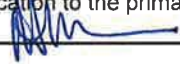


**WETLAND DELINEATION / DETERMINATION REPORT COVER FORM**


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. A single PDF attachment of the completed cover form and report may be e-mailed to **Wetland\_Delineation@dsl.state.or.us**.

<input checked="" type="checkbox"/> Applicant <input type="checkbox"/> Owner Name, Firm and Address: <b>Niki Iverson, Water Resource Manager</b> <b>City of Hillsboro Water Department</b> <b>150 E. Main Street</b> <b>Hillsboro, OR 97123-4028</b>	Business phone # <b>(503) 615-6770</b> Mobile phone # (optional) E-mail: <b>niki.iverson@hillsboro-oregon.gov</b>
<input checked="" type="checkbox"/> Authorized Legal Agent, Name and Address: <b>Niki Iverson, Water Resource Manager</b> <b>City of Hillsboro Water Department</b>	Business phone # <b>(503) 615-6770</b> Mobile phone # (optional) E-mail: <b>niki.iverson@hillsboro-oregon.gov</b>
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: <b>Niki Iverson</b> Signature: 	
Date: <b>1/6/17</b> Special instructions regarding site access: _____	

**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>Willamette Water Supply Program, PLW 2.0</b>		Latitude: <b>45.522599</b>		Longitude: <b>-122.899808</b>	
Proposed Use: <b>Pipeline Installation</b>		Tax Map # <b>See Attachment</b>			
Project Street Address (or other descriptive location): <b>Approximately 4.4 miles in length, begins near the south end of Hillsboro at Reedville Creek, and follows NW Cornelius Pass Road north to US Hwy 26</b>		Township	Range	Section	QQ
		Tax Lot(s) <b>See Attachment</b>			
City: <b>N/A</b> County: <b>Washington</b>		Waterway: <b>Many</b>		River Mile: <b>N/A</b>	
		NWI Quad(s): <b>Several</b>			

**Wetland Delineation Information**

Wetland Consultant Name, Firm and Address: <b>Phil Rickus</b> <b>David Evans and Associates</b> <b>2100 SW River Parkway</b> <b>Portland, OR 97201</b>		Phone # <b>503-223-6663</b> Mobile phone # E-mail: <b>pr@deainc.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: 		Date: <b>January 4, 2017</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>57.1 acres</b> Total Wetland Acreage: <b>Approx. 1.45 acres</b>	

**Check Box Below if Applicable:****Fees:**

<input type="checkbox"/> R-F permit application submitted	<input checked="" type="checkbox"/> Fee payment submitted <b>\$ 419</b>
<input type="checkbox"/> Mitigation bank site	<input type="checkbox"/> Fee (\$100) for resubmittal of rejected report
<input type="checkbox"/> Wetland restoration/enhancement project (not mitigation)	<input type="checkbox"/> No fee for request for reissuance of an expired report
<input type="checkbox"/> Industrial Land Certification Program Site	
<input type="checkbox"/> Reissuance of a recently expired delineation	
Previous DSL # _____ Expiration date _____	
<b>Other Information:</b>	
Has previous delineation/application been made on parcel?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N If known, previous DSL # <b>See Report</b>
Does LWI, if any, show wetland or waters on parcel?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N

**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. # _____

# Wetland Delineation Report

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## Willamette Water Supply Program Cornelius Pass Pipeline Project (PLW 2.0)

*Prepared for:*



9600 SW Oak Street, Suite 238  
Tigard, OR 97223

*Prepared by:*



DAVID EVANS  
AND ASSOCIATES INC.

David Evans and Associates, Inc.  
2100 SW River Parkway  
Portland, Oregon 97201

January 2017

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## **1 INTRODUCTION**

The Willamette Water Supply Program (WWSP or Program) has been identified by the Tualatin Valley Water District (TVWD) and the City of Hillsboro ((Hillsboro), collectively referred to as the Partners)) as the next infrastructure project to deliver drinking water to municipalities in Washington County by developing the mid-Willamette River at Wilsonville as an additional water supply source.

This delineation report is one of several produced by David Evans and Associates, Inc. (DEA) for the Program. The Program has been divided into work packages (i.e., construction projects) that cover pipeline alignments (including potential alternate alignments), water reservoirs (tanks), and a new water treatment plant facility. Separate delineation reports have been prepared to match each work package study area.

This wetland delineation only covers the Cornelius Pass Pipeline Project, also referred to as work package PLW 2.0 (Figure 1 of Appendix A). The PLW 2.0 study area occurs primarily in urban environs and along existing roads, except for the northernmost portion, and the majority is constrained and lies within developed curb and gutter sections. Portions of the study area in which site access was not available are noted in report figures.

## **2 LANDSCAPE SETTING AND LAND USE**

PLW 2.0, approximately 3.4 miles in length, begins at the intersection of SW Frances Street and SW Cornelius Pass Road in Hillsboro, Oregon, and follows Cornelius Pass Road north to US Hwy 26. Much of the north end of PLW 2.0 also includes large portions of roadway currently under construction for the Cornelius Pass Road Project, which was delineated by others and has already been permitted and is under construction.

As mentioned, PLW 2.0 occurs primarily in urban environs and along existing roads, except for a few locations where study area deviates out of road right of ways and at the very northern end, which contains an open mostly weedy meadow owned by the City of Hillsboro, just south of Highway 26. The property is open and ruderal, and vegetation is dominated by non-native grasses and forbs and patches of Himalayan blackberry (*Rubus armeniacus*).

## **3 SITE ALTERATIONS**

Given the large distance covered by the project, and the extensive history of disturbance, it is not possible to describe individually the historic site alterations that may have occurred over time. Although the majority of the study areas have experienced considerable disturbance resulting from road construction over the past 50 years or more, no new ground disturbance was present within the study area, and normal conditions were present during the delineation throughout.

## **4 PRECIPITATION DATA AND ANALYSIS**

Table 1 shows the two-week precipitation total prior to the field work for PLW 2.0, which occurred on June 23, 2016. The precipitation record reveals that precipitation was below the range of normal for the short term but within the range of normal for the medium term prior to the site visit. March, April, and May were all below average, though precipitation in March was within a normal range (Table 2). The



percent of normal precipitation for the water year through the field date in June 2016 was roughly 115 percent (Table 3). Therefore, it was assumed that hydrologic conditions were within the range of normal, and no change in methods was needed.

*Table 1: Precipitation for June 2016 Field Investigations and Two Weeks Prior, in Inches*

June 9	June 10	June 11	June 12	June 13	June 14	June 15
0.10	0.10	Trace	0.00	0.17	0.37	0.14
June 16	June 17	June 18	June 19	June 20	June 21	June 22
0.01	Trace	Trace	0.00	Trace	0.00	0.01
June 23*	2-wk Total					
0.26	<b>0.90</b>					

\*Days of field investigation. Source: (NWS 2016)

*Table 2: Percent of Normal Precipitation for the Three Months Preceding the Field Investigations*

Month	Normal Precipitation for Month (Inches)	Observed Precipitation for Month (Inches)	Departure from Normal (inches)	Within 30% of Normal Precipitation for Water Year?
<b>March 2016</b>	5.31	3.73	+1.58	Yes (70% of normal)
<b>April 2016</b>	3.01	1.88	-1.13	No (62% of normal)
<b>May 2016</b>	2.28	0.80	-1.48	No (35% of normal)

Source: (NWS 2016)

*Table 3: Percent of Normal Precipitation for the Water Year Preceding the Field Investigation*

Month	Normal Precipitation (Inches)	Observed Precipitation (Inches)	Departure from Normal (inches)	Within 30% of Normal Precipitation for Water Year?
<b>June 23, 2016</b>	37.08	42.81	+5.73	Yes (115% of normal)

Source: (NWS 2016)

## **5 METHODS**

### **5.1 PRELIMINARY RESOURCE REVIEW**

Reference materials were reviewed prior to the field investigation to provide information regarding the possible presence of wetlands, water features, hydric soils, wetland hydrology, and site topography.

The materials reviewed included:

- ESRI ArcGIS Online, USA area Topographic Maps, 30x60 GRID Quadrangles and World Imagery, Aerials Express (ESRI 2010).
- Tax Lots for Clackamas County Area and Washington County, Oregon (Metro RLIS Data).
- The Metro Data Resource Center RLIS (Regional Land Information System) Tax Lots for Clackamas County Area and Washington County, Oregon (Metro RLIS Data 2016).
- The Metro Data Resource Center RLIS National Wetlands Inventory (NWI) (Metro 2015).
- Natural Resource Inventory and Local Wetlands Inventory (LWI). City of Hillsboro, Oregon (2001).
- Natural Resource Conservation Service (NCRS). Web Soil Survey, Washington County, Oregon (OR067) and Clackamas County Area, Oregon (OR610) (NRCS 2014).

The topographic maps (Appendix A) were examined to determine water features and topography of the site, and adjacent properties that might influence on-site conditions (Figure 1, Appendix A: Vicinity Map). Tax lot maps are included in Figure 2. The National Wetland Inventory and Local Wetland Inventory maps (Figure 3) were examined to determine if wetlands are mapped on site. The Soil Survey map (Figure 4) was reviewed to determine if any hydric soils are mapped on site. Aerial photographs of the project corridor were reviewed and are included in Figure 5.

### **5.2 FIELD METHODS**

Due to the long and linear nature of the project, the delineation was conducted and has been documented following guidance provided in “Delineations for Large or Linear Projects” prepared by the Oregon Department of State Lands (DSL 2013). Based on this guidance, delineation findings are described primarily in tables, which are provided in Appendix B.

The wetland delineation was conducted using the Level 2 Routine Delineation Method described in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory 1987) and further supported by the Regional Supplement (Supplement) to the Corps of Engineers Wetland Delineation Manual, Western Mountains, Valleys, and Coast Region (USACE 2010). This method requires the simultaneous presence of hydrophytic vegetation, hydric soils, and positive wetland hydrology in wetland delineations.

Areas in which wetland hydrology, hydric soils, and hydrophytic vegetation were all present were considered wetlands. Precipitation considerations were discussed in the previous section. Data sheets were completed at each sample plot documenting the vegetation, soils, and hydrology. Sample plots were chosen that represent typical wetland and upland plant communities encountered on the site. Wetland data sheets are included in Appendix C.

As required by DSL, all mapped hydric soil units were sampled, except where no native soil was present within the study area. For example, in places sloped road fill occupied the entire road ROW, which was the study area for the project. Although hydric soil may underlie the road fill, no wetlands remained at the surface, and there was no place to sample the native soil.

On April 18, 2016, the Federal Register announced the Corps of Engineer's release of the 2016 National Wetland Plant List (NWPL). The plant list, announcement, and information about the ratings update can be accessed at <http://rsgisias.crrel.usace.army.mil/NWPL/>. The new list is effective as of May 1, 2016. DSL will accept determinations and delineations based on the former indicator status list (2014) if the field work was completed before May 1. All wetland delineation (field work) performed on or after May 1, 2016, used the new list, as reflected in the data sheets in Appendix C.

## **6 DESCRIPTION OF ALL WETLANDS AND OTHER NON-WETLAND WATERS**

Descriptions of wetlands and other non-wetland waters are provided in the table in Appendix B. A brief synopsis of findings is provided below.

Most of PLW 2.0 consisted of finished road section containing curb and gutter, with developed lots adjacent to the road right of way. These areas lacked potential jurisdictional features (wetlands, waterways, jurisdictional ditches, etc.). Due to the highly developed nature of the study area, no ditches of any kind were present in the study area- only paved curb and gutter with associated connections to storm water systems were present.

The study area includes two creek crossings with adjacent or nearby floodplain wetlands. These include the crossing of Beaverton Creek and Rock Creek.

The northernmost portion of PLW 2.0, on the City of Hillsboro property just north of the Fred Meyer shopping center, is open and ruderal, and vegetation is dominated by non-native grasses and forbs and patches of Himalayan blackberry, with an emergent wetland fed by precipitation.

## **7 DEVIATION FROM NWI**

The NWI shows no wetlands within the study area, while the LWI matches the field results fairly closely, with the exception of two wetlands east of Cornelius Pass Road. As mapped in the LWI, wetlands were found primarily adjacent to larger waterways, and at the extreme northern end of the project.

## **8 MAPPING METHOD**

Wetland boundaries and data points were mapped using a Trimble Geo 7 Series resource grade Global Positioning System (GPS) unit. GPS data was post-processed resulting in typical accuracy of three feet or better.

Delineation field mapping results are shown on Figure 6 and also documented in tables provided in Appendix B. The maps and tables use the terms and nomenclature provided in Table 4 to identify delineated features.

Table 4: Mapping and Documentation Terms and Nomenclature

Nomenclature	Meaning
W-a#-#, S-a#-#	W = wetland, S = stream. After the feature type, the alphanumeric combo is an abbreviation of the Program work package. For example, feature W-W2-1 refers to a wetland in PLW 2.0 with an ID number of 1.
Delineated by Project	Features delineated by DEA within the study area that are specifically covered by this report.
Delineated by Others	Areas along the proposed pipeline alignment with wetland delineations known to have been conducted by others. Not covered by this report, but features and names shown on maps where possible.
No access	Study area intended to be covered by this report, but in which site access was not available. This is indicated by cross-hatching, and any features shown under the cross-hatching were delineated using <b>offsite</b> methods if not "delineated by others."
Potential (Wetland or Water)	Located outside the study area. These features were observed from public right of way and are believed to be present but boundaries are approximate. Included in mapping to inform the location of features within the study area and to aid project planning. Where features delineated within the study area extend beyond, an asterisk is used (rather than a change in linework).

## 9 ADDITIONAL INFORMATION

According to DSL records obtained in November 2015, portions of the study area are known to have already been delineated by others, as shown in Table 5.

Table 5: Project Areas Delineated by Other, PLW 2.0

Former WD#	Tax Lot ID#	Report Information
2006-0057	1N235DB07300	Rock Creek floodplain south of light rail. Original delineation by PHS in 2006. Redelineated by PHS on 05/18/2015; field confirmation by DEA on 06/23/2016. Concurrence letter not included in Appendix since DEA currently has not obtained a copy.
2009-0435	1N235CD0900, 1000, and 13600	Portions of Cornelius Pass Road and Beaverton Creek floodplain. Redelineated by DEA in 2016.
2013-0191	1N236BC01200	Approved with revisions. Poor mapping, but shows wetlands in a field east of alignment. Likely lies outside SA.
2014-0226	Right of Way	Washington County's Cornelius Pass Road Improvement Project delineation by DEA. Covers large portion of north end of WWSP study area. Delineated wetlands not permitted for impact by County's project have been included in mapping in this report (Figure 6-Sheet 9, Wetlands CornPass-C and -E).

## **10 RESULTS AND CONCLUSIONS**

A summary of water resources is provided in the table in Appendix B, including the size of the resources mapped in Figure 6 of Appendix A (both in and out of the study area).

## **11 DISCLAIMER**

*This report documents the investigation, best professional judgment, and conclusions of the investigator. It is correct and complete to the best of his knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk until it has been reviewed and approved in writing by DSL in Accordance with OAR 141-090-0005 through OAR 141-090-0555.*

## **12 PREPARERS AND CONTRIBUTORS**

DEA Ecologists Ethan Rosenthal and Phil Rickus, and DEA Biologist Tony Vingiello, performed the wetland delineation. Mr. Rickus is the primary author of this report, and Mr. Rosenthal provided quality control review. Dawn Afman, DEA Project Assistant, provided editing assistance. Sara Gilbert, DEA Geographic Information System Specialist, and Melissa Foltz, DEA Graphics Specialist, prepared the graphics.

### 13 LITERATURE CITATIONS

- Department of State Lands (DSL). 2013. Delineation Guidance for Large and Linear Projects. June 2013. Available online at: [www.oregon.gov/dsl/WETLAND/docs/](http://www.oregon.gov/dsl/WETLAND/docs/)
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE). 2007. *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States*. June 2007. Available online at: <http://www.epa.gov/owow/wetlands/pdf/RapanosGuidance6507.pdf>
- Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE). 2015. Prepublication Version of the Final Clean Water Rule. Released May 27, 2015. Available online at: <http://www2.epa.gov/cleanwaterrule/prepublication-version-final-clean-water-rule>
- ESRI 2010. ArcGIS Online, World Imagery. Aerials Express (AEX) and USA Topographic Maps, 30x60 GRID Quadrangles. Available online at: [http://goto.arcgisonline.com/maps/World\\_Imagery](http://goto.arcgisonline.com/maps/World_Imagery)
- City of Hillsboro, Oregon. 2001. Natural Resource Inventory and Local Wetlands Inventory (LWI). October 2001.
- Hitchcock, L.C., A. Cronquist. 1973. *Flora of the Pacific Northwest*. University of Oregon Press.
- Metro. 2015. The Metro Data Resource Center RLIS (Regional Land Information System) National Wetlands Inventory. Available online at: <http://rlisdiscovery.oregonmetro.gov/>
- Metro. 2016. The Metro Data Resource Center RLIS (Regional Land Information System) Discovery Website. Available online at: <http://rlisdiscovery.oregonmetro.gov/>
- National Weather Service. 2016. Climatological data for Hillsboro, Oregon, Located on the internet at: <http://www.nws.noaa.gov/climate>
- Natural Resource Conservation Service (NCRS). 2014. Web Soil Survey, Washington County, Oregon (OR067) and Clackamas County Area, Oregon (OR610). Available online at: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- U.S. Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). Final Technical Report ERDC/EL TR-10-3, May, 2010. US Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg Mississippi.
- U.S. Army Corps of Engineers (USACE). 2007. U.S. Army Corps of Engineers Jurisdictional Determination (JD) Form Instructional Guidebook. Available online at: [http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/cwa\\_guide/jd\\_guidebook\\_051207final.pdf](http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/cwa_guide/jd_guidebook_051207final.pdf)

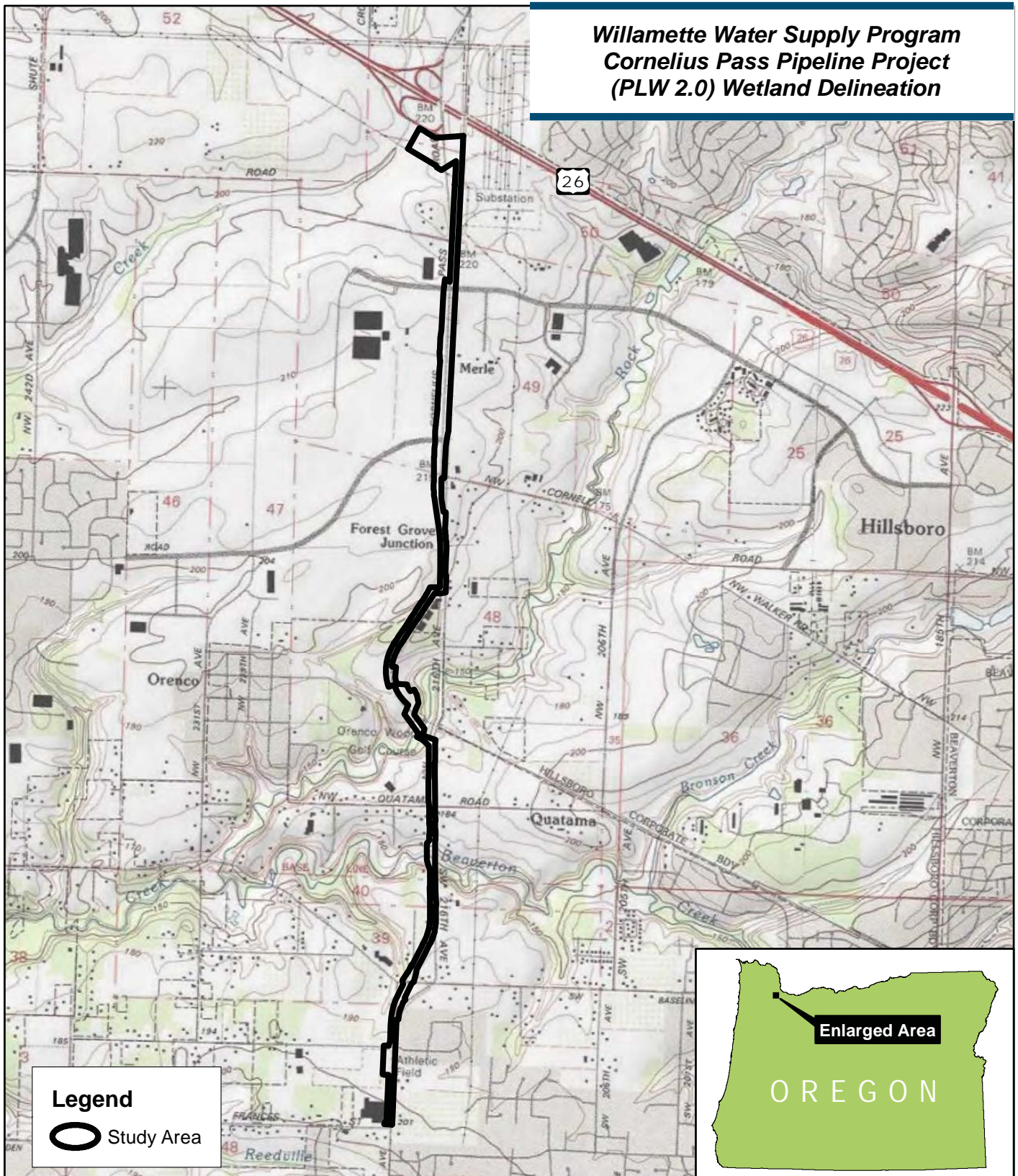
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## **14 APPENDICES**



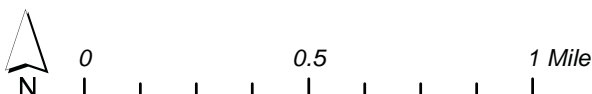
## ***APPENDIX A: FIGURES***

**Willamette Water Supply Program  
Cornelius Pass Pipeline Project  
(PLW 2.0) Wetland Delineation**



ESRI, ArcGIS Online, USA Topographic Maps. 30x60 GRID Quadrangles

**Figure 1**  
Vicinity Map



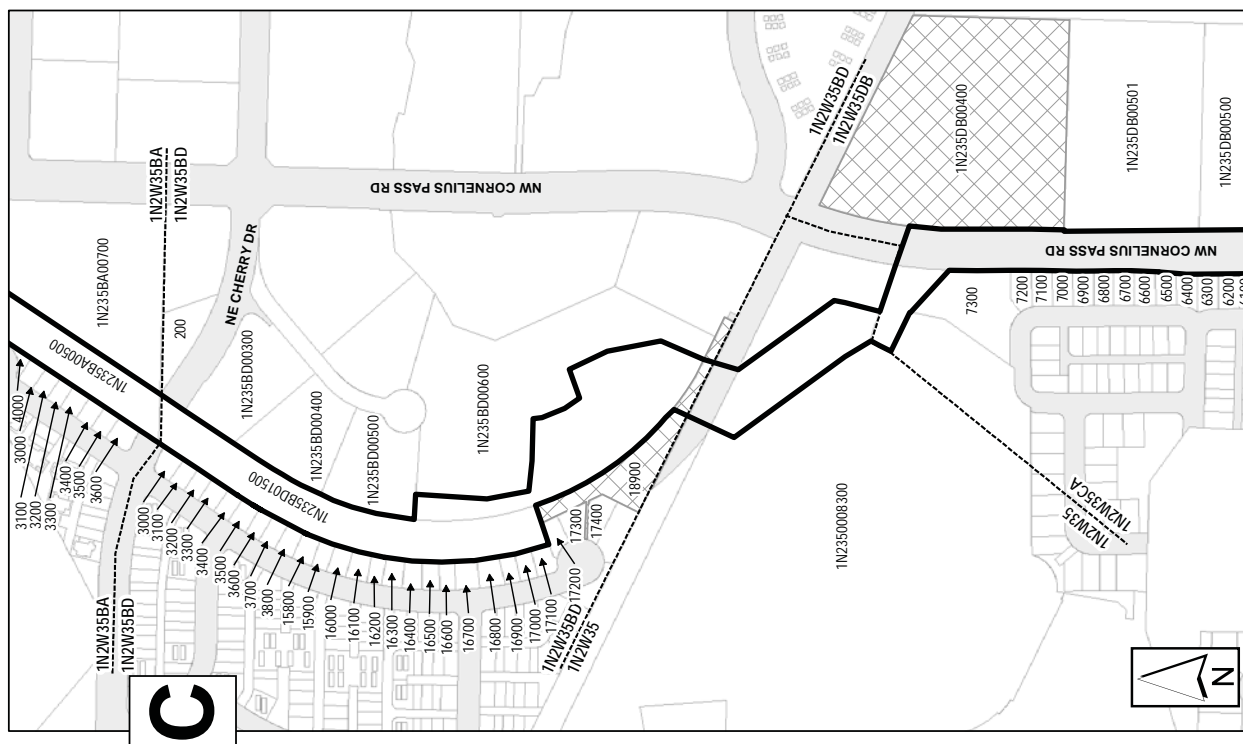
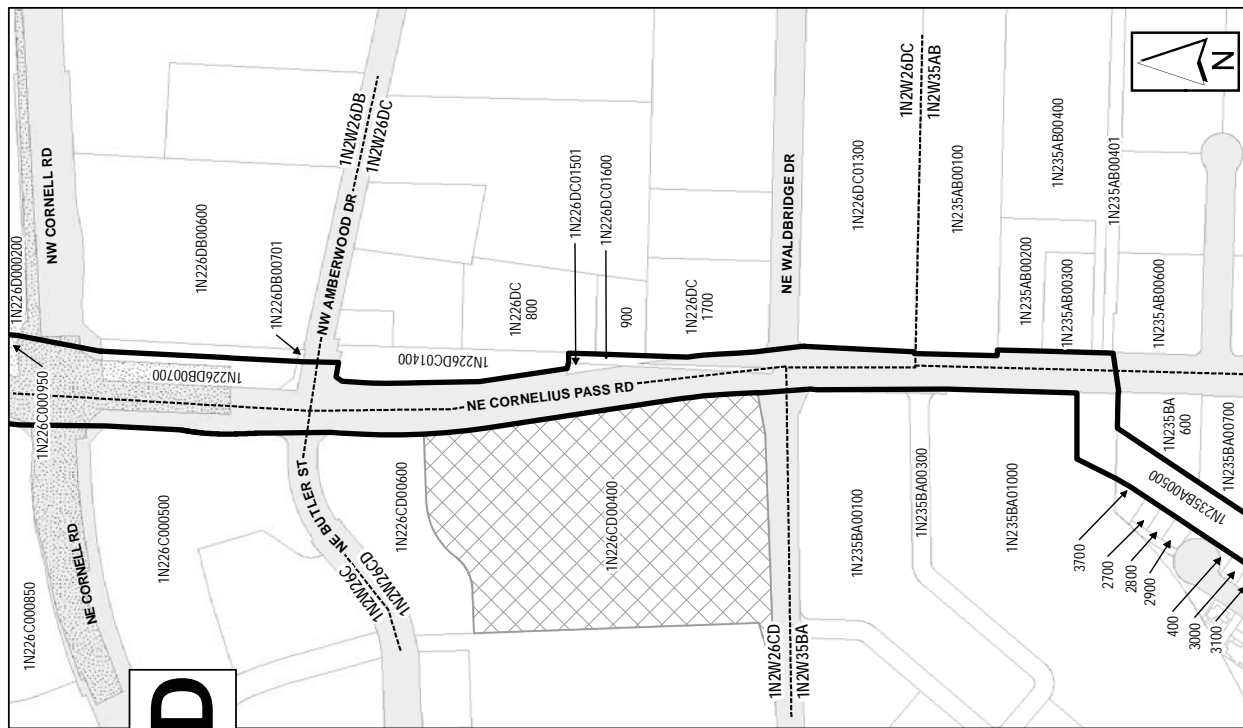
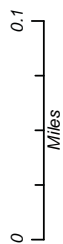





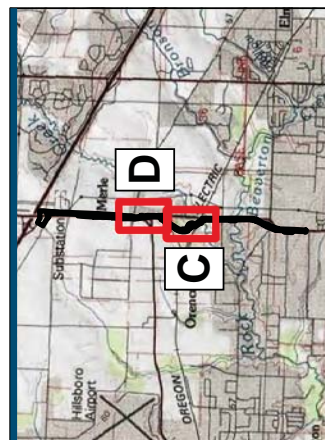
**Figure 2, Sheet 2**  
*Tax Lots*

## Study Area

Area delineated by others



Metro RLIS Data. 2016.

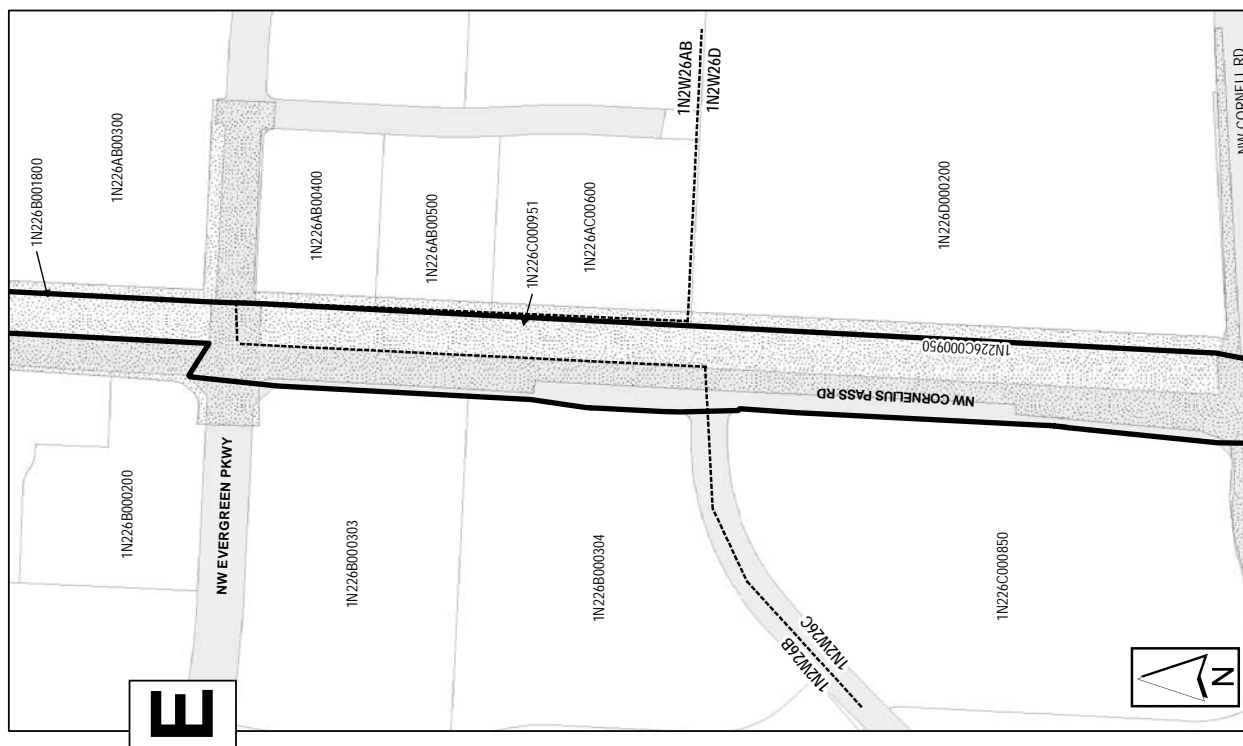
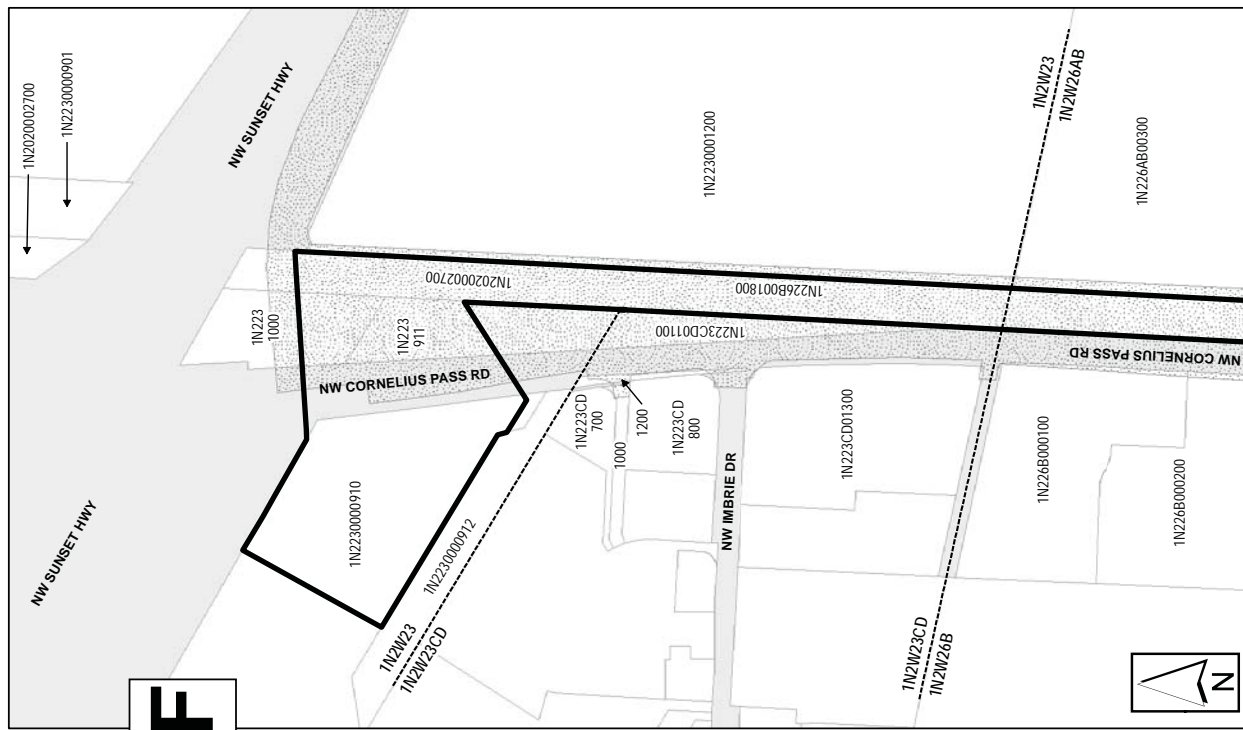


**Figure 2, Sheet 3**  
*Tax Lots*

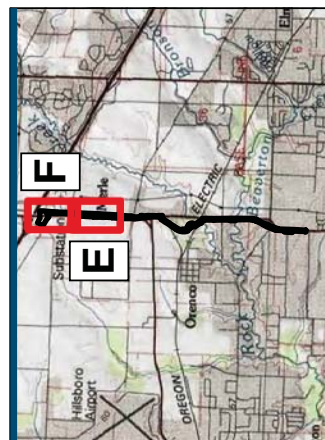
### Study Area

Area delineated by others

No access as of 10/24/2016



Metro RLIS Data. 2016.



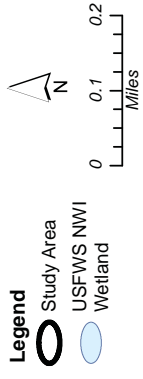




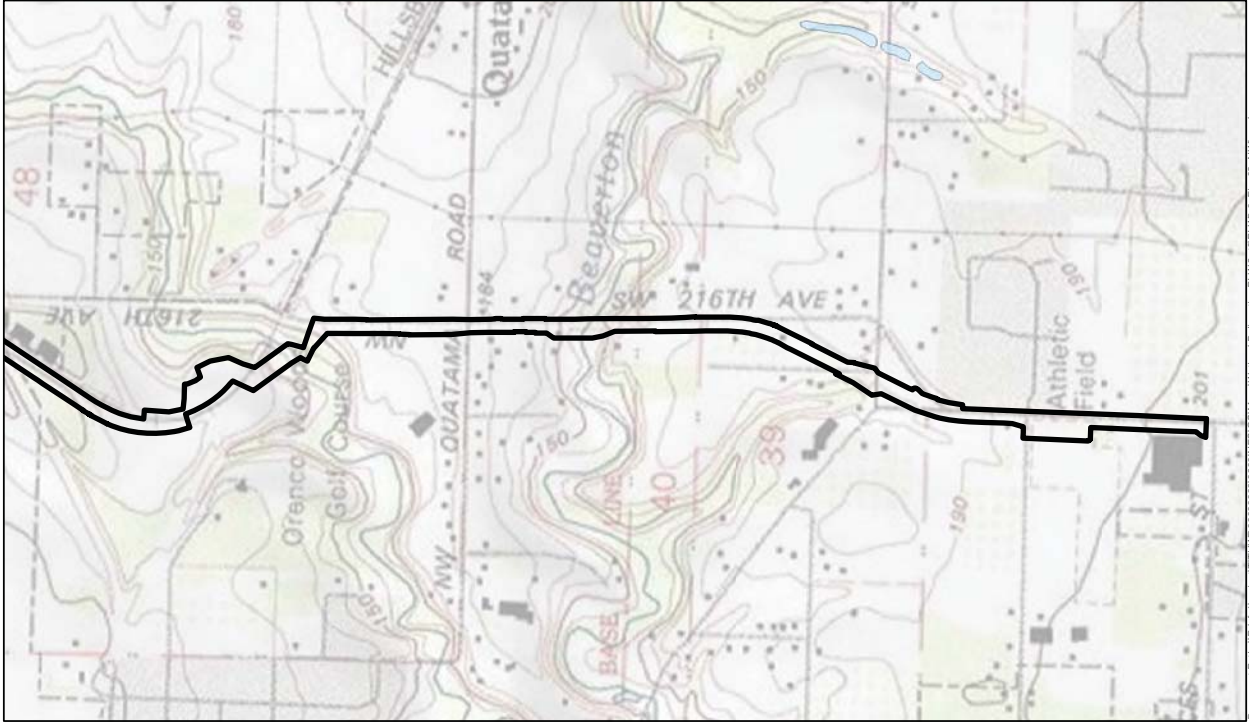
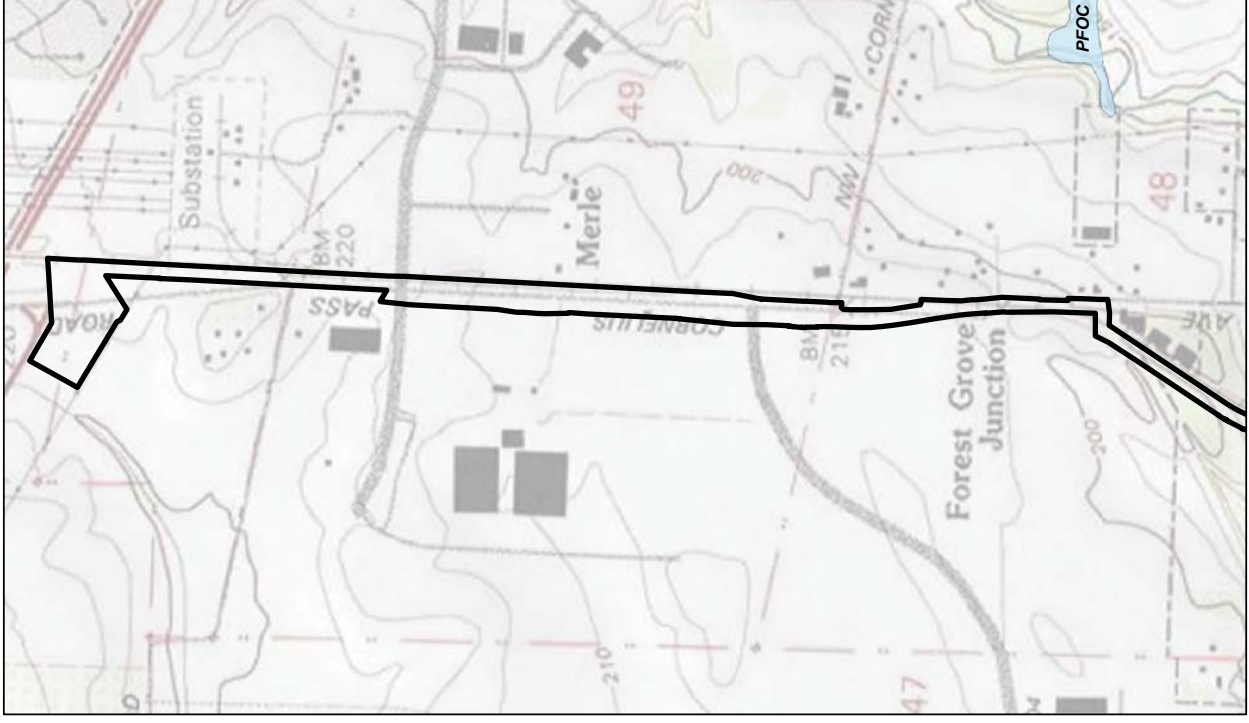
Willamette Water Supply Program  
Cornelius Pass Pipeline Project  
(PLW 2.0) Wetland Delineation

Figure 3b

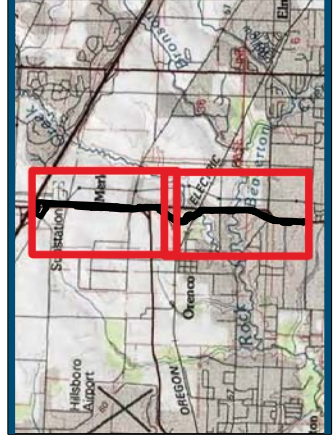
National Wetlands Inventory



No NWI wetlands exist within Study Area



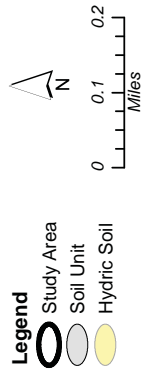
Metro RLIS Data, 2015.





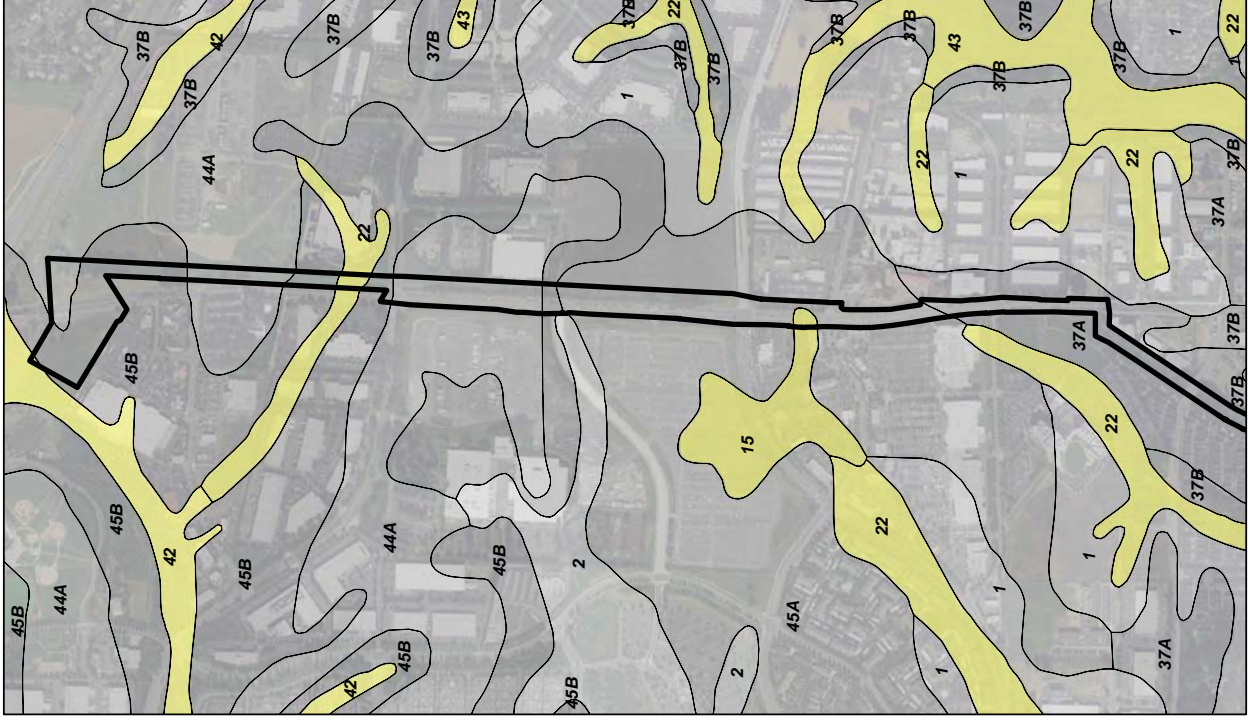
**Willamette Water Supply Permitting  
Cornelius Pass Pipeline Project  
(PLW 2.0) Wetland Delineation**

**Figure 4**  
Soil Survey



**NRCS Soil Units within the Study Area**

- 1 Aloha silt loam
- 2 Amity silt loam
- 15 Dayton silt loam
- 22 Huberly silt loam
- 37A Quatama loam, 0 to 3 percent slopes
- 37B Quatama loam, 3 to 7 percent slopes
- 37C Quatama loam, 7 to 12 percent slopes
- 37D Quatama loam, 12 to 20 percent slopes
- 42 Verboot silty clay loam
- 43 Wapato silty clay loam
- 44A Willamette silt loam, 0 to 3 percent slopes
- 45A Woodburn silt loam, 0 to 3 percent slope
- 45B Woodburn silt loam, 3 to 7 percent slope



ESRI, ArcGIS Online, World Imagery, Microsoft, 2010, Portland, Oregon.  
Natural Resources Conservation Service (NRCS).  
2014. Soil Survey Geographic (SSURGO) database for Clackamas  
County Area & Washington County Oregon.

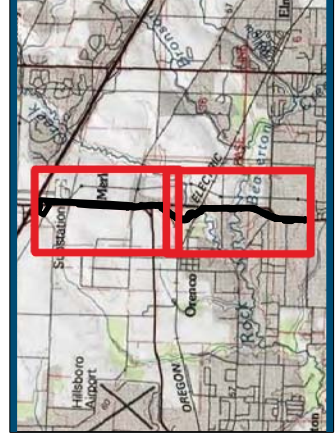
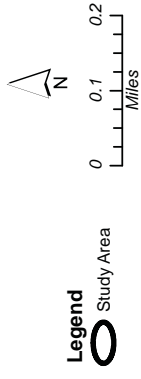
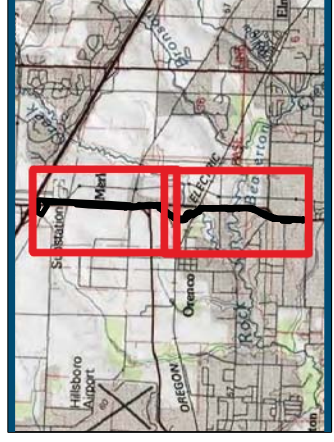




Figure 5  
 Aerial Photo



USDA NAD orthophoto, 2016.



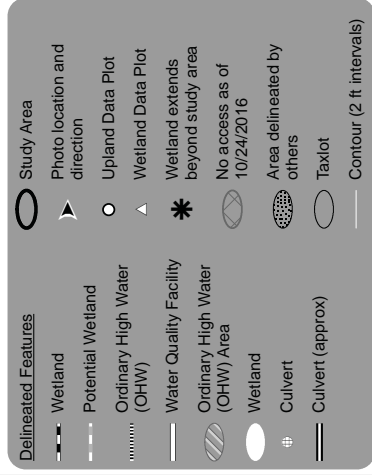




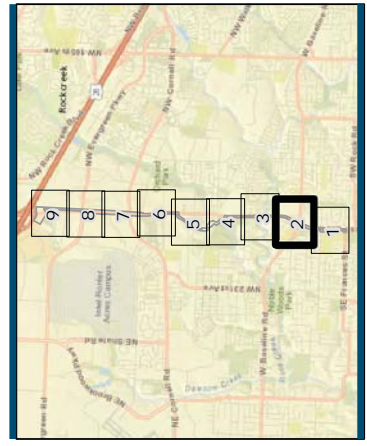
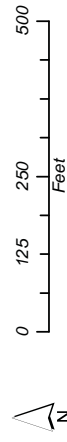


**Willamette Water Supply Program  
Cornelius Pass Pipeline Project  
(PLW 2.0) Wetland Delineation**

**Figure 6, Sheet 2 of 9  
Delineated Wetlands**



















On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the exclusion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial Imagery.

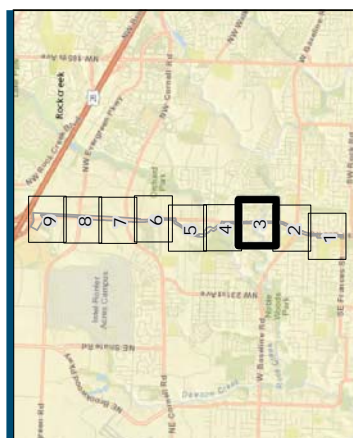




[illegible]

<b>Delineated Features</b>	<b>Study Area</b>
 Wetland	 Photo location and direction
 Potential Wetland	 Upland Data Plot
 Ordinary High Water (OHW)	 Wetland Data Plot
 Water Quality Facility	 Wetland extends beyond study area
 Ordinary High Water (OHW) Area	 No access as of 10/24/2016
 Wetland	 Area delineated by others
 Culvert	 Taxlot
 Culvert (approx)	 Contour (2 ft intervals)

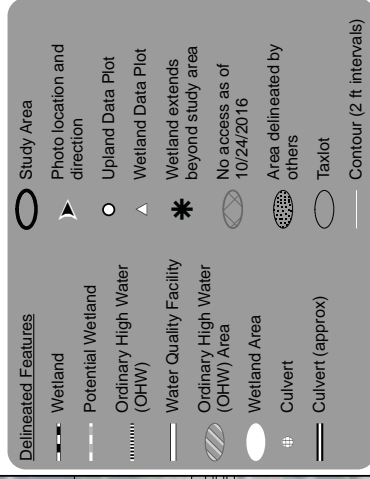
On-site features (wetlands, ditches, streams, culverts, and data points) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site features were approximated and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An exclusion of upland features was included where jurisdictional features, with the exception of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imagery: USDA, NAMP 1986; inset maps show Bing Maps Aerial imagery.



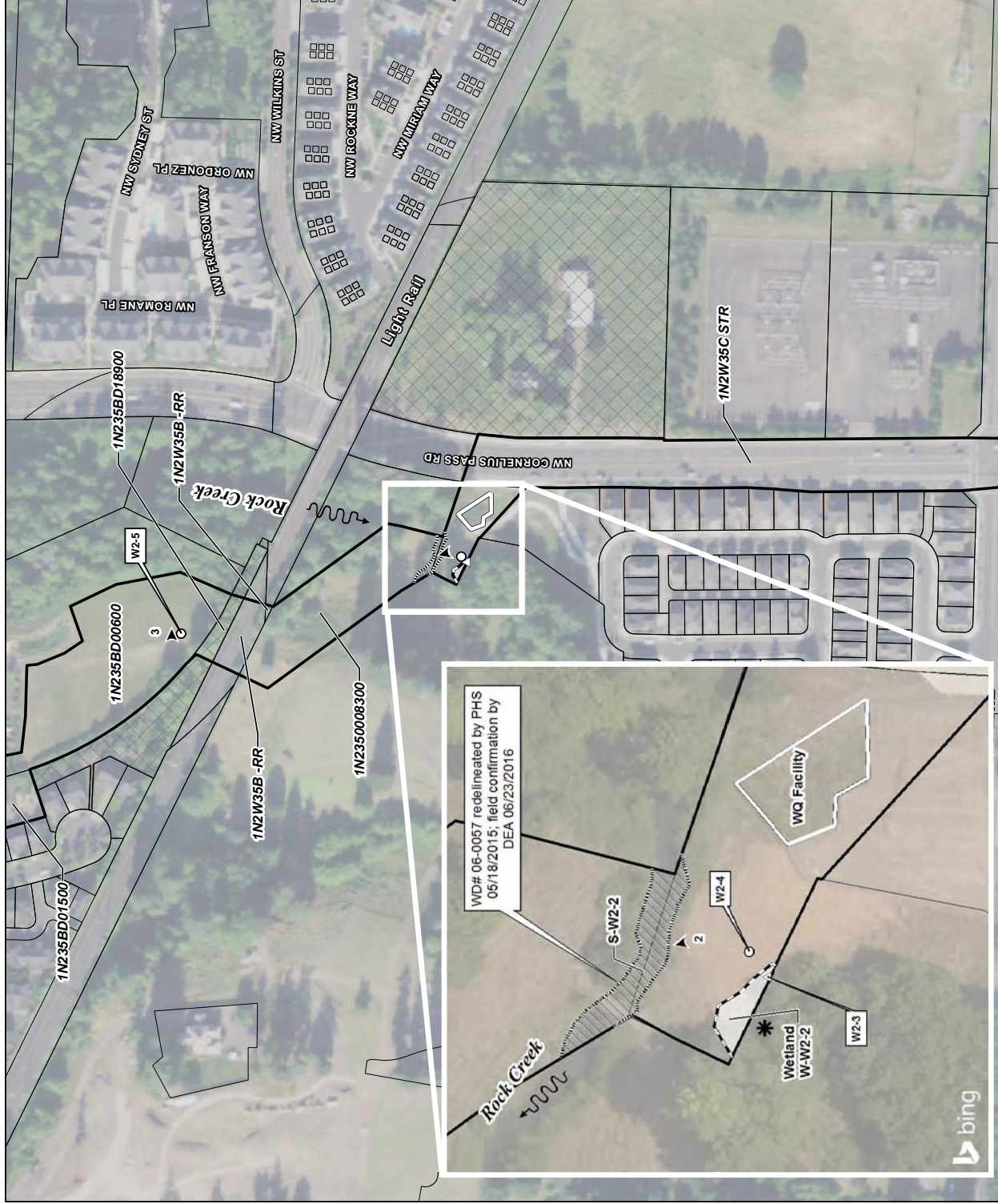
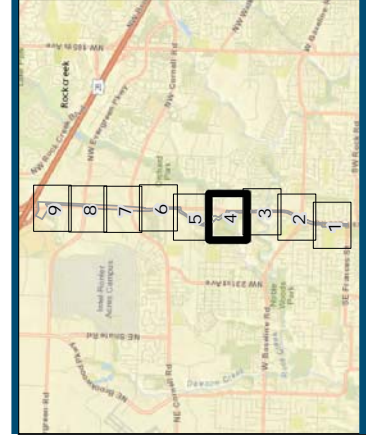
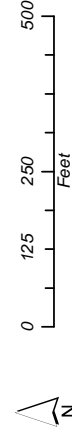


**Willamette Water Supply Program  
Cornelius Pass Pipeline Project  
(PLW 2.0) Wetland Delineation**

**Figure 6, Sheet 4 of 9  
Delineated Wetlands**




















On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the exclusion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial Imagery.





