

# **Department of State Lands**

775 Summer Street NE, Suite 100 Salem, OR 97301-1279 (503) 986-5200 FAX (503) 378-4844 www.oregon.gov/dsl

April 18, 2023

State Land Board

Rowan Percheron, LLC Attn: David Shiflett and Kenneth Davies 160 E. State Street, Ste 120 Traverse City, MN 49684

Tina Kotek Governor

Re: WD # 2022-0436 Approved

Shemia Fagan Secretary of State

Wetland Delineation Report for Percheron Industrial Campus Morrow County; T3N R24E S28 TL100 (Portion)

Tobias Read State Treasurer

Dear David Shiflett and Kenneth Davies:

The Department of State Lands has reviewed the wetland delineation report prepared by AKS Engineering & Forestry, LLC for the site referenced above. Please note that the study area includes only a portion of the tax lot described above (see the attached maps). Based upon the information presented in the report, a site visit on April 11, 2023, and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in revised Figure 5 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map.

Within the study area, one wetland (Wetland A, totaling approximately 1.75 acres) and one waterway (Intermittent Water 1) were identified. The wetland and water are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high-water line (OHWL) of the waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined).

This concurrence is for purposes of the state Removal- Fill Law only. We recommend that you attach a copy of this concurrence letter to any subsequent state permit application to speed application review. Federal, other state agencies or local permit requirements may apply as well. The U.S. Army Corps of Engineers will determine jurisdiction under the Clean Water Act, which may require submittal of a complete Wetland Delineation Report.

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

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

Thank you for having the site evaluated. If you have any questions, please contact the Jurisdiction Coordinator for Morrow County, Jessica Salgado, at (541) 388-6421.

Sincerely,

Peter Ryan, SPWS

Aquatic Resource Specialist

**Enclosures** 

ec: Sonya Templeton, AKS Engineering & Forestry, LLC

Morrow County Planning Department

Michael Neal, US Army Corps of Engineers

Richard Fitzgerald, DSL

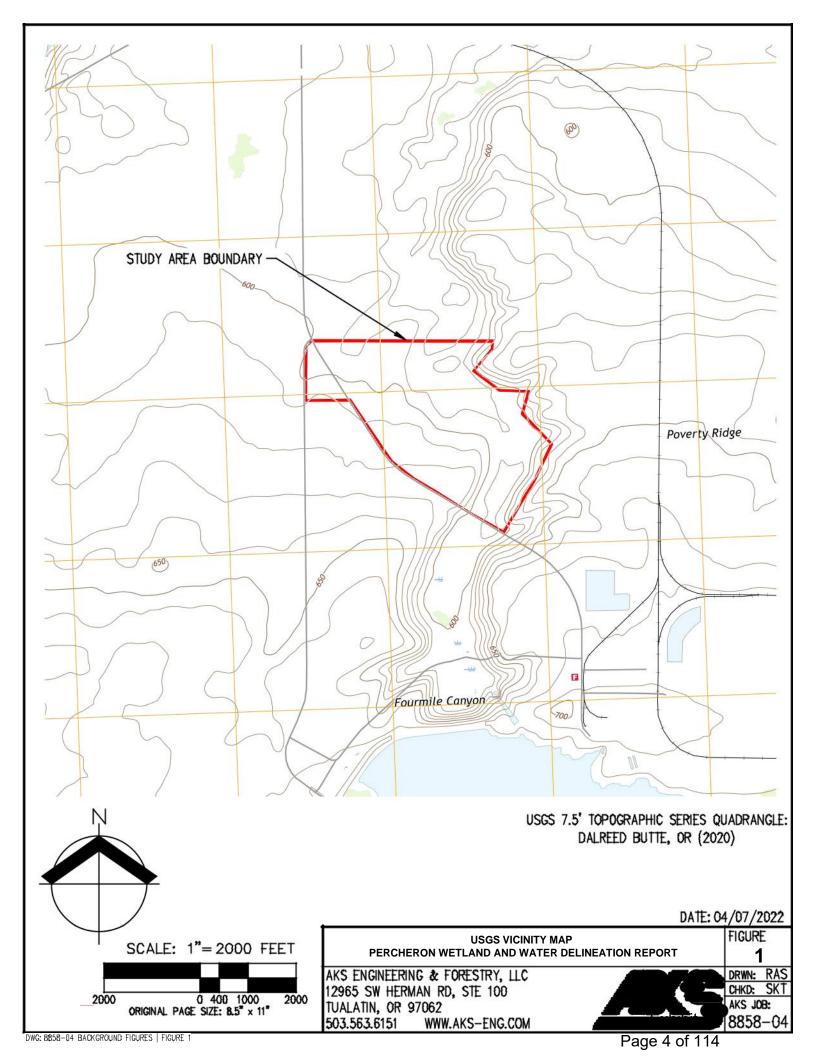
A complete report and signed report cover form, along with applicable review fee, are required before a report review timeline can be initiated by the Department of State Lands. All applicants will receive an emailed confirmation that includes the report's unique file number and other information.

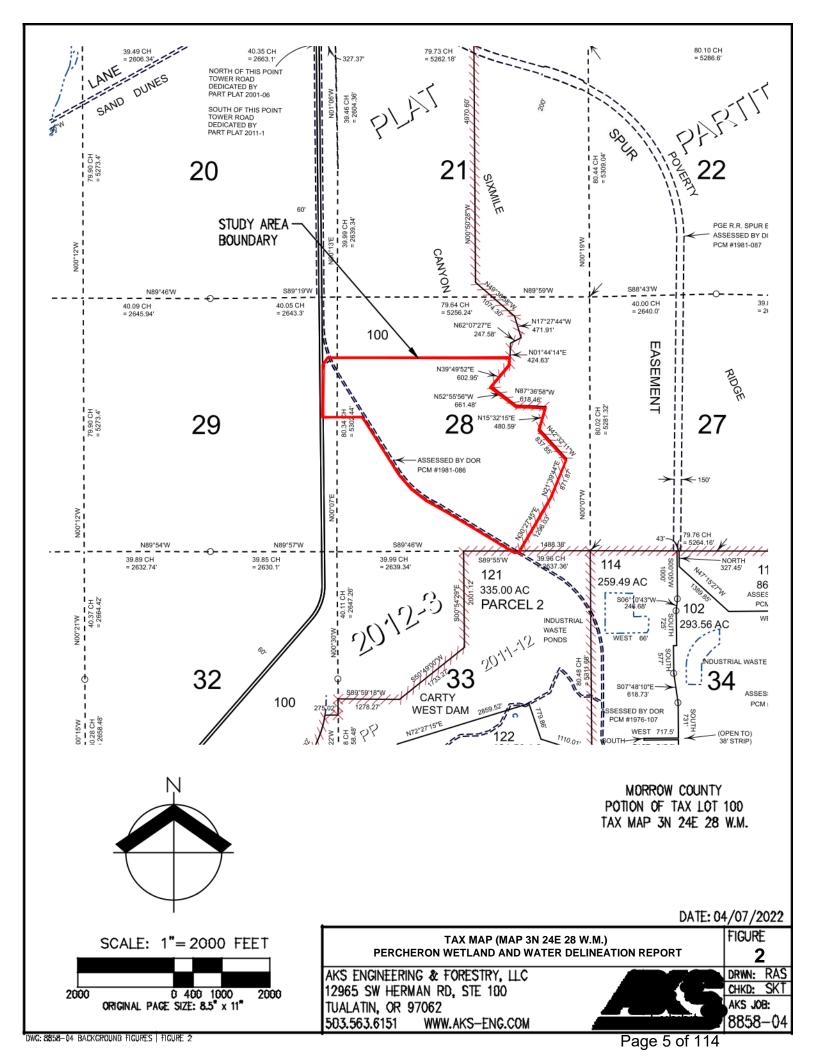
Ways to submit report:

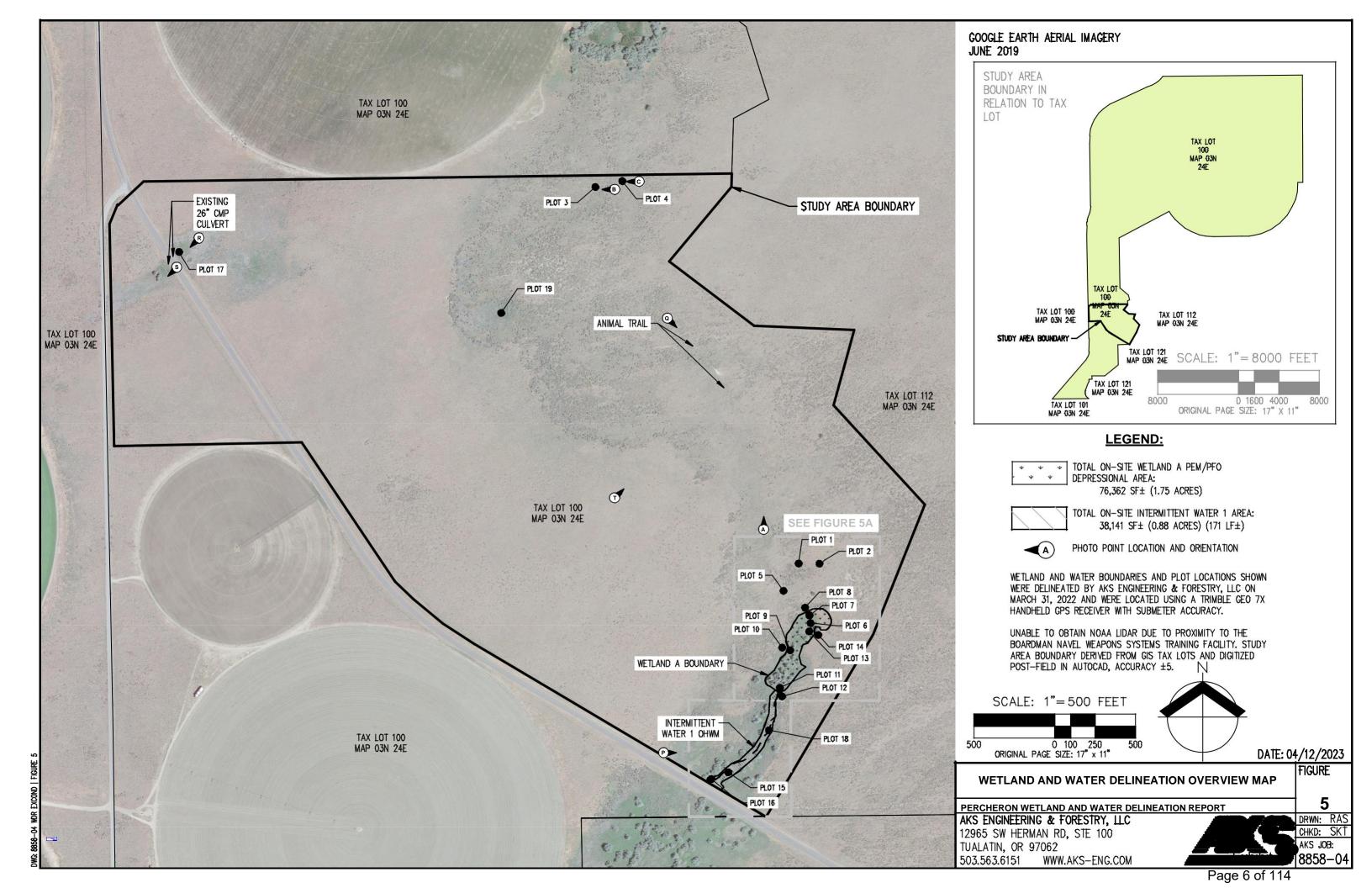
Ways to pay review fee:

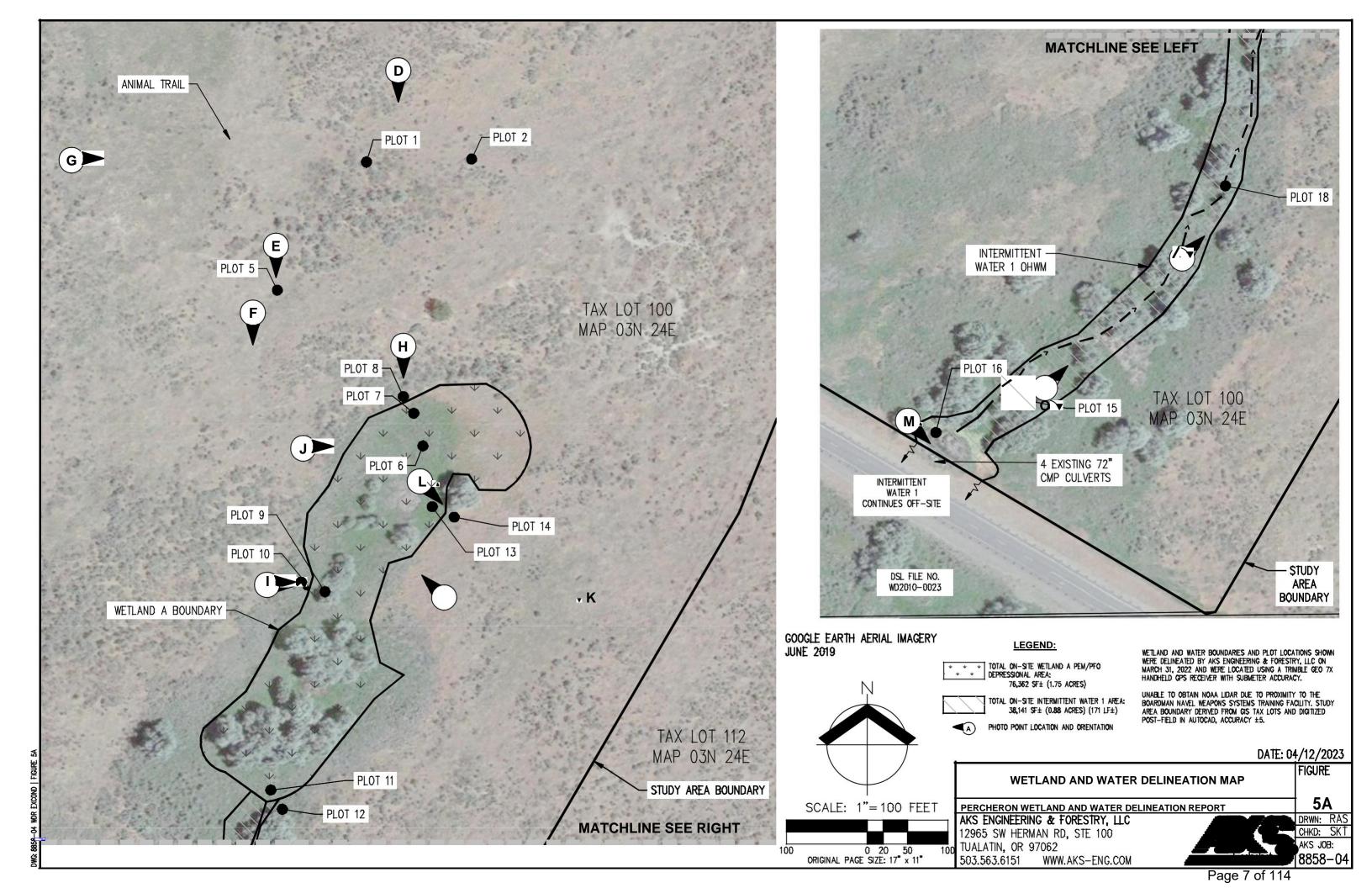
- Under 50MB A single unlocked PDF can be emailed to: wetland.delineation@dsl.oregon.gov.
- 50MB or larger A single unlocked PDF can be uploaded to DSL's Box.com website. After upload notify DSL by email at: wetland.delineation@dsl.oregon.gov.
- OR a hard copy of the unbound report and signed cover form can be mailed to: Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.
- By credit card on DSL's epayment portal after receiving the unique file number from DSL's emailed confirmation.
- By check payable to the Oregon Department of State Lands attached to the unbound mailed hardcopy <u>OR</u> attached to the complete signed cover form if report submitted electronically.

Contact and Authorization Information					
	Business phone # (231) 218-6278				
Rowan Green Data, LLC. ATTN: David Shiflett	Mobile phone # (optional)				
160 E State Street, Ste 120 Traverse City, MI 49684	E-mail: dshiflett@rowandigit.al				
Travolse Oity, Wil 40004					
	): Business phone #				
Kenneth Davies	Mobile phone # (optional)				
160 E State Street, Ste 120	E-mail:				
Traverse City, MI 49684	kdavis@rowandigit.al				
Lather are the constant of a silver declaration of the contract of the contrac	the allege and the appropriate Leville size the Deportment to account the				
property for the purpose of confirming the information in the repo	y to allow access to the property. I authorize the Department to access the				
Typed/Printed Name: Kenneth Davies	Signature: Lynnethe Davies				
Date:8/5/2022 Special instructions regarding s	site access: Please-contact David Shiflett prior to site visit				
Project and Site Information	The second of th				
Project Name: Percheron	Latitude: 45.708042 Longitude: -119.815957				
1 Tojost Name.	decimal degree - centroid of site or start & end points of linear project				
Proposed Use:	Tax Map # Section 28 03N 24E				
Industrial Campus	Tax Lot(s) Portion of 100				
	Tax Map #				
Project Street Address (or other descriptive location):	Tax Lot(s)				
North of Tower Road and Carty Reservoir	Township 03N Range 24E Section 28 QQ				
	Use separate sheet for additional tax and location information				
City: Boardman County: Morrow	Waterway: N/A River Mile: NA				
Wetland Delineation Information					
Wetland Consultant Name, Firm and Address:	Phone # (503) 563-6151				
Sonya Templeton	Mobile phone # (if applicable)				
AKS Engineering & Forestry 12965 SW Herman Road, Suite 100	E-mail: templetons@aks-eng.com				
Tualatin, OR 97062					
The information and conclusions on this form and in the attached	d report are true and correct to the best of my knowledge.				
Consultant Signature:	Date: 8   8   2022				
Primary Contact for report review and site access is	Consultant   Applicant/Owner   Authorized Agent				
Wetland/Waters Present? ☐ Yes ☐ No Study A	rea size: 275 acres Total Wetland Acreage: 1.75				
Check Applicable Boxes Below					
R-F permit application submitted	∑ Fee payment submitted \$ 500				
☐ Mitigation bank site	Resubmittal of rejected report (\$100)				
	Tresubilitial of rejected report (\$100)				
☐ EFSC/ODOE Proj. Mgr:	Request for Reissuance. See eligibility criteria. (no fee)				
☐ EFSC/ODOE Proj. Mgr: ☐ Wetland restoration/enhancement project (not mitigation)	**************************************				
<ul> <li>Wetland restoration/enhancement project (not mitigation)</li> <li>Previous delineation/application on parcel</li> </ul>	Request for Reissuance. See eligibility criteria. (no fee)  DSL # Expiration date				
Wetland restoration/enhancement project (not mitigation)	Request for Reissuance. See eligibility criteria. (no fee)				
<ul> <li>☐ Wetland restoration/enhancement project (not mitigation)</li> <li>☐ Previous delineation/application on parcel</li> <li>If known, previous DSL #</li> </ul>	Request for Reissuance. See eligibility criteria. (no fee)  DSL # Expiration date  LWI shows wetlands or waters on parcel				
<ul> <li>☐ Wetland restoration/enhancement project (not mitigation)</li> <li>☐ Previous delineation/application on parcel</li> <li>If known, previous DSL #</li> </ul>	Request for Reissuance. See eligibility criteria. (no fee)  DSL # Expiration date  LWI shows wetlands or waters on parcel  Wetland ID code  Office Use Only				









# Percheron Boardman, Morrow County, Oregon Wetland and Waters Delineation Report

Date: May 2022

**Prepared for:** Rowan Percheron, LLC

14559 Westlake Drive, Suite C Lake Oswego, OR 97035

**Prepared by:** AKS Engineering & Forestry, LLC

Margret Harburg, Natural Resource Specialist Sonya Templeton, Natural Resource Specialist 503.563.6151 | templetons@aks-eng.com

Study Area: Morrow County Assessor's Map Section 28 03N

24E, Portion of Tax Lot 100

Boardman, Oregon

AKS Job

**Number:** 8858-04



12965 SW Herman Road, Suite 100 Tualatin, OR 97062 (503) 563-6151

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**Appendix C:** Google Earth Aerial Images

Appendix D: Precipitation Data

**Appendix E:** Wetland Determination Data Forms (Plots 1-18)

**Appendix F:** Representative Site Photos

Appendix G: Streamflow Duration Assessment Method (SDAM) Form

#### Introduction

This report was prepared by AKS Engineering and Forestry, LLC (AKS) in accordance with Oregon Administrative Rules (OAR) 141-090-0030 and OAR-141-090-0035 (1-17) and describes the results of a wetland and waters delineation conducted on a portion of Tax Lot 100 of Morrow County Assessor's Map Section 28 03N 24E which is located north of Tower Road and north of Carty Reservoir in Boardman, Morrow County, Oregon (Figures 1 and 2 in Appendix A; referred to as the study area). The study area is approximately 275 acres and is shown in Figures 1 and 2 in Appendix A.

The on-site boundary of one palustrine emergent/palustrine forested (PEM/PFO) wetland (referred to as Wetland A) was delineated by AKS in the study area. Additionally, one intermittent drainage (referred to as Intermittent Water 1) was delineated extending from a series of four culverts under Tower Road north to Wetland A. Wetland A and Intermittent Water 1 are likely jurisdictional to the Oregon Department of State Lands (DSL).

Previous state approved wetland and water delineations mapped in or adjacent to the study area were reviewed to identify information that may be helpful in making a wetland determination, per OAR 141-090-0035(f). A wetland delineation was conducted by Ecology and Environment, Inc. (E&E) in 2009 to the southwest of Tower Road. Upon the request of DSL in 2010, additional field surveys were conducted in 2012 and a 2013 Addendum was provided by E&E. The 2013 E&E Addendum received concurrence from DSL under WD2010-0023 on December 24, 2013 (Appendix B), which determined 15 wetlands and four waterways present. Under the E&E study, an intermittent portion of Sixmile Canyon Drainage was identified continuing off-site to the northeast under Tower Road within the study area.

# A. Landscape Setting and Land Use

The site is located within the Umatilla Plateau ecoregion, LRR B Columbia/Snake River Plateau Region in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 (USACE, 2008). The study area consists of an undeveloped, shrub-steppe habitat consisting of rolling plains dominant in big sagebrush (*Artemisia tridentata, NOL*), bitterbrush (Purshia tridentata, NOL), green rabbitbrush (*Chrysothamnus viscidiflorus*, NOL), rubber rabbitbrush (*Ericameria nauseosa,* NOL), cheat grass (*Bromus tectorum*, NOL) and Russian Thistle (*Salsoa tragus,* FACU). A slightly lower elevational, transitional upland zone surrounding Wetland A (shown as the green area surrounding Wetland A and Intermittent Water 1 on aerial imagery) is dominated by burningbush (*Bassia scoparia,* FAC) and dead big sagebrush with lesser amounts of swainson pea (*Sphaerophysa salsula,* FACU), Amaranthus species (*Amaranthus spp.,* assumed FACU), lambsquarters (*Chenopodium species,* assumed FAC), prickly Russian thistle (*Salsola tragus,* FACU), catnip (*Nepeta cataria,* FACU), (*Onopordum acanthium,* NOL) and yellow star-thistle (*Centaurea solstitialis,* NOL).

Tower Road enters and exits the study area in the northwest corner and then parallels the study area's southern boundary. Land use surrounding the study area consists of agricultural and cultivated crop fields to the north and west, with undeveloped shrub-steppe plains to the east. The Carty Reservoir and Portland General Electric (PGE) associated generation station facilities are located approximately 5,000 feet to the south and southeast of the study area. The Boardman Naval Weapons Systems Training Facility is located approximately five miles to the east.

The study area is located within the Poverty Ridge-Sixmile Canyon watershed (ORWAP, 2022) and is characterized by open grassland plains and rolling hills. The study area is generally flat (slopes less than 5

percent) with undulating topography and an elevation of approximately 600 feet. Poverty Ridge boarders the study area to the east at approximately 650 feet in elevation (Figure 1, Appendix A) with a broad, gradual slope (slopes less than 30%) to the west towards the study area. Topography on the site generally slopes to the north, towards Sixmile Canyon and the Columbia River.

According to the Natural Resources Conservation Service (NRCS) Morrow County Area Soil Survey Map (Figure 3 in Appendix A), the following soil units are mapped within the study area:

- Koehler loamy fine sand, (Unit 26B) 2 to 5 percent slopes; Non-Hydric
- Koehler loamy fine sand, (Unit 26C) 5 to 12 percent slopes; Non-Hydric
- Royal silt loam, (Unit 53A) 0 to 3 percent slopes; Non-Hydric
- Sagehill fine sandy loam hummocky, (Unit 55B) 2 to 5 percent slopes; Non-Hydric
- Sagehill fine sandy loam hummocky, (Unit 55C) 5 to 12 percent slopes; Non-Hydric
- Taunton fine sandy loam, (Unit 58B) 2 to 5 percent slopes; Non-Hydric
- Taunton fine sandy loam, (Unit 58C) 5 to 12 percent slopes; Non-Hydric
- Quincy loamy fine sand, (Unit 40C) 2 to 12 percent slopes; Non-Hydric

#### **B. Site Alterations**

Historical aerial imagery was obtained from Google Earth dating from May 1994 until April 2021 and is included in Appendix C. The study area has remained relatively unchanged since 1994. Animal trails meander through the northern portion of the study area and are visible on aerial images. According to the April 2021 aerial image, potential inundation signatures were present within the vicinity of Wetland A delineated under this study and in an area just to the north, which was determined to be upland. To deduce the source of hydrology, past weather records were analyzed and human activities in the surrounding area were investigated. Precipitation prior to this event recorded no rainfall within six weeks of the April 2021 aerial imagery according to the AcGIS Boardman WETS Station. Coordination with Portland General Electric's Carty Generating Station Unit 1 determined no discharge from Carty Reservoir contributes to the flow regime of Intermittent Water 1. It is AKS' best professional judgement that inundation observed at the time of this aerial was an aberrant event from adjacent agricultural irrigation runoff.

Additionally, potential signatures of saturation are present in the northwest corner of the site starting in July 2001 until January 2021. Signatures are likely a result of irrigation from the adjacent agricultural crop circles to the north and west of the study area. No channel or drainage patterns were observed during AKS field investigations and this area was determined to be upland. There appears to have been no recent site alterations that would affect wetlands and waters on the site.

#### C. Precipitation Data and Analysis

Observed precipitation data were obtained from the National Oceanic and Atmospheric Administration's (NOAA) Applied Climate Information System (ACIS) Boardman, Oregon weather station. The closest Climate Analysis for Wetlands Tables (WETS) station to the project site is the Boardman station. The growing season (at 50 percent probability that the temperature is 28 degrees F or higher) is between April 2 and October 28, according to the WETS data. The October 14<sup>th</sup>, 2021 site visit was conducted within the later portion of the growing season and the March 31, 2022 site visit was conducted close to the beginning

of the WETS growing season and woody bud break was observed during the site visit—indicating the start of the growing season.

According to the Boardman weather station, the site received no rainfall the day of the October 14, 2021 site visit and 0.14 inches was received within the two weeks prior. Observed water year-to-date (starting October 1, 2021) was 0.14 inches. As depicted in Table 1 below, monthly observed precipitation was within normal range preceding the site visit according to the WETS data. However, the site visit was conducted following a hot and dry summer.

According to the Boardman weather station, no rainfall was received the day of the March 31, 2022 site visit and 0.05 inches of rainfall was received within the two weeks prior. According to the WETS data, monthly observed precipitation was wetter than normal preceding the site visit as depicted in Table 2 below. Observed water year-to-date (starting October 1, 2021) was 12.99 inches, which is 6.99 inches above normal. A reference site located several miles to the north of the study area was visited by AKS around the time of March 2022 site visit. Primary indicators of wetland hydrology were observed on the site as was used as a reference for wetland hydrology indicators within the study area.

Tables 1 and 2 show antecedent rainfall according for the WETS Boardman station for the three months prior to the October 2021 and March 2022 site visits (raw data included in Appendix D):

Table 1: Precipitation Data Prior to the October 14, 2021 Site Visit

Prior Months	Observed Precipitation (Inches)	Average WETS Precipitation (Inches)	30% Cl Will H Less Than		Condition Dry, Wet, Normal	Condition Value (1=dry, 2=normal, 3=wet)	Month Weight	Multiply Previous Two Columns
Sept. 2021	0.59	0.37	0.10	0.36	Wet	3	3	9
Aug. 2021	0.02	0.27	0.07	0.24	Dry	1	2	2
July 2021	0.00	0.18	0.00	0.17	Normal	2	1	2
Sum								13
								normal
Rainfall of prior period was: <b>drier</b> than normal (sum is 6-9), <b>normal</b> (sum is 10-14), <b>wetter</b> than normal (sum is 15-								L5-18)

Table 2: Precipitation Data Prior to the March 31, 2022 Site Visit

	Observed	Average WETS	will H		Condition	Condition Value		Multiply Previous
Prior Months	Precipitation (Inches)	Precipitation (Inches)	Less Than	More Than	Dry, Wet, Normal	(1=dry, 2=normal, 3=wet)	Month Weight	Two Columns
March 2022	1.10	0.68	0.43	0.82	Wetter	Т 3	3	9
Feb. 2022	0.56	0.88	0.48	1.06	Normal	2	2	4
Jan. 2022	0.96	1.20	0.74	1.46	Normal	2	1	2
Sum							Sum	15
								wetter

#### D. Methods

Field work was conducted on October 14, 2021 by AKS Natural Resource Specialists Sonya Templeton and Margret Harburg to delineate potentially jurisdictional wetlands and waters within the study area. A follow up site visit was conducted on March 31, 2022 by AKS Natural Resource Specialists Sonya Templeton and Margret Harburg and Senior Wetland Scientist Stacey Reed, PWS to confirm the extent of wetland and water boundaries during the annual groundwater recharge and early portion of the growing season. During the field investigations, AKS staff traversed the entire study area to assess existing conditions. Since there were no hydric soils mapped on the site, data plots were documented in the lowest elevational areas as well as areas with a hydrophytic vegetation community.

Soils, vegetation, and hydrology indicators were recorded at 18 sample plots on standardized wetland determination data forms (Appendix E) to document site conditions. The extent of wetland and water boundaries are shown on attached Figure 5-5A. Representative ground level site photographs are included in Appendix F. References cited and literature used are listed at the end of this report.

The methodology used to determine the presence of wetlands followed the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0)* (Wakeley et al. 2008). The *National Wetland Plant List 2018* (USACE 2018) was used to assign wetland indicator status for the appropriate region. The delineation of the Ordinary High Water Mark (OHWM) followed the *Corps of Engineers Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States Manual (Lichvar et al. 2008). Indicators used to determine the onsite OHWM of Intermittent Water 1 included a change in vegetation species, a break in slope from the active floodplain to the low terrace, and a presence of the bed and bank.* 

The methodology used to determine stream flow duration of Intermittent Water 1 followed the US Environmental Protection Agency (EPA), Region 10 (Document number EPA 910-R-11-002, Nov 2011) Streamflow Duration Assessment Method (SDAM) for Oregon. The User Manual for a Beta Streamflow Druation Assessment Method for the Arid West of the United States (Version 1.0) (Mazor et al. 2021) was referenced as an aid in the determination of the flow regime. The Oregon SDAM Field Assessment form for Intermittent Water 1 is included in Appendix G.

#### F. Description of All Wetlands and Other Non-Wetland Waters

#### Wetland A

Wetland A is a PFO/PEM wetland located in the southeastern portion of the study area within a low topographic depression. An intermittent drainage flows north into the southern boundary of Wetland A. No channel was observed flowing through or continuing north of the wetland; therefore, Wetland A lacks a surface water outlet. The main source of hydrology consists of direct precipitation and secondarily from subsurface flow and surface runoff from the adjacent upland that collects in the wetland from irrigation or from a period of heavy rain. Wetland A has an inlet channel, seasonal inundation, and a collection basin area greater than 2 feet deep; therefore, belongs to Depressional Closed Nonpermanent (DCNP) HGM subclassification.

During both the October 14, 2021 and March 31, 2022 site visits, Wetland A was dominated by Russian olive trees (*Elaeagnus angustifolia*, FAC) in the PFO portions of the wetland and perennial Chairmaker's bulrush (*Schoenoplectus americanus*, OBL) with lesser amounts of common reed (*Phragmites australis*,

FACW), rough cocklebur (*Xanthium strumarium*, FAC) and twoscale saltbush (*Atriplex heterosperma*, FAC) in the PEM portions of the wetland. Slight differences in vegetation were observed between the fall and spring visits. During the October 14, 2021 site visit, some late blooming annual populations were observed such as rough cocklebur (*Panicum capillare*, FAC) that had finished their life cycle and were no longer present in the spring. During the March 31, 2022, site visit western goldentop (*Euthamia occidentalis*, FACW) was observed sprouting at Plot 15 that was not present during the fall visit. Common panic grass is characterized by a late blooming, annual lifecycle duration (NRCS, 2022).

Soils observed in the wetland were of low chroma (chroma of 2 or less) displaying distinct or prominent redoximorphic features meeting hydric soil indicator Redox Dark Surface (F6) or Sandy Redox (S5). Soils also displayed a depleted matrix meeting hydric soil indicator F3. No groundwater table or soil saturation was observed within the upper 12 inches of the soil surface at all wetland plots (Plots 6, 7, 9, 11, and 13) during both site visits; however, Plot 13 was saturated at 16 inches during the March 31, 2022 site visit. All wetland plots displayed primary indicators of hydrology including Non-riverine Water Marks (B1). Water marks on trees and shrubs within the wetland was observed at approximately 3 feet. All wetland plots were documented in the potential inundation signature visible on the April 2021 aerial.

The wetland boundary was defined based on an approximate 3 to 5-foot change in topography on average. The northern portion of the wetland was defined by an approximate 20-foot change in topography. There was also a change in the composition of the vegetation community (FAC to FACW) in the wetland to a non-hydrophytic community in the upland. The change in the vegetation community coincides with a change in the landform from a concave, lower elevation in the wetland to a convex, higher elevation in the adjacent upland. The adjacent upland area lacked hydric soils and hydrology indicators as documented at paired upland Plots 8, 10, 12, and 14.

#### Upland

The adjacent upland surrounding Wetland A is characterized by a low terrace situated approximately 3 to 5 feet higher in elevation on average that gives way to a higher elevation shrub steppe habitat in the surrounding landscape. The low terrace setting is depicted by the lighter green area shown on Google Earth aerials. During both the October 14, 2021 and March 31, 2022 site visits, the upland area adjacent to Wetland A as documented by paired upland Plots 8, 10, 12, and 14, was dominated by burningbush (FAC) and twoscale saltbush (FAC) with lesser amounts of swainson pea (FACU), Amaranthus species (FACU), lambsquarters (assumed FAC), prickly Russian thistle (FACU), catnip (FACU), Scotch cottonthistle (NOL) and yellow star-thistle (NOL). Slight differences in vegetation were observed between the fall and spring visits. During the October 14, 2021 site visit, there were some species observed in the upland area that had finished their life cycle by the spring visit such as: spider flower species (*Cleomella spp.*, NOL), clasping pepperwort (*Lepidium perfoliatum*, FACU), and prickly lettuce (*Lactuca serriola*, FACU). During the March 31, 2022, site visit there was additional tall tumblemustard (*Sisymbrium altissimum*, FACU) and bare ground. A few yellow fritillaries (*fritillaria pudica*, NOL) were observed blooming in the higher elevation upland area. All upland plots lacked hydric soils and indicators of wetland hydrology.

Plots 1 and 2 were documented in the potential inundation signature just north of Wetland A visible on the April 2021 aerial. There is an approximate 20 feet tall land bridge (with one Juniper species on top [Juniperus spp., assumed FACU or drier]) separating the potential inundation signatures from one another (Photos D and H, Appendix F). The vegetation associated with Plots 1 and 2 were dominant in Scotch cottonthistle (NOL), and twoscale saltbrush (FAC). No channel or defined bed and bank was observed

north or south of this area. Plots 1 and 2 characterize a slightly low topographic area, however this area lacked evidence of recent surface water ponding and is not located within NRCS mapped hydric soils. Plots 1 and 2 both lacked hydric soils and indicators of wetland hydrology; therefore, this area was determined to be upland.

Plots 3 and 4 were documented near the northernmost boundary of the study area in the lowest elevations. Both plots were dominant in Russian thistle (FACU) and cheatgrass (NOL) and subdominant in tall tumblemustard (FACU). There were animal trails throughout the area (likely deer) that are visible on aerial photos. No channel or defined bed and bank were observed in the vicinity of Plots 3 and 4. Both plots lacked hydric soils and indicators of wetland hydrology and were therefore determined to be upland.

Plot 5 was taken in a low topographic location that was approximately 1.5 feet lower in elevation than the surrounding area. The plot was dominant in yellow star-thistle (NOL) and tumblemustard (FACU). Plot 5 lacked hydric soils and indicators of wetland hydrology and was therefore determined to be upland. No defined bed and bank or OHWM were observed. There was no defined channel observed connecting to Wetland A or to the north of the plot.

Plot 17 was documented in the northwestern corner of the study area to document the conditions on either side of a culvert crossing beneath Tower Road. The plot was taken in the lowest topographic area, approximately 15 feet from the culvert opening. No defined bed and bank or OHWM were observed on either side of Tower Road. Tumblemustard (FACU), big sagebrush (NOL), and bitterbrush (NOL) were observed in the surrounding vicinity. The plant community at Plot 17 was dominant in Chairmaker's bulrush (OBL) and western goldentop (FACW). These species require prolonged periods of saturated soils for germination. Both species appeared to be dead with no evidence of new growth during both the October 2021 and March 2022 site visits. A reference site that was visited by AKS located several miles to the north of the study area contained both species, in which new growth was observed within conditions that contained saturated soils. Plot 17 lacked hydric soils and primary indicators of wetland hydrology. Therefore, this area was determined to be upland.

#### **Non-Wetland Waters**

#### **Intermittent Water 1**

Intermittent Water 1 enters the study area from the southeast and connects to the southern boundary of Wetland A and does not continue north beyond the wetland. The channel bed was vegetated with Russian olive trees (FAC) and twoscale saltbush (FAC) with scattered Chairmaker's bulrush (OBL) and common reed (FACW) which were observed near the culvert openings under Tower Road. The slope of the stream reach is approximately 3 percent or less with undulating topography. Based on this data, the streamflow is considered intermittent. The EPA defines an intermittent stream as a channel that contains water for only part of the year, that may lack biological and hydrological characteristics, with greatly variable flow including stormwater runoff.

Intermittent Water 1 is situated in a shallow floodplain surrounded by a low terrace within a greater shrub steppe landscape. The channel is on average 50 feet wide. No surface water flow or recent evidence of surface water flow such as a salt crust, sediment deposit or soil cracking was present during both the October 2021 and March 2022 site visits. A shallow low-flow channel was observed that was approximately 1- to 3-feet-wide, with 4- to 6-inch-tall banks. The channel substrate was composed of a

loamy sand with duff from the Russian olive trees. Plots 15, 16, and 18 were taken in the channel to document the general conditions and all lacked hydric soil and indicators of wetland hydrology.

The riparian area within the low terrace was dominated by burningbush (FAC) and twoscale saltbush (FAC) with lesser amounts of swainson pea (FACU), Amaranthus species (FACU), lambsquarters (assumed FAC), prickly Russian thistle (FACU), catnip (FACU), Scotch cottonthistle (NOL) and yellow star-thistle (NOL).

#### **G. Deviation from NWI**

The study area is not mapped on an Oregon Department of State Lands (DSL) approved Local Wetland Inventory (LWI) map. The National Wetland inventory (NWI) map for this area indicates one freshwater emergent wetland in the vicinity of Wetland A delineated under this study (Figure 5 in Appendix A). AKS agrees with the general location of the documented wetland however, it has been mapped significantly larger under this study. Additionally, AKS mapped an intermittent stream flowing north from Tower Road to Wetland A.

# H. Mapping Method

AKS mapped Plots 1 through 18, Wetland A boundary, and extent of Intermittent Water 1 using a handheld Trimble Geo 7X GPS unit with submeter accuracy. The wetland and waters delineation map are included as Figure 5 and 5A in Appendix A.

#### I. Additional Information

Wetland A delineated in the study area is a naturally occurring wetland and is likely to be determined jurisdictional to DSL. Intermittent Water 1 has an intermittent flow regime and is likely to be determined jurisdictional to DSL. According to the current DSL Essential Salmonid Habitat (ESH) map Intermittent Water 1 is not designated as an ESH stream within the study area. According to Pacific States Marine Fisheries Commission (PSMFC) StreamNet, Intermittent Water 1 within the study area is not mapped as a native fish-bearing stream.

Wetland A delineated in the study area is isolated and is likely to be determined non-jurisdictional to the USACE. Wetland A does not have a direct hydrologic, chemical, or biological connection to the Columbia River (a traditional navigable water), lacking a significant nexus. Therefore, Wetland A would likely not be considered a water of the United States under the Clean Water Act Section 404.

## J. Summary of Results and Conclusions

Sufficient information and technical requirements to aid in making a jurisdictional determination have been provided in this report. Table 2 below provides a summary of this information, including: the onsite sizes of the features, hydrologic connections to other nearby waters, the hydrogeomorphic (HGM) wetland classification or flow regime, and our prediction of whether each feature would likely be determined jurisdictional by DSL.

**Table 2: Summary of Study Results and Conclusions** 

Potentially Jurisdictional Feature	Latitude/ Longitude	Size	HGM/ Flow Regime	Connection to Other Waters/Wetlands	Predicted Jurisdiction
Wetland A	45.708042, -	1.73	PEM	None	DSL
	119.815957	acres			
Intermittent Water 1	45.705420, - 119.818117	0.88 acres	Intermittent	Wetland A	DSL

# K. Required Disclaimer

This report documents the investigation, best professional judgment, and conclusions of the investigator. 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 Oregon Administrative Rules (OAR) 141-090-0005 through 141-090-0055.

# L. List of Preparers

Margret Harburg

**Natural Resource Specialist** 

Field Work and Report Preparation

Sonya Templeton

Natural Resource Specialist

Sonya Templetu

Fieldwork and Report QA/QC



#### **Literature Cited and Referenced**

- Adams, P.R. 2001. Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Sites: Statewide Classification and Profiles. Salem (OR): Oregon Division of State Lands. Available at:

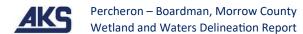
  http://www.oregon.gov/dsl/WW/Documents/hydro\_guide\_class.pdf. [Accessed April 2022].
- Environmental Laboratory. 1987. Technical Report Y-87-1. In: Corps of Engineers Wetlands Delineation Manual. Vicksburg (MS): US Army Engineer Waterways Experiment Station. Available at: https://www.sac.usace.army.mil/Portals/43/docs/regulatory/1987\_wetland\_delineatio n\_manual\_reg.pdf. [Accessed April 2022].
- Hitchcock, C.L., and A. Cronquist. 1973. *Flora of the Pacific Northwest*. Seattle (WA): University of Washington Press. [Accessed April 2022].
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 wetland ratings*. Phytoneuron 2016-30: 1-17. Published 28 April 2016. Available at: http://wetland-plants.usace.army.mil/nwpl\_static/v33/home/home.html. [Accessed April 2022].
- National Oceanic and Atmospheric Administration (NOAA). 2021. *ACIS*, Boardman, OR. Available at: http://agacis.rcc-acis.org/?fips=41005. [Accessed April 2022].
- Natural Resources Conservation Service (NRCS). 2006. *Hydric Soils List: Morrow County, Oregon*. Washington (DC): US Department of Agriculture. [Accessed April 2022].
- Natural Resources Conservation Service (NRCS). 2014a. *Official soil series descriptions*. Washington (DC): US Department of Agriculture. Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/soils/home/?cid=nrcs142p2\_0535 87. [Accessed April 2022].
- Natural Resources Conservation Service (NRCS). 2014b. *Web soil survey*. Washington (DC): US

  Department of Agriculture. Available at: http://websoilsurvey.nrcs.usda.gov/app/.

  [Accessed April 2022].
- Oregon Department of State Lands (DSL). 2014. Administrative Rules for Wetland Delineation Report Requirements. Salem (OR): Department of State Lands. Available at: https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=355. [Accessed April 2022].
- Oregon Department of State Lands (DSL). 2022. ORWAP and SFAM Map Viewer. Salem (OR):

  Department of State Lands. Available at:

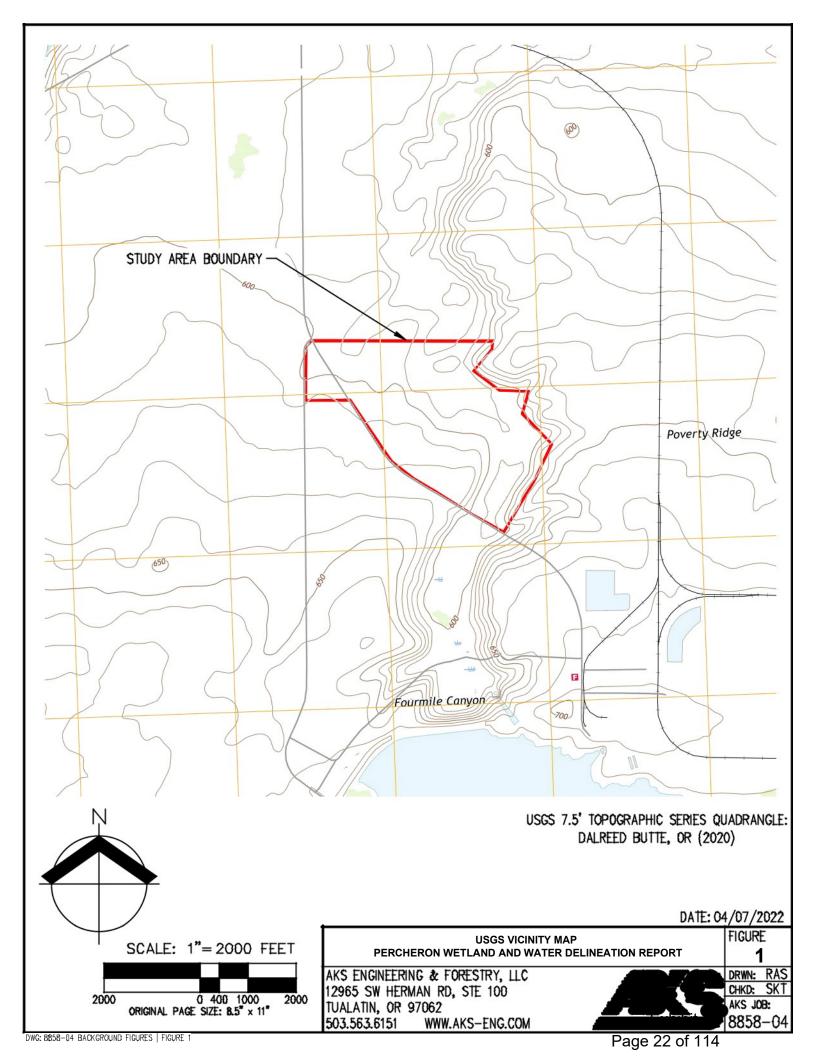
  https://tools.oregonexplorer.info/OE\_HtmlViewer/index.html?viewer=orwap\_sfam
  [Accessed April 2022].
- Oregon Map. 2019. Morrow County Assessor's Maps 3N 24E Oregon: State of Oregon. Available at: http://www.ormap.net/. [Accessed April 2022].
- PSMFC. StreamNet Mapper. Spokane (WA): Pacific States Marine Fisheries Commission. Available at: https://www.streamnet.org/data/interactive-maps-and-gis-data/ [Accessed April 2022].

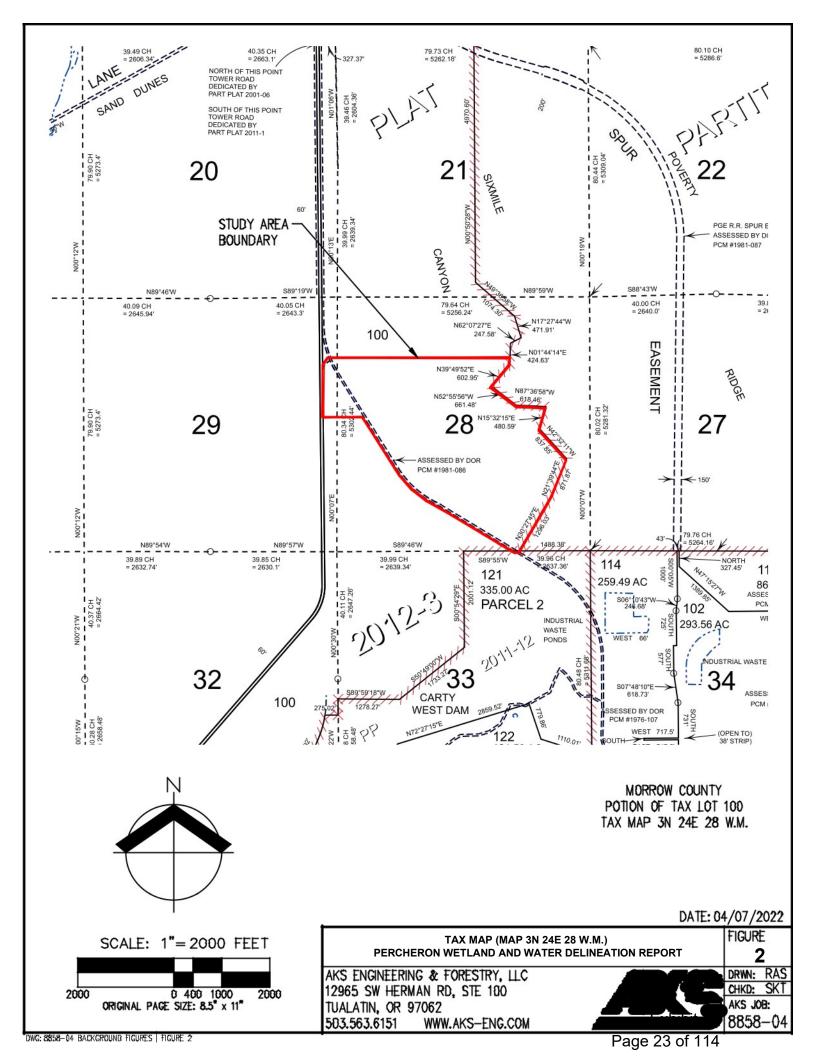


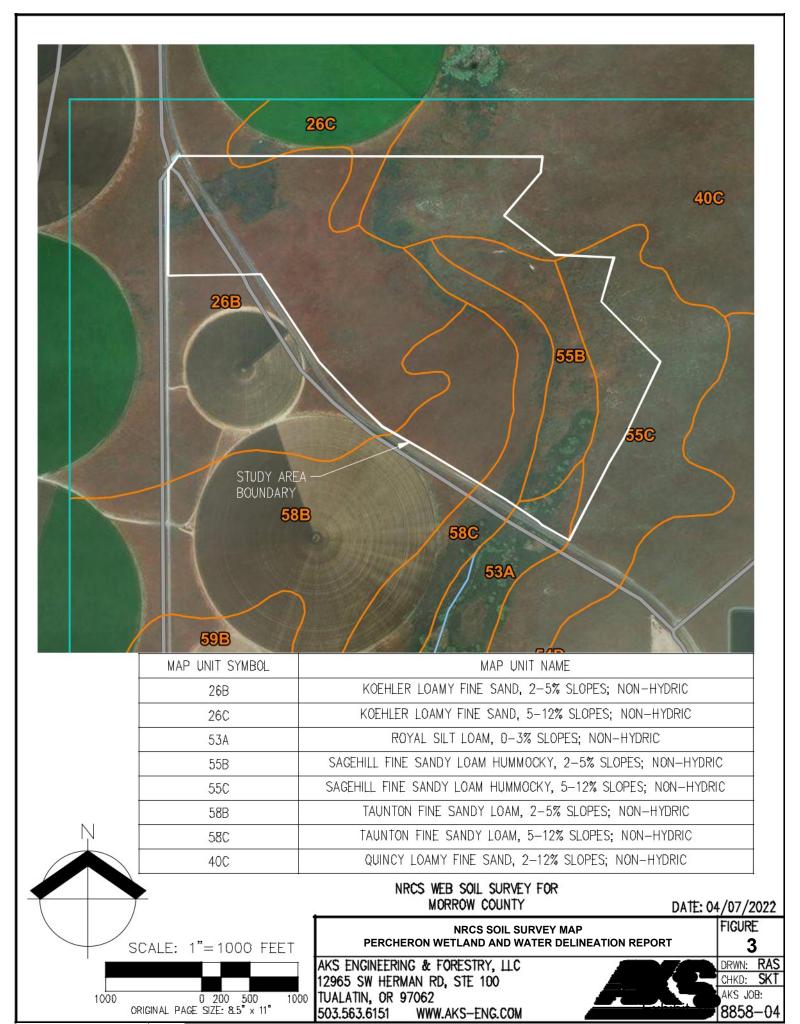
- Schoeneberger, P.J., D.A. Wysocki, E.C. Benham, and W.D. Broderson, eds. 2002. *Field Book for Describing and Sampling Soils* (Version 2.0). Lincoln (NE): US Department of Agriculture Natural Resources Conservation Service, National Soil Survey Center. [Accessed April 2022].
- Vasilas, L.M., G.W. Hurt, and C.V. Noble, eds. 2010. Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils (Version 7.0). Washington (DC): US Department of Agriculture Natural Resources Conservation Service. Available at: https://www.nrcs.usda.gov/Internet/FSE\_DOCUMENTS/stelprdb1046970.pdf. [Accessed April 2022].
- US Army Corps of Engineers (USACE). 2018. *National Wetland Plant List, version 3.4*. Available at: http://wetland-plants.usace.army.mil/. [Accessed April 2022].
- Wakeley, J.S., R.W. Lichvar, and C.V. Noble, eds. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0).* ERDC/EL TR-10-3. Vicksburg (MS): US Army Engineer Research and Development Center, US Army Corps of Engineers. [Accessed April 2022].
- X-Rite. 2000. Year 2000 revised washable edition, Munsell soil color charts. Grand Rapids (MI): X-Rite. [Accessed April 2022].
- Portland General Electric Company (PGE). 2020. Request for Amendment No. 2 to the Site Certificate for the Carty Generating Station. Available at: https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2020-10-02-CGS-AMD2-Complete.pdf. [Accessed April 2022



# **Appendix A: Maps**

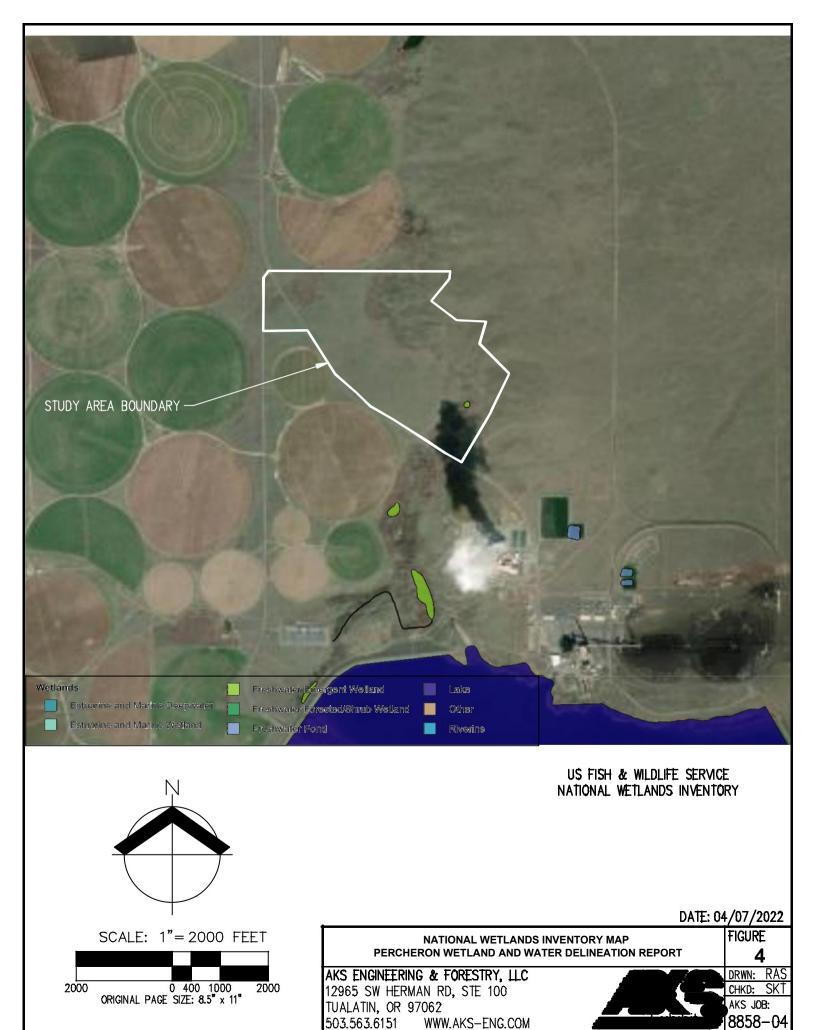




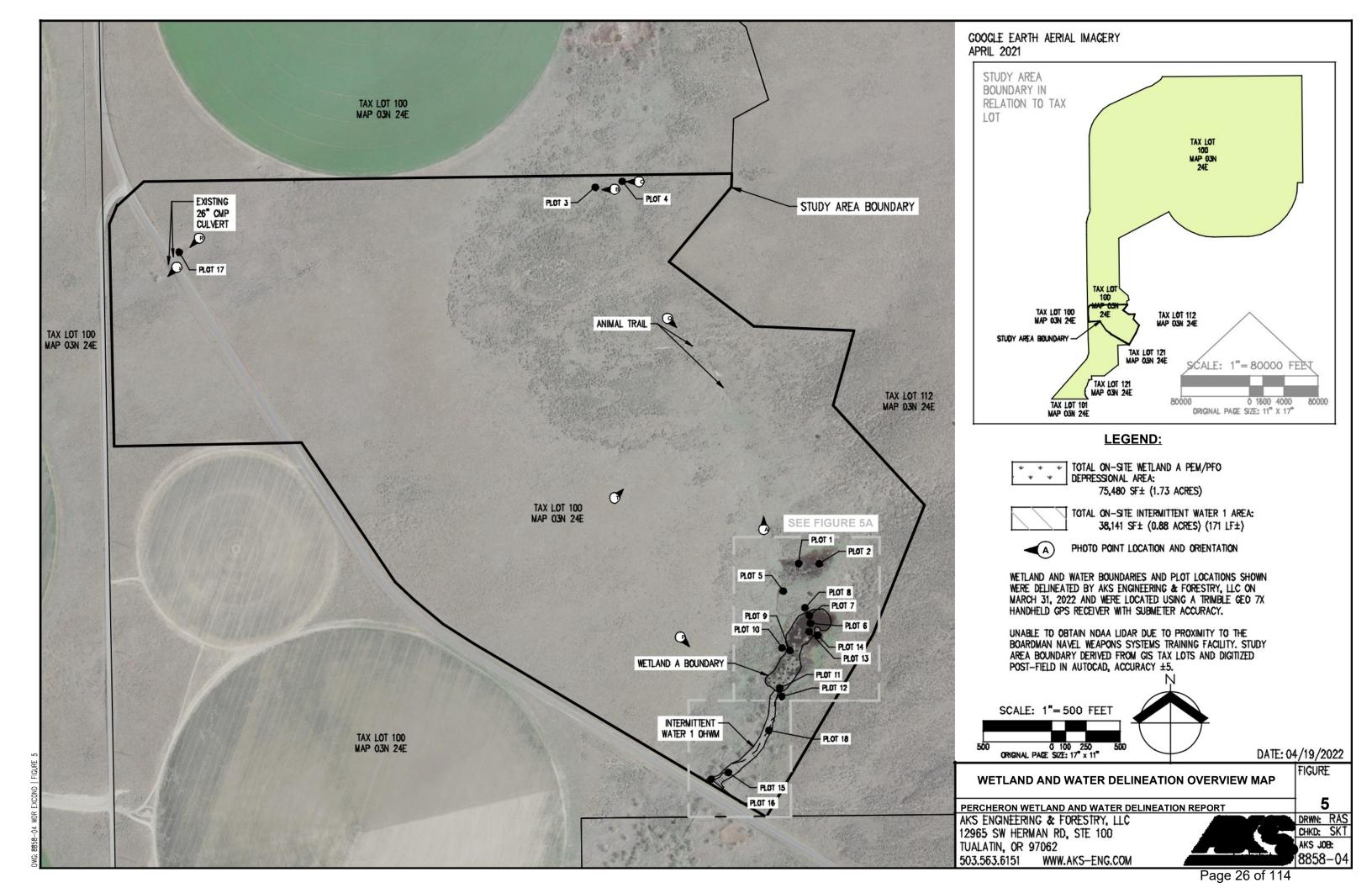


DWG: 8858-04 BACKGROUND FIGURES | FIGURE 3

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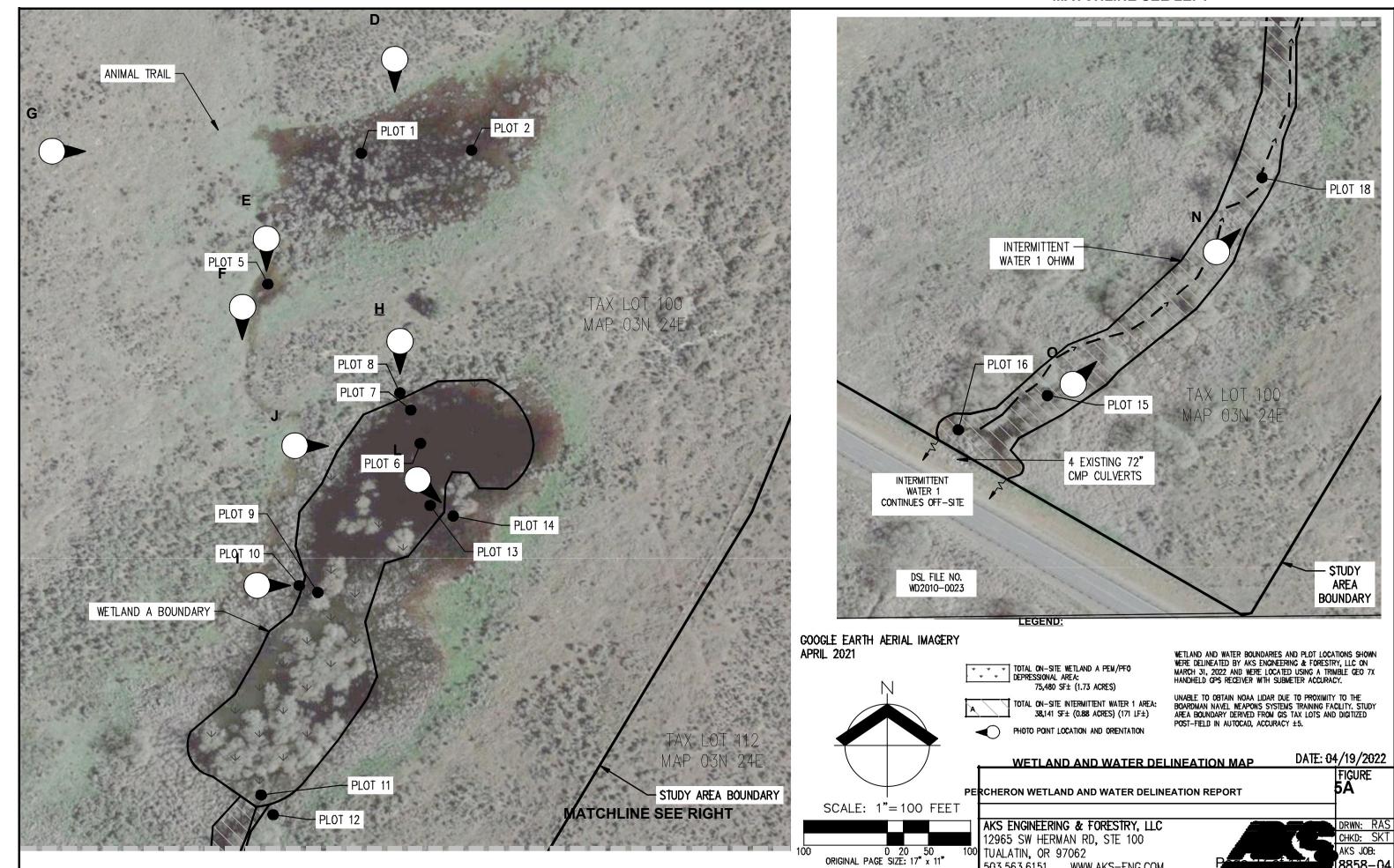


# **MATCHLINE SEE LEFT**

503.563.6151

WWW.AKS-ENG.COM

8858-04





# **Appendix B: DSL Wetland Delineation Concurrence Letter (WD2010-0023)**



December 24, 2013

Portland General Electric Company Attn: Mike Livingston & Lenna Cope 121 SW Salmon Street, 3WTC-BR05 Portland, Oregon 97204 **Department of State Lands** 

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

State Land Board

John A. Kitzhaber, MD Governor

Re: Wetland Delineation Report for Morrow and Gilliam Counties; T02N R22E, R23E, & R24E; T03N R21E, 22E, 23E & 24E; portions of multiple Tax Lots – see attached Table F, revised; WD #2010-0023

Kate Brown Secretary of State

Dear Mr. Livingston & Ms. Cope:

Ted Wheeler State Treasurer

The Department of State Lands has reviewed the wetland delineation report prepared by Ecology and Environment, Inc. for the study area referenced above. Please see the attached maps and revised Table F for the study area locations. Based upon the information presented in the report, and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in revised Figures 5.1 – 5.5 & corresponding detail maps (11 total in set), attached. Please replace all copies of the preliminary wetland maps with these final Department-approved maps. Within the study area, 15 wetlands (totaling approximately 7.279 acres) and four waterways were identified. The wetlands, Willow Creek, stream SS-002-001 and a portion of Sixmile Canyon Drainage are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in the wetland or below the ordinary high water line (OHWL) of a waterway (or the 2 year recurrence interval flood elevation if OHWL cannot be determined).

However, within the study area Eightmile Canyon Drainage and a portion of Sixmile Drainage were determined to have ephemeral flow and therefore, are not state jurisdictional. Please see the revised Table F and maps for details.

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

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you

work with Department staff on appropriate site design before completing the city or county land use approval process.

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

Thank you for having the site evaluated. Please phone me at 503-986-5297 if you have any questions.

Sincerely,

Jevra Brown

Wetland Specialist

Approved by

Kathy Verble, CPSS

Acting Wetlands Program Manager

#### Enclosures

ec: Clare Kenny, Ecology and Environment, Inc.
Morrow County Planning Department
Gilliam County Planning Department
Shelly Lynch, Corps of Engineers LaGrande office
Heidi Hartman, DSL Bend office
Sue Oliver & Duane Kilsdonk, OR Department of Energy, EFSC

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## WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach the form to the front of an unbound report and submit to: Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279

Mail a copy of the completed form with payment of the required report review fee to: Oregon Department of State

Lands, P.O. Box 4395, Unit 18, Portland, OR 97208-4395.

For new credit card payment option, see DSL web site.

Tornew orcan auta paymont opacin see Doz need ones	the state of the s				
Applicant Owner Name, Firm and Address:	Business phone # 503/464-8519				
Portland General Electric Company	Mobile phone # (optional)				
121 SW Salmon Street, 3WTC-BR05	FAX # 503-464-8527				
Portland, OR 97204	E-mail: ray.hendricks@pgn.com				
Authorized Legal Agent, Name and Address:	Business phone # 503-464-8127				
Mike Livingston	FAX # 503-464-2863				
121 SW Salmon St	Mobile phone # 503-849-3299				
Portland, OR 97204	E-mail: mike.livingston@pgn.com				
Lenaa. Cope @ pgn. com Environmenta	ty to allow access to the property. I authorize the Department to access				
the property for the purpose of confirming the information in the	report, after prior notification to the primary contact.				
Typed/Printed Name: Mike Livingston	Signature:				
Date: 2/15/2010 Special instructions regarding site acce					
Project and Site Information (for latitude & lon	gitude, use centroid of site or start & end points of linear project)				
Project Name: Carty Generating Station	Latitude: 45 41'59.937"N Longitude: 119 48' 49.39" W				
Proposed Use: Combined-cycle natural gas power	Tax Map # Attached table lists all tax map numbers for the project. Table Frevised				
generating facility and associated 18-mile	project. Table Prevised				
transmission line					
Project Street Address (or other descriptive location):	Township Range Section QQ				
Near the existing Boardman Plant - accessed from I-	Tax Lot (s) Attached table lists tax lots.				
84 and Tower Road	Waterway: River Mile:				
City: near Boardman County: Morrow/Gilliam	NWI Quad(s): Arlington, Horn Butte, Dalreed Butte, Ella				
House Committee and the Commit	neation Information				
Wetland Consultant Name, Firm and Address:	Phone # 503/248-5600 × 4608 7130-4				
Lucas C. Meek CLARE KENNY X4624	Modile phone #				
Ecology and Environment, Inc. 333 SW Fifth Ave, Suite 600, Portland, OR 97204	FAX # 503/248-5577 Cc// ph # E-mail: Imeek@ene.com 360-907-0				
The information and conclusions on this form and in the attached					
Consultant Signature:	Deter				
	- Date. 2/15/10				
Primary Contact for report review and site access is	Consultant				
Wetland/Waters Present? ☐ Yes ☐ No Study Area					
Check Box Below if Applicable:	Fees: See Table Frevised				
☐ R-F permit application submitted	☐ Fee payment submitted \$ 363.00				
☐ Mitigation bank site	☐ Fee (\$100) for resubmittal of rejected report				
☐ Wetland restoration/enhancement project (not mitigation	Name of Payor: Eric White, E&E				
☐ Industrial Land Certification Program Site					
Other Information:	YN				
Has previous delineation/application been made on parcel	? □ 図 If known, previous DSL # Unknown				
Does LWI, if any, show wetland or waters on parcel?	□ No LWI available				
For Of	fice Use Only				
DSL Reviewer: 1B Fee Paid Date:	11DSLWD# 200-0023				
Date Delineation Received: 2115110 DSL Pr	oject # DSL Site #				
Scanned: Final Scan: D DSL W	N# DSL App. #				
COVEY VECA 2.15.10	. 198				

Table F: Tax Lot and Figure Number Guide for Delineated Features - revised

COUNTY	MAP NUMBER	TAX LOT	2013 ADDENDUM FIGURES	FINAL FIGURES	FEATURE ID	TOTAL ACRES	FINAL DSL DETERMI-NATION
	03N24E	102			(None)		
	03N24E	115			(None)		
MORROW	03N24E	114			(None)		
	02N24E	101			(None)		
	03N24E	101			(None)		
MORROW	02N24E	103			(None)		
			S6, 11	5.3, 5.3.1	Wetland C	0.9	Yes
			S7, S12	5.3, 5.3.2	Wetland D	0.2	Yes
			S7, S10	5.3, 5.3.1	WW-002-009	0.1	Yes
MORROW	02N23E	100	S7, S10	5.3, 5.3.1	WW-002-010	0.6	Yes
			S7, S10	5.3, 5.3.1	WW-002-011	0.3	Yes
			S7, S11	5.3, 5.3.1	WW-002-012	0.7	Yes
			S6	5.3, 5.3.1	SS-002-001	n/a	Yes
			S1, S2, S10	5.1, 5.1.1	Wetland A	0.8	Yes
			S5, S11	5.1, 5.1.3	Wetland B	2.2	Yes
			S1, S2	5.1, 5.1.1	Wetland J	0.01	Yes
	03N24E	120	S4, S12	5.1, 5.1.2	Wetland H-1	0.85	Yes
			S4, S12	5.1, 5.1.2	Wetland H-2	0.01	Yes
MORROW			S4, S12	5.1, 5.1.2	WW-002-001	0.005	Yes
			S1, S2, S11	5.1, 5.1.1	WW-002-002	0.3	Yes
			S1, S2, S10	5.1, 5.1.1	WW-002-007	0.3	Yes
			S4, S11	5.1, 5.1.2	WW-004-001	0.004	Yes
			S1, S2, S3, S4	5.1, 5.1.1, Sixmile	Sixmile Canyon	,	Yes, Figure 5.1.1
				5.1.2	Drainage	n/a	No, Fig. 5.1.2, ephemeral
GILLIAM	03N22E	2100		1	(None)		, , , ,
GILLIAM	03N21E	506			(None)		
			S8	5.4, 5.4.1	Willow Creek	n/a	Yes
GILLIAM	03N22E	700	S8	5.4, 5.4.1	Eightmile Canyon	n/a	No, ephemeral
					Drainage		-
GILLIAM	03N22E	701			(None)		
GILLIAM	03N22E	2800			(None)		
GILLIAM	03N21E	503			(None)		
GILLIAM	02N22E	100	S7, S12	5.3, 5.3.2	Wetland D	see above	Yes
GILLIAM	03N23E	100	S7, S12	5.3, 5.3.2	Wetland D	see above	Yes
	02N22E	200			(None)		
	03N22E	2202			(None)		
	03N22E	2201			(None)		
GILLIAM	03N22E	3601			(None)		
	02N22E	300	<u></u>	1	(None)		
	03N22E	2203			(None)		

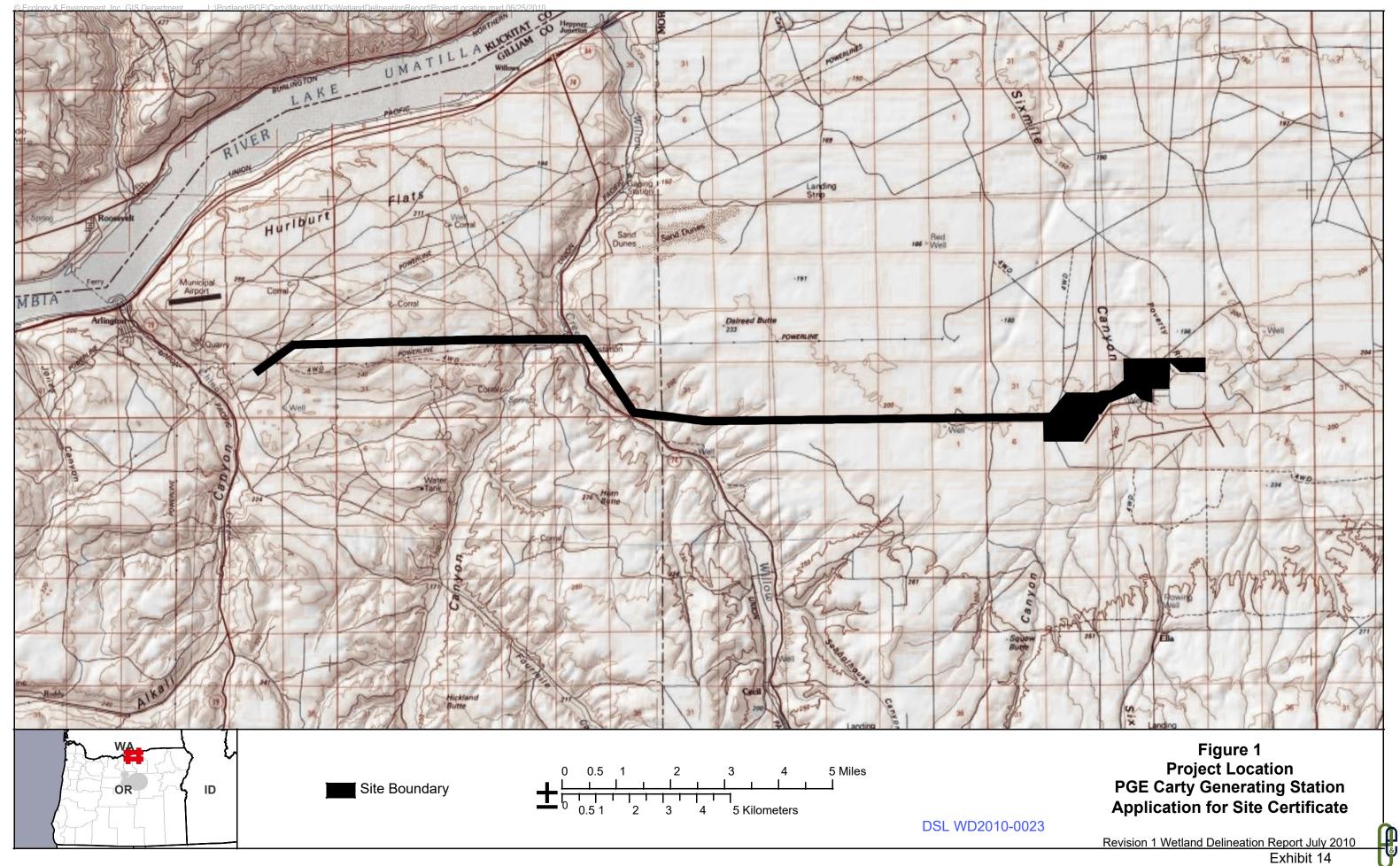
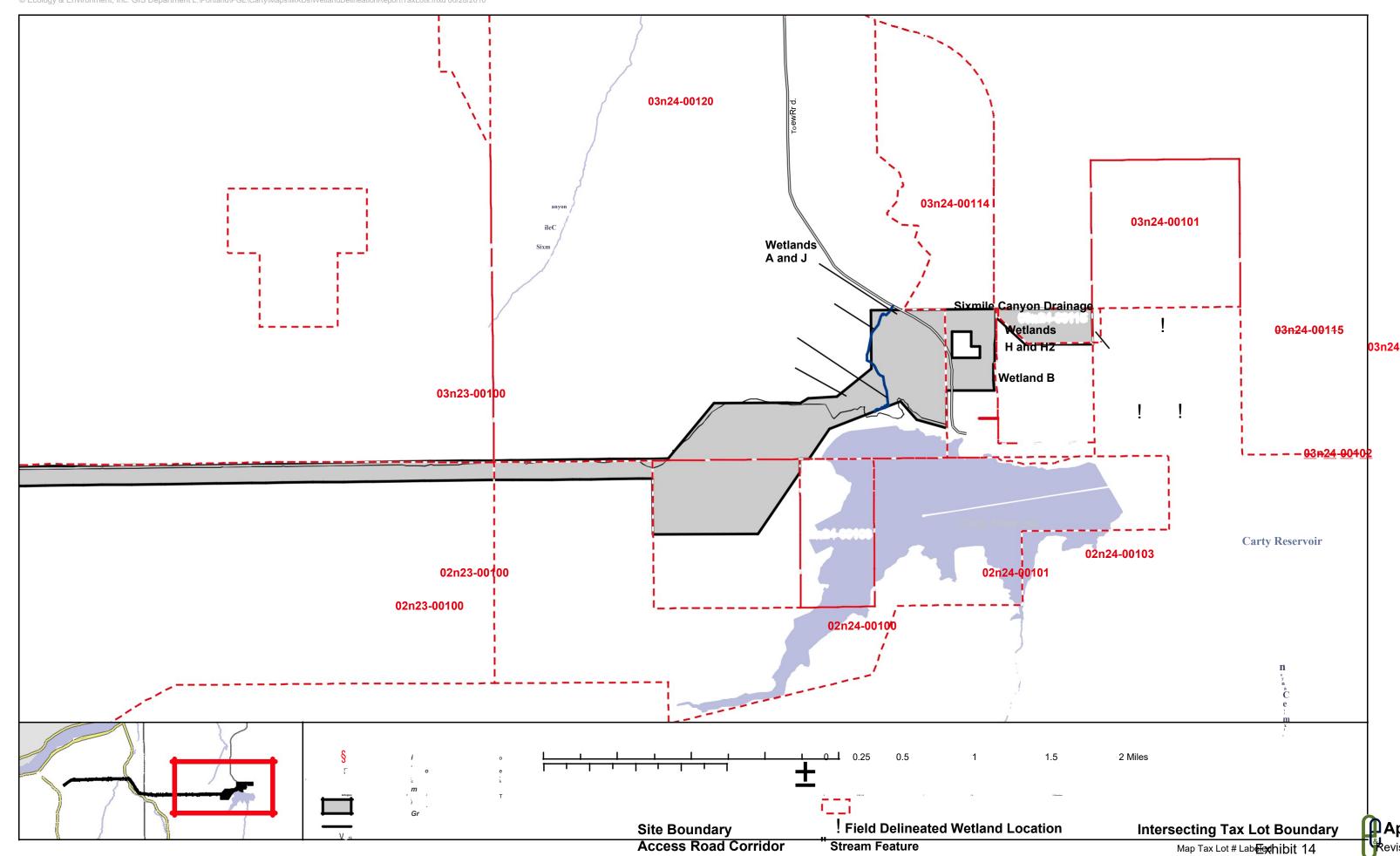
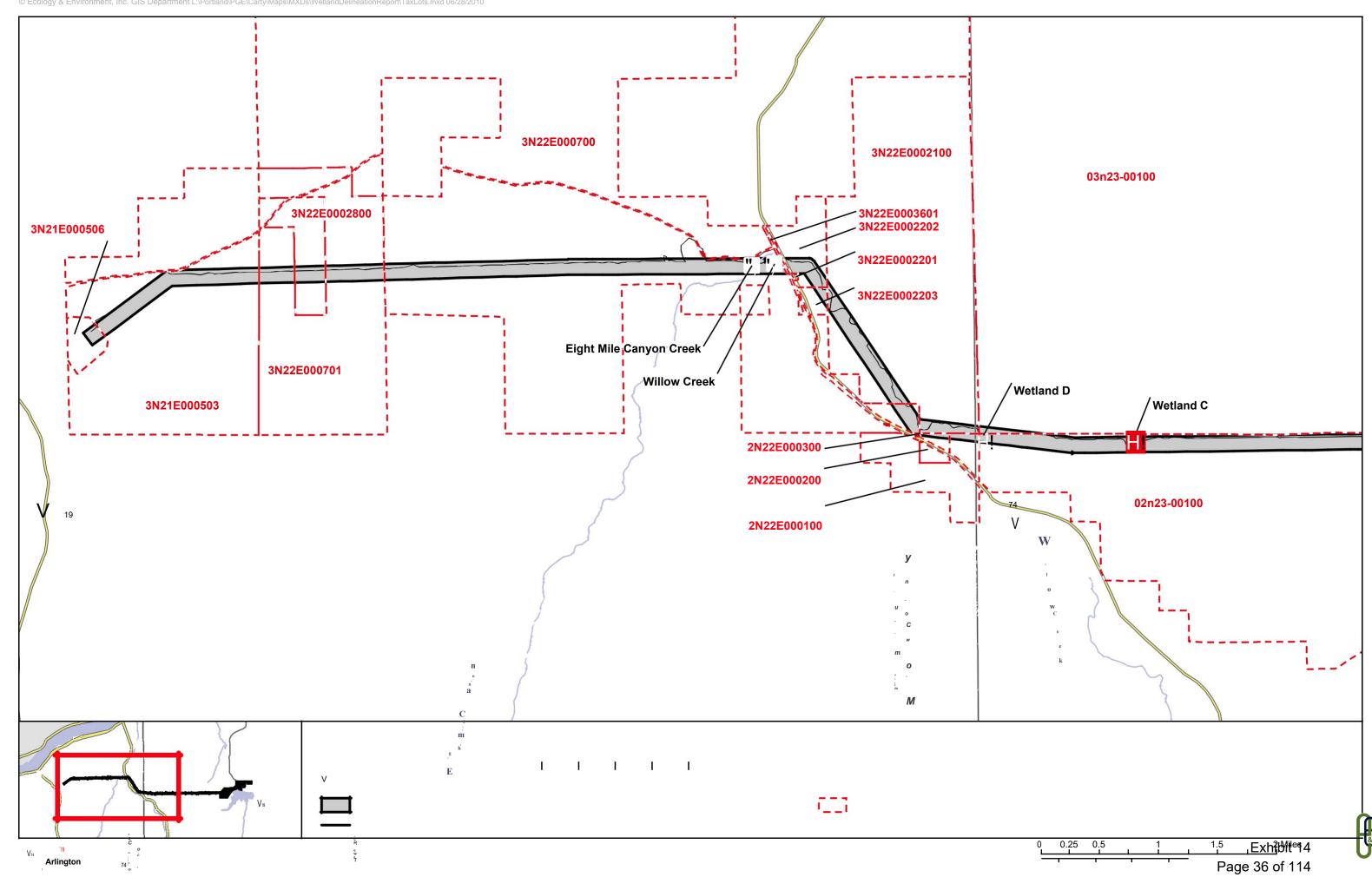


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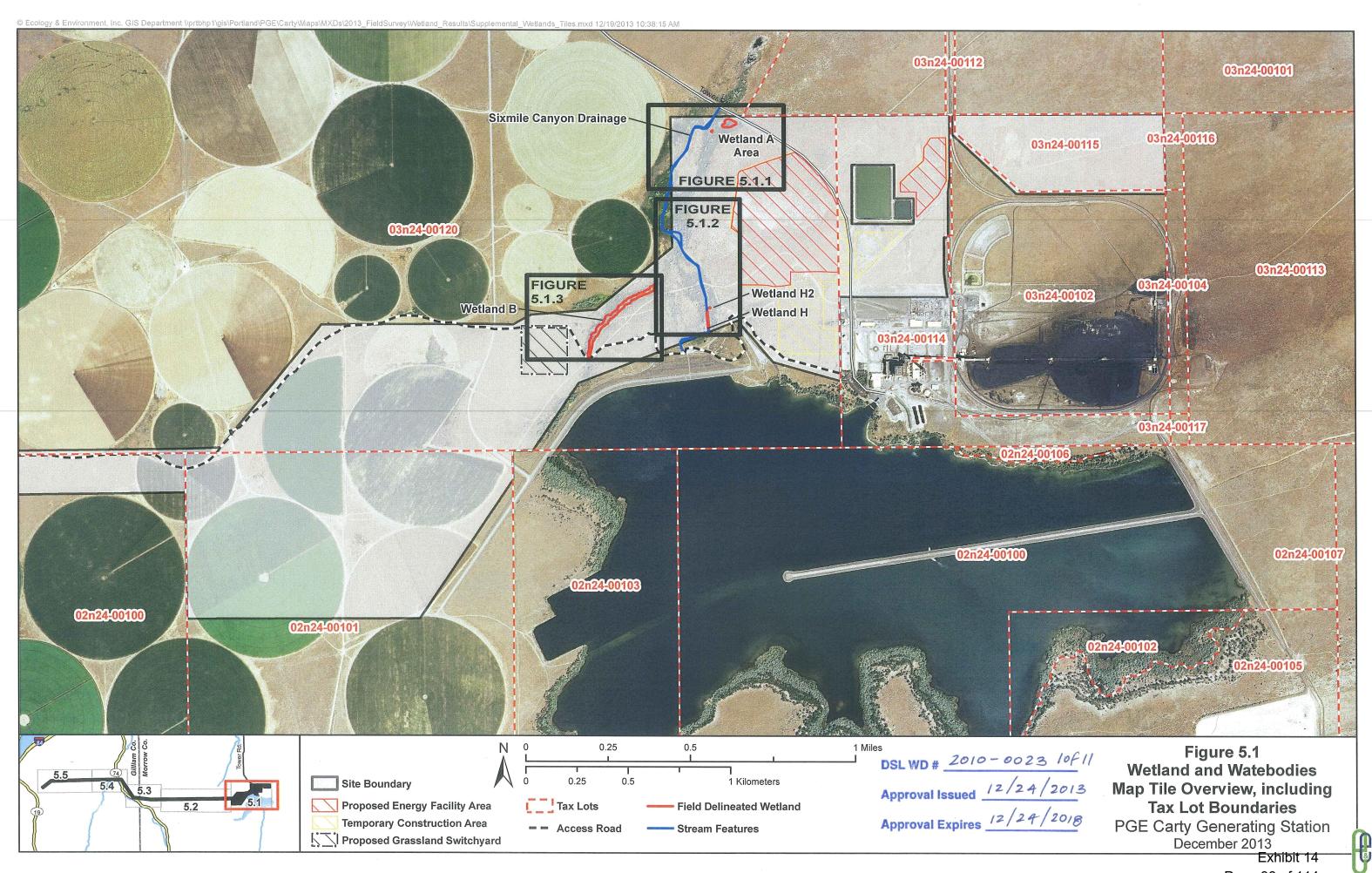
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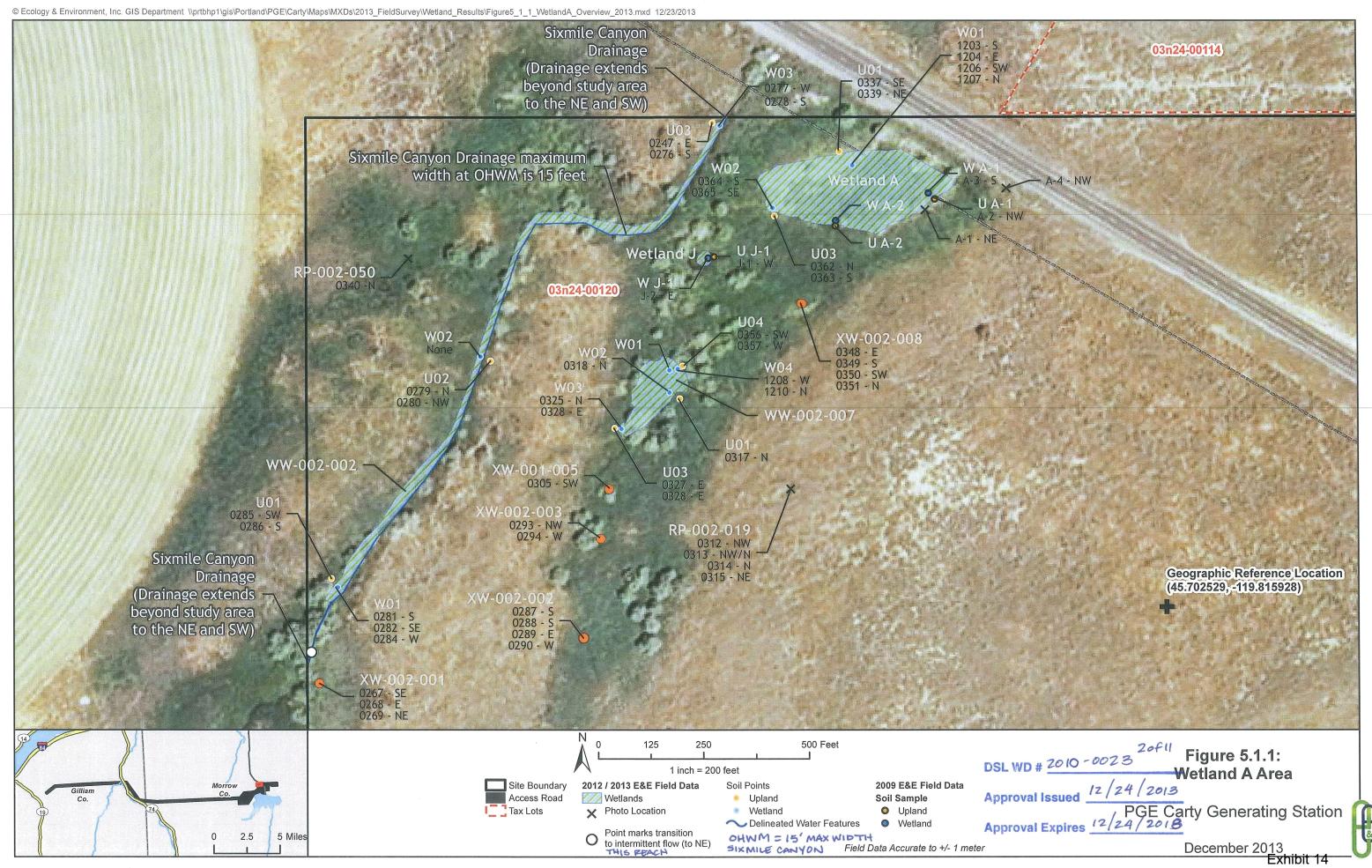
### Site Boundary Access Road Corridor

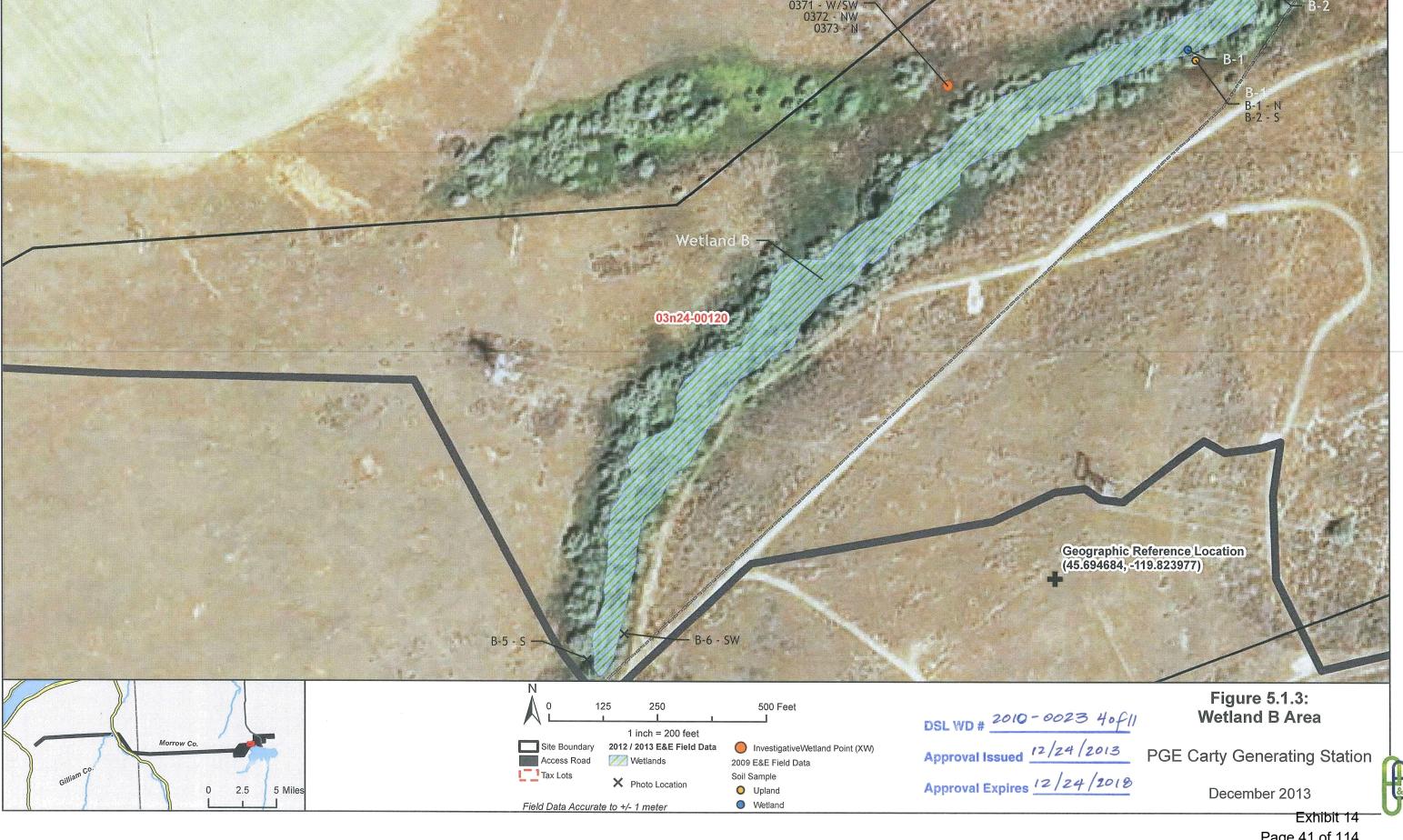
### **Intersecting Tax Lot Boundary**

Map Tax Lot # Labeled

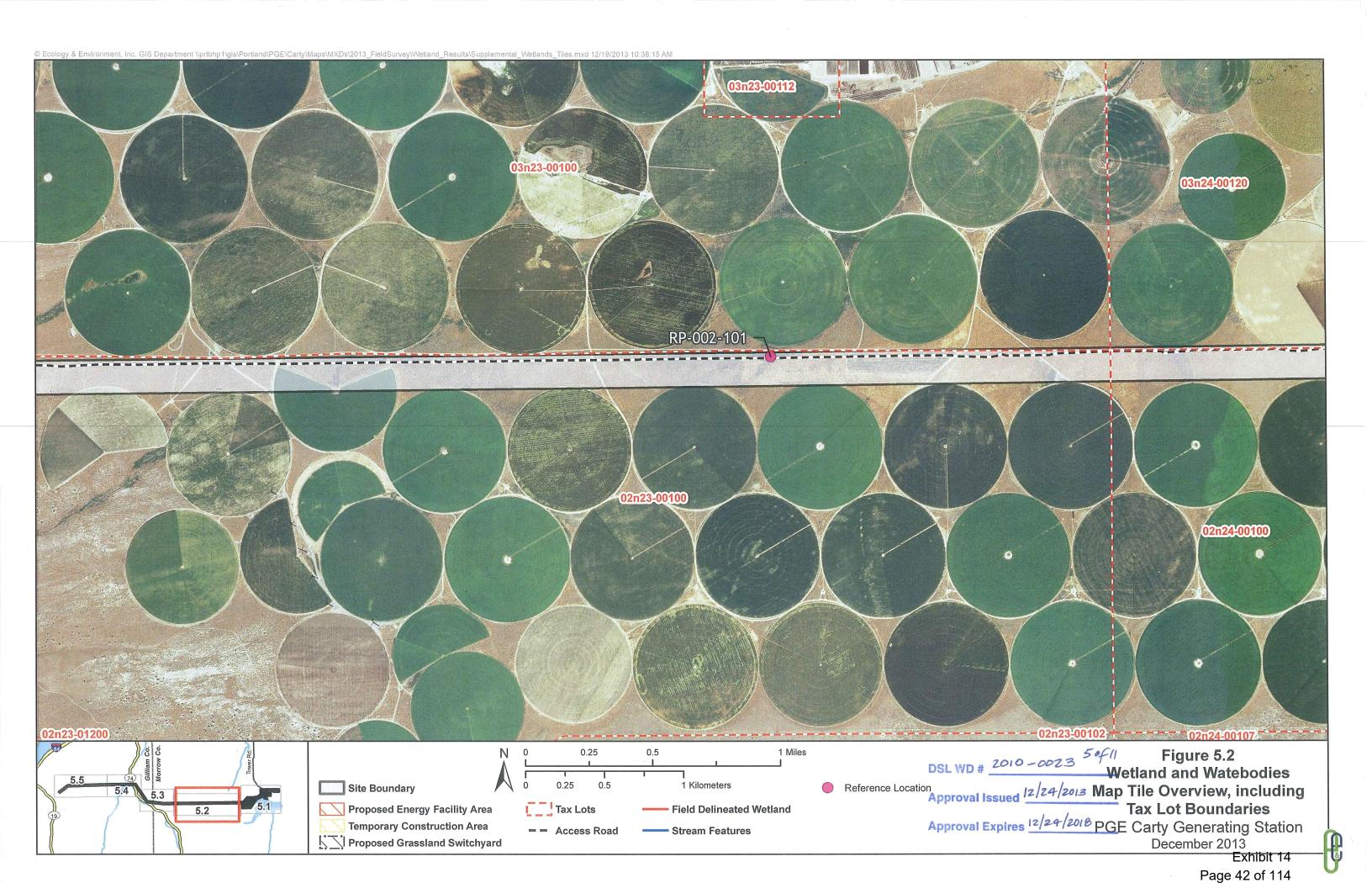


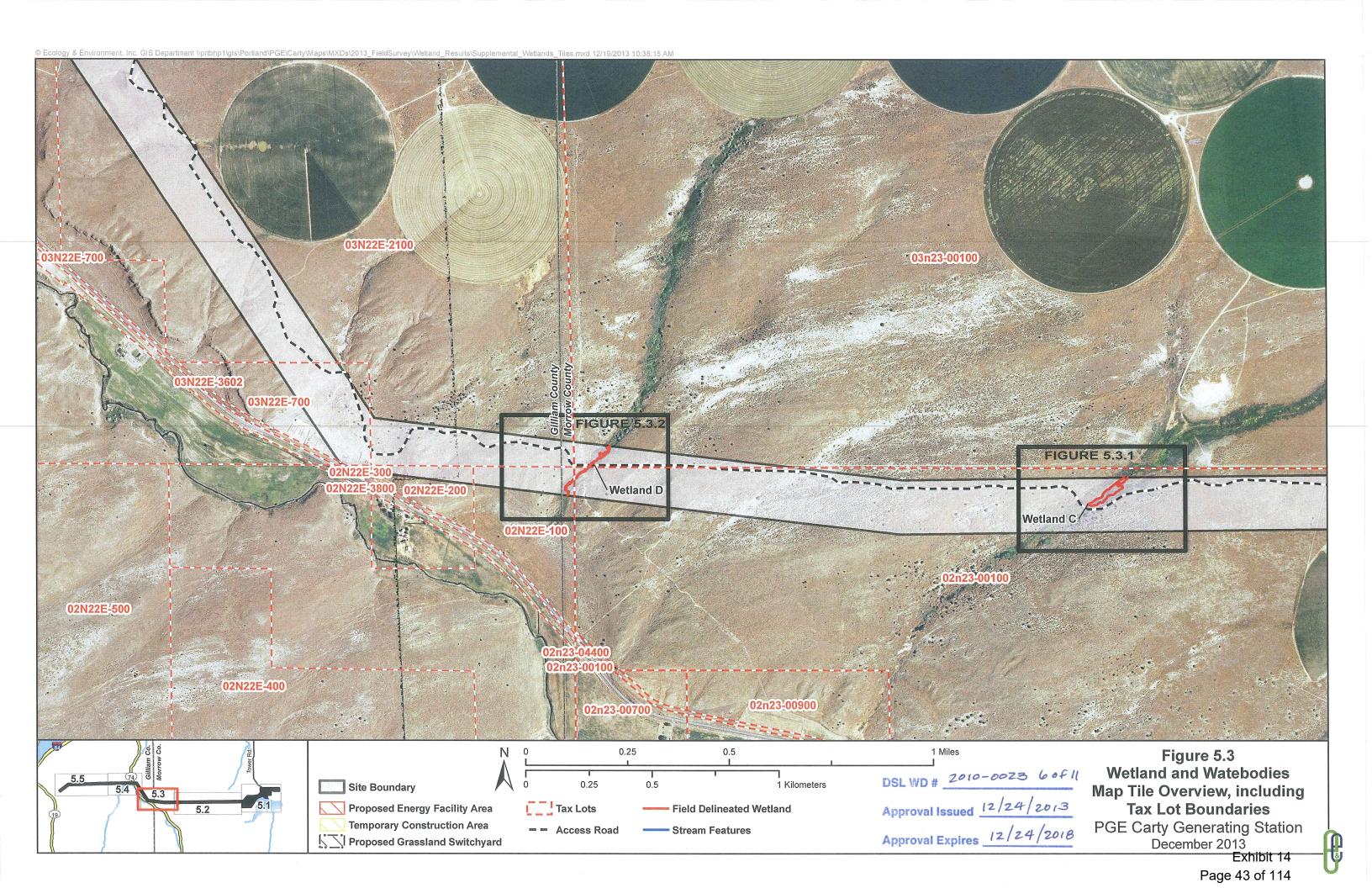
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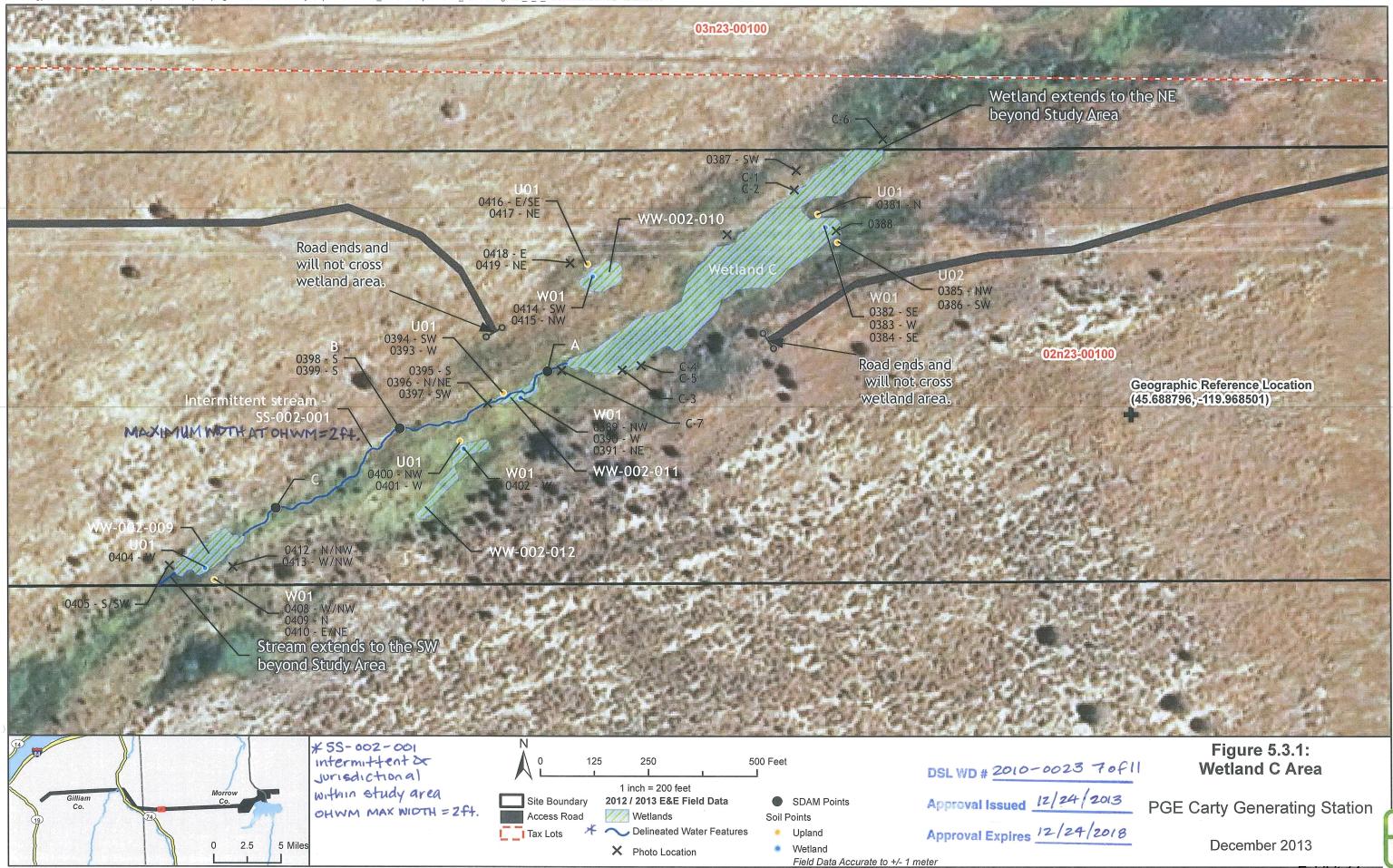


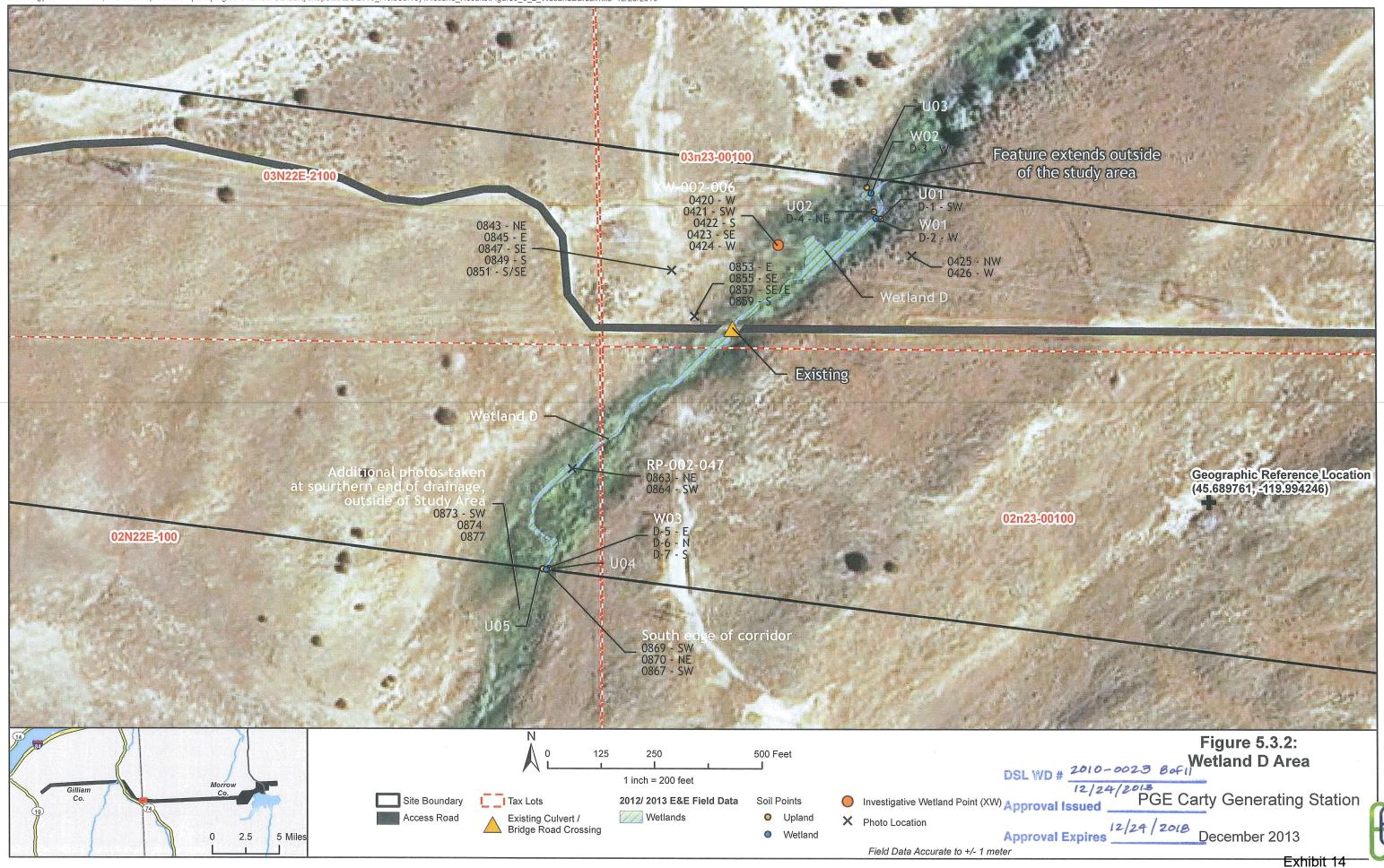


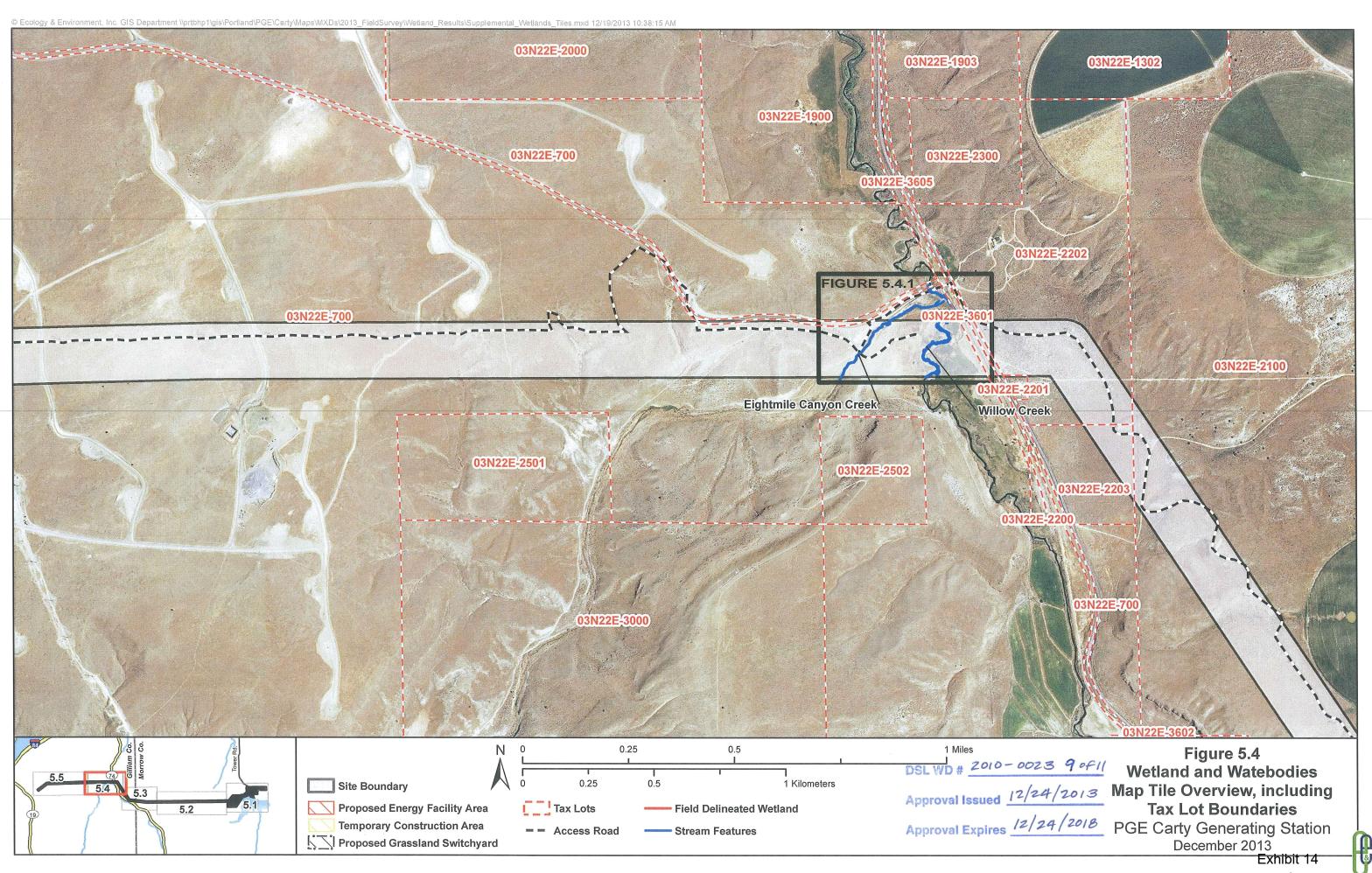
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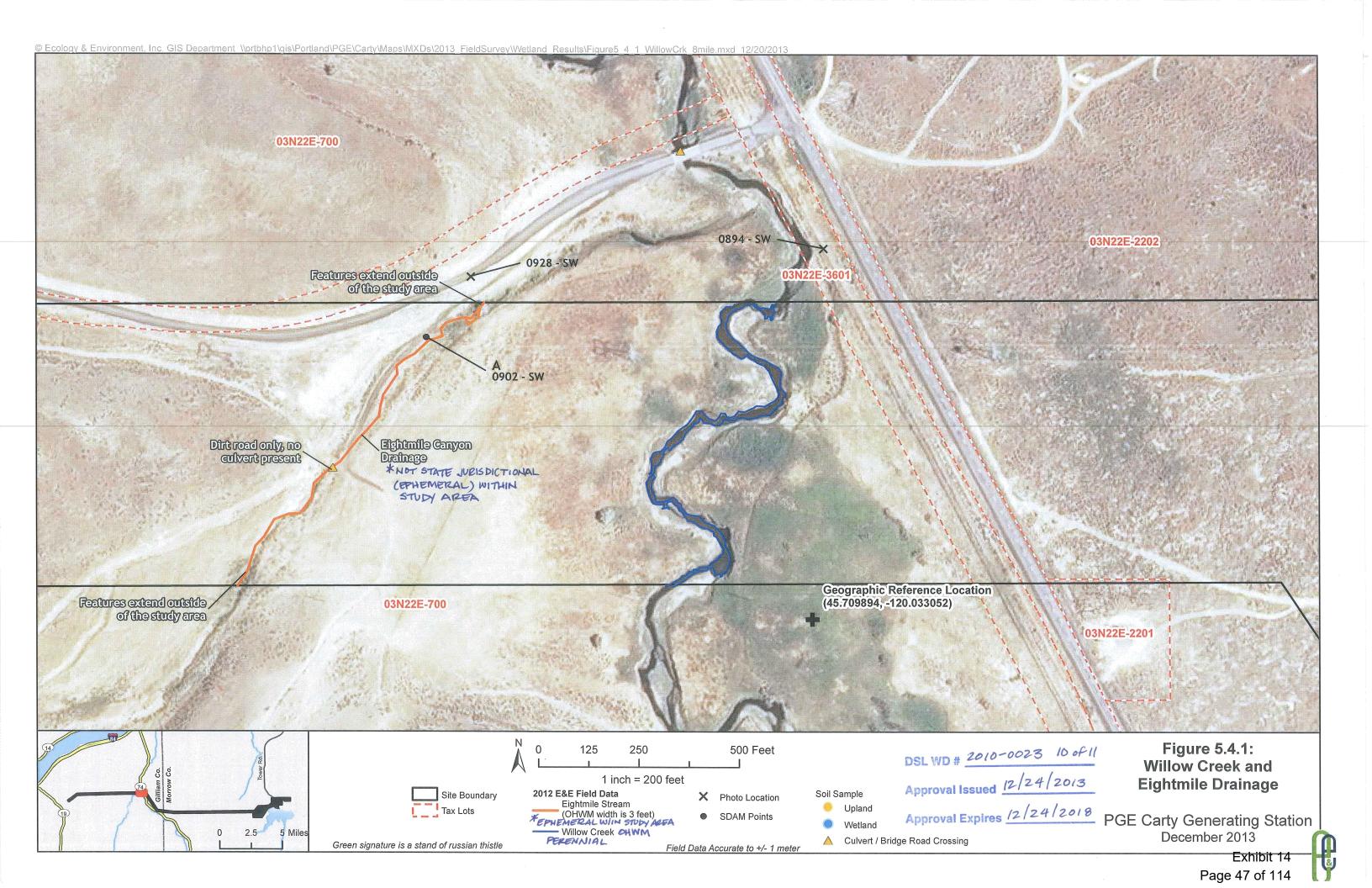


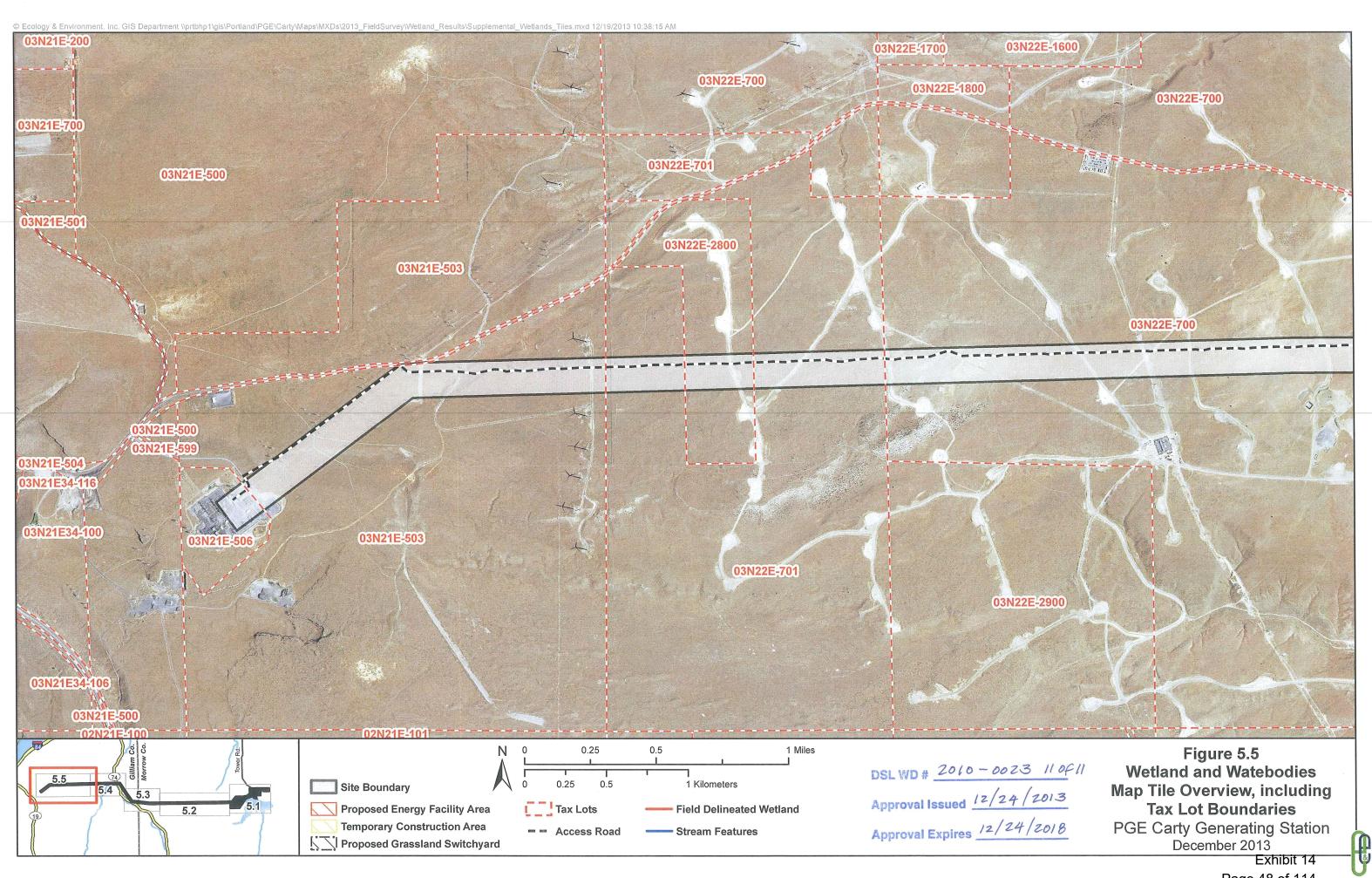






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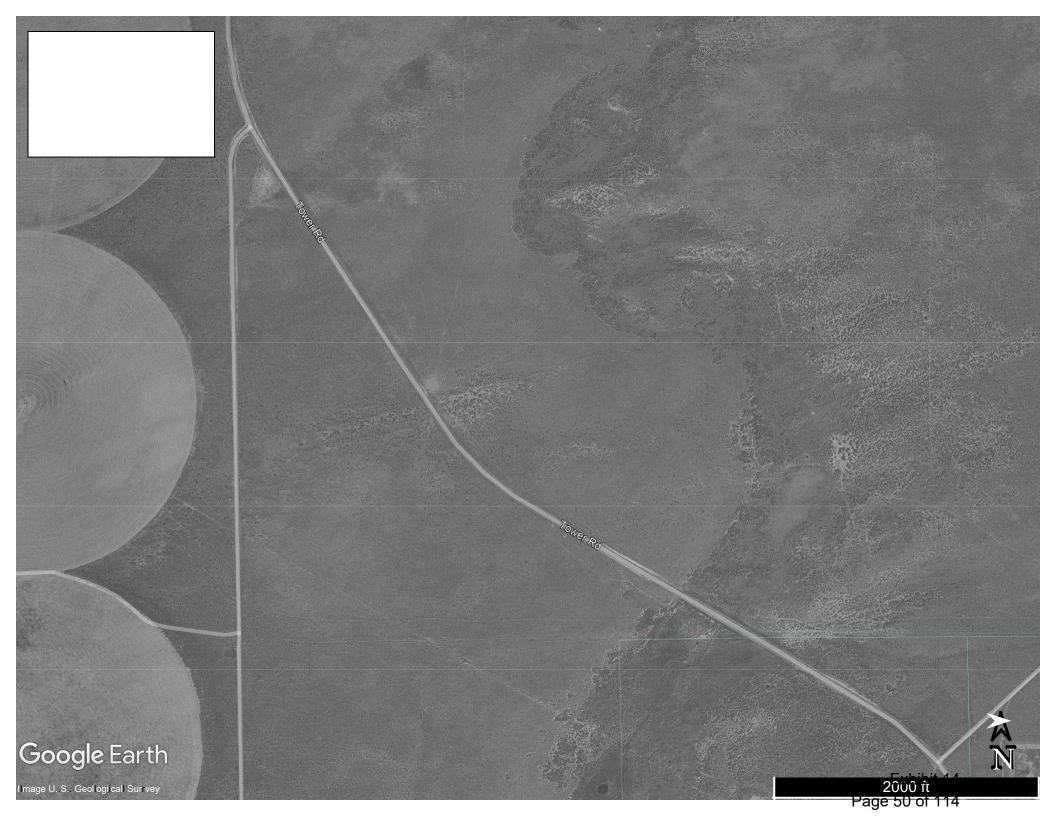


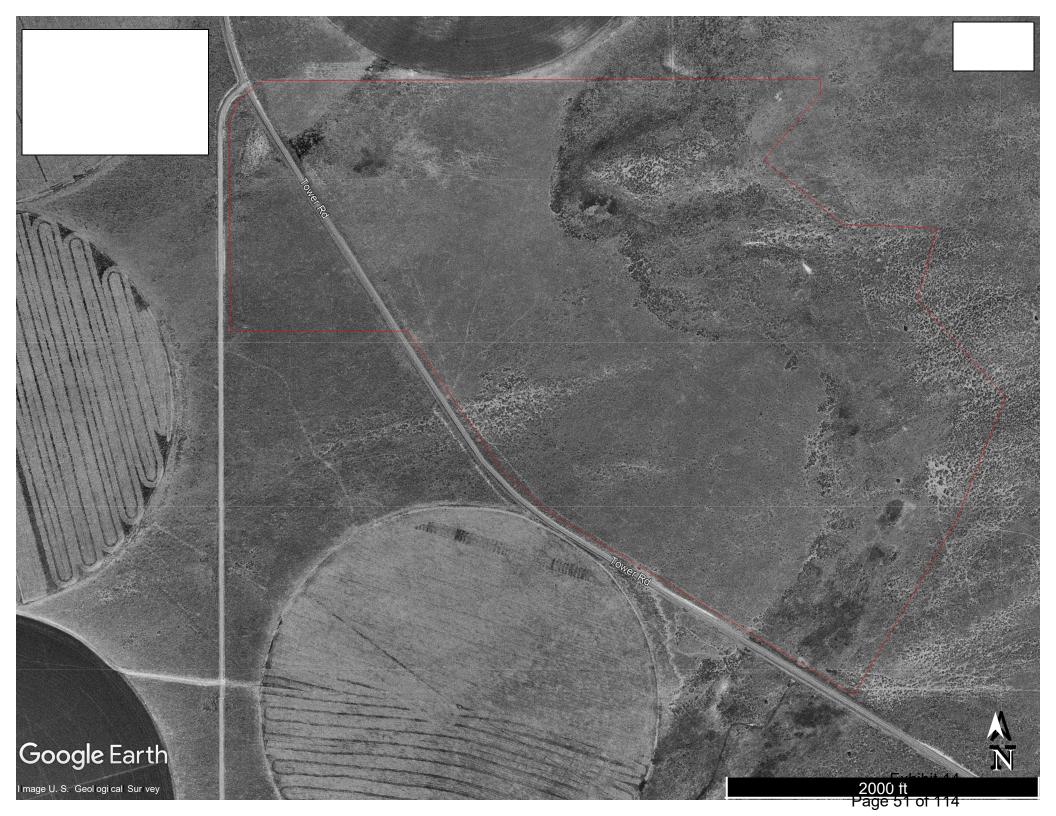


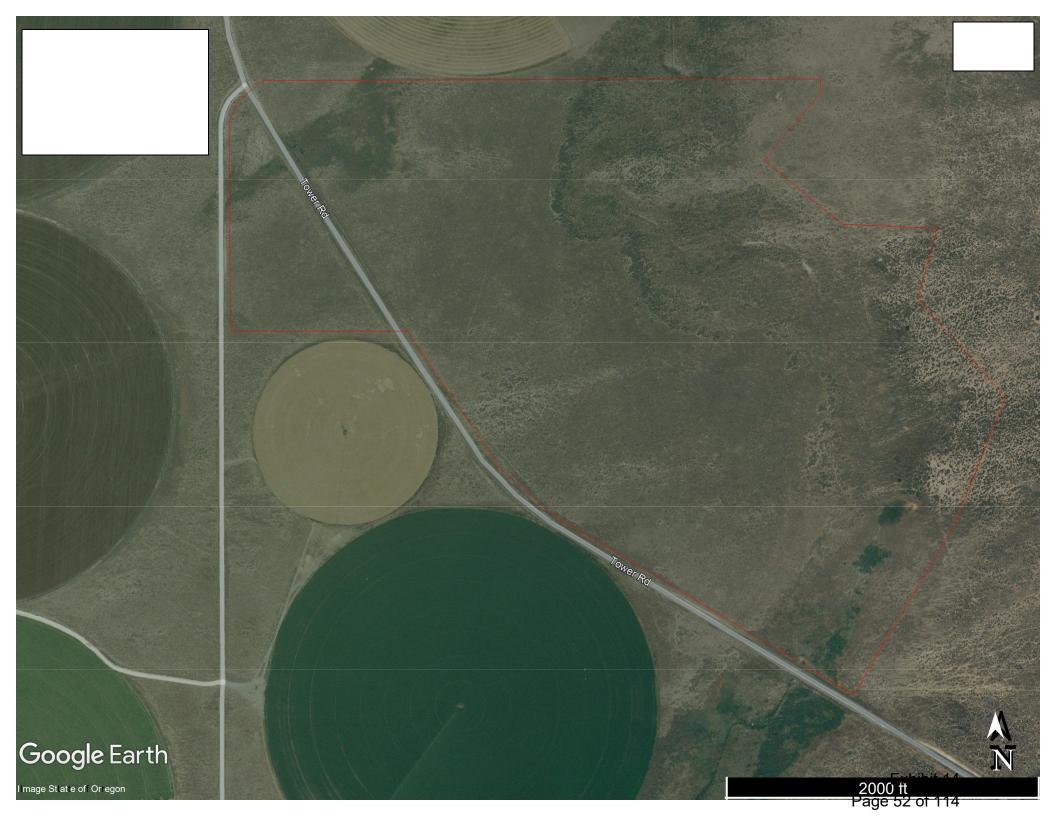
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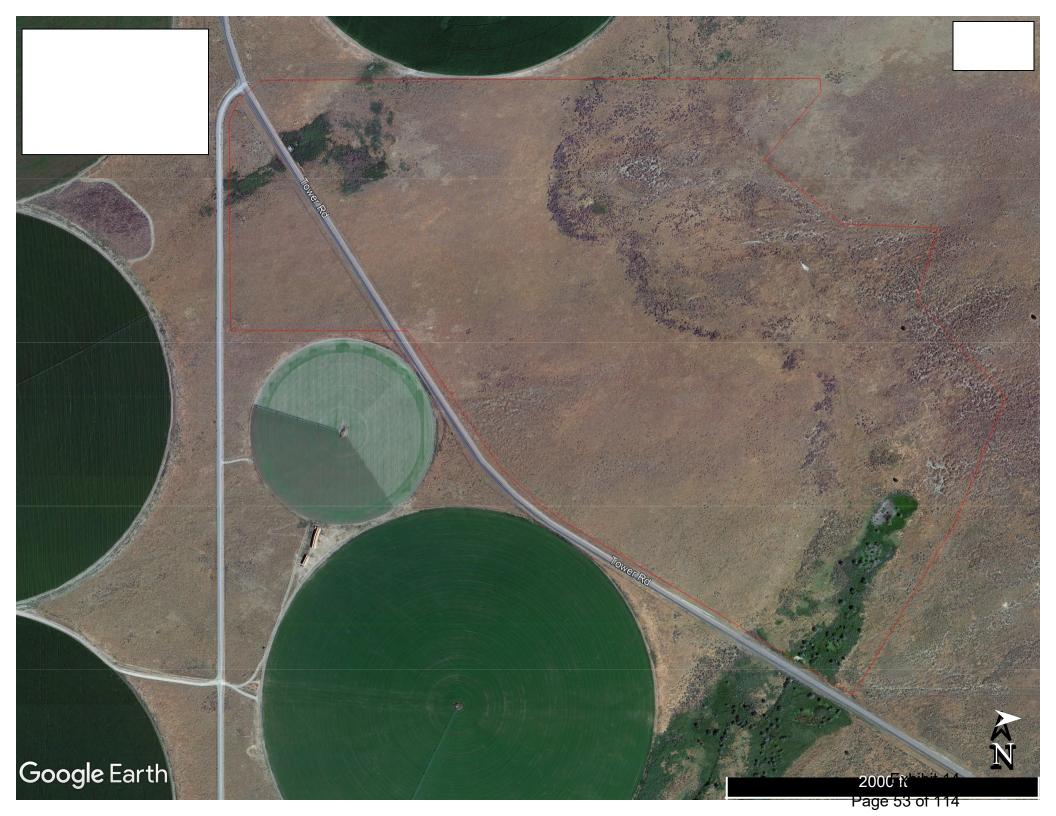


# **Appendix C: Google Earth Aerial Images**



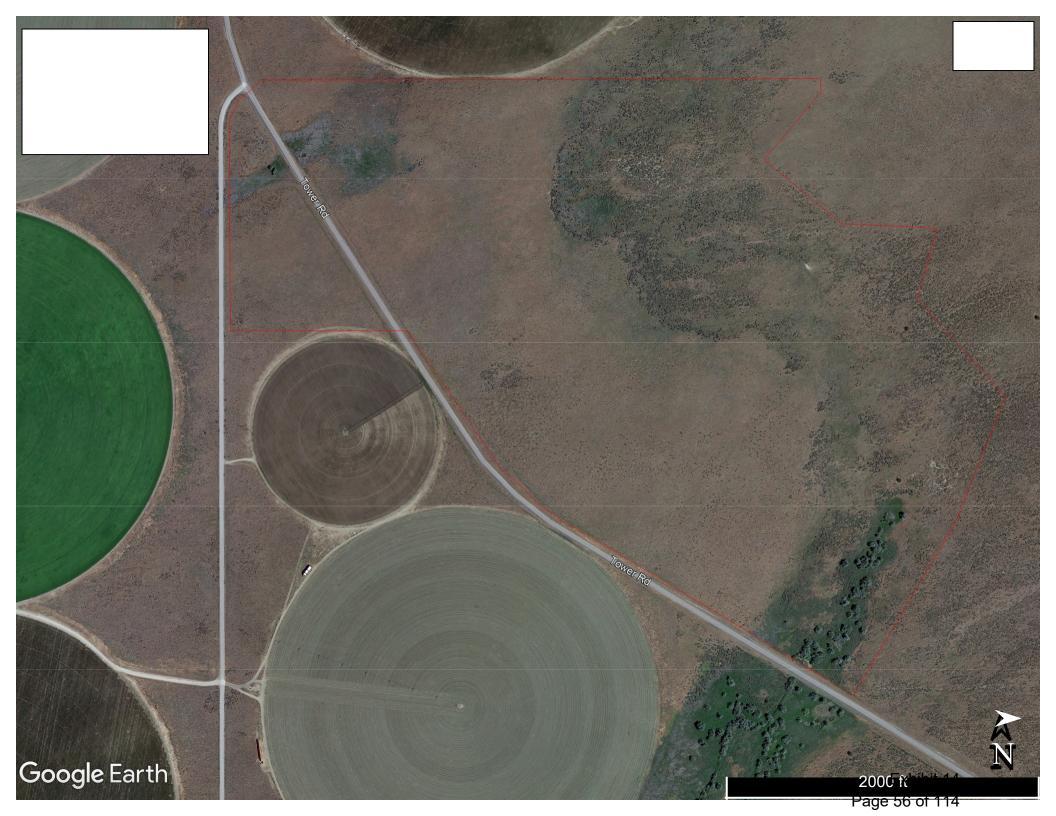
















# **Appendix D: Precipitation Data**

2021-07-01	110	72	91.0	51	41	0.00	0.0	0
2021-07-02	97	65	81.0	41	31	0.00	0.0	0
2021-07-03	99	65	82.0	42	32	0.00	0.0	0
2021-07-04	103	69	86.0	46	36	0.00	0.0	0
2021-07-05	101	70	85.5	46	36	0.00	0.0	0
2021-07-06	102	66	84.0	44	34	0.00	0.0	0
2021-07-07	100	66	83.0	43	33	0.00	0.0	0
2021-07-08	94	63	78.5	39	29	0.00	0.0	0
2021-07-09	98	63	80.5	41	31	0.00	0.0	0
2021-07-10	95	61	78.0	38	28	0.00	0.0	0
2021-07-11	102	62	82.0	42	32	0.00	0.0	0
2021-07-12	100	65	82.5	43	33	0.00	0.0	0
2021-07-13	101	64	82.5	43	33	0.00	0.0	0
2021-07-14	102	71	86.5	47	37	0.00	0.0	0
2021-07-15	105	68	86.5	47	37	0.00	0.0	0
2021-07-16	96	65	80.5	41	31	0.00	0.0	0
2021-07-17	95	63	79.0	39	29	0.00	0.0	0
2021-07-18	92	62	77.0	37	27	0.00	0.0	0
2021-07-19	96	62	79.0	39	29	0.00	0.0	0
2021-07-20	95	66	80.5	41	31	0.00	0.0	0
2021-07-21	96	64	80.0	40	30	0.00	0.0	0
2021-07-22	88	55	71.5	32	22	0.00	0.0	0
2021-07-23	88	55	71.5	32	22	0.00	0.0	0
2021-07-24	95	63	79.0	39	29	0.00	0.0	0
2021-07-25	97	65	81.0	41	31	0.00	0.0	0
2021-07-26	103	65	84.0	44	34	0.00	0.0	0
2021-07-27	91	65	78.0	38	28	0.00	0.0	0
2021-07-28	84	64	74.0	34	24	0.00	0.0	0
2021-07-29	95	65	80.0	40	30	0.00	0.0	0
2021-07-30	102	67	84.5	45	35	0.00	0.0	0
2021-07-31	108	71	89.5	50	40	0.00	0.0	0

2021-08-01	98	76	87.0	47	37	0.00	0.0	0
2021-08-02	96	70	83.0	43	33	0.00	0.0	0
2021-08-03	101	66	83.5	44	34	0.00	0.0	0
2021-08-04	102	67	84.5	45	35	0.00	0.0	0
2021-08-05	95	67	81.0	41	31	0.00	0.0	0
2021-08-06	91	67	79.0	39	29	0.00	0.0	0
2021-08-07	91	67	79.0	39	29	0.00	0.0	0
2021-08-08	94	60	77.0	37	27	0.00	0.0	0
2021-08-09	83	56	69.5	30	20	0.00	0.0	0
2021-08-10	86	55	70.5	31	21	0.00	0.0	0
2021-08-11	95	60	77.5	38	28	0.00	0.0	0
2021-08-12	101	65	83.0	43	33	0.00	0.0	0
2021-08-13	101	64	82.5	43	33	0.00	0.0	0
2021-08-14	92	63	77.5	38	28	0.00	0.0	0
2021-08-15	100	66	83.0	43	33	0.00	0.0	0
2021-08-16	98	66	82.0	42	32	0.00	0.0	0
2021-08-17	102	60	81.0	41	31	0.00	0.0	0
2021-08-18	79	60	69.5	30	20	0.02	0.0	0
2021-08-19	83	56	69.5	30	20	0.00	0.0	0
2021-08-20	88	58	73.0	33	23	0.00	0.0	0
2021-08-21	79	49	64.0	24	14	0.00	0.0	0
2021-08-22	78	51	64.5	25	15	0.00	0.0	0
2021-08-23	82	52	67.0	27	17	0.00	0.0	0
2021-08-24	76	44	60.0	20	10	0.00	0.0	0
2021-08-25	82	46	64.0	24	14	0.00	0.0	0
2021-08-26	84	51	67.5	28	18	0.00	0.0	0
2021-08-27	84	60	72.0	32	22	0.00	0.0	0
2021-08-28	81	51	66.0	26	16	0.00	0.0	0
2021-08-29	87	52	69.5	30	20	0.00	0.0	0
2021-08-30	89	53	71.0	31	21	0.00	0.0	0
2021-08-31	81	53	67.0	27	17	0.00	0.0	0

2021-09-01	79	46	62.5	23	13	0.00	0.0	0
2021-09-02	79	46	62.5	23	13	0.00	0.0	0
2021-09-03	81	М	М	М	М	0.00	0.0	0
2021-09-04	83	49	66.0	26	16	0.00	0.0	0
2021-09-05	89	57	73.0	33	23	0.00	0.0	0
2021-09-06	96	66	81.0	41	31	0.00	0.0	0
2021-09-07	89	54	71.5	32	22	0.00	0.0	0
2021-09-08	87	55	71.0	31	21	0.00	0.0	0
2021-09-09	95	57	76.0	36	26	0.00	0.0	0
2021-09-10	83	63	73.0	33	23	0.00	0.0	0
2021-09-11	71	56	63.5	24	14	0.32	0.0	0
2021-09-12	78	54	66.0	26	16	0.00	0.0	0
2021-09-13	84	56	70.0	30	20	0.00	0.0	0
2021-09-14	78	49	63.5	24	14	0.00	0.0	0
2021-09-15	87	49	68.0	28	18	0.00	0.0	0
2021-09-16	81	45	63.0	23	13	0.00	0.0	0
2021-09-17	71	43	57.0	17	7	0.00	0.0	0
2021-09-18	78	46	62.0	22	12	0.01	0.0	0
2021-09-19	78	45	61.5	22	12	0.04	0.0	0
2021-09-20	72	52	62.0	22	12	0.00	0.0	0
2021-09-21	73	43	58.0	18	8	0.00	0.0	0
2021-09-22	78	43	60.5	21	11	0.00	0.0	0
2021-09-23	80	47	63.5	24	14	0.00	0.0	0
2021-09-24	78	47	62.5	23	13	0.00	0.0	0
2021-09-25	80	47	63.5	24	14	0.00	0.0	0
2021-09-26	92	55	73.5	34	24	0.00	0.0	0
2021-09-27	88	62	75.0	35	25	0.00	0.0	0
2021-09-28	75	51	63.0	23	13	0.22	0.0	0
2021-09-29	69 70	45 47	57.0	17	7	0.00	0.0	0
2021-09-30	70	47	58.5	19	9	0.00	0.0	U

2022-01-01	25	5	15.0	0	0	0.00	0.0	0
2022-01-02	14	5	9.5	0	0	0.00	0.0	0
2022-01-03	27	6	16.5	0	0	0.00	0.0	0
2022-01-04	37	25	31.0	0	0	0.33	2.0	0
2022-01-05	39	28	33.5	0	0	0.00	0.0	0
2022-01-06	36	28	32.0	0	0	0.43	0.0	0
2022-01-07	36	28	32.0	0	0	0.00	0.0	0
2022-01-08	45	31	38.0	0	0	0.00	0.0	0
2022-01-09	48	25	36.5	0	0	0.00	0.0	0
2022-01-10	42	25	33.5	0	0	0.00	0.0	0
2022-01-11	37	26	31.5	0	0	0.00	0.0	0
2022-01-12	40	32	36.0	0	0	0.00	0.0	0
2022-01-13	43	28	35.5	0	0	0.00	0.0	0
2022-01-14	40	29	34.5	0	0	0.00	0.0	0
2022-01-15	37	32	34.5	0	0	0.08	1.0	0
2022-01-16	35	32	33.5	0	0	T	0.0	0
2022-01-17	34	32	33.0	0	0	0.00	0.0	0
2022-01-18	35	31	33.0	0	0	0.00	0.0	0
2022-01-19	40	31	35.5	0	0	0.00	0.0	0
2022-01-20	38	33	35.5	0	0	0.08	0.0	0
2022-01-21	36	36	36.0	0	0	0.00	0.0	0
2022-01-22	60	34	47.0	7	0	0.00	0.0	0
2022-01-23	50	26	38.0	0	0	0.00	0.0	0
2022-01-24	34	30	32.0	0	0	0.00	0.0	0
2022-01-25	33	30	31.5	0	0	0.02	T	0
2022-01-26	34	31	32.5	0	0	0.00	0.0	0
2022-01-27	34	31	32.5	0	0	0.00	0.0	0
2022-01-28	36	31	33.5	0	0	0.00	0.0	0
2022-01-29	34	30	32.0	0	0	0.00	0.0	0
2022-01-30	35	31	33.0	0	0	0.00	0.0	0
2022-01-31	43	31	37.0	0	0	0.02	0.0	0

2022-02-01	49	25	37.0	0	0	0.00	0.0	0
2022-02-02	50	29	39.5	0	0	0.00	0.0	0
2022-02-03	39	28	33.5	0	0	0.00	0.0	0
2022-02-04	46	25	35.5	0	0	0.00	0.0	0
2022-02-05	47	26	36.5	0	0	0.00	0.0	0
2022-02-06	57	27	42.0	2	0	0.00	0.0	0
2022-02-07	49	26	37.5	0	0	0.00	0.0	0
2022-02-08	63	26	44.5	5	0	0.00	0.0	0
2022-02-09	50	31	40.5	1	0	0.00	0.0	0
2022-02-10	63	33	48.0	8	0	0.00	0.0	0
2022-02-11	63	31	47.0	7	0	0.00	0.0	0
2022-02-12	56	25	40.5	1	0	0.00	0.0	0
2022-02-13	54	25	39.5	0	0	0.00	0.0	0
2022-02-14	50	25	37.5	0	0	0.00	0.0	0
2022-02-15	58	34	46.0	6	0	0.00	0.0	0
2022-02-16	58	39	48.5	9	0	0.00	0.0	0
2022-02-17	60	37	48.5	9	0	0.00	0.0	0
2022-02-18	53	29	41.0	1	0	0.00	0.0	0
2022-02-19	59	29	44.0	4	0	0.00	0.0	0
2022-02-20	55	42	48.5	9	0	0.00	0.0	0
2022-02-21 2022-02-22	54 46	40 21	47.0 33.5	7 0	0	0.00 0.00	0.0 0.0	0
2022-02-23 2022-02-24	31 32	12 12	21.5 22.0	0 0	0	0.00 0.00	0.0 0.0	0
2022-02-25 2022-02-26	34 39	12 12	23.0 25.5	0	0	0.50 0.00	0.0 0.0	0
2022-02-20	39 42		30.5		0	0.00		
2022-02-27	42 47	19 32	30.5 39.5	0 0	0	0.00	0.0 0.0	0
_ULL-UL-LU	71	02	00.0	U	U	0.00	0.0	J

2022-03-01	62	39	50.5	11	1	T	М	М
2022-03-02	69	45	57.0	17	7	0.30	M	M
2022-03-03	51	43	47.0	7	0	0.32	M	М
2022-03-04	57	31	44.0	4	0	0.00	М	М
2022-03-05	55	30	42.5	3	0	0.00	M	М
2022-03-06	58	27	42.5	3	0	0.00	М	М
2022-03-07	57	29	43.0	3	0	0.00	M	М
2022-03-08	66	34	50.0	10	0	0.00	М	М
2022-03-09	47	34	40.5	1	0	0.18	M	М
2022-03-10	46	35	40.5	1	0	0.00	М	М
2022-03-11	50	35	42.5	3	0	0.00	M	M
2022-03-12	67	33	50.0	10	0	0.00	М	М
2022-03-13	65	34	49.5	10	0	T	M	М
2022-03-14	61	42	51.5	12	2	T	M	М
2022-03-15	56	42	49.0	9	0	0.25	M	M
2022-03-16	62	43	52.5	13	3	0.00	М	М
2022-03-17	60	31	45.5	6	0	0.00	M	M
2022-03-18	59	31	45.0	5	0	0.00	M	M
2022-03-19	62	39	50.5	11	1	0.00	M	M
2022-03-20	60	37	48.5	9	0	0.00	M	М
2022-03-21	57	41	49.0	9	0	0.05	M	M
2022-03-22	54	41	47.5	8	0	0.00	M	M
2022-03-23	65	40	52.5	13	3	0.00	M	M
2022-03-24	71	37	54.0	14	4	0.00	M	М
2022-03-25	65	37	51.0	11	1	0.00	M	M
2022-03-26	61	39	50.0	10	0	0.00	М	М
2022-03-27	67	42	54.5	15	5	0.00	M	M
2022-03-28	65	45	55.0	15	5	0.00	M	M
2022-03-29	70	46	58.0	18	8	0.00	M	M
2022-03-30	70	46	58.0	18	8	0.00	M	M
2022-03-31	61	38	49.5	10	0	0.00	M	M

WETS Station: BOARDMAN,													
OR													
Requested years: 1971 - 2021	Ava May	Ave Min	Ava Maan	A	30%	200/ shansa	Avg number	A					
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	chance precip less than	30% chance precip more than	days precip 0. 10 or more	Avg Snowfall					
Jan	41.4	27.2	34.3	1.21	0.74	1.46	4	2.6					
Feb	47.8	28.8	38.3	0.88	0.48	1.07	3	2.1					
Mar	57.8	33.6	45.7	0.68	0.43	0.82	3	0.2					
Apr	66.0	39.4	52.7	0.66	0.26	0.80	2	0.0					
May	74.7	46.8	60.8	0.72	0.36	0.88	3	0.0					
Jun	82.2	53.9	68.0	0.47	0.18	0.54	2	0.0					
Jul	90.9	59.0	74.9	0.18	0.00	0.17	1	0.0					
Aug	89.2	57.7	73.5	0.27	0.07	0.24	1	0.0					
Sep	79.7	48.7	64.2	0.37	0.10	0.36	1	0.0					
Oct	66.1	39.0	52.5	0.63	0.31	0.75	2	0.0					
Nov	51.2	32.6	41.9	1.07	0.60	1.30	4	0.6					
Dec Annual:	41.6	27.7	34.7	1.30	0.75 7.01	1.58 8.97	5	2.9					
	65.7	41.2	53.5	_	7.01	-	_	_					
Average Total	-	41.2	-	- 8.43	•	-	30	8.4					
GROWING SEASON DATES													
Years with missing data:	24 deg = 9	28 deg = 6	32 deg = 5										
Years with no occurrence:	24 deg = 0	28 deg = 0	32 deg = 0										
Data years used:	24 deg = 42	28 deg = 45	32 deg = 46										
Probability	24 F or higher	28 F or higher	32 F or higher										
50 percent *	3/9 to 11/16:	4/3 to 10/29:	4/16 to 10/16:										
70 percent *	252 days 3/2 to 11/24: 267 days	209 days 3/29 to 11/4: 220 days	183 days 4/11 to 10/21: 193 days										
* Percent chance of the growing season occurring between the Beginning and Ending dates.													
STATS TABLE - total precipitation (inches)													
Yr 1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug M0.19	Sep 0.	Oct 0.	Nov 0.91	Dec 1.33	Annl 3.74
1972	0.48	0.49	0.40	0.02	1.99	1.79	0.06	0.01	88 0. 04	43 0. 22	0.60	1.30	7.40
1973	0.87	0.41	0.19	0.21	0.42	0.03	0.03	0.01	0. 62	0. 68	3.43	2.76	9.66
1974	0.79	0.69	0.88	1.20	0.20	0.13	0.25	0.00	T	0. 41	0.55	1.18	6.28
1975	1.85	0.97	0.35	0.56	0.11	0.12	0.37	1.05	T	0. 82	0.53	0.98	7.71
1976	0.88	0.58	0.42	0.71	0.10	0.13	0.23	0.94	0. 46	0. 08		0.15	
1977	0.10	0.57	0.65	0.02	0.86	0.16	0.09	1.01	0. 82	0. 50	1.34		8.74
1978	2.40	0.91	0.47	1.49	0.48	0.26	0.82	1.07	0. 14	0. 02		1.13	10. 59
1979	1.28	0.60	0.69	1.12	0.21	0.02	0.36	0.50	0.	1.	1.65	0.48	7.97

1980	2.87	1.20	0.60	0.62	1.06	1.23	Т	0.20	06 0.	00 0.	0.99	1.71	11.
1981	1.22	0.91	0.20	0.11	1.20	1.19	Т	Т	30 0.	40 0.	1.06	2.59	18 9.62
1982	0.71	M0.51	0.70	1.00	0.89	0.94	0.35	0.15	70 2. 35	44 1. 81	0.46	1.67	11. 54
1983	1.49	1.76	1.38	0.85	0.59	0.27	1.14	0.77	0.	0.	1.88	1.96	12. 92
1984	0.47	1.06	1.43	0.63	0.36	0.55	0.00	Т	24 0. 99	59 0. 36	2.53	0.32	8.70
1985	0.18	0.74	0.46	0.77	0.30	0.69	0.00	0.30	0. 99	0. 68	1.32	0.48	6.91
1986	1.15	1.52	0.82	0.14	0.72	80.0	0.63	0.14	1. 19	0. 78	1.38	1.31	9.86
1987	1.71	0.48	1.12	0.15	0.16	0.11	Т	0.04	0. 02	0. 01	0.33	1.97	6.10
1988	1.50	0.01	0.93	2.86	0.74	0.51	M0.26	0.00	0. 43	0. 00	1.84	0.15	9.23
1989	0.59	0.48	1.58	1.22	0.45	0.03	0.08	0.45	0. 02	0. 40	1.49	0.47	7.26
1990	1.19		0.57	1.11	0.74	0.09	0.07	0.88	0. 00	0. 94	0.45	M0. 32	6.36
1991	M0.35	0.79	1.14	0.14	0.80	0.36	0.04	0.08	0. 01	M0. 29	M2. 01	0.56	6.57
1992	0.66	1.45	0.29	1.27	0.08	0.53	0.70	0.89	0. 31	0. 67	1.11	M1. 03	8.99
1993	1.38	1.34	M1.11	0.93	0.72	0.52	0.16	0.19	0. 00	Т	0.23	0.55	7.13
1994	0.61	1.22	0.32	0.30	1.35	0.23	0.21	0.00	0. 03	0. 96	1.56	1.12	7.91
1995	2.86	M0.37	0.88	M0.57		0.88	0.77	0.02	0. 36	0. 27	1.08	M1. 88	9.94
1996	M1.01	1.14		1.30	0.81		0.11	T	0. 15	0. 87	M0. 42	M2. 53	8.34
1997	M1.23	0.68	1.18	M0.80	M0.40	0.64		0.19	0. 87	1. 83	1.76	0.76	10. 34
1998	M1.97	3.42	0.43	0.31	1.22	0.71	1.10	0.01	0. 15	0. 17	1.95	1.31	12. 75
1999	1.22	0.89	0.10	0.05	0.34	0.03	Т	0.20	0. 00	0. 73	0.85	0.63	5.04
2000	1.37	1.53	0.82	0.02	0.48	0.33	0.00	Т	0. 49	1. 03	0.84	M0. 48	7.39
2001	0.51	0.31	0.56	0.70	0.10	0.29	0.11	0.25	T	0. 59	1.59	0.77	5.78
2002	0.39	0.75	0.56	0.32	0.40	0.73	0.11	0.01	0. 05	0. 19	0.23	2.72	6.46
2003	1.95	0.87	0.34	0.56	M0.26	0.00	Т	0.60	0. 50	0. 21	M0. 34	2.00	7.63
2004	1.53	0.60	0.16	M0.11	1.36	0.89	0.00	0.67	0. 19	1. 08	0.14	0.94	7.67
2005	M0.78	T	0.76	0.56	0.71	0.08	0.09	0.00	0. 00	0. 69	1.85	M2. 50	8.02
2006	2.76	0.45	0.71		1.84	1.04	0.00	0.00	0. 48	1. 06	1.58	1.60	11. 52
2007	0.32	0.88	0.44	0.97	0.20	1.00	0.04	0.58	0. 03	0. 74	1.47	1.79	8.46
2008	1.63	0.49	0.37	0.20	0.46	0.56	0.00	0.10	0. 08	0. 10	0.69	M1. 04	5.72
2009	1.24	0.92	1.20	M0.20	1.74	Т	0.00	0.00	0. 00	1. 18	0.20	1.03	7.71
2010	2.05	0.72	0.24		1.59	1.94	0.02	0.14	1. 53	0. 89	0.89	2.81	12. 82
2011	M0.89	M0.40	M1.45	M0.30	M0.99	M1.18	MT		M0. 04	M0. 54	M0. 35	M0. 15	6.29
2012	M1.03	M0.52	M1.25	M0.72	M0.22	M2.22	M0.30	0.00		1. 35		1.88	9.49
2013	0.62	0.13		1.16	0.97	0.89	0.00	0.18	1.	0.	0.25	0.12	5.66

									14	20			
2014	0.67	1.21	0.62	0.45	0.10	0.41	T	0.77	0.	0.	0.76	1.23	6.91
									02	67			
2015	0.63	1.11	0.45	0.19	1.39	Т	T	0.02	0.	0.	1.09	2.24	7.43
									06	25			
2016	1.55	0.46	0.78	0.46	1.55	0.21	0.29	0.16	0.	1.	0.56	M0.	8.30
									37	81		10	
2017	1.85	1.85	1.25	1.68	0.16	0.04	0.00	0.09	0.	1.	M0.	0.96	10.
									25	02	99		14
2018	1.29	0.21	0.27	1.30	0.48	0.20	0.00	0.03	0.	0.	0.41	M0.	5.63
									00	76		68	
2019	1.75	2.67	2.05	0.82	0.86	0.54	0.05	0.20	0.	0.	0.09	0.65	10.
									23	28			19
2020	1.47	0.10	0.50	0.09	1.54	0.32	0.00	0.14	0.	0.	1.45	0.89	6.83
									00	33			
2021	0.66	1.02	0.00	0.09	0.28	0.25	0.00	0.02	0.	0.	1.16	1.89	6.64
									59	68			
2022	0.96	0.56	1.10										2.62

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of

precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2022-04-06



## Appendix E: Wetland Determination Data Forms (Plots 1-18)

### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Percheron		City/County:	Boardman/ Mo	rrow County Sampling Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC				State: OR Sampling Point: 1
Investigator(s): Sonya Templeton, Margret Harb	urg, Stacey Reed, PWS	Section,	, Township, Rang	ge: Sec. 28, T.3N., R.24E., W.M.
Landform (hillslope, terrace, etc.): Terrace			Local relief	(concave, convex, none): SI. Concave Slope (%):<3%
Subregion (LRR): (B) Columbia/Snake River F	Plateau La	t: 45.709058	. Lo	ong: -119.816177 Datum:
Soil Map Unit Name: Sagehill fine sand	dy loam hummocky (Ui	nit 55B) , 2-5% s		
Are climatic / hydrologic conditions on the site ty	pical for this time of ye	ar?	Y	/es No X (If no, explain in Remarks)
Are Vegetation,Soil	, or Hydrology	_significantly d	listurbed? Are	e "Normal Circumstances" present? Yes X No
	, or Hydrology			needed, explain any answers in Remarks.) ions, transects, important features, etc.
Hydrophytic Vegetation Present?		o X		ions, transects, important leatures, etc.
Hydric Soil Present?		o X	Is the Sample	ed ∆rea
Wetland Hydrology Present?		o X	within a Wetla	
				precipitation was received on the day of fieldwork and 0.05
inches during	the two weeks prior. C		-	•
Remarks: Plot located in slightly low topographic location.				
VEGETATION				
VEGETATION .	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r)	% Cover	Species?	Status	Number of Dominant Species
		<del></del>		That Are OBL, FACW, or FAC: 1 (A)
2				That Are OBL, FACW, OF FAC.
3				Total Number of Dominant
4				Species Across All Strata:3(B)
	= To	otal Cover		
Sapling/Shrub Stratum (Plot size: 10' r				Percent of Dominant Species
Artemisia tridentata	35%	Yes	NOL	That Are OBL, FACW, or FAC: 33% (A/B)
2.				Prevalence Index worksheet:
3.	_			Total % Cover of: Multiply by:
4				OBL species0 x 1 =0
5				FACW species0x 2 =0
(5)	35%= To	otal Cover		FAC species 31 x 3 = 93
Herb Stratum (Plot size:5' r)	0.50/	.,		FACU species 0 x 4 = 0
1. Onopordum acanthium	65%	Yes	NOL_	UPL species 102 x 5 = 510
2. Atriplex heterosperma		Yes No.	FAC*	Column Totals: 133 (A) 603 (B)  Prevalence Index = B/A = 4.53
3. Chenopodium species	- 5% -	- No	— FAC*	- I Tovalorico Ilidox Birx
4. Centaurea solstitialis		No No	NOL FAC	Hydrophytic Vegetation Indicators:  Dominance Test is >50%
5. <u>Bassia scoparia</u>	1%	No	FAC	Prevalence Index is ≤3.0 <sup>1</sup>
6. 7.				Morphological Adaptations <sup>1</sup> (Provide supporting
8.				data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation (Explain)
1				Troblematio Trydrophytic Vegetation (Explain)
0				
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
11		atal Cayor		
Woody Vine Stratum (Plot size: 10' r		otal Cover		be present.
1.				
2.				Hydrophytic
	= To	otal Cover		Vegetation YesNo _ X
% Bare Ground in Herb Stratum 2%	% Cover of	Biotic Crust		Present?
Remarks:  * Assumed FAC. Salsola tumbleweeds present,	not rooted in plot.			

SOIL							Sampling Point	: 1
Profile Descriptio	n: (Describe to t	he depth ne	eded to documen	t the indicator or	confirm the al	bsence of indicators	s.)	
Depth	Matrix	x		Redox F	eatures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-10	10YR 4/3	100					LS	
10-16	10YR 3/2	99	7.5YR 3/4	1	С	PL	SL	Less Sand
			_					
			_	_				
			_	_				
			_					
<sup>1</sup> Type: C=Concentr	ation, D=Depletio	n, RM=Redu	ıced Matrix CS=Co	vered or Coated Sa	and Grains.	<sup>2</sup> Location: PL=P	ore Lining, M=Matrix.	
<sup>3</sup> Texture: S = sand;	; Si = silt; C = clay	; L = loam oi	r loamy. Texture M	odifier: co = coarse	e; f = fine; vf = v		more clay); - = light (les	ss clay)
Hydric Soil Indicat	tors: (Annlicable	to all I RRs	unless otherwis	e noted )		Indicators for	Problematic Hydric S	oils <sup>3</sup> :
Histosol (A1)	tors. (Applicable	to un Entro	Sandy Redox	•			(A9) ( <b>LRR C</b> )	
Histic Epipedoi	n (A2)		Stripped Matr	ix (S6)			(A10) ( <b>LRR B</b> )	
Black Histic (A	3)		Loamy Mucky	/ Mineral (F1)		Reduced \	/ertic (F18)	
Hydrogen Sulfi	ide (A4)		Loamy Gleye	d Matrix (F2)		Red Paren	t Material (TF2)	
Stratified Layer	rs (A5) ( <b>LRR C</b> )		Depleted Mat	rix (F3)		Other (Exp	lain in Remarks)	
1 cm Muck (A9	9) (LRR D)		Redox Dark S	Surface (F6)		2		
Depleted Below	w Dark Surface (A	.11)	Depleted Dar	k Surface (F7)			ydrophytic vegetation a	
Thick Dark Sur	, ,		Redox Depre	` '		•	ology must be present,	
Sandy Mucky N			Vernal Pools	(F9)		unless distur	bed or problematic.	
Sandy Gleyed	Matrix (S4)							
Restrictive Layer (	(if present):							
Type:								
Depth (inches):					H	lydric Soil Present?	Yes	NoX
Remarks:								
111/2221 201/								
HYDROLOGY	In diantana.							
Wetland Hydrolog	•					0		:IV
Primary Indicators (		equirea; cne		44)			cators (2 or more requi	<u>rea)</u>
Surface Water			Salt Crust (B*			<del></del>	ks (B1) (Riverine)	
High Water Tal	` '		Biotic Crust (I	,			Deposits (B2) (Riverine	<b>;</b> )
Saturation (A3)	•			tebrates (B13)			sits (B3) (Riverine)	
	B1) ( <b>Nonriverine</b> ) osits (B2) ( <b>Nonriv</b>			lfide Odor (C1) zospheres along Liv	vina Poets (C2		Patterns (B10) n Water Table (C2)	
	(B3) (Nonriverine	,		Reduced Iron (C4)	villy Roots (Co	<i>—</i>	urrows (C8)	
Surface Soil Ci	. , .	')		Reduction in Tilled S	Soils (C6)		Visible on Aerial Image	erv (C9)
	ible on Aerial Imag	nery (B7)	Thin Muck Su		30113 (00)		quitard (D3)	19 (00)
Water-Stained	`	gory (D1)		n in Remarks)			al Test (D5)	
Field Observation				,			( )	
Surface Water Pre			No. V	Donth (inches):				
	-			Depth (inches):	. 46"	<b></b>	hadaalaa B 10	
Water Table Present	-			Depth (inches):	>16"	Wetland H	lydrology Present?	No. Y
Saturation Present (includes capillary	_		_NoX	Depth (inches):	>16"		Yes	No <u>X</u>
Describe Recorded	- ,	uge, monitor	ing well, aerial pho	otos, previous inspe	ections), if avail	lable:		
Remarks: Soils very dry throu	ahout no evidenc	e of previous	s surface water no	ndina				
Cond very dry unou	grious, no evident	o or provious	o Juliuoc water pur	nanig.				

### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Percheron		City/County:	Boardman/ Mor	rrow County Sampling Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC			_	State: OR Sampling Point: 2
Investigator(s): Sonya Templeton, Margret Harburg	g, Stacey Reed, PWS	Section,	Township, Rang	ge: Sec. 28, T.3N., R.24E., W.M.
Landform (hillslope, terrace, etc.): Terrace			Local relief	(concave, convex, none): SI. Concave Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plat	teau La	it: 45.709065	-	ng: -119.815667 Datum: NAD83
Soil Map Unit Name: Sagehill fine sandy				ic NWI classification: None
Are climatic / hydrologic conditions on the site typic				res No X (If no, explain in Remarks)
Are Vegetation,Soil				e "Normal Circumstances" present? Yes X No
Are Vegetation,Soil SUMMARY OF FINDINGS – Attach s				needed, explain any answers in Remarks.) ions, transects, important features, etc.
		lo X		
Hydric Soil Present?	/es N	lo X	Is the Sample	d Area
	/es N		within a Wetla	and? Yes No X
Precipitation prior to fieldwork: According to the		weather station,		precipitation was received on the day of fieldwork and 0.05
Remarks:	two weeks prior. o	Official of the	TOTI ATC WCLICT LIT	an normal.
Located within slightly low topographic location.				
VEGETATION				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r_)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 1 (A)
2				
3.				Total Number of Dominant
4.				Species Across All Strata: 2 (B)
	0% = Te	otal Cover		Openies Adioss Ali Ottata.
Sapling/Shrub Stratum (Plot size: <u>10' r</u>		Jiai Covei		Percent of Dominant Species
1. Artemisia tridentata	20%	Yes	NOL	That Are OBL, FACW, or FAC: 50% (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species 0 x 1 = 0
5.				FACW species 0 x 2 = 0
	20% = To	otal Cover		FAC species 70 x 3 = 210
Herb Stratum (Plot size:5' r)				FACU species 0 x 4 = 0
Atriplex heterosperma	60%	Yes	FAC*	UPL species 33 x 5 = 165
2. Bassia scoparia	10%	No	FAC	Column Totals: <u>103</u> (A) <u>375</u> (B)
3. Onopordum acanthium	10% _	_ No	NOL	Prevalence Index = B/A = 3.64
4. Bromus tectorum	3%	No	NOL	Hydrophytic Vegetation Indicators:
5				Dominance Test is >50%
6				Prevalence Index is ≤3.0 <sup>1</sup>
7				Morphological Adaptations <sup>1</sup> (Provide supporting
8				data in Remarks or on a separate sheet)
9				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
0				
<u> </u>				1 Indicators of hydric call and western developed by
11	020/ -	atal Caucii		Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum	83% = To	otal Cover		be present.
1. (* 186 8) 28 1				
2.				Hydrophytic
	= To	otal Cover		Vegetation YesNo _ X
% Bare Ground in Herb Stratum17%	% Cover of	Biotic Crust		Present?
Remarks: *Assumed FAC.				

Profile Description: (Descript to the depth mediator or confirm the absence of indicators.)  Doph Medirix Redox Peatures  (notes) Color (moist) % Color (moist) % Type Loc St.	SOIL							Sampling Point:	2	
Color (moist)   Si	Profile Description	on: (Describe to t	the depth ne	eded to documen	t the indicator or o	confirm the abs	ence of indicators	5.)		
Color (moist)   Sci	Depth	Matri	x							
10-10   10YR 4/3   100   10YR 3/2   99   7,5YR 3/4   1   C   PL   SL   Less Sand   10YR 3/2   99   7,5YR 3/4   1   C   PL   SL   Less Sand   10YR 3/2   99   7,5YR 3/4   1   C   PL   SL   Less Sand   10YR 3/2	-	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks	
Type: O-Concentration, D-Depletion, RM=Reduced Matrix CS=Covered or Ceated Sand Grains.   Total Content of the Content of Content	· · · · ·		100					LS		
Texture: S = sand; Si = silt; C = clay; L = loam or loamy, Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)	10-16	10YR 3/2	99	7.5YR 3/4	1	С	PL	SL	Less Sand	
Texture: S = sand; Si = silit, C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (AI)  Histosol										
Texture: S = sand; Si = silit, C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (AI)  Histosol	_									
Texture: S = sand; Si = silt; C = clay; L = loam or loamy, Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)										
Texture: S = sand; Si = silt; C = clay; L = loam or loamy, Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)										
Texture: S = sand; Si = silt; C = clay; L = loam or loamy, Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)										
Texture: S = sand; Si = silt; C = clay; L = loam or loamy, Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)	_									
Treature: S = sand; Si = silt; C = clay; L = loam or loamy, Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay) Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (AV) Hydrogon Sulfide (AV) Loamy Mucky Mineral (F1) Hydrogon Sulfide (AV) Loamy Gleyed Matrix (F2) 1 cm Muck (AV) (LRR C) Depleted Matrix (F3) 1 cm Muck (AV) (LRR C) Depleted Below Dark Surface (F7) Thick Dark Surface (A11) Depleted Below Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)  Restrictive Layer (if present): Type: Depth (inches): Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Surface Water (A1) Salt Crust (B11) Surface Water (A1) Salt Crust (B11) Surface Water (A1) Sediment Deposits (B2) (Montriverine) Diff Deposits (B3) (Nonriverine) Present? Yes No X Depth (inches): Surface Soil Cracks (B6) Recent for Reduced from (C4) Surface Soil Cracks (B6) Recent for Reduced from (C4) Surface Soil Cracks (B6) Recent for Reduced from (C4) Surface Soil Cracks (B6) Present? Yes No X Depth (inches): Surface Radie Hydrology Present? Yes No X Depth (inches): Surface Radie Hydrology Present? Yes No X Depth (inches): Surface Radie Hydrology Present? Yes No X Depth (inches): Surface Radie Hydrology Present? Yes No X Depth (inches): Surface Radie Hydrology Present? Yes No X Depth (inches): Surface Radie Hydrology Present? Yes No X Depth (inches): Surface Radie Hydrology Present? Yes No X Depth (inches): Surface Radie Hydrology Present? Yes No X Depth (inches): Surface Radie Hydrology Present? Yes No X Depth (inches): Surface Radie Hydrology	Type: C=Concent	ration, D=Depletion	on, RM=Redu	uced Matrix CS=Co	overed or Coated Sa	and Grains.	<sup>2</sup> Location: PL=Po	ore Lining, M=Matrix.		
Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histo Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histo (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2)  I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Thick Dark Surface (A12) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) unless disturbed or problematic.  Sandy Gleyed Matrix (S4)  Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No X  Remarks:  HYDROLOGY  Water Marks (B1) (Roverine) Surface Water (A1) Salt Crust (B11) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B12) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow (C1) Shallow (C1) Shallow (C8) Shallow (C8	<sup>3</sup> Texture: S = sand	l; Si = silt; C = cla	y; L = loam o	r loamy. Texture M	odifier: co = coarse	; f = fine; vf = ve			clay)	
Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histo Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histo (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Tom Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) unless disturbed or problematic.  Sandy Gleyed Matrix (S4)  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 (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B2) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Craylish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Salturation (Texplain in Remarks)  Field Observations: Surface Water Present? Yes No X Depth (inches): Yes No X Depth (inches	Hydric Soil Indica	ntors: (Annlicable	to all I RRs	unless otherwis	e noted )		Indicators for	Problematic Hydric Soi	ls <sup>3</sup> ·	
Histic Epipedon (A2)				•						
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Musck (A9) (LRR D) Redox Dark Surface (F6)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Sandy Musck Mineral (S1) Vernal Pools (F8) wetland hydrology must be present,  Sandy Musck Mineral (S1) Vernal Pools (F9)  Redox Depressions (F8) wetland hydrology must be present,  Sandy Gleyed Matrix (S4)  Restrictive Layer (if present):  Type:  Depth (inches):  Remarks:  Hydric Soil Present? Yes No X  Secondary Indicators (2 or more required)  Secondary Indicators (2 or more required)  High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine)  Saturation (A3) Aquatic Invertebrates (B13) Diril Deposits (B2) (Riverine)  Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Diril Deposits (B2) (Riverine)  Surface Water Cacks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)  Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3)  Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  Field Observations:  Water Marks (B1) (Riverine) Present? Yes No X Depth (inches): 16° Wetland Hydrology Present?  Yes No X  Sutrace Water Present? Yes No X Depth (inches): 16° Wetland Hydrology Present?  Yes No X  Sutracion Present? Yes No X Depth (inches): 16° Wetland Hydrology Present?  Yes No X  Sutracion Present? Yes No X Depth (inches): 16° Wetland Hydrology Present?  Yes No X  Sutracion Present? Yes No X Depth (inches): 16° Wetland Hydrology Present?  Yes No X  Restrictive (F7) Present Present?  Yes No X  Depth (inches): 16° Wetland Hydrology Present?  Yes No X  Restrictive (F7)  Redox Present? Present? Present?  Yes No X  Depth (inches): 16° Wetland Hydrology Present?  Yes No X  Restrictive (F7)  Redox Present? Present?  Yes No Y  Subracion	Histic Epipedon (A2)			Stripped Matrix (S6)			2 cm Muck (A10) ( <b>LRR B</b> )			
Stratified Layers (A5) (LRR C)	Black Histic (A3)			Loamy Mucky Mineral (F1)			Reduced V	Reduced Vertic (F18)		
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) 3 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) 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 (R1) (Riverine) Surface Water (A1) Sait Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Dry-Season Water Table (C2) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) FAC-Neutral Test (D5)  Field Observations:  Surface Water Present? Yes No X Depth (inches): 16* Wetland Hydrology Present? Yes No X Depth (inches): 16* Wetland Hydrology Present? Yes No X Depth (inches): 16* Yes No X Dep	Hydrogen Sulfide (A4)			Loamy Gleyed Matrix (F2)			Red Paren	Red Parent Material (TF2)		
Depleted Below Dark Surface (A11)	Stratified Laye	ers (A5) ( <b>LRR C</b> )		Depleted Mat	rix (F3)		Other (Exp	lain in Remarks)		
Thick Dark Surface (A12) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) unless disturbed or problematic.  Sandy Gleyed Matrix (S4)  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)  Sediment Deposits (B1) (Riverine)  High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine)  Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B2) (Riverine)  Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)  Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2)  Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8)  Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)  Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3)  Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  Field Observations:  Surface Water Present? Yes No X Depth (inches): 16"  Wettand Hydrology Present? Yes No X Depth (inches): 16"  Wettand Hydrology Present? Yes No X Depth (inches): 16"  Yes No X  Remarks:	1 cm Muck (A9	9) ( <b>LRR D</b> )		Redox Dark S	Surface (F6)					
Sandy Mucky Mineral (S1) Vernal Pools (F9) unless disturbed or problematic.  Sandy Gleyed Matrix (S4)  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) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drianage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  Field Observations: Surface Water Present? Yes No X Depth (inches): Yes No X  Wetland Hydrology Present? Yes No X  Wetland Hydrology Present? Yes No X  Remarks:	Depleted Belo	w Dark Surface (A	A11)	Depleted Dark Surface (F7)			<sup>3</sup> Indicators of hydrophytic vegetation and			
Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No X  Remarks:  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (iminimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Sediment Deposits (B2) (Nonriverine) Avidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation (Visible on Aerial Imagery (C9) Inlindation Visible on Aerial Imagery (B7) Other (Explain in Remarks)  Field Observations: Surface Water Present? Yes No X Depth (inches): Water Marks (J1) (Mortiverine) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Wetland Hydrology Present?  Yes No X Depth (inches):  Wetland Hydrology Present?  Yes No X Depth (inches):  Yes No X Depth (inches):  Feed Remarks:	Thick Dark Su	rface (A12)		Redox Depressions (F8)			wetland hydrology must be present,			
Restrictive Layer (if present):     Type:	Sandy Mucky	Mineral (S1)		Vernal Pools (F9)			unless distur	bed or problematic.		
Type:	Sandy Gleyed	Matrix (S4)								
Popth (inches):	Restrictive Layer	(if present):								
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Sulface Water (A2)  Salt Crust (B11)  High Water Table (A2)  Saturation (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B2) (Riverine)  Sediment Deposits (B2) (Nonriverine)  Oxidized Rhizospheres along Living Roots (C3)  Drift Deposits (B3) (Nonriverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (	Type:									
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Sulf Crust (B11)  Aquatic Invertebrates (B13)  Sutration (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Presence of Reduced Iron (C4)  Surface Soil Cracks (B6)  Recent Iron Reduction in Tilled Soils (C6)  Sutration Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Other (Explain in Remarks)  Saturation Present?  Yes  No  X  Depth (inches):  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Rive	Depth (inches):						dric Soil Present?	Yes	No X	
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Satt Crust (B11)  Water Marks (B1) (Riverine)  Saturation (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Riverine)  Drainage Patterns (B10)  Sediment Deposits (B2) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Oxidized Rhizospheres along Living Roots (C3)  Drift Deposits (B3) (Nonriverine)  Presence of Reduced Iron (C4)  Surface Soil Cracks (B6)  Recent Iron Reduction in Tilled Soils (C6)  Saturation Visible on Aerial Imagery (B7)  Thin Muck Surface (C7)  Shallow Aquitard (D3)  Water-Stained Leaves (B9)  Other (Explain in Remarks)  FAC-Neutral Test (D5)  Field Observations:  Surface Water Present?  Yes  No  X  Depth (inches):  Ves  No  X  Depth (inches):  Yes  No  X  Depth (inches):	Remarks:		-							
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Sulface Water (A2)  Biotic Crust (B12)  Saturation (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Primary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Primary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Sediment Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Sediment Deposits (B3) (Riverine)  Drift Deposits (B2) (Rive										
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Sulface Water (A2)  Biotic Crust (B12)  Saturation (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Primary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Primary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Sediment Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Sediment Deposits (B3) (Riverine)  Drift Deposits (B2) (Rive										
Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (Riverine)  Saturation (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Riverine)  Drainage Patterns (B10)  Sediment Deposits (B2) (Nonriverine)  Sediment Deposits (B3) (Riverine)  Drainage Patterns (B10)										
Surface Water (A1)				alcall that amply			Canandam, Indi		٦)	
High Water Table (A2) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B2) (Riverine)  Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  Field Observations: Surface Water Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Sediment Deposits (B2) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Setrace Water Present? Yes No X Depth (inches): Setrace Water Again Hydrology Present? Yes No X Depth (inches): Setrace Water Present? Yes No X Depth (inches): Setrace Water Present? Yes No X Depth (inches): Setrace Water Present? Yes No X Depth (inches): Yes No X  No X  Remarks:	-		requirea; cne						<u>a)</u>	
Saturation (A3)	<del></del>									
Water Marks (B1) (Nonriverine)										
Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Presence of Reduced Iron (C4)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Thin Muck Surface (C7)  Water Table Present?  Yes  No  X  Depth (inches):  Saturation Present?  Yes  No  X  Depth (inches):  Saturation Present?  Yes  No  X  Depth (inches):  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  Saturation Present?  Yes  No  X  Depth (inches):  Yes  No  X  No  X  No  X  Depth (inches):  Yes  No  X  No  X  No  X  Depth (inches):  Yes  No  X  No  X  No  X  No  X  Depth (inches):  Yes  No  X  No  X  No  X  No  X  No  X  Depth (inches):  Yes  No  X  N								, , ,		
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  Field Observations: Surface Water Present? Yes No X Depth (inches): Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:				<del></del> ,			_	, ,		
Surface Soil Cracks (B6)							<del>_</del> '	` '		
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3)  Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  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"  Yes No X  Depth (inches): >16"  Yes No X  Remarks:							<del>_</del> _	` ,	(00)	
Water-Stained Leaves (B9)  Other (Explain in Remarks)  FAC-Neutral Test (D5)  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"  Yes No X  Depth (inches): >16"  Yes No X  Remarks:	• ' '						<del></del>			
Field Observations:  Surface Water Present? Yes No X Depth (inches):  Water Table Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:							<del></del>			
Surface Water Present? Yes NoX Depth (inches): Water Table Present? Yes NoX Depth (inches): >16" Wetland Hydrology Present? Saturation Present? Yes NoX Depth (inches): >16" Yes NoX NoX Yes NoX NoX Remarks:		· ,		Other (Explai	ii iii Keiliaiks)		FAC-Neuti	ai Test (D3)		
Water Table Present? Yes No X Depth (inches): >16" Wetland Hydrology Present?  Saturation Present? Yes No X Depth (inches): >16" Yes No X  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:				No. V	Danilla (in the case)					
Saturation Present? Yes No X Depth (inches): >16" Yes No X  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:					, , , ,					
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:							Wetland H		🗸	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:				No X	Depth (inches):	>16"		Yes	NO X	
Remarks:	• •	- '	auge, monitor	ring well, aerial pho	otos, previous inspe	ctions), if availab	ole:			
		(31134111 gc			, p. c ddc opc	, ii avallai				

Project/Site: Percheron	City/County:	Boardman/ Morro	w County Sampling Date: 10/14/2021
Applicant/Owner: Birch Infrastructure, LLC			State: OR Sampling Point: 3
Investigator(s): Sonya Templeton and Margret Harburg	Section,	Township, Range:	Sec. 28, T.3N., R.24E., W.M.
Landform (hillslope, terrace, etc.): Terrace			oncave, convex, none): Concave Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plateau	Lat: 45.715733	•	: -119.820386 Datum: NAD83
Soil Map Unit Name: Quincy loamy fine sand (Unit 40	•		NWI classification: None
Are climatic / hydrologic conditions on the site typical for this tin		Yes	
Are Vegetation,Soil, or Hydrolog	•	isturbed? Are "N	Normal Circumstances" present? Yes X No
Are Vegetation ,Soil , or Hydrolog			eded, explain any answers in Remarks.)
			ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No X		
Hydric Soil Present? Yes		Is the Sampled A	Area
Wetland Hydrology Present? Yes		within a Wetland	
Precipitation prior to fieldwork: According to the AgACIS Boa	ardman weather station,	0.00 inches of pro	recipitation was received on the day of fieldwork and 0.14
inches during the two weeks	s prior.		
Remarks:			
Lowest topographic location within undulating topography.			
VEGETATION			
Absolu	te Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r ) % Cov	er Species?	Status	Number of Dominant Species
1.			That Are OBL, FACW, or FAC: 0 (A)
2.			
3.			Total Number of Dominant
4.			Species Across All Strata: 2 (B)
0%	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10' r)	_		Percent of Dominant Species
1. Artemisia tridentata 5%	Yes	NOL	That Are OBL, FACW, or FAC: 0% (A/B)
2.			Prevalence Index worksheet:
3.			Total % Cover of: Multiply by:
4.			OBL species 0 x 1 = 0
5.			FACW species 0 x 2 = 0
5%	= Total Cover		FAC species 1 x 3 = 3
Herb Stratum (Plot size:5' r)			FACU species 90 x 4 = 360
1. Salsola tragus 80%	Yes	FACU	UPL species 7 x 5 = 35
2. Sisymbrium altissimum 10%		FACU	Column Totals: 98 (A) 398 (B)
3. Bromus tectorum 2%	No	NOL	Prevalence Index = B/A = $\frac{4.06}{}$
4. Cleomella species 1%	– - No	FAC*	Hydrophytic Vegetation Indicators:
5.			Dominance Test is >50%
6.	_		Prevalence Index is ≤3.0 <sup>1</sup>
7.			Morphological Adaptations <sup>1</sup> (Provide supporting
8.			data in Remarks or on a separate sheet)
9.			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10.			
11.	<u> </u>		1 Indicators of hydric soil and wetland hydrology must
93%	= Total Cover		be present.
Woody Vine Stratum (Plot size: 10' r)			be present.
1.	<b>_</b>		
2.			Hydrophytic
0%	= Total Cover		Vegetation YesNoX
% Bare Ground in Herb Stratum % C	over of Biotic Crust		Present?
Remarks:			
*Assumed FAC			

US Army Corps of Engineers
AKS Engineering Forestry, LLC
8858-04

Arid West - Version 2.0 AKS Project No.

SOIL										Sampling Point	E:	3
Profile Description: (D	Describe to the	depth nee	ded to	o docume	nt the indica	tor or c	onfirm the	abser	nce of indicators.	)		
Depth	Matrix		_		R	edox Fe	eatures					
(inches) Cold	or (moist)	%	C	olor (moist)	) %	)	Type <sup>1</sup>	_	Loc <sup>2</sup>	<sup>3</sup> Texture		Remarks
0-16 10	OYR 3/2	100						_		S		
			_					_				
			_					_	·			
			_					_				
			_					_	·			
			_					_				
			_					_				
			_					_				
<sup>1</sup> Type: C=Concentration	n, D=Depletion,	RM=Reduc	ed Ma	atrix CS=C	overed or Co	ated Sa	nd Grains.		<sup>2</sup> Location: PL=Por	e Lining, M=Matrix.		
<sup>3</sup> Texture: S = sand; Si =	silt; C = clay; l	_ = loam or	loamy	. Texture N	/lodifier: co =	coarse;	f = fine; vf =	= very	fine; + = heavy (m	ore clay); - = light (le	ss clay)	
Hydric Soil Indicators:										roblematic Hydric S	_	
Histosol (A1)	(Applicable to	o an Livivo,		andy Redo	•				1 cm Muck (	-	00	
Histic Epipedon (A2	2)	-	 S1	tripped Mat	trix (S6)					A10) ( <b>LRR B</b> )		
Black Histic (A3)		-	Lo	oamy Muck	y Mineral (F1	1)			Reduced Ve	rtic (F18)		
 Hydrogen Sulfide ( <i>F</i>	<b>A4</b> )		Lo	oamy Gleye	ed Matrix (F2	)			Red Parent I	Material (TF2)		
Stratified Layers (A	5) ( <b>LRR C</b> )		D	epleted Ma	atrix (F3)				Other (Expla	in in Remarks)		
1 cm Muck (A9) ( <b>LF</b>	RR D)	_	R	edox Dark	Surface (F6)							
Depleted Below Da	rk Surface (A1	1) _	D	epleted Da	rk Surface (F	7)			<sup>3</sup> Indicators of hy	drophytic vegetation	and	
Thick Dark Surface	(A12)	_	R	edox Depre	essions (F8)				wetland hydrol	ogy must be present	,	
Sandy Mucky Mine	ral (S1)	-	V	ernal Pools	s (F9)				unless disturbe	ed or problematic.		
Sandy Gleyed Matr	rix (S4)											
Restrictive Layer (if pr	resent):											
Type:												
Depth (inches):								Hydr	ic Soil Present?	Yes	No	X
Remarks:												
romano.												
HYDROLOGY												
Wetland Hydrology Inc												
Primary Indicators (mini		quired; chec								ators (2 or more requ	ired)	
Surface Water (A1)		-		alt Crust (B	,					(B1) (Riverine)		
High Water Table (	A2)	-		iotic Crust (	` ′					eposits (B2) (Riverine	9)	
Saturation (A3)		-		-	rtebrates (B1	,				s (B3) (Riverine)		
Water Marks (B1) (	,	-			ulfide Odor (C	•			Drainage Pa	, ,		
Sediment Deposits	. , .	rine) _			izospheres al	•	ing Roots (0	C3)	<u> </u>	Water Table (C2)		
Drift Deposits (B3)	` '	-			Reduced Iron	` '			Crayfish Bur	` ,		
Surface Soil Cracks	, ,				Reduction in	Tilled So	oils (C6)			isible on Aerial Image	∍ry (C9)	
Inundation Visible o	·	ry (B7)			urface (C7)	,			Shallow Aqu	` '		
Water-Stained Leav	ves (B9)	-		ther (Expla	in in Remark	s)			FAC-Neutral	Test (D5)		
Field Observations:												
Surface Water Present	? Yes		No _	X	Depth (inc	:hes): _		-				
Water Table Present?	Yes		No _	X	Depth (inc	:hes): _	>16"	_	Wetland Hy	drology Present?		
Saturation Present?			No _	X	Depth (inc	hes): _	>16"	_		Yes	No_	<u>X</u>
(includes capillary fring				ll aantalat		- lac::::	-tions\ 'f'	alle!				
Describe Recorded Dat	ıa (stream gauç	je, monitorii	ng wel	ı, aeriai ph	otos, previou	s inspec	cuons), it av	allable	<del>)</del> .			
Remarks:												
Soils very dry throughou	ut.											

Project/Site: Percheron	. City/County:	Boardman/ Morro	ow County Sampling Date: 10/14/2021
Applicant/Owner: Birch Infrastructure, LLC			State: OR Sampling Point: 4
Investigator(s): Sonya Templeton and Margret Harburg	Section,	Township, Range	: Sec. 28, T.3N., R.24E., W.M.
Landform (hillslope, terrace, etc.):		Local relief (c	oncave, convex, none): Concave Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plateau	Lat: 45.715492	Long	g: -119.821023 Datum: NAD83
Soil Map Unit Name: Quincy loamy fine sand (Unit 40C)	, 2-12% slopes; Non-		NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time	of year?	Yes	
Are Vegetation,Soil , or Hydrology	significantly di	isturbed? Are "	Normal Circumstances" present? Yes X No
Are Vegetation,Soil , or Hydrology	naturally prob	lematic? (If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh		point locatio	ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes			
Hydric Soil Present? Yes		Is the Sampled	Area
Wetland Hydrology Present? Yes		within a Wetlan	
		0.00 inches of p	recipitation was received on the day of fieldwork and 0.14
inches during the two weeks p	rior.		
Plot 4 located in low topographic location in area with undulating	topography.		
VEGETATION			
Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r)	Species?	<u>Status</u>	Number of Dominant Species
1			That Are OBL, FACW, or FAC: 0 (A)
2.			
3	<del>-</del>		Total Number of Dominant
4	<del>-</del> _ <del></del> .		Species Across All Strata: 3 (B)
Sapling/Shrub Stratum (Plot size:10' r)	_= Total Cover		Percent of Dominant Species
1. Artemisia tridentata 20%	– Yes	NOL	That Are OBL, FACW, or FAC: 0% (A/B)
2.		——	
3.			Prevalence Index worksheet:  Total % Cover of: Multiply by:
4	<del>-</del>		OBL species 0 x1 = 0
5.	= Total Cover		FACW species 0 x 2 = 0
Herb Stratum (Plot size: 5' r _)	_= Total Cover		FAC species 0 x 3 = 0 FACU species 33 x 4 = 132
1. Bromus tectorum 50%	Yes	NOL	UPL species 70 x 5 = 350
2. Sisymbrium altissimum 20%	Yes	FACU	Column Totals: 103 (A) 482 (B)
3. Salsola tragus 10%	No	FACU	Prevalence Index = B/A = 4.68
4. Lactuca serriola 3%	No	FACU	Hydrophytic Vegetation Indicators:
5.			Dominance Test is >50%
6.			Prevalence Index is ≤3.0 <sup>1</sup>
7.			Morphological Adaptations <sup>1</sup> (Provide supporting
8.			data in Remarks or on a separate sheet)
9.			Problematic Hydrophytic Vegetation (Explain)
10.			
11.			1 Indicators of hydric soil and wetland hydrology must
83%	= Total Cover		be present.
Woody Vine Stratum (Plot size: 10' r)	<b>-</b> -		<u> </u>
1.			
2	<del></del>		Hydrophytic
0%	_= Total Cover		Vegetation Yes No X
	er of Biotic Crust		Present?
Remarks:			

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SOIL						Sampling Point:	4
Profile Description: (De	escribe to the depti	n needed to docum	ent the indicator or c	onfirm the abs	ence of indicators.)		
Depth	Matrix	<u></u>	Redox Fe	eatures			
(inches) Color	r (moist) %	Color (moi	st) %	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
<u>0-16</u> <u>10</u>	YR 3/2 10	0				<u> </u>	
		<u> </u>					
		<u> </u>					
<sup>1</sup> Type: C=Concentration,	D=Depletion, RM=F	Reduced Matrix CS=	Covered or Coated Sa	nd Grains.	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix.	
<sup>3</sup> Texture: S = sand; Si = s	silt; C = clay; L = loa	m or loamy. Texture	Modifier: co = coarse;	f = fine; vf = ve			clay)
Hydric Soil Indicators: (						oblematic Hydric Soi	_
Histosol (A1)	(Applicable to all Li	Sandy Red	· ·		1 cm Muck (A	-	
Histic Epipedon (A2)	)	Stripped M	latrix (S6)		2 cm Muck (A		
Black Histic (A3)		Loamy Mu	cky Mineral (F1)		Reduced Ver	tic (F18)	
Hydrogen Sulfide (A	4)	Loamy Gle	eyed Matrix (F2)		Red Parent M	Naterial (TF2)	
Stratified Layers (A5	) (LRR C)	Depleted N	Лatrix (F3)		Other (Explai	n in Remarks)	
1 cm Muck (A9) ( <b>LR</b>	R D)	Redox Da	k Surface (F6)				
Depleted Below Darl	k Surface (A11)	Depleted [	Dark Surface (F7)		<sup>3</sup> Indicators of hyd	rophytic vegetation and	t
Thick Dark Surface (	(A12)	Redox De	oressions (F8)		wetland hydrolo	ogy must be present,	
Sandy Mucky Minera	al (S1)	Vernal Poo	ols (F9)		unless disturbe	d or problematic.	
Sandy Gleyed Matrix	(S4)						
Restrictive Layer (if pre	sent):						
Type:	•						
Depth (inches):			_	   Hv/	dric Soil Present?	Yes	No X
Remarks:				1.13	and don't resent.		<u> </u>
Remarks.							
HYDROLOGY							
Wetland Hydrology Indi	icators:						
Primary Indicators (minin	num of one required;	check all that apply	′)		Secondary Indica	tors (2 or more require	<u>d)</u>
Surface Water (A1)		Salt Crust	(B11)		Water Marks	(B1) (Riverine)	
High Water Table (A	2)	Biotic Crus	st (B12)		Sediment De	posits (B2) (Riverine)	
Saturation (A3)		Aquatic In	vertebrates (B13)		Drift Deposits	(B3) (Riverine)	
Water Marks (B1) (N	lonriverine)	Hydrogen	Sulfide Odor (C1)		Drainage Pat	terns (B10)	
Sediment Deposits (	B2) (Nonriverine)	Oxidized F	Rhizospheres along Livi	ing Roots (C3)	Dry-Season \	Water Table (C2)	
Drift Deposits (B3) (	Nonriverine)	Presence	of Reduced Iron (C4)		Crayfish Burr	ows (C8)	
Surface Soil Cracks	(B6)	Recent Iro	n Reduction in Tilled S	oils (C6)	Saturation Vi	sible on Aerial Imagery	(C9)
Inundation Visible or	n Aerial Imagery (B7	)Thin Muck	Surface (C7)		Shallow Aqui	tard (D3)	
Water-Stained Leave	es (B9)	Other (Exp	olain in Remarks)		FAC-Neutral	Test (D5)	
Field Observations:							
Surface Water Present?	Yes	NoX	Depth (inches):				
Water Table Present?	Yes	No X	Depth (inches):	>16"	Wetland Hyd	Irology Present?	
Saturation Present?	Yes	<u> </u>	Depth (inches):	>16"		Yes	NoX
(includes capillary fringe	)						
Describe Recorded Data	(stream gauge, mo	nitoring well, aerial p	photos, previous inspec	ctions), if availab	ole:		
Remarks:							
Soils very dry throughout							

Project/Site: Percheron	. City/County:	Boardman/ Morro	w County Sampling D	Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC			State: OR Sampling	g Point: 5
Investigator(s): Sonya Templeton, Margret Harburg, State	cey Reed, PWS Section	, Township, Range:	Sec. 28, T.3N., R.24E., W.M.	
Landform (hillslope, terrace, etc.): Terrace		Local relief (co	oncave, convex, none): Concave	Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plateau	Lat: 45.708632	Long	: -119.816632 Datui	m: NAD83
Soil Map Unit Name: Sagehill fine sandy loam			NWI classification:	None
Are climatic / hydrologic conditions on the site typical fo			NoX (If no, exp	
Are Vegetation,Soil, or H	Hydrologysignificantly o	listurbed? Are "I	Normal Circumstances" present?	Yes_X_No
	Hydrologynaturally prob		eded, explain any answers in Remarks	
SUMMARY OF FINDINGS – Attach site		g point location	ns, transects, important feat	ures, etc.
Hydrophytic Vegetation Present? Yes _	No <b>X</b>			
Hydric Soil Present? Yes _	No <b>X</b>	Is the Sampled	Area	
Wetland Hydrology Present? Yes _	No <b>X</b>	within a Wetland	d? Yes No _	<u>X</u>
		•	recipitation was received on the day of	fieldwork and 0.05
inches during the two Remarks:	weeks prior. Conditions for Ma	arch are wetter than	normal.	
Plot 5 located within ephemeral swale. No defined bank	bed or OHWM present			
·	The control of the co			
VEGETATION				
	Absolute Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 30' r_)	% Cover Species?	<u>Status</u>	Number of Dominant Species	
1			That Are OBL, FACW, or FAC:	0 (A)
2				
3			Total Number of Dominant	
4			Species Across All Strata:	(B)
_	0% = Total Cover			
Sapling/Shrub Stratum (Plot size: 10' r _) _			Percent of Dominant Species	
1			That Are OBL, FACW, or FAC:	<u>0%</u> (A/B)
2			Prevalence Index worksheet:	
3			Total % Cover of: Multiply by	<u>/:</u>
4			OBL species 0 x 1 =	0
5			FACW species0 x 2 =	0
_	0% = Total Cover		FAC species0 x 3 =	0
Herb Stratum (Plot size:5' r)			FACU species 46 x 4 =	184
Centaurea solstitialis	50% Yes	NOL_	UPL species x 5 =	260
2. <u>Sisymbrium altissimum</u>	45% Yes	<u>FACU</u>	Column Totals: 98 (A)	444 (B)
3. Salsola tragus	1% _ No	FACU	Prevalence Index = B/A =	<u>4.53</u>
4. Bromus tectorum	1% No	NOL_	Hydrophytic Vegetation Indicators	<b>::</b>
5. <u>Erodium cicutarium</u>	1% No	NOL	Dominance Test is >50%	
6			Prevalence Index is ≤3.0 <sup>1</sup>	
7			Morphological Adaptations <sup>1</sup> (Pro	vide supporting
8			data in Remarks or on a sep	,
9			Problematic Hydrophytic Vegeta	tion <sup>1</sup> (Explain)
10				
11			<sup>1</sup> Indicators of hydric soil and wetland	l hydrology must
_	98% = Total Cover		be present.	
Woody Vine Stratum (Plot size: 10' r)				
1			Undrankutia	
2			Hydrophytic	. <b>Y</b>
Of Bara Crayed in Hart Strature	0% = Total Cover		Vegetation YesN	° _^
% Bare Ground in Herb Stratum 2%	% Cover of Biotic Crust		Present?	
Remarks:				

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SOIL							Sampling Point:	5
Profile Description: (D	escribe to the	depth need	led to docum	ent the indicator or c	onfirm the a	absence of indicators.)		
Depth	Matrix			Redox Fe	eatures			
(inches) Colo	or (moist)	%	Color (moi	st) %	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-16 10	YR 4/3	100					LS _	
<sup>1</sup> Type: C=Concentration	, D=Depletion, I	RM=Reduce	ed Matrix CS=	Covered or Coated Sa	and Grains.	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix.	
<sup>3</sup> Texture: S = sand; Si =	silt; C = clay; L	= loam or lo	amy. Texture	Modifier: co = coarse;	; f = fine; vf =	very fine; + = heavy (mo	ore clay); - = light (less	clay)
Hydric Soil Indicators:							oblematic Hydric Soil	_
Histosol (A1)	(Applicable to	an Livivo, o	Sandy Red	•		1 cm Muck (A	-	· .
Histic Epipedon (A2	<u>'</u> )	_	Stripped M	latrix (S6)		2 cm Muck (A		
Black Histic (A3)		_	— Loamy Mu	cky Mineral (F1)		Reduced Ver	tic (F18)	
Hydrogen Sulfide (A	A4)		Loamy Gle	eyed Matrix (F2)		Red Parent N	Material (TF2)	
Stratified Layers (A	5) (LRR C)	_	Depleted N	Matrix (F3)		Other (Explai	n in Remarks)	
1 cm Muck (A9) ( <b>LF</b>	RR D)	_	 Redox Dai	rk Surface (F6)		<del></del>		
Depleted Below Dai	rk Surface (A11	)	Depleted [	Dark Surface (F7)		<sup>3</sup> Indicators of hyd	lrophytic vegetation and	I
Thick Dark Surface	(A12)		Redox De	pressions (F8)		wetland hydrolo	ogy must be present,	
Sandy Mucky Miner	al (S1)		Vernal Poo	ols (F9)		unless disturbe	d or problematic.	
Sandy Gleyed Matri	ix (S4)							
Restrictive Layer (if pro	esent):							
Type:	,							
Depth (inches):				_		Hydric Soil Present?	Yes	No X
Remarks:					ļ	Tryuno com riccont.		
itemarks.								
HYDROLOGY								
Wetland Hydrology Ind								
Primary Indicators (minir	mum of one req	uired; check	all that apply	′)		Secondary Indica	tors (2 or more required	<u>d)</u>
Surface Water (A1)		_	Salt Crust	(B11)		Water Marks	(B1) (Riverine)	
High Water Table (A	A2)	_	Biotic Crus	st (B12)		Sediment De	posits (B2) (Riverine)	
Saturation (A3)		_	Aquatic In	vertebrates (B13)		Drift Deposits	(B3) (Riverine)	
Water Marks (B1) (I	Nonriverine)	_	Hydrogen	Sulfide Odor (C1)		Drainage Pat	terns (B10)	
Sediment Deposits	(B2) (Nonriveri	ne) _	Oxidized F	Rhizospheres along Liv	ing Roots (C	3) Dry-Season \	Nater Table (C2)	
Drift Deposits (B3) (	•	_		of Reduced Iron (C4)		Crayfish Burr	` '	
Surface Soil Cracks	s (B6)	_		n Reduction in Tilled S	oils (C6)		sible on Aerial Imagery	(C9)
Inundation Visible o	•	y (B7)		Surface (C7)		Shallow Aqui	` '	
Water-Stained Leav	res (B9)	_	Other (Exp	olain in Remarks)		FAC-Neutral	Test (D5)	
Field Observations:								
Surface Water Present?	? Yes	N	lo X	Depth (inches):				
Water Table Present?	Yes	N	lo X	Depth (inches):	>16"	Wetland Hyd	Irology Present?	
Saturation Present?		N	lo X	Depth (inches):	>16"		Yes	No <u>X</u>
(includes capillary fringe	•			-1-4	-4'\ 'C	31-1-1-		
Describe Recorded Dat	a (stream gauge	e, monitorin	y weii, aerial į	onotos, previous insped	cuons), it ava	anapie:		
Remarks:								
Soils very dry througout,	no eveidence d	of recent flow	v or surface v	vater ponding.				

Project/Site: Percheron		City/County:	Boardman/ Morro	w County Sampling Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC				State: OR Sampling Point: 6
Investigator(s): Sonya Templeton, Margret Harburg, Sta	acey Reed, PWS	Section	on, Township, Ran	ge: Sec. 28, T.3N., R.24E., W.M.
Landform (hillslope, terrace, etc.): Terrace	_		Local relief (co	oncave, convex, none): Concave Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plateau	Lat:	45.708092	Long	g: 119.815915 Datum: NAD83
Soil Map Unit Name: Sagehill fine sandy loar	-	-		NWI classification: None
Are climatic / hydrologic conditions on the site typical f				No X (If no, explain in Remarks)
Are Vegetation,Soil, or	Hydrology	significantly di		Normal Circumstances" present? Yes X No
	Hydrology			eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site	e map showin	g samplin	g point location	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	X No			
Hydric Soil Present? Yes			Is the Sampled	Area
Wetland Hydrology Present? Yes	X No		within a Wetland	d? Yes <u>X</u> No
			-	recipitation was received on the day of fieldwork and 0.05
inches during the two Remarks:	o weeks prior. Cor	iditions for Mai	rch are wetter than	normal.
Plot location in lowest topographic location within Wetl	and A and is appr	oximately 5 fee	et lower in elevation	n than Plot 8.
VEGETATION				_
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r_)	% Cover	Species?	Status	Number of Dominant Species
Elaeagnus angustifolia     2.	1%	No	FAC	That Are OBL, FACW, or FAC:(A)
3.				
				Total Number of Dominant
4	<del></del>			Species Across All Strata: 1 (B)
Sapling/Shrub Stratum (Plot size: 10' r)	1%= Tota	al Cover		Percent of Dominant Species
11.				That Are OBL, FACW, or FAC: 100% (A/B)
2.				
				Prevalence Index worksheet:
3				Total % Cover of: Multiply by:
4				OBL species 0 .x 1 = 0
5				FACW species0 x 2 =0
Herb Stratum (Plot size: 5' r)	= Tota	al Cover		FAC species 86 x 3 = 258 FACU species 14 x 4 = 56
1. Xanthium strumarium	81%	Yes	FAC	UPL species 1 x 5 = 5
2. Sphaerophysa salsula	14%	No	FACU	Column Totals: 101 (A) 319 (B)
3. Atriplex heterosperma	4%	No	FAC*	Prevalence Index = $B/A = \frac{3.16}{2.16}$
4. Onopordum acanthium	- <sup>- 7</sup> / <sub>0</sub> - 1%	- No	NOL NOL	Hydrophytic Vegetation Indicators:
5.	170	140	- NOE	X Dominance Test is >50%
				Prevalence Index is ≤3.0 <sup>1</sup>
7				Morphological Adaptations <sup>1</sup> (Provide supporting
				data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation (Explain)
				1 Toblematic Trydrophytic Vegetation (Explain)
10				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
11	1000/ - 7-4	L Cover		
Woody Vine Stratum (Plot size:10' r)	100% = Tota	ıı Cover		be present.
1.				
2.				Hydrophytic
	0% = Tota	al Cover		Vegetation Yes X No
% Bare Ground in Herb Stratum0%	% Cover of B	otic Crust		Present?
Remarks:				•
*Assumed FAC.				

SOIL							Sampling Point:	6
Profile Description:	(Describe to the	e depth nee	eded to docun	nent the indicator o	r confirm the abs	ence of indicators	.)	
Depth	Matrix			Redox	Features			
	olor (moist)	%	Color (mo		Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
	10YR 2/1	100	00101 (1110	<u> </u>	<u> </u>		SiL	romano
	10YR 3/2	95	7.5YR 3	3/4 5		M/PL	SiCL	Fine sands
					<u> </u>			
					' <u> </u>			
<sup>1</sup> Type: C=Concentrati	on. D=Depletion	n. RM=Redu	ced Matrix CS=	Covered or Coated	Sand Grains.	<sup>2</sup> Location: PL=Po	re Lining, M=Matrix.	
* *	· ·						nore clay); - = light (less	clay)
					,,		Problematic Hydric So	_
Hydric Soil Indicator Histosol (A1)	s: (Applicable	to all LKKS,	Sandy Re				(A9) ( <b>LRR C</b> )	iis :
Histic Epipedon (	A2)		Stripped N	` '			(A10) ( <b>LRR B</b> )	
Black Histic (A3)				ıcky Mineral (F1)		Reduced V		
Hydrogen Sulfide	(A4)			eyed Matrix (F2)			Material (TF2)	
Stratified Layers	• •			Matrix (F3)			ain in Remarks)	
1 cm Muck (A9) (	. , . ,			rk Surface (F6)			,	
Depleted Below [	Dark Surface (A	11)	Depleted I	Dark Surface (F7)		<sup>3</sup> Indicators of hy	ydrophytic vegetation ar	ıd
Thick Dark Surfac	ce (A12)		Redox De	pressions (F8)		wetland hydro	ology must be present,	
Sandy Mucky Mir	neral (S1)		Vernal Po	ols (F9)		unless disturb	ed or problematic.	
Sandy Gleyed Ma	atrix (S4)							
Restrictive Layer (if	present):							
Type:	,							
Depth (inches):				_	ш.,	dric Soil Present?	Yes X	No
					1190	The Contraction	165	
Remarks:								
HYDROLOGY								
Wetland Hydrology I	ndicators:							
Primary Indicators (mi	inimum of one re	equired; che	ck all that apply	<b>/</b> )		Secondary India	cators (2 or more require	ed)
Surface Water (A	.1)		Salt Crust	(B11)		Water Mark	s (B1) (Riverine)	
High Water Table	e (A2)		Biotic Cru	st (B12)		Sediment D	eposits (B2) (Riverine)	
Saturation (A3)			Aquatic In	vertebrates (B13)		Drift Depos	its (B3) (Riverine)	
X Water Marks (B1)	(Nonriverine)		Hydrogen	Sulfide Odor (C1)		Drainage P	atterns (B10)	
Sediment Deposi	ts (B2) (Nonrive	erine)	Oxidized F	Rhizospheres along I	Living Roots (C3)	Dry-Seasor	n Water Table (C2)	
Drift Deposits (B3	B) (Nonriverine)	)	Presence	of Reduced Iron (C4	)	Crayfish Bu	rrows (C8)	
Surface Soil Crac	cks (B6)		Recent Iro	n Reduction in Tilled	Soils (C6)	Saturation \	√isible on Aerial Imager	y (C9)
Inundation Visible	e on Aerial Imag	ery (B7)	Thin Muck	Surface (C7)		Shallow Aq	uitard (D3)	
Water-Stained Le	eaves (B9)		Other (Ex	olain in Remarks)		FAC-Neutra	al Test (D5)	
Field Observations:								
Surface Water Preser	nt? Yes_		No X	Depth (inches)	:			
Water Table Present	? Yes		No X	Depth (inches)		Wetland H	ydrology Present?	
Saturation Present?			No X	Depth (inches)			Yes X	No
(includes capillary frin	_			<u> </u>				
Describe Recorded D	oata (stream gau	ıge, monitori	ng well, aerial	photos, previous ins	pections), if availab	le:		
Remarks:								
Soils moist throughou	t, Evidence of p	rior ponding.	Water marks a	approximately 3-4 fee	et high on <i>Elaeagr</i>	nus angustifolia .		

Project/Site: Percheron	City	/County: Boardman/ M	orrow County	Sampling Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC			State: OR	Sampling Point: 7
Investigator(s): Sonya Templeton, Margret Harburg	Stacey Reed, PWS	Section, Township,	Range: Sec. 28, T.3N., R.24	E., W.M.
Landform (hillslope, terrace, etc.): Terrace		. Local relie	ef (concave, convex, none):	Concave Slope (%): <5%
Subregion (LRR): (B) Columbia/Snake River Plate	eau Lat: 45.7	08203 <u> </u>	ong: -119.815958	Datum: NAD83
Soil Map Unit Name: Sagehill fine sandy I	oam hummocky (Unit 55B	) , 2-5% slopes; Non-hy	dric NWI cla	assification: None
Are climatic / hydrologic conditions on the site typic	al for this time of year?		Yes NoX	(If no, explain in Remarks)
Are Vegetation,Soil,	· · · — ·	•	re "Normal Circumstances" p	
	or Hydrologynatu		If needed, explain any answe	· ·
SUMMARY OF FINDINGS – Attach s			tions, transects, impo	ortant features, etc.
' ' '			lad Avaa	
'				N-
1	Agacis Boardman weath two weeks prior. Conditio		•	on the day of fieldwork and 0.05
Remarks:	the medic phon contains	no tor maron are news		
Plot located approximately 3 feet higher in elevation	n than Plot 6.			
VEGETATION				
	Absolute Dor	ninant Indicator	Dominance Test work	rsheet.
Tree Stratum (Plot size:30' r)		ecies? Status	Number of Dominant S	
1. Elaeagnus angustifolia	<del></del>	No FAC	That Are OBL, FACW,	
2.	170	INO TAO	mat Aic Obl., I AOW,	2 (A)
3.			Total Number of Domir	nant
4.			Species Across All Stra	
	1% = Total Co	ver		(2)
Sapling/Shrub Stratum (Plot size: 10' r			Percent of Dominant S	pecies
1.			That Are OBL, FACW,	or FAC: <u>67%</u> (A/B)
2.			Prevalence Index wor	ksheet:
3.			Total % Cover of:	Multiply by:
4.			OBL species 0	x 1 = 0
5.			FACW species0	x 2 =0
	0% = Total Co	ver	FAC species 78	3 x 3 = 234
Herb Stratum (Plot size:5' r)			FACU species 0	x 4 = 0
Atriplex heterosperma	35%	/es FAC*	UPL species15	x 5 = 75
2. Verbena bracteata	30%	<u>/es FAC</u>	Column Totals: 93	(A) <u>309</u> (B)
3. Onopordum acanthium	_ 15%	res NOL	Prevalence Index	$x = B/A = \frac{3.32}{}$
4. Chenopodium species	10%	No FAC*	Hydrophytic Vegetation	on Indicators:
5. Xanthium strumarium	2%	No FAC	X Dominance Test	
6			Prevalence Index is	
7				ptations <sup>1</sup> (Provide supporting
8				ks or on a separate sheet)
9.			Problematic Hydro	phytic Vegetation <sup>1</sup> (Explain)
10			1	
11	<del></del> - <del></del>		1	il and wetland hydrology must
Woody Vine Stratum	90% = Total Co	ver	be present.	
1.	_/			
2.			Hydrophytic	
	0% = Total Co	ver	Vegetation Y	es_ X No
% Bare Ground in Herb Stratum 5%	% Cover of Biotic	Crust5	Present?	
Remarks:	t) during 10/1/1/2004 = 2	ioit	•	
*Assumed FAC. Contained Panicum capillare (FAC	) auring 10/14/2021 site v	isit.		

SOIL						Sampling Point:	7
Profile Description: (Describ	e to the depth ne	eeded to document the	he indicator or c	onfirm the abse	ence of indicator	s.)	
Depth	Matrix	_	Redox Fe	eatures			
(inches) Color (moi	st)%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-6 10YR 3/2	100					SiL	
6-16 10YR 4/2	. 55	7.5YR 4/4	5	С	M	SL	
10YR 3/2	2 35	7.5YR 4/4	5	С	M/PL	SiCL	
	_						
	_	_					
	_						
Type: C=Concentration, D=De	•					ore Lining, M=Matrix.	
Texture: S = sand; Si = silt; C	= clay; L = loam c	or loamy. Texture Modi	ifier: co = coarse;	f = fine; vf = ver	y fine; + = heavy (	(more clay); - = light (less	s clay)
lydric Soil Indicators: (Appl Histosol (A1)	cable to all LRRs	s, unless otherwise n Sandy Redox (S	-			Problematic Hydric So (A9) (LRR C)	oils <sup>3</sup> :
Histic Epipedon (A2)		Stripped Matrix (	•			(A10) ( <b>LRR B</b> )	
Black Histic (A3)		Loamy Mucky M				/ertic (F18)	
Hydrogen Sulfide (A4)		Loamy Gleyed N	, ,			nt Material (TF2)	
Stratified Layers (A5) ( <b>LR</b> I	R C)	X Depleted Matrix	` ,			olain in Remarks)	
1 cm Muck (A9) ( <b>LRR D</b> )	•	Redox Dark Sur	face (F6)		<u> </u>	,	
 Depleted Below Dark Surf	ace (A11)	Depleted Dark S	Surface (F7)		<sup>3</sup> Indicators of h	nydrophytic vegetation a	nd
Thick Dark Surface (A12)		Redox Depressi	ons (F8)		wetland hydr	rology must be present,	
Thick Dark Surface (A12)		Vernal Pools (F9	۵)		unless distur	bed or problematic.	
Sandy Mucky Mineral (S1)		vernar roots (i s	3)		arricco dictar	bod of problematic.	
		vernar r oois (i s	5)		difficos diotai	bod of problemane.	
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)		veniai r oois (i s			uniose diotai	bod of problematic.	
Sandy Mucky Mineral (S1)		venar roots (r s			umoo dista	see of proportion.	
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4) Restrictive Layer (if present)		venar roots (re		Hyd	Iric Soil Present?		No
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present)  Type:  Depth (inches):		venar roots (r s		Hyd			_ No
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present)  Type:  Depth (inches):		venar roots (r s		Hyd			_ No
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4) Restrictive Layer (if present) Type: Depth (inches):		veniai r oois (i s		Hyd			_ No
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present)  Type: Depth (inches): Remarks:	: 	venar roots (re		Hyd			_ No
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator	: 			Hyd	Iric Soil Present?	Yes X	
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4) Restrictive Layer (if present) Type: Depth (inches): Remarks: HYDROLOGY Vetland Hydrology Indicator	: 	eck all that apply)		Hyd	Iric Soil Present?	Yes X	
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present)  Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator  Primary Indicators (minimum of Surface Water (A1)	: 	eck all that apply)Salt Crust (B11)		Hyd	Iric Soil Present?  Secondary Ind Water Mar	Yes X icators (2 or more requir	red)
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2)	: 	eck all that apply)Salt Crust (B11) _X_Biotic Crust (B12	2)	Hyd	Iric Soil Present?  Secondary Ind Water Mar Sediment	Yes X icators (2 or more requireks (B1) (Riverine) Deposits (B2) (Riverine	red)
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	s: f one required; ch	eck all that apply)  Salt Crust (B11)  X Biotic Crust (B12  Aquatic Inverteb	2) prates (B13)	Hyd	Secondary Ind Water Mar Sediment I	icators (2 or more requires (B1) (Riverine) Deposits (B2) (Riverine)	red)
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	s: f one required; che	eck all that apply)Salt Crust (B11)Aquatic InvertebHydrogen Sulfide	2) prates (B13)		Secondary Ind Water Mar Sediment Drift Depos	Yes X icators (2 or more requireks (B1) (Riverine) Deposits (B2) (Riverine	ed)
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4) Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY Vetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) X Water Marks (B1) (Nonrive	s: f one required; cherine)	eck all that apply)Salt Crust (B11)Aquatic InvertebHydrogen Sulfide	2) prates (B13) le Odor (C1) spheres along Liv		Secondary Ind Water Mar Sediment I Drift Depor	icators (2 or more requires (B1) (Riverine) Deposits (B2) (Riverine) Patterns (B10)	ed)
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)  X Water Marks (B1) (Nonrive Sediment Deposits (B2) (Nonrive	s: f one required; cherine)	eck all that apply) Salt Crust (B11) X Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec	2) prates (B13) le Odor (C1) spheres along Liv	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B	icators (2 or more requirely ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine) Patterns (B10) on Water Table (C2)	ed) )
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)  X Water Marks (B1) (Nonrived Sediment Deposits (B2) (Nonrived Sediment Deposits (B3) (Non	s: f one required; cheerine) donriverine) verine)	eck all that apply) Salt Crust (B11) X Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec	2) orates (B13) le Odor (C1) spheres along Liv duced Iron (C4) duction in Tilled S	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B	icators (2 or more requires (81) (Riverine) Deposits (B2) (Riverine) Patterns (B10) on Water Table (C2) surrows (C8)	ed))
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator orimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) X Water Marks (B1) (Nonrive Sediment Deposits (B2) (Nonrive Drift Deposits (B3) (Nonrive Surface Soil Cracks (B6)	s:  f one required; che  erine)  lonriverine)  verine)	eck all that apply)  Salt Crust (B11)  X Biotic Crust (B12  Aquatic Inverteb  Hydrogen Sulfide  Oxidized Rhizos  Presence of Rec	prates (B13) le Odor (C1) spheres along Lividuced Iron (C4) duction in Tilled Sace (C7)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depor Drainage F Dry-Seaso Crayfish B Saturation Shallow Ad	icators (2 or more requires (B1) (Riverine) Deposits (B2) (Riverine) Patterns (B10) on Water Table (C2) urrows (C8) Visible on Aerial Imager	ed))
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)  X Water Marks (B1) (Nonrived Sediment Deposits (B2) (Nonrived Sediment Deposits (B3) (Nonrived Surface Soil Cracks (B6) Inundation Visible on Aeria Water-Stained Leaves (B8)	s:  f one required; che  erine)  lonriverine)  verine)	eck all that apply)  Salt Crust (B11)  X Biotic Crust (B12  Aquatic Inverteb  Hydrogen Sulfid  Oxidized Rhizos  Presence of Rec  Recent Iron Red  Thin Muck Surfa	prates (B13) le Odor (C1) spheres along Lividuced Iron (C4) duction in Tilled Sace (C7)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depor Drainage F Dry-Seaso Crayfish B Saturation Shallow Ad	icators (2 or more requirely ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine) Patterns (B10) on Water Table (C2) surrows (C8) Visible on Aerial Imager quitard (D3)	ed))
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) X Water Marks (B1) (Nonrive Sediment Deposits (B2) (Nonrive Sediment Deposits (B3) (Nonrive Surface Soil Cracks (B6) Inundation Visible on Aeria Water-Stained Leaves (B5)	s:  f one required; che  erine)  lonriverine)  verine)	eck all that apply)  Salt Crust (B11)  X Biotic Crust (B12  Aquatic Inverteb  Hydrogen Sulfide  Oxidized Rhizos  Presence of Recent Iron Red  Thin Muck Surfa  Other (Explain in	prates (B13) le Odor (C1) spheres along Lividuced Iron (C4) duction in Tilled Sace (C7)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depor Drainage F Dry-Seaso Crayfish B Saturation Shallow Ad	icators (2 or more requirely ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine) Patterns (B10) on Water Table (C2) surrows (C8) Visible on Aerial Imager quitard (D3)	ed))
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)  X Water Marks (B1) (Nonrived Sediment Deposits (B2) (Nonrived Sediment Deposits (B2) (Nonrived Sediment Deposits (B3) (Nonrived Sediment Deposits (B4) (Non	s:  f one required; che  erine)  lonriverine)  verine)  al Imagery (B7)  ))	eck all that apply)  Salt Crust (B11)  X Biotic Crust (B12  Aquatic Inverteb  Hydrogen Sulfid  Oxidized Rhizos  Presence of Rec  Recent Iron Red  Thin Muck Surfa  Other (Explain in	prates (B13) le Odor (C1) spheres along Liv duced Iron (C4) duction in Tilled S ace (C7) n Remarks)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depor Drainage F Dry-Seaso Crayfish B Saturation Shallow Ac	icators (2 or more requirely ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine) Patterns (B10) on Water Table (C2) surrows (C8) Visible on Aerial Imager quitard (D3)	ed))
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) X Water Marks (B1) (Nonrive Sediment Deposits (B2) (Nonrive Surface Soil Cracks (B6) Inundation Visible on Aeric	s:  f one required; che  erine)  lonriverine)  verine)  al Imagery (B7)  ))	eck all that apply) Salt Crust (B11)  X Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid. Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa Other (Explain in the content of th	prates (B13) le Odor (C1) spheres along Lividuced Iron (C4) duction in Tilled Sace (C7) In Remarks)  Depth (inches):	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depor Drainage F Dry-Seaso Crayfish B Saturation Shallow Ac	icators (2 or more requires (81) (Riverine) Deposits (B2) (Riverine) Patterns (B10) on Water Table (C2) urrows (C8) Visible on Aerial Imager quitard (D3) ral Test (D5)	ed))
Sandy Mucky Mineral (S1 Sandy Gleyed Matrix (S4)  Restrictive Layer (if present) Type: Depth (inches): Remarks:  HYDROLOGY  Vetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)  X Water Marks (B1) (Nonrived Sediment Deposits (B2) (Nonrived Sediment Deposits (B3) (Nonrived Sediment Visible on Aeria Water-Stained Leaves (B5) Field Observations: Surface Water Present?  Water Table Present?	s: f one required; che erine) Honriverine) verine) al Imagery (B7) b)  Yes Yes Yes Yes	eck all that apply)  Salt Crust (B11)  X Biotic Crust (B12)  Aquatic Inverteb  Hydrogen Sulfid  Oxidized Rhizos  Presence of Rec  Recent Iron Red  Thin Muck Surfa  Other (Explain ir	2) prates (B13) le Odor (C1) spheres along Liv duced Iron (C4) duction in Tilled S ace (C7) in Remarks)  Depth (inches): Depth (inches):	ing Roots (C3) oils (C6)  >18" >18"	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B Saturation Shallow Ac FAC-Neutr	icators (2 or more requirely ks (B1) (Riverine) Deposits (B2) (Riverine) Patterns (B10) on Water Table (C2) currows (C8) Visible on Aerial Imager quitard (D3) ral Test (D5)	ry (C9)

Project/Site: Percheron	_	City/County:	Boardman/ Mo	orrow County Sampling Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC	;			State: OR Sampling Point: 8
Investigator(s): Sonya Templeton, Margret	Harburg, Stacey Reed, PWS	Section,	Township, Ran	nge: Sec. 28, T.3N., R.24E., W.M.
Landform (hillslope, terrace, etc.): Terrace			Local relie	f (concave, convex, none): Convex Slope (%). 5-10%
Subregion (LRR): (B) Columbia/Snake Riv	rer Plateau L	at: 45.708260		ong: -119.816008 Datum: NAD83
Soil Map Unit Name: Sagehill fine	sandy loam hummocky (U	Jnit 55B) , 2-5% s		
Are climatic / hydrologic conditions on the si				Yes No X (If no, explain in Remarks)
Are Vegetation,Soil	, or Hydrology	significantly d	isturbed? A	re "Normal Circumstances" present? Yes X No
Are Vegetation,Soil	, or Hydrology	naturally prob	lematic? (If	needed, explain any answers in Remarks.)
			point local	tions, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes 1	No X	1	
Hydric Soil Present?	Yes 1		Is the Sample	
Wetland Hydrology Present?	Yes		within a Wetl	
1	to the AgACIS Boardmar ring the two weeks prior. (			f precipitation was received on the day of fieldwork and 0.05 han normal.
Remarks:				
Plot located approximately 2 feet higher in e	evation than Plot 7.			
VEGETATION				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r_)	% Cover	Species?	Status	Number of Dominant Species
1	<u></u>			That Are OBL, FACW, or FAC:1(A)
2				
3.				
				Total Number of Dominant
4				Species Across All Strata: 3 (B)
Sapling/Shrub Stratum (Plot size:		otal Cover		Percent of Dominant Species
Artemisia tridentata	30%	Yes	NOL	That Are OBL, FACW, or FAC: 33% (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species 0 x 1 = 0
5.				FACW species 0 x 2 = 0
J	30% = T	otal Cover		FAC species 25 x 3 = 75
Herb Stratum (Plot size: 5' r)		J. 2015.		FACU species 70 x 4 = 280
1. Sphaerophysa salsula	60%	Yes	FACU	UPL species 30 x 5 = 150
2. Atriplex heterosperma	20%	Yes	FAC*	Column Totals: <u>125</u> (A) <u>505</u> (B)
3. Amaranthus species	10%	No	FACU*	Prevalence Index = B/A = 4.04
4. Chenopodium species	5%	No	FAC*	Hydrophytic Vegetation Indicators:
5				Dominance Test is >50%
6				Prevalence Index is ≤3.0 <sup>1</sup>
7				Morphological Adaptations <sup>1</sup> (Provide supporting
8				data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
0				
				1
11				Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:		otal Cover		be present.
1. (Plot size:	<del></del> _/			
2.				Hydrophytic
	= T	otal Cover		Vegetation YesNo X
% Bare Ground in Herb Stratum	5% Cover of	f Biotic Crust		Present?
Remarks:				
*Assumed.				

	scribe to the depth n	eeded to document t	the indicator or confirm the	e absence of indicators.		
Depth	Matrix		Redox Features			
(inches) Color	(moist) %	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-14 10Y	/R 4/3 100				LS _	
		_			_	
		_				
		_				
		_				
					_	
Type: C=Concentration.	D=Depletion, RM=Rec	duced Matrix CS=Cove	ered or Coated Sand Grains.	<sup>2</sup> Location: PL=Por	e Lining, M=Matrix.	
•	•		difier: co = coarse; f = fine; vf			lav)
					roblematic Hydric Soils	
ydric Soil Indicators: ( Histosol (A1)	Applicable to all LRK	s, uniess otnerwise : Sandy Redox (\$	•	1 cm Muck (	-	, .
Histic Epipedon (A2)		Stripped Matrix	•		A10) ( <b>LRR B</b> )	
Black Histic (A3)		Loamy Mucky N		Reduced Ve	, , , ,	
Hydrogen Sulfide (A4	4)	Loamy Gleyed			Material (TF2)	
Stratified Layers (A5)	,	Depleted Matrix	` '		in in Remarks)	
1 cm Muck (A9) (LRI	, , ,	Redox Dark Su	, ,	_ ` `	,	
Depleted Below Dark	*	Depleted Dark	` '	<sup>3</sup> Indicators of hy	drophytic vegetation and	
Thick Dark Surface (	, ,	Redox Depress	` '		ogy must be present,	
Sandy Mucky Minera	ıl (S1)	Vernal Pools (F	, ,	•	ed or problematic.	
Sandy Gleyed Matrix	(S4)					
Restrictive Layer (if pre	sent):					
Type:	sone,.					
				Uhadria Cail Brasanta	Vaa	Na Y
Depth (inches):				Hydric Soil Present?	Yes	No <u>X</u>
lemarks:						
IYDROLOGY						
/etland Hydrology Indi						
renana myanology iliai	cators:					
, ,,		eck all that apply)		Secondary Indic	ators (2 or more required	)
rimary Indicators (minim			)		•	)_
rimary Indicators (minim Surface Water (A1)	num of one required; ch	Salt Crust (B11	•	Water Marks	(B1) (Riverine)	)_
rimary Indicators (minim Surface Water (A1) High Water Table (A:	num of one required; ch	Salt Crust (B11	12)	Water Marks Sediment De	eposits (B2) (Riverine)	)
rimary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3)	num of one required; ch	Salt Crust (B11 Biotic Crust (B1	hrates (B13)	Water Marks Sediment De Drift Deposit	eposits (B2) (Riverine) s (B3) (Riverine)	)_
rimary Indicators (minim Surface Water (A1) High Water Table (A: Saturation (A3) Water Marks (B1) ( <b>N</b>	num of one required; ch	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic	brates (B13) de Odor (C1)	Water Marks Sediment De Drift Deposit Drainage Pa	s (B1) (Riverine) eposits (B2) (Riverine) s (B3) (Riverine) tterns (B10)	)_
rimary Indicators (minim Surface Water (A1) High Water Table (A: Saturation (A3) Water Marks (B1) ( <b>N</b> Sediment Deposits (I	num of one required; ch 2) onriverine) B2) (Nonriverine)	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic	, l2) brates (B13) de Odor (C1) spheres along Living Roots (	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season	e (B1) (Riverine) eposits (B2) (Riverine) s (B3) (Riverine) tterns (B10) Water Table (C2)	)
rimary Indicators (minim  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (N  Sediment Deposits (B3) (N	num of one required; ch 2) onriverine) B2) (Nonriverine) Nonriverine)	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizo Presence of Re	brates (B13) de Odor (C1) spheres along Living Roots (educed Iron (C4)	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season Crayfish Bur	e (B1) (Riverine) eposits (B2) (Riverine) es (B3) (Riverine) tterns (B10) Water Table (C2) rows (C8)	_
rimary Indicators (minimary In	onriverine) B2) (Nonriverine) Nonriverine)	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re	brates (B13) de Odor (C1) spheres along Living Roots (educed Iron (C4) duction in Tilled Soils (C6)	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season Crayfish Bur Saturation V	eposits (B2) (Riverine) s (B3) (Riverine) s (B3) (Riverine) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery	_
rimary Indicators (minim  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (N  Sediment Deposits (B3) (N	onriverine) B2) (Nonriverine) Nonriverine) (B6) A Aerial Imagery (B7)	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizo Presence of Re	brates (B13) de Odor (C1) spheres along Living Roots (educed Iron (C4) duction in Tilled Soils (C6) face (C7)	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season Crayfish Bur	e (B1) (Riverine) eposits (B2) (Riverine) s (B3) (Riverine) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (itard (D3)	_
rimary Indicators (minim  Surface Water (A1)  High Water Table (A: Saturation (A3)  Water Marks (B1) (N  Sediment Deposits (I  Drift Deposits (B3) (N  Surface Soil Cracks (Inundation Visible on  Water-Stained Leave	onriverine) B2) (Nonriverine) Nonriverine) (B6) A Aerial Imagery (B7)	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Thin Muck Surf	brates (B13) de Odor (C1) spheres along Living Roots (educed Iron (C4) duction in Tilled Soils (C6) face (C7)	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season Crayfish Bur Saturation V Shallow Aqu	e (B1) (Riverine) eposits (B2) (Riverine) s (B3) (Riverine) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (itard (D3)	_
rimary Indicators (minim Surface Water (A1) High Water Table (A: Saturation (A3) Water Marks (B1) (N Sediment Deposits (I Drift Deposits (B3) (N Surface Soil Cracks (I Inundation Visible on Water-Stained Leave	onriverine) B2) (Nonriverine) Nonriverine) (B6) Aerial Imagery (B7) es (B9)	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertei Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Thin Muck Surf Other (Explain	brates (B13) de Odor (C1) spheres along Living Roots (educed Iron (C4) duction in Tilled Soils (C6) face (C7) in Remarks)	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season Crayfish Bur Saturation V Shallow Aqu	e (B1) (Riverine) eposits (B2) (Riverine) s (B3) (Riverine) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (itard (D3)	_
rimary Indicators (minim Surface Water (A1) High Water Table (A: Saturation (A3) Water Marks (B1) (N Sediment Deposits (B3) (N Surface Soil Cracks (Inundation Visible on Water-Stained Leave ield Observations: Surface Water Present?	onriverine) B2) (Nonriverine) Nonriverine) (B6) Aerial Imagery (B7) es (B9)	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Thin Muck Surf Other (Explain	brates (B13) de Odor (C1) spheres along Living Roots (educed Iron (C4) duction in Tilled Soils (C6) face (C7) in Remarks)  Depth (inches):	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season Crayfish Bur Saturation V Shallow Aqu FAC-Neutral	e (B1) (Riverine) eposits (B2) (Riverine) s (B3) (Riverine) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery itard (D3) Test (D5)	_
rimary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) (N Sediment Deposits (B3) (N Surface Soil Cracks (Inundation Visible on Water-Stained Leave ield Observations: Surface Water Present? Water Table Present?	onriverine) B2) (Nonriverine) Nonriverine) (B6) Aerial Imagery (B7) es (B9)  Yes Yes	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Thin Muck Surf Other (Explain	brates (B13) de Odor (C1) spheres along Living Roots (educed Iron (C4) duction in Tilled Soils (C6) face (C7) in Remarks)  Depth (inches): >14"	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season Crayfish Bur Saturation V Shallow Aqu FAC-Neutral	e (B1) (Riverine) eposits (B2) (Riverine) es (B3) (Riverine) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery itard (D3) Test (D5)	(C9)
Primary Indicators (minimary Indicators (minimary Indicators (minimary Indicators (minimary Indicators (Manager Indicators (Ma	onriverine) B2) (Nonriverine) Nonriverine) (B6) A Aerial Imagery (B7) es (B9)  Yes Yes Yes Yes	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Thin Muck Surf Other (Explain	brates (B13) de Odor (C1) spheres along Living Roots (educed Iron (C4) duction in Tilled Soils (C6) face (C7) in Remarks)  Depth (inches):	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season Crayfish Bur Saturation V Shallow Aqu FAC-Neutral	e (B1) (Riverine) eposits (B2) (Riverine) es (B3) (Riverine) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery itard (D3) Test (D5)	_
Primary Indicators (minimary Indicators (minimary Indicators (minimary Indicators (minimary Indicators (Manageria) Saturation (A3)  Water Marks (B1) (Nater Marks (B3) (Nater Marks (Marks (B3) (Nater Marks (Marks (B3) (Nater Marks (Marks (Mar	onriverine) B2) (Nonriverine) Nonriverine) (B6) A Aerial Imagery (B7) es (B9)  Yes Yes Yes Yes	Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Thin Muck Surf Other (Explain i	brates (B13) de Odor (C1) spheres along Living Roots (educed Iron (C4) duction in Tilled Soils (C6) face (C7) in Remarks)  Depth (inches): >14"	Water Marks Sediment De Drift Deposit Drainage Pa (C3) Dry-Season Crayfish Bur Saturation V Shallow Aqu FAC-Neutral	e (B1) (Riverine) eposits (B2) (Riverine) es (B3) (Riverine) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery itard (D3) Test (D5)	(C9)

Project/Site: Percheron		City/County:	Boardman/ Mor	rrow County Sampling Date: 10/14/2021
Applicant/Owner: Birch Infrastructure, LLC				State: OR Sampling Point: 9
Investigator(s): Sonya Templeton and Marget H	larburg	Section,	Township, Rang	ge: Sec. 28, T.3N., R.24E., W.M.
Landform (hillslope, terrace, etc.):			Local relief	(concave, convex, none): Concave Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plate	eau La	at: 45.707589	. Lo	ng: -119.816378 Datum: NAD83
Soil Map Unit Name: Sagehill fine sandy le	oam hummocky (U	Init 55B) , 2-5% s		
Are climatic / hydrologic conditions on the site typical	•			es X No (If no, explain in Remarks)
Are Vegetation,Soil,				e "Normal Circumstances" present? Yes X_No
	or Hydrology site map show			needed, explain any answers in Remarks.) tions, transects, important features, etc.
		No		•
Hydric Soil Present? Ye		No	Is the Sample	d Area
Wetland Hydrology Present? Ye	es X	No	within a Wetla	and? YesX No
Precipitation prior to fieldwork: According to the Ainches during the	-	weather station,	0.00 inches of	precipitation was received on the day of fieldwork and 0.14
Remarks: Plot located approximately 1 foot lower in elevation	than Plot 10.			
VEGETATION				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r_)	% Cover	Species?	Status	Number of Dominant Species
1. Elaeagnus angustifolia	40%	Yes	FAC	That Are OBL, FACW, or FAC: 2 (A)
2  -				
3.				Total Number of Dominant
4.				Species Across All Strata: 2 (B)
	40% = T	otal Cover		·
Sapling/Shrub Stratum (Plot size: <u>10' r</u> _				Percent of Dominant Species
1				That Are OBL, FACW, or FAC: 100% (A/B)
2				Prevalence Index worksheet:
3				Total % Cover of: Multiply by:
4				OBL species 0 x 1 = 0
5				FACW species 0 x 2 = 0
Herb Stratum (Plot size:5' r)	= T	otal Cover		FAC species 140 x 3 = 420 FACU species 0 x 4 = 0
1. Atriplex heterosperma	100%	Yes	FAC*	UPL species 0 x 5 = 0
2.	10070			Column Totals: 140 (A) 420 (B)
3.				Prevalence Index = B/A = 3.00
4.				Hydrophytic Vegetation Indicators:
5.				X Dominance Test is >50%
6.				X Prevalence Index is ≤3.0 <sup>1</sup>
7				Morphological Adaptations <sup>1</sup> (Provide supporting
8				data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
0 0				
·				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
11	100% = T	otal Cover		be present.
Woody Vine Stratum (Plot size:10' r		J		Do prodone
1.				
2.				Hydrophytic
O/ Boro Cround in Heat Office		otal Cover		Vegetation Yes X No
% Bare Ground in Herb Stratum0%	% Cover of	f Biotic Crust		Present?
Remarks: *Assumed FAC.				

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)	SOIL								
Color (moist)   Six   Color (moist)   Six   Color (moist)   Six   Type <sup>2</sup>   Loc <sup>2</sup>   <sup>3</sup> Texture   Remarks	Profile Description	on: (Describe to th	ne depth nee	eded to document	the indicator or o	onfirm the abse	nce of indicators	s.)	
0-6	Depth	Matrix			Redox F	eatures			
Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.	(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
Type: C-Concentration, D-Depletion, RM-Reduced Matrix CS-Covered or Coated Sand Grains.  Texture: S = sand, Si = silt; C = day; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more day); -= light (less day)  Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosci (A1) Histosci (A1) Histosci (A2) Histosci (A3) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Hydrogen Sulfide (A3) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A3) Hydrogen Sulfide (A3) Loamy Mucky Mineral (F2) Hydrogen Sulfide (A3) Horizon Sulfide (A3) Horizon Sulfide (A3) Hydrogen Sulfide (A4) Hydric Soil Present? Hydrogen Sulfide (A4) Hydrogen Hydrogen Hydrogen Hydrogen Hydrogen Hydrogen Hydrogen H	0-6	10YR 4/2	100					LS	
Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; += heavy (more clay); -= light (less clay)     Nydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils 3:	6-16	10YR 4/2	95	7.5YR 3/4	5	С	M	LS _	
Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; += heavy (more clay); -= light (less clay)     Nydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils 3:									
Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; += heavy (more clay); -= light (less clay)     Vydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)									
Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; += heavy (more clay); -= light (less clay)     Nydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils 3:									
Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)									
Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; += heavy (more clay); -= light (less clay)     Nydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils 3:									
Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)									
rydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	Type: C=Concent	ration, D=Depletion	n, RM=Reduc	ced Matrix CS=Cov	vered or Coated Sa	and Grains.	<sup>2</sup> Location: PL=P	ore Lining, M=Matrix.	
Histosol (A1)  Histosol (A2)  Histosol (A2)  Histosol (A2)  Stripped Matrix (S6)  Black Histos (A3)  Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)  Hydrogen Sulfide (A4)  Loamy Gleyed Matrix (F2)  Stratified Layers (A5) (LRR C)  Depleted Matrix (F3)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Depleted Below Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Service Layer (If present):  Type:  Depth (inches):  Wetland Hydrology Indicators:  Water Table (A2)  Salt Crust (B12)  Salt Crust (B13)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Presence of Reduced Iron (C4)  Sufface Soil Crust (B6)  Recent Iron Reduction in Tilled Soils (C6)  Sufface Soil Cracks (B6)  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck (A9) (LRR C)  A united Table (A2)  Salt Crust (B7)  Salt Crust (B	Texture: S = sand	; Si = silt; C = clay;	L = loam or	loamy. Texture Mo	difier: co = coarse;	f = fine; vf = very	/ fine; + = heavy (	more clay); - = light (less	clay)
Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) Unless disturbed or problematic.  Sandy Gleyed Matrix (S4)  Setrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes X No  Setrictive Layer (if present): Type: Depth (inches): Secondary Indicators: Intimary Indicators (inhimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Water Table (A2) Sediment Deposits (B2) (Riverine) Sutrace Water (A3) Aquatic Invertebrates (B13) Dirt (Deposits (B3)) (Riverine) Sediment Deposits (B2) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Influence Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Mater Table Present? Yes No X Depth (inches): Solice Ves X No Surface Water Present? Yes No X Depth (inches): Solice Ves X No Surface Water Present? Yes No X Depth (inches): Solice Yes X No Surface Water Present? Yes No X Depth (inches): Solice Yes X No Surface Water Present? Yes No X Depth (inches): Solice Yes X No Surface Water Present? Yes No X Depth (inches): Solice Yes X No Surface Water Present? Yes No X Depth (inches): Solice Yes X No Surface Water Present? Yes No X Depth (inches): Solice X No Surface Water Present? Yes No X Depth (inches): Soli	-	tors: (Applicable			-			•	s <sup>3</sup> :
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)  Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Thick Dark Surface (A12) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) Unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) Unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) Unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) Unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) Unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) Unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) Unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) Unless disturbed or problematic.  **No Letter (Solid Present) **Yes X No Letter (S1) Version (S1) Version (S1) Version (S1) Version (S1) Version (S1) Version (S2) Version (S2) (Riverine) Unless disturbed or problematic.  **Secondary Indicators (2 or more required) (S2) Version (S2) (Riverine) Unless disturbed or problematic.  **Secondary Indicators (2 or more required) (S2) Version (S2) (Riverine) Unless disturbed (S2) (Riverine) Unless dist	 Histic Epipedo	n (A2)	·	Stripped Matrix	x (S6)		2 cm Muck	(A10) ( <b>LRR B</b> )	
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) wetland hydrology must be present, Sandy Mucky Mineral (S1) Vernal Pools (F9) unless disturbed or problematic.  Sandy Gleyed Matrix (S4)  Setrictive Layer (if present): Type: Depth (inches):  Imperimental Deposits (F8)  Wetland Hydrology Indicators:  Vernal Pools (F9)  Wetland Hydrology Indicators:  Vernal Pools (F9)  Wetland Hydrology Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B2) (Riverine) Drift Deposits (B2) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): >16" Wetland Hydrology Present? Vers X No  Other (Explain in Remarks)  Other (Explain in Remarks)  Yes X No	Black Histic (A	.3)	-	Loamy Mucky	Mineral (F1)		Reduced \	/ertic (F18)	
Torm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9)  Setrictive Layer (if present): Type: Depth (inches):  Probable Matrix (S4)  Wetland Hydrology Indicators:  Probable Water (A1) Salt Crust (B11) Secondary Indicators (2 or more required) Surface Water (A1) Selicitive (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine)  Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine)  X Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquatian (D3) Water Table (A2) Surface Water (A1) Surface (C7) Shallow Aquatian (D3) Sediment Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): >16" Wetland Hydrology Present? Water Table Present? Yes No X Depth (inches): >16" Wetland Hydrology Present?	Hydrogen Sulf	ide (A4)	_	Loamy Gleyed	Matrix (F2)		Red Paren	t Material (TF2)	
Depleted Below Dark Surface (A11)	Stratified Laye	rs (A5) ( <b>LRR C</b> )		Depleted Matri	ix (F3)		Other (Exp	lain in Remarks)	
Thick Dark Surface (A12) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic.  Sandy Mucky Mineral (S1) Vernal Pools (F9) 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)  Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine)  High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine)  Saturation (A3) Aquatic Invertebrates (B13) Dirit Deposits (B3) (Riverine)  Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)  Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2)  Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8)  Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)  Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3)  Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water Table Present? Yes No X Depth (inches): Yes X No  Wetland Hydrology Present?  Yes No X Depth (inches): >16"  Wetland Hydrology Present?  Yes X No  Wetland Hydrology Present?  Yes X No  Wetland Hydrology Present?	1 cm Muck (A9	9) ( <b>LRR D</b> )		Redox Dark S	urface (F6)		•		
Sandy Mucky Mineral (S1)	Depleted Below	w Dark Surface (A	11) .	Depleted Dark	Surface (F7)		<sup>3</sup> Indicators of h	ydrophytic vegetation and	İ
Restrictive Layer (if present): Type: Depth (inches):  Remarks:  Hydric Soil Present? Yes X No Remarks:  Hydric Soil Present? Yes No X No Remarks:  Hydric Soil Present? Yes No X No Remarks:  Hydric Soil Present? Yes No X No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X No X No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Present? Yes No X Depth (inches): >16° Wettend Rydric Soil Rydric		rface (A12)		Redox Depres	, ,		•		
Restrictive Layer (if present):  Type: Depth (inches):  Hydric Soil Present?  Yes X No  Remarks:  Hydrology  Notation Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B2) (Riverine)  Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine)  Sediment Deposits (B3) (Riverine) Sediment Deposits (B2) (Nonriverine) Drainage Patterns (B10)  Sediment Deposits (B3) (Nonriverine) Drainage Patterns (B10)  Sediment Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  Field Observations:  Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present?		, ,	_				1 11 1	h	
Type:	Sandy Mucky	Mineral (S1)		Vernal Pools (	F9)		uniess distur	bed or problematic.	
Depth (inches):	Sandy Mucky	Mineral (S1)		Vernal Pools (	F9)		uniess distur	bed or problematic.	
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Satt Crust (B11)  Aquatic Invertebrates (B13)  X Water Marks (B1) (Nonriverine)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Sediment Deposits (B1) (Nonriverine)  Drift Deposits (B3) (Riverine)  Drift Deposits	Sandy Mucky Sandy Gleyed	Mineral (S1) Matrix (S4)		Vernal Pools (	F9)		uniess distur	bed or problematic.	
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Aquatic Invertebrates (B13)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B2) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drainage Patterns (B10)  Sediment Deposits (B3) (Nonriverine)  Sediment Deposits (B3) (Nonriverine)  Presence of Reduced Iron (C4)  Surface Soil Cracks (B6)  Recent Iron Reduction in Tilled Soils (C6)  Saturation Visible on Aerial Imagery (B7)  Thin Muck Surface (C7)  Water-Stained Leaves (B9)  Other (Explain in Remarks)  FAC-Neutral Test (D5)  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  Saturation Present?  Yes  No  X  Depth (inches):  Yes  No  X  No  No  No  X  Depth (inches):  Yes  No  X  No  No  No  X  Depth (inches):  Yes  No  X  Depth (inches):  Yes  No  X  No  X  No  X  No  X  Depth (inches):  Yes  No  X  No  X  Depth (inches):  Yes  No  X  No  X  No  X  Depth (inches):  Yes  No  X  No	Sandy Mucky Sandy Gleyed Restrictive Layer	Mineral (S1) Matrix (S4)		Vernal Pools (	F9)		uniess distur	bed of problematic.	
Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (2 or more required)	Sandy Mucky Sandy Gleyed Restrictive Layer Type:	Mineral (S1) Matrix (S4)		Vernal Pools (	F9)	Hyd			No
Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (2 or more required)	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches):	Mineral (S1) Matrix (S4)	-	Vernal Pools (	F9)	Hyd			No
Secondary Indicators (minimum of one required; check all that apply)   Secondary Indicators (2 or more required)	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches):	Mineral (S1) Matrix (S4)	-	Vernal Pools (	F9)	Hyd			No
Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine)  Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine)  Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2)  Drift Deposits (B3) (Nonriverine) Presente (B7) Drainage Patterns (B8) (Riverine)  Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (B7) Dther (Explain in Remarks) FAC-Neutral Test (D5)  Surface Water Present? Yes No X Depth (inches): Saturation Present? Yes X No Yes X Yes	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:	Mineral (S1) Matrix (S4)		Vernal Pools (	F9)	Hyd			No
High Water Table (A2) Saturation (A3) Aquatic Invertebrates (B13) Mydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Mydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Thin Muck Surface (C7) Water-Stained Leaves (B9) Depth (inches): Surface Water Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Selicit Odoservations: Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Selicit Odoservations Yes No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Yes X No	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:	Mineral (S1) Matrix (S4) (if present):	_	Vernal Pools (	F9)	Hyd			No
High Water Table (A2) Saturation (A3) Saturation (A3) Aquatic Invertebrates (B13) Mydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Mydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B2) (Nonriverine)  Drift Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)  Inundation Visible on Aerial Imagery (B7) Mater-Stained Leaves (B9)  Other (Explain in Remarks)  Surface Water Present?  Yes No X Depth (inches):  Wetland Hydrology Present?  Yes X No X No X Depth (inches): Saturation Present?  Yes X No X No X Depth (inches): Setting Drift Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B2) (Riverine) Drift Deposits (B1) Drainage Patterns (B10) Drainage Patterns (B10) Dry-Season Water Table (C2) Dry-Season Water Table (C3) Dry-Seaso	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks: HYDROLOGY Wetland Hydrolog	Mineral (S1) Matrix (S4) (if present):	equired; chec		F9)	Hyd	ric Soil Present?	Yes X	
X Water Marks (B1) (Nonriverine)	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks: HYDROLOGY Vetland Hydrolog	Mineral (S1) Matrix (S4) (if present):  gy Indicators: (minimum of one re	equired; chec	ck all that apply)		Hyd	ric Soil Present?	Yes X	
Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Presence of Reduced Iron (C4)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Thin Muck Surface (C7)  Other (Explain in Remarks)  Surface Water Present?  No X Depth (inches):  Water Table Present?  Yes No X Depth (inches):  Saturation Present?  Yes No X Depth (inches):  Saturation Present?  Yes No X Depth (inches):  Yes No X Depth (inches):  Yes X No	Sandy Mucky Sandy Gleyed  Sestrictive Layer Type: Depth (inches): Semarks:  Semarks:  Semarks:  Surface Water	Mineral (S1) Matrix (S4) (if present):  by Indicators: (minimum of one record)	equired; chec	ck all that apply)	1)	Hyd	ric Soil Present? Secondary Ind Water Mar	Yes X  icators (2 or more required ks (B1) ( <b>Riverine</b> )	
Drift Deposits (B3) (Nonriverine)  Presence of Reduced Iron (C4)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Thin Muck Surface (C7)  Other (Explain in Remarks)  FAC-Neutral Test (D5)  Teld Observations:  Surface Water Present?  Water Table Present?  Yes  No  X  Depth (inches):  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  Saturation Present?  Yes  No  X  Depth (inches):  Saturation Present?  Yes  No  X  Depth (inches):  Yes  No  X  Depth (inches):  Yes  X  No  Yes  X  No	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Vetland Hydrolog Primary Indicators Surface Water High Water Ta	Mineral (S1) Matrix (S4) (if present):  by Indicators: (minimum of one record) (A1) (ble (A2)	equired; chec	ck all that apply) Salt Crust (B1 Biotic Crust (B	1)	Hyd	ric Soil Present?  Secondary Ind Water Mar Sediment I	Yes X  icators (2 or more required ks (B1) (Riverine)  Deposits (B2) (Riverine)	
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)  Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Yes X No Saturation Present? Yes No X Depth (inches): Yes X No	Sandy Mucky Sandy Gleyed  Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Vetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3	Mineral (S1) Matrix (S4) (if present):  gy Indicators: (minimum of one record) (A1) (ble (A2)	equired; chec	ck all that apply) Salt Crust (B1 Biotic Crust (B	1) 12) ebrates (B13)	Hyd	ric Soil Present?  Secondary Ind Water Mar Sediment I	Yes X  Icators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine)	
Inundation Visible on Aerial Imagery (B7)	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Vetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E	Mineral (S1) Matrix (S4) (if present):  gy Indicators: (minimum of one reconstruction (A1) able (A2) b) (B1) (Nonriverine)		ck all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte	1) 12) ebrates (B13) ide Odor (C1)		Secondary Ind Water Mar Sediment I Drift Depos	icators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine) Patterns (B10)	
Water-Stained Leaves (B9)         Other (Explain in Remarks)         FAC-Neutral Test (D5)           Field Observations:         Surface Water Present?         Yes         No         X         Depth (inches):         Wetland Hydrology Present?           Water Table Present?         Yes         No         X         Depth (inches):         >16"         Yes         X         No           Saturation Present?         Yes         No         X         Depth (inches):         >16"         Yes         X         No	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Vetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Dep	Mineral (S1) Matrix (S4) (if present):  yy Indicators: (minimum of one reference) (A1) (ble (A2) (b) (B1) (Nonriverine) osits (B2) (Nonriverine)	erine)	ck all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhize	1) 12) ebrates (B13) ide Odor (C1) ospheres along Liv		Secondary Ind Water Mar Sediment I Drift Depos	Yes X  icators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine) Patterns (B10) In Water Table (C2)	
Section Present Pres	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Vetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Deposits	Mineral (S1) Matrix (S4) (if present):  gy Indicators: (minimum of one ref. (A1) able (A2) b) (31) (Nonriverine) osits (B2) (Nonriverine) (B3) (Nonriverine)	erine)	Sk all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhizo	1) 12) ebrates (B13) ide Odor (C1) ospheres along Liv educed Iron (C4)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B	recators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine) Patterns (B10) In Water Table (C2) Surrows (C8)	<u></u>
Surface Water Present?         Yes         No         X         Depth (inches):         Wetland Hydrology Present?           Water Table Present?         Yes         No         X         Depth (inches):         >16"         Wetland Hydrology Present?           Saturation Present?         Yes         No         X         Depth (inches):         >16"         Yes         X         No	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Vetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Dep Drift Deposits Surface Soil C	Mineral (S1) Matrix (S4)  (if present):  By Indicators: (minimum of one reconstruction (A1) (ble (A2) (ble (A2) (c) (ble (B2) (Nonriverine) (c) (c) (c) (d) (d) (d) (d) (e) (e) (e) (e) (e) (e) (e) (e) (e) (e	erine) .	Sk all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re	1) 12) ebrates (B13) ide Odor (C1) ospheres along Liv educed Iron (C4) eduction in Tilled S	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B Saturation	recators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Patterns (B10) In Water Table (C2) Urrows (C8) Visible on Aerial Imagery	<u></u>
Water Table Present?     Yes     No     X     Depth (inches):     >16"     Wetland Hydrology Present?       Saturation Present?     Yes     No     X     Depth (inches):     >16"     Yes     X     No	Sandy Mucky   Sandy Gleyed  Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Vetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Dep Drift Deposits ( Surface Soil C Inundation Vis	Mineral (S1) Matrix (S4)  (if present):  gy Indicators: (minimum of one reconstruction (A1) (ble (A2) )) (31) (Nonriverine) osits (B2) (Nonriverine) racks (B6) ible on Aerial Image	erine) .	ck all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron Re	1) 12) ebrates (B13) ide Odor (C1) ospheres along Liv educed Iron (C4) eduction in Tilled S face (C7)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B Saturation Shallow Ad	Yes X  Icators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Patterns (B10) In Water Table (C2) Jurrows (C8) Visible on Aerial Imagery quitard (D3)	<u></u>
Saturation Present? Yes No X Depth (inches): >16" Yes X No	Sandy Mucky Sandy Gleyed Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Vetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Dep Drift Deposits (Surface Soil C Inundation Vis Water-Stained	Mineral (S1) Matrix (S4)  (if present):  y Indicators: (minimum of one reference) (A1) (ble (A2) (b) (B3) (Nonriverine) (B3) (Nonriverine) (racks (B6) (ble on Aerial Image) (Leaves (B9)	erine) .	ck all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron Re	1) 12) ebrates (B13) ide Odor (C1) ospheres along Liv educed Iron (C4) eduction in Tilled S face (C7)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B Saturation Shallow Ad	Yes X  Icators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Patterns (B10) In Water Table (C2) Jurrows (C8) Visible on Aerial Imagery quitard (D3)	<u></u>
	Sandy Mucky Sandy Gleyed  Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Dep Drift Deposits Surface Soil C Inundation Vis Water-Stained	Mineral (S1) Matrix (S4)  (if present):  gy Indicators: (minimum of one recognition (A1) (ble (A2) (b) (B3) (Nonriverine)	erine) ) erry (B7)	Sk all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron Re Thin Muck Sur	1) 12) ebrates (B13) ide Odor (C1) ospheres along Liv educed Iron (C4) eduction in Tilled S face (C7) in Remarks)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B Saturation Shallow Ad	Yes X  Icators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Patterns (B10) In Water Table (C2) Jurrows (C8) Visible on Aerial Imagery quitard (D3)	<u></u>
(includes capillary fringe)	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Dep Drift Deposits (Surface Soil C Inundation Vis Water-Stained Field Observation Surface Water Pre	Mineral (S1) Matrix (S4)  (if present):  gy Indicators: (minimum of one reference) (A1) (ble (A2) ) (B3) (Nonriverine) osits (B2) (Nonriverine) racks (B6) ible on Aerial Image Leaves (B9)  s: esent?  Yes_	erine) ) ery (B7)	ck all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron Re Thin Muck Sur Other (Explain	1) 12) ebrates (B13) ide Odor (C1) ospheres along Liv educed Iron (C4) eduction in Tilled S face (C7) in Remarks)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B Saturation Shallow Ac	icators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Patterns (B10) In Water Table (C2) Furrows (C8) Visible on Aerial Imagery quitard (D3) In Test (D5)	<u></u>
, , , , ,	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Dep Drift Deposits Surface Soil C Inundation Vis Water-Stained Field Observation Surface Water Prese Water Table Prese	Mineral (S1) Matrix (S4)  (if present):  (if presen	erine)  orine)  orine)  orine()  orine()	ck all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron Re Thin Muck Sur Other (Explain	1) 12) ebrates (B13) ide Odor (C1) espheres along Liv educed Iron (C4) eduction in Tilled S face (C7) in Remarks)  Depth (inches):	ing Roots (C3) oils (C6)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B Saturation Shallow Ac	cators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine) Patterns (B10) In Water Table (C2) Furrows (C8) Visible on Aerial Imagery quitard (D3) al Test (D5)	(C9)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Dep Drift Deposits Surface Soil C Inundation Vis Water-Stained Field Observation Surface Water Present Water Table Present (includes capillary	Mineral (S1) Matrix (S4)  (if present):  (Minimum of one reserved (A1) (if present):  (Minimum of one reserved (A2) (if present): (Minimum of one reserved (A2) (if pr	erine)  orine)  orinery (B7)	Sk all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron Re Thin Muck Sur Other (Explain No X No X No X	1) 12) ebrates (B13) ide Odor (C1) espheres along Liv educed Iron (C4) eduction in Tilled S face (C7) in Remarks)  Depth (inches): Depth (inches):	ing Roots (C3) oils (C6)  >16" >16"	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B Saturation Shallow Ac FAC-Neutr	cators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Sits (B3) (Riverine) Patterns (B10) In Water Table (C2) Furrows (C8) Visible on Aerial Imagery quitard (D3) al Test (D5)	(C9)
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Sandy Mucky Sandy Gleyed Restrictive Layer Type: Depth (inches): Remarks:  HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water High Water Ta Saturation (A3 X Water Marks (E Sediment Dep Drift Deposits Surface Soil C Inundation Vis Water-Stained	Mineral (S1) Matrix (S4)  (if present):  gy Indicators: (minimum of one recognition (A1) (ble (A2) (b) (B3) (Nonriverine)	erine) ) erry (B7)	Sk all that apply) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron Re Thin Muck Sur	1) 12) ebrates (B13) ide Odor (C1) ospheres along Liv educed Iron (C4) eduction in Tilled S face (C7) in Remarks)	ing Roots (C3)	Secondary Ind Water Mar Sediment I Drift Depos Drainage F Dry-Seaso Crayfish B Saturation Shallow Ad	Yes X  Icators (2 or more required ks (B1) (Riverine) Deposits (B2) (Riverine) Patterns (B10) In Water Table (C2) Jurrows (C8) Visible on Aerial Imagery quitard (D3)	<b>1</b> )

Are climatic / hydrologic conditions on the site typical for Are Vegetation	burg Section,  Lat: 45.707665  h hummocky (Unit 55B) , 2-5% s  or this time of year?  Hydrology significantly d  Hydrology naturally prob  map showing sampling  No X  No X  No X	Long: -119.816567  opes; Non-hydric  YesX  sturbed? Are "Normal Circumst ematic? (If needed, explain an point locations, transects  Is the Sampled Area within a Wetland?	R. Sampling Point: 10  R.24E., W.M.  ne): Convex Stope (%): \\$3%  Datum: NAD83  NWI classification: None  No(If no, explain in Remarks)  cances" present? Yes X No  y answers in Remarks.)
inches during the tw			
Remarks: Plot located approximately 1 foor higher in elevation the	an Plot 9.		
VEGETATION			
Tree Stratum (Plot size: <u>30' r</u> )  1	Absolute Dominant % Cover Species?	Status Number of Dor	est worksheet: minant Species FACW, or FAC: 1 (A)
. 3. 4. Sapling/Shrub Stratum (Plot size: 10' r) 1.	0% = Total Cover		
2. 3. 4. 5.		Prevalence In Total % C OBL species FACW species	0 x 1 = 0
Herb Stratum (Plot size:5' r)	0% = Total Cover	FAC species FACU species	35 x 3 = 105 66 x 4 = 264
Sphaerophysa salsula     Atriplex heterosperma     Amaranthus species	60% Yes 30% Yes 5% No	FACU UPL species  FAC* Column Totals  FACU* Prevalence	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
<ul> <li>4. Verbena bracteata</li> <li>5. Solanum nigrum</li> <li>6.</li> <li>7.</li> <li>8.</li> <li>9.</li> <li>1</li> </ul>	5% No 1% No	FACU Dominance Prevalence Morpholog data in	/egetation Indicators: e Test is >50% e Index is ≤3.0 <sup>1</sup> pical Adaptations <sup>1</sup> (Provide supporting a Remarks or on a separate sheet) ic Hydrophytic Vegetation <sup>1</sup> (Explain)
0	101% = Total Cover	1Indicators of h	nydric soil and wetland hydrology must
% Bare Ground in Herb Stratum 0%  Remarks: *Assumed.	0% = Total Cover % Cover of Biotic Crust	Hydrophy Vegetation Present?	.,

SOIL							Sampling Point:	10
Profile Descript	ion: (Describe to th	e depth nee	ded to document th	e indicator or	confirm the a	bsence of indicators	.)	
Depth	Matrix			Redox I	Features			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-14	10YR3/2	99	7.5YR 3/4	1	C			rtomanto
• • • • • • • • • • • • • • • • • • • •						<del></del>		
_								
							<del></del>	
							<del></del>	
1						2		
			ed Matrix CS=Cover				re Lining, M=Matrix.	
~Texture: S = san	id; Si = silt; C = clay;	L = loam or l	oamy. Texture Modi	fier: co = coarse	e; f = fine; vf =	very fine; + = heavy (n	nore clay); - = light (less	clay)
Hydric Soil Indic	ators: (Applicable	to all LRRs,	unless otherwise n	oted.)		Indicators for F	Problematic Hydric Soil	s <sup>3</sup> :
Histosol (A1)		_	Sandy Redox (S	5)			(A9) ( <b>LRR C</b> )	
Histic Epiped	lon (A2)	_	Stripped Matrix (	S6)		2 cm Muck	(A10) ( <b>LRR B</b> )	
Black Histic (	A3)	_	Loamy Mucky M	ineral (F1)		Reduced Ve	ertic (F18)	
Hydrogen Su	Ifide (A4)	_	Loamy Gleyed M	latrix (F2)		Red Parent	Material (TF2)	
Stratified Lay	rers (A5) ( <b>LRR C</b> )	_	Depleted Matrix	(F3)		Other (Expl	ain in Remarks)	
1 cm Muck (A	49) ( <b>LRR D</b> )	_	Redox Dark Surf	ace (F6)		2		
Depleted Bel	ow Dark Surface (A	11) _	Depleted Dark S	urface (F7)		Indicators of hy	drophytic vegetation and	i
Thick Dark S	urface (A12)	_	Redox Depression	ons (F8)		wetland hydro	logy must be present,	
Sandy Mucky	/ Mineral (S1)	_	Vernal Pools (F9	))		unless disturb	ed or problematic.	
Sandy Gleye	d Matrix (S4)							
Restrictive Laye	r (if present):							
Type:								
Depth (inches):					l,	Hydric Soil Present?	Yes	No X
Remarks:						<b>,</b>		
Remarks.								
HYDROLOGY	<b>(</b>							
Wetland Hydrolo	gy Indicators:							
Primary Indicators	s (minimum of one re	equired; chec	k all that apply)			Secondary Indic	ators (2 or more required	<u>(t</u>
Surface Wate	er (A1)	_	Salt Crust (B11)			Water Mark	s (B1) (Riverine)	
—— High Water T	able (A2)		Biotic Crust (B12	2)		Sediment D	eposits (B2) (Riverine)	
Saturation (A	, ,	_	Aquatic Inverteb	•		<del></del>	ts (B3) (Riverine)	
Water Marks	(B1) (Nonriverine)	_	Hydrogen Sulfide	e Odor (C1)		Drainage Pa	atterns (B10)	
Sediment De	posits (B2) (Nonrive	erine)	Oxidized Rhizos	pheres along Li	iving Roots (C3	3) Dry-Season	Water Table (C2)	
Drift Deposits	s (B3) (Nonriverine)	·	Presence of Red	luced Iron (C4)		Crayfish Bu	rrows (C8)	
Surface Soil	Cracks (B6)	_	Recent Iron Red	uction in Tilled	Soils (C6)	Saturation \	/isible on Aerial Imagery	(C9)
Inundation V	isible on Aerial Imag	ery (B7)	— Thin Muck Surfa	ce (C7)		Shallow Aq	uitard (D3)	
	ed Leaves (B9)	-	Other (Explain in	Remarks)		FAC-Neutra		
Field Observation	ns:	_						
Surface Water P			No X E	Depth (inches):				
	_							
Water Table Pres				Depth (inches):	>14"	Wetland Hy	drology Present?	No. V
Saturation Prese (includes capillar	_		No <u>X</u> [	Depth (inches):	>14"		Yes	No <u>X</u>
•	• • ·	uae. monitorin	g well, aerial photos	, previous inspe	ections). if ava	ilable:		
	(5 5am gat	J-,	J, 25.121 priotoc	, <sub>1</sub>	,, ,, ,, ,,			
Remarks:								
Soils very dry thro	oughout.							

Project/Site: Percheron		City/County:	Boardman/ Mo	prrow County Sampling Date: 10/14/2021
Applicant/Owner: Birch Infrastructure, LLC				State: OR Sampling Point: 11
Investigator(s): Sonya Templeton and Margret	Harburg	Section,	Township, Rang	ge: Sec. 28, T.3N., R.24E., W.M.
Landform (hillslope, terrace, etc.): Terrace			Local relief	(concave, convex, none): Si. Concave Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plate	eau La	at: 45.707396	Lo	ong: -119.816674 Datum: NAD83
Soil Map Unit Name: Sagehill fine sandy I	oam hummocky (U	Init 55B) , 2-5% s		
Are climatic / hydrologic conditions on the site typic	al for this time of ye	ear?	Y	/es X No (If no, explain in Remarks)
Are Vegetation,Soil,				e "Normal Circumstances" present? Yes X_No
	or Hydrology			needed, explain any answers in Remarks.) tions, transects, important features, etc.
		No		
		No	Is the Sample	ed Area
Wetland Hydrology Present?		No	within a Wetla	
Precipitation prior to fieldwork: According to the				f precipitation was received on the day of fieldwork and 0.14
Remarks:				
Plot located approximately half a foot lower in eleva	ition than Plot 12.			
VEGETATION				
Tree Stratum (Plot size: 30' r_)	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species
1. Elaeagnus angustifolia	80%	Yes	FAC	That Are OBL, FACW, or FAC: 4 (A)
2  -				
3.				Total Number of Dominant
4.		-		Species Across All Strata: 4 (B)
	80% = T	otal Cover		(
Sapling/Shrub Stratum (Plot size: <u>10' r</u>	_)			Percent of Dominant Species
1				That Are OBL, FACW, or FAC: 100% (A/B)
2.				Prevalence Index worksheet:
3				Total % Cover of: Multiply by:
4				OBL species 55 _x 1 = 55
5				FACW species0 x 2 =0
Horb Stratum (Diot circ), 5'r	= T	otal Cover		FAC species 125 x 3 = 375 FACU species 0 x 4 = 0
Herb Stratum (Plot size:5' r)	FF0/	V	ODI	
Schoenoplectus americanus     Xanthium strumarium	<u>55%</u> 25%	Yes Yes	OBL FAC	UPL species0 x 5 =0  Column Totals: 180 (A) 430 (B)
Xanthium strumarium     Atriplex heterosperma	20%	Yes	FAC*	Column Totals: 180 (A) 430 (B)  Prevalence Index = B/A = 2.39
4.	2070	103	TAO	Hydrophytic Vegetation Indicators:
5.		•		X Dominance Test is >50%
6.				X Prevalence Index is ≤3.0 <sup>1</sup>
7.				Morphological Adaptations <sup>1</sup> (Provide supporting
8.				data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation (Explain)
1 0				
11				Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum_ (Plot size:10' r	= T	otal Cover		be present.
Woody Vine Stratum (Plot size:10' r _	_)			
2.				Hydrophytic
	0% = T	otal Cover		Vegetation Yes X No
% Bare Ground in Herb Stratum0%	% Cover of	Biotic Crust		Present?
Remarks: *Assumed FAC.				

SOIL										Sampling Point:	11
Profile Description:	(Describe to the	he depth ne	eded t	o docume	nt the inc	dicator or	confirm the	absence	of indicator	s.)	
Depth	Matrix	<				Redox F	eatures				
	olor (moist)	%	- <u>-</u>	olor (moist	)	%	Type <sup>1</sup>		Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-8	10YR 2/1	100								SiL	
8-16	10YR 3/2	95		7.5YR 3/4		5	С		PL	SL	
								_			
_											
<sup>1</sup> Type: C=Concentrati	ion, D=Depletio	n, RM=Red	uced Ma	atrix CS=C	overed o	r Coated S	and Grains.	<sup>2</sup> Loc	ation: PL=P	ore Lining, M=Matrix.	
<sup>3</sup> Texture: S = sand; S	i = silt; C = clay	; L = loam o	r loamy	. Texture N	Modifier: d	co = coarse	e; f = fine; vf	= very fine	; + = heavy (	(more clay); - = light (less c	lay)
Hydric Soil Indicator										Problematic Hydric Soils	_
Histosol (A1)	3. (Applicable	to all Little		andy Redo		.,		•••		(A9) (LRR C)	
Histic Epipedon (	A2)		s	tripped Ma	trix (S6)					(A10) ( <b>LRR B</b> )	
Black Histic (A3)			L	oamy Muck	ky Minera	ıl (F1)			Reduced \	/ertic (F18)	
Hydrogen Sulfide	e (A4)		Lo	oamy Gley	ed Matrix	(F2)			Red Parer	nt Material (TF2)	
Stratified Layers	(A5) ( <b>LRR C</b> )		D	epleted Ma	atrix (F3)				Other (Exp	olain in Remarks)	
1 cm Muck (A9) (	(LRR D)		X_R	edox Dark	Surface (	F6)					
Depleted Below [	Dark Surface (A	11)	D	epleted Da	ark Surfac	:e (F7)		<sup>3</sup> lr	dicators of h	nydrophytic vegetation and	
Thick Dark Surface	ce (A12)		R	edox Depre	essions (I	F8)		,	wetland hyd	rology must be present,	
Sandy Mucky Mir	neral (S1)		V	ernal Pools	s (F9)				unless distui	bed or problematic.	
Sandy Gleyed Ma	atrix (S4)										
Restrictive Layer (if	present):			•							
Туре:											
Depth (inches):								Hydric S	oil Present?	Yes X	No
Remarks:								1			
HYDROLOGY											
Wetland Hydrology I											
Primary Indicators (mi	inimum of one r	equired; che	eck all t	nat apply)				<u>Se</u>	condary Ind	icators (2 or more required	<u>)                                    </u>
Surface Water (A	.1)		s	alt Crust (E	311)			_	_ Water Mar	ks (B1) (Riverine)	
High Water Table	e (A2)		Bi	iotic Crust	(B12)			_	_Sediment	Deposits (B2) (Riverine)	
Saturation (A3)			A	quatic Inve	rtebrates	(B13)		_	_ Drift Depo	sits (B3) (Riverine)	
X Water Marks (B1)	(Nonriverine)		H	ydrogen Sı	ulfide Odd	or (C1)		_	_ Drainage I	Patterns (B10)	
Sediment Deposi	` , `	,	o	xidized Rh	izosphere	es along Liv	ving Roots (0	C3)	_	n Water Table (C2)	
Drift Deposits (B3	, ,	)	P	resence of	Reduced	I Iron (C4)		_	_	urrows (C8)	
Surface Soil Crac	cks (B6)					n in Tilled S	Soils (C6)	_	_	Visible on Aerial Imagery	(C9)
Inundation Visible	•	gery (B7)		hin Muck S	,	'		_	_	quitard (D3)	
Water-Stained Le	eaves (B9)		<u> </u>	ther (Expla	ain in Ren	narks)		X	_FAC-Neutr	al Test (D5)	
Field Observations:											
Surface Water Prese	nt? Yes_		_No _	X	Depth	(inches):		_			
Water Table Present	? Yes		_No _	X	Depth	(inches):	>14"	_	Wetland H	lydrology Present?	
Saturation Present?	_					(inches):	>14"	_		Yes X	No
(includes capillary frin	nge)										
Describe Recorded D	oata (stream ga	uge, monito	ring we	l, aerial ph	otos, pre	vious inspe	ections), if av	/ailable:			
Remarks:											
Soils dry throughout. I	No evidence of	recent surfa	ice wate	er. Water n	narks app	roximately	3-4 feet high	h on <i>Elaea</i>	agnus angus	tifolia .	

Project/Site: Percheron		City/County:	Boardman/ Morro	w County Sampling Date: 10/14/2021
Applicant/Owner: Birch Infrastructure, LLC				State: OR Sampling Point: 12
Investigator(s): Sonya Templeton and Margret Ha	rburg	Section	on, Township, Ran	ge: Sec. 28, T.3N., R.24E., W.M.
Landform (hillslope, terrace, etc.):			Local relief (co	oncave, convex, none): None Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plateau	. La	t: 45.706846	Long	: -119.816699 Datum: NAD83
Soil Map Unit Name: Sagehill fine sandy loar	n hummocky (Ur	nit 55B) , 2-5% sl		
Are climatic / hydrologic conditions on the site typical for	•		Yes	
Are Vegetation,Soil, , or				Normal Circumstances" present? Yes X No
		_naturally probl		eded, explain any answers in Remarks.)
			point location	ns, transects, important features, etc.
' ' ' '			la tha Camplad	A
	N		Is the Sampled	••
Wetland Hydrology Present? Yes	NCIC Decardes on		within a Wetland	
Precipitation prior to fieldwork: According to the Againches during the tw		weather station,	0.00 inches of pr	ecipitation was received on the day of fieldwork and 0.14
Remarks:				
Plot 12 slightly higher in elevation than Plot 11.				
VEGETATION				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30' r)	% Cover	Species?	Status	Number of Dominant Species
1. Elaeagnus angustifolia	50%	Yes	FAC	That Are OBL, FACW, or FAC: 2 (A)
2				, ,
3.				Total Number of Dominant
4				Species Across All Strata: 3 (B)
Sapling/Shrub Stratum (Plot size: 10' r )	<u>50%</u> = To	tal Cover		Percent of Dominant Species
1. Artemisia tridentata	10%	Yes	NOL	That Are OBL, FACW, or FAC: 67% (A/B)
2.	1070			
3.				Prevalence Index worksheet:  Total % Cover of: Multiply by:
4.				OBL species 0 x 1 = 0
5.				FACW species 0 x 2 = 0
J	10% = To	otal Cover		FAC species 125 x 3 = 375
Herb Stratum (Plot size:5' r)	1070	nai 0010i		FACU species $5 \times 4 = 20$
Atriplex heterosperma	70%	Yes	FAC*	UPL species 11 x 5 = 55
2. Xanthium strumarium	5%	No	FAC	Column Totals: 141 (A) 450 (B)
3. Nepeta cataria	5% _	No	FACU	Prevalence Index = B/A = <u>3.19</u>
4. Onopordum acanthium	1%	No	NOL	Hydrophytic Vegetation Indicators:
5				X Dominance Test is >50%
6				Prevalence Index is ≤3.0 <sup>1</sup>
7				Morphological Adaptations <sup>1</sup> (Provide supporting
8				data in Remarks or on a separate sheet)
9				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
0				
·				4
11				Indicators of hydric soil and wetland hydrology must
NA and the Minner Characterisms (Diet sines, 10'r)	81% = To	tal Cover		be present.
Woody Vine Stratum (Plot size: 10' r _)				
_ <del>'-</del>				
·				Hydrophytic
		tal Cover		Vegetation Yes X No
% Bare Ground in Herb Stratum 19%	% Cover of	Biotic Crust		Present?
Remarks: *Assumed FAC.				

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AKS Engineering Forestry, LLC 8858-04

SOIL										Sampling Point:		12
Profile Description	n: (Describe to th	ne depth nec	ded to	docume	nt the in	dicator or	confirm the	absen	ce of indicators.	1		
Depth	Matrix	Č				Redox F	eatures					
_	Color (moist)	%	Co	lor (moist	)	%	Type <sup>1</sup>		Loc <sup>2</sup>	<sup>3</sup> Texture	F	Remarks
0-10	10YR 3/2	100						-		SL		
10-16	10YR 3/2	100						-		LS		
	_							-				
_	_							-				
	_							-				
								-				
								-				
								-				
1 Type: C=Concentra	ation D=Donlation	- DM-Dodu	and Mad	triv CS-C	overed a	er Coated S	and Crains	2	Location: DL =Dor	e Lining, M=Matrix.		
	•										olov)	
							; i – iiile, vi -	- very i		ore clay); - = light (less	_	
Hydric Soil Indicate	ors: (Applicable	to all LRRs,				1.)				roblematic Hydric Soi	ls³:	
Histosol (A1)	(40)			ndy Redo	` '					A9) (LRR C)		
Histic Epipedon	, ,	•		ipped Ma	, ,	-L (F4)				A10) ( <b>LRR B</b> )		
Black Histic (A3	•	•		amy Muck	•	` '			Reduced Ve	, ,		
Hydrogen Sulfid Stratified Layers	, ,	•		amy Gleyo pleted Ma		, ,				Material (TF2) in in Remarks)		
1 cm Muck (A9)				dox Dark	, ,				Office (Expla	iii iii Neiliaiks)		
` ′	Dark Surface (A	11)		pleted Da		, ,			<sup>3</sup> Indicators of hy	drophytic vegