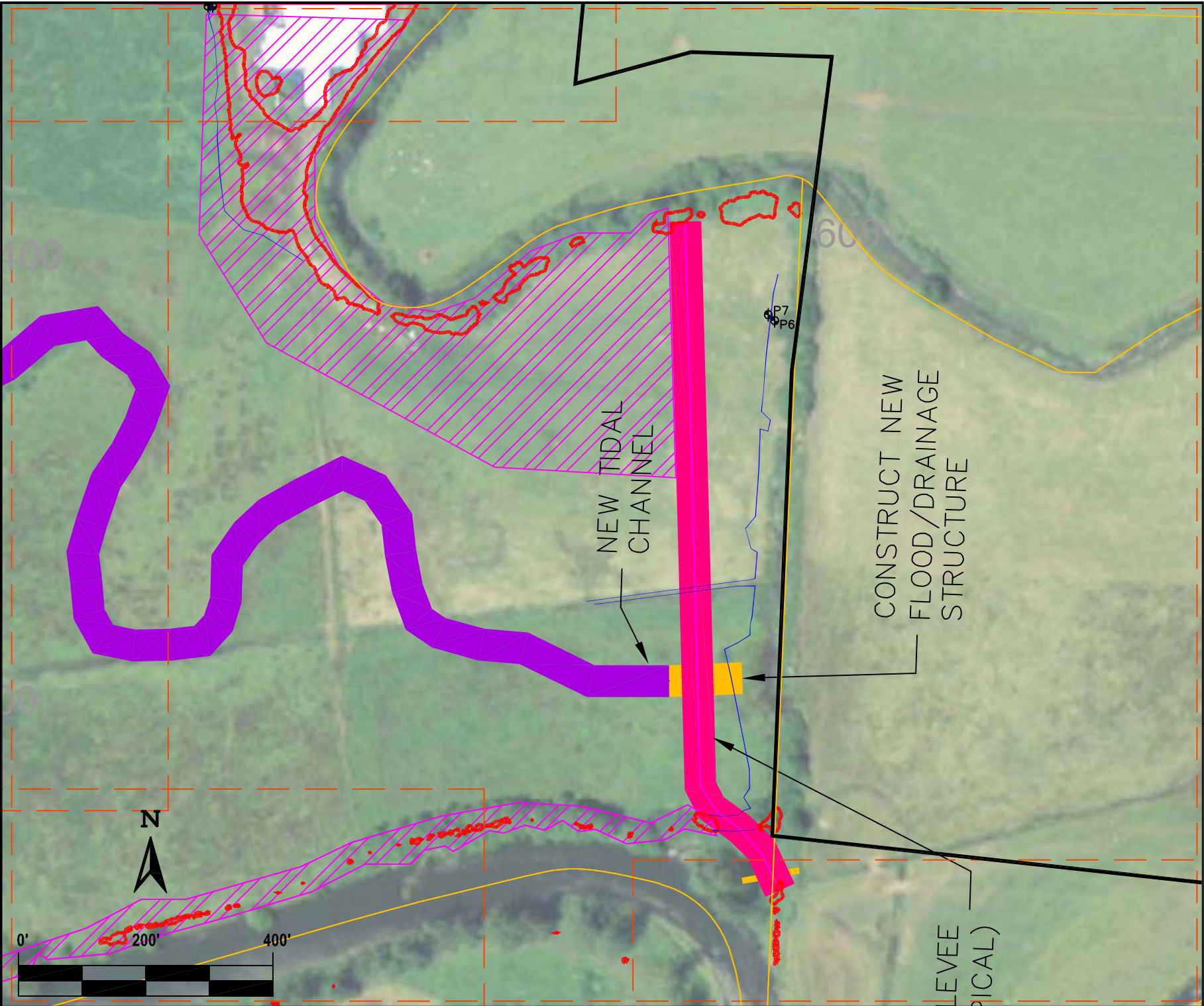
DWG DATA:

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

FIGURE NO.

**6-1**



3895 SW 94th Ave  
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503-208-3708



CLIENT:

**Northwest  
Hydrological  
Consultants**

PROJECT:

**Tillamook  
Southern Flow  
Corridor**

TITLE:

**Preliminary  
Wetland  
Delineation**

LEGEND:

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

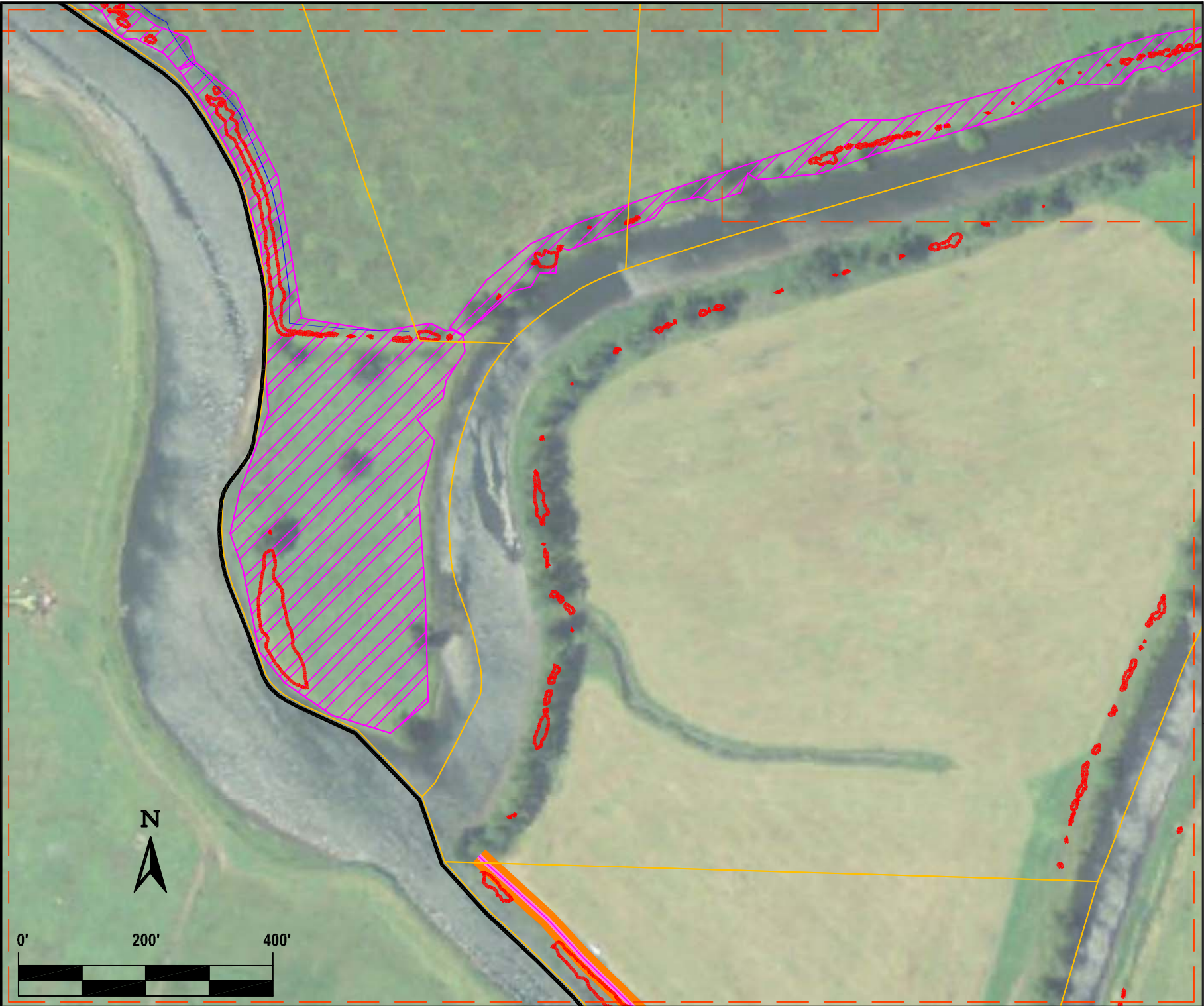
DWG DATA:

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

FIGURE NO.

**6-m**



3895 SW 94th Ave  
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36 SE 78th Ave  
Portland, OR 97215  
503-208-3708



**CLIENT:**

**Northwest  
Hydrological  
Consultants**

**PROJECT:**

**Tillamook  
Southern Flow  
Corridor**

**TITLE:**

**Preliminary  
Wetland  
Delineation**

**LEGEND:**

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

**DWG DATA:**

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

**FIGURE NO.**

**6-n**



3895 SW 94th Ave  
Portland, OR 97225

latimer environmental LLC

36 SE 78th Ave  
Portland, OR 97215  
503-206-3706



**CLIENT:**

**Northwest  
Hydrological  
Consultants**

**PROJECT:**

**Tillamook  
Southern Flow  
Corridor**

**TITLE:**

**Preliminary  
Wetland  
Delineation**

**LEGEND:**

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

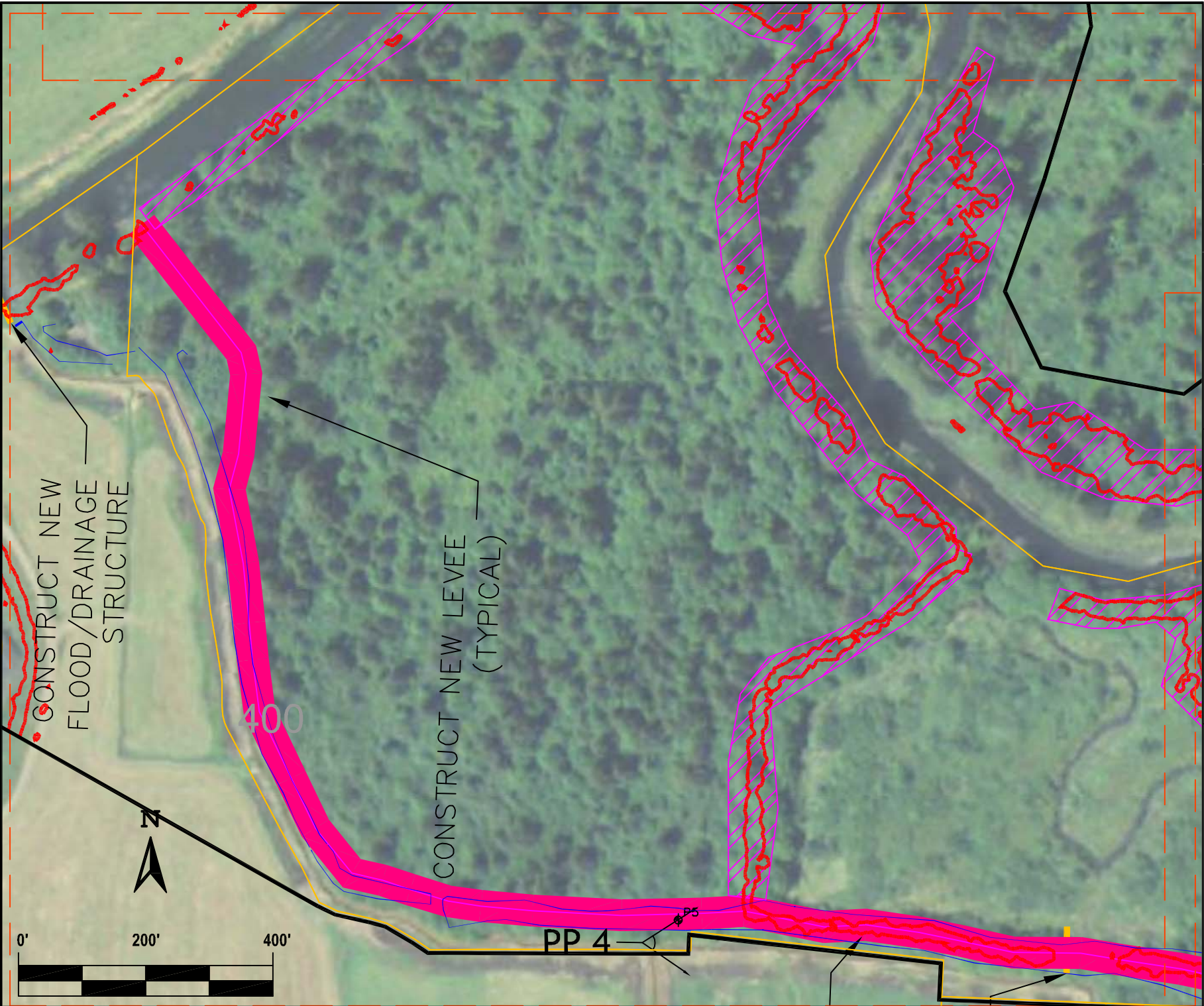
**DWG DATA:**

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

**FIGURE NO.**

**6-0**



CONSTRUCT NEW  
FLOOD/DRAINAGE  
STRUCTURE

400

CONSTRUCT NEW LEVEE  
(TYPICAL)