## An aerial photograph overlaid with a black-and-white line map showing land parcels. The map includes several street names: NW CORNELIUS PASS RD running horizontally across the upper middle; NW NICHOLAS ST running vertically on the left; NW CHERRY LN running vertically on the right; NE 72ND AVE running diagonally from the bottom center towards the top right; NE 73RD AVE running diagonally parallel to NE 72ND AVE; NE STONEYBROOK ST running vertically at the bottom right; NE STONEWATER ST running diagonally near the bottom center; and NE ARDEN DR running diagonally in the upper right. Parcel numbers are labeled with leader lines pointing to specific areas: 1N2W35B-S-TR in the top left; 1N235BA01000 along a diagonal boundary on the left; 1N235BA00500 in a central parcel; 1N235BD03500 in a parcel below the center; 1N235BD00600 in a large parcel on the right; and 1N235BD01500 along the bottom edge. The background shows an aerial view of trees, buildings, and parking lots.

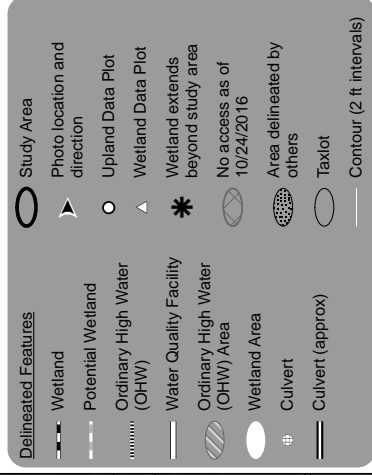
Delineated Features	
	Wetland
	Potential Wetland
	Ordinary High Water (OHW)
	Water Quality Facility
	Ordinary High Water (OHW) Area
	Wetland Area
	Culvert
	Culvert (approx)
	Study Area
	Photo location and direction
	Upland Data Plot
	Wetland Data Plot
	Wetland extends beyond study area
	No access as of 10/24/2016
	Area delineated by others
	Taxlot
	Contour (2 ft intervals)



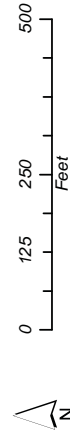


**Willamette Water Supply Program  
Cornelius Pass Pipeline Project  
(PLW 2.0) Wetland Delineation**

**Figure 6, Sheet 6 of 9**  
**Delineated Wetlands**

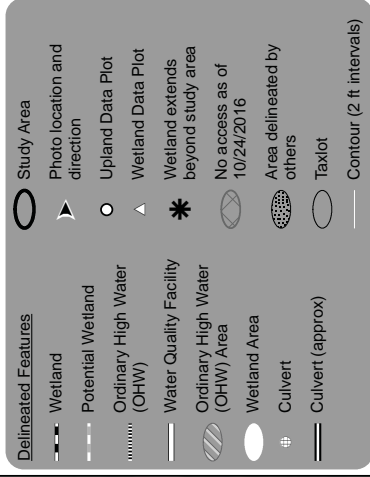


On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the exclusion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial imagery.

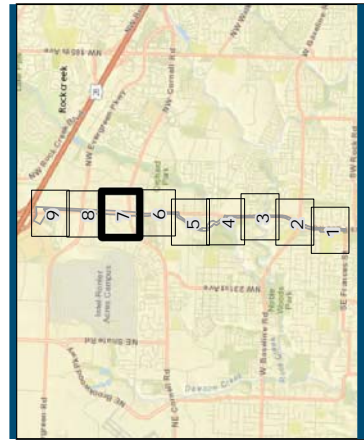
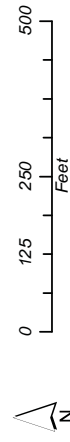


**Willamette Water Supply Program  
Cornelius Pass Pipeline Project  
(PLW 2.0) Wetland Delineation**

**Figure 6, Sheet 7 of 9  
Delineated Wetlands**



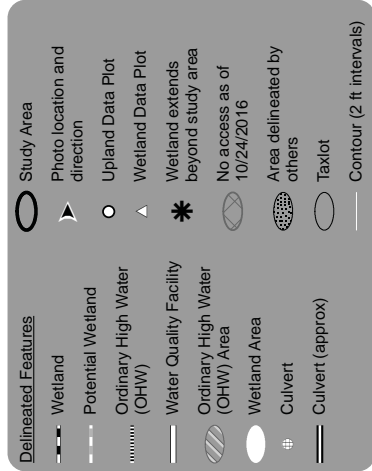
On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the exclusion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial Imagery.



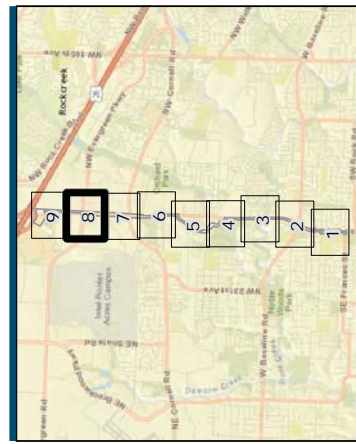
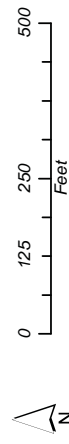


**Willamette Water Supply Program  
Cornelius Pass Pipeline Project  
(PLW 2.0) Wetland Delineation**

**Figure 6, Sheet 8 of 9  
Delineated Wetlands**

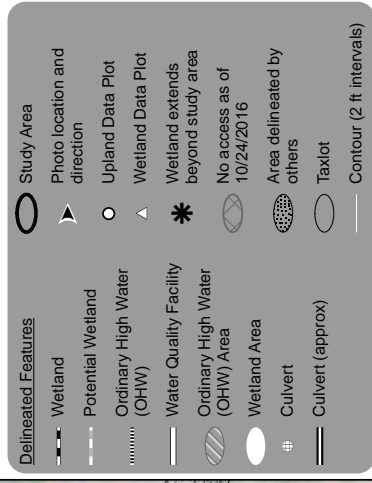


On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the exclusion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial Imagery.

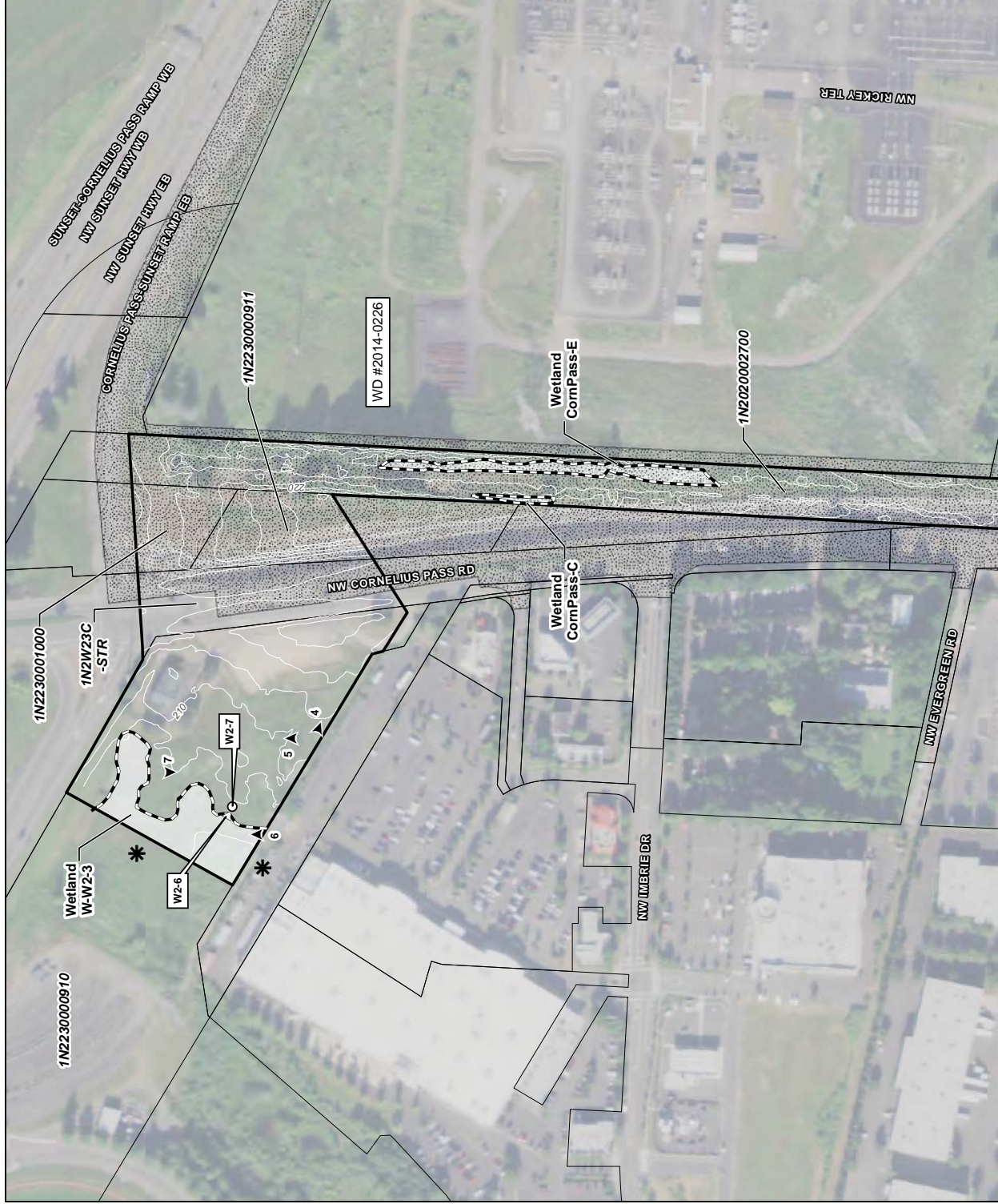
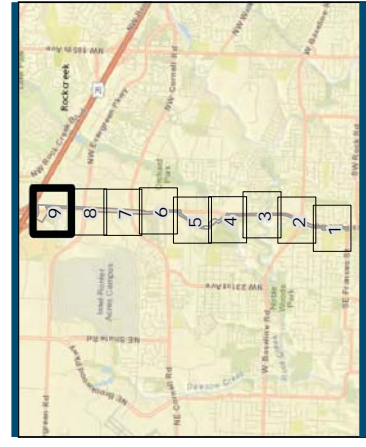
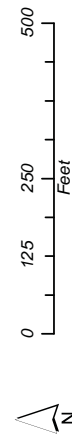




**Figure 6, Sheet 9 of 9**  
*Delineated Wetlands*



On-site features (wetlands, ditches, streams, culverts, and data plots) were mapped with a Trimble Pathfinder GEO XH receiver with typical accuracy of 3 feet or better. Off-site boundaries are approximate and were mapped based on field review from adjacent public right of way and aerial photo interpretation. An asterisk was included where jurisdictional features, with the exclusion of upland ditches, extend off site. Only taxlots which intersect the study area are labeled. Imagery: USDA NAIP 2016; inset maps show Bing Maps Aerial imagery.



## ***APPENDIX B DELINEATION SUMMARY TABLES***

PLW2.0										
1-W = wetland feature, S =stream feature, D = ditch feature										
2-Size in study area is given in acres for wetlands, and in length in feet for streams.										
3-Ditches that did not meet wetland criteria or did not have signs of relatively permanent flow were not assumed to be under Corps jurisdiction.										
4-All ditches in study area, except where specifically noted, met DSL exemption criteria for roadside ditches (i.e. <10ft wide, no fish, etc.)										
See methods section of report for additional information on assumption of Corps and DSL jurisdictional determination of ditches.										
5-Cowardin Class: PEM=palustrine emergent, PSS=palustrine scrub-shrub, PFO=palustrine forested, R3EM=riverine upper perennial emergent										
6-HGM Class: DEP=depressional, RFT=riverine flow-through										
ID <sup>1</sup>	Latitude/ Longitude	Sheet #	Delineation Method	Size in Study Area <sup>2</sup>	Assumed Corps JD <sup>3</sup>	Assumed DSL JD <sup>4</sup>	Cowardin Class <sup>5</sup>	HGM Class <sup>6</sup>	Data Plot ID	Notes (i.e., special circumstances)
S-W2-1	45.520935, - 122.900152	3	Onsite	97	Yes	Yes	--	--	--	Beaverton Creek. OHW approx 20' from scour, lies just below the incised bank.
W-W2-1	45.520936, - 122.900154	3	Onsite	88	Yes	Yes	PEM	Slope/RFT	W2-1	Large level reed canarygrass-dominated terrace above OHW of Beaverton Creek, but sporadically accessed by flood waters, based on drift lines from previous winter floods.
W-W2-2	45.526089, - 122.900886	4	Onsite	65	Yes	Yes	PFO/PSS	Slope/RFT	W2-3	Old oxbow of Rock Creek, above OHW, but sporadically accessed by flood waters, based on drift lines from previous winter floods. Boundary follows mapping from DSL WD2006-0057 and redelineated by DEA in 2016.
S-W2-2	45.526191, - 122.900644	4	Onsite	212	Yes	Yes	--	--	--	Rock Creek. OHW approx 15' from scour. Boundary follows mapping from DSL WD2006-0057 as redelineated by PHS in 2015 and confirmed by DEA in 2016.
W-W2-3	45.552969, - 122.902016	9	Onsite	741	Yes	Yes	PEM	Slope/Flats	W2-6	Wetland swale in relatively level mixed grass/blackberry field just south of Hwy 26. Drains to northwest outside study area. Assumed to connect to other waters.

**APPENDIX C: DATA SHEETS**

Plot ID	Latitude	Longitude	PLSS	Soil ID	Soil Type	Wetland ID	City	County
W2-1	45.520525	-122.900045	T1N R2W S35	43	Wapato silty clay loam	--	Hillsboro	Washington
W2-2	45.520493	-122.900042	T1N R2W S35	43	Wapato silty clay loam	--	Hillsboro	Washington
W2-3	45.526027	-122.900830	T1N R2W S35	43	Wapato silty clay loam	--	Hillsboro	Washington
W2-4	45.526052	-122.900782	T1N R2W S35	43	Wapato silty clay loam	--	Hillsboro	Washington
W2-5	45.527585	-122.901453	T1N R2W S35	37B	Quatama loam, 3 to 7 percent slopes	--	Hillsboro	Washington
W2-6	45.552484	-122.902162	T1N R2W S35	45B	Woodburn silt loam, 3 to 7 percent slopes	--	Hillsboro	Washington
W2-7	45.552451	-122.902082	T1N R2W S35	45B	Woodburn silt loam, 3 to 7 percent slopes	--	Hillsboro	Washington
W2-1	45.520525	-122.900045	T1N R2W S35	43	Wapato silty clay loam	--	Hillsboro	Washington



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

Project/Site: Willamette Water Supply Project- PLW 2.0 City/County: see spreadsheet Sampling Date: June 23, 2016  
 Applicant/Owner: Tualatin Valley Water District and City of Hillsboro State: OR Sampling Point: Plot W2-1  
 Investigator(s): Rickus, Rosenthal Section, Township, Range: see spreadsheet  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): A Lat: see spreadsheet Long: see spreadsheet Datum: see spreadsheet  
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

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>✓</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>✓</u>	No _____
Hydric Soil Present?	Yes <u>✓</u>	No _____			
Wetland Hydrology Present?	Yes <u>✓</u>	No _____			
Remarks: Plot lies within a wetland on a terrace on the south side of Beaverton Cr, above OHWM but within the area of occasional flooding.					

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<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. <u>Alnus rubra</u>	<u>70</u>	<u>y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<u>70</u> = Total Cover				
<b>Sapling/Shrub Stratum (Plot size: <u>30 feet</u>)</b>				
1. <u>Alnus rubra</u>	<u>5</u>	<u>n</u>	<u>FAC</u>	
2. <u>Rubus armeniacus</u>	<u>25</u>	<u>y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>30</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5 feet</u>)</b>				
1. <u>Phalaris arundinacea</u>	<u>80</u>	<u>y</u>	<u>FACW</u>	
2. <u>Equisetum arvense</u>	<u>10</u>	<u>n</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>90</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30 feet</u>)</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>✓</u> No _____
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>20</u>				
Remarks:				

# SOIL

Sampling Point: Plot W2-1

## 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>		
0-16	10YR 3/2	90	10YR 3/4	10	C	M	silty clay loam
16-20	Gley 1 5/N	100	--	--	--	--	silty clay 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.

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

- |  |  |
|--|--|
| <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 Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 2 cm Muck (A10)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<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:

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

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) |
| <input checked="" 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 Tilled 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"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

### Secondary Indicators (2 or more required)

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

### Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Water Table Present? Yes ☒ No ☐ Depth (inches): 6  
Saturation Present? Yes ☒ No ☐ Depth (inches): 1  
(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: Willamette Water Supply Program- PLW 2.0 City/County: See spreadsheet Sampling Date: June 23, 2016  
 Applicant/Owner: Tualatin Valley Water District and City of Hillsboro State: OR Sampling Point: Plot W2-2  
 Investigator(s): Rickus, Rosenthal Section, Township, Range: see spreadsheet  
 Landform (hillslope, terrace, etc.): fill slope Local relief (concave, convex, none): none Slope (%): 45  
 Subregion (LRR): A Lat: see spreadsheet Long: see spreadsheet Datum: see spreadsheet  
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

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>✓</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>✓</u>
Hydric Soil Present?	Yes _____ No <u>✓</u>		
Wetland Hydrology Present?	Yes _____ No <u>✓</u>		
Remarks: Plot lies on the slope 2.5 feet higher than the wetland plot.			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<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>4</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 _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 feet</u> )				
1. <u>Rubus armeniacus</u>	<u>40</u>	<u>y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5 feet</u> )				
1. <u>Phalaris arundinacea</u>	<u>30</u>	<u>y</u>	<u>FACW</u>	
2. <u>Avena sativa</u>	<u>50</u>	<u>y</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>
3. <u>Lapsana communis</u>	<u>20</u>	<u>y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30 feet</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>
Remarks: wheat appears to have been planted for erosion control.				

