Wetland Delineation Tax Lot 4100 Cannon Beach, Oregon

(Township 5N, Range 10W, Section 30DA, Tax Lot 4100, Clatsop County)

Prepared for

Patrick/Dave, LLC Attn: Patrick Gemma 2575 38th Avenue West Seattle, WA 98199

Prepared by

Caroline Rim Shawn Eisner John van Staveren, SPWS **Pacific Habitat Services, Inc.** 9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070 (503) 570-0800 (503) 570-0855 FAX

PHS Project Number: 6978

March 19, 2021



TABLE OF CONTENTS

| IN | TRODUCTION | 1 |
|----|--|----|
| RF | CSULTS AND DISCUSSION | .1 |
| A. | Landscape Setting and Land Use | .1 |
| | Site Alterations | |
| C. | Precipitation Data and Analysis | 1 |
| D. | Methods | 2 |
| E. | Description of All Wetlands | 2 |
| F. | Deviation from Local Wetland Inventory | 3 |
| | Mapping Method | |

| III. | REFERENCES | .4 |
|------|------------|----|
|------|------------|----|

| APPENDIX A: | Figures |
|---|--|
| Figure 1: | Vicinity Map (USGS) |
| Figure 2: | Tax Lot Map |
| Figure 3: | Wetland Inventory Map (Local) |
| Figure 4: | Soil Survey Map |
| Figure 5: | Aerial Photo - 2020 |
| Figure 6: | Wetland Delineation Map |
| APPENDIX B: APPENDIX C: APPENDIX D: | Wetland Delineation Data Sheets Site Photos (ground level) Wetland Definitions and Methodology (Client only) |

I.

II.

I. INTRODUCTION

Pacific Habitat Services, Inc. (PHS) identified and delineated the limits of wetland on Tax Lot 4100, which is located southwest of the intersection of Forest Lawn Drive and South Hemlock Street in the western portion of Cannon Beach, Oregon (Township 5 North, Range 10 West, Section 30DA, Clatsop County). This report describes the results of PHS's wetland delineation fieldwork at the site. Figures, including a map depicting the location of wetland, are in Appendix A. Data sheets documenting existing conditions are provided in Appendix B. Ground-level photos of the study area are included in Appendix C. A discussion of the wetland delineation methodology (for the client) is provided in Appendix D.

II. RESULTS AND DISCUSSION

A. Landscape Setting and Land Use

The subject site is an undeveloped 1.10-acre property located within a residential area of west Cannon Beach. Forest Lawn Drive borders the western edge of the site and South Hemlock Street is located along the eastern edge of the property. These two roads intersect at the northeastern corner of the property. A house is located offsite and adjacent to the southwestern edge of the property, and a mowed lawn borders the southeastern edge. Site topography gradually slopes downward from the southwestern corner of the property to the northern portion of the site. The southern half of the site includes a mature stand of Sitka spruce and red alder, whereas the northern half of the property primarily consists of a scrub-shrub plant community.

B. Site Alterations

As noted above, the parcel is undeveloped. PHS did not note any recent alterations at the time of the wetland delineation fieldwork.

C. Precipitation Data and Analysis

PHS conducted the wetland delineation fieldwork and collected data to document the presence/absence of jurisdictional wetlands on the site on December 9, 2020. Table 1 compares the average monthly precipitation to the observed monthly precipitation as recorded at the Seaside, Oregon WETS station, in the months prior to the fieldwork. This table also compares the observed precipitation to the average precipitation range as identified in the NRCS WETS table for the Seaside, Oregon WETS station.

| Table 1. | Comparison of average and observed monthly precipitation at the Seaside, Oregon WETS |
|----------|--|
| | station prior to the December 2020 wetland delineation fieldwork. |

| | | 30% Chanc | e Will Have | | |
|-----------|---------------------------------------|-----------------------------------|-----------------------------------|--|----------------------|
| Month | Average Precipitation ¹ | Less Than Average ¹ | More Than Average ¹ | Observed Precipitation ² | Percent of Normal |
| September | 2.84 | 1.03 | 3.43 | 4.39 | 155 |
| October | 6.07 | 3.37 | 7.40 | 6.33 | 104 |
| November | 11.32 | 8.25 | 13.33 | 9.19 | 81 |

¹ NRCS WETS Table for the Seaside, Oregon WETS Station source: <u>http://agacis.rcc-acis.org/?fips=41007</u>

² Observed precipitation source: <u>http://agacis.rcc-acis.org/?fips=41007</u>

As shown in Table 1, observed precipitation was above average and above the normal range for September. In October, the observed precipitation was slightly above average and on the higher end of the normal range. Observed precipitation in November was slightly below average and closer to the lower end of the normal range. Total observed precipitation for the water-year (October 1, 2019 through September 30, 2020) was 70.92 inches, which is approximately 94 percent of normal for this same period (75.30 inches). Consistent with the high and near normal amounts of precipitation in the months preceding the wetland delineation fieldwork, precipitation for the water-year was also near normal.

D. Methods

PHS identified jurisdictional wetland within the subject site 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 conducted the wetland delineation fieldwork and collected data to document the presence/absence of jurisdictional wetland on the site on December 9, 2020. PHS dug and examined soil pits throughout the study area, and based on the investigation, determined that there is one wetland present within the property.

E. Description of All Wetlands

PHS identified one wetland primarily located within the northern half of the site, which also extended into the southwestern and southeastern portions of the property. A description of the wetland is provided below.

Wetland A

Wetland A (29,618 sf / 0.68 ac) occurs within topographically low-lying areas in the northern half of the site, and as a mosaic wetland adjacent to slightly higher portions of the property in the southern half of the site. In a couple of areas along the eastern edge of the site, the wetland extends beyond the eastern property boundary and continues along South Hemlock Street. The Cowardin classification of the wetland is palustrine scrub-shrub (PSS) in the northern half of the site, and a mosaic of PSS and palustrine emergent (PEM) wetland in the southwestern and southeastern portions of the site; the hydrogeomorphic (HGM) classification is Slope.

Sample Points 1, 4 and 5 characterize the wetland plant community within Wetland A. The canopy layer includes Sitka spruce (*Picea sitchensis*, FAC) and red alder (*Alnus rubra*, FAC). The shrub understory and groundcover include Hooker's willow (*Salix hookeriana*, FACW), four-line honeysuckle (*Lonicera involucrata*, FAC), Himalayan blackberry (*Rubus armeniacus*, FAC), tall false rye grass (*Schedonorus arundinaceus*, FAC), Western lady fern (*Athyrium cyclosorum*, FAC), field horsetail (*Equisetum arvense*, FAC), slough sedge (*Carex obnupta*, OBL), and water parsley (*Oenanthe sarmentosa*, OBL).

Soils within the wetland meet the criteria for the following indicators: redox dark surface, depleted matrix, and histic epipedon (muck). Soils within the wetland were generally saturated to the surface at the time of PHS's site visit. A high water table, saturation and geomorphic position provided evidence

of wetland hydrology. A seasonally high water table, precipitation and surface runoff from the adjacent surrounding areas contribute to the hydrology of this wetland.

It should be noted that other factors contributing to the hydrology of this wetland include the following:

- Stormwater runoff from the roof of a house that is located immediately to the south of the site appears to drain directly onto the site (see Photo E in Appendix C).
- A City stormwater pipe that is connected to a catch basin on the west side of Forest Lawn Drive extends beneath the road and drains stormwater onto the site. This stormwater comes from several houses along Forest Lawn Drive and the road itself. The stormwater flows into a couple of catch basins along Forest Lawn Drive, south of the site, then continues to flow to the north through a storm pipe and drains into the catch basin on the west side of the road that outfalls onto the site.
- Another City storm pipe is located at the north end of the property along South Hemlock Street. This is a 12-inch storm pipe that extends from the site, is culverted beneath the road to the east side of the street where it is connected to the City's storm system. The storm pipe has been clogged with dirt and debris, which does not allow stormwater to drain off the site, as intended, and as such, likely impounds stormwater at the northern end of the site.

Sample Points 2, 3, 6 and 7 characterize non-wetland areas adjacent to Wetland A. The plant communities in these areas include Sitka spruce, Western hemlock (*Tsuga heterophylla*, FACU), salal (*Gaultheria shallon*, FACU), Evergreen huckleberry (*Vaccinium ovatum*, FACU), English Holly (*Ilex aquifolium*, FACU), Western sword fern (*Polystichum munitum*, FACU), Northern bracken fern (*Pteridium aquilinum*, FACU), false lily-of-the-valley (*Maianthemum dilatatum*, FAC), Pacific dewberry (*Rubus ursinus*, FACU), and English ivy (*Hedera helix*, FACU). With the exception of Sample Point 3, the soils at these sample points are not hydric, and evidence of wetland hydrology was not observed at any of these sample points.

F. Deviation from Local Wetland Inventory

The Local Wetland Inventory map shows one large wetland area, with the southern portion consisting of a wetland/upland mosaic. PHS also found the southern portion of the wetland to contain a mosaic; however, the overall size of our delineated wetland is smaller than that shown in the LWI. This discrepancy, in part may be because the LWI mapping may have been limited to offsite determinations because of a lack of site access authorization, which limits "ground-truthing" to confirm interpretations derived from off-site maps and information.

G. Mapping Method

PHS flagged the wetland boundaries with blue flagging tape and sample points with lime-green flagging tape. The boundary and sample point flags were survey-located by S & F Land Services. The accuracy of the survey, sample points and tax lot boundaries is sub-centimeter.

H. Additional Information

None.

I. Results and Conclusions

PHS delineated one jurisdictional wetland (Wetland A: 29,618 sf / 0.68 ac) within Tax Lot 4100.

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

Adamus, P.R. and D. Field. 2001 Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Study areas. Willamette Valley Ecoregion, Riverine Impounding and Slopes/Flats Subclasses. Oregon Division of State Lands, Salem, OR.

GoogleEarth Map, 2020. Aerial Photo, June 2017

- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. State of Oregon 2016 Plant List. The National Wetland Plant List: 2016 Wetland Ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X http://rsgisias.crrel.usace.army.mil/nwpl static/data/DOC/lists 2016/States/pdf/OR 2016v1.pdf
- Munsell Color, 2010. *Munsell Soil Color Charts*. Grand Rapids, Michigan. 2009 Year Revised, 2010 Production.
- Natural Resources Conservation Service (NRCS) Agricultural Science Information System (AgACIS) for Clatsop County. <u>http://agacis.rcc-acis.org/?fips=41007</u>
- Natural Resources Conservation Service (NRCS) WETS Table for the Seaside, Oregon WETS Station. Source: <u>http://agacis.rcc-acis.org/?fips=41007</u>
- Oregon Department of State Lands. September 2001. *Removal-Fill Law (ORS 196.800-196.990)* and Removal and Filling in Scenic Waterways (ORS 390.805-390.925).
- ORMAP tax maps, 2020. http://www.ormap.net/
- US Army Corps of Engineers, Environmental Laboratory, 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1.
- US Army Corps of Engineers, Environmental Laboratory, 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).*
- US Department of Agriculture, Natural Resources Conservation Service, 2020. Web Soil Survey.