PP 4

P5



3895 SW 94th Ave  
Portland, OR 97225

latimer environmental LLC

36 SE 78th Ave  
Portland, OR 97215  
503-208-3708

CLIENT:  
**Northwest  
Hydrological  
Consultants**

PROJECT:  
**Tillamook  
Southern Flow  
Corridor**

TITLE:  
**Preliminary  
Wetland  
Delineation**

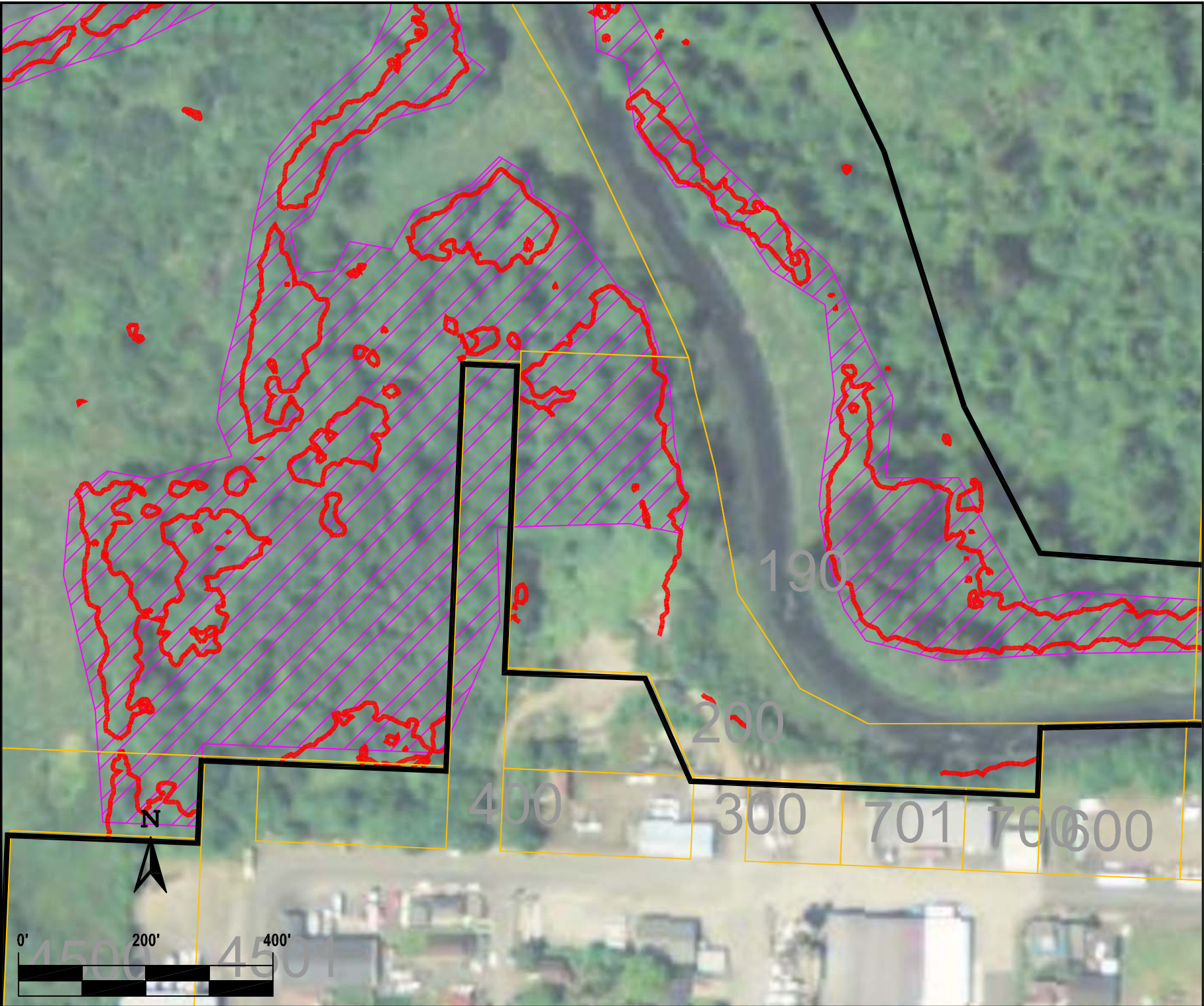
- LEGEND:
- Preliminary Delineation Boundary
  - Highest Observed Tide (11.9 feet)
  - Study Area
  - Approximate Existing Fill
  - P-# Data Plot
  - PP# Photo Point
  - Matchlines
  - Tax Lot Lines

DWG DATA:  
The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

FIGURE NO.

6-p



3895 SW 94th Ave  
Portland, OR 97225

latimer environmental LLC

36 SE 78th Ave  
Portland OR 97215  
503-208-3708



**CLIENT:**

**Northwest  
Hydrological  
Consultants**

**PROJECT:**

**Tillamook  
Southern Flow  
Corridor**

**TITLE:**

**Preliminary  
Wetland  
Delineation**

**LEGEND:**

- Preliminary Delineation Boundary
- Highest Observed Tide (11.9 feet)
- Study Area
- Approximate Existing Fill
- P-# Data Plot
- PP# Photo Point
- Matchlines
- Tax Lot Lines

**DWG DATA:**

The study area boundary was determined by FEMA and Tillamook County and was professionally land surveyed by Tillamook County to an approximate accuracy of 0.01 ft and digitally mapped using AutoCAD®. Flagged wetland/water boundaries and data plots were surveyed using a SXBlue II GNSS to an accuracy of less than 1 ft and digitally mapped using AutoCAD®.

Plotted: 3/20/2015 Revised:

**FIGURE NO.**

**6-q**





## Appendix B.

### Data Forms

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 7/15/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-1  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 25  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-5%  
 Subregion (LRR): NW Forests and Coasts (LRR A) Lat: 45.460167 Long: -123.854029 Datum: NAD27  
 Soil Map Unit Name: (3A) Coquille silt loam NWI Classification: PFOC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Approximately 20 feet south of berm road, north of hospital.	

## VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. <u>Salix lasiandra</u>	60	Y	FACW	
2. <u>Sambucus racemosa</u>	30	Y	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	90	_____	_____	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>Athyrium filix-femina</u>	20	Y	FAC	
2. <u>Ranunculus repens</u>	20	Y	FAC	
3. <u>Carex obnupta</u>	10	Y	OBL	
4. _____	_____	_____	_____	
Total Cover: _____	50	_____	_____	
<b>Woody Vine Stratum</b>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____	140	_____	_____	
% Bare Ground in Herb Stratum <u>50</u> % Cover of Biotic Crust _____	0	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

Remarks:

**SOIL**

Sampling Point: P-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/3	90	7.5YR 3/4	10	C	M	SiCl	
3-16	10YR 3/1	70	5YR 3/4	30	C	M	SiCl	many organics

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (any one indicator is sufficient)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: Plot at edge of wetland, 10 feet south of standing water.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 7/15/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-2  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 25  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): convex Slope (%): 0-5%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.460167 Long: -123.854029 Datum: NAD27  
 Soil Map Unit Name: (3A) Coquille silt loam NWI Classification: PFOC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located 5 feet north of P-1, upslope.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
<b>Shrub Stratum</b>				
1. <i>Sambucus racemosa</i>	50	Y	FACU	
2. <i>Salix lasiandra</i>	20	Y	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: <u>70</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
<b>Herb Stratum</b>				
1. <i>Tolmiea menziesii</i>	40	Y	FAC	
2. <i>Athyrium filix-femina</i>	20	Y	FAC	
3. <i>Poa trivialis</i>	15		FAC	
4. <i>Ranunculus repens</i>	10		FAC	
5. <i>Hydrophyllum tenuipes</i>	10		FAC	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>70</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	Total Cover: <u>140</u> % Bare Ground in Herb Stratum <u>30</u> % Cover of Biotic Crust <u>0</u>
2. _____	_____	_____	_____	

Remarks:

**SOIL**

Sampling Point: P-2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR 3/2	90	10YR 3/3	10	C	M	SiCl	
14-18	2.5Y 4/3	60	7.5YR 4/6	40	C	M	SiCl	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**      Yes \_\_\_\_\_ No X

Remarks: Organics.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present?    Yes \_\_\_\_\_ No X    Depth (inches): \_\_\_\_\_  
 Water table Present?    Yes \_\_\_\_\_ No X    Depth (inches): >18" \_\_\_\_\_  
 Saturation Present?    Yes \_\_\_\_\_ No X    Depth (inches): >18" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**      Yes \_\_\_\_\_ No X

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

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 7/15/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-3  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 25  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-5%  
 Subregion (LRR): NW Forests and Coasts (LRR A) Lat: 45.460167 Long: -123.854029 Datum: NAD27  
 Soil Map Unit Name: (3A) Coquille silt loam NWI Classification: PFOC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Approximately 50 feet north of berm road, north of hospital.			

## VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b>
1. <u><i>Picea sitchensis</i></u>	90	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. <u><i>Alnus rubra</i></u>	60	Y	FAC	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
4. _____				
Total Cover: _____	150			
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b>
1. <u><i>Sambucus racemosa</i></u>	10	Y	FACU	Total % Cover of: _____ Multiply by: _____
2. <u><i>Rubus spectabilis</i></u>	5	Y	FAC	OBL species _____ x1 = <u>0</u>
3. _____				FACW species _____ x2 = <u>0</u>
4. _____				FAC species _____ x3 = <u>0</u>
5. _____				FACU species _____ x4 = <u>0</u>
Total Cover: _____	15			UPL species _____ x5 = <u>0</u>
<b>Herb Stratum</b>				Column Totals: <u>0</u> (A) <u>0</u> (B)
1. _____				Prevalence Index = B/A = <u>#DIV/0!</u>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: _____				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b>
1. _____				<u>X</u> Dominance Test is >50%
2. _____				<u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup>
				_____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
Total Cover: <u>165</u>				<b>Hydrophytic Vegetation Present?</b>
% Bare Ground in Herb Stratum <u>100</u> % Cover of Biotic Crust <u>0</u>				Yes <u>X</u> No _____

Remarks:

**SOIL**

Sampling Point: P-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	7.5YR 3/2	100					SiL	
8-16	10YR 4/2	70	7.5YR 3/4	30	C	M	SiCl	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	
Remarks:	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (any one indicator is sufficient)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 11" _____ (includes capillary fringe)	

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

Remarks: Plot at edge of wetland, soils saturated within 10 feet of this plot.



