

Exhibit D

Wetland Delineation
for a Proposed Development Site
North of SE Kellogg Creek Drive
in Milwaukie, Clackamas County, Oregon
(Township 2 South, Range 2 East, Section 6AD,
TL 600 and Portions of 700, 900 and 901)

Prepared for
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I. INTRODUCTION

Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation on a proposed development site located north of SE Kellogg Creek Drive in Milwaukie, Clackamas County, Oregon (Township 2 South, Range 2 East, Section 6AD, Tax Lot 600 and portions of Tax Lots 700, 900, 901). The study area consists of approximately 15.58 acres.

This report presents the results of PHS's field work. Figures, including a map depicting the location of wetlands within the study area, are located in Appendix A. Data sheets documenting on-site conditions are provided in Appendix B. Ground-level photos of the study area are in Appendix C. Historic aerial photographs are in Appendix D. The geotechnical evaluation report for the site is included in Appendix E. A discussion of the methodology is provided in Appendix F for the client.

II. RESULTS AND DISCUSSION

A. Landscape Setting and Land Use

The site is located southwest of Highway 224 (Pacific Highway); north of SE Kellogg Creek Drive, and north and west of SE Rusk Road. Mt. Scott Creek flows to the west along the northern edge of the study area, and the North Clackamas Park Milwaukie Center borders the western edge. The site is located within a residential area; undeveloped woodland is located immediately to the north and northwest of the study area, and the Turning Point Church is located in the southeast corner of the site at 13333 SE Rusk Road. The eastern half of the property, near the church, is relatively level; however, the western half descends abruptly to a lower woodland area. Site elevations range from approximately 80 feet National Geodetic Vertical Datum (NGVD) in the eastern half of the site, to approximately 66 feet NGVD in the lower reaches of the western half of the site.

B. Site Alterations

The site has not been subject to recent construction activities; however, it appears that the substrate throughout much of the central and eastern half of the site consists of fill material, likely associated with the construction of the church, over two decades ago.

C. Precipitation Data and Analysis

Table 1 compares the average monthly precipitation to the observed monthly precipitation at the Portland International Airport National Weather Service Station in the three months prior to PHS's wetland delineation field work. Table 1 also compares the observed precipitation to be within the normal precipitation range, as identified in the NRCS WETS table for the Oregon City station.

As shown in Table 1, observed precipitation was below normal and normal range in August. Observed precipitation was above normal but within normal range in September; however, in October observed precipitation was considerably above normal and normal range. It should be noted that the observed precipitation total for November in Table 1 is the amount of precipitation recorded in the first 20 days of the month, prior to the day of PHS's wetland delineation field work.

Table 1. Comparison of Average and Observed Precipitation for the Three Months Prior to the Wetland Delineation Field Work

Month	Average Precipitation ^a (in.)	30% Chance Will Have		Observed Precipitation ^b (in.)	Percent of Normal
		Less Than Average ^a	More Than Average ^a		
August	1.00	0.21	1.16	0.09	13
September	1.93	0.86	2.41	1.69	115
October	3.48	1.85	4.25	8.31	277
November	6.79	4.43	8.16	2.79 ^c	50 ^d

- Notes:
- a. Source: NRCS WETS Table for Oregon City WETS station
 - b. Observed precipitation is the precipitation recorded at the Portland International Airport weather station. Source: National Weather Service.
 - c. Observed precipitation is for the period November 1-20, 2016, prior to PHS’s November 21, 2016 field work.
 - d. The percent of normal precipitation is for the first twenty days in November prior to PHS’s November 21, 2016 field work. This estimate assumes that precipitation is spread evenly across the month and that the average precipitation in the first twenty days of November is 2.79 inches.

Precipitation in the months preceding PHS’s wetland delineation field work fluctuated widely. However, based on this and other observations of hydrologic conditions during the site visit, it is PHS’s opinion that the drier than normal conditions in August and the wetter than normal conditions in September and October did not affect the hydrological indicators observed at the time of PHS’s wetland delineation field work.

D. Methods

PHS conducted the wetland investigation and data collection on November 21, 2016. PHS identified jurisdictional wetlands in the study area based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* (“The 1987 Manual”) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*.

PHS delineated the limits of ordinary high water (OHW) along the south bank of Mt. Scott Creek based on an evaluation of observed physical characteristics, as described in the U.S. Army Corps of Engineers’ Regulatory Guidance Letter No. 05-05 (December 7, 2005). PHS flagged the limits of OHW with blue flags placed at the limits of the OHW, as indicated by the point below which woody vegetation is absent and at the break in the slope angle of the bank.

E. Description of All Wetlands and Other Non-Wetland Waters

PHS identified and delineated one potential wetland area (Wetland A) and Mt. Scott Creek (south bank only), as well as six potentially, artificially created wetland areas (Wetlands B through G). Brief descriptions of the on-site wetlands and non-wetland waters are provided below.

Mt. Scott Creek

Mt. Scott Creek, a tributary to Kellogg Creek and the Willamette River, is a perennial stream that generally flows to the west along the northern boundary of the study area. The stream banks are relatively well defined and near vertical at the location of the OHW line. The plant community of the riparian area along the creek includes a deciduous overstory of big-leaf maple (*Acer macrophyllum*, FACU), Oregon white oak (*Quercus garryana*, FACU), Oregon ash (*Fraxinus latifolia*, FACW), and red alder (*Alnus rubra*, FAC); and a shrub and herbaceous understory composed of species such as snowberry (*Symphoricarpos albus*, FACU), Pacific ninebark (*Physocarpus capitatus*, FACW), Scouler's willow (*Salix scouleriana*, FAC), English hawthorn (*Crataegus monogyna*, FAC), Fuller's teasel (*Dipsacus fullonum*, FAC), and spreading bentgrass (*Agrostis stolonifera*, FAC). The Cowardin Classification for Mt. Scott Creek is Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded (R3UBH) and Riverine Unknown Perennial Unconsolidated Bottom Permanently Flooded (R5UBH). The Hydrogeomorphic (HGM) Classification is Riverine Flow-Through. Mt. Scott Creek continues outside the study area to the north, west and east.

Wetland A

Wetland A consists of approximately 30,386 square feet (0.70 acre) located in the western half of the site, south of Mt. Scott Creek. The plant community within Wetland A (characterized by Sample Points 3, 5, 7) is a combination of deciduous woodland bordered by open fields. Dominant species within the woodland include an overstory of Oregon ash and black cottonwood (*Populus balsamifera*, FAC), with a woody understory of Oregon ash, black cottonwood, red-osier dogwood (*Cornus alba*, FACW), snowberry, and Himalayan blackberry (*Rubus armeniacus*, FAC). The open fields include reed canarygrass (*Phalaris arundinacea*, FACW), creeping buttercup (*Ranunculus repens*, FAC), big leaf avens (*Geum macrophyllum*, FAC), slender rush (*Juncus tenuis*, FAC), rough bluegrass (*Poa trivialis*, FAC), bitter dock (*Rumex obtusifolius*, FAC), and common dandelion (*Taraxacum officinale*, FACU).

The adjacent upland areas (characterized by Sample Points 2, 6, 8) include Oregon ash, Himalayan blackberry, snowberry, English hawthorn, reed canarygrass, Fuller's teasel, large leaf avens, bull thistle (*Cirsium vulgare*, FACU), fringed willowherb (*Epilobium ciliatum*, FACW), Dewey sedge (*Carex deweyana*, FAC), common selfheal (*Prunella vulgaris*, FACU), Western swordfern (*Polystichum munitum*, FACU), lentil vetch (*Vicia tetrasperma*, NOL), creeping buttercup, spreading bentgrass, field horsetail (*Equisetum arvense*, FAC), narrow-leaf goosefoot (*Chenopodium leptophyllum*, FACU), spotted cat's ear (*Hypochaeris radicata*, FACU), European centaury (*Centaureum erythraea*, FAC), wild carrot (*Daucus carota*, FACU), tansy ragwort (*Senecio jacobaea*, FACU), and colonial bentgrass (*Agrostis capillaris*, FAC).

Hydrology within Wetland A is likely supported by a seasonally high groundwater table, surface runoff and precipitation. At the time of PHS's wetland delineation field work, the soils in Wetland A were typically saturated to the surface or within twelve inches of the surface, with free water observed at four inches below the soil surface or at the surface; inundation was also commonly present within Wetland A. The low-chroma matrix of the soil with contrasting redox concentrations meets the redox dark surface indicator for hydric soils. The Cowardin Classification for Wetland A is Palustrine Emergent, Persistent, Seasonally Flooded/Saturated (PEM1E). The HGM Classification is Slope. Wetland A continues outside the study area to the west.

Wetlands B – G (Artificially Created Wetlands)

Wetlands B through G generally consist of small, shallow, isolated depressions. Table 2 lists the area of each wetland.

Wetland	Area (square feet / acres)
B	905 / 0.02
C	176 / 0.004
D	172 / 0.004
E	998 / 0.02
F	301 / 0.007
G	666 / 0.02
Total	3,218 / 0.07

All six of these wetlands are similar in character, and therefore, a representative pair of wetland/upland sample points (9 and 10, respectively) were taken at Wetland E. These wetlands are located in the central portion of the site, west of the church and several feet above the lower woodland area further to the west. The plant communities in both the wetland and upland areas are primarily composed of weedy grasses and herbs; the wetland areas include reed canarygrass, spreading bentgrass, soft rush (*Juncus effusus*, FACW), spotted cat's ear, and oxeye daisy (*Chrysanthemum vulgare*, FACU), and the adjacent upland areas include wild carrot, curly dock (*Rumex crispus*, FAC), colonial bentgrass, bluegrass (*Poa sp.*, FAC), common velvet grass (*Holcus lanatus*, FAC), tall fescue (*Schedonorus arundinaceus*, FAC), yellow glandweed (*Parentucellia viscosa*, FAC), and English plantain (*Plantago lanceolata*, FACU).

Hydrology within Wetlands B through G primarily consists of surface runoff and precipitation. As discussed in the *Subsurface Conditions* section of the geotechnical evaluation report (Appendix E), fill material on the site ranges in thickness up to more than 12 feet, with approximately 10 feet in the central portion of the site, and groundwater was not encountered in the test pits in the vicinity of these wetlands. Therefore, it is reasonable to assume that these artificially created wetlands are not hydrologically connected to the water table. At the time of PHS's wetland delineation field work, the soils within these wetlands were typically saturated to the surface, with free water observed at or near the surface, and included some areas of inundation, which likely was perched on compacted substrate resulting in diminished permeability. The redox dark surface indicator for hydric soils was met with low-chroma matrix soils with contrasting redox concentrations. The Cowardin Classification for Wetlands B through G is Palustrine Emergent, Nonpersistent, Seasonally Flooded/Saturated (PEM2E). The HGM Classification is Slope.

As mentioned previously in Section B, *Site Alterations*, it appears that the substrate throughout much of the central and eastern half of the site consists of fill material, likely associated with the construction of the church. In addition, based on a review of historic aerial photographs (Appendix D), it appears that Wetlands B through G have been artificially created on compacted fill material resulting from activities associated with construction of the church and on-going activities associated with the church property over the years.

F. Deviation from LWI or NWI

With the exception of Mt. Scott Creek, which the US Fish and Wildlife Service’s National Wetlands Inventory (NWI) maps as Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded (R3UBH) and Riverine Unknown Perennial Unconsolidated Bottom Permanently Flooded (R5UBH) wetland, it does not indicate the presence of any wetlands on the site. NWI maps are generated primarily through the interpretation of color infrared aerial photographs (scale of 1:58,000), with limited “ground truthing” to confirm the interpretations. The canopy cover over much of Wetland A, the small size of Wetlands B through G, and the scale of the aerial photographs used to prepare the NWI maps are likely reasons for the discrepancy between the wetlands mapping and the existing on-site conditions. In addition, as Wetlands B through G appear to be artificially created, their presence and absence over the years are likely to have been dependent upon the construction and various activities on the church property, which have varied over the period of time in which the aerial photographs were taken.

G. Mapping Method

PHS flagged the wetland boundaries and limits of OHW with blue flagging. Sample points were flagged with lime green surveyor’s tape. The wetland boundary and OHW flagging were survey-located by TerraCalc Land Surveying, Inc. Sample points were GPS-located by PHS, which subsequently transferred this information onto a base map provided by TerraCalc Land Surveying. The estimated survey accuracy is sub-centimeter and the sample point accuracy is approximately +/- 3 feet.

H. Additional Information

None

I. Results and Conclusions

Within the study area, PHS identified and delineated a total of approximately 0.70 acres of potentially jurisdictional wetland, approximately 0.07 acres of potentially artificially created wetland, and the OHW line along the south bank of Mt. Scott Creek, as detailed in Table 3.

Table 3: Summary of Potentially Jurisdictional and Artificially Created Wetland, and Other Waters within the Study Area

Resource	Area (square feet/acreage)	Cowardin Class	HGM Class
Wetland A	30,386 / 0.70	PEM1E	Slope
Wetland B (Artificially Created)	905 / 0.02	PEM2E	Slope
Wetland C (Artificially Created)	176 / 0.004	PEM2E	Slope
Wetland D (Artificially Created)	172 / 0.004	PEM2E	Slope

Resource	Area (square feet/acreage)	Cowardin Class	HGM Class
Wetland E (Artificially Created)	998 / 0.02	PEM2E	Slope
Wetland F (Artificially Created)	301 / 0.007	PEM2E	Slope
Wetland G (Artificially Created)	666 / 0.02	PEM2E	Slope
Mt. Scott Creek (OHW line south bank only)	-	R3UBH R5UBH	Riverine Flow-Through
Total (Potentially Jurisdictional Wetland)	30,386 (0.70 acres)		
Total (Potentially Artificially Created Wetland)	3,218 (0.07 acres)		

J. Required Disclaimer

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

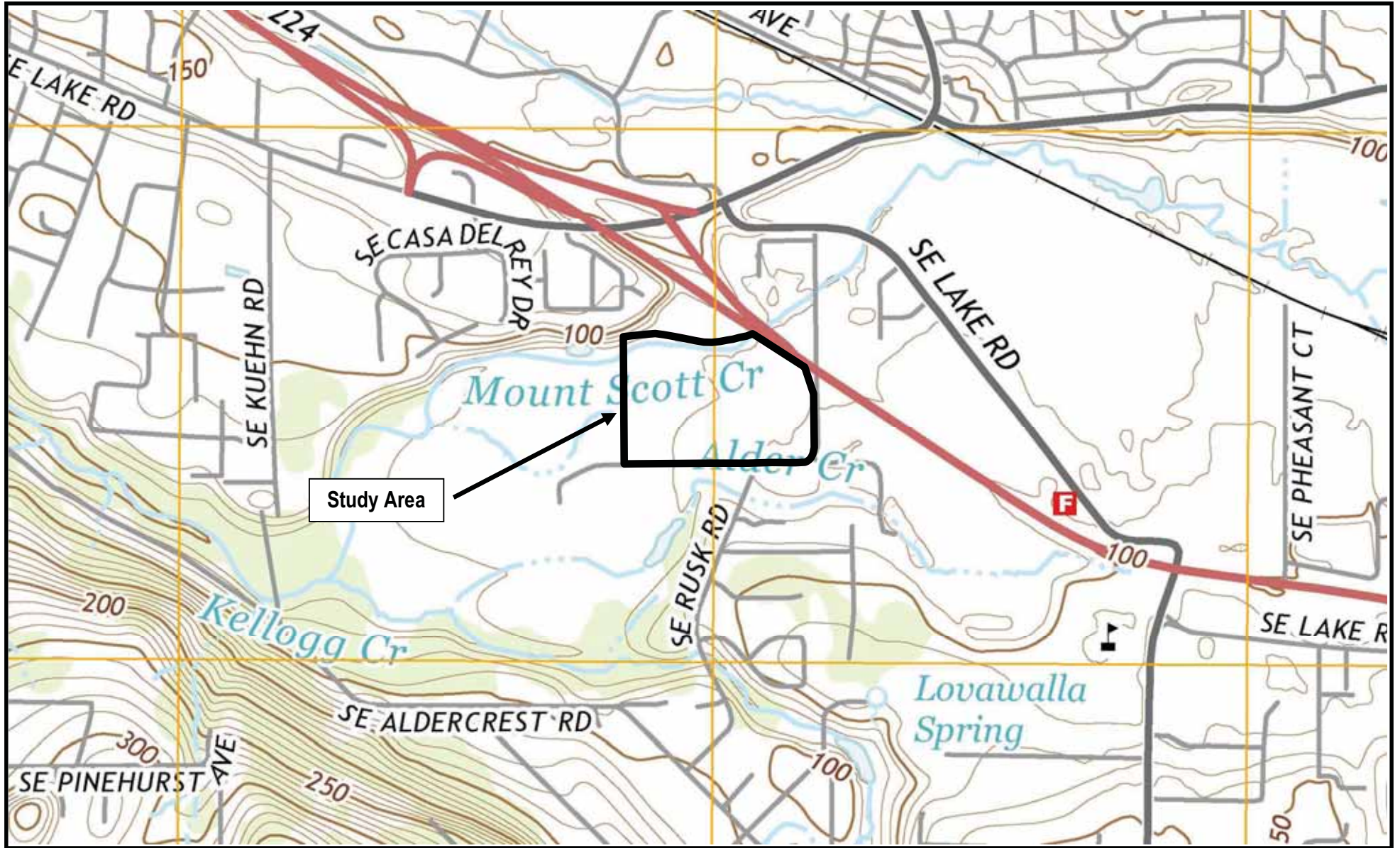
III. REFERENCES

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Appendix A

Figures





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1/16/2017



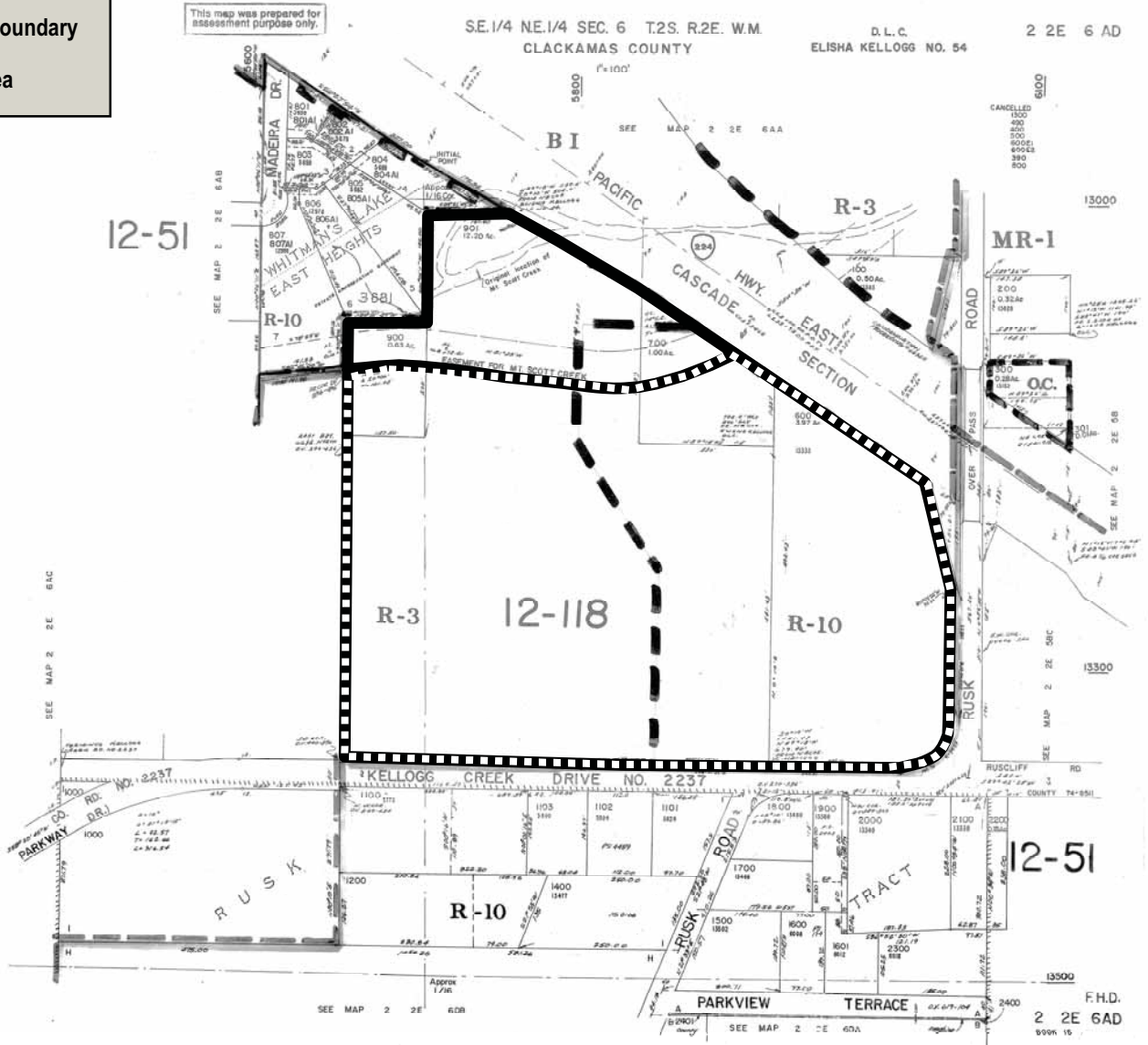
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General Location and Topography
SE Kellogg Creek Drive - Milwaukie, Oregon
United States Geological Survey (USGS), Gladstone, Oregon, 7.5 Quadrangle, 2014
(viewer/nationalmap.gov/basic)

FIGURE

1

Tax Lot Boundary
 Study Area



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12/21/2016



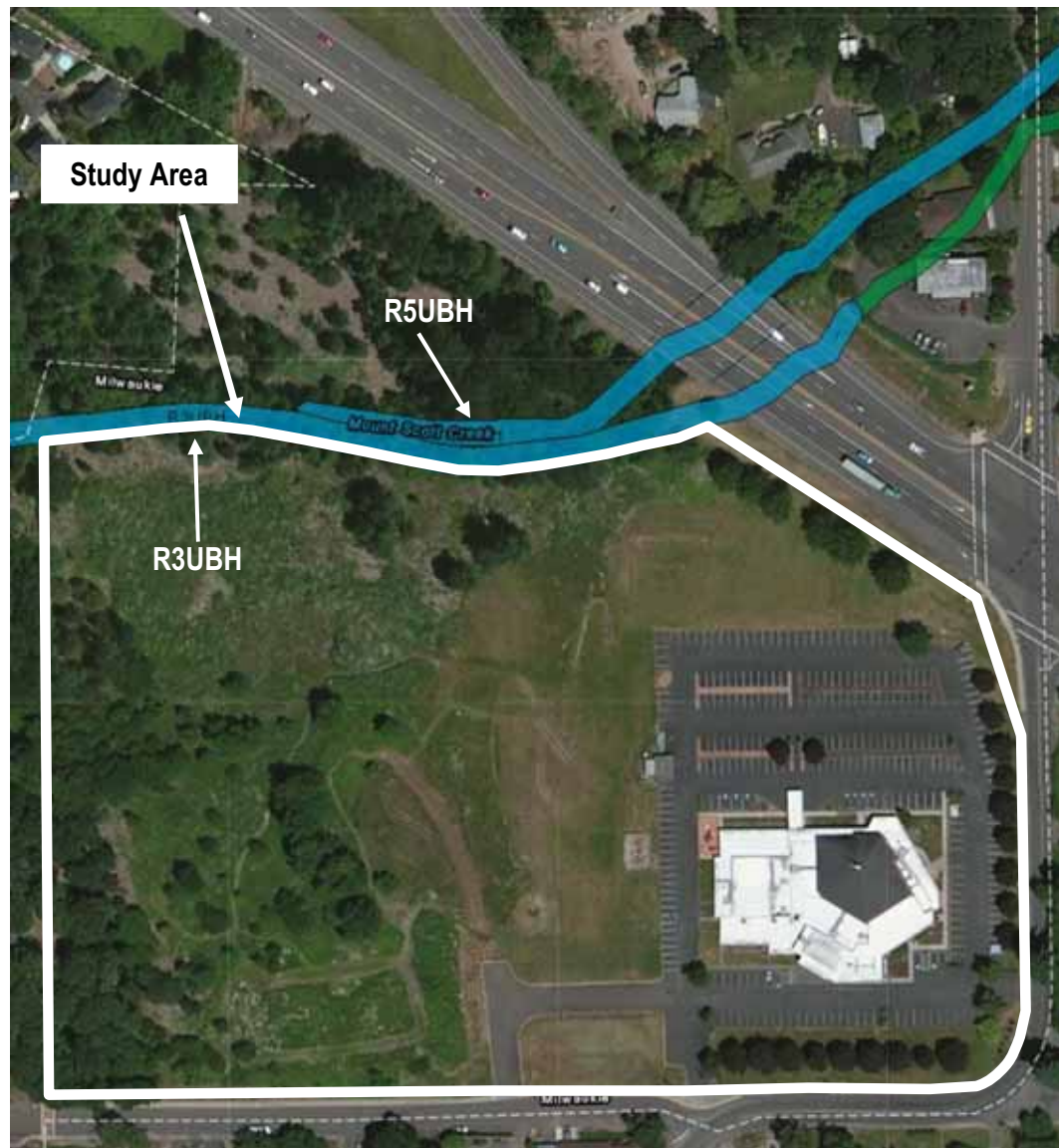
Pacific Habitat Services, Inc.
 9450 SW Commerce Circle, Suite 180
 Wilsonville, OR 97070

Tax Lot Map
 SE Kellogg Creek Drive - Milwaukie, Oregon
 The Oregon Map (ormap.net)

FIGURE

2

+



LEGEND

Wetlands

Wetlands

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

R3UBH: Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded

R5UBH: Riverine Unknown Perennial Unconsolidated Bottom Permanently Flooded

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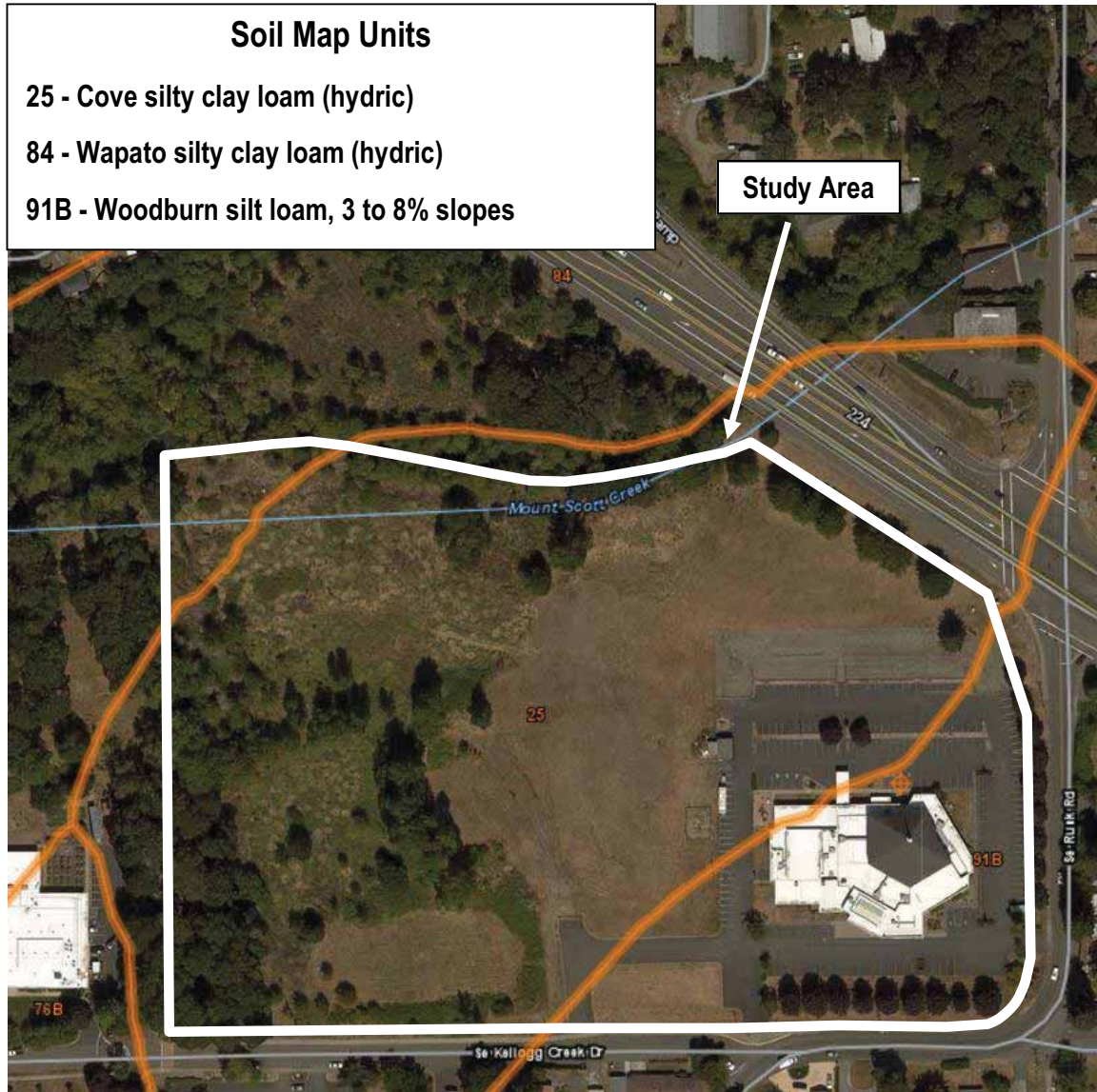
National Wetlands Inventory Map
SE Kellogg Creek Drive - Milwaukie, Oregon
U.S. Fish and Wildlife Service, Online Wetland Mapper V2, 2016

FIGURE

3

Soil Map Units

- 25 - Cove silty clay loam (hydric)
- 84 - Wapato silty clay loam (hydric)
- 91B - Woodburn silt loam, 3 to 8% slopes



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Soils Map
SE Kellogg Creek Drive - Milwaukie, Oregon
Natural Resources Conservation Services, Web Soil Survey, 2016

(websoilsurvey.sc.egov.usda.gov)

FIGURE

4



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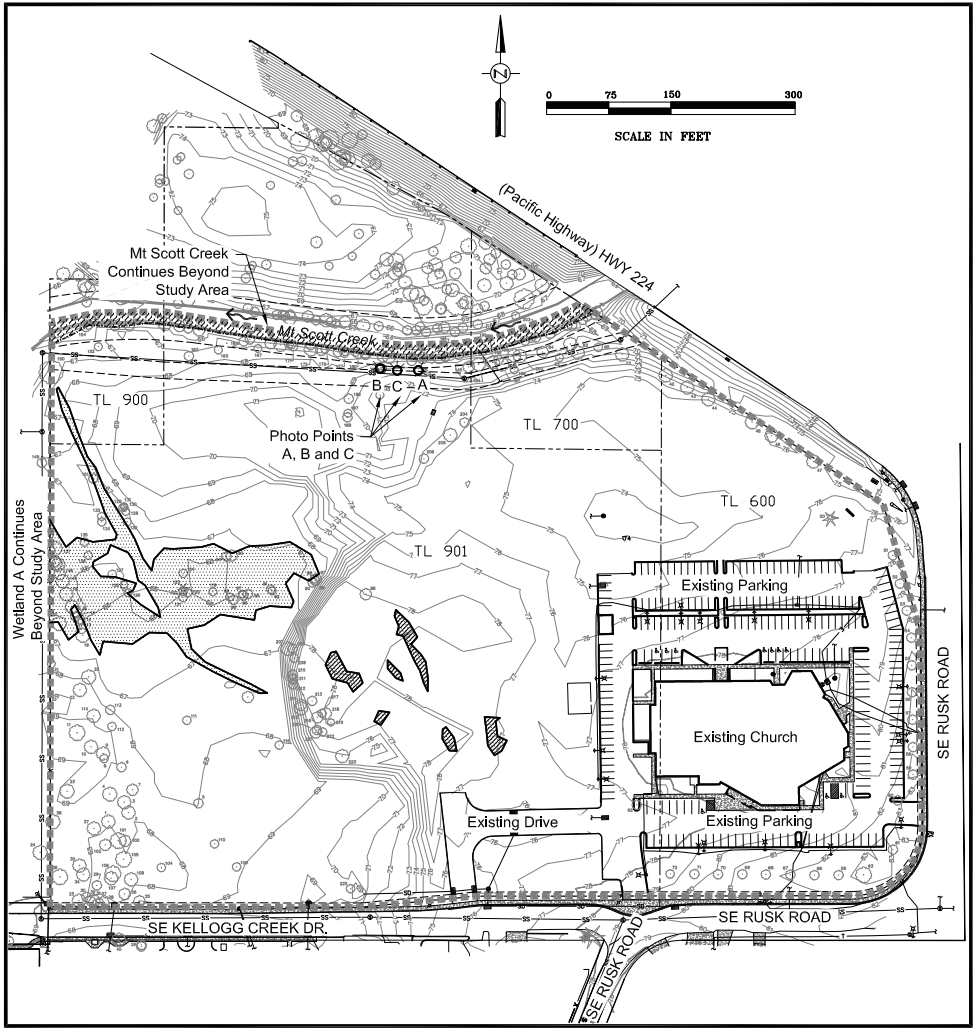


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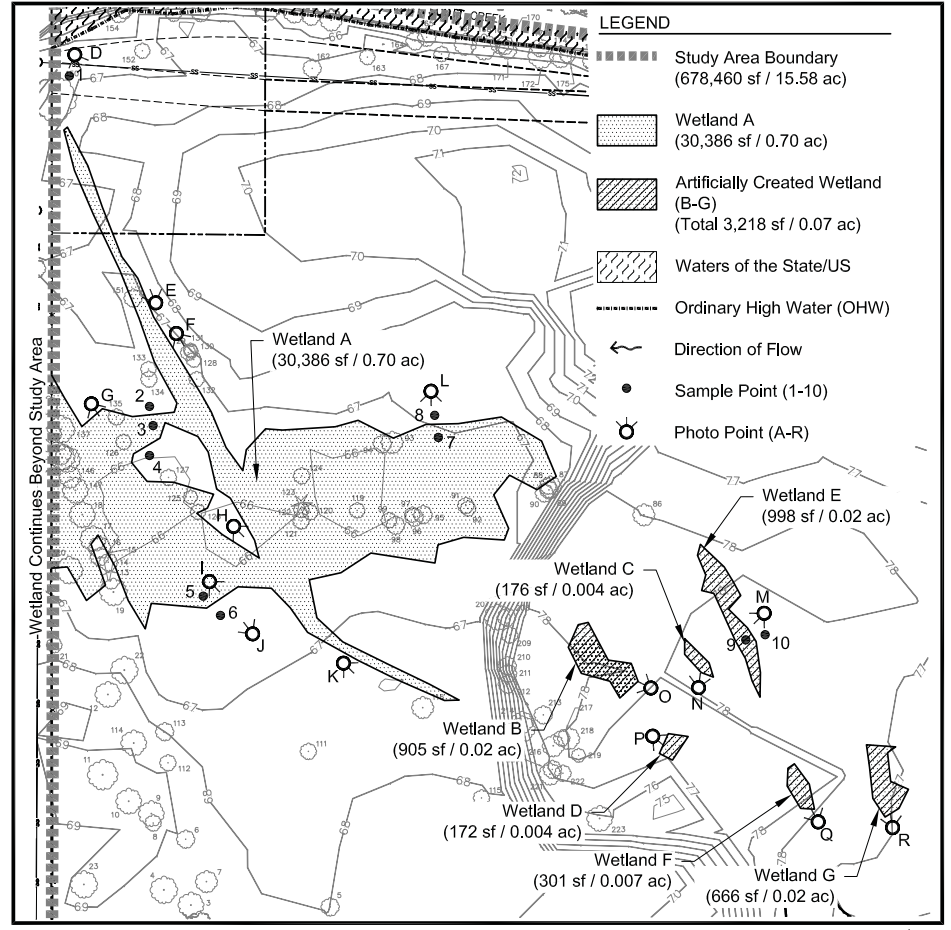
Aerial Photo
SE Kellogg Creek Drive - Milwaukie, Oregon
Google Earth, 2016

FIGURE

5



TAX LOT OVERVIEW



- LEGEND**
- Study Area Boundary (678,460 sf / 15.58 ac)
 - Wetland A (30,386 sf / 0.70 ac)
 - Artificially Created Wetland (B-G) (Total 3,218 sf / 0.07 ac)
 - Waters of the State/US
 - Ordinary High Water (OHW)
 - Direction of Flow
 - Sample Point (1-10)
 - Photo Point (A-R)

SCALE IN FEET



Survey provided by
 TerraCalc Land Surveying, Inc., 2016
 Survey accuracy is sub-centimeter and
 Sample Point accuracy is ± 3 feet.