# SOIL

Sampling Point: Plot W2-2

## 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>		
0-10	10YR 3/2	100	--	--	--	--	silt loam	with gravel
10+								gravel

<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.)

- |  |  |
|--|--|
| <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 type="checkbox"/> Redox Dark Surface (F6)                           |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)            |
| <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.

### Restrictive Layer (if present):

Type: gravel  
Depth (inches): 10

Hydric Soil Present? Yes ☐ No ☒

Remarks:

# HYDROLOGY

## Wetland Hydrology Indicators:

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

- |  |  |
|--|--|
| <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 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 Tilled 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"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

### Secondary Indicators (2 or more required)

- |   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <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)                                  |

### Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

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: Willamette Water Supply Project- PLW 2.0 City/County: see spreadsheet Sampling Date: June 23, 2016  
 Applicant/Owner: Tualatin Valley Water District and City of Hillsboro State: OR Sampling Point: Plot W2-3  
 Investigator(s): Rickus, Rosenthal Section, Township, Range: see spreadsheet  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR): A Lat: see spreadsheet Long: see spreadsheet Datum: see spreadsheet  
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

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>✓</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>✓</u>	No _____
Hydric Soil Present?	Yes <u>✓</u>	No _____			
Wetland Hydrology Present?	Yes <u>✓</u>	No _____			
Remarks: Plot lies within a wetland on a terrace on the south bank of a creek.					

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</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>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
= Total Cover				
<b>Sapling/Shrub Stratum (Plot size: <u>30 feet</u>)</b> 1. <u>Crataegus douglasii</u> 40 y FAC 2. <u>Spirea douglasii</u> 20 y FACW 3. <u>Rosa pisocarpa</u> 40 y FAC 4. _____ 5. _____				
100 = Total Cover				
<b>Herb Stratum (Plot size: <u>5 feet</u>)</b> 1. <u>Impatiens capensis</u> 10 y FACW 2. <u>Holcus lanatus</u> 10 y FAC 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
20 = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30 feet</u>)</b> 1. _____ 2. _____				
= Total Cover				
<b>% Bare Ground in Herb Stratum</b> <u>40</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>✓</u> No _____
Remarks:				

# SOIL

Sampling Point: Plot W2-3

## 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>		
0-10	10YR 3/2	95	10YR 3/4	5	C	M	silty clay loam
10-20	10YR 3/2	85	10YR 3/4	15	C	M	silty clay 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.

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

- |  |  |
|--|--|
| <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 Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)            |
| <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.

### Restrictive Layer (if present):

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

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# HYDROLOGY

## Wetland Hydrology Indicators:

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

- |  |  |
|--|--|
| <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 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 Tilled 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"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

### Secondary Indicators (2 or more required)

- |   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input checked="" 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)                                  |

### Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Water Table Present? Yes ☐ No ☒ Depth (inches): 12  
Saturation Present? Yes ☒ No ☐ Depth (inches): 6  
(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: Willamette Water Supply Program- PLW 2.0 City/County: See spreadsheet Sampling Date: June 23, 2016  
 Applicant/Owner: Tualatin Valley Water District and City of Hillsboro State: OR Sampling Point: Plot W2-4  
 Investigator(s): Rickus, Rosenthal Section, Township, Range: see spreadsheet  
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 10  
 Subregion (LRR): A Lat: see spreadsheet Long: see spreadsheet Datum: see spreadsheet  
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

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>✓</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>✓</u>
Hydric Soil Present?	Yes _____	No <u>✓</u>			
Wetland Hydrology Present?	Yes _____	No <u>✓</u>			
Remarks: Plot lies on a slope 3 feet higher than the wetland plot.					

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<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>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 feet</u> )				
1. <u>Amelanchier alnifolia</u>	<u>5</u>	<u>y</u>	<u>FACU</u>	
2. <u>Acer macrophyllum</u>	<u>5</u>	<u>y</u>	<u>FACU</u>	
3. <u>Symphoricarpos albus</u>	<u>10</u>	<u>y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Herb Stratum</b> (Plot size: <u>5 feet</u> )				
1. <u>Leucanthemum vulgare</u>	<u>10</u>	<u>n</u>	<u>FACU</u>	
2. <u>Holcus lanatus</u>	<u>30</u>	<u>y</u>	<u>FAC</u>	
3. <u>Hypochaeris radicata</u>	<u>10</u>	<u>n</u>	<u>FACU</u>	
4. <u>Lolium perenne</u>	<u>30</u>	<u>y</u>	<u>FAC</u>	
5. <u>Cirsium arvense</u>	<u>10</u>	<u>n</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30 feet</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				



## SOIL

Sampling Point: Plot W2-4

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<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 Tilled 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"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<b>Field Observations:</b> 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): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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: Willamette Water Supply Project- PLW 2.0 City/County: see spreadsheet Sampling Date: June 23, 2016  
 Applicant/Owner: Tualatin Valley Water District and City of Hillsboro State: OR Sampling Point: Plot W2-5  
 Investigator(s): Rickus, Rosenthal Section, Township, Range: see spreadsheet  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): A Lat: see spreadsheet Long: see spreadsheet Datum: see spreadsheet  
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

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>✓</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>✓</u>
Hydric Soil Present?	Yes _____	No <u>✓</u>			
Wetland Hydrology Present?	Yes _____	No <u>✓</u>			
Remarks: Plot lies in a low spot within a level, mowed field.					

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<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>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 feet</u> )				
1. <u>Cytisus scoparius</u>	<u>5</u>	<u>y</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5 feet</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Daucus carota</u>	<u>10</u>	<u>n</u>	<u>FACW</u>	
2. <u>Poa pratensis</u>	<u>40</u>	<u>y</u>	<u>FAC</u>	
3. <u>Hypochaeris radicata</u>	<u>30</u>	<u>y</u>	<u>FACU</u>	
4. <u>Agrostis capillaris</u>	<u>10</u>	<u>n</u>	<u>FAC</u>	
5. <u>Plantago lanceolata</u>	<u>10</u>	<u>n</u>	<u>FACU</u>	
6. <u>Leucanthemum vulgare</u>	<u>10</u>	<u>n</u>	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30 feet</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

# SOIL

Sampling Point: Plot W2-5

**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>		
0-16	10YR 3/2	--	--	--	--	--	silt loam	with gravel
16+								gravel

<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.)**

- |  |  |
|--|--|
| <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 type="checkbox"/> Redox Dark Surface (F6)                           |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: gravel

Depth (inches): 16

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

Remarks:

# HYDROLOGY

**Wetland Hydrology Indicators:**

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

- |  |  |
|--|--|
| <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 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 Tilled 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"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

Secondary Indicators (2 or more required)

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

**Field Observations:**

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

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

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

**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: Willamette Water Supply Project- PLW 2.0 City/County: see spreadsheet Sampling Date: June 23, 2016  
 Applicant/Owner: Tualatin Valley Water District and City of Hillsboro State: OR Sampling Point: Plot W2-6  
 Investigator(s): Rickus, Rosenthal Section, Township, Range: see spreadsheet  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): A Lat: see spreadsheet Long: see spreadsheet Datum: see spreadsheet  
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

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>✓</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>✓</u>	No _____
Hydric Soil Present?	Yes <u>✓</u>	No _____			
Wetland Hydrology Present?	Yes <u>✓</u>	No _____			
Remarks: Plot lies in a low area within a shallow swale wetland in a large open, weedy area south of Hwy 26.					

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</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>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 feet</u> )				
1. <u>Crataegus douglasii</u>	<u>10</u>	<u>y</u>	<u>FAC</u>	
2. <u>Rubus armeniacus</u>	<u>10</u>	<u>y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5 feet</u> )				
1. <u>Agrostis gigantea</u>	<u>30</u>	<u>y</u>	<u>FAC</u>	
2. <u>Holcus lanatus</u>	<u>30</u>	<u>y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>✓</u> No _____
3. <u>Alopecurus pratensis</u>	<u>30</u>	<u>y</u>	<u>FACW</u>	
4. <u>Parentucellia viscosa</u>	<u>15</u>	<u>n</u>	<u>FAC</u>	
5. <u>Centaurium tenuiflorum</u>	<u>5</u>	<u>n</u>	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30 feet</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>✓</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks:				

# SOIL

Sampling Point: Plot W2-6

## 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>		
0-12	10YR 3/2	95	10YR 3/4	5	C	M	silty clay loam
12-20	10YR 3/2	90	10YR 4/4	10	C	M	silty clay 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.

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

- |  |  |
|--|--|
| <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 Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)            |
| <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.

### Restrictive Layer (if present):

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

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# HYDROLOGY

## Wetland Hydrology Indicators:

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

- |  |  |
|--|--|
| <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 type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                     |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)        | <input type="checkbox"/> Recent Iron Reduction in Tilled 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"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

### Secondary Indicators (2 or more required)

- |   |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) |
| <input type="checkbox"/> Drainage Patterns (B10)                                    |
| <input type="checkbox"/> Dry-Season Water Table (C2)                                |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                  |
| <input checked="" 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)                                  |

### Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

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: Willamette Water Supply Project- PLW 2.0 City/County: see spreadsheet Sampling Date: June 23, 2016  
 Applicant/Owner: Tualatin Valley Water District and City of Hillsboro State: OR Sampling Point: Plot W2-7  
 Investigator(s): Rickus, Rosenthal Section, Township, Range: see spreadsheet  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2  
 Subregion (LRR): A Lat: see spreadsheet Long: see spreadsheet Datum: see spreadsheet  
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

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>✓</u>	No _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>✓</u>
Hydric Soil Present?	Yes _____	No <u>✓</u>		
Wetland Hydrology Present?	Yes _____	No <u>✓</u>		
Remarks: Plot lies approximately 1 foot higher than a swale wetland in a large open, weedy area south of Hwy 26.				

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<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>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 feet</u> )				
1. <u>Crataegus douglasii</u>	<u>10</u>	<u>y</u>	<u>FAC</u>	
2. <u>Rubus armeniacus</u>	<u>90</u>	<u>y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5 feet</u> )				
1. <u>Agrostis gigantea</u>	<u>30</u>	<u>y</u>	<u>FAC</u>	
2. <u>Holcus lanatus</u>	<u>30</u>	<u>y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>✓</u> No _____
3. <u>Alopecurus pratensis</u>	<u>5</u>	<u>n</u>	<u>FAC</u>	
4. <u>Parentucellia viscosa</u>	<u>5</u>	<u>n</u>	<u>FAC</u>	
5. <u>Centaurium tenuiflorum</u>	<u>5</u>	<u>n</u>	<u>FACW</u>	
6. <u>Hypericum perforatum</u>	<u>25</u>	<u>y</u>	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30 feet</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

# SOIL

Sampling Point: Plot W2-7

**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>		
0-14	10YR 3/2	100	--	--	--	--	silty clay loam	
14-20	10YR 3/2	90	10YR 4/4	10	C	M	silty clay 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.

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

- |  |  |
|--|--|
| <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 type="checkbox"/> Redox Dark Surface (F6)                           |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<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:**

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

- |  |  |
|--|--|
| <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 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 Tilled 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"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |

Secondary Indicators (2 or more required)

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

**Field Observations:**

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

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

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

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

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

Remarks:

## ***APPENDIX D: PHOTOGRAPHS***



**Photo 1: Looking northwest at wetland in floodplain above the OHWM of the incised Beaverton Creek. The OHWM lies at the top of bank where the surveyor is standing in the center of the photo (June 23, 2016).**



**Photo 2: Looking north at Rock Creek from south bank (June 23, 2016). Scattered wetland vegetation is rooted below OHWM of creek with relatively steep sides. Delineated by PHS in 2015.**





**Photo 3: Looking east at level field north of Rock Creek and light rail tracks. June 23, 2016. As shown in Figure 6, potential wetlands mapped on the LWI lie east of the field at the base of the forested slope, and not within the study area.**



**Photo 4: Looking southeast from the southern edge of the large, ruderal City of Hillsboro parcel. June 23, 2016.**



**Photo 5: Looking north from the southern edge of the large, ruderal City of Hillsboro parcel. June 23, 2016.**



**Photo 6: Looking north at wetland swale W2-3, with shallow slopes to either side. June 23, 2016.**





**Photo 7: Looking south toward Fred Meyer Parking lot from upland area east of wetland. June 23, 2016. Note St. John's wort and meadow sidalcea mixed with other facultative grasses and blackberry.**



## ***APPENDIX E: WETS TABLE***

WETS Station : BEAVERTON 2 SSW, OR0595      Creation Date: 04/06/2015  
 Latitude: 4527      Longitude: 12249      Elevation: 00270  
 State FIPS/County(FIPS): 41067      County Name: Washington  
 Start yr. - 1971      End yr. - 2000

Month	Temperature (Degrees F.)			Precipitation (Inches)				
	avg daily max	avg daily min	avg	avg	30% chance will have		avg # of days w/.1 or more	avg total snow fall
					less than	more than		
January	46.1	33.8	40.0	5.83	3.53	7.07	12	0.6
February	50.7	35.3	43.0	4.84	3.06	5.84	12	0.7
March	56.1	37.3	46.7	4.06	3.03	4.74	11	0.1
April	61.1	40.2	50.7	2.79	1.90	3.32	9	0.0
May	67.2	45.4	56.3	2.25	1.40	2.72	7	0.0
June	72.7	50.5	61.6	1.62	1.02	1.95	5	0.0
July	79.2	54.3	66.8	0.68	0.27	0.84	2	0.0
August	79.9	54.3	67.1	0.84	0.22	0.98	2	0.0
September	74.8	50.3	62.6	1.64	0.70	2.03	5	0.0
October	63.8	43.4	53.6	2.92	1.52	3.57	8	0.0
November	52.0	38.5	45.3	6.07	4.08	7.25	13	0.5
December	46.0	34.5	40.3	6.41	4.42	7.64	12	0.5
Annual	-----	-----	-----	-----	34.88	44.05	--	----
Average	62.5	43.2	52.8	-----	-----	-----	--	----
Average	-----	-----	-----	39.95	-----	-----	92	2.2

## 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 *	1/29 to 12/21 326 days	3/ 3 to 11/24 265 days	4/12 to 11/ 4 206 days
70 percent *	1/20 to 12/30 343 days	2/20 to 12/ 5 287 days	4/ 4 to 11/12 222 days

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

## ***APPENDIX F: WETLAND DELINEATIONS (BY OTHERS)***



OCT 14 2009

## WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

DEPARTMENT OF  
STATE LANDS

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 the form to the front of an unbound report and submit to: Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279

Mail a copy of the completed form with payment of the required report review fee to: Oregon Department of State Lands, P.O. Box 4395, Unit 18, Portland, OR 97208-4395. For new credit card payment option, see DSL web site.

<input checked="" type="checkbox"/> Applicant <input type="checkbox"/> Owner Name, Firm and Address: <b>WA County Land Use &amp; Transportation, Abraham Turki</b> <b>1400 SW Walnut Street, MS 18</b> <b>Hillsboro, Oregon 97123-5625</b>	Business phone # <b>503 846-7859</b> Mobile phone # (optional) FAX # <b>503 846-7810</b> E-mail: <b>Abraham_turki@co.washington.or.us</b>
<input type="checkbox"/> Authorized Legal Agent, Name and Address:	Business phone # FAX # Mobile phone # E-mail:
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: <b>Abraham Turki</b>	Signature: _____
Date: <b>10/6/09</b>	Special instructions regarding site access:

## Project and Site Information (for latitude &amp; longitude, use centroid of site or start &amp; end points of linear project)

Project Name: <b>Cornelius Pass Road Widening, From NW Quatama Road to Baseline Road</b>	Latitude: Project Begins 122.90013 – Project Ends 122.90014	Longitude: Project Begins 45.52069 – Project Ends 45.30281
Proposed Use: Public Roadway	Tax Map # T1N, R2W, S35CD, 500, 1000, 13600 T1S, R2W, S02BA	
Project Street Address (or other descriptive location):  <b>Cornelius Pass Road between NW Quatama Road and Baseline Road</b>	Township T1N T1S	Range 2W R2W
	Section 35 02	QQ
City: Hillsboro	County: Washington	
	Tax Lot (s) Road Right of Way	
	Waterway: Beaverton Creek	River Mile:
	NWI Quad(s): Hillsboro	

## Wetland Delineation Information

Wetland Consultant Name, Firm and Address: <b>Pacific Habitat Services Attn: Michele Eccleston</b> <b>9450 SW Commerce Circle, Suite 180</b> <b>Wilsonville, OR 97070</b>	Phone # <b>503-570-0800</b> Mobile phone # FAX # <b>503-570-0855</b> E-mail:
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge, Consultant Signature: _____ Date: <b>10/12/09</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: Total Wetland Acreage: <b>Waters 0.42/Wetlands 0.50</b>

## Check Box Below if Applicable:

## Fees:

<input type="checkbox"/> R-F permit application submitted	<input checked="" type="checkbox"/> Fee payment submitted \$ <b>364.00</b>
<input type="checkbox"/> Mitigation bank site	<input type="checkbox"/> Fee (\$100) for resubmittal of rejected report
<input type="checkbox"/> Wetland restoration/enhancement project (not mitigation)	Name of Payor: <b>Pacific Habitat Services</b>
<input type="checkbox"/> Industrial Land Certification Program Site	
Other Information:	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 checked="" type="checkbox"/> The LWI only maps the west portion of Beaverton Creek.