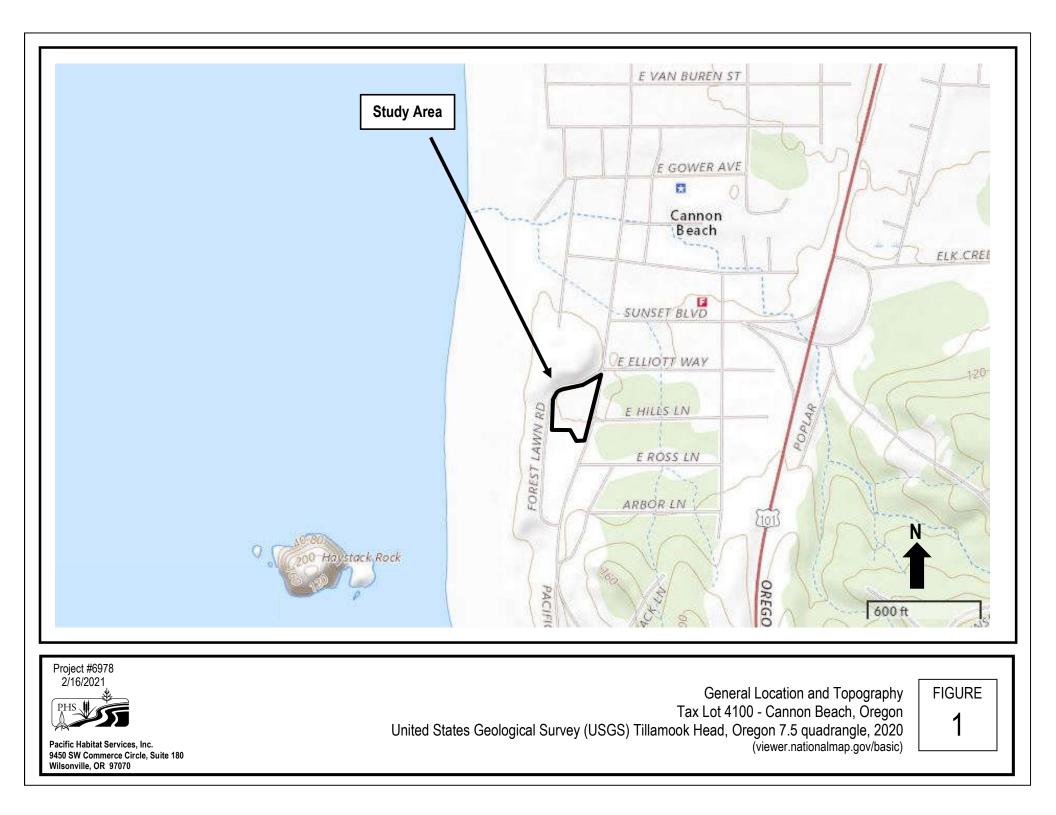
US Geological Survey, 2020. 7.5-minute topographic map, Tillamook Head, Oregon Quadrangle.

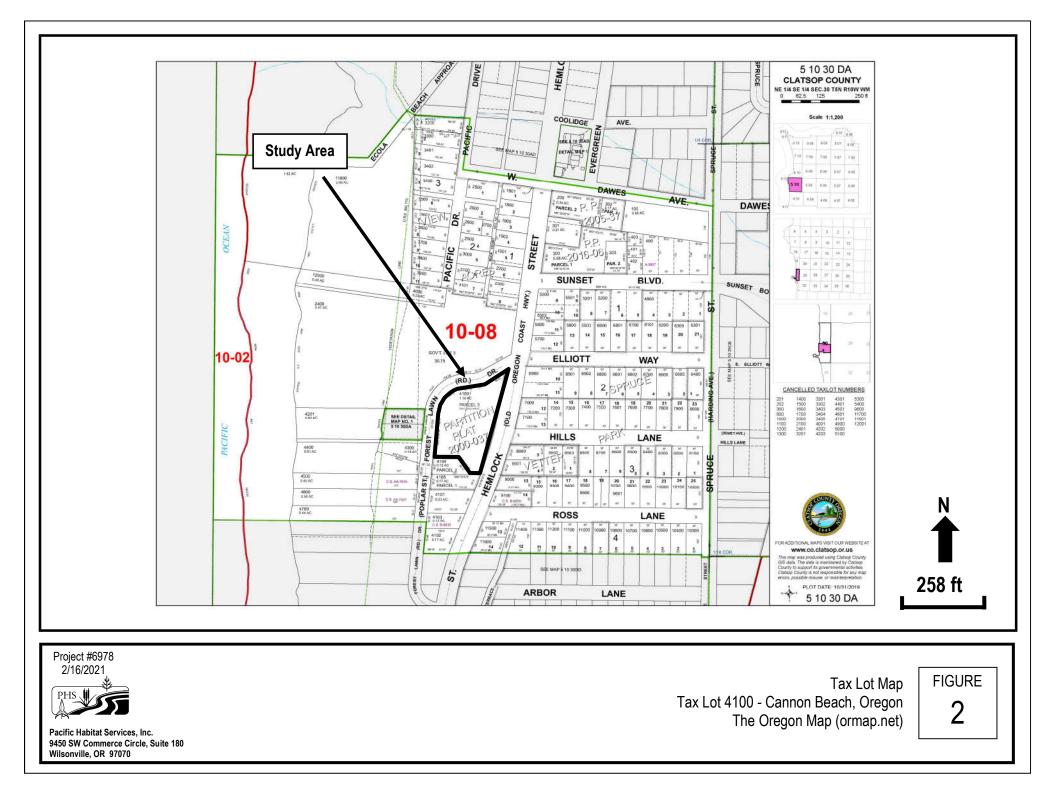
Wetland Delineation for Tax Lot 4100 in Cannon Beach, Oregon / PHS #6978 Pacific Habitat Services, Inc.

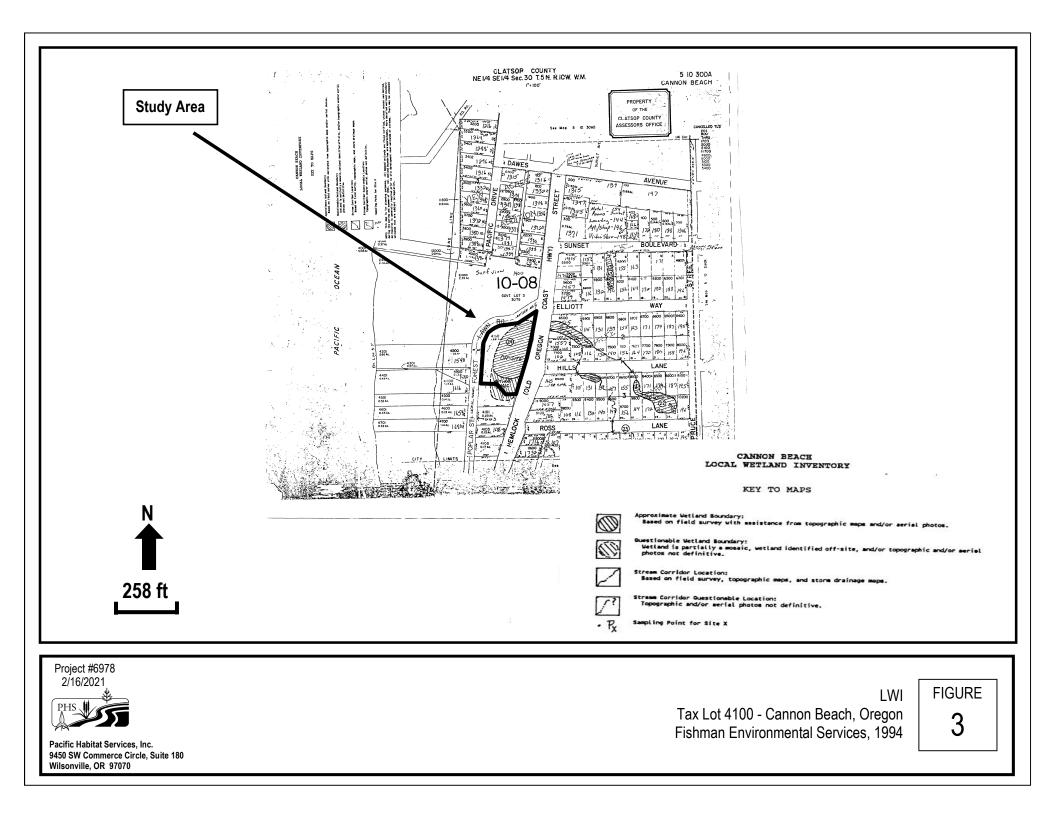
Appendix A

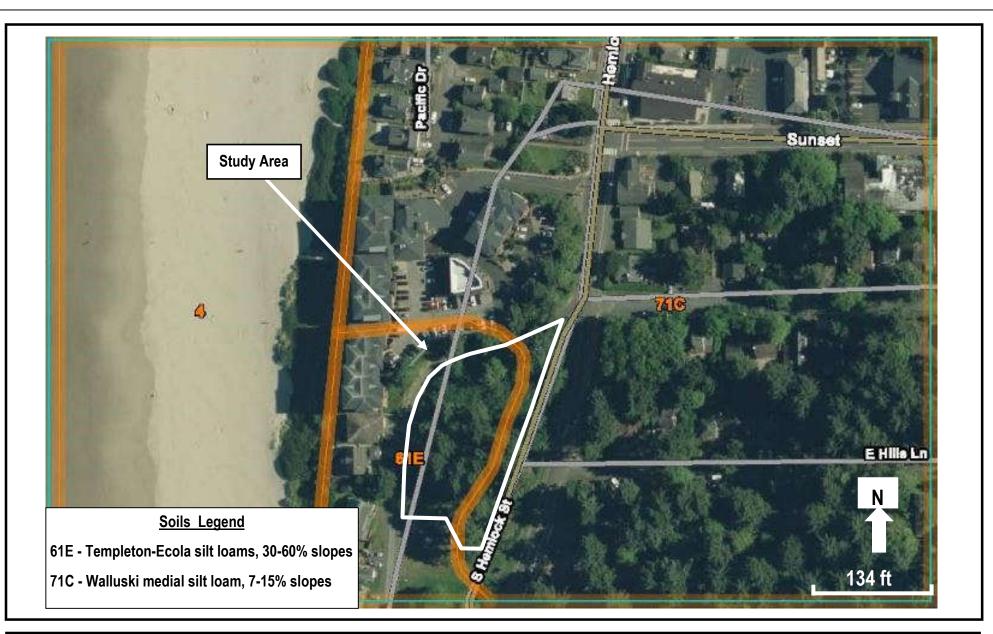
Figures









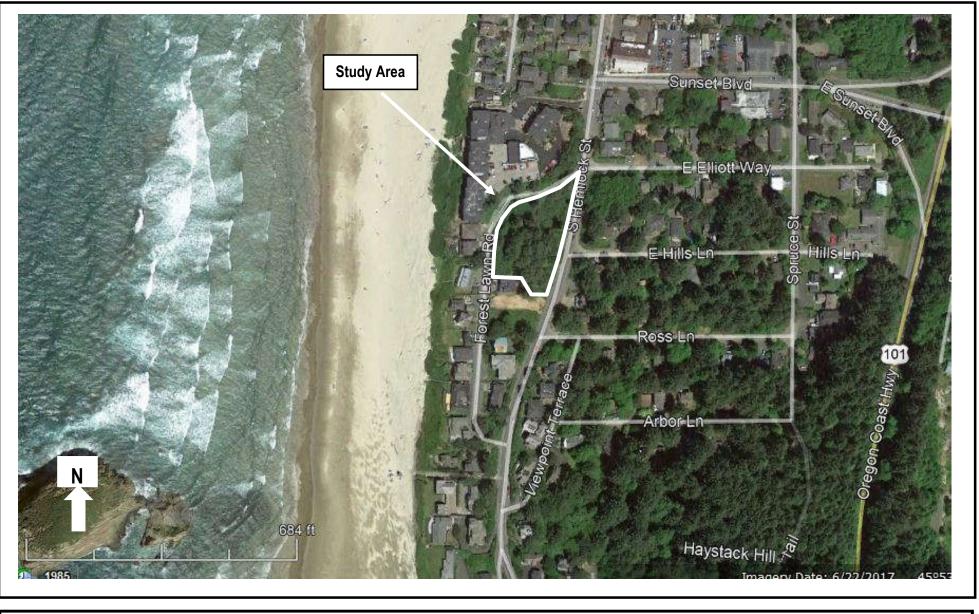


Project #6978 2/16/2021 Tax Lot 4100 - Cannon Beach, Oregon Natural Resources Conservation Services, Web Soil Survey, 2020 Pacific Habitat Services, Inc. (websoilsurvey.sc.egov.usda.gov) 9450 SW Commerce Circle, Suite 180 Wilsonville, OR 97070