Wetland Delineation
 SE Kellogg Creek Drive - Milwaukie, Oregon

FIGURE
 6

1-18-2017

Appendix B

Wetland Delineation Data Sheets



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

Project/Site: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 1
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRRRA Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Wapato silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks:
Floodplain adjacent to Mt. Scott Creek.

VEGETATION - Use scientific names of plants.

Tree Stratum (plot size: <u>30</u>)	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)
1 <u>Quercus garryana</u>	<u>30</u>	<u>X</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
	<u>30</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>5</u>)				Prevalence Index Worksheet: Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>
1 <u>Salix sitchensis</u>	<u>15</u>	<u>X</u>	<u>FACW</u>	
2 <u>Fraxinus latifolia</u>	<u>5</u>	<u>X</u>	<u>FACW</u>	
3 <u>Rubus armeniacus</u>	<u>5</u>	<u>X</u>	<u>FAC</u>	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
	<u>25</u>	= Total Cover		
Herb Stratum (plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 ¹ _____ 4-Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1 <u>Rumex crispus</u>	<u>5</u>	_____	<u>FAC</u>	
2 <u>Carex deweyana</u>	<u>5</u>	_____	<u>FAC</u>	
3 <u>Taraxacum officinale</u>	<u>2</u>	_____	<u>FACU</u>	
4 <u>Dipsacus fullonum</u>	<u>6</u>	_____	<u>FAC</u>	
5 <u>Geum macrophyllum</u>	<u>3</u>	_____	<u>FAC</u>	
6 <u>Agrostis stolonifera</u>	<u>15</u>	<u>X</u>	<u>FAC</u>	
7 <u>Lapsana communis</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	
8 <u>Leucanthemum vulgare</u>	<u>2</u>	_____	<u>FACU</u>	
	<u>48</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>40</u>				

Remarks:

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 ¹	Loc ²		
0-12	10YR 3/2	100					Sandy Loam	

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

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

Restrictive Layer (if present):

Type: Compacted rock/gravel/cobble

Depth (inches): 12"

Hydric Soil Present? Yes No

Remarks:

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) (Except MLRA 1, 2, 4A, and 4B)	<input checked="" type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			

Field Observations:

Surface Water Present? Yes No Depth (inches):

Water Table Present? Yes No Depth (inches): > 12

Saturation Present? Yes No Depth (inches): > 12
(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: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 2
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRRRA Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Cove silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)
1	<u>10</u>	<u>X</u>	<u>FACW</u>	
2				
3				
4				
	<u>10</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: _____)				
1	<u>5</u>	<u>X</u>	<u>FACW</u>	
2	<u>1</u>		<u>(FAC)</u>	
3	<u>5</u>	<u>X</u>	<u>FAC</u>	
4				
5				
	<u>11</u>	= Total Cover		
Herb Stratum (plot size: _____)				Prevalence Index Worksheet: Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>
1	<u>70</u>	<u>X</u>	<u>FACW</u>	
2	<u>15</u>		<u>FAC</u>	
3	<u>2</u>		<u>FAC</u>	
4	<u>1</u>		<u>FACU</u>	
5	<u>1</u>		<u>FACW</u>	
6				
7				
8				
	<u>89</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)				
1				
2				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				
Remarks:				

Hydrophytic Vegetation Indicators:

- 1- Rapid Test for Hydrophytic Vegetation
- 2- Dominance Test is >50% X
- 3-Prevalence Index is ≤ 3.0¹
- 4-Morphological Adaptations¹ (provide supporting data in Remarks or on a separate sheet)
- 5- Wetland Non-Vascular Plants¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

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

Table with columns: Depth (Inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks. Row 1: 0-18, 10YR 3/2, 100, Silty Clay Loam.

1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

2Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils3:

Table listing hydric soil indicators (Histosol, Histic Epipedon, etc.) and problematic hydric soil indicators (2 cm Muck, Red Parent Material, etc.) with checkboxes.

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

Table listing primary and secondary wetland hydrology indicators (Surface Water, High Water Table, etc.) with checkboxes.

Field Observations:

Surface Water Present? Yes _____ No X
Water Table Present? Yes _____ No X
Saturation Present? Yes _____ No X
Depth (inches): _____

Wetland Hydrology Present?
Yes _____ No X

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

Remarks:

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

Project/Site: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 3
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRR A Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Cove silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
Tree Stratum (plot size: _____)				Number of Dominant Species	
1 <u>Fraxinus latifolia</u>	<u>5</u>	<u>X</u>	<u>FACW</u>	That are OBL, FACW, or FAC: <u>5</u> (A)	
2 _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species	
4 _____	_____	_____	_____	That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
5 _____	<u>5</u>	= Total Cover	_____	Prevalence Index Worksheet:	
Sapling/Shrub Stratum (plot size: _____)				Total % Cover of _____ Multiply by: _____	
1 <u>Fraxinus latifolia</u>	<u>15</u>	<u>X</u>	<u>FACW</u>	OBL Species _____ x 1 = <u>0</u>	
2 <u>Rubus armeniacus</u>	<u>5</u>	<u>X</u>	<u>FAC</u>	FACW species _____ x 2 = <u>0</u>	
3 _____	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
4 _____	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
5 _____	<u>20</u>	= Total Cover	_____	UPL Species _____ x 5 = <u>0</u>	
Herb Stratum (plot size: _____)				Column Totals <u>0</u> (A) <u>0</u> (B)	
1 <u>Phalaris arundinacea</u>	<u>50</u>	<u>X</u>	<u>FACW</u>	Prevalence Index =B/A = <u>#DIV/0!</u>	
2 <u>Ranunculus repens</u>	<u>30</u>	<u>X</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
3 <u>Geum macrophyllum</u>	<u>1</u>	_____	<u>FAC</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
4 _____	_____	_____	_____	<u>X</u> 2- Dominance Test is >50%	
5 _____	_____	_____	_____	_____ 3-Prevalence Index is ≤ 3.0 ¹	
6 _____	_____	_____	_____	_____ 4-Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)	
7 _____	_____	_____	_____	_____ 5- Wetland Non-Vascular Plants ¹	
8 _____	<u>81</u>	= Total Cover	_____	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
Woody Vine Stratum (plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 _____	_____	_____	_____	Hydrophytic Vegetation Present?	
2 _____	<u>0</u>	= Total Cover	_____	Yes <u>X</u> No _____	
% Bare Ground in Herb Stratum _____					

Remarks:

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

Table with columns: Depth (Inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks. Rows include 0-8 and 8-18 inch depths with soil characteristics like 10YR 3/1, 100, Silty Clay Loam, 10YR 2/1, 98, 10YR 4/4, 2, C, M, Clay.

1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

2Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils3:

Table listing hydric soil indicators such as Histosol (A1), Sandy Redox (S5), 2 cm Muck (A10), etc. Includes a checkmark (X) for Redox Dark Surface (F6).

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

Table listing wetland hydrology indicators such as Surface Water (A1), High Water Table (A2), Saturation (A3), Water Marks (B1), Sediment Deposits (B2), etc.

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes X No _____ Depth (inches): 8
Saturation Present? Yes X No _____ Depth (inches): 10

Wetland Hydrology Present? Yes X 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: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 4
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRRRA Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Cove silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>43%</u> (A/B)
1 <u>Fraxinus latifolia</u>	<u>3</u>		<u>FACW</u>	
2 _____				
3 _____				
4 _____				
	<u>3</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>5</u>)				
1 <u>Fraxinus latifolia</u>	<u>3</u>		<u>FACW</u>	
2 <u>Rubus armeniacus</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
3 <u>Crataegus monogyna</u>	<u>10</u>	<u>X</u>	<u>FAC</u>	
4 <u>Rubus laciniatus</u>	<u>15</u>	<u>X</u>	<u>FACU</u>	
5 _____				
	<u>48</u>	= Total Cover		
Herb Stratum (plot size: <u>5</u>)				Prevalence Index Worksheet: Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>
1 <u>Geum macrophyllum</u>	<u>5</u>	<u>X</u>	<u>FAC</u>	
2 <u>Lapsana communis</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	
3 <u>Polystichum munitum</u>	<u>5</u>	<u>X</u>	<u>FACU</u>	
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
	<u>20</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)				
1 <u>Rubus ursinus</u>	<u>60</u>	<u>X</u>	<u>FACU</u>	
2 <u>Solanum dulcamara</u>	<u>5</u>		<u>FAC</u>	
	<u>65</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				
Remarks:				

- Hydrophytic Vegetation Indicators:**
- _____ 1- Rapid Test for Hydrophytic Vegetation
 - _____ 2- Dominance Test is >50%
 - _____ 3-Prevalence Index is ≤ 3.0¹
 - _____ 4-Morphological Adaptations¹ (provide supporting data in Remarks or on a separate sheet)
 - _____ 5- Wetland Non-Vascular Plants¹
 - _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

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

Table with columns: Depth (Inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks. Row 1: 0-16, 10YR 3/2, 100, Sandy Loam.

1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

2Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils3:

- Hydric Soil Indicators: Histosol (A1), Histic Epipedon (A2), Black Histic (A3), Hydrogen Sulfide (A4), Depleted Below Dark Surface (A11), Thick Dark Surface (A12), Sandy Mucky Mineral (S1), Sandy Gleyed Matrix (S4), Sandy Redox (S5), Stripped Matrix (S6), Loamy Mucky Mineral (F1), Loamy Gleyed Matrix (F2), Depleted Matrix (F3), Redox Dark Surface (F6), Depleted Dark Surface (F7), Redox Depressions (F8), 2 cm Muck (A10), Red Parent Material (TF2), Very Shallow Dark Surface (TF12), Other (explain in Remarks).

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

- Primary Indicators: Surface Water (A1), High Water Table (A2), Saturation (A3), Water Marks (B1), Sediment Deposits (B2), Drift Deposits (B3), Algal Mat or Crust (B4), Iron Deposits (B5), Surface Soil Cracks (B6), Inundation Visible on Aerial Imagery (B7), Sparsely Vegetated Concave Surface (B8), Water stained Leaves (B9), Salt Crust (B11), Aquatic Invertebrates (B13), Hydrogen Sulfide Odor (C1), Oxidized Rhizospheres along Living Roots (C3), Presence of Reduced Iron (C4), Recent Iron Reduction in Plowed Soils (C6), Stunted or Stressed Plants (D1), Other (Explain in Remarks).
Secondary Indicators: Water stained Leaves (B9), 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), Frost-Heave Hummocks (D7).

Field Observations:

Surface Water Present? Yes _____ No X
Water Table Present? Yes _____ No X
Saturation Present? Yes _____ No X
Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 5
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRR A Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Cove silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: _____)				Dominance Test worksheet: 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>60</u>	<u>X</u>	<u>FACW</u>	
2				
3				
4				
	<u>60</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: _____)				
1	<u>5</u>	<u>X</u>	<u>FACW</u>	
2	<u>1</u>		<u>FACW</u>	
3	<u>1</u>		<u>FACU</u>	
4				
5				
	<u>7</u>	= Total Cover		
Herb Stratum (plot size: _____)				Prevalence Index Worksheet: Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>
1	<u>30</u>	<u>X</u>	<u>FAC</u>	
2	<u>2</u>		<u>FAC</u>	
3	<u>1</u>		<u>FAC</u>	
4	<u>1</u>		<u>FAC</u>	
5	<u>1</u>		<u>FACU</u>	
6				
7				
8				
	<u>35</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)				
1				
2				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				
Remarks:				

- Hydrophytic Vegetation Indicators:**
- _____ 1- Rapid Test for Hydrophytic Vegetation
 - X 2- Dominance Test is >50%
 - _____ 3-Prevalence Index is ≤ 3.0¹
 - _____ 4-Morphological Adaptations¹ (provide supporting data in Remarks or on a separate sheet)
 - _____ 5- Wetland Non-Vascular Plants¹
 - _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

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

Table with columns: Depth (Inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks. Rows include 1-6, 6-8, and 8-18 inch depths with corresponding soil characteristics like 10YR 3/1, 10YR 2/1, 10YR 4/4, and textures like Silty Clay Loam and Clay.

1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

2Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils3:

Table listing hydric soil indicators such as Histosol (A1), Sandy Redox (S5), and Redox Dark Surface (F6). Includes checkboxes and a note: 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

Table listing wetland hydrology indicators such as Surface Water (A1), High Water Table (A2), Saturation (A3), Water Marks (B1), Sediment Deposits (B2), Drift Deposits (B3), Algal Mat or Crust (B4), Iron Deposits (B5), Surface Soil Cracks (B6), Inundation Visible on Aerial Imagery (B7), Sparsely Vegetated Concave Surface (B8), Water stained Leaves (B9), Salt Crust (B11), Aquatic Invertebrates (B13), Hydrogen Sulfide Odor (C1), Oxidized Rhizospheres along Living Roots (C3), Presence of Reduced Iron (C4), Recent Iron Reduction in Plowed Soils (C6), Stunted or Stressed Plants (D1), Other (Explain in Remarks), Water stained Leaves (B9), 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), Frost-Heave Hummocks (D7).

Field Observations:

Surface Water Present? Yes No X Depth (inches):
Water Table Present? Yes X No Depth (inches): 4
Saturation Present? Yes X No Depth (inches): 9

Wetland Hydrology Present? Yes X 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: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 6
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRRRA Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Cove silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

Tree Stratum (plot size: <u>30</u>)	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Fraxinus latifolia</u>	<u>50</u>	<u>X</u>	<u>FACW</u>	
2 _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)
4 _____	_____	_____	_____	Prevalence Index Worksheet:
5 _____	<u>50</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>5</u>)				OBL Species _____ x 1 = <u>0</u>
1 <u>Fraxinus latifolia</u>	<u>20</u>	<u>X</u>	<u>FACW</u>	FACW species _____ x 2 = <u>0</u>
2 <u>Symphoricarpos albus</u>	<u>5</u>	_____	<u>FACU</u>	FAC Species _____ x 3 = <u>0</u>
3 <u>Crataegus monogyna</u>	<u>15</u>	<u>X</u>	<u>FAC</u>	FACU Species _____ x 4 = <u>0</u>
4 <u>Rubus armeniacus</u>	<u>2</u>	_____	<u>FAC</u>	UPL Species _____ x 5 = <u>0</u>
5 _____	_____	_____	_____	Column Totals <u>0</u> (A) <u>0</u> (B)
Herb Stratum (plot size: <u>5</u>)				Prevalence Index = B/A = <u>#DIV/0!</u>
1 <u>Carex deweyana</u>	<u>70</u>	<u>X</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 ¹ _____ 4-Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2 <u>Prunella vulgaris</u>	<u>3</u>	_____	<u>FACU</u>	
3 <u>Polystichum munitum</u>	<u>3</u>	_____	<u>FACU</u>	
4 <u>Vicia tetrasperma</u>	<u>5</u>	_____	<u>(NOL)</u>	
5 <u>Ranunculus repens</u>	<u>10</u>	_____	<u>FAC</u>	
6 <u>Dipsacus fullonum</u>	<u>3</u>	_____	<u>FAC</u>	
7 <u>Agrostis stolonifera</u>	<u>10</u>	_____	<u>FAC</u>	
8 <u>Equisetum arvense</u>	<u>1</u>	_____	<u>FAC</u>	
Woody Vine Stratum (plot size: _____)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
% Bare Ground in Herb Stratum _____				
Remarks:				

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 ¹	Loc ²		
0-10	10YR 3/2	100					Sandy Loam	
6-16	10YR 3/2	60					Sandy Clay Loam	
	10YR 3/1	20					Sandy Clay Loam	
	10YR 4/3	20					Sandy Clay Loam	

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: _____

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) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): > 16

Saturation Present? Yes _____ No X Depth (inches): > 16
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks: _____

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

Project/Site: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 7
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRR A Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Cove silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: _____

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: _____)				Dominance Test worksheet: 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>10</u>	<u>X</u>	<u>FAC</u>	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
	<u>10</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: _____)				
1	<u>15</u>	<u>X</u>	<u>FAC</u>	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
	<u>15</u>	= Total Cover		
Herb Stratum (plot size: _____)				Prevalence Index Worksheet: Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>
1	<u>100</u>	<u>X</u>	<u>FACW</u>	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
6	_____	_____	_____	
7	_____	_____	_____	
8	_____	_____	_____	
	<u>100</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				

Hydrophytic Vegetation Indicators:

- 1- Rapid Test for Hydrophytic Vegetation
- 2- Dominance Test is >50% X
- 3-Prevalence Index is ≤ 3.0¹
- 4-Morphological Adaptations¹ (provide supporting data in Remarks or on a separate sheet)
- 5- Wetland Non-Vascular Plants¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: _____

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

Table with columns: Depth (Inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks. Rows include 0-4, 4-7, and 7-18 inch depths with soil characteristics like Silty Clay Loam and Clay.

1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

2Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils3:

Table listing hydric soil indicators such as Histosol (A1), Sandy Redox (S5), and indicators for problematic hydric soils like 2 cm Muck (A10) and Red Parent Material (TF2).

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

Table listing primary indicators (Surface Water, High Water Table, Saturation, etc.) and secondary indicators (Water stained Leaves, Drainage Patterns, etc.) with checkboxes.

Field Observations:

Surface Water Present? Yes X No
Water Table Present? Yes X No
Saturation Present? Yes X No

Wetland Hydrology Present? Yes X No

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

Remarks:

Small ponded area in ~5% of plot

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

Project/Site: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 8
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): Fill Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRR A Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Cove silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: _____)				Dominance Test worksheet: 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	_____	_____	_____	
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: _____)				Prevalence Index Worksheet: Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
	<u>0</u>	= Total Cover		
Herb Stratum (plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ 1- Rapid Test for Hydrophytic Vegetation _____ 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 ¹ _____ 4-Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1	<u>20</u>	<u>X</u>	<u>FACW</u>	
2	<u>25</u>	<u>X</u>	<u>FACU</u>	
3	<u>10</u>	_____	<u>FAC</u>	
4	<u>5</u>	_____	<u>FAC</u>	
5	<u>10</u>	_____	<u>FACU</u>	
6	<u>5</u>	_____	<u>FAC</u>	
7	<u>15</u>	<u>X</u>	<u>FACU</u>	
8	<u>10</u>	_____	<u>FACU</u>	
	<u>105</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				
Remarks: Herb Stratum also contains: Agrostis capillaris (FAC) 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 ¹	Loc ²		
0-4	10YR 3/3	100					Sandy Loam	
4-8	10YR 4/4	60					Sandy Loam	
	10YR 3/2	40					Sandy Loam	
8-16	10YR 3/1	100					Sandy Loam	

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

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

<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No <u>X</u></p>
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Remarks:
0-16" - a jumble of mixed disturbed fill, rocks and gravel throughout

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) (Except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Fac-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____</p> <p>Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>> 16</u></p> <p>Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>> 16</u> <small>(includes capillary fringe)</small></p>	<p>Wetland Hydrology Present?</p> <p>Yes _____ No <u>X</u></p>
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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: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 9
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRRRA Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Cove silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	
Tree Stratum (plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
	<u>0</u>	= Total Cover		
Herb Stratum (plot size: _____)				
1	<u>25</u>	<u>X</u>	<u>FACW</u>	
2	<u>40</u>	<u>X</u>	<u>FAC</u>	
3	<u>10</u>	_____	<u>FACW</u>	
4	<u>10</u>	_____	<u>FACU</u>	
5	<u>5</u>	_____	<u>FACU</u>	
6	_____	_____	_____	
7	_____	_____	_____	
8	_____	_____	_____	
	<u>90</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				
Prevalence Index Worksheet: Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) _____ <u>0</u> (B) Prevalence Index =B/A = <u>#DIV/0!</u>				
Hydrophytic Vegetation Indicators: _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 ¹ _____ 4-Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks:				

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

Table with columns: Depth (Inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks. Rows include 0-6 and 6-14 depth intervals.

1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

2Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils3:

Table listing hydric soil indicators (Histosol, Histic Epipedon, etc.) and problematic hydric soil indicators (2 cm Muck, Red Parent Material, etc.) with checkboxes.

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

Table listing primary and secondary wetland hydrology indicators (Surface Water, High Water Table, Saturation, etc.) with checkboxes.

Field Observations:

Surface Water Present? Yes X No
Water Table Present? Yes X No
Saturation Present? Yes X No

Wetland Hydrology Present? Yes X 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: SE Kellogg Creek Drive City/County: Milwaukie/Clackamas Sampling Date: 11/21/2016
 Applicant/Owner: Brownstone Development, Inc. State: OR Sampling Point: 10
 Investigator(s): Caroline R./Craig T. Section, Township, Range: Section 6AD, T 2S, R 2E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): LRR A Lat: 45.427379 Long: -122.603487 Datum: WGS 84
 Soil Map Unit Name: Cove silty clay loam NWI Classification: None
 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? (Y/N) Y
 Are vegetation _____ Soil _____ or Hydrology _____ naturally problematic? If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
Tree Stratum (plot size: _____)				Number of Dominant Species	
1 _____	_____	_____	_____	That are OBL, FACW, or FAC: <u>2</u> (A)	
2 _____	_____	_____	_____	Total Number of Dominant	
3 _____	_____	_____	_____	Species Across All Strata: <u>4</u> (B)	
4 _____	_____	_____	_____	Percent of Dominant Species	
	<u>0</u>	= Total Cover		That are OBL, FACW, or FAC: <u>50%</u> (A/B)	
Sapling/Shrub Stratum (plot size: _____)				Prevalence Index Worksheet:	
1 _____	_____	_____	_____	Total % Cover of _____ Multiply by: _____	
2 _____	_____	_____	_____	OBL Species _____ x 1 = <u>0</u>	
3 _____	_____	_____	_____	FACW species _____ x 2 = <u>0</u>	
4 _____	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
5 _____	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
	<u>0</u>	= Total Cover		UPL Species _____ x 5 = <u>0</u>	
Herb Stratum (plot size: <u>5</u>)				Column Totals <u>0</u> (A) <u>0</u> (B)	
1 <u>Daucus carota</u>	<u>25</u>	<u>X</u>	<u>FACU</u>	Prevalence Index =B/A = <u>#DIV/0!</u>	
2 <u>Chenopodium leptophyllum</u>	<u>20</u>	<u>X</u>	<u>FACU</u>		
3 <u>Agrostis capillaris</u>	<u>20</u>	<u>X</u>	<u>FAC</u>		
4 <u>Hypochaeris radicata</u>	<u>15</u>		<u>FACU</u>		
5 <u>Holcus lanatus</u>	<u>10</u>		<u>FAC</u>		
6 <u>Bromus sp.</u>	<u>20</u>	<u>X</u>	<u>(FAC)</u>		
7 <u>Parentucellia viscosa</u>	<u>10</u>		<u>FAC</u>		
8 <u>Plantago lanceolata</u>	<u>15</u>		<u>FACU</u>		
	<u>160</u>	= Total Cover			
Woody Vine Stratum (plot size: _____)				Hydrophytic Vegetation Indicators:	
1 _____	_____	_____	_____	_____ 1- Rapid Test for Hydrophytic Vegetation	
2 _____	_____	_____	_____	_____ 2- Dominance Test is >50%	
	<u>0</u>	= Total Cover		_____ 3-Prevalence Index is ≤ 3.0 ¹	
% Bare Ground in Herb Stratum _____				_____ 4-Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)	
Remarks:				_____ 5- Wetland Non-Vascular Plants ¹	
Herb Stratum also contains: Poa sp. (FAC) 10%, Rumex crispus (FAC) 5%, Cirsium arvense (FAC) 5%, Schedonorus arundinaceus, FAC 5%				_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	

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

Table with columns: Depth (Inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks. Rows include 0-3, 3-16 depths with matrix and texture descriptions like 'Sandy Loam'.

1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

2Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils3:

Table listing various soil indicators such as Histosol (A1), Sandy Redox (S5), 2 cm Muck (A10), etc., with checkboxes for presence.

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

0-16 - jumble of mixed/disturbed fill

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

Table listing primary and secondary hydrology indicators such as Surface Water (A1), Water stained Leaves (B9), etc., with checkboxes.

Field Observations:

Surface Water Present? Yes _____ No X
Water Table Present? Yes _____ No X
Saturation Present? Yes _____ No X
(includes capillary fringe)

Wetland Hydrology Present?
Yes _____ No X

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

Remarks:

Appendix C

Site Photos





Photo A

Looking east along south bank of Mt. Scott Creek

Photo B

Looking west along south bank of Mt. Scott Creek



#5975
11/22/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
SE Kellogg Creek Drive, Milwaukie, Oregon
Both photos taken on October 18, 2016

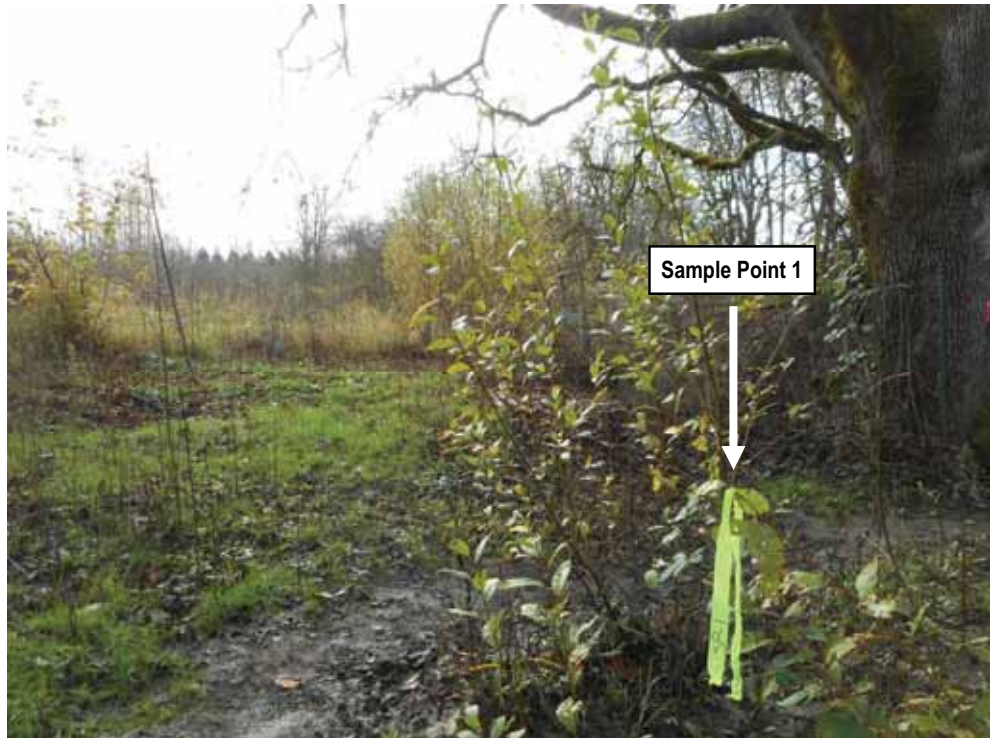


Photo C

Looking north across
Mt. Scott Creek

Photo D

Looking southeast toward
Wetland A



Sample Point 1

#57975
711/22/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
SE Kellogg Creek Drive, Milwaukie, Oregon
Photo C taken on October 18, 2016, Photo D taken on November 21, 2016



Photo E

Looking northwest
toward north end of
Wetland A

Photo F

Looking southeast toward center
of Wetland A



#5975
11/22/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
SE Kellogg Creek Drive, Milwaukie, Oregon
Both photos taken on November 17, 2016

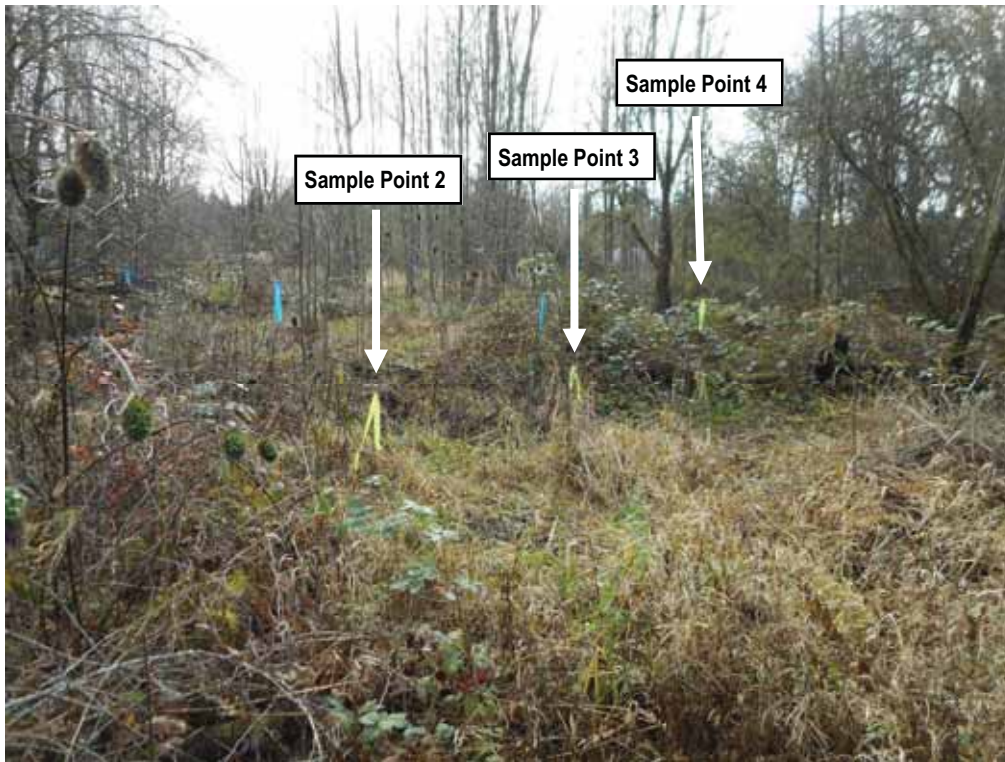


Photo G

Looking southeast toward upland island (Sample Point 4) and center of Wetland A

Photo H

Looking southeast toward southern portion of Wetland A from south end of upland island



#5975
11/22/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
SE Kellogg Creek Drive, Milwaukie, Oregon
Both photos taken on November 21, 2016

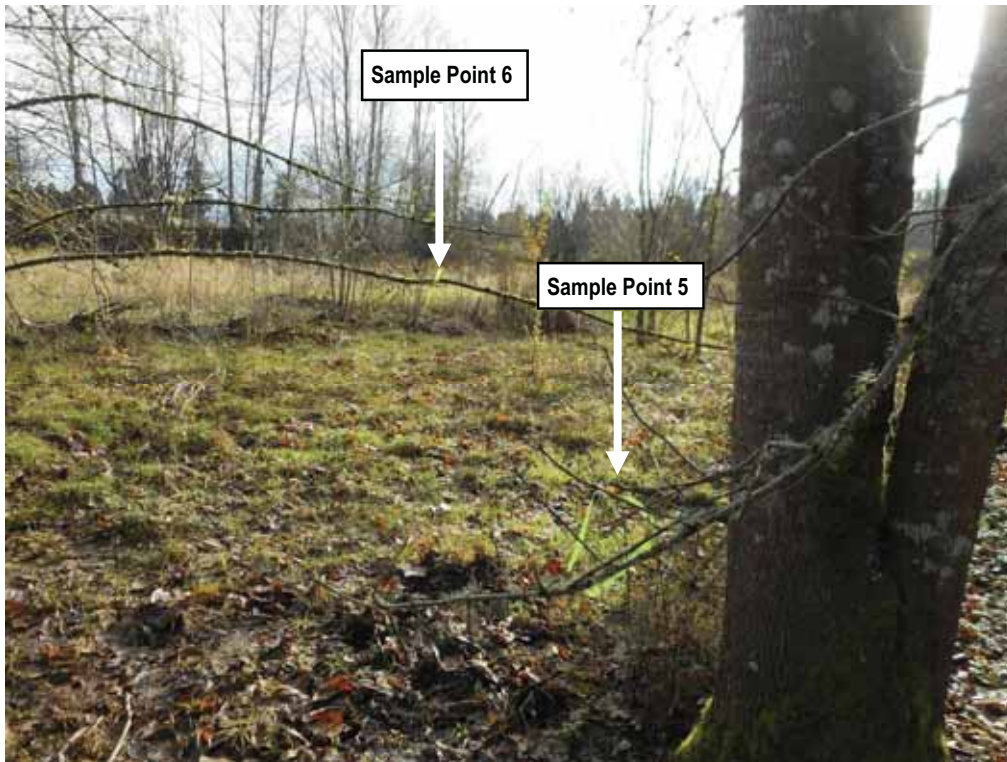
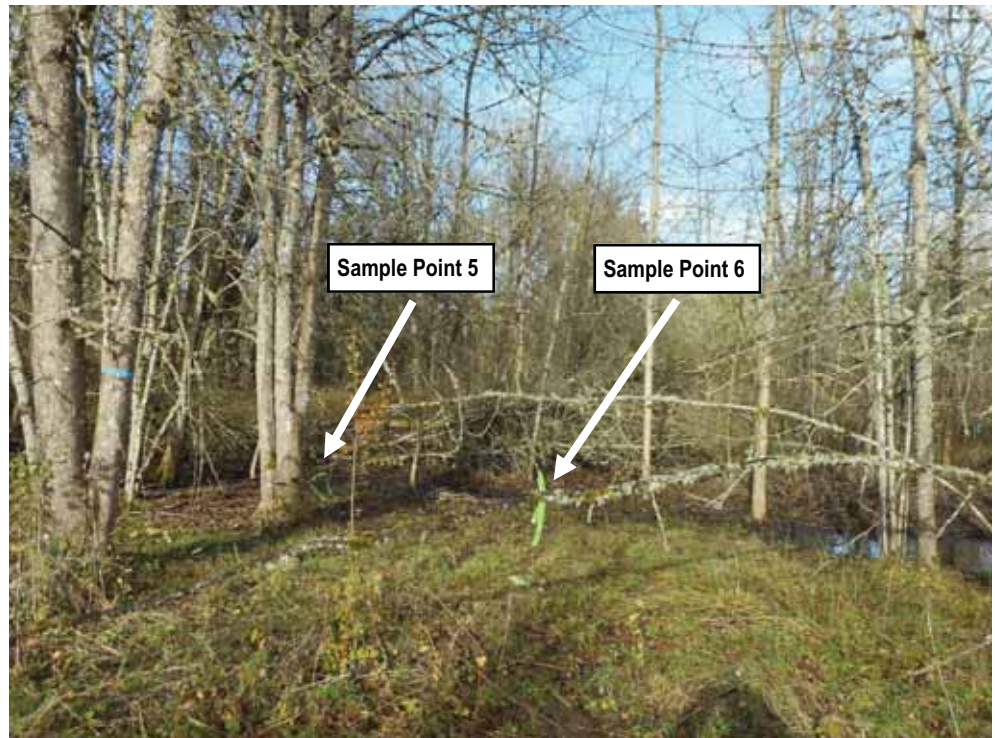


Photo I

Looking southeast toward southern boundary of Wetland A

Photo J

Looking toward the northwest portion of Wetland A from its southern boundary.