For Office Use Only *SM*

DSL Reviewer: <b>AB</b>	Fee Paid Date: ____/____/____	DSL WD # <b>2009-0435</b>
Date Delineation Received: <b>10/14/09</b>	DSL Project # _____	DSL Site # _____
Scanned: <input type="checkbox"/> Final Scan: <input type="checkbox"/>	DSL WN # _____	DSL App. # _____





# Oregon

Theodore R. Kulongoski, Governor

## Department of State Lands

775 Summer Street NE, Suite 100  
Salem, OR 97301-1279  
(503) 986-5200  
FAX (503) 378-4844  
[www.oregonstatelands.us](http://www.oregonstatelands.us)

February 1, 2010

### State Land Board

Abraham Turki  
Washington County Land Use & Transportation  
1400 SW Walnut Street, MS 18  
Hillsboro, OR 97123-5625

Theodore R. Kulongoski  
Governor

Kate Brown  
Secretary of State

Re: Wetland Delineation Report for Cornelius Pass widening from  
NW Quatama Road to Baseline Road, Hillsboro, Washington County;  
T 1N R 2W S 35CD Portions of Tax Lots 900, 1000 & 13600; T 1S R 2W  
S 2BA ROW; WD #09-0435

Ben Westlund  
State Treasurer

Dear Mr. Turki:

The Department of State Lands has reviewed the wetland delineation report prepared by Pacific Habitat Services for the site referenced above. [Please note that the study area includes only a portion of the tax lots described above (please see the attached map)]. Based upon the information presented in the report, a site visit on 12/19/09 and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in revised Figure 6 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map. Within the study area, four wetlands associated with Beaverton Creek (A-D) and Beaverton Creek were identified. The wetlands and waterway are subject to the permit requirements of the state Removal-Fill Law. A state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in the wetlands or below the ordinary high water line (OHWL) of a waterway (or the 2 year recurrence interval flood elevation if OHWL cannot be determined).

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and make a determination of jurisdiction for purposes of the Clean Water Act at the time that a permit application is submitted. We recommend that you attach a copy of this concurrence letter to both copies of any subsequent joint permit application to speed application review.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter, unless new information

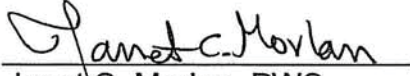


necessitates a revision. Circumstances under which the Department may change a determination and procedures for renewal of an expired determination are found in OAR 141-090-0045 (available on our web site or upon request). The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within 60 calendar days of the date of this letter.

Thank you for having the site evaluated. Please phone me at 503-986-5321 if you have any questions.

Sincerely,

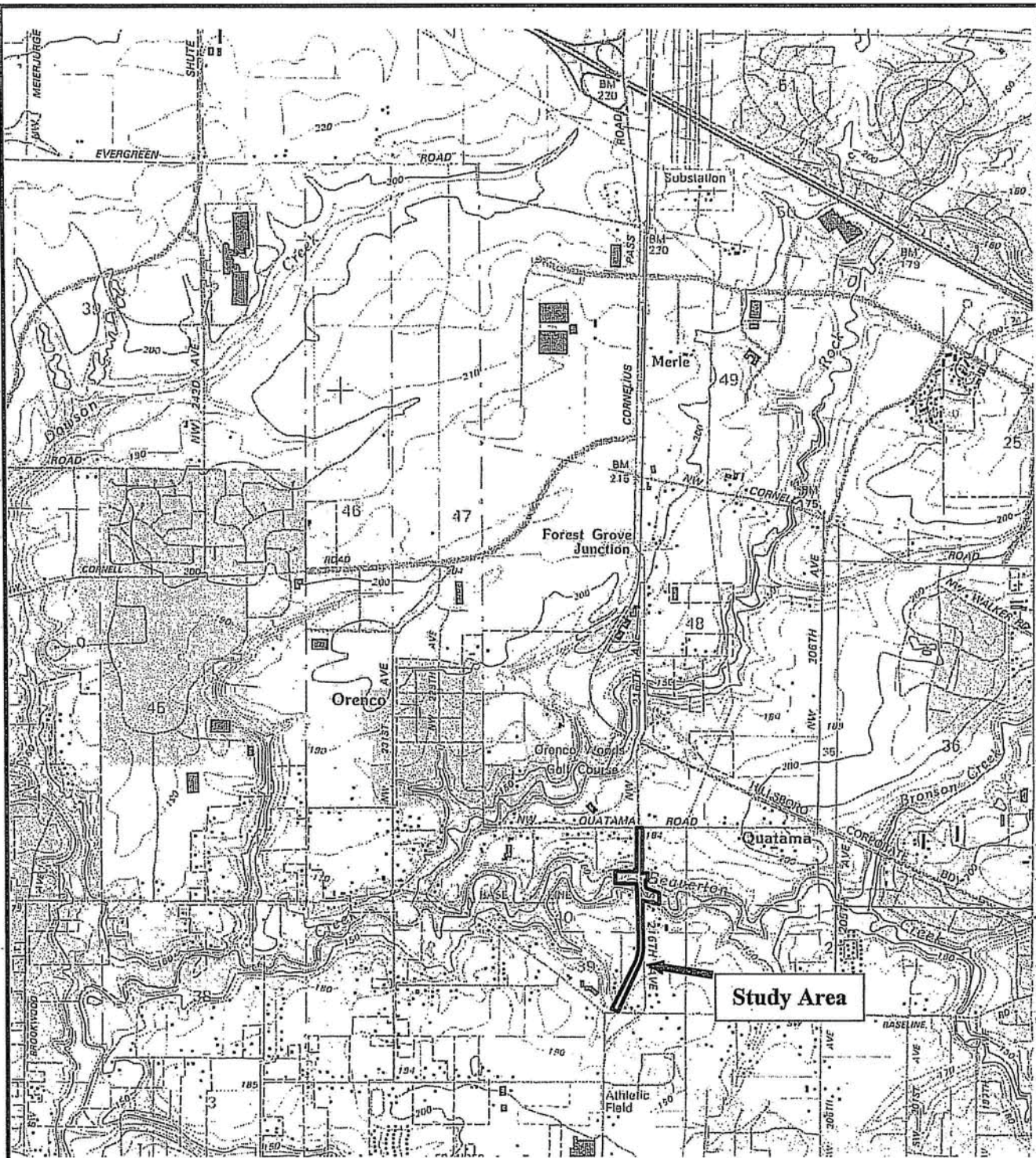
  
Anna Buckley  
Wetland Specialist

Approved by   
Janet C. Morlan, PWS  
Wetlands Program Manager

Enclosures

ec: Michelle Eccleston, Pacific Habitat Services  
City of Hillsboro Planning Department  
Brian Villalon, Corps of Engineers  
Carrie Landrum, DSL  
Damon Reische, Clean Water Services





12/30/08

4076

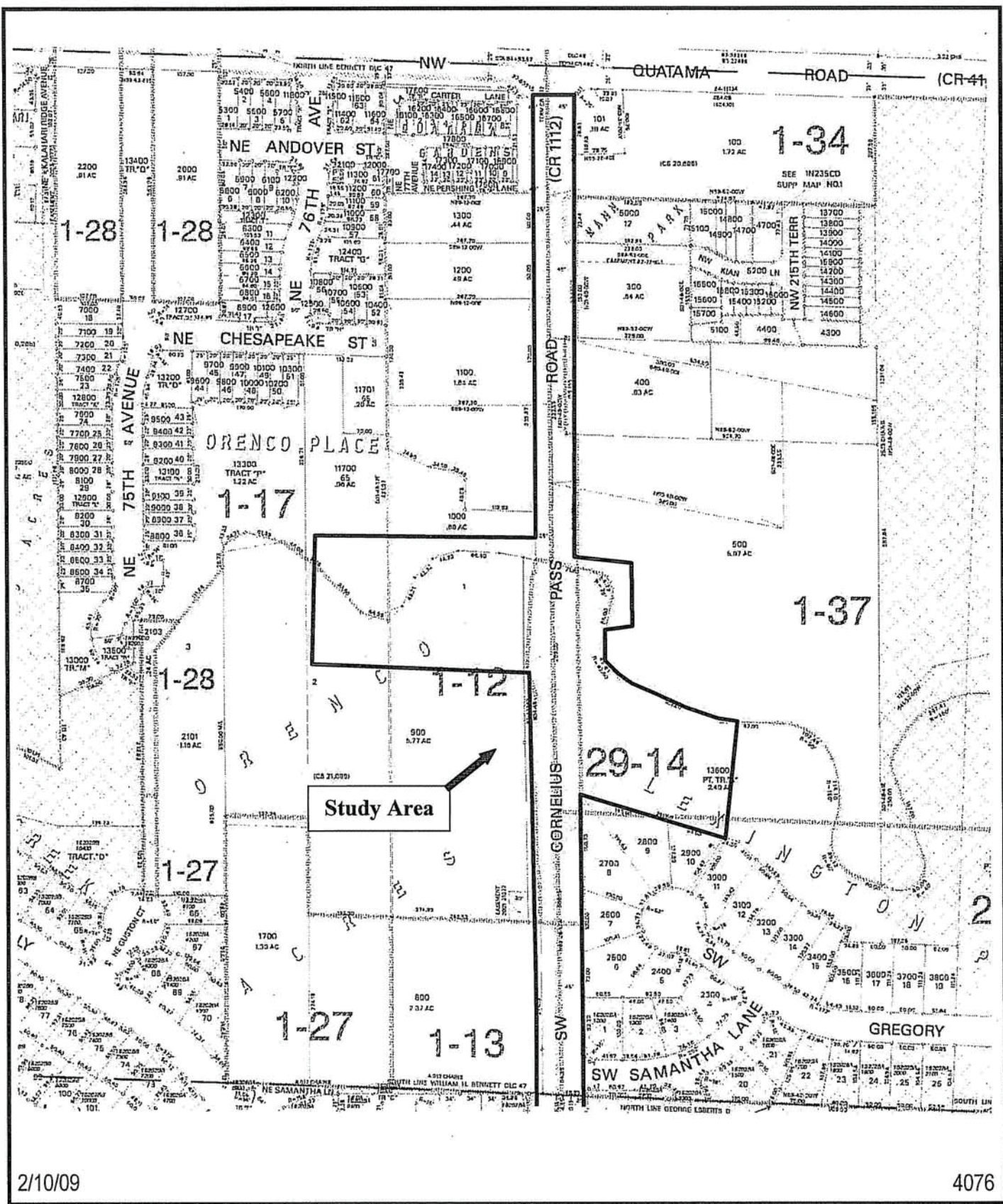
Location and general topography for the Cornelius Pass Road Widening project in Washington County, Oregon (Source: USGS Hillsboro, OR quadrangle, 1990).

FIGURE  
1



— Pacific Habitat Services, Inc. —





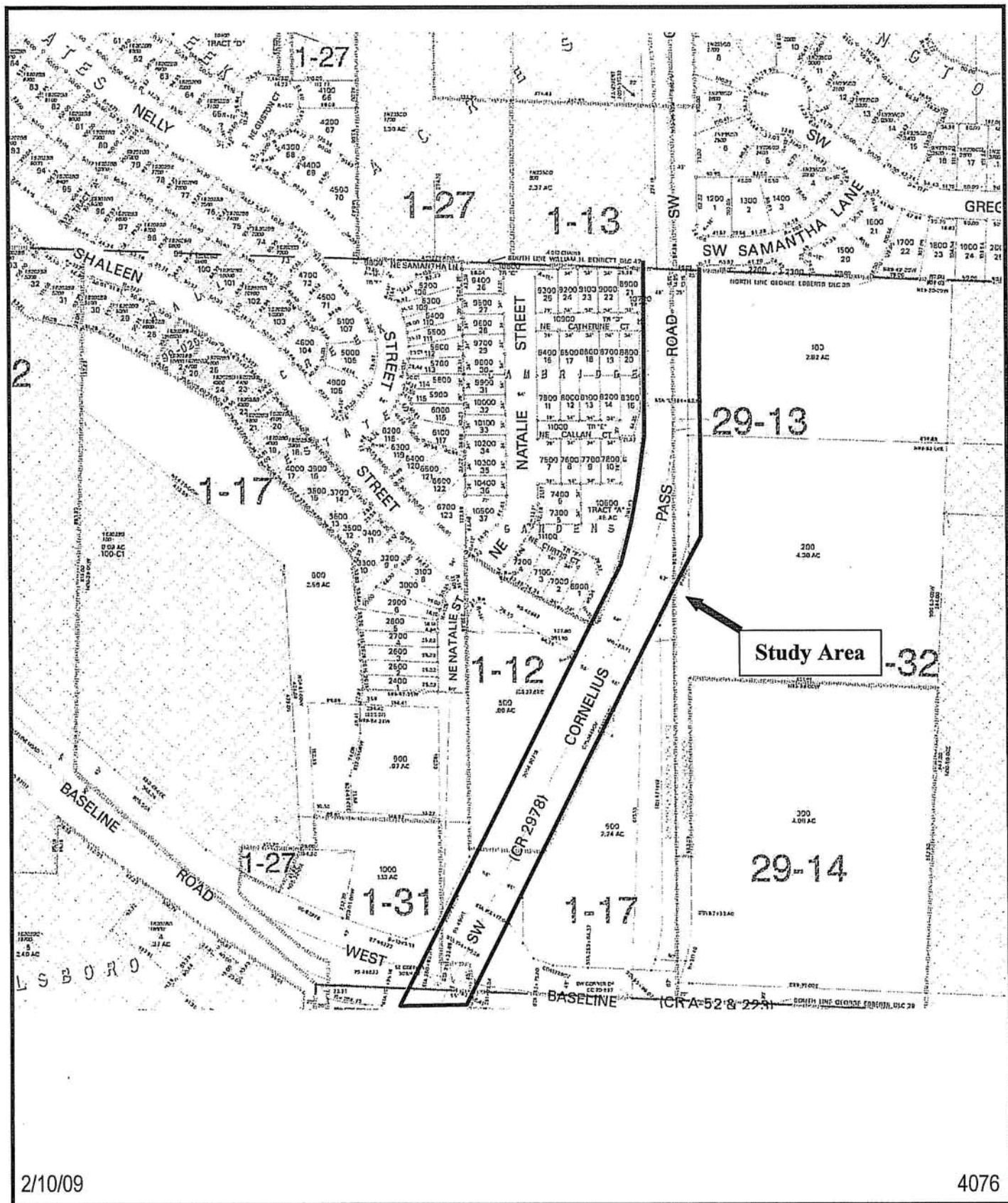
Tax Lot Map for the Cornelius Pass Road Widening project in Washington County, Oregon (Source: ORMAP, Tax Map T1N R2W S35CD).

FIGURE  
2A



Pacific Habitat Services, Inc.





Tax Lot Map for the Cornelius Pass Road Widening project in Washington County, Oregon (Source: ORMAP, Tax Map T1S R2W S02BA).

FIGURE  
2B



Pacific Habitat Services, Inc.



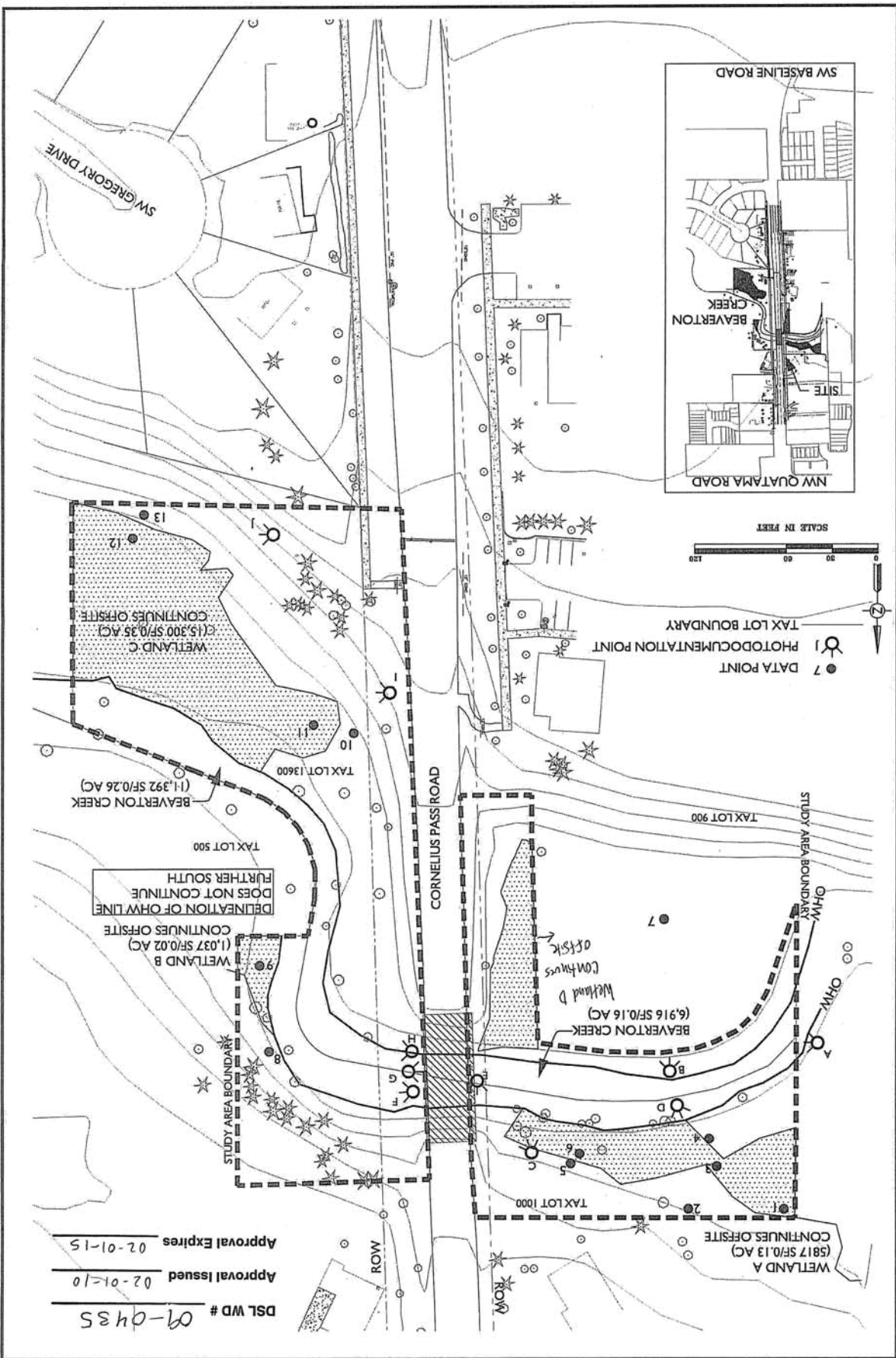


4076  
1/25/10

Existing conditions and location of data points and photodocumentation points for the proposed Cornelius Pass Road widening from NW Quatama Road to West Baseline Road in Hillsboro, Washington County, Oregon. Survey provided by WRG Design, Inc., 2008. Survey accuracy is sub-centimeter.