FIGURE

Soils

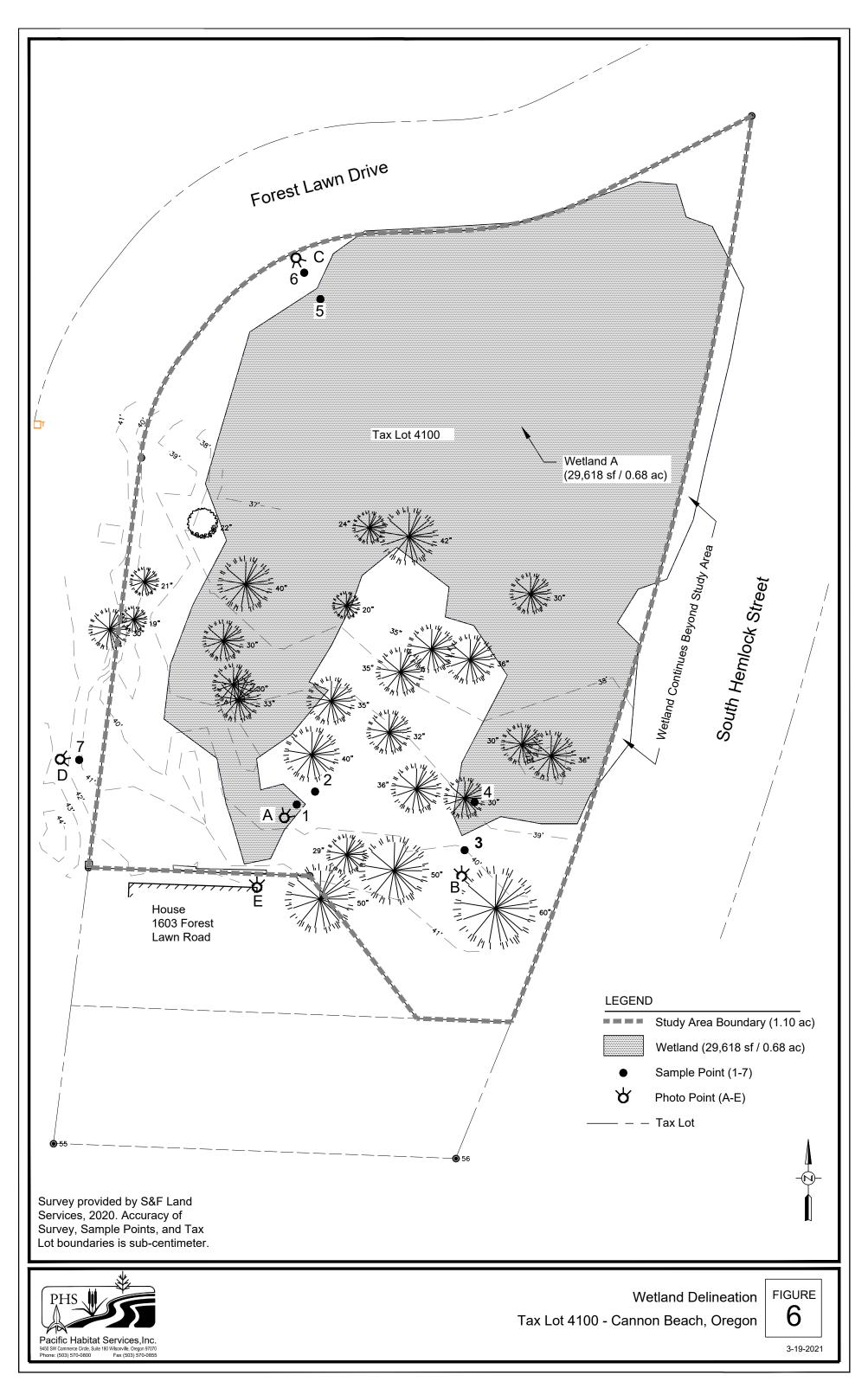
4



Project #6978 2/16/2021



Pacific Habitat Services, Inc. 9450 SW Commerce Circle, Suite 180 Wilsonville, OR 97070 Aerial Photo Tax Lot 4100 - Cannon Beach, Oregon GoogleEarth, 2020 FIGURE



Appendix B

Wetland Determination Data Sheets



| WETLANI | D DETER | RMINATIO | | RM - Weste | rn Mount | ains, Val | leys, a | nd Coast | PHS # Region | 6978 |
|---|--|---------------------|----------------------|---------------------|-----------------|------------------|--------------|------------------|----------------------------|------------|
| Project/Site: Tax | Lot 4100 | | City/County: | Cannoi | n Beach/Cla | atsop | oling Date: | - | | |
| Applicant/Owner: Patrick/D | ave, LLC | | | | | State: OR | | S | ampling Point: | 1 |
| nvestigator(s): | stigator(s): CR, SE Section, Township, Rar | | | | | Section | 30DA, To | wnship 5N | Range 10V | I |
| andform (hillslope, terrace, etc.:) | _ | Flat | _ | Local relief (cor | ncave, convex | , none): | ١ | lone | Slope (%): | 1 |
| Subregion (LRR): | LRR A | 4 | Lat: | 45.886 | 64 | Long: | -12 | 3.9631 | – Datum: | WGS84 |
| Soil Map Unit Name: | | Templeton-E | _ Ecola Silt Loar | ns | | NWI Cla | assification | | None | |
| re climatic/hydrologic conditions | on the site ty | ypical for this tim | ne of year? | Yes | Х | No | | (if no, explair | n in Remarks) | |
| Are vegetation Soil | or Hy | drology X | significantly dist | urbed? | Are "Norma | al Circumstan | ces" prese | - nt? (Y/N) | Ν | |
| Are vegetation Soil | or Hv | drology | | matic? If needed | . explain anv a | answers in Re | emarks.) | . , | | |
| · | _ · | | | | | | | | | |
| SUMMARY OF FINDINGS | 6 – Attac | h site map | showing sar | npling point | locations, | transects | s, impor | tant featur | res, etc. | |
| lydrophytic Vegetation Present? | Yes | X No | | Is Sampled Ar | ea within | | | | | |
| lydric Soil Present? | Yes | X No | | a Wetlar | | Yes | X | No | » | |
| Vetland Hydrology Present? | Yes | X No | | | | | | | | |
| Remarks: | | | | | | | | | | |
| Stormwater runoff from the | roof of a | house, locate | ed offsite imm | ediately to the | e south, cor | ntributes to | the hydi | ology of th | is area. | |
| | | | | | | | | | | |
| EGETATION - Use scient | ntific nar | | | | | | | | | |
| | | absolute % cover | Dominant Species? | Indicator Status | Dominand | ce Test woi | rksheet: | | | |
| ree Stratum (plot size: |) | // 00101 | 000000 | Olaldo | Number of E | Dominant Spe | cies | | | |
| 1 | | | | | | BL, FACW, or | | | 3 | (A) |
| 2 | | | | | | | | | | , |
| 3 | | | | | Total Numbe | er of Dominar | nt | | | |
| 4 | | | | | Species Acr | oss All Strata | : | | 4 | (B) |
| | | 0 | = Total Cover | | | | | | | |
| apling/Shrub Stratum (plot siz | :e: 15 |) | | | Percent of D | ominant Spe | cies | | | |
| 1 Lonicera involucrata | | | х | FAC | | L, FACW, or | | 7 | 5% | (A/B) |
| 2 Rubus armeniacus | | 5 | X | FAC | | | | | | . , |
| 3 | | | | | Prevalenc | e Index W | orksheet | | | |
| 4 | | | | | Total % Cov | ver of | | Multiply by: | | |
| 5 | | | | | OBL S | Species | | x 1 = | 0 | |
| | | 15 | = Total Cover | | | species | | x 2 = | 0 | |
| | _ 、 | | | | | Species | | x 3 = | 0 | |
| erb Stratum (plot size: | <u>5</u>) | | v | 540 | | Species | | x 4 = | 0 | i i |
| Schedonorus arundinac 2 Oenanthe sarmentosa | eus | 60 | <u> </u> | FAC OBL | | | 0 | x 5 = | 0 | (D) |
| 2 Oenanthe sarmentosa 3 Gaultheria shallon | | <u>10</u> 5 | | FACU | Columi | n Totals | 0 | (A) | 0 | (B) |
| 4 | | | | 1 400 | Preva | lence Index = | B/A = | #D | IV/0! | |
| 5 | | | | | Tieva | | Diri (- | | | |
| ۶ ک | | | | | Hydrophy | tic Vegetat | ion Indic | ators: | | |
| 7 | | | | | | | | | hytic Vegetatic | 'n |
| 3 | | | | | | | | nce Test is >5 | | |
| | | 75 | = Total Cover | | | | | ice Index is ≤ : | | |
| | | | | | | | 4-Morphol | ogical Adaptat | ions ¹ (provide | supporting |
| /oody Vine Stratum (plot size: | 15 |) | | | | | | | separate shee | t) |
| 1 Hedera helix | | 15 | <u>X</u> | FACU | _ | | | Non-Vascula | | |
| 2 | | | | | 1 — | | | | Vegetation ¹ (E | |
| | | 4 - | = Total Cover | | I Indicators of | ot hvdric soil a | nd wetland | I hydrology mι | ist be present, | unless |
| | | 15 | | | | - | | | | |
| | | 15 | | | | problematic. | | | | |