#5975
11/22/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
SE Kellogg Creek Drive, Milwaukie, Oregon
Both photos taken on November 21, 2016

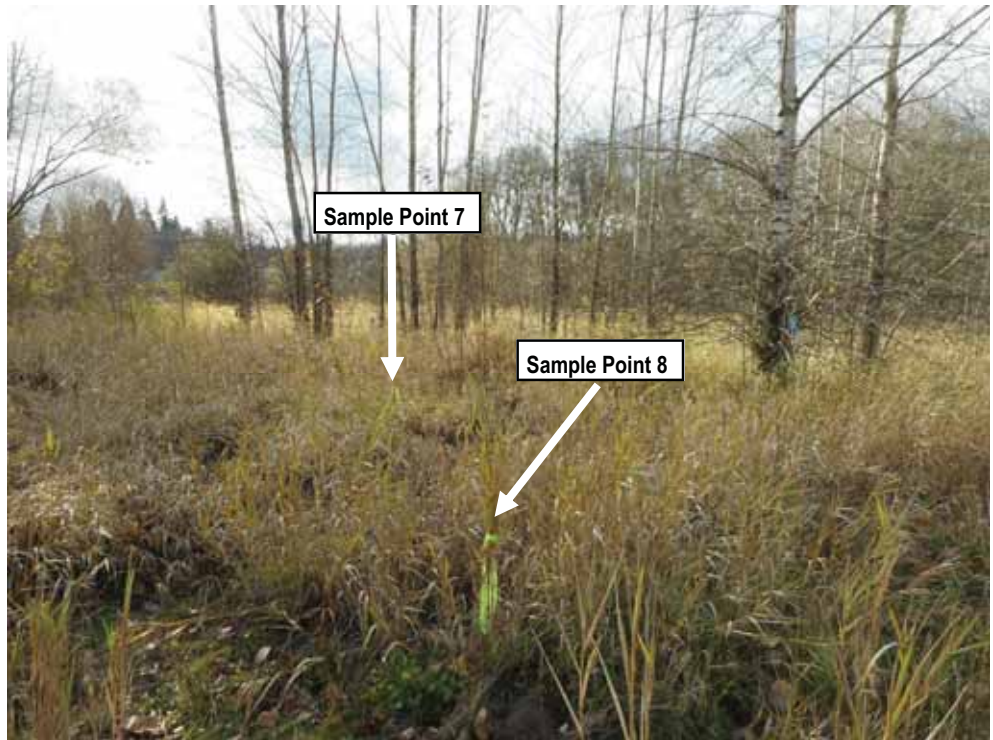


Photo K

Looking southeast at
south end of Wetland A

Photo L

Looking south at eastern portion
of Wetland A



#5975
11/22/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
SE Kellogg Creek Drive, Milwaukie, Oregon
Both photos taken on November 21, 2016

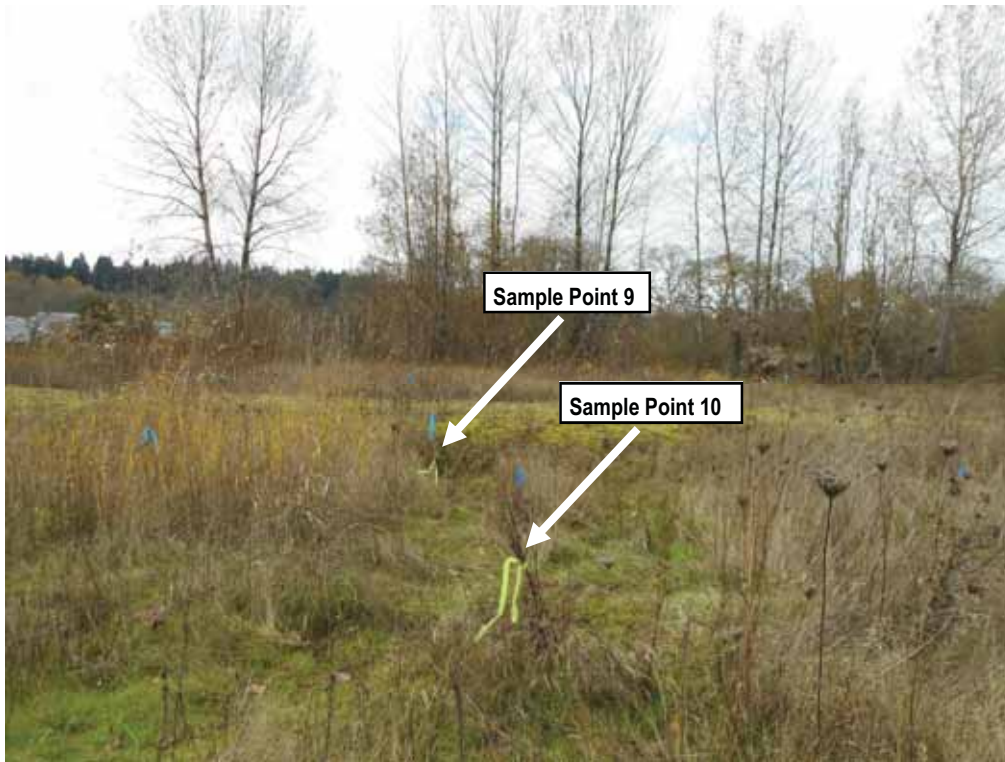


Photo M

Looking southwest
across Wetland E

Photo N

Looking north at Wetland C



#5975
11/22/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
SE Kellogg Creek Drive, Milwaukie, Oregon
Both photos taken on November 21, 2016



Photo O

Looking northwest at
Wetland B

Photo P

Looking southeast at Wetland D



#5975
11/22/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
SE Kellogg Creek Drive, Milwaukie, Oregon
Both photos taken on November 21, 2016



Photo Q

Looking northwest at
Wetland F

Photo R

Looking north at Wetland G



#5975
11/22/2016



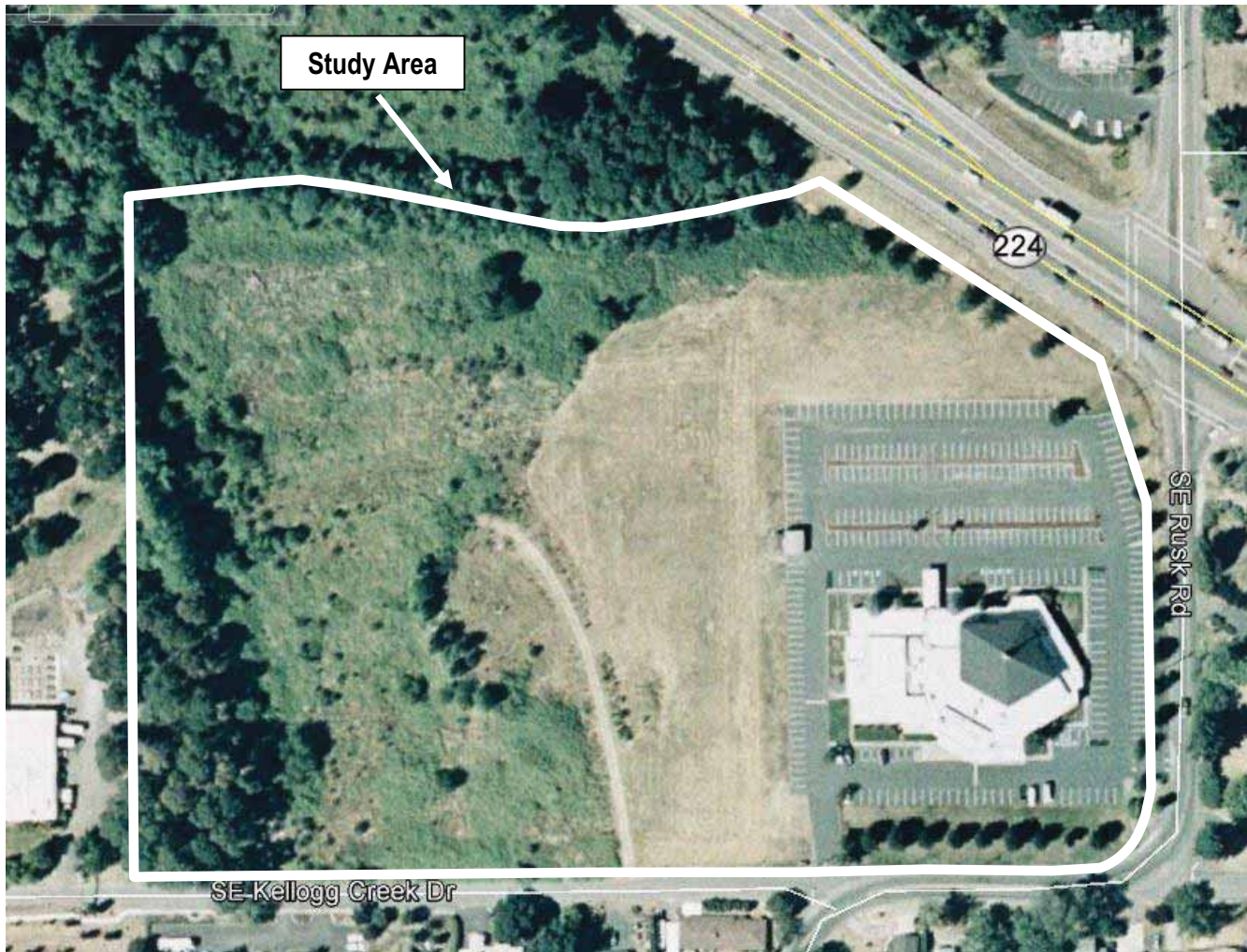
Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photodocumentation
SE Kellogg Creek Drive, Milwaukie, Oregon
Both photos taken on November 21, 2016

Appendix D

Historic Aerial Photographs



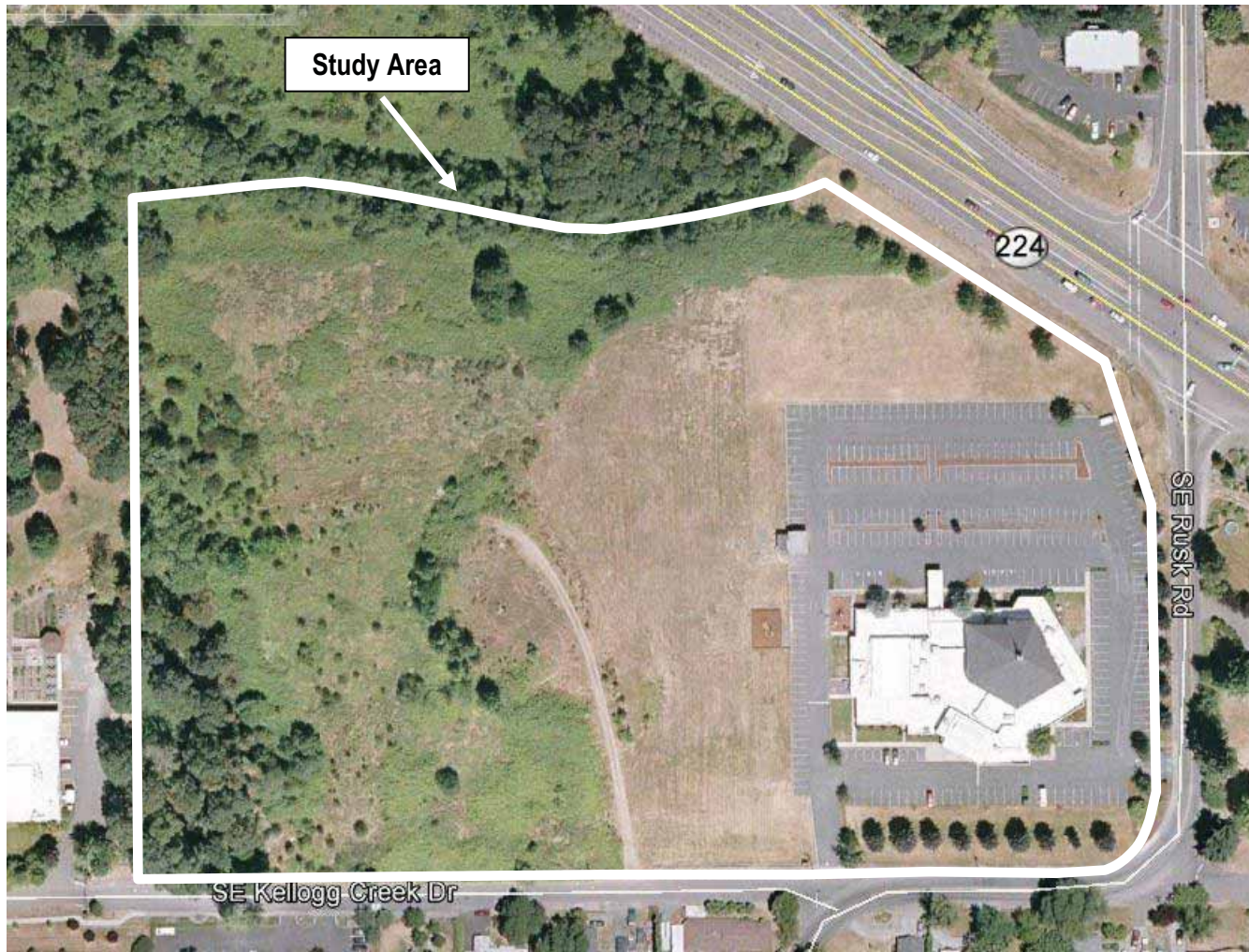


5975
12/21/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Historic Aerial Photo
SE Kellogg Creek Drive, Milwaukie, Oregon
Google Earth, August 14, 2002

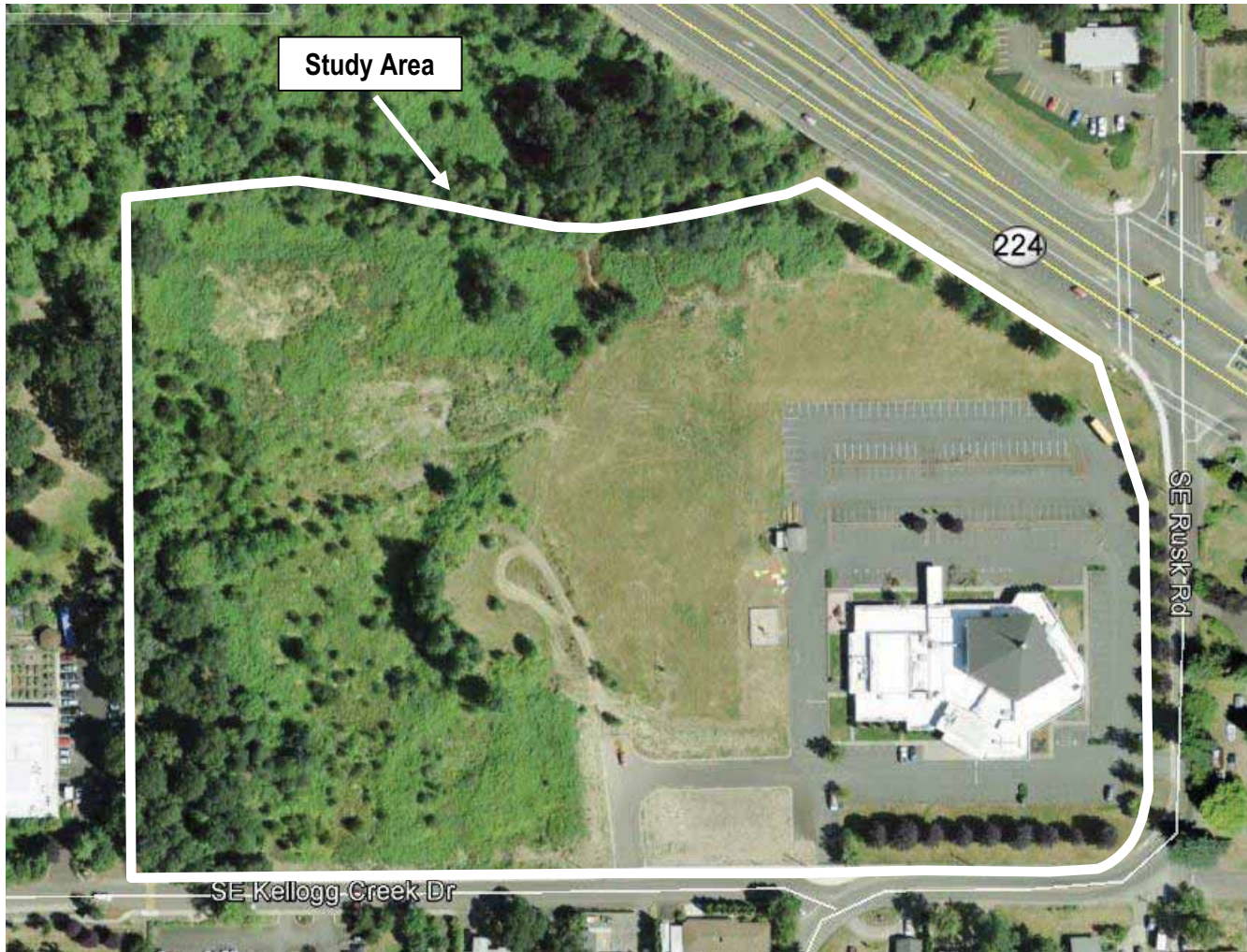


5975
12/21/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Historic Aerial Photo
SE Kellogg Creek Drive, Milwaukie, Oregon
Google Earth, July 2003

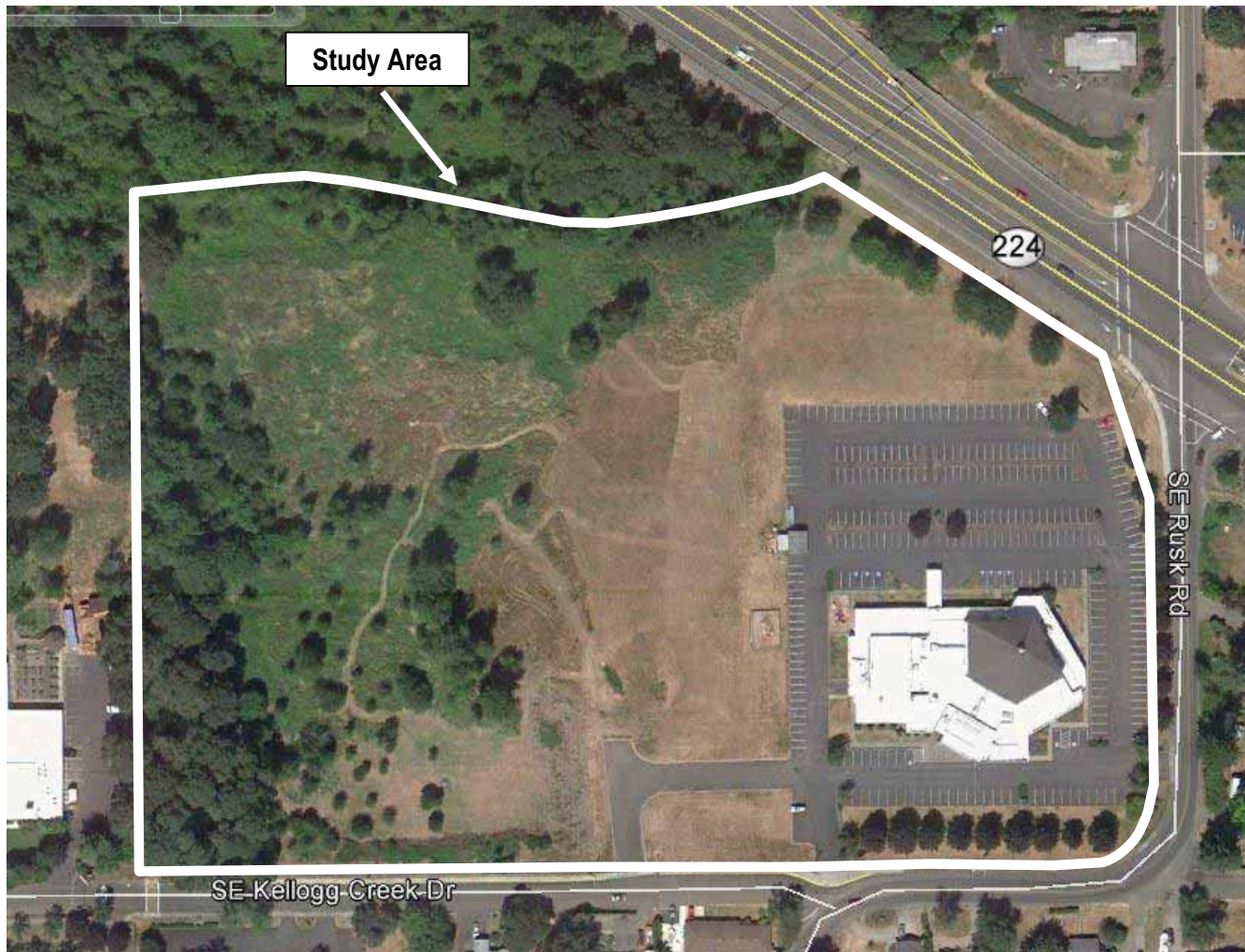


5975
12/21/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Historic Aerial Photo
SE Kellogg Creek Drive, Milwaukie, Oregon
Google Earth, July 2007



5975
12/21/2016



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Historic Aerial Photo
SE Kellogg Creek Drive, Milwaukie, Oregon
Google Earth, August 2010

Appendix E

Geotechnical Evaluation Report



Appendix F

Wetland Definitions, Methodology, and References



WATERS OF THE STATE AND WETLAND DEFINITION AND CRITERIA

Regulatory Jurisdiction

Wetlands and water resources in Oregon are regulated by the Oregon Department of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (COE) through Section 404 of the Clean Water Act.

The primary source document for wetland delineations within Oregon is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987) which is recognized by both DSL and COE.

Waters of the State and Wetland Definition

Waters of the State are defined as “natural waterways including all tidal and nontidal bays, intermittent streams, constantly flowing streams, lakes, wetlands and other bodies of water in this state, navigable and nonnavigable...”. “Natural waterways” is further defined as waterways created naturally by geological and hydrological processes, waterways that would be natural but for human-caused disturbances (e.g. channelized or culverted streams, impounded waters, partially drained wetlands or ponds created in wetlands)...”(DSL, 2001).

Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (DSL, 2001).

Wetland Criteria

Based on the above definition, three major factors characterize a wetland: hydrology, substrate, and biota.

Wetland Hydrology

Wetland hydrology is related to duration of saturation, frequency of saturation, and critical depth of saturation. The 1987 manual defines wetland hydrology as inundation or saturation within a major portion of the root zone (usually above 12 inches), typically for at least 12.5% of the growing season. The wetland hydrology criterion can be met, however, if saturation within the major portion of the root zone is present for only 5% of the growing season, depending on other evidence.

The growing season is defined as the portion of the year when soil temperatures at 19.7 inches below the soil surface are higher than biological zero (41 degrees Fahrenheit, 5 degrees Celsius), but also allows approximation from frost free days, based on air temperature. The growing season for any given site or location is determined from US Natural Resources Conservation Service, (formerly Soil Conservation Service) data and information.

Wetland hydrologic indicators include the following: visual observation of inundation or saturation, watermarks, drift lines, sediment deposits, drainage pattern, and/or oxidized rhizospheres with living roots. Oxidized rhizospheres are defined as yellowish-red zones around the roots and rhizomes of some plants that grow in frequently saturated soils.

Wetland Substrate (Soils)

Most wetlands are characterized by hydric soils. Hydric soils are those that are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions. Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma. The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include: organic content of greater than 50% by volume, sulfidic material or “rotten egg” odor, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soils usually have a matrix chroma of 2 or less in mottled soils, or a matrix chroma of 1 or less in unmottled soils.

Wetland Biota (Vegetation)

Wetland biota is defined as hydrophytic vegetation. A hydrophyte is a plant species that is capable of growing in substrates that are periodically deficient in oxygen as a result of saturated soil conditions. The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands*, has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status", are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL). Table 1 gives a definition of the plant indicator codes.

Table 1. Description of Wetland Plant Indicator Status Codes

Indicator Code	Status
OBL	Obligate wetland. Estimated to occur almost exclusively in wetlands (>99%)
FACW	Facultative wetland. Estimated to occur 67-99% of the time in wetlands.
FAC	Facultative. Occur equally in wetlands and non-wetlands (34-66%).
FACU	Facultative upland. Usually occur in non-wetlands (67-99%).
UPL	Obligate upland. Estimated to occur almost exclusively in non-wetlands (>99%). If a species is not assigned to one of the four groups described above it is assumed to be obligate upland.
NI	Has not yet received a wetland indicator status, but is probably not obligate upland.

Observations of hydrology, soils, and vegetation, were made using the "Routine On-site" delineation method as defined in the 1987 manual for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated to 16 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual percent-

cover estimate of the dominant species of the plant community was performed using soil pit locations as a center of reference. Dominant plant species are based on estimates of percent cover for herbaceous, woody vine, and shrub species within a 5 foot radius of the sample point, and basal area cover for tree species within a 30 foot radius of the sample point. Plant species in each vegetative layer, which are estimated at less than 20%, are not considered to be dominant. The wetland indicator status is then used to determine if there is an overall dominance (greater than 50%) of wetland or upland plant species.

During data collection, the soil profiles were examined for hydric soil and wetland hydrology field indicators. Plant species and cover were recorded. Data was recorded on standard data sheets which contain the information specified in the 1987 Corps manual.