Pacific Habitat Services, Inc.

REVISED  
FIGURE  
6



DSL WD # 09-0435  
Approval Issued 02-01-10  
Approval Expires 02-01-15



# Oregon

John A. Kitzhaber, MD, Governor

## Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

[www.oregonstatelands.us](http://www.oregonstatelands.us)

October 24, 2013

### State Land Board

Dan Grimberg  
West Hills Development  
735 SW 158<sup>th</sup> Avenue  
Beaverton, OR 97006

John A. Kitzhaber, MD  
Governor

Kate Brown  
Secretary of State

Re: Wetland Delineation Report for the Proposed Amberglen  
Residential Development, Washington County; T1N R2W  
Sec. 36BC, Tax Lots 700, 800, and Portion of 900;  
WD #13-0191; App. #54536

Ted Wheeler  
State Treasurer

Dear Mr. Grimberg:


The Department of State Lands has reviewed the wetland delineation report prepared by Anchor QEA for the site referenced above. Based upon the information presented in the report, a site visit on September 24, 2013, and additional information submitted upon request, we concur with the wetland boundaries as mapped in revised Figure A-20 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map. Within the study area, 18 wetlands were identified, totaling approximately 0.74 acres. These wetlands are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands.

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter, unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity, or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

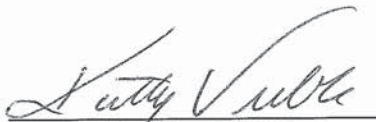


Thank you for having the site evaluated. Please phone me at 503-986-5232 if you have any questions.

Sincerely,



Peter Ryan, PWS  
Wetland Specialist

Approved by   
Kathy Verble, CPSS  
Acting Wetlands Program Manager

Enclosures

ec: Greg Summers, Anchor QEA  
City of Hillsboro Planning Department (Map enclosed for updating LWI)  
Karla Ellis, Corps of Engineers  
Amber Wierck, Clean Water Services  
Charles Redon, DSL



# WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

14741-8475 WD

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: Dan Grimberg West Hills Development 735 SW 158th Avenue Beaverton, OR 97006	Business phone # (503) 726-7030 Mobile phone # (optional) E-mail: <a href="mailto:dgrimberg@arborhomes.com">dgrimberg@arborhomes.com</a>
<input checked="" type="checkbox"/> Authorized Legal Agent, Name and Address: Dan Grimberg West Hills Development 735 SW 158th Avenue Beaverton, OR 97006	Business phone # (503) 726-7030 Mobile phone # (503) 789-0358 E-mail: <a href="mailto:dgrimberg@arborhomes.com">dgrimberg@arborhomes.com</a>

I either own the property described below or I have legal authority to allow access to the [redacted] Department to access the property for the purpose of confirming the information in the report, after prior notification.

Typed/Printed Name: Dan Grimberg Signature: [redacted]  
Date: \_\_\_\_\_ Special instructions regarding site access: \_\_\_\_\_

## 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>Amberglen Property</b>	Latitude: <b>45.314069° N</b>	Longitude: <b>-122.531195° W</b>
Proposed Use: <b>311-unit residential development project.</b>	Tax Map # <b>1N236BC</b>	
	<u>45.528176</u>	<u>-122.887933</u>
Project Street Address (or other descriptive location):  <b>1000 NW 206<sup>th</sup> Avenue</b>	Township <b>1N</b> Range <b>2W</b> Section <b>36</b> QQ SWNW	
City: <b>Hillsboro</b> County: <b>Washington</b>	Tax Lot(s) <b>700, 800, and 900 (portion)</b>	
	Waterway: <b>N/A</b> River Mile: <b>N/A</b>	
	NWI Quad(s): <b>N/A</b>	

## Wetland Delineation Information

Wetland Consultant Name, Firm and Address: <b>Greg Summers</b> <b>Anchor QEA</b> <b>6650 SW Redwood Lane, STE 333</b> <b>Portland, Oregon 97224</b>	Phone # (503) 670-1108 Mobile phone # (503) 381-1866 E-mail: <a href="mailto:gsummers@anchorqea.com">gsummers@anchorqea.com</a>
---	---

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.

Consultant Signature: [redacted] Date: **4/16/2013**

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No Study Area size: **10.8 ac** Total Wetland Acreage: **0.74 ac**

## Check Box Below if Applicable:

## Fees:

<input checked="" type="checkbox"/> R-F permit application submitted	<input checked="" type="checkbox"/> Fee payment submitted \$ <u>388</u>
<input type="checkbox"/> Mitigation bank site	<input type="checkbox"/> Fee (\$100) for resubmittal of rejected report
<input type="checkbox"/> Wetland restoration/enhancement project (not mitigation)	<input type="checkbox"/> No fee for request for reissuance of an expired report
<input type="checkbox"/> Industrial Land Certification Program Site	
<input type="checkbox"/> Reissuance of a recently expired delineation	
Previous DSL # _____ Expiration date _____	

**Other Information:**

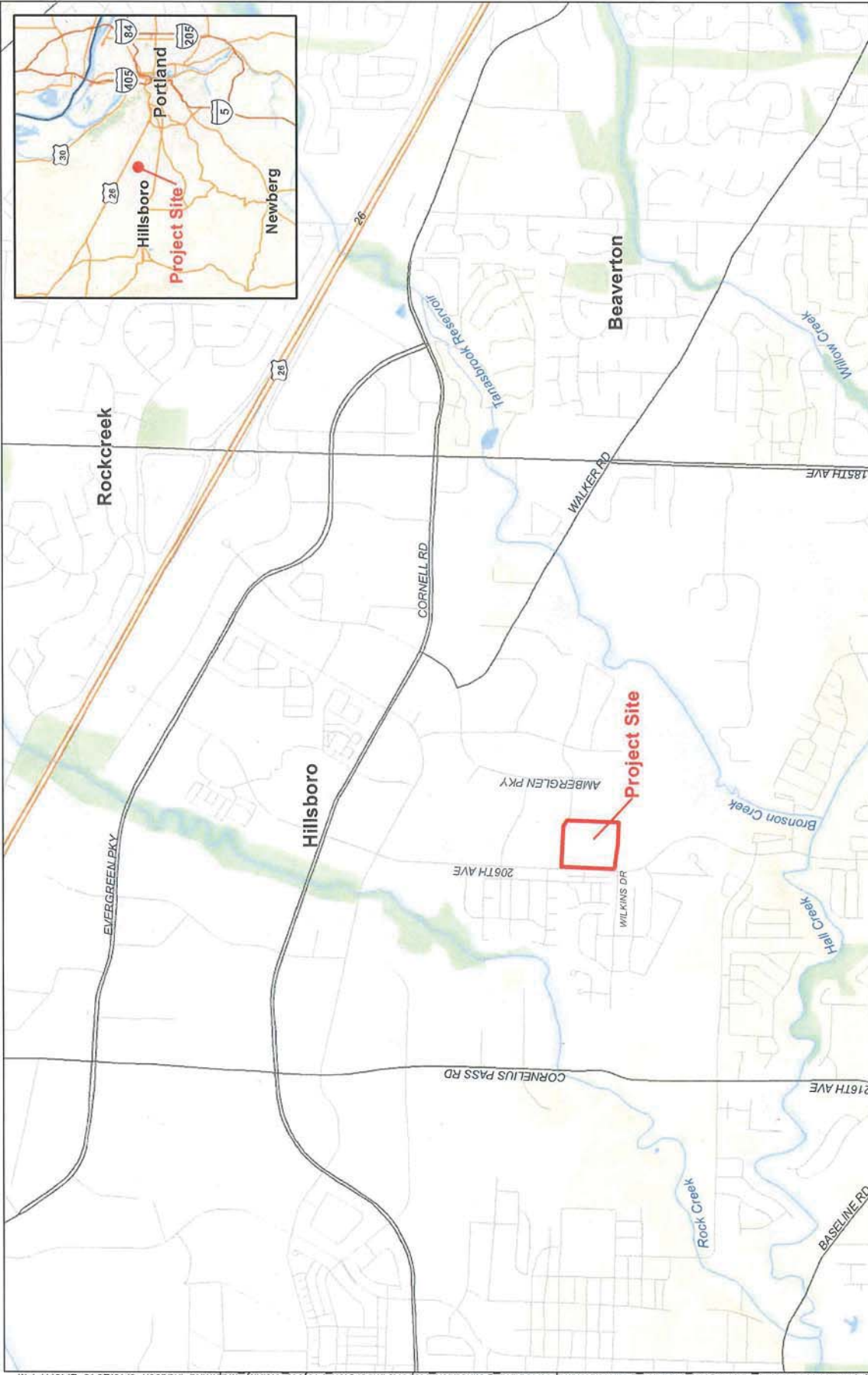
	Y	N
Has previous delineation/application been made on parcel?	<input type="checkbox"/>	<input checked="" type="checkbox"/> If known, previous DSL # _____
Does LWI, if any, show wetland or waters on parcel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## For Office Use Only

DSL Reviewer: <u>PR</u>	Fee Paid Date: <u>6 / 14 / 13</u>	DSL WD # <u>2013-0191</u>
Date Delineation Received: <u>6 / 14 / 13</u>	DSL Project # <u>54356</u>	DSL Site # _____
Scanned: <input checked="" type="checkbox"/> Final Scan: <input type="checkbox"/>	DSL WN # _____	DSL App. # <u>54356</u>

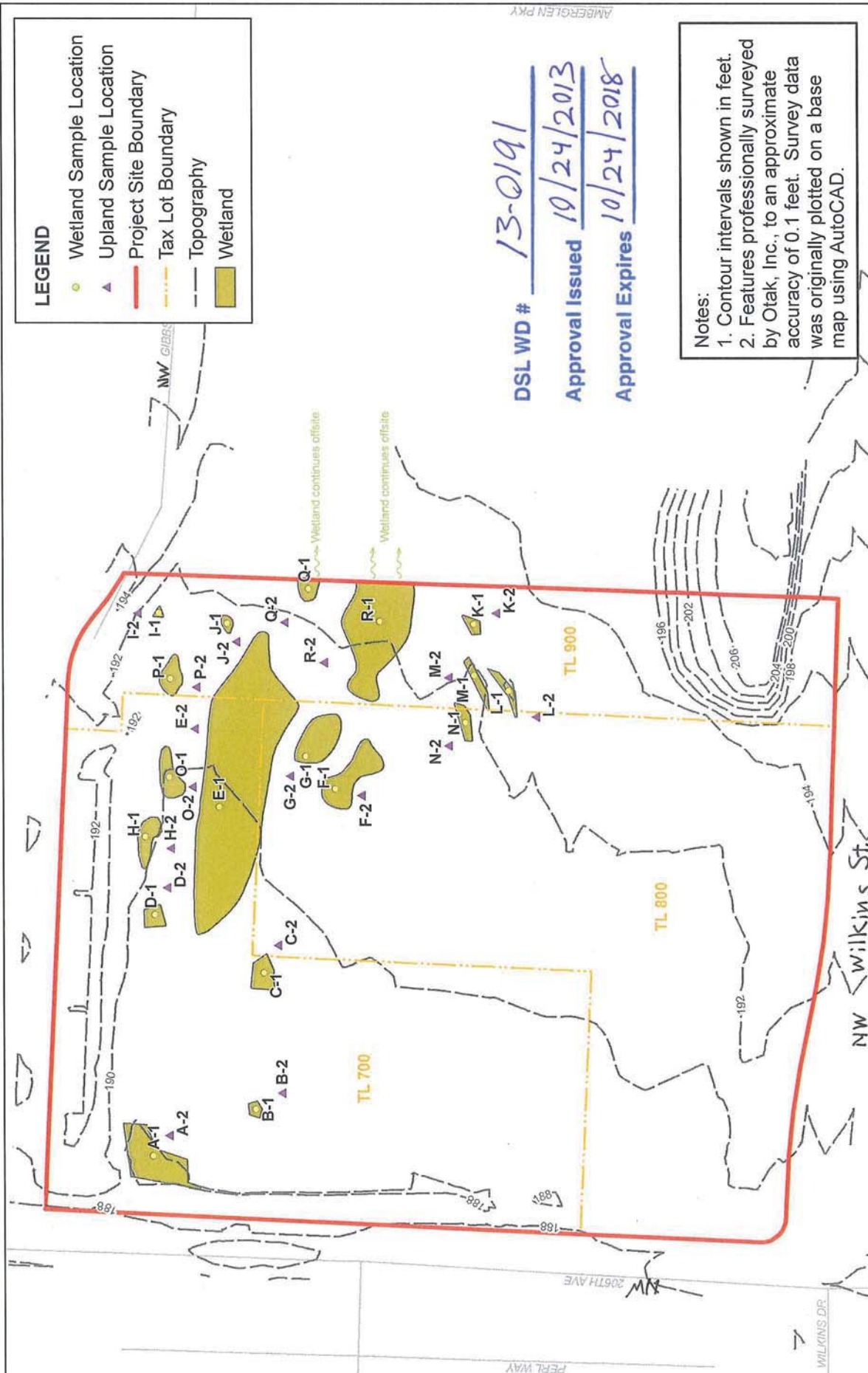


WD#13-0191



**Figure A-1**  
Project Vicinity Map  
Amberglan Wetland Delineation  
Washington County, OR





**Figure A-20**  
Existing Conditions  
Amberglen Wetland Delineation  
Washington County, OR







# Oregon

John A. Kitzhaber, MD, Governor

## Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

[www.oregonstatelands.us](http://www.oregonstatelands.us)

October 2, 2014

Washington County DLUT  
Attn: Gary Stockhoff  
1400 SW Walnut Street, MS 18  
Hillsboro, OR 97123-5625

### State Land Board

John A. Kitzhaber, MD  
Governor

Re: Wetland Delineation Report for NW Cornelius Pass Road  
Improvement Project, Washington County; T 1N R 2W S 23  
TL 911 and 1000; S 23CD TL 1100; S 02 TL 2700; S 26AB  
TL 300, 400, 500; S 26AC TL 600; S 26D TL 200; S 26DB  
TL 700 and portions of US Highway 26, NW Cornelius Pass  
Road, NW Evergreen Parkway and NW Cornell Road Rights-of-  
Way; WD #2014-0226

Kate Brown  
Secretary of State

Ted Wheeler  
State Treasurer

Dear Mr. Stockhoff:

The Department of State Lands has reviewed the wetland delineation report prepared by David Evans and Associates, Inc. for the site referenced above. Please note that the study area includes only a portion of the tax lots described above (please see the attached map). Based upon the information presented in the report and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in revised Figure 5, Sheets 1 through 6 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map.

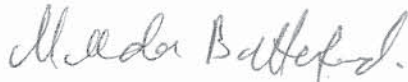
Within the study area, four wetlands (Wetlands A, B, C and D), one water (Water E), and one ditch (Toe-of-Slope Ditch) were identified. The four wetlands (approximately 0.47 acres) and Water E (0.03 acres) are subject to the permit requirements of the state removal-fill law. The roadside ditch (Toe-of-Slope Ditch) is not state jurisdictional (OAR 141-085-515(10)). The wetlands are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in the wetlands or below the ordinary high water line (OHWL) of a waterway (or the 2 year recurrence interval flood elevation if OHWL cannot be determined). This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and make a determination of jurisdiction for purposes of the Clean Water Act.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

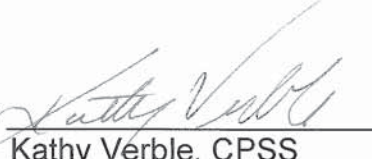
Thank you for having the site evaluated. Please phone me at 503-986-5202 if you have any questions.