| SOIL | | | PHS # | 6978 | | | Sampling Point: 1 |
|---|-----------------------|------------|------------------------|--------------------------|----------------------|---------------------|---|
| Profile Descr | iption: (Describe to | the depth | needed to docume | nt the indicator or co | nfirm the absen | ce of indicators.) | |
| Depth | Matrix | | | Redox Features | . 2 | | |
| | | | Color (moist) | % Type' | Loc | | |
| | | | | | · | | |
| 4-12 | 10YR 2/1 | 100 | | | | Sandy Loam | High organics |
| | | | | | · | | · |
| | | | | | · | | |
| | | | | | · | | |
| | | | | | | | |
| | | | | | | | |
| ¹ Type: C=Con | centration, D=Depleti | on, RM=Re | educed Matrix, CS=0 | Covered or Coated Sar | nd Grains. | | ² Location: PL=Pore Lining, M=Matrix. |
| Hydric Soil | Indicators: (Appl | icable to | all LRRs, unless | s otherwise noted. | .) | Indic | ators for Problematic Hydric Soils ³ : |
| | Histosol (A1) | | | Sandy Redo | ox (S5) | | 2 cm Muck (A10) |
| | Histic Epipedon (A2) | | | Stripped Ma | atrix (S6) | | Red Parent Material (TF2) |
| | Black Histic (A3) | | | Loamy Muc | ky Mineral (F1) (e | except MLRA 1) | Very Shallow Dark Surface (TF12) |
| | Hydrogen Sulfide (A4 | 4) | | Loamy Gley | ved Matrix (F2) | | X Other (explain in Remarks) |
| | Depleted Below Dark | Surface (A | 411) | Depleted M | atrix (F3) | | |
| | Thick Dark Surface (| A12) | | Redox Dark | surface (F6) | | |
| | Sandy Mucky Minera | l (S1) | | Depleted Da | ark Surface (F7) | | |
| | Sandy Gleyed Matrix | (S4) | | Redox Depr | ressions (F8) | | problematic. |
| Restrictive | Layer (if present) | : | | | | | |
| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Marine Remotive 04 10YR 2/1 100 N Type Loc Texture Remotive 4.12 10YR 2/1 100 N Type Loc Sill Loam High organics 4.12 10YR 2/1 100 Sill Loam High organics High organics 4.12 10YR 2/1 100 Sill Loam High organics ** Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soll*. ** Texture (Hydre Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soll*. ** Helds of Unicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic (Tr2) Red Parent Marketin (Tr2) ** High organics Sitiget Matix (P) Every Mark (Minor (F1) Yory Shalow Dark Surface (TF) ** High organics Sitiget Matix (P) Every Shalow Dark Surface (TF) Tracture (Hydre Soll Marks (P) Yory Shalow Dark Sufface (TF) ** High organics Sitiget Matix (P) Every Shalow Dark Sufface (TF) Tractur | | | | | | | |
| Depth (inches | s): | | | | | Hydric Soil Pre | sent? Yes X No |
| Remarks [.] | | | | | | | |
| HYDROLC | | ·s: | | | | | |
| | | | uirod: chock all th | aat apply) | | | Secondary Indicators (2 or more required) |
| | | one req | ulled, check all tr | | ed Leaves (B9) (| Excent MI RA | |
| | | 2) | | | | | |
| | | _, | | Salt Crust (I | B11) | | Drainage Patterns (B10) |
| | | | | | | | Dry-Season Water Table (C2) |
| | Sediment Deposits (I | 32) | | Hydrogen S | Sulfide Odor (C1) | | Saturation Visible on Aerial Imagery (C9) |
| | Drift Deposits (B3) | | | Oxidized Rh | nizospheres alon | g Living Roots (C3) | Geomorphic Position (D2) |
| | Algal Mat or Crust (B | 4) | | Presence of | f Reduced Iron (C | 24) | Shallow Aquitard (D3) |
| | Iron Deposits (B5) | | | Recent Iron | Reduction in Plo | owed Soils (C6) | Fac-Neutral Test (D5) |
| | Surface Soil Cracks | (B6) | | Stunted or S | Stressed Plants (| D1) (LRR A) | Raised Ant Mounds (D6) (LRR A) |
| | Inundation Visible on | Aerial Ima | gery (B7) | Other (Expl | ain in Remarks) | | Frost-Heave Hummocks (D7) |
| | Sparsely Vegetated (| Concave Si | urface (B8) | | | | |
| Field Obser | vations: | | | | | | |
| Surface Water | Present? Yes | | No X | Depth (inches): | | | |
| Water Table F | Present? Yes | X | No | Depth (inches): | 8 | Wetland Hyd | Irology Present? |
| | | X | No | Depth (inches): | 4 | | Yes X No |
| · · | | aude, moni | toring well, aerial ph | notos, previous inspecti | ions), if available: | | |
| | | | | , | , | | |
| | | | | | | | |
| Remarks: | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| WETLAND DE | TERMINATIO | N DATA FO | RM - Weste | ern Mountains, V | alleys, an | d Coast | PHS # Region | 6978 |
|--|---------------------------|------------------------|------------------|--------------------------------------|-----------------|-----------------------------|---|---------|
| Project/Site: Tax Lot 41 | 00 | City/County: | Canno | n Beach/Clatsop | Samp | ing Date: | 12/9 | /2020 |
| pplicant/Owner: Patrick/Dave, L | LC | | | Stat | e: OR | Sa | ampling Point: | 2 |
| nvestigator(s): CR, S | SE | Section, To | wnship, Range: | Sectio | on 30DA, To | wnship 5N, | Range 10W | 1 |
| andform (hillslope, terrace, etc.:) | Flat | | Local relief (co | ncave, convex, none): | N | one | Slope (%): | 1 |
| ubregion (LRR): | RR A | Lat: | 45.88 | 64 Lon | g: -12 3 | .9631 | Datum: | WGS84 |
| oil Map Unit Name: | Templeton-l | _ Ecola Silt Loar | ns | NWI | Classification: | | None | |
| re climatic/hydrologic conditions on the | site typical for this tin | ne of year? | Yes | X | Io | (if no, explain | in Remarks) | |
| re vegetation Soil o | or Hydrology | significantly dist | turbed? | Are "Normal Circumst | ances" presen | ? (Y/N) | Y | |
| re vegetation Soil o | or Hydrology | naturally proble | matic? If needed | l, explain any answers in | Remarks.) | | | |
| | | | | | | | | |
| UMMARY OF FINDINGS – A | ttach site map | showing sar | npling point | locations, transed | cts, import | ant featur | es, etc. | |
| lydrophytic Vegetation Present? Yes | X No | | Is Sampled Ar | ea within | | | | |
| lydric Soil Present? Yes | No | X | a Wetlar | | es | No | X | |
| Vetland Hydrology Present? Yes | No | Χ | | | | | | |
| emarks: | | | | | | | | |
| | | | | | | | | |
| | | 4- | | | | | | |
| EGETATION - Use scientific | absolute | ts. Dominant | Indicator | Dominance Test w | orkshoot: | | | |
| | % cover | Species? | Status | Dominance rest w | orksneet. | | | |
| ree Stratum (plot size: 30 |) | | | Number of Dominant S | species | | | |
| Picea sitchensis | 70 | Х | FAC | That are OBL, FACW, | or FAC: | | 3 | (A) |
| 2 | | | | | | | | |
| 3 | | | | Total Number of Domin | nant | | | |
| 1 | | | | Species Across All Stra | ata: | | 5 | (B) |
| | 70 | = Total Cover | | | | | | |
| apling/Shrub Stratum (plot size: | I 5) | | | Percent of Dominant S | pecies | | | |
| Gaultheria shallon | 70 | X | FACU | That are OBL, FACW, | or FAC: | 60 | 0% | (A/B) |
| Picea sitchensis | 30 | Х | FAC | | | | | |
| 3 | | | | Prevalence Index | Worksheet: | | | |
| 1 | | | | Total % Cover of | | Multiply by: | _ | |
| | | | | OBL Species | | x 1 = | 0 | |
| | 100 | = Total Cover | | FACW species | | x 2 = | 0 | |
| erb Stratum (plot size: 5 |) | | | FAC Species FACU Species | | x 3 = x 4 = | 0 | |
| Schedonorus arundinaceus | ´ | x | FAC | UPL Species | | x 5 = | 0 | |
| 2 Pteridium aquilinum | 10 | | FACU | Column Totals | 0 | (A) | | (B) |
| Equisetum arvense | 5 | | FAC | | | () | | |
| | | | | Prevalence Index | < =B/A = | #DI | V/0! | |
| 5 | | | | | | | | |
| 3 | | | | Hydrophytic Veget | ation Indica | tors: | | |
| | | | | | 1- Rapid Te | st for Hydrop | hytic Vegetatio | n |
| 3 | | | | X | _ | ce Test is >5 | | |
| | 100 | = Total Cover | | | _ | e Index is ≤ 3 | | |
| landy Vina Ctratum (plataiza) | 15) | | | | | | ons ¹ (provide s | |
| /oody Vine Stratum (plot size: | 15 15 | x | FACU | | | arks or on a Non-Vascula | separate sheel r Plants ¹ |) |
| | 10 | | FACU | | | | r Plants Vegetation ¹ (E | volain) |
| <u> </u> | | = Total Cover | | ¹ Indicators of hydric so | | | - · | |
| | | | | | | | ~~ prosont, | |
| | 15 | | | disturbed or problemat | | | | |
| | | | | | | x | No | |

| SOIL | | | PHS # | 6978 | | | Sampling Point: | 2 |
|---|--|----------------|-----------------------|--|---------------------|--------------------|--|---------------------------|
| Profile Descr | iption: (Describe t | o the depth i | needed to docum | ent the indicator or co | nfirm the absen | ce of indicators.) | | |
| Depth | | | | Redox Features | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % Type' | Loc ² | Texture | Remark | S |
| 0-16 | 10YR 2/1 | 100 | | · · | | Silt Loam | | |
| | | | | · · | | | | |
| | | | | · · | | | | |
| | | | | | · | | | |
| | | | | | · | | | |
| | | | | | · | | | |
| | | | | · · | | | | |
| | | | | | | | | |
| ¹ Type: C=Con | centration, D=Deple | etion, RM=Re | educed Matrix, CS= | Covered or Coated Sar | nd Grains. | | ² Location: PL=Pore Lining, M | 1=Matrix. |
| Hydric Soil | Indicators: (Ap | plicable to | all LRRs, unles | s otherwise noted. |) | Indica | ators for Problematic Hyd | dric Soils ³ : |
| | Histosol (A1) | | | Sandy Redo | ox (S5) | | 2 cm Muck (A1 | 0) |
| | Histic Epipedon (A | 2) | | Stripped Ma | ıtrix (S6) | | Red Parent Ma | terial (TF2) |
| | Black Histic (A3) | | | Loamy Muc | ky Mineral (F1) (e | except MLRA 1) | Very Shallow D | ark Surface (TF12) |
| | Hydrogen Sulfide (A | A4) | | Loamy Gley | ed Matrix (F2) | | Other (explain i | n Remarks) |
| | Depleted Below Da | ark Surface (A | A11) | Depleted M | atrix (F3) | | | |
| | Thick Dark Surface | e (A12) | | Redox Dark | Surface (F6) | | | |
| | Sandy Mucky Mine | ral (S1) | | Depleted Da | ark Surface (F7) | | | |
| | Sandy Gleyed Matr | ix (S4) | | Redox Depr | essions (F8) | | | |
| Restrictive | Laver (if presen | t): | | | | | | |
| | | -,- | | | | | | |
| | | | | | | Hudric Soil Bros | ant? Van | |
| Deptit (inches | <i>.</i> | | | | | Hyunc Soli Pres | | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | to document the indicator or confirm the absence of indicators.) Redox Features r (molat) % Type ¹ Loc ² Texture Silt Loam Silt Loam Silt Loam Matrix, CS-Covered or Coated Sand Grains. Cocontent of Coated Sand Grains. Cocontent o | | | | |
| | cription: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Rodox Features Colve (moid) % Type for Texture Remarks 19YR 2/4 100 % Type for Still Loam 19YR 2/4 100 | | | | | | | |
| Wetland Hy | drology Indicate | ors: | | | | | | |
| Primary Indi | cators (minimum | of one req | uired; check all t | hat apply) | | | Secondary Indicators (2 | or more required) |
| | Surface Water (A1 |) | | | | Except MLRA | | |
| | High Water Table (| A2) | | 1, 2, 4A, an | a 4B) | | (MLRA1, 2, 4A | ., and 4B) |
| | Saturation (A3) | | | Salt Crust (I | 311) | | Drainage Patter | ms (B10) |
| | Water Marks (B1) | | | | | | | . , |
| | - | | | | . , | | | 0,000 |
| | | | | | | · · | · | |
| | - | (B4) | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histor (A1) | | | | | | | | |
| | | · · / | | | | D1) (LRR A) | | |
| | | | | Other (Expl | ain in Remarks) | | Frost-Heave Hu | immocks (D7) |
| | Sparsely Vegetated | d Concave Su | urface (B8) | | | | | |
| Field Obser | vations: | | | | | | | |
| Surface Water | Present? Yes | | No X | Depth (inches): | | | | |
| Water Table F | Present? Yes | X | No | Depth (inches): | 14 | Wetland Hyd | rology Present? | |
| Depth (inches): Mydric 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) Surface Water (A1) Water stained Leaves (B9) (Except MLRA Water stained Leaves (B9) High Water Table (A2) 1, 2, 4A, and 4B) Water stained Leaves (B9) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sufface Odor (C1) Saturation Visible on Aerial Imagery: Dirt Deposits (B3) Oxid/Lezd Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Plowed Soils (C6) Fac-Neutral Test (D5) Surface Soil Cracks (B6) Stuntet or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Sturate or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR | | | No <u>X</u> | | | | | |
| | | | | | | | | |
| Describe Reco | orded Data (stream | gauge, moni | toring well, aerial p | hotos, previous inspecti | ons), if available: | : | | |
| | | | | | | | | |
| | | | | | | | | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | | | | | | | | |

| WETLAND DETEI | RMINATION | | RM - Weste | rn Mountai | ns, Valle | vs. and Coas | PHS # t Region | 6978 | |
|--|---------------------------------------|----------------------|---------------------------------------|------------------------|--------------|-----------------------|-------------------------------|-----------|--|
| Project/Site: Tax Lot 4100 | | City/County: | · · · · · · · · · · · · · · · · · · · | | | Sampling Date: | 12/9/2020 | | |
| Applicant/Owner: Patrick/Dave, LLC | | - | | | State: | OR | Sampling Point: | 3 | |
| nvestigator(s): CR, SE | | Section, To | wnship, Range: | | Section 30 | DA, Township 5 | N, Range 10W | | |
| andform (hillslope, terrace, etc.:) | Flat | | Local relief (cor | ncave, convex, no | | None | Slope (%): | 1 | |
| Subregion (LRR): | 4 | Lat: | 45.886 | 64 | Long: | -123.9628 | Datum: | WGS84 | |
| Soil Map Unit Name: | Walluski Me | dial Silt Loan | n | | NWI Classi | fication: | None | | |
| Are climatic/hydrologic conditions on the site t | | | Yes | X | No | | ain in Remarks) | | |
| , , | , , , , , , , , , , , , , , , , , , , | significantly dist | | | | " present? (Y/N) | | | |
| · <u> </u> | | | | , explain any ans | | · · · / | | | |
| con con | | natarany probio | | , ospiani any ano | | | | | |
| UMMARY OF FINDINGS – Attac | ch site map s | howing san | npling point | locations, tr | ansects, i | important feat | ures, etc. | | |
| lydrophytic Vegetation Present? Yes | No | Х | | | | | | | |
| lydric Soil Present? Yes | X No | | Is Sampled Ar a Wetlar | | Yes | | No X | | |
| - Vetland Hydrology Present? Yes | No | х | | | | | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| /EGETATION - Use scientific nar | mes of plants | 3. | | | | | | | |
| | absolute % cover | Dominant Species? | Indicator Status | Dominance [•] | Test works | heet: | | | |
| ree Stratum (plot size: 30) | % cover | Species | Status | Number of Dom | inant Specie | c | | | |
| Picea sitchensis | 60 | x | FAC | That are OBL, F | | | 3 | (A) | |
| 2 Tsuga heterophylla | 15 | <u>x</u> | FACU | mat are obe, i | 7.077, 0117 | | • | (,,) | |
| 3 | | | | Total Number o | f Dominant | | | | |
| 4 | | | | Species Across | | | 7 | (B) | |
| | 75 | = Total Cover | | | | | | () | |
| apling/Shrub Stratum (plot size: 15 |) | | | Percent of Dom | inant Spacia | 2 | | | |
| 1 Lonicera involucrata | 25 | x | FAC | That are OBL, F | • | | 43% | (A/B) | |
| 2 Gaultheria shallon | 20 | <u>x</u> | FACU | That are ODE, I | AGW, OFF | | | (77,0) | |
| 3 Vaccinium ovatum | 5 | | FACU | Prevalence I | ndex Work | sheet: | | | |
| 4 | | | | Total % Cover | | Multiply by | | | |
| 5 | · | | | OBL Spee | | x 1 = | 0 | | |
| | 50 | = Total Cover | | FACW spe | cies | x 2 = | 0 | | |
| | | | | FAC Spec | cies | x 3 = | 0 | | |
| erb Stratum (plot size: 5) | | | | FACU Spe | cies | x 4 = | 0 | | |
| Polystichum munitum | 30 | <u>X</u> | FACU | UPL Spec | | x 5 = | 0 | | |
| 2 Athyrium cyclosorum | 25 | X | FAC | Column To | otals | 0 (A) | 0 | (B) | |
| 3 <i>Mianthemum dilatatum</i> | | | FAC | | | | | | |
| 4 5 | <u> </u> | | | Prevalence | e Index =B/A | | DIV/0! | | |
|) } | <u> </u> | | | Hydrophytic | Vegetation | Indicatore | | | |
| 7 | · | | | nyuropnyuc | - | Rapid Test for Hydro | nhytic Vecatatia | n | |
| 3 | · | | | | | Dominance Test is > | | | |
| - | 56 | = Total Cover | | | | Prevalence Index is : | | | |
| | | | | <u> </u> | | /lorphological Adapt | | upporting | |
| /oody Vine Stratum (plot size: 15 |) | | | | dat | a in Remarks or on | a separate sheet |) | |
| 1 Hedera helix | 80 | Х | FACU | | 5-1 | Wetland Non-Vascu | lar Plants ¹ | | |
| 2 | | | | | Pro | oblematic Hydrophyt | ic Vegetation ¹ (E | xplain) | |
| | 80 | = Total Cover | | - | | wetland hydrology r | nust be present, | unless | |
| | | | | disturbed or pro | plematic. | | | | |
| 6 Bare Ground in Herb Stratum | | | | Vegetation | | Yes | No | х | |
| | | | | Present? | | | | | |