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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 7/15/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-4  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 25  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): convex Slope (%): 0-5%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.460167 Long: -123.854029 Datum: NAD27  
 Soil Map Unit Name: (3A) Coquille silt loam NWI Classification: PFOC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located 12 feet southeast of P-3, upslope.	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <i>Picea sitchensis</i>	100	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
2. <i>Alnus rubra</i>	60	Y	FAC	
3. _____				
4. _____				
Total Cover:	150			
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. <i>Rubus ursinus</i>	20	Y	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover:	20			
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Tolmiea menziesii</i>	30	Y	FAC	
2. <i>Polystichum munitum</i>	5	Y	FACU	
3. <i>Carex hendersonii</i>	5	Y	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover:	40			
<b>Woody Vine Stratum</b>				
1. _____				
2. _____				
Total Cover:	210			
% Bare Ground in Herb Stratum <u>60</u> % Cover of Biotic Crust <u>0</u>				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				

Remarks:

**SOIL**

Sampling Point: P-4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-13	7.5YR 2.5/2	80	7.5YR 3/4	20	C	M	Loam	
13-18	7.5YR 3/2	70	7.5YR 3/4	30	C	M	SiCl	

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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1)</p> <p><input type="checkbox"/> Sandy gleyed Matrix (S4)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(except MLRA 1)</b></p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><input type="checkbox"/> 2 cm Muck (A10) <b>(LRR B)</b></p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if present):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>      Yes _____      No <input checked="" type="checkbox"/></p>
<p>Remarks:</p>	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (any one indicator is sufficient)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9) <b>(MLRA 1, 2, 4A and 4B)</b></p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1) <b>(LRR A)</b></p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Water-Stained Leaves (B9) <b>(MLRA 1, 2, 4A and 4B)</b></p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Raised Ant Mounds (D6) <b>(LRR A)</b></p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7)</p>
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<p><b>Field Observations:</b></p> <p>Surface Water Present?    Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table Present?      Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): &gt;18" _____</p> <p>Saturation Present?        Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): &gt;18" _____</p> <p>(includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b>      Yes _____      No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Plot located upslope of P-3.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 7/15/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-5  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 25  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-5%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.460167 Long: -123.854029 Datum: NAD27  
 Soil Map Unit Name: (3A) Coquille silt loam NWI Classification: PFOC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located at low point on berm, approximately 20 feet north of ditch.	

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. <i>Sambucus racemosa</i>	20	Y	FACU	
2. <i>Rubus spectabilis</i>	20	Y	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	40	_____	_____	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Impatiens capensis</i>	50	Y	FACW	
2. <i>Oenanthe sarmentosa</i>	25	Y	OBL	
3. <i>Athyrium filix-femina</i>	10	_____	FAC	
4. <i>Polystichum munitum</i>	5	_____	FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: _____	90	_____	_____	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____	130	_____	_____	
% Bare Ground in Herb Stratum <u>10</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

**SOIL**

Sampling Point: P-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/2	100					SiL	
12-16	10YR 4/3	100					SiCl	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No X

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 Water table Present? Yes \_\_\_\_\_ No X Depth (inches): >16" \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No X Depth (inches): >16" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No X

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

Remarks: Plot located at low point on berm, in wettest looking area; slopes up on either side. May have been a tree removed (low depression in berm). Plot taken to confirm upland in suspicious area.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 7/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-6  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 24  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-5%  
 Subregion (LRR): NW Forests and Coasts (LRR A) Lat: 45.460167 Long: -123.854029 Datum: NAD27  
 Soil Map Unit Name: (1A) Brenner silt loam NWI Classification: PFOC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		Yes <u>X</u> No _____
Wetland Hydrology Present?	Yes <u>X</u> No _____		Yes <u>X</u> No _____
Plot located within north-south drainage from slough, approximately 200 feet south of slough.			

## VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. <u>Salix sitchensis</u>	95	Y	FACW	
2. <u>Rubus spectabilis</u>	10	_____	FAC	
3. <u>Rubus discolor</u>	5	_____	FACU	
4. _____	_____	_____	_____	
Total Cover: _____	110	_____	_____	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>Carex obnupta</u>	20	Y	OBL	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	20	_____	_____	
<b>Woody Vine Stratum</b>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____	20	_____	_____	
% Bare Ground in Herb Stratum <u>80</u> % Cover of Biotic Crust <u>0</u>	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

Remarks:

**SOIL**

Sampling Point: P-6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
2-0							Organics	
0-4	10YR 2/1	100					SiL	
4-16	10YR 3/2	95	7.5YR 3/4	5	C	M	SiCl	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b>	<b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>
Type: _____		
Depth (inches): _____		

Remarks:

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b>	<b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Water table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;16"</u>		
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;16"</u> (includes capillary fringe)		

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

Remarks: Plot located within a very woody area within drainage. Water sources likely from field runoff and overflow from slough to the north.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 7/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-7  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 24  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): convex Slope (%): 0-5%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4690 Long: -123.8603 Datum: NAD27  
 Soil Map Unit Name: (1A) Brenner silt loam NWI Classification: PFOC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located 12 feet northwest of P-6, upslope in pasture at edge of willows.	

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species <u>90</u> x3 = <u>270</u> FACU species <u>20</u> x4 = <u>80</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>110</u> (A) <u>350</u> (B) Prevalence Index = B/A = <u>3.2</u>
1. <i>Salix sitchensis</i>	50	N*	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____	50	_____	_____	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Agrostis tenuis</i>	80	Y	FAC	
2. <i>Dactylis glomerata</i>	20	Y	FACU	
3. <i>Holcus lanatus</i>	10	_____	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____	110	_____	_____	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____	160	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____	_____	_____	0	

Remarks: Salix rooted below, in wet channel.

**SOIL**

Sampling Point: P-7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/4	100					SiL	
4-16	10YR 3/3	100					SiL	very fine silt loam

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**      Yes \_\_\_\_\_      No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present?    Yes \_\_\_\_\_    No     Depth (inches): \_\_\_\_\_  
 Water table Present?    Yes \_\_\_\_\_    No     Depth (inches): >16" \_\_\_\_\_  
 Saturation Present?    Yes \_\_\_\_\_    No     Depth (inches): >16" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**      Yes \_\_\_\_\_      No

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

Remarks: Plot located upslope of P-6.



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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 7/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-8  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 24  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): convex Slope (%): 0-5%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4690 Long: -123.8603 Datum: NAD27  
 Soil Map Unit Name: (73A) Nehalem silt loam NWI Classification: PFOC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 40 feet south of berm, at lowest point in pasture.	

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> _____ Dominance Test is >50% <b>#DIV/0!</b> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Agrostis tenuis</i>	40	Y	FAC	
2. <i>Lotus corniculatus</i>	30	Y	FAC	
3. <i>Cirsium arvense</i>	25	Y	FAC	
4. <i>Holcus lanatus</i>	20	Y	FAC	
5. <i>Dactylis glomerata</i>	20	Y	FACU	
6. <i>Festuca arundinacea</i>	10		FAC	
7. <i>Malva neglecta</i>	5		NOL	
Total Cover: <u>150</u>				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>150</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks: Berm banks dominated by blackberry.

**SOIL**

Sampling Point: P-8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 2/2	100					SiL	
7-18	10YR 3/3	90	7.5YR 3/4	10	C	M	SiL	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Type: _____ Depth (inches): _____	
Remarks:	

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;18"</u>	
Saturation Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)	

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

Remarks: Plot located at lowest point in pasture.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-9  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-1%  
 Subregion (LRR): NW Forests and Coasts (LRR A) Lat: 45.46996 Long: -123.87528 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Approximately 6 feet west of dirt road at north end of transect.			

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b>
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x1 = <u>0</u>
3. _____	_____	_____	_____	FACW species _____ x2 = <u>0</u>
4. _____	_____	_____	_____	FAC species _____ x3 = <u>0</u>
5. _____	_____	_____	_____	FACU species _____ x4 = <u>0</u>
Total Cover: _____				UPL species _____ x5 = <u>0</u>
<b>Herb Stratum</b>				Column Totals: <u>0</u> (A) <u>0</u> (B)
1. <i>Phalaris arundinacea</i>	50	Y	FACW	Prevalence Index = B/A = <u>#DIV/0!</u>
2. <i>Juncus effusus</i>	30	Y	FACW	
3. <i>Agrostis capillaris</i>	30	Y	FAC	
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b>
5. _____	_____	_____	_____	<u>X</u> Dominance Test is >50%
6. _____	_____	_____	_____	<u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup>
7. _____	_____	_____	_____	_____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8. _____	_____	_____	_____	_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Total Cover: <u>110</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b>
1. _____	_____	_____	_____	Yes <u>X</u> No _____
2. _____	_____	_____	_____	
Total Cover: <u>110</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks:

**SOIL**

Sampling Point: P-9

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 3/3	100					SiCl	
7-12	10YR 4/2	60	10YR 3/3	20	C	M	SiCl	
			7.5YR 3/4	20	C	PL		
12-16	10YR 4/2	100					SiL	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (any one indicator is sufficient)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks:

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-10  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): convex Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.46996 Long: -123.854029 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located 20 feet south of P-9.	

**VEGETATION**

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
<b>Shrub Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
Total Cover: _____				
<b>Herb Stratum</b>				
1. <i>Phalaris arundinacea</i>	100	Y	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>100</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>100</u>				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

Remarks:

**SOIL**

Sampling Point: P-10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 3/3	100					SiCl	
7-14	10YR 4/2	60	10YR 3/2	30	D	M	SiCl	
			7.5YR 3/4	10	C	M		
14-18	10YR 3/1	70	10YR 4/6	30	C	M	SiCl	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b>	<b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>
Type: _____		
Depth (inches): _____		

Remarks: 0-7" PHAR roots

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b>	<b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Water table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >18" _____		
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >18" _____ (includes capillary fringe)		

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

Remarks: At edge of wetland; wetland appears to follow distinct PHAR line.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-11  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-1%  
 Subregion (LRR): NW Forests and Coasts (LRR A) Lat: 45.46996 Long: -123.87528 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		Yes _____ No <u>X</u>
Wetland Hydrology Present?	Yes _____ No <u>X</u>		Yes _____ No <u>X</u>
Approximately 12 feet south of P-10; 10 feet west of dirt road.			

## VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b>
1. <i>Rubus armeniacus</i>	15	Y	FACU	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x1 = <u>0</u>
3. _____	_____	_____	_____	FACW species _____ x2 = <u>0</u>
4. _____	_____	_____	_____	FAC species _____ x3 = <u>0</u>
5. _____	_____	_____	_____	FACU species _____ x4 = <u>0</u>
Total Cover: _____	15	_____	_____	UPL species _____ x5 = <u>0</u>
<b>Herb Stratum</b>				Column Totals: <u>0</u> (A) <u>0</u> (B)
1. <i>Festuca arundinacea</i>	60	Y	FAC	Prevalence Index = B/A = <u>#DIV/0!</u>
2. <i>Holcus lanatus</i>	40	Y	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____	100	_____	_____	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b>
1. _____	_____	_____	_____	<u>X</u> Dominance Test is >50%
2. _____	_____	_____	_____	<u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup>
Total Cover: _____				_____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Total Cover: _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

Remarks:

**SOIL**

Sampling Point: P-11

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 3/3	100					SiCl	
10-14	10YR 3/3	95	7.5YR 3/4	5	C	M	SiCl	
14-18	10YR 3/2	90	7.5YR 4/6	10	C	M	SiCl	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Type: _____ Depth (inches): _____	
Remarks:	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (any one indicator is sufficient)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >18" _____	
Saturation Present?        Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >18" _____ (includes capillary fringe)	

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

Remarks: Plot at edge of wetland, soils saturated within 10 feet of this plot.



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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-12  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): convex Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.46996 Long: -123.87528 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 15 feet south of P-11 in transect.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
<b>Shrub Stratum</b>				
1. <i>Rubus armeniacus</i>	20	Y	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
<b>Herb Stratum</b>				
1. <i>Festuca arundinacea</i>	40	Y	FAC	
2. <i>Holcus lanatus</i>	40	Y	FAC	
3. <i>Agrostis capillaris</i>	10	N	FAC	
4. <i>Phalaris arundinacea</i>	10	N	FACW	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>100</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>120</u>				
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust <u>0</u>		

Remarks:

**SOIL**

Sampling Point: P-12

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-9	10YR 3/3	100					SiCl	
9-13	10YR 3/3	85	7.5YR 3/4	15	C	M	SiL	
13-16	10YR 3/2	70	7.5YR 3/4	30	C	M	SiL	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water table Present? Yes \_\_\_\_\_ No  Depth (inches): >16" \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): >16" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No

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

Remarks:

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-13  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.46996 Long: -123.87528 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 10 feet south of P-12; 7 feet north of E-W dirt road, 20 feet west of N-S dirt road.	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species <u>5</u> x2 = <u>10</u> FAC species <u>100</u> x3 = <u>300</u> FACU species <u>10</u> x4 = <u>40</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>115</u> (A) <u>350</u> (B) Prevalence Index = B/A = <u>3.0</u>
<b>Shrub Stratum</b>				
1. <i>Rubus armeniacus</i>	10	Y	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____	10	_____	_____	
<b>Herb Stratum</b>				
1. <i>Festuca arundinacea</i>	90	Y	FAC	
2. <i>Holcus lanatus</i>	10	N	FAC	
3. <i>Phalaris arundinacea</i>	5	N	FACW	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____	105	_____	_____	
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____	115	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____	_____	_____	0	
<b>Hydrophytic Vegetation Indicators:</b> _____ Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				

Remarks:

**SOIL**

Sampling Point: P-13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/3	100					gravelly SiL	likely fill material

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

**HYDROLOGY**

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

<b>Field Observations:</b>	
Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Water table Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?        Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks:

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-14  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): NW Forests and Coasts (LRR A) Lat: 45.46996 Long: -123.87528 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		Yes _____ No <u>X</u>
Wetland Hydrology Present?	Yes _____ No <u>X</u>		Yes _____ No <u>X</u>
Plot located approximately 10 feet south of E-W dirt road; 30 feet north of berm.			

## VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Festuca arundinacea</i>	80	Y	FAC	
2. <i>Juncus effusus</i>	20	Y	FACW	
3. <i>Lotus corniculatus</i>	10	N	FAC	
4. <i>Holcus lanatus</i>	5	N	FAC	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>115</u>	_____	_____	_____	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>115</u>	_____	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____	_____	_____	0	

Remarks:

**SOIL**

Sampling Point: P-14

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/2+	100					SiL	
6-16	10YR 3/3	100					cobbly SiL	fill material

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Type: _____ Depth (inches): _____	
Remarks:	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (any one indicator is sufficient)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: Plot located on slope down from berm at lowest point, but still approximately 1 feet higher than road.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-15  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87528 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 30 feet west P-14, below berm.	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species <u>100</u> x2 = <u>200</u> FAC species <u>2</u> x3 = <u>6</u> FACU species <u>5</u> x4 = <u>20</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>107</u> (A) <u>226</u> (B) Prevalence Index = B/A = <u>2.1</u>
<b>Shrub Stratum</b>				
1. <i>Sambucus racemosa</i>	5	Y	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____	5	_____	_____	
<b>Herb Stratum</b>				
1. <i>Phalaris arundinacea</i>	100	Y	FACW	
2. <i>Cirsium arvense</i>	2	N	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____	102	_____	_____	
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____	107	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____	_____	_____	0	

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Dominance Test is >50%  
X Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_\_\_ Morphological Adaptation<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

Remarks:

**SOIL**

Sampling Point: P-15

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 2/2	100					SiL	
12-16	10YR 3/2	95	7.5YR 3/4	5	C	M	gravelly SiL	likely fill material

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Type: _____ Depth (inches): _____	
Remarks:	

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?        Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: Plot located approximately 1-2 feet higher than road



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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-16  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located in agricultural field, approximately 40 feet north of old building.	

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Phalaris arundinacea</i>	100	Y	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>100</u>				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>100</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks: Plot located just outside mown ag field.

**SOIL**

Sampling Point: P-16

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 3/3	100					SiL	
7-16	2.5Y 3/2	60	7.5YR 3/4	40	C	M	SiL	some gravels, iron pieces

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks: Iron pieces have leached and colors were ignored in recording data.

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: On edge of wet field. Evidence of recent water flow over field. Higher areas in field show no signs of flow.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-17  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 10 feet south of P-16 on slope up to old building foundation.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<u>Tree Stratum</u> (Use scientific names.)				<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				
<u>Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b>
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x1 = <u>0</u>
3. _____	_____	_____	_____	FACW species _____ x2 = <u>0</u>
4. _____	_____	_____	_____	FAC species _____ x3 = <u>0</u>
5. _____	_____	_____	_____	FACU species _____ x4 = <u>0</u>
Total Cover: _____				UPL species _____ x5 = <u>0</u>
<u>Herb Stratum</u>				Column Totals: <u>0</u> (A) <u>0</u> (B)
1. <i>Phalaris arundinacea</i>	100	Y	FACW	Prevalence Index = B/A = <u>#DIV/0!</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b>
5. _____	_____	_____	_____	<u>X</u> Dominance Test is >50%
6. _____	_____	_____	_____	<u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup>
7. _____	_____	_____	_____	_____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8. _____	_____	_____	_____	_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Total Cover: <u>100</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>100</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks:

**SOIL**

Sampling Point: P-17

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/3	100					gravelly SiL	Looks like fill material

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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1)</p> <p><input type="checkbox"/> Sandy gleyed Matrix (S4)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (<b>except MLRA 1</b>)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><input type="checkbox"/> 2 cm Muck (A10) (<b>LRR B</b>)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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<p><b>Restrictive Layer (if present):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>      Yes _____      No <input checked="" type="checkbox"/></p>
<p>Remarks:</p>	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (any one indicator is sufficient)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (<b>MLRA 1, 2, 4A and 4B</b>)</p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1) (<b>LRR A</b>)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Water-Stained Leaves (B9) (<b>MLRA 1, 2, 4A and 4B</b>)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Raised Ant Mounds (D6) (<b>LRR A</b>)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7)</p>
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<p><b>Field Observations:</b></p> <p>Surface Water Present?    Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table Present?      Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): &gt;16" _____</p> <p>Saturation Present?        Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): &gt;16" _____</p> <p>(includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b>      Yes _____      No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: On fill slope above ag field.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-18  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located at edge of N-S road, south of agricultural field.	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Lolium perenne</i>	80	Y	FAC	
2. <i>Agrostis capillaris</i>	10	N	FAC	
3. <i>Festuca arundinacea</i>	5	N	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>95</u>				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Cover: <u>95</u> % Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>

Remarks:

**SOIL**

Sampling Point: P-18

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 2/2	100					gravelly SiL	gravels, large cobbles, asphalt chunks

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b>	Yes _____	No <input checked="" type="checkbox"/>
Type: <u>large cobbles and asphalt chunks</u>			
Depth (inches): <u>8"</u>			
Remarks: Road fill			

**HYDROLOGY**

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

<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b>	Yes _____	No <input checked="" type="checkbox"/>
Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches):	_____	
Water table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches):	<u>&gt;8"</u>	
Saturation Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches):	<u>&gt;8"</u>	
(includes capillary fringe)				

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

Remarks: On fill slope above ag field.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-19  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located at end of N-S road, at edge of wetland.	

**VEGETATION**

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
<b>Shrub Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
Total Cover: _____				
<b>Herb Stratum</b>				
1. <i>Phalaris arundinacea</i>	100	Y	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>100</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>100</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

Remarks: Plot located just south of mown ag field.

**SOIL**

Sampling Point: P-19

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 3/2	100					SiL	
8-16	10YR 3/2	95	10YR 3/4	5	C	M	gravelly SiL	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	
Remarks:	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (any one indicator is sufficient)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: On edge of wetland; slopes down from here toward wetland (to the east).



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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-20  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 30 feet north of E-W dirt road on high spot.	

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Agrostis capillaris</i>	40	Y	FAC	
2. <i>Alopecurus pratensis</i>	30	Y	FAC	
3. <i>Aira elegans</i>	20	Y	NOL	
4. <i>Holcus lanatus</i>	10		FAC	
5. <i>Juncus effusus</i>	5		FACW	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>105</u>				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>105</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks:

**SOIL**

Sampling Point: P-20

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/3	100					SiL	
6-16	10YR 2/1	100					gravelly sand	likely slough spoils

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water table Present? Yes \_\_\_\_\_ No  Depth (inches): >16" \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): >16" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No

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

Remarks: On edge of higher area; slopes down to the east, high spot continues to the west.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 8/22/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-21  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.885 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located approximately 20 feet north of E-W dirt road, within agricultural field.	

## VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Alopecurus pratensis</i>	30	Y	FAC	
2. <i>Holcus lanatus</i>	30	Y	FAC	
3. <i>Juncus effusus</i>	20	Y	FACW	
4. <i>Lotus corniculatus</i>	20	Y	FAC	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>100</u>				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>100</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks: Mown or grazed

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/2	100					SiCl	old organics, mottling at 6"
6-8	G2 5B 2.5/1	80	10YR 4/4	20	c	m	gravelly sand	mixed with clay
8-16	10YR 2/1						gravelly sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input checked="" type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No _____
--	--

Remarks: Soils wet

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ Water table Present?      Yes _____    No <input checked="" type="checkbox"/> Depth (inches): >16" _____ Saturation Present?        Yes <input checked="" type="checkbox"/> No _____    Depth (inches): 6" _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: At base of slope

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/15/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-22  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-1%  
 Subregion (LRR): NW Forests and Coasts (LRR A) Lat: 45.47276 Long: -123.88735 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Plot located at base of levee slope near wetland/upland boundary.			

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ <b>1</b> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ <b>1</b> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ <b>100%</b> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b>
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x1 = <b>0</b>
3. _____	_____	_____	_____	FACW species _____ x2 = <b>0</b>
4. _____	_____	_____	_____	FAC species _____ x3 = <b>0</b>
5. _____	_____	_____	_____	FACU species _____ x4 = <b>0</b>
Total Cover: _____	_____	_____	_____	UPL species _____ x5 = <b>0</b>
<b>Herb Stratum</b>				Column Totals: <b>0</b> (A) <b>0</b> (B)
1. <i>Phalaris arundinacea</i>	100	Y	FACW	Prevalence Index = B/A = <b>#DIV/0!</b>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____	100	_____	_____	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b>
1. _____	_____	_____	_____	<u>X</u> Dominance Test is >50%
2. _____	_____	_____	_____	<b>#DIV/0!</b> Prevalence Index is ≤3.0 <sup>1</sup>
Total Cover: _____				_____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				0

Remarks: Partially mown.