Sincerely,



Melinda Butterfield, PWS  
Wetland Specialist

Approved by



Kathy Verble, CPSS  
Acting Wetlands Program Manager

Enclosures

cc: John Macklin, David Evans and Associates, Inc.  
Michael Ladouceur, Corps of Engineers



# 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. 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>Gary Stockhoff</b> <b>Washington County DLUT</b> <b>1400 SW Walnut Street, MS 18</b> <b>Hillsboro, OR 97123-5625</b>		Business phone # <b>503 846-7820</b> Mobile phone # (optional) E-mail: <b>gary_stockhoff@co.washington.or.us</b>
<input type="checkbox"/> Authorized Legal Agent, Name and Address:		Business phone # Mobile phone # E-mail:
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: <u>GARY A STOCKHOFF</u> Signature: <u>[Signature]</u> Date: <u>5/14/14</u> Special instructions regarding site access:		

**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>NW Cornelius Pass Road Improvement Project</b>		Latitude: <b>45 33" 16.04 N</b>	Longitude: <b>122 53" 58.32" W</b>
Proposed Use: <b>Road improvements including turn lanes, sidewalks, curbs, bike lanes, and US 26 on-ramp</b>		Tax Map # <b>1N223</b>	
Project Street Address (or other descriptive location): <b>Cornelius Pass Road between US 26 and NW Amberwood Drive</b>		Township <b>1N</b>	Range <b>2W</b> Section <b>23</b> <b>QQ SW</b>
City: <b>Hillsboro</b> County: <b>Washington</b>		Tax Lot(s) <b>1000,0911, 1400-</b>	<b>See below</b>
		Waterway: <b>NA</b>	River Mile:
		NWI Quad(s): <b>Hillsboro</b>	

## Wetland Delineation Information

Wetland Consultant Name, Firm and Address: <b>David Evans and Associates, Inc.</b> <b>Attn: John Macklin</b> <b>2100 SW River Parkway</b> <b>Portland Oregon 97123</b>		Phone # <b>503.499.0348</b> Mobile phone # <b>503 425-9946</b> E-mail: <b>jdm@deainc.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: <u>[Signature]</u>		Date: <b>February 6, 2014</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>31 acres 34 A</b> Total Wetland Acreage: <b>0.50</b>		

## Check Box Below if Applicable:

## Fees:

<input type="checkbox"/> R-F permit application submitted	<input checked="" type="checkbox"/> Fee payment submitted \$ <b>396.00</b>
<input type="checkbox"/> Mitigation bank site	<input type="checkbox"/> Fee (\$100) for resubmittal of rejected report
<input type="checkbox"/> Wetland restoration/enhancement project (not mitigation)	<input type="checkbox"/> No fee for request for reissuance of an expired report
<input type="checkbox"/> Industrial Land Certification Program Site	
<input type="checkbox"/> Reissuance of a recently expired delineation	
Previous DSL # _____	Expiration date _____
Other Information: Y N	
Has previous delineation/application been made on parcel?	<input checked="" type="checkbox"/> <input type="checkbox"/> If known, previous DSL #
Does LWI, if any, show wetland or waters on parcel?	<input type="checkbox"/> <input checked="" type="checkbox"/>

## For Office Use Only

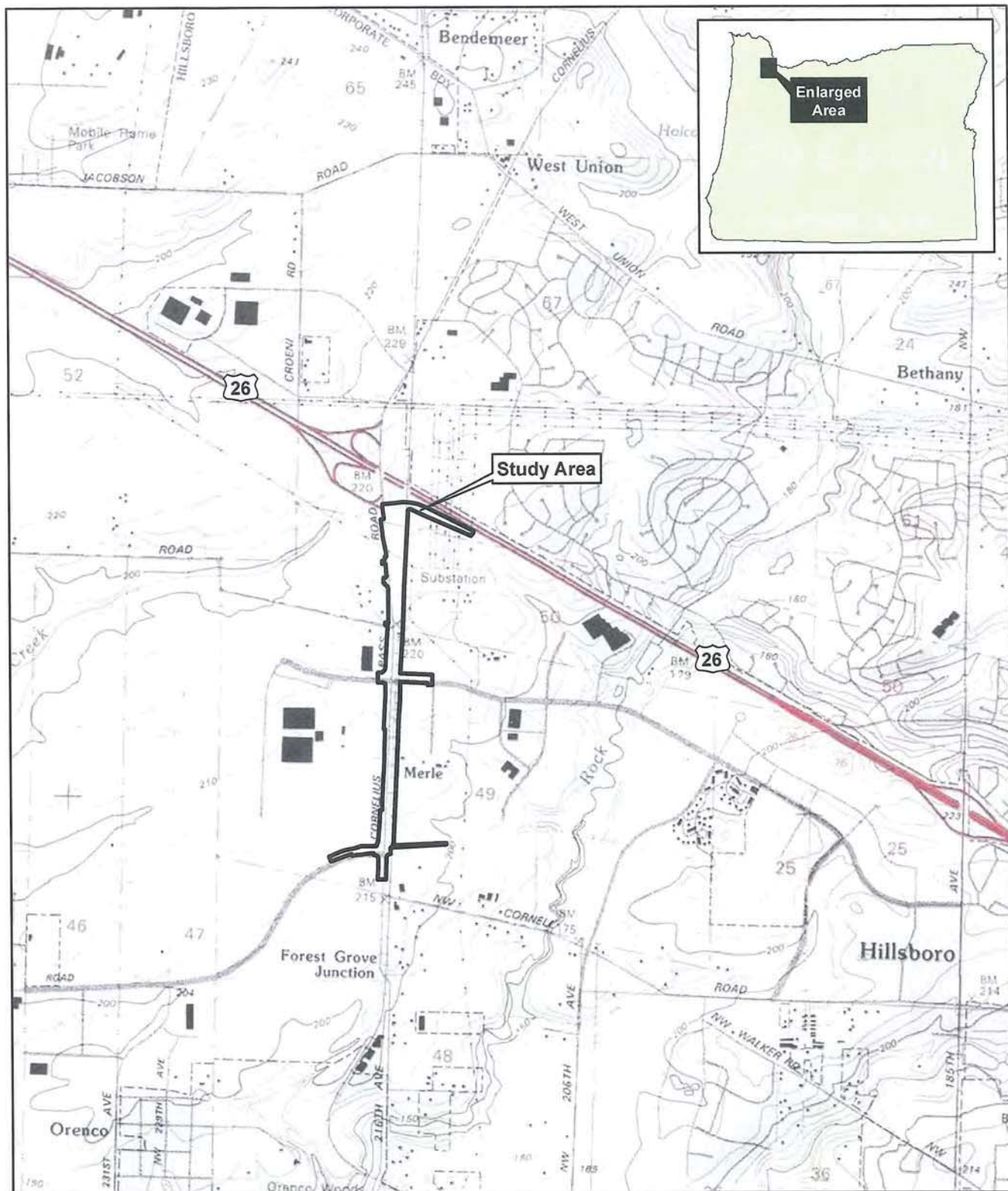
DSL Reviewer: <u>FR</u>	Fee Paid Date: <u>5/14/14</u>	DSL WD # <u>2014-0226</u>
Date Delineation Received: <u>5/14/14</u>	DSL Project # _____	DSL Site # _____
Scanned <input checked="" type="checkbox"/> Final Scan: <input type="checkbox"/>	DSL WN # _____	DSL App. # _____

*\* Submitted Electronically \**

Form Updated 01/03/2013

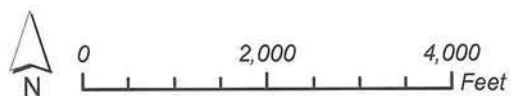
1N 2W 23 TL 911, 1000  
 1N 2W 23CD TL 1100  
 1N 2W 2 TL 2700  
 1N 2W 26AB TL 300, 400, 500  
 1N 2W 26DB TL 700  
 1N 2W 26AC TL 600  
 1N 2W 26D TL 200

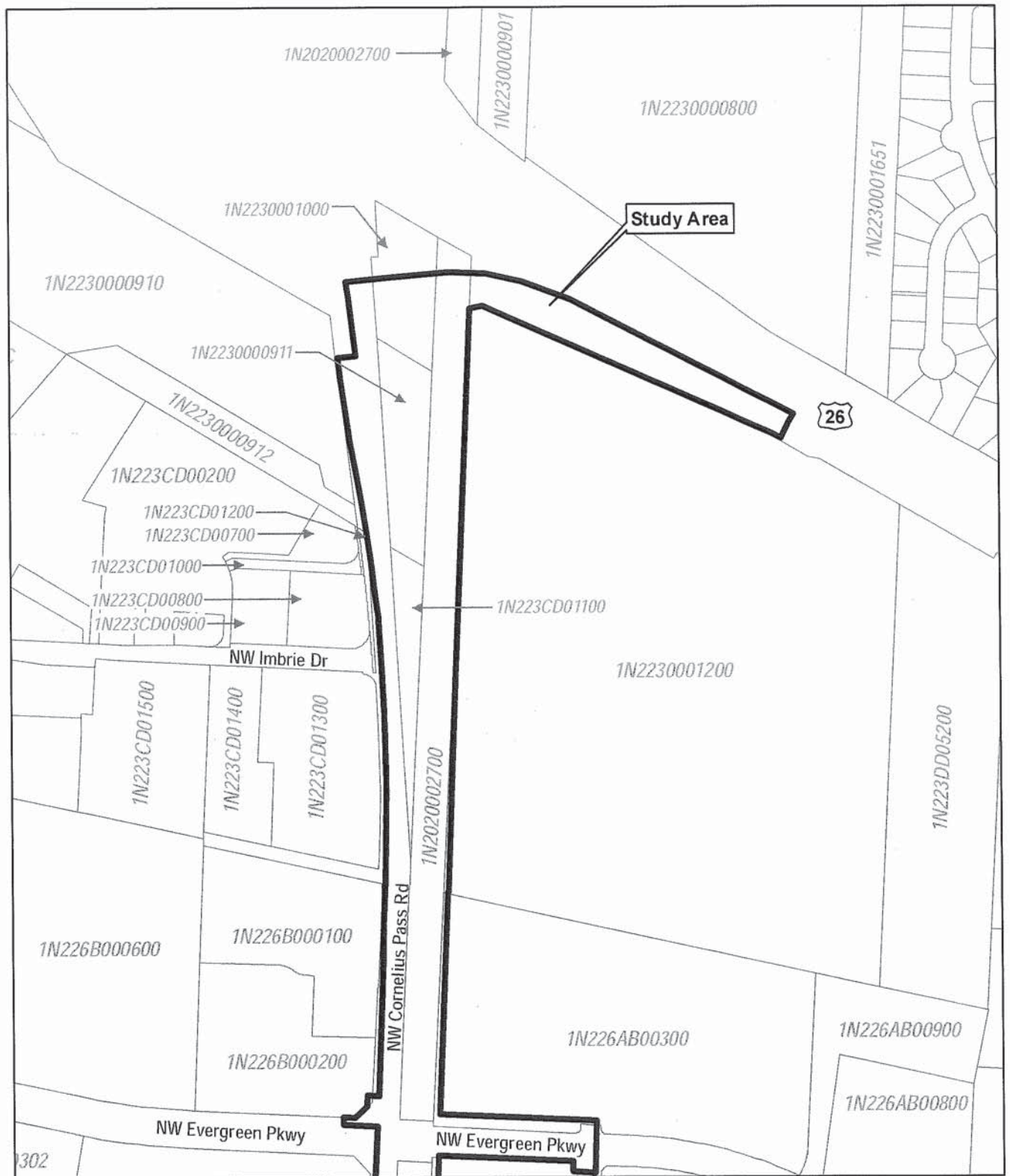




Service Layer Credits: Copyright: © 2013 National Geographic Society, i-cubed

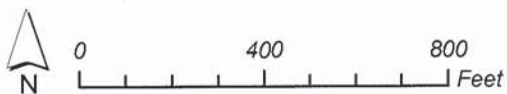
**Figure 1**  
Vicinity

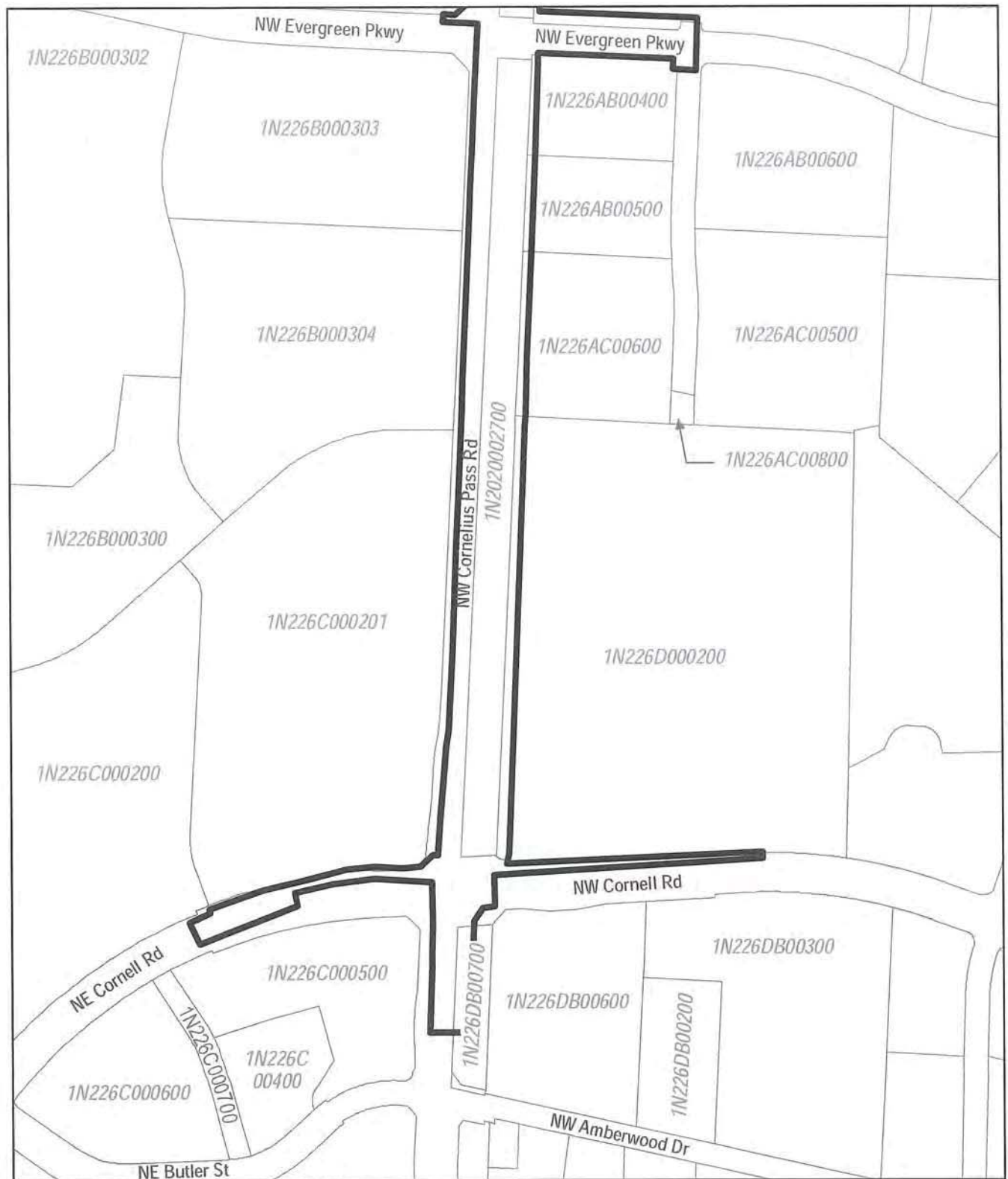




Oregon Metro Data Resource Center. 2012. RLIS Data.

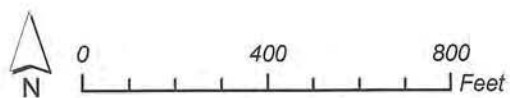
**Figure 4**  
Tax Lots





Oregon Metro Data Resource Center, 2012. RLIS Data.

**Figure 4**  
Tax Lots





DSL WD # 2014-0226

Approval Issued 10-2-14

Approval Expires 10-2-19





DSL WD # 2014-0226

Approval Issued 10-2-14

Approval Expires 10-2-19



K closed to Plot 6  
L 11



DSL WD # 2014-0226

Approval Issued 10-2-14

Approval Expires 10-2-19





DSL WD # 2014-0226

Approval Issued 10-2-14

Approval Expires 10-2-19



**Cornelius Pass Rd**  
**Northbound Cornelius Pass to E US 26**

**Figure 5, Sheet 4**  
**Wetland Delineation**

Study Area  
Wetland  
Water  
2003 Wetland Boundaries

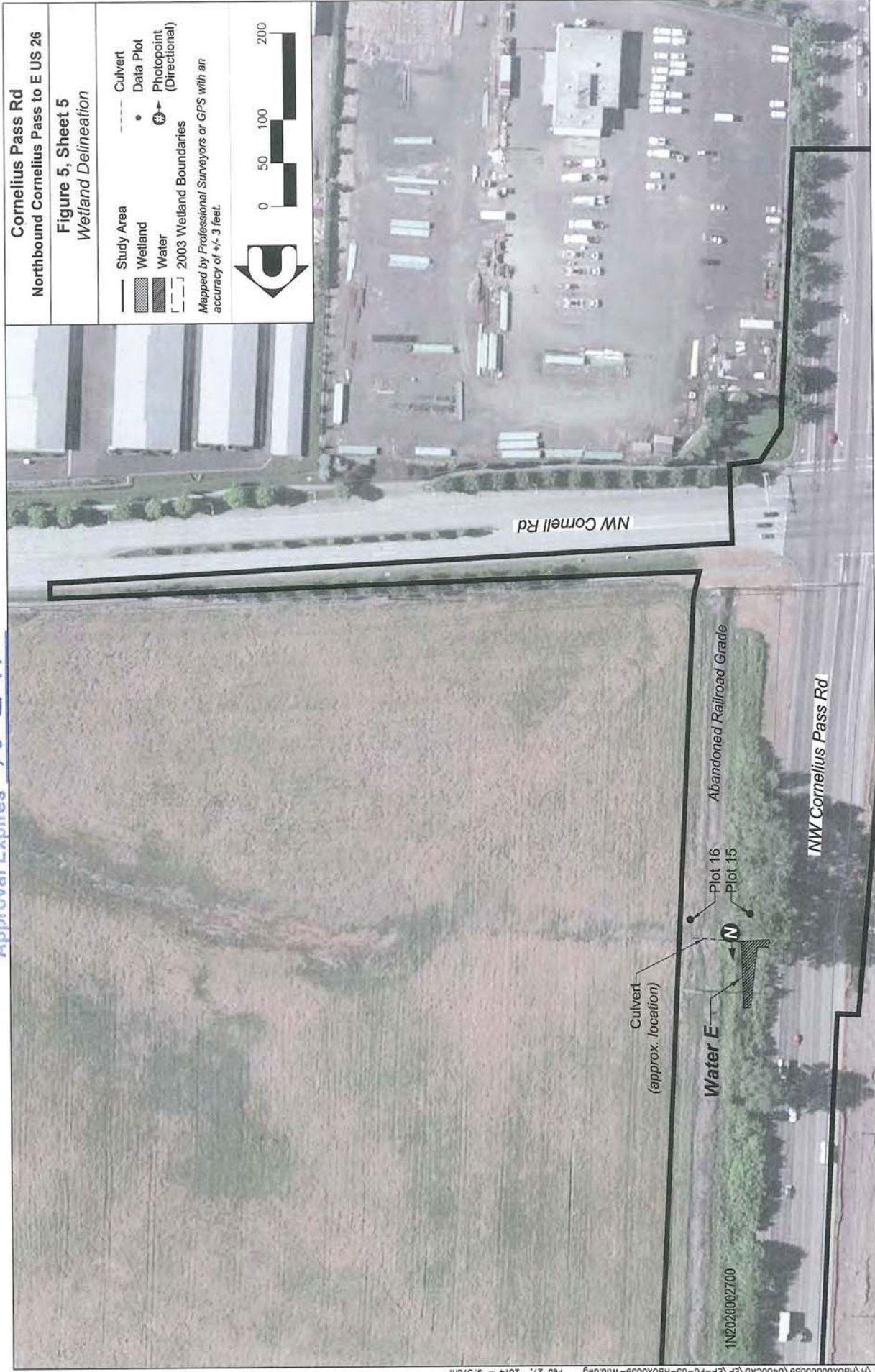
Culvert  
Data Plot  
Photopoint (Directional)

Mapped by Professional Surveyors or GPS with an accuracy of +/- 3 feet.

0 50 100 200



DSL WD # 2014-0226  
 Approval Issued 10-2-14  
 Approval Expires 10-2-19





DSL WD # 2014-0226

Approval Issued 10-2-14

Approval Expires 10-2-14