| SOIL | | | PHS # | 697 | '8 | | | Sampling Point: 3 |
|---------------------------------------|-----------------------|------------|------------------------|---------------|--------------|-------------------------|---------------------|---|
| Profile Descri | ption: (Describe to | the depth | needed to docume | nt the indic | ator or co | nfirm the absen | ce of indicators.) | |
| Depth | Matrix | | | | Features | 1 2 | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type' | Loc ² | Texture | Remarks |
| 0-6 | 7.5YR 2.5/2 | 100 | | · | | | Loam | High organics |
| 6-13 | 5YR 2.5/1 | 95 | 7.5YR 2.5/2 | 5 | С | M | Sandy Loam | High organics |
| 13-18 | 10YR 2/1 | 100 | | | | | | Fine sandy loam |
| 18-19 | 10YR 3/3 | 95 | 10YR 4/4 | 5 | С | M | Sand | Medium |
| | | | | · | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ¹ Type: C=Cond | centration, D=Depleti | on, RM=R | educed Matrix, CS=0 | Covered or C | Coated Sar | nd Grains. | | ² Location: PL=Pore Lining, M=Matrix. |
| Hydric Soil | Indicators: (Appli | icable to | all LRRs, unless | s otherwis | se noted. |) | Indic | ators for Problematic Hydric Soils ³ : |
| I | Histosol (A1) | | | S | andy Redo | ox (S5) | | 2 cm Muck (A10) |
| | Histic Epipedon (A2) | | | S | tripped Ma | atrix (S6) | | Red Parent Material (TF2) |
| I | Black Histic (A3) | | | L | oamy Mucl | ky Mineral (F1) (e | except MLRA 1) | Very Shallow Dark Surface (TF12) |
| l | Hydrogen Sulfide (A4 |) | | L | oamy Gley | ed Matrix (F2) | | Other (explain in Remarks) |
| I | Depleted Below Dark | Surface (| A11) | X D | epleted Ma | atrix (F3) | | |
| | Thick Dark Surface (| A12) | | R | Redox Dark | Surface (F6) | | |
| | Sandy Mucky Minera | l (S1) | | D | epleted Da | ark Surface (F7) | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or |
| | Sandy Gleyed Matrix | (S4) | | R | edox Depr | essions (F8) | | problematic. |
| Restrictive | Layer (if present) | | | | | | | |
| Type: | , | | | | | | | |
| Depth (inches | ·)· | | | | | | Hydric Soil Pre | sent? Yes X No |
| Remarks: | ·)· | | | | | | | |
| HYDROLO | GY | | | | | | | |
| Wetland Hy | drology Indicator | s: | | | | | | |
| Primary India | cators (minimum o | of one rec | uired; check all th | nat apply) | | | | Secondary Indicators (2 or more required) |
| - | Surface Water (A1) | | · | | Vater staine | ed Leaves (B9) (| Except MLRA | Water stained Leaves (B9) |
| | High Water Table (A2 | 2) | | 1 | , 2, 4A, an | d 4B) | | (MLRA1, 2, 4A, and 4B) |
| | Saturation (A3) | | | S | alt Crust (E | 311) | | Drainage Patterns (B10) |
| | Water Marks (B1) | | | A | quatic Inve | ertebrates (B13) | | Dry-Season Water Table (C2) |
| | Sediment Deposits (E | 32) | | н | lydrogen S | ulfide Odor (C1) | | Saturation Visible on Aerial Imagery (C9) |
| | Drift Deposits (B3) | | | 0 | xidized Rh | nizospheres alon | g Living Roots (C3) | Geomorphic Position (D2) |
| | Algal Mat or Crust (B | 4) | | P | resence of | f Reduced Iron (C | 24) | Shallow Aquitard (D3) |
| I | Iron Deposits (B5) | | | R | Recent Iron | Reduction in Plo | wed Soils (C6) | Fac-Neutral Test (D5) |
| : | Surface Soil Cracks (| B6) | | S | tunted or S | Stressed Plants (| D1) (LRR A) | Raised Ant Mounds (D6) (LRR A) |
| | Inundation Visible on | Aerial Ima | agery (B7) | 0 | ther (Expla | ain in Remarks) | | Frost-Heave Hummocks (D7) |
| : | Sparsely Vegetated 0 | Concave S | urface (B8) | | | | | |
| Field Obser | vations: | | | | | | | |
| Surface Water | Present? Yes | | No <u>X</u> | Depth (i | nches): | | | |
| Water Table P | resent? Yes | х | No | Depth (i | nches): | 17 | Wetland Hyd | drology Present? |
| Saturation Pres (includes capillar | | X | No | Depth (i | nches): | 1 | | Yes NoX |
| | rded Data (stream ga | auge mon | itoring well aerial ph | iotos previo | us inspecti | ons), if available | <u> </u> | |
| Describe reco | laca Data (Stream gr | luge, mon | toning well, denai pri | lotos, previo | us inspecti | | | |
| | | | | | | | | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| ١ | WETLAND DETE | RMINATIO | | RM - Weste | ern Mount | tains, Val | leys, a | and Coast | PHS # Region | 6978 |
|------------------------------|---------------------------------------|---------------------|----------------------|---------------------|----------------------------|--------------------|--------------|-------------------------------------|-----------------|----------|
| Project/Site: Tax Lot 4100 | | City/County: | | n Beach/Cla | | | npling Date: | - | 9/2020 | |
| pplicant/Owner: | Patrick/Dave, LLC | | | | | State: | OR | Sa | ampling Point: | 4 |
| nvestigator(s): | CR, SE | | Section, To | wnship, Range: | | Section | 30DA, 1 | ownship 5N, | Range 10W | 1 |
| andform (hillslope, | terrace, etc.:) | Depressio | _ on | Local relief (co | ncave, convex | , none): | С | oncave | Slope (%): | 1 |
| Subregion (LRR): | LRR | A | Lat: | 45.88 | 64 | Long: | -1 | 23.9628 | Datum: | WGS84 |
| Soil Map Unit Name | : | Walluski M | – edial Silt Loar | n | | - | | n: | None | |
| • | gic conditions on the site | | | Yes | х | | | (if no, explain | | |
| re vegetation | Soil or H | vdrology | significantly dist | urbed? | Are "Norma | - | | ent? (Y/N) | | |
| vre vegetation | | ydrology | - | matic? If needed | | | | | | |
| <u> </u> | | , , , | | | , I , | | , | | | |
| SUMMARY OF | FINDINGS - Atta | ch site map | showing sar | npling point | locations, | , transects | s, impo | ortant featur | es, etc. | |
| lydrophytic Vegetat | ion Present? Yes | X No | | Is Sampled A | oo within | | | | | |
| ydric Soil Present? Yes X No | | | a Wetla | | Yes | Х | No | | | |
| Vetland Hydrology F | Present? Yes | X No | | | | | | | | |
| Remarks: | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| EGETATION · | Use scientific na | | | lu di sata u | Deminent | - T 4 | | | | |
| | | absolute % cover | Dominant Species? | Indicator Status | Dominand | ce Test wor | KSNEET | | | |
| ree Stratum_ (plo | ot size: 30 |) | | | Number of [| Dominant Spe | cies | | | |
| 1 Picea sitcher | nsis | 30 | х | FAC | That are OB | L, FACW, or | FAC: | | 4 | (A) |
| 2 | | | | | | | | | | |
| 3 | | | | | Total Numb | er of Dominar | nt | | | |
| 4 | | | | | Species Acr | oss All Strata | : | | 7 | (B) |
| | | 30 | = Total Cover | | | | | | | |
| apling/Shrub Stratu | um (plot size: 15 |) | | | Percent of D | Dominant Spe | cies | | | |
| 1 Lonicera invo | olucrata | 30 | х | FAC | That are OB | L, FACW, or | FAC: | 57 | 7% | (A/B) |
| 2 Picea sitcher | nsis | 20 | Х | FAC | | | | | | |
| 3 Gaultheria sh | nallon | 15 | Χ | FACU | Prevalenc | e Index Wo | orkshee | et: | | |
| 1 Ilex aquifoliu | m | 5 | | FACU | Total % Cov | /er of | | Multiply by: | _ | |
| 5 | | | | | OBL S | Species | | x 1 = | 0 | |
| | | 70 | = Total Cover | | | species | | x 2 = | 0 | |
| erb Stratum (plo | ot size: 5 | \ | | | | Species | | x 3 = x 4 = | 0 | |
| 1 Carex obnup | | , 100 | х | OBL | | Species Species | | x 4 = x 5 = | 0 | |
| 2 | | | <u> </u> | | | n Totals | 0 | (A) | | (B) |
| 3 | | | | | Colum | - | • | | | (=) |
| 1 | | | | | Preva | lence Index =I | B/A = | #DI | V/0! | |
| 5 | | | | | | | | | | · |
| 6 | | | | | Hydrophy | tic Vegetat | ion Indi | cators: | | |
| 7 | | | | | | | 1- Rapid | Test for Hydropl | hytic Vegetatio | 'n |
| 3 | | | | | | Х | 2- Domin | ance Test is >50 | 0% | |
| | | 100 | = Total Cover | | | | | ence Index is ≤ 3 | | |
| (| (plot cize: 4P | ` | | | | | | ological Adaptati | | |
| /oody Vine Stratum | | / | v | EACU | | | | emarks or on a s | · . | τ) |
| 1 Hedera helix | | <u> </u> | <u> </u> | FACU | | | | nd Non-Vascular | | (volgin) |
| 2 Rubus ursinu | 15 | <u> </u> | X | FACU | ¹ Indicators of | | | atic Hydrophytic nd hydrology mu | | |
| | | 15 | = Total Cover | | | problematic. | nu welldi | ia nyarology mu | st be present, | 411033 |
| | | | | | | • | | | | |
| | | | | | Hydrophy Vegetatio | | | | | |

| SOIL | | | PHS # | 6 | 978 | | | Sampling Point: 4 | |
|---------------------------|-----------------------|------------|------------------------|----------------------------|-------------------|--------------------------|---|---|--|
| Profile Descri | ption: (Describe to | the depth | needed to docume | nt the ind | icator or cor | firm the absend | ce of indicators.) | | |
| Depth | Matrix | | | Redo | x Features | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks | |
| 0-7 | 10YR 2/2 | 100 | | | | | Silt Loam | | |
| 7-16 | 10YR 2/1 | 60 | 7.5YR 3/4 | 40 | | | Silt Loam | Fine-Medium | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | <u> </u> | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| ¹ Type: C=Cond | centration, D=Depleti | on, RM=Re | educed Matrix, CS= | Covered o | r Coated San | d Grains. | | ² Location: PL=Pore Lining, M=Matrix. | |
| Hydric Soil | Indicators: (Appl | icable to | all LRRs, unles | s otherw | vise noted.) | | Indic | ators for Problematic Hydric Soils ³ : | |
| I | Histosol (A1) | | | | Sandy Redo | x (S5) | | 2 cm Muck (A10) | |
| | Histic Epipedon (A2) | | | | Stripped Ma | trix (S6) | | Red Parent Material (TF2) | |
| | Black Histic (A3) | | | | Loamy Muck | ky Mineral (F1) (e | except MLRA 1) | Very Shallow Dark Surface (TF12) | |
| | Hydrogen Sulfide (A4 | 4) | | | Loamy Gleye | ed Matrix (F2) | | Other (explain in Remarks) | |
| | Depleted Below Dark | surface (A | A11) | | Depleted Ma | atrix (F3) | | | |
| | Thick Dark Surface (| A12) | | х | Redox Dark | Surface (F6) | | | |
| | Sandy Mucky Minera | | | | • | irk Surface (F7) | | ³ Indicators of hydrophytic vegetation and wetland | |
| | Sandy Gleyed Matrix | (S4) | | Redox Depressions (F8) | | | hydrology must be present, unless disturb problematic. | | |
| Restrictive | Layer (if present) | • | | | • | | | | |
| | | | | | | | | | |
| Туре: | | | | | _ | | | | |
| Depth (inches | s): | | | | _ | | Hydric Soil Pre | sent? Yes X No | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| HYDROLO | | | | | | | | | |
| - | drology Indicator | | | | | | | | |
| Primary Indic | cators (minimum c | of one req | uired; check all tl | hat apply |) | | | Secondary Indicators (2 or more required) | |
| : | Surface Water (A1) | | | | - | ed Leaves (B9) (I | Except MLRA | Water stained Leaves (B9) | |
| <u> </u> | High Water Table (A | 2) | | | 1, 2, 4A, and | d 4B) | | (MLRA1, 2, 4A, and 4B) | |
| <u> </u> | Saturation (A3) | | | | Salt Crust (E | 311) | | Drainage Patterns (B10) | |
| | Water Marks (B1) | | | | Aquatic Inve | rtebrates (B13) | | Dry-Season Water Table (C2) | |
| : | Sediment Deposits (I | B2) | | | Hydrogen Su | ulfide Odor (C1) | | Saturation Visible on Aerial Imagery (C9) | |
| I | Drift Deposits (B3) | | | | Oxidized Rh | izospheres along | g Living Roots (C3) | Geomorphic Position (D2) | |
| | Algal Mat or Crust (B | 4) | | | Presence of | Reduced Iron (C | 24) | Shallow Aquitard (D3) | |
| | Iron Deposits (B5) | | | | Recent Iron | Reduction in Plo | wed Soils (C6) | Fac-Neutral Test (D5) | |
| : | Surface Soil Cracks | (B6) | | | Stunted or S | itressed Plants (I | D1) (LRR A) | Raised Ant Mounds (D6) (LRR A) | |
| | Inundation Visible on | Aerial Ima | gery (B7) | Other (Explain in Remarks) | | | | Frost-Heave Hummocks (D7) | |
| | Sparsely Vegetated (| Concave S | urface (B8) | | | | | | |
| Field Obser | vations: | | | | | | | | |
| Surface Water | Present? Yes | | No X | Depth | (inches): | | | | |
| Water Table P | resent? Yes | x | No | - | (inches): | 10 | Wetland Hvo | drology Present? | |
| Saturation Pres | | x | No | - | (inches): | 10 | | Yes X No | |
| (includes capillar | | | | Dopti | | | | | |
| Describe Reco | rded Data (stream g | auge, moni | toring well, aerial ph | notos, prev | vious inspectio | ons), if available: | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| W | ETLAND DETE | RMINATIO | N DATA FOI | RM - Weste | ern Mountair | ns, Valleys | , and Coast | PHS # Region | 6978 |
|----------------------------|--------------------------------|----------------------|--------------------|------------------|----------------------------------|----------------|--|-------------------------------|-----------|
| Project/Site: Tax Lot 4100 | | | City/County: | | n Beach/Clatso | · · · · | | | 2020 |
| Applicant/Owner: | Patrick/Dave, LLC | | | | | State: 0 | R S | Sampling Point: | 5 |
| nvestigator(s): | CR, SE | | Section, To | wnship, Range: | S | Section 30DA | A, Township 5N | l, Range 10W | |
| andform (hillslope, te | errace, etc.:) | Depressio | on | Local relief (co | ncave, convex, nor | ne): | Concave | Slope (%): | 1 |
| Subregion (LRR): | LRR | Α | Lat: | 45.88 | 69 | Long: | -123.9632 | Datum: | WGS84 |
| oil Map Unit Name: | | Templeton-E | Ecola Silt Loan | ns | | NWI Classifica | ation: | None | |
| Are climatic/hydrologi | c conditions on the site | typical for this tim | ne of year? | Yes | X | No | (if no, explai | n in Remarks) | |
| Are vegetation | Soil or H | ydrology | significantly dist | urbed? | Are "Normal Cir | cumstances" p | resent? (Y/N) | Y | |
| re vegetation | Soil or H | ydrology | naturally probler | matic? If needed | l, explain any answ | ers in Remarks | s.) | | |
| | | | | | | | | | |
| | FINDINGS – Atta | - | | npling point | locations, tra | insects, im | portant featu | res, etc. | |
| lydrophytic Vegetatio | - | X No | | Is Sampled Ar | rea within | | | | |
| ydric Soil Present? | Yes | X No | | a Wetlar | nd? | Yes X | <u> </u> | 0 | |
| Vetland Hydrology Pr | resent? Yes | X No | | | | | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| EGETATION - | Use scientific na | mes of plant | ts. | | | | | | |
| | | absolute | Dominant | Indicator | Dominance T | est workshe | et: | | |
| 0 | | % cover | Species? | Status | | | | | |
| r <u>ee Stratum</u> (plot | |) | v | | Number of Domi | · | | • | |
| Salix hookeria | ina | 90 | <u> </u> | FACW | That are OBL, F. | ACW, or FAC: | | 2(| (A) |
| | | | | | Total Number of | Dominant | | | |
| , 1 | | | | | Species Across | | | 3 (| (B) |
| | | 90 | = Total Cover | | | | | | (-) |
| apling/Shrub Stratur | <u>n</u> (plot size: 15 |) | | | Percent of Domi | nant Species | | | |
| Rubus armeni | | ′ 90 | х | FAC | That are OBL, F | • | 6 | 67% | (A/B) |
| 2 | | | | | ,,. | , | | | (-) |
| 3 | | | | | Prevalence Ir | ndex Worksh | neet: | | |
| ۱ | | | | | Total % Cover o | f | Multiply by: | | |
| 5 | | | | | OBL Spec | ies | x 1 = | 0 | |
| | | 90 | = Total Cover | | FACW spec | | x 2 = | 0 | |
| erb Stratum (plot | size: |) | | | FAC Spec FACU Spec | | x 3 = x 4 = | 0 | |
| (pier | | / | | | UPL Speci | | x 5 = | 0 | |
| 2 | | | | | Column To | | | 0 (| В) |
| 3 | | | | | | | | | |
| ۱ | | | | | Prevalence | e Index =B/A = | #C | 0IV/0! | |
| 5 | | | | | | | | | |
| j | | | | | Hydrophytic | - | | | |
| | | | | | | | pid Test for Hydro | | I |
| | | 0 | - Total Course | | | | minance Test is >! valence Index is ≤ | | |
| | | <u> </u> | = Total Cover | | | | valence index is ≤ phological Adapta | | upporting |
| oody Vine Stratum | (plot size: 15 |) | | | | | n Remarks or on a | | |
| Hedera helix | | 70 | X | FACU | | 5- We | tland Non-Vascula | ar Plants ¹ | |
| 2 | | | | | | Proble | ematic Hydrophytic | c Vegetation ¹ (Ex | plain) |
| | | 70 | = Total Cover | | | | tland hydrology m | ust be present, u | nless |
| | | | | | disturbed or prot Hydrophytic | piematic. | | | |
| 6 Bare Ground in He | rb Stratum | | | | Vegetation | | Yes X | No | |
| | | | | | Present? | | | | |

| SOIL | | | PHS # | 6978 | 3 | | | Sampling Point: 5 | | | |
|---------------------------|--|------------|-------------------------|----------------|------------------------------|--|----------------------------|---|----------|--|--|
| | ption: (Describe to | the depth | needed to docume | | | nfirm the absend | ce of indicators.) | | | | |
| Depth (Inchos) | Matrix | % | Color (moint) | Redox F % | eatures Type ¹ | Loc ² | Texture | Remarks | | | |
| (Inches) 0-3 | Color (moist) | 100 | Color (moist) | 70 | туре | | | Remains | | | |
| | 2.5YR 2.5/1 | | | | | | Sandy Loam | High expenses | | | |
| 3-6 | 10YR 2/1 | 100 | | | | | Sandy Loam | High organics | | | |
| 6-8 | 10YR 2/1 | 85 | 5YR 3/3 | | <u> </u> | <u> </u> | Sandy Loam | Medium mottles | | | |
| <u>8-17</u> | 10YR 4/3 | 99 | 10YR 4/1 | | C | M | Sand | Fine sand, fine mottles | | | |
| ¹ Type: C=Conc | centration, D=Depleti | on, RM=R | educed Matrix, CS= | Covered or C | oated San | d Grains. | | ² Location: PL=Pore Lining, M=Matrix. | | | |
| Hydric Soil I | Indicators: (Appl | icable to | all LRRs, unles | s otherwise | e noted.) |) | Indic | ators for Problematic Hydric Soils ³ : | | | |
| H | Histosol (A1) | | | Sa | andy Redo | x (S5) | | 2 cm Muck (A10) | | | |
| ł | Histic Epipedon (A2) | | | St | ripped Ma | trix (S6) | | Red Parent Material (TF2) | | | |
| | Black Histic (A3) | | | Lo | amy Muck | ky Mineral (F1) (e | xcept MLRA 1) | Very Shallow Dark Surface (TF12 | 2) | | |
| | Hydrogen Sulfide (A4 | 4) | | Lo | amy Gleye | ed Matrix (F2) | | X Other (explain in Remarks) | | | |
| | Depleted Below Dark | Surface (| A11) | De | epleted Ma | atrix (F3) | | | | | |
| | Thick Dark Surface (| A12) | | Re | edox Dark | Surface (F6) | | | | | |
| | Sandy Mucky Minera | l (S1) | | De | epleted Da | rk Surface (F7) | | ³ Indicators of hydrophytic vegetation and wetlar | | | |
| | Sandy Gleyed Matrix | (S4) | | Re | edox Depre | essions (F8) | | hydrology must be present, unless disturbed o problematic. | ſ | | |
| likely if not a | atrix soils begin v all sand beneath | | inches, but as th | hey are und | erlain b | | Hydric Soil Pres | sent? Yes <u>X</u> No Nickness to satisfy that criteria. Would | | | |
| Primary Indic | ators (minimum c | of one rec | uired; check all t | hat apply) | | | | Secondary Indicators (2 or more require | ed) | | |
| | Surface Water (A1) High Water Table (A: | | · · · · | W | ater staine 2, 4A, and | ed Leaves (B9) (I d 4B) | Except MLRA | Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B) | / | | |
| X | Saturation (A3) | | | Sa | alt Crust (E | 311) | | Drainage Patterns (B10) | | | |
| \ | Water Marks (B1) | | | Ac | uatic Inve | rtebrates (B13) | | Dry-Season Water Table (C2) | | | |
| | Sediment Deposits (B | 32) | | Hy | /drogen Si | ulfide Odor (C1) | | Saturation Visible on Aerial Image | ery (C9) | | |
| I | Drift Deposits (B3) | | | | | | Living Roots (C3) | Geomorphic Position (D2) | | | |
| / | Algal Mat or Crust (B | 4) | | Pr | esence of | Reduced Iron (C | (4) | Shallow Aquitard (D3) | | | |
| I | ron Deposits (B5) | | | | | Reduction in Plo | | Fac-Neutral Test (D5) | | | |
| | Surface Soil Cracks (| | | | | stressed Plants (I | 01) (LRR A) | Raised Ant Mounds (D6) (LRR A |) | | |
| | nundation Visible on Sparsely Vegetated (| | | Ot | her (Expla | ain in Remarks) | | Frost-Heave Hummocks (D7) | | | |
| Field Observ | vations: | | | | | | | | | | |
| Surface Water | Present? Yes | | No <u>X</u> | Depth (in | ches): | | | | | | |
| Water Table Pr | ater Table Present? Yes X No Depth (inches): 12 | | | | | | Wetland Hydrology Present? | | | | |
| | Saturation Present? Yes X No Depth (inches): 11 Yes X No (includes capillary fringe) | | | | | | | Yes X No | | | |
| Describe Reco | rded Data (stream ga | auge, mon | itoring well, aerial pł | hotos, previou | s inspectio | ons), if available: | | | | | |
| Remarks: Pit was ope | n for 3 hours. | | | | | | | | | | |

| WETLAND | DETERMINATIO | | RM - Weste | ern Mountains, Va | lleys, and Coast | PHS # Region | 6978 |
|---------------------------------------|------------------------------|--------------------|---------------------------|---------------------------------------|---------------------------------------|---|-----------|
| Project/Site: Tax Lo | City/County: | | n Beach/Clatsop | Sampling Date: | - | /2020 | |
| Applicant/Owner: Patrick/Dav | ve, LLC | | | State: | - OR S | Sampling Point: | 6 |
| nvestigator(s): | R, SE | Section, To | wnship, Range: | Section | 30DA, Township 5N | l, Range 10W | |
| _andform (hillslope, terrace, etc.:) | Flat | | Local relief (co | ncave, convex, none): | None | Slope (%): | 1 |
| Subregion (LRR): | LRR A | Lat: | 45.88 | 69 Long: | -123.9632 | Datum: | WGS84 |
| Soil Map Unit Name: | Templeton- | Ecola Silt Loar | ns | NWI CI | assification: | None | |
| Are climatic/hydrologic conditions on | the site typical for this ti | me of year? | Yes | X No | | in in Remarks) | |
| Are vegetation Soil | or Hydrology | significantly dist | urbed? | Are "Normal Circumstar | ices" present? (Y/N) | Y | |
| Are vegetation Soil | or Hydrology | | | l, explain any answers in R | emarks.) | | |
| SUMMARY OF FINDINGS - | - Attach site map | showing san | npling point | locations, transect | s, important featu | res, etc. | |
| | Yes X No | | | | | | |
| | Yes No | o X | Is Sampled Ar a Wetlar | × 1 | N | lo X | |
| - | Yes No | | u Weildi | | | | |
| Remarks: | | | | | | | |
| ciliains. | | | | | | | |
| | | | | | | | |
| /EGETATION - Use scient | ific names of plan | nts. | | • | | | |
| | absolute | Dominant | Indicator | Dominance Test wo | rksheet: | | |
| ree Stratum (plot size: 3 | % cover | Species? | Status | Number of Dominant Sp | ecies | | |
| 1 Alnus rubra | <u> </u> | х | FAC | That are OBL, FACW, or | | 2 | (A) |
| | | | | | | <u> </u> | |
| 3 | | | | Total Number of Domina | nt | | |
| 1 | | | | Species Across All Strata | | 3 (| (B) |
| | 60 | = Total Cover | | ' | | | . / |
| apling/Shrub Stratum (plot size: | 15) | | | Percent of Dominant Spe | | | |
| 1 Rubus armeniacus | | х | FAC | That are OBL, FACW, o | | 67% | (A/B) |
| | | | | mature obe, mow, e | · · · · · · · · · · · · · · · · · · · | <u>, , , , , , , , , , , , , , , , , , , </u> | (10) |
| 3 | | | | Prevalence Index W | orksheet: | | |
| 4 | | | | Total % Cover of | Multiply by: | | |
| 5 | | | | OBL Species | x 1 = | 0 | |
| | 75 | = Total Cover | | FACW species | x 2 = | 0 | |
| | | | | FAC Species | x 3 = | 0 | |
| erb Stratum (plot size: |) | | | FACU Species | x 4 = | 0 | |
| 1 | | | | UPL Species | x 5 = | 0 | |
| 2 | | | | Column Totals | 0 (A) | 0 (| (B) |
| 3 | | | | | | | |
| - | | | | Prevalence Index = | :B/A = #D | 0IV/0! | |
| 5 | | | | Hydrophytic Verste | tion Indicators: | | |
| 6 7 | | | | Hydrophytic Vegeta | 1- Rapid Test for Hydrop | nhutia Vaastati | |
| 3 | | | | X | 2- Dominance Test is > | | |
| | 0 | = Total Cover | | | 3-Prevalence Index is ≤ | | |
| | | | | · · · · · · · · · · · · · · · · · · · | 4-Morphological Adapta | | upporting |
| loody Vine Stratum (plot size: | 15) | | | | data in Remarks or on a | | |
| 1 Hedera helix | 40 | Х | FACU | | 5- Wetland Non-Vascula | ar Plants ¹ | |
| 2 | | | | | Problematic Hydrophytic | : Vegetation ¹ (Ex | plain) |
| | 40 | = Total Cover | | | and wetland hydrology m | ust be present, u | nless |
| | | | | disturbed or problematic. | | | |
| | | | | Hydrophytic | | | |
| 6 Bare Ground in Herb Stratum | 50 | | | Vegetation | Yes X | No | |

| SOIL | | | PHS # | 6978 | _ | | Sampling Point: | 6 | |
|--------------------------|--|--------------|------------------------|------------------------|-------------------------------------|-----------------------------|---|-----------------------|--|
| Profile Descr | iption: (Describe to | the depth i | needed to docume | nt the indicator or co | onfirm the absen | ce of indicators.) | | | |
| Depth | Matrix | | | Redox Features | | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % Type ¹ | Loc ² | Texture | Remarks | | |
| 0-9 | 10YR 2/2 | 100 | | | | Sandy Loam | | | |
| 9-16 | 10YR 4/2 | 80 | | | | Sand | | | |
| | 10YR 2/2 | 20 | | | | Sandy Loam | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| ¹ Type: C=Con | centration D=Deplet | ion RM=Re | duced Matrix CS=0 | Covered or Coated Sa | and Grains | | ² Location: PL=Pore Lining, M=Ma | trix | |
| | | | | s otherwise noted | | Indic | ators for Problematic Hydric | | |
| - | Histosol (A1) | | , | Sandy Rec | | | 2 cm Muck (A10) | | |
| | Histic Epipedon (A2) | | | Stripped M | | | Red Parent Material | (TF2) | |
| | Black Histic (A3) | | | | cky Mineral (F1) (e | except MI RA 1) | Very Shallow Dark S | () | |
| | Hydrogen Sulfide (A | 4) | | ` | eyed Matrix (F2) | | Other (explain in Re | | |
| | Depleted Below Darl | | 11) | Depleted N | | | | marks | |
| | | - | (11) | | | | | | |
| | Thick Dark Surface (Sandy Mucky Minera | | | | k Surface (F6) Dark Surface (F7) | | ³ Indicators of hydrophytic vegetation and wetland | | |
| | | | | | | | hydrology must be present, unles | s disturbed or | |
| - | Sandy Gleyed Matrix | | | Redox Dep | pressions (F8) | 1 | problematic. | | |
| Restrictive | Layer (if present) |): | | | | | | | |
| Туре: | | | | | | | | | |
| Depth (inche | s): | | | | | Hydric Soil Pres | sent? Yes N | 0 <u>X</u> | |
| Remarks: | | | | | | • | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| HYDROLC | | | | | | | | | |
| Wetland Hy | drology Indicato | rs: | | | | | | | |
| Primary Indi | cators (minimum o | of one req | uired; check all th | nat apply) | | | Secondary Indicators (2 or n | nore required) | |
| | Surface Water (A1) | | | | ned Leaves (B9) (I | Except MLRA | Water stained Leave | | |
| | High Water Table (A | 2) | | 1, 2, 4A, a | nd 4B) | | (MLRA1, 2, 4A, and | d 4B) | |
| | Saturation (A3) | | | Salt Crust | (B11) | | Drainage Patterns (I | 310) | |
| | Water Marks (B1) | | | Aquatic Inv | vertebrates (B13) | | Dry-Season Water | able (C2) | |
| | Sediment Deposits (| B2) | | Hydrogen | Sulfide Odor (C1) | | Saturation Visible or | n Aerial Imagery (C9) | |
| | Drift Deposits (B3) | | | Oxidized R | Rhizospheres along | g Living Roots (C3) | Geomorphic Positio | n (D2) | |
| | Algal Mat or Crust (E | 34) | | Presence | of Reduced Iron (C | 24) | Shallow Aquitard (D | 3) | |
| | Iron Deposits (B5) | | | | n Reduction in Plo | | Fac-Neutral Test (D | | |
| | Surface Soil Cracks | (B6) | | Stunted or | Stressed Plants (I | D1) (LRR A) Raised Ant Mour | | (D6) (LRR A) | |
| | Inundation Visible or | n Aerial Ima | gery (B7) | Other (Exp | lain in Remarks) | | Frost-Heave Humm | ocks (D7) | |
| | Sparsely Vegetated | Concave Su | ırface (B8) | | | | | | |
| Field Obser | rvations: | | | | | | | | |
| Surface Water | r Present? Yes | | No X | Depth (inches): | | | | | |
| Water Table F | Present? Yes | | No X | Depth (inches): | >16 | Wetland Hyd | Irology Present? | | |
| Saturation Pre | esent? Yes | | No X | Depth (inches): | >16 | | Yes N | o X | |
| (includes capilla | ry fringe) | | | | | | | | |
| Describe Reco | orded Data (stream g | auge, moni | toring well, aerial ph | otos, previous inspec | tions), if available: | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

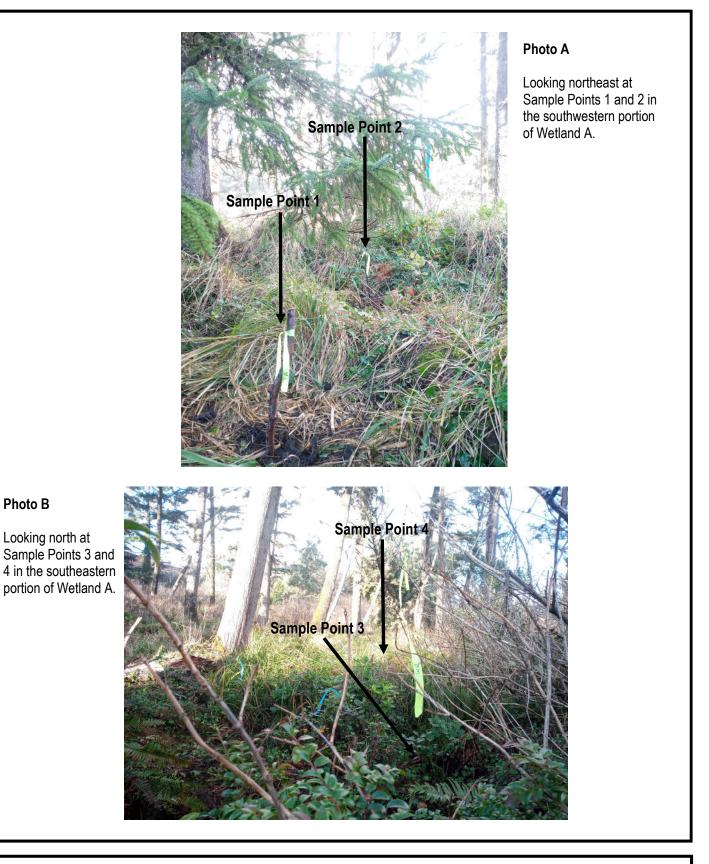
| WETLAND D | ETERMINATIO | N DATA FO | RM - Weste | ern Mountains, Val | leys, and Coast | PHS # Region | 6978 |
|--|-----------------------------|---------------------|------------------|------------------------------|---|-------------------|---------|
| Project/Site: Tax Lot 4100 | | City/County: | Canno | n Beach/Clatsop | Sampling Date: | 12/9 | /2020 |
| Applicant/Owner: Patrick/Dave, | LLC | | | State: | OR S | Sampling Point: | 7 |
| nvestigator(s): CR | , SE | Section, To | wnship, Range: | Section | 30DA, Township 5N | l, Range 10W | |
| andform (hillslope, terrace, etc.:) | Flat | | Local relief (co | ncave, convex, none): | None | Slope (%): | 1 |
| Subregion (LRR): | LRR A | Lat: | 45.88 | 65 Long: | -123.9634 | Datum: | WGS84 |
| Soil Map Unit Name: | Templeton- | Ecola Silt Loar | ns | NWI Cla | ssification: | None | |
| are climatic/hydrologic conditions on th | e site typical for this tir | ne of year? | Yes | X No | (if no, explai | n in Remarks) | |
| Are vegetation Soil | or Hydrology | significantly dist | turbed? | Are "Normal Circumstan | ces" present? (Y/N) | Y | |
| Are vegetation Soil | or Hydrology | naturally proble | matic? If needed | l, explain any answers in Re | marks.) | | |
| | | | | | | | |
| SUMMARY OF FINDINGS - | Attach site map | showing sar | npling point | locations, transects | s, important featu | res, etc. | |
| lydrophytic Vegetation Present? Y | es X No |) | Is Sampled A | rea within | | | |
| lydric Soil Present? Y | es No | X | a Wetla | | N | o X | |
| Vetland Hydrology Present? Y | es No |) X | | | | | |
| Remarks: | | | | | | | |
| | | | | | | | |
| /EGETATION - Use scientifi | a names of plan | <u>to</u> | | | | | |
| EGETATION - USe Scientin | absolute | Dominant | Indicator | Dominance Test wor | ksheet [.] | | |
| | % cover | Species? | Status | Bolinnance rest wol | Köneet. | | |
| ree Stratum (plot size: 30 |) | | | Number of Dominant Spe | cies | | |
| 1 Salix hookeriana | 75 | Х | FACW | That are OBL, FACW, or | FAC: | 4 | (A) |
| 2 | | | | | | | |
| 3 | | | | Total Number of Dominar | nt | | |
| 4 | | | | Species Across All Strata | : | 6 | (B) |
| | 75 | = Total Cover | | | | | |
| apling/Shrub Stratum (plot size: | 15) | | | Percent of Dominant Spe | cies | | |
| Gaultheria shallon | 10 | Х | FACU | That are OBL, FACW, or | FAC: | 67% | (A/B) |
| 2 | | | | | | | |
| 3 | | | | Prevalence Index We | orksheet: | | |
| 4 | | | | Total % Cover of | Multiply by: | _ | |
| 5 | | | | OBL Species | x 1 = | 0 | |
| | 10 | = Total Cover | | FACW species FAC Species | x 2 = x 3 = | 0 | |
| erb Stratum (plot size: 5 |) | | | FACU Species | x 3 = | 0 | |
| 1 Equisetum arvense | | х | FAC | UPL Species | x 5 = | 0 | |
| 2 Mianthemum dilatatum | 30 | Х | FAC | Column Totals | 0 (A) | 0 | (B) |
| 3 Ranunculus repens | 20 | X | FAC | | | | |
| 4 | | | | Prevalence Index = | B/A = #C | 0IV/0! | |
| 5 | | | | | | | |
| 3 | | | | Hydrophytic Vegetat | ion Indicators: | | |
| 7 | | | | | 1- Rapid Test for Hydro | ohytic Vegetatior | ı |
| 3 | | | | <u> </u> | 2- Dominance Test is > | 50% | |
| | 100 | = Total Cover | | | 3-Prevalence Index is ≤ | | |
| loodu Vino Stratum (plat aiza) | 15) | | | | 4-Morphological Adapta | | |
| /oody Vine Stratum (plot size: 1 Hedera helix | <u>15</u>) 80 | x | FACU | | data in Remarks or on a 5- Wetland Non-Vascula | • |) |
| 2 Hedera helix | 00 | | PACU | | Problematic Hydrophytic | | (nlain) |
| <u> </u> | | - Total Cavar | | | nd wetland hydrology m | | |
| | 80 | | | | | | |
| | 80 | = Total Cover | | disturbed or problematic. | | • | |
| 6 Bare Ground in Herb Stratum | 80 | = Total Cover | | - | Yes X | No | |

| SOIL | | | PHS # | 697 | 78 | | | Sampling Point: | 7 |
|-------------------------------------|-----------------------|------------|-------------------------|---------------|-------------------|---------------------------|---------------------|--|--------------------------|
| Profile Descr | iption: (Describe to | the depth | needed to docume | ent the indic | cator or co | nfirm the absen | ce of indicators.) | | |
| Depth | Matrix | | | | Features | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks | |
| 0-4 | 10YR 2/2 | | | | | | Silt Loam | | |
| 4-11 | 10YR 3/2 | 98 | 10YR 3/3 | 1 | С | М | Silt Loam | | |
| | | | 10YR 3/6 | 1 | С | M | Silt Loam | | |
| 11-16 | 10YR 4/3 | 90 | 5YR 3/4 | 10 | С | М | Sand | | |
| | | | | | | · | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| ¹ Type: C=Con | centration, D=Depleti | on, RM=R | educed Matrix, CS= | Covered or | Coated Sar | nd Grains. | | ² Location: PL=Pore Lining, M= | Matrix. |
| Hydric Soil | Indicators: (Appl | icable to | all LRRs, unles | s otherwi | se noted. |) | Indic | cators for Problematic Hydi | ric Soils ³ : |
| | Histosol (A1) | | | 5 | Sandy Redo | ox (S5) | | 2 cm Muck (A10) | 1 |
| | Histic Epipedon (A2) | | | | Stripped Ma | ıtrix (S6) | | Red Parent Mate | rial (TF2) |
| | Black Histic (A3) | | | l | _oamy Muc | ky Mineral (F1) (e | xcept MLRA 1) | Very Shallow Da | rk Surface (TF12) |
| | Hydrogen Sulfide (A4 | 4) | | l | _oamy Gley | ed Matrix (F2) | | Other (explain in | Remarks) |
| | Depleted Below Dark | Surface (| A11) | [| Depleted Ma | atrix (F3) | | | |
| | Thick Dark Surface (| A12) | | F | Redox Dark | Surface (F6) | | | |
| | Sandy Mucky Minera | l (S1) | | 0 | Depleted Da | ark Surface (F7) | | ³ Indicators of hydrophytic vege hydrology must be present, ur | tation and wetland |
| | Sandy Gleyed Matrix | (S4) | | F | Redox Depr | essions (F8) | | problematic. | |
| Restrictive | Layer (if present) | : | | | | | | | |
| Type: | | | | | | | | | |
| Depth (inches | z). | | | | - | | Hydric Soil Pre | sent? Yes | No X |
| Remarks: | | | | | - | | | | |
| HYDROLO | | | | | | | | | |
| Wetland Hy | drology Indicator | 'S: | | | | | | | |
| Primary Indi | cators (minimum c | of one rec | uired; check all tl | | | | | Secondary Indicators (2 o | r more required) |
| | Surface Water (A1) | | | | | ed Leaves (B9) (I | Except MLRA | Water stained Le | |
| | High Water Table (A | 2) | | 1 | 1, 2, 4A, an | d 4B) | | (MLRA1, 2, 4A, | and 4B) |
| | Saturation (A3) | | | | Salt Crust (B | 311) | | Drainage Pattern | s (B10) |
| | Water Marks (B1) | | | | - | ertebrates (B13) | | Dry-Season Wate | |
| | Sediment Deposits (E | 32) | | | | ulfide Odor (C1) | | | e on Aerial Imagery (C9 |
| | Drift Deposits (B3) | | | | | | J Living Roots (C3) | | . , |
| | Algal Mat or Crust (B | 4) | | | | Reduced Iron (C | , | Shallow Aquitard | |
| | Iron Deposits (B5) | | | | | Reduction in Plo | | Fac-Neutral Test | |
| | Surface Soil Cracks (| | ····· (DZ) | | | Stressed Plants (I | | | nds (D6) (LRR A) |
| | Inundation Visible on | | | (| Uther (Expla | ain in Remarks) | | Frost-Heave Hun | IMOCKS (D7) |
| | Sparsely Vegetated (| Joncave 5 | unace (Bo) | | | | | | |
| Field Obser | vations: | | | | | | | | |
| Surface Water | Present? Yes | | No X | Depth (| inches): | | | | |
| Water Table F | Present? Yes | | No X | Depth (| inches): | >16 | Wetland Hyd | drology Present? | |
| Saturation Pre (includes capilla | | | No <u>X</u> | Depth (| inches): | >16 | | Yes | No <u>X</u> |
| | orded Data (stream ga | auge. mon | itoring well, aerial pr | notos. previo | ous inspecti | ons), if available | | | |
| | | | | ·····, p····· | | ,, | | | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Appendix C

Site Photos (ground level)





#6978



Pacific Habitat Services, Inc. 9450 SW Commerce Circle, Suite 180 Wilsonville, OR 97070 Photodocumentation Tax Lot 4100, Cannon Beach, Oregon Both photos taken on December 9, 2020

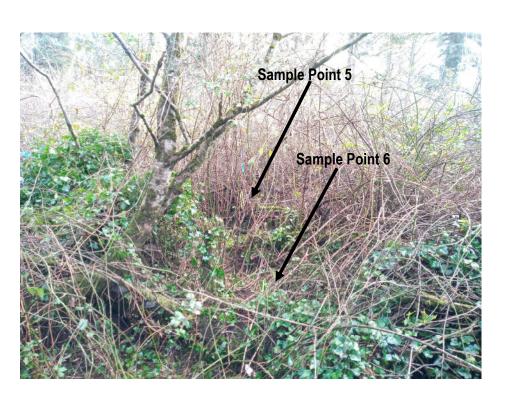


Photo C

Looking southeast at Sample Points 5 and 6 in the northwestern portion of Wetland A.

Photo D

Looking east at Sample Point 7, to the west of the southwestern portion of Wetland A.







Pacific Habitat Services, Inc. 9450 SW Commerce Circle, Suite 180 Wilsonville, OR 97070 Photodocumentation Tax Lot 4100, Cannon Beach, Oregon Both photos taken on December 9, 2020



Photo E

Looking north at the southwestern portion of Wetland A, where the house to the south drains stormwater onto the site.

#6978



Pacific Habitat Services, Inc. 9450 SW Commerce Photodocumentation Tax Lot 4100, Cannon Beach, Oregon Photo taken on December 9, 2020

Appendix D

Wetland Definitions, Methodology



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 documents for wetland delineations within Oregon is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2010), which are required by both DSL and COE.

Waters of The State and Wetland Definition

Waters of The State are defined as "all natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and non-navigable bodies of water in this state and those portions of the ocean shore ..." (DSL, 2009).

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 2009).

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 12.0 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, 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. Other indicators of hydrology, including algal mats or crust, iron deposits, surface soil cracks, sparsely vegetated concave surface, salt crust, aquatic invertebrates, hydrogen sulfide odor, reduced iron, iron reduction in tilled soils, and stunted or stressed plants can also be used to determine the presence of wetland hydrology.

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, 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 soil must meet one of the 16 definitions for hydric soil indicators, or be classified as a "problem soil" in the Regional Supplement.

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.

| | Description of wetland Franc indicator Status Codes |
|-----------|---|
| Indicator | |
| Code | Status |
| OBL | Obligate wetland. Plants that always occur in standing water or in saturated soils. |
| FACW | Facultative wetland. Plants that nearly always occur in areas of prolonged flooding or require standing water or saturated soils but may, on rare occasions, occur in non-wetlands. |
| FAC | Facultative. Plants that occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but commonly occur in standing water or saturated soils. |
| FACU | Facultative upland. Plants that typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils. |
| UPL | Obligate upland. Plants that rarely occur in water or saturated soils. |

 Table 1.
 Description of Wetland Plant Indicator Status Codes

Observations of hydrology, soils, and vegetation, were made using the "Routine On-site" delineation method as defined in the 1987 manual and the Regional Supplement for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated to 20 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual absolute-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 absolute cover for herbaceous, and shrub species within a 5 foot radius of the sample point, and basal area cover for tree and woody vine species within a 30 foot radius of the total cover, 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. If less than 50% of the dominant species are hydrophytic, then the prevalence index may be used to determine if the subdominant species are hydrophytic. If the prevalence index is less than or equal to 3, hydrophytic vegetation criterion is met.

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 and the Regional Supplement.