**SOIL**

Sampling Point: P-22

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/3	100					SiL	
6-16	10YR 3/1	60	10YR 3/4	20	C	M	SiCl	
			7.5YR 3/4	20	C	PL		

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**      Yes       No \_\_\_\_\_

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present?    Yes \_\_\_\_\_    No     Depth (inches): \_\_\_\_\_  
 Water table Present?    Yes \_\_\_\_\_    No     Depth (inches): >16" \_\_\_\_\_  
 Saturation Present?    Yes \_\_\_\_\_    No     Depth (inches): >16" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**      Yes       No \_\_\_\_\_

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

Remarks: Plot taken to confirm wetland. No upland paired plot was taken due to steep slope and fill component of levee berm.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/15/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-23  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 22  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): convex Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.47015 Long: -123.89033 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes \_\_\_\_\_ No X  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located at east end of the western most dredge pile; approximately 20 feet south of road.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Carex obnupta</i>	100	Y	OBL	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>100</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>100</u>				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				

Remarks: Scot's broom located within 30 feet of this plot, but rooted outside of wetland.

**SOIL**

Sampling Point: P-23

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 2/2	100					sand	some gravels

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Type: _____			
Depth (inches): _____			

Remarks: problem area - dredge pile. Soils are disturbed, this area is lower/less fill with sand than P-24.

**HYDROLOGY**

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

<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): >16" _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: Soils/sand moist despite long absence of precipitation/late summer timing. Scot's broom nearby is stressed and dying.



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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/15/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-24  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 22  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-1%  
 Subregion (LRR): NW Forests and Coasts (LRR A) Lat: 45.47015 Long: -123.89033 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b>	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Approximately 12 feet south of P-10; 10 feet west of dirt road.			

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b>
1. <u>Cytisus scoparius</u>	30	Y	UPL	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>5</u> x1 = <u>5</u>
3. _____	_____	_____	_____	FACW species _____ x2 = <u>0</u>
4. _____	_____	_____	_____	FAC species <u>40</u> x3 = <u>120</u>
5. _____	_____	_____	_____	FACU species <u>80</u> x4 = <u>320</u>
Total Cover: <u>30</u>	_____	_____	_____	UPL species <u>35</u> x5 = <u>175</u>
<b>Herb Stratum</b>				Column Totals: <u>160</u> (A) <u>620</u> (B)
1. <u>Tanacetum vulgare</u>	60	Y	FACU	Prevalence Index = B/A = <u>3.9</u>
2. <u>Holcus lanatus</u>	40	Y	FAC	
3. <u>Anthoxanthum odoratum</u>	20	Y	FACU	
4. <u>Epilobium brachycarpum</u>	5	n	UPL	
5. <u>Carex obnupta</u>	5	n	OBL	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>110</u>	_____	_____	_____	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b>
1. _____	_____	_____	_____	_____ Dominance Test is >50%
2. _____	_____	_____	_____	_____ Prevalence Index is ≤3.0 <sup>1</sup>
Total Cover: <u>140</u>				_____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>

Remarks:

**SOIL**

Sampling Point: P-24

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/3	100					sand, gravels	dredge pile

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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1)</p> <p><input type="checkbox"/> Sandy gleyed Matrix (S4)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (<b>except MLRA 1</b>)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><input type="checkbox"/> 2 cm Muck (A10) (<b>LRR B</b>)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p>
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if present):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>      Yes _____      No <input checked="" type="checkbox"/></p>
<p>Remarks: Upland dredge pile.</p>	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (any one indicator is sufficient)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (<b>MLRA 1, 2, 4A and 4B</b>)</p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1) (<b>LRR A</b>)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Water-Stained Leaves (B9) (<b>MLRA 1, 2, 4A and 4B</b>)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Raised Ant Mounds (D6) (<b>LRR A</b>)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7)</p>
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<p><b>Field Observations:</b></p> <p>Surface Water Present?    Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table Present?      Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): &gt;16" _____</p> <p>Saturation Present?        Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): &gt;16" _____</p> <p>(includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b>      Yes _____      No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Upland dredge pile dominated by Scotch broom.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/16/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-25  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): convex Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4722 Long: -123.87842 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located approximately 50 feet southeast of levee.	

## VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u><i>Picea sitchensis</i></u>	60	Y	FAC	
2. _____				
3. _____				
4. _____				
Total Cover: _____	60			
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. <u><i>Salix hookerana</i></u>	70	Y	FACW	
2. <u><i>Rubus spectabilis</i></u>	25	Y	FAC	
3. <u><i>Lonicera involucrata</i></u>	10	N	FAC	
4. _____				
Total Cover: _____	105			
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <u><i>Carex obnupta</i></u>	90	Y	OBL	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
Total Cover: _____	90			
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____				
2. _____				
Total Cover: _____	255			
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

**SOIL**

Sampling Point: P-25

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
1-0								Organics
0-8	2.5Y 3/2	90	10YR 3/6	10	C	M	SiL	
8-16	2.5Y 3/1	60	7.5YR 3/4	35	C	M	SiCl	
			5YR 3/4	5	C	M		

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**      Yes       No \_\_\_\_\_

Remarks:

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present?    Yes \_\_\_\_\_    No     Depth (inches): \_\_\_\_\_  
 Water table Present?    Yes \_\_\_\_\_    No     Depth (inches): >16" \_\_\_\_\_  
 Saturation Present?    Yes \_\_\_\_\_    No     Depth (inches): >16" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**      Yes       No \_\_\_\_\_

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

Remarks: Evidence of flow

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/16/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-26  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): concave Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4722 Long: -123.87842 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 15 feet northwest of P-25, at levee base.	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	Dominance Test worksheet:
1. <i>Picea sitchensis</i>	90	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	90	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. <i>Salix hookerana</i>	40	Y	FACW	
2. <i>Rubus spectabilis</i>	10	Y	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____	50	_____	_____	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Phalaris arundinacea</i>	100	Y	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____	100	_____	_____	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <i>Hedera helix</i>	5	X	NOL	
2. _____	_____	_____	_____	
Total Cover: _____	245	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____	0	_____	_____	

Remarks:

**SOIL**

Sampling Point: P-26

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 2/2	100					SiL	
6-14	10YR 2/2		7.5YR 2.5/3	5	C	M	SiL	
14-18	10YR 3/2		7.5YR 3/4	10	C	M	SiCl	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No X

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 Water table Present? Yes \_\_\_\_\_ No X Depth (inches): >18" \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No X Depth (inches): >18" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No X

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

Remarks:

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/16/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-27  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): NW Forests and Coasts (LRR A) Lat: 45.4722 Long: -123.87842 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Plot located within PHAR patch near dredge pile. Soils altered, but topographically low enough to receive significant seasonal hydrology.			

## VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Phalaris arundinacea</i>	100	Y	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>100</u>	_____	_____	_____	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>100</u>	_____	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____	_____	_____	0	

Remarks: Open PHAR field

**SOIL**

Sampling Point: P-27

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 2/2	100					SiL	dense PHAR roots
8-16	10YR 2/2	100					sand/gravels	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks: Soils altered - within dredge pile.

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: Plot lower than P-28.



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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/16/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-28  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4722 Long: -123.87842 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 15 feet east of P-27, approximately 6 inches higher.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species <u>90</u> x2 = <u>180</u> FAC species <u>10</u> x3 = <u>30</u> FACU species <u>20</u> x4 = <u>80</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>120</u> (A) <u>290</u> (B) Prevalence Index = B/A = <u>2.4</u>
<b>Shrub Stratum</b>				
1. <i>Rubus laciniatus</i>	20	Y	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> _____ Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
<b>Herb Stratum</b>				
1. <i>Phalaris arundinacea</i>	90	Y	FACW	
2. <i>Cirsium arvense</i>	10	N	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>100</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>120</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks:

**SOIL**

Sampling Point: P-28

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/2	100					SiL	PHAR roots
4-16	10YR 2/2	100					sand/gravels	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No

Remarks: Dredge pile

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water table Present? Yes \_\_\_\_\_ No  Depth (inches): >16" \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): >16" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No

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

Remarks: Plot located approximately 6 inches higher than P-27.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/16/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-29  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4709 Long: -123.86942 Datum: NAD27  
 Soil Map Unit Name: (102A) Fluvaquents-Histosols complex, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located within open ag field, approximately 100 feet west of treeline, 7 feet south of E-W ditch.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<u>Tree Stratum</u> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<u>Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Phalaris arundinacea</i>	50	Y	FACW	
2. <i>Alopecurus pratensis</i>	50	Y	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>100</u>				
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>100</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks: Plot located in mowed field.

**SOIL**

Sampling Point: P-29

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 2/2	100					SiL	
5-16	10YR 3/2	70	7.5YR 3/4	30	C	M	SiCl	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> )
	<input type="checkbox"/> Red Parent Material (TF2)
	<input type="checkbox"/> Other (Explain in Remarks)

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

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b>	<b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>
Type: _____		
Depth (inches): _____		

Remarks: Iron pieces have leached and colors were ignored in recording data.

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b>	<b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Water table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____		
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)		

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

Remarks: All wetland from ditch south to road.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/16/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-30  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located approximately 12 feet north of ditch, to show wet field condition.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<u>Tree Stratum</u> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
<u>Shrub Stratum</u>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Festuca arundinacea</i>	75	Y	FAC	
2. <i>Holcus lanatus</i>	25	Y	FAC	
3. <i>Rumex crispus</i>	5		FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>105</u>				
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>105</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks: Plot located in area most likely to be upland.

**SOIL**

Sampling Point: P-30

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/2	100					SiL	
4-12	10YR 3/2	80	10YR 3/6	20	C	M	SiCl	
12-16	10YR 3/2	60	10YR 3/6	20	C	M	SiCl	
			7.5YR 3/4	20	C	M		

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks:

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: Plot located at highest elevation in field, slopes down to the north.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-31  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located in pasture on topo raise.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
<b>Shrub Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Agrostis capillaris</i>	60	Y	FAC	
2. <i>Holcus lanatus</i>	20	Y	FAC	
3. <i>Trifolium repens</i>	20	Y	FAC	
4. <i>Dactylis glomerata</i>	10	N	FACU	
5. <i>Alopecurus geniculatus</i>	5	N	OBL	
6. <i>Trifolium pratense</i>	5	N	FACU	
7. <i>Cirsium arvense</i>	1	N	FAC	
8. _____	_____	_____	_____	
Total Cover: <u>121</u>				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>121</u>				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust <u>0</u>		

Remarks:

**SOIL**

Sampling Point: P-31

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-9	10YR 3/3	100					SiL	
9-16	10YR 3/3	80	10YR 3/6	20	C	M	SiL	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b>	Yes _____	No <u>X</u> _____
Type: <u>large cobbles and asphalt chunks</u>			
Depth (inches): <u>8"</u>			

Remarks:

**HYDROLOGY**

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

<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b>	Yes _____	No <u>X</u> _____
Surface Water Present?	Yes _____ No <u>X</u> _____			
Water table Present?	Yes _____ No <u>X</u> _____			
Saturation Present?	Yes _____ No <u>X</u> _____			
(includes capillary fringe)	Depth (inches): _____			
	Depth (inches): <u>&gt;16"</u>			
	Depth (inches): <u>&gt;16"</u>			

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

Remarks: On rise



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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-32  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located approximately 25 feet southwest of P-31.	

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Agrostis capillaris</i>	50	Y	FAC	
2. <i>Trifolium pratense</i>	30	Y	FACU	
3. <i>Holcus lanatus</i>	20	Y	FAC	
4. <i>Trifolium repens</i>	15		FAC	
5. <i>Ranunculus repens</i>	1		FAC	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>116</u>				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>116</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks: Plot located at edge of wetland.

**SOIL**

Sampling Point: P-32

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 2/2	90	7.5YR 3/4	10	C	M	SiL	
5-12	10YR 3/2	60	7.5YR 3/4	40	C	M	SiL	
12-16	10YR 3/2	60	10YR 3/3	40	C	M	SiL	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (any one indicator is sufficient)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: Low spot at edge of wetland.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-33  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 3 feet south of fence post, on slope up to berm within trash pile - highly altered.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<u>Tree Stratum</u> (Use scientific names.)				<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				
<u>Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b>
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x1 = <u>0</u>
3. _____	_____	_____	_____	FACW species _____ x2 = <u>0</u>
4. _____	_____	_____	_____	FAC species _____ x3 = <u>0</u>
5. _____	_____	_____	_____	FACU species _____ x4 = <u>0</u>
Total Cover: _____				UPL species _____ x5 = <u>0</u>
<u>Herb Stratum</u>				Column Totals: <u>0</u> (A) <u>0</u> (B)
1. <i>Alopecurus geniculatus</i>	80	Y	OBL	Prevalence Index = B/A = <u>#DIV/0!</u>
2. <i>Cirsium arvense</i>	20	Y	FAC	
3. <i>Lolium perenne</i>	10	N	FAC	
4. <i>Trifolium repens</i>	5	N	FAC	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>115</u>				
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b>
1. _____	_____	_____	_____	<u>X</u> Dominance Test is >50%
2. _____	_____	_____	_____	<b>#DIV/0!</b> Prevalence Index is ≤3.0 <sup>1</sup>
Total Cover: <u>115</u>				_____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

Remarks: Highly altered soils - ALGE appears to grow here like a weed, on top of trash and buried trash that perches precipitation.

**SOIL**

Sampling Point: P-33

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/2	95	7.5YR 2.5/3	5	C	M	gravelly SiL	
12-16	10YR 3/4	100					SiL	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks: Soils altered by berm construction and more recently by trash dumping/burying.

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: On slope up to berm. Subsoil trash is likely perching water shallowly.

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-34  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.885 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" Present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Plot located approximately 10 feet southwest of P-33, 5 feet west of fenceline.	

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Lolium perenne</i>	50	Y	FAC	
2. <i>Trifolium pratense</i>	25	Y	FACU	
3. <i>Alopecurus geniculatus</i>	20	Y	OBL	
4. <i>Holcus lanatus</i>	15	N	FAC	
5. <i>Ranunculus repens</i>	2	N	FAC	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>112</u>				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>112</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks: Mown or grazed in somewhat disturbed area (farm road).

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 3/2	90	7.5YR 3/4	10	C	M	SiL	
8-16	10YR 3/3	100					SiL	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	
Remarks:	

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): >16" _____	
Saturation Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: Near base of slope

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-35  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Plot located approximately 10 feet west of berm on slope near base, approximately 75 feet south of gravel road.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<u>Tree Stratum</u> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u><i>Picea sitchensis</i></u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	<u>25</u>	_____	_____	
<u>Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <u><i>Phalaris arundinacea</i></u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: _____	<u>100</u>	_____	_____	
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____	<u>125</u>	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____	_____	_____	<u>0</u>	

Remarks:

**SOIL**

Sampling Point: P-35

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/3	100					SiL	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Type: _____ Depth (inches): _____	
Remarks:	

**HYDROLOGY**

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

<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): >16" _____	
Saturation Present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): >16" _____ (includes capillary fringe)	

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

Remarks: On slope up to berm.



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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-36  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.885 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located approximately 12 feet west of P-35, 10 feet east of fenceline at same elevation as rest of field.	

**VEGETATION**

	Absolute % Cover	Dominant Species?	Indicator Status?	
<u>Tree Stratum</u> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u><i>Picea sitchensis</i></u>	40	Y	FAC	
2. _____				
3. _____				
4. _____				
Total Cover: _____	40			
<u>Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____				
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <u><i>Phalaris arundinacea</i></u>	100	Y	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
Total Cover: _____	100			
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____				
2. _____				
Total Cover: _____	140			
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks: Mown or grazed in somewhat disturbed area (farm road).

**SOIL**

Sampling Point: P-36

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/2	70	7.5YR 3/4	20	C	M	SiL	
			10YR 3/6	10	C	M		

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**      Yes       No \_\_\_\_\_

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present?    Yes \_\_\_\_\_    No     Depth (inches): \_\_\_\_\_  
 Water table Present?    Yes \_\_\_\_\_    No     Depth (inches): >16" \_\_\_\_\_  
 Saturation Present?    Yes \_\_\_\_\_    No     Depth (inches): >16" \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**      Yes       No \_\_\_\_\_

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

Remarks: Soils moist (but not saturated).

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-37  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.87524 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located at south end of fill, nearest levee, approximately 20 feet east of levee at edge of wetland, 1-2 feet lower than road.	

### VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?	
<b>Tree Stratum</b> (Use scientific names.)				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <i>Juncus effusus</i>	55	Y	FACW	
2. <i>Potentilla anserina</i>	40	Y	OBL	
3. <i>Lotus corniculatus</i>	5	N	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Total Cover: <u>100</u>	_____	_____	_____	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>100</u>	_____	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>				

Remarks:

**SOIL**

Sampling Point: P-37

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 3/2	90	10YR 3/4	10	C	M	SiL	many organics
8-16	10YR 3/1	100					gravelly sand	mottles on gravel faces

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b>	<b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>
Type: _____ Depth (inches): _____		

Remarks: Sand appears gleyed.

**HYDROLOGY**

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

<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u>&gt;16"</u>	
Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u>&gt;16"</u> (includes capillary fringe)	

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

Remarks: Soils moist (but not saturated).

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

Project/Site: Tillamook - Southern Flow Corridor City/County: Tillamook Sampling Date: 9/17/2014  
 Applicant/Owner: Tillamook County State: OR Sampling Point: P-38  
 Investigator(s): Greta Presley and Shane Latimer Section, Township, Range: 1S 10W Sec 23  
 Landform (hillslope, terrace, etc.): diked floodplain Local relief (concave, convex, none): flat Slope (%): 0-1%  
 Subregion (LRR): Columbia Plateau (LRR B) Lat: 45.4700 Long: -123.885 Datum: NAD27  
 Soil Map Unit Name: (103A) Coquille silt loam, diked NWI Classification: PEMC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" Present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Plot located approximately 8 feet northwest of P-37 at base of road fill.	

**VEGETATION**

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status?	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				<b>Prevalence Index Worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x1 = <u>0</u> FACW species _____ x2 = <u>0</u> FAC species _____ x3 = <u>0</u> FACU species _____ x4 = <u>0</u> UPL species _____ x5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
<b>Shrub Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>#DIV/0!</u> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptation <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
<b>Herb Stratum</b>				
1. <i>Agrostis capillaris</i>	40	Y	FAC	
2. <i>Festuca arundinacea</i>	40	Y	FAC	
3. <i>Cynosurus cristatus</i>	20	Y	FACU	
4. <i>Hypochaeris radicata</i>	5	N	FACU	
5. moss	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>105</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>0</u>
2. _____	_____	_____	_____	
Total Cover: <u>105</u>				

Remarks: Dried veg

**SOIL**

Sampling Point: P-38

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/2	95	10YR 3/4	5	C	M	SiL	
3-7	10YR 3/3	100					gravelly SiL	
>7							gravels	compact soil

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

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

**Restrictive Layer (if present):**

Type: gravel, compact dry soil

Depth (inches): 7

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water table Present? Yes  No  Depth (inches): >7"

Saturation Present? Yes  No  Depth (inches): >7"

(includes capillary fringe)

**Wetland Hydrology Present?** Yes  No

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

Remarks: Approximately 6-12 inches higher than P-37, near edge of up/wet boundary.

## Appendix C.

### **Ground Level Photographs**

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**Photo 1.** *View south on west side of Hall Slough.*

7/16/2014



**Photo 2.** *View south on planted levee above Hall Slough.*

7/16/2014



**Photo 3.** *View southeast toward Hall Slough from levee.*

7/16/2014



**Photo 4.** *View southeast near drainage ditch at south end of site.*

7/15/2014



**Photo 5.** *View south from Sp-18,19 toward Trask River levee. 8/21/2014*



**Photo 6.** *Typical agricultural drainage channel north of Trask River. 8/21/2014*



**Photo 7.** *View west toward Trask River levee.*

*8/21/2014*

## Appendix D.

### **Additional Tables and Information**

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## USDA Field Office Climate Data

WETS Station : TILLAMOOK, OR8494                      Creation Date: 12/03/2014  
 Latitude: 4527                      Longitude: 12351                      Elevation: 00012  
 State FIPS/County(FIPS): 41057                      County Name: Tillamook  
 Start yr. - 1971                      End yr. - 2000

Month	Temperature (Degrees F.)			Precipitation (Inches)						
	-----			-----						
	avg	avg	avg	avg	30% chance will have less than	avg # of days w/.1 or more	avg total snow fall			
January	49.9	36.3	43.1	13.09	8.41	15.76	18	0.6		
February	52.5	37.2	44.9	10.79	7.70	12.76	16	0.3		
March	54.2	37.5	45.9	9.90	7.11	11.69	17	0.1		
April	56.8	39.3	48.1	6.81	4.67	8.12	13	0.0		
May	60.4	43.3	51.9	4.84	3.25	5.79	11	0.0		
June	63.7	47.0	55.4	3.41	2.32	4.08	8	0.0		
July	66.7	49.9	58.3	1.64	0.76	2.00	4	0.0		
August	68.1	49.8	59.0	1.42	0.64	1.73	4	0.0		
September	68.6	46.6	57.6	3.68	1.29	4.43	7	0.0		
October	62.5	41.9	52.2	7.16	4.08	8.72	11	0.0		
November	54.4	39.2	46.8	13.72	9.70	16.26	18	0.2		
December	49.9	36.4	43.2	13.94	9.85	16.52	18	0.2		
Annual	-----	-----	-----	-----	80.09	98.95	--	-----		
Average	59.0	42.0	50.5	-----	-----	-----	--	-----		
Average	-----	-----	-----	90.40	-----	-----	143	1.4		

### GROWING SEASON DATES

Probability	Temperature		
	24 F or higher	28 F or higher	32 F or higher
	Beginning and Ending Dates		
	Growing Season Length		
50 percent *	2/ 3 to 12/16 315 days	3/30 to 11/ 7 221 days	4/28 to 10/ 9 163 days
70 percent *	1/18 to 1/ 1 348 days	3/22 to 11/15 238 days	4/22 to 10/15 175 days

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

total 1948-2014 prcp

Station : OR8494, TILLAMOOK

----- Unit = inches

yr	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	annl
48							M1.10	1.77	4.60	6.55	13.96	M17.42	45.40
49	M2.18	21.39	7.55	2.42	4.36	1.05	1.29	1.09	2.28	6.78	11.29	13.96	75.64
50	17.70	12.89	14.44	6.82	3.28	1.75	1.83	1.45	1.84	M13.65	15.93	15.67	107.25
51	M17.24	M11.60	M10.35	2.61	3.77	0.65	1.02	0.44	4.81	M13.07	13.17	12.56	91.29
52	14.74	9.95	M11.84	3.44	2.44	2.54	0.05	1.41	1.05	1.88	3.23	14.65	67.22
53	M20.05	M6.92	M8.74	5.34	6.05		0.44	3.05	M2.50	6.33	15.73	17.05	92.20
54	20.33	14.28	6.70	6.52	3.09	M5.92	M1.73	2.77	M3.10	6.58	11.79	14.83	97.64
55	9.41	M8.89	13.82	10.34	M1.92	M1.62	2.87	0.15	3.83	14.65	M13.79	18.04	99.33
56	20.61	12.44	M15.84	1.86	2.20	4.35	0.26	3.34	3.09	11.16	3.52	10.57	89.24
57	6.74	11.89	14.17	5.80	5.72	2.40	1.43	1.87	0.71	6.32	8.46	16.93	82.44
58	16.83	13.31	5.83	10.97	1.58	3.93	0.02	0.59	2.91	4.99	16.53	13.44	90.93
59	17.06	8.25	10.37	5.26	4.42	6.31	2.62	0.82	7.72	10.45	8.71	7.54	89.53
60	9.38	13.99	11.42	7.64	7.83	1.79	0.00	3.48	1.39	8.32	19.55	7.84	92.63
61	12.51	22.90	17.42	5.10	5.15	1.10	0.51	1.45	2.03	9.50	10.56	14.15	102.38
62	7.67	8.48	9.97	8.53	4.39	1.57	0.61	3.64	5.46	7.49	19.81	7.44	85.06
63	5.47	10.59	8.83	7.99	3.26	3.74	2.38	5.12	2.62	10.49	17.72	10.64	88.85
64	25.34	4.44	10.07	4.87	2.66	4.30	3.63	2.90	2.87	2.60	14.85	19.18	97.71
65	23.06	6.44	1.64	5.56	3.08	1.02	0.59	0.85	1.02	M4.12	14.29	14.69	76.36
66	14.23	7.09	13.12	2.87	1.98	1.88	0.34	1.02	2.14	M6.55	M12.08	18.69	81.99
67	17.08	8.57	12.46	6.64	1.52	0.69	0.00	0.07	3.09	11.18	8.11	11.46	80.87
68	12.55	9.18	10.50	5.92	4.92	6.80	0.95	6.53	3.89	M12.82	16.02	M19.27	109.35
69	M13.68	6.78	4.55	5.69	4.77	6.08	0.64	0.61	5.44	7.80	7.80	16.19	80.03
70	19.39	7.07	6.21	9.77	3.56	1.17	0.70	0.23	5.71	7.43	11.80	22.38	95.42
71	25.10	9.46	14.06	6.16	3.56	3.67	2.90	1.43	7.77	7.94	12.98	22.41	117.44
72	18.51	11.92	13.61	11.22	1.97	2.15	1.15	0.44	5.84	2.40	11.14	18.54	98.89
73	9.01	3.22	10.08	3.58	4.44	5.62	0.14	0.84	6.11	9.71	22.07	20.07	94.89
74	16.92	12.46	14.62	7.58	6.65	2.65	4.87	0.47	0.78	2.61	14.34	18.45	102.40
75	19.71	11.84	9.28	5.30	4.46	2.52	1.01	3.98	0.07	13.77	14.15	19.80	105.89
76	14.29	11.38	9.71	5.26	3.28	1.31	2.77	2.22	1.70	3.32	2.57	4.53	62.34
77	3.25	6.81	13.50	2.34	8.87	1.66	0.83	3.80	7.80	7.03	M14.59	19.53	90.01
78	9.67	7.49	4.11	8.10	5.86	3.41	1.03	4.16	6.94	1.80	9.08	6.32	67.97
79	4.17	13.65	6.92	5.32		3.07	1.92	1.12	5.21	12.56	10.90	16.57	81.41
80	10.42	9.99	9.73	6.20	3.38	2.67	0.56	1.15	3.41	3.06	13.98	17.56	82.11
81	4.62	8.67	8.38	8.53	5.19	7.24	0.68	0.55	4.78	13.43	10.24	16.25	88.56
82	18.85	13.44	10.12	9.10	1.19	1.65	2.27	1.13	5.94	7.25	11.02	15.99	97.95
83	18.70	15.06	13.09	3.74	5.19	7.56	5.37	1.31	2.21	2.67	19.63	10.29	104.82
84	9.92	11.24	7.28	7.73	8.15	6.07	1.09	0.32	4.37	10.19	18.32	10.14	94.82
85	0.79	8.26	9.70	3.04	2.34	4.00	0.75	1.27	4.92	9.79	12.51	3.88	61.25
86	14.07	12.05	7.72	6.00	5.50	1.13	3.28	0.26	5.59	5.38	11.99	6.12	79.09
87	12.90	8.25	16.02	3.72	6.20	1.38	1.70	0.89	1.31	0.62	5.88	13.01	71.88
88	10.46	5.47	10.09	6.38	7.33	3.34	1.56	0.81	2.61	2.61	20.52	10.20	81.38
89	12.77	8.66	16.35	2.61	4.19	2.78	3.09	2.65	0.59	6.54	9.56	6.57	76.36
90	21.41	17.27	5.80	6.83	5.63	3.86	0.63	1.16	0.44	11.02	13.29	7.59	94.93
91	8.72	13.71	9.42	13.58	4.65	2.27	0.62	1.76	0.11	3.68	16.25	12.24	87.01
92	13.30	7.48	1.16	12.81	0.59	0.99	0.32	0.81	3.85	7.02	11.15	11.10	70.58



93	7.60	2.34	10.50	13.29	6.85	4.13	4.58	0.72	0.25	2.66	4.79	12.91	70.62
94	12.24	13.05	7.06	6.09	2.29	4.44	0.22	0.74	2.85	12.75	18.87	23.03	103.63
95	17.52	9.71	11.62	7.16	2.27	4.21	0.80	1.88	5.21	8.23	24.09	15.40	108.10
96	15.49	21.64	4.77	14.50	6.53	2.49	1.74	1.80	4.63	12.45	14.48	22.19	122.71
97	16.99	4.67	16.05	7.86	3.92	5.82	1.78	2.47	10.96	14.18	11.36	11.14	107.20
98	15.87	12.29	10.78	3.14	5.61	3.13	0.34	0.01	1.00	10.07	21.16	22.21	105.61
99	17.05	22.74	9.82	3.20	7.21	3.36	1.46	1.71	0.27	4.00	25.39	17.19	113.40
0	12.07	9.34	5.55	4.10	7.03	3.81	0.55	0.59	2.98	6.19	4.72	6.86	63.79
1	6.29	3.87	7.58	7.75	3.50	3.40	1.22	3.54	1.05	5.31	15.44	16.40	75.35
2	19.05	6.67	10.52	6.93	2.73	2.60	0.31	0.28	1.46	1.52	7.80	17.25	77.12
3	19.11	5.88	17.37	8.09	4.34	0.86	0.29	0.09	3.01	8.83	10.72	15.20	93.79
4	17.01	8.15	6.21	5.18	5.99	4.07	0.20	5.58	7.50	6.77	6.08	9.94	82.68
5	8.31	2.34	8.78	8.89	7.28	6.06	2.11	0.75	3.25	11.93	12.97	14.69	87.36
6	23.84	5.58	9.09	4.11	M5.08	3.33	0.99	0.20	2.34	3.96	25.88	13.74	98.14
7	9.63	14.59	10.46	4.65	1.99	2.87	1.98	1.12	2.71	7.35	7.70	19.21	84.26
8	13.12	6.91	11.48	8.36	2.08	3.55	0.21	M2.85	0.73	4.48	14.76	12.02	80.55
9	14.50	3.89	9.77	5.10	5.72	1.14	0.57	M1.72	3.06	7.03	M14.72	M6.44	73.66
10	13.30	M7.40	9.76	M11.17	6.60	M5.61	0.70	0.76	0.00	0.00			55.30
11													
12				M0.67	M4.81	4.41	0.73	0.04	M0.05	15.29	13.52	22.53	62.05
13	9.25	6.18	M5.56	6.75	8.96	3.10	0.01	M1.61	10.54	2.84	7.18	5.70	67.68
14	M7.38	M11.06	15.51	7.64	M5.00	M2.10	1.75	0.73	3.69	12.86	9.84	M0.00	77.56

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Product generated by ACIS - NOAA Regional Climate Centers.

### Climatological Data for TILLAMOOK, OR - May 2014

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2014-05-01	88	53	70.5	19.9	0	6	0.00	0.0	0
2014-05-02	84	50	67.0	16.3	0	2	0.00	0.0	0
2014-05-03	M	M	M	M	M	M	0.05	0.0	0
2014-05-04	57	48	52.5	1.5	12	0	0.83	0.0	0
2014-05-05	58	48	53.0	1.8	12	0	0.41	0.0	0
2014-05-06	60	44	52.0	0.7	13	0	0.00	0.0	0
2014-05-07	M	M	M	M	M	M	M	0.0	0
2014-05-08	61	40	50.5	-1.1	14	0	0.10	0.0	0
2014-05-09	56	48	52.0	0.2	13	0	1.40	0.0	0
2014-05-10	57	44	50.5	-1.4	14	0	0.68	0.0	0
2014-05-11	59	38	48.5	-3.6	16	0	0.02	0.0	0
2014-05-12	61	38	49.5	-2.7	15	0	0.00	0.0	0
2014-05-13	78	40	59.0	6.6	6	0	0.00	0.0	0
2014-05-14	M	M	M	M	M	M	M	0.0	0
2014-05-15	M	M	M	M	M	M	M	0.0	0
2014-05-16	75	52	63.5	10.7	1	0	0.00	0.0	0
2014-05-17	65	54	59.5	6.5	5	0	0.00	0.0	0
2014-05-18	65	53	59.0	5.9	6	0	0.06	0.0	0
2014-05-19	63	51	57.0	3.8	8	0	0.33	0.0	0
2014-05-20	64	45	54.5	1.1	10	0	0.00	0.0	0
2014-05-21	63	45	54.0	0.5	11	0	0.00	0.0	0
2014-05-22	61	45	53.0	-0.6	12	0	0.00	0.0	0
2014-05-23	67	48	57.5	3.7	7	0	0.01	0.0	0
2014-05-24	66	54	60.0	6.1	5	0	0.00	0.0	0
2014-05-25	63	46	54.5	0.5	10	0	0.00	0.0	0
2014-05-26	65	48	56.5	2.4	8	0	0.50	0.0	0
2014-05-27	63	41	52.0	-2.2	13	0	0.00	0.0	0
2014-05-28	64	45	54.5	0.1	10	0	0.12	0.0	0
2014-05-29	62	47	54.5	0.0	10	0	0.49	0.0	0
2014-05-30	62	39	50.5	-4.1	14	0	0.00	0.0	0
2014-05-31	63	39	51.0	-3.7	14	0	0.00	0.0	0
<b>Sum</b>	1750	1243	-	-	259	8	5.00	0.0	-
<b>Average</b>	64.8	46.0	55.4	2.6	-	-	-	-	0.0
<b>Normal</b>	62.0	43.5	52.8	-	380	1	4.72	0.0	-

**Observations for each day cover the 24 hours ending  
at the time given below (Local Standard Time).**

Max Temperature : 8am

Min Temperature : 8am

Precipitation : 8am

Snowfall : unknown

Snow Depth : unknown

### Climatological Data for TILLAMOOK, OR - June 2014

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2014-06-01	64	43	53.5	-1.3	11	0	0.00	0.0	0
2014-06-02	65	51	58.0	3.1	7	0	0.00	0.0	0
2014-06-03	62	53	57.5	2.5	7	0	0.00	0.0	0
2014-06-04	62	46	54.0	-1.1	11	0	0.00	0.0	0
2014-06-05	62	39	50.5	-4.7	14	0	0.00	0.0	0
2014-06-06	61	40	50.5	-4.8	14	0	0.00	0.0	0
2014-06-07	62	39	50.5	-4.9	14	0	0.00	0.0	0
2014-06-08	63	53	58.0	2.5	7	0	0.00	0.0	0
2014-06-09	64	52	58.0	2.3	7	0	0.00	0.0	0
2014-06-10	63	41	52.0	-3.8	13	0	0.00	0.0	0
2014-06-11	64	43	53.5	-2.4	11	0	0.00	0.0	0
2014-06-12	65	43	54.0	-2.0	11	0	0.00	0.0	0
2014-06-13	60	54	57.0	0.9	8	0	1.24	0.0	0
2014-06-14	61	52	56.5	0.3	8	0	0.01	0.0	0
2014-06-15	64	52	58.0	1.7	7	0	0.04	0.0	0
2014-06-16	61	47	54.0	-2.4	11	0	0.04	0.0	0
2014-06-17	61	49	55.0	-1.5	10	0	0.14	0.0	0
2014-06-18	64	51	57.5	0.9	7	0	0.01	0.0	0
2014-06-19	64	44	54.0	-2.7	11	0	0.00	0.0	0
2014-06-20	70	44	57.0	0.2	8	0	0.03	0.0	0
2014-06-21	65	40	52.5	-4.4	12	0	0.00	0.0	0
2014-06-22	65	43	54.0	-3.0	11	0	0.00	0.0	0
2014-06-23	67	47	57.0	-0.2	8	0	0.00	0.0	0
2014-06-24	66	50	58.0	0.7	7	0	0.04	0.0	0
2014-06-25	71	56	63.5	6.1	1	0	0.05	0.0	0
2014-06-26	67	56	61.5	4.0	3	0	0.10	0.0	0
2014-06-27	M	M	M	M	M	M	M	0.0	0
2014-06-28	64	57	60.5	2.8	4	0	0.39	0.0	0
2014-06-29	67	57	62.0	4.2	3	0	0.01	0.0	0
2014-06-30	68	47	57.5	-0.4	7	0	0.00	0.0	0
<b>Sum</b>	1862	1389	-	-	253	0	2.10	0.0	-
<b>Average</b>	64.2	47.9	56.1	-0.3	-	-	-	-	0.0
<b>Normal</b>	65.0	47.7	56.4	-	260	1	3.58	0.0	-

**Observations for each day cover the 24 hours ending  
at the time given below (Local Standard Time).**

Max Temperature : 8am

Min Temperature : 8am

Precipitation : 8am

Snowfall : unknown

Snow Depth : unknown

**Climatological Data for TILLAMOOK, OR - July 2014**

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2014-07-01	72	47	59.5	1.5	5	0	0.00	0.0	0
2014-07-02	84	50	67.0	8.9	0	2	0.00	0.0	0
2014-07-03	71	59	65.0	6.8	0	0	0.00	0.0	0
2014-07-04	67	47	57.0	-1.3	8	0	0.00	0.0	0
2014-07-05	67	47	57.0	-1.4	8	0	0.00	0.0	0
2014-07-06	71	50	60.5	2.0	4	0	0.00	0.0	0
2014-07-07	74	51	62.5	3.9	2	0	0.00	0.0	0
2014-07-08	69	58	63.5	4.8	1	0	0.00	0.0	0
2014-07-09	67	52	59.5	0.7	5	0	0.00	0.0	0
2014-07-10	66	46	56.0	-2.8	9	0	0.00	0.0	0
2014-07-11	67	48	57.5	-1.4	7	0	0.00	0.0	0
2014-07-12	65	55	60.0	1.0	5	0	0.00	0.0	0
2014-07-13	67	56	61.5	2.4	3	0	0.00	0.0	0
2014-07-14	61	56	58.5	-0.6	6	0	0.09	0.0	0
2014-07-15	66	56	61.0	1.8	4	0	0.00	0.0	0
2014-07-16	65	54	59.5	0.2	5	0	0.00	0.0	0
2014-07-17	67	54	60.5	1.2	4	0	0.00	0.0	0
2014-07-18	69	49	59.0	-0.4	6	0	0.00	0.0	0
2014-07-19	M	M	M	M	M	M	0.00	0.0	0
2014-07-20	74	59	66.5	7.1	0	2	0.02	0.0	0
2014-07-21	69	46	57.5	-2.0	7	0	0.00	0.0	0
2014-07-22	69	46	57.5	-2.0	7	0	0.00	0.0	0
2014-07-23	73	57	65.0	5.5	0	0	0.60	0.0	0
2014-07-24	68	56	62.0	2.4	3	0	1.03	0.0	0
2014-07-25	67	47	57.0	-2.6	8	0	0.01	0.0	0
2014-07-26	68	47	57.5	-2.1	7	0	0.00	0.0	0
2014-07-27	69	50	59.5	-0.1	5	0	0.00	0.0	0
2014-07-28	72	55	63.5	3.9	1	0	0.00	0.0	0
2014-07-29	67	52	59.5	-0.1	5	0	0.00	0.0	0
2014-07-30	66	53	59.5	-0.2	5	0	0.00	0.0	0
2014-07-31	68	48	58.0	-1.7	7	0	0.00	0.0	0
<b>Sum</b>	2065	1551	-	-	137	4	1.75	0.0	-
<b>Average</b>	68.8	51.7	60.3	1.2	-	-	-	-	0.0
<b>Normal</b>	68.0	50.2	59.1	-	185	2	1.38	0.0	-

**Observations for each day cover the 24 hours ending  
at the time given below (Local Standard Time).**

Max Temperature : 8am

Min Temperature : 8am

Precipitation : 8am

Snowfall : unknown

Snow Depth : unknown

**Climatological Data for TILLAMOOK, OR - August 2014**

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2014-08-01	69	47	58.0	-1.7	7	0	0.00	0.0	0
2014-08-02	68	53	60.5	0.8	4	0	0.00	0.0	0
2014-08-03	69	57	63.0	3.3	2	0	0.00	0.0	0
2014-08-04	69	55	62.0	2.3	3	0	0.00	0.0	0
2014-08-05	65	54	59.5	-0.1	5	0	0.00	0.0	0
2014-08-06	71	52	61.5	1.9	3	0	0.00	0.0	0
2014-08-07	70	48	59.0	-0.6	6	0	0.00	0.0	0
2014-08-08	68	47	57.5	-2.1	7	0	0.00	0.0	0
2014-08-09	69	46	57.5	-2.1	7	0	0.00	0.0	0
2014-08-10	68	46	57.0	-2.6	8	0	0.00	0.0	0
2014-08-11	74	49	61.5	1.9	3	0	0.00	0.0	0
2014-08-12	77	58	67.5	7.9	0	3	0.00	0.0	0
2014-08-13	63	57	60.0	0.4	5	0	0.13	0.0	0
2014-08-14	67	59	63.0	3.4	2	0	0.14	0.0	0
2014-08-15	71	50	60.5	1.0	4	0	0.02	0.0	0
2014-08-16	71	55	63.0	3.5	2	0	0.03	0.0	0
2014-08-17	71	55	63.0	3.5	2	0	0.00	0.0	0
2014-08-18	68	52	60.0	0.5	5	0	0.00	0.0	0
2014-08-19	69	55	62.0	2.5	3	0	0.00	0.0	0
2014-08-20	71	58	64.5	5.0	0	0	0.01	0.0	0
2014-08-21	69	44	56.5	-3.0	8	0	0.00	0.0	0
2014-08-22	71	44	57.5	-1.9	7	0	0.02	0.0	0
2014-08-23	65	51	58.0	-1.4	7	0	0.00	0.0	0
2014-08-24	72	52	62.0	2.6	3	0	0.00	0.0	0
2014-08-25	70	49	59.5	0.1	5	0	0.00	0.0	0
2014-08-26	78	50	64.0	4.6	1	0	0.00	0.0	0
2014-08-27	69	52	60.5	1.2	4	0	0.00	0.0	0
2014-08-28	69	54	61.5	2.2	3	0	0.00	0.0	0
2014-08-29	73	56	64.5	5.2	0	0	0.01	0.0	0
2014-08-30	71	58	64.5	5.3	0	0	0.07	0.0	0
2014-08-31	69	58	63.5	4.3	1	0	0.30	0.0	0
<b>Sum</b>	2164	1621	-	-	117	3	0.73	0.0	-
<b>Average</b>	69.8	52.3	61.0	1.5	-	-	-	-	0.0
<b>Normal</b>	69.1	49.9	59.5	-	172	2	1.31	0.0	-

**Observations for each day cover the 24 hours ending at the time given below (Local Standard Time).**

Max Temperature : 8am

Min Temperature : 8am

Precipitation : 8am

Snowfall : unknown

Snow Depth : unknown

### Climatological Data for TILLAMOOK, OR - September 2014

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2014-09-01	72	52	62.0	2.8	3	0	0.00	0.0	0
2014-09-02	73	53	63.0	3.9	2	0	0.00	0.0	0
2014-09-03	71	51	61.0	1.9	4	0	0.00	0.0	0
2014-09-04	69	43	56.0	-3.0	9	0	0.00	0.0	0
2014-09-05	82	42	62.0	3.1	3	0	0.00	0.0	0
2014-09-06	92	46	69.0	10.1	0	4	0.00	0.0	0
2014-09-07	67	51	59.0	0.2	6	0	0.00	0.0	0
2014-09-08	63	53	58.0	-0.7	7	0	0.00	0.0	0
2014-09-09	68	53	60.5	1.8	4	0	0.00	0.0	0
2014-09-10	69	53	61.0	2.4	4	0	0.00	0.0	0
2014-09-11	67	48	57.5	-1.0	7	0	0.00	0.0	0
2014-09-12	79	50	64.5	6.1	0	0	0.00	0.0	0
2014-09-13	81	44	62.5	4.2	2	0	0.00	0.0	0
2014-09-14	85	44	64.5	6.3	0	0	0.00	0.0	0
2014-09-15	77	43	60.0	1.9	5	0	0.00	0.0	0
2014-09-16	71	43	57.0	-0.9	8	0	0.00	0.0	0
2014-09-17	73	53	63.0	5.2	2	0	0.00	0.0	0
2014-09-18	68	60	64.0	6.3	1	0	0.05	0.0	0
2014-09-19	69	52	60.5	2.9	4	0	0.00	0.0	0
2014-09-20	73	52	62.5	5.1	2	0	0.00	0.0	0
2014-09-21	85	50	67.5	10.2	0	3	0.00	0.0	0
2014-09-22	71	57	64.0	6.9	1	0	0.00	0.0	0
2014-09-23	70	57	63.5	6.5	1	0	0.12	0.0	0
2014-09-24	68	59	63.5	6.7	1	0	2.17	0.0	0
2014-09-25	70	55	62.5	5.9	2	0	0.00	0.0	0
2014-09-26	69	55	62.0	5.5	3	0	0.45	0.0	0
2014-09-27	68	53	60.5	4.2	4	0	0.14	0.0	0
2014-09-28	67	47	57.0	0.9	8	0	0.00	0.0	0
2014-09-29	70	45	57.5	1.6	7	0	0.00	0.0	0
2014-09-30	64	53	58.5	2.8	6	0	0.76	0.0	0
<b>Sum</b>	2171	1517	-	-	106	7	3.69	0.0	-
<b>Average</b>	72.4	50.6	61.5	3.7	-	-	-	-	0.0
<b>Normal</b>	69.2	46.4	57.8	-	220	4	3.00	0.0	-

**Observations for each day cover the 24 hours ending  
at the time given below (Local Standard Time).**

Max Temperature : 8am

Min Temperature : 8am

Precipitation : 8am

Snowfall : unknown

Snow Depth : unknown

## **APPENDIX E**

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Literature Citations and References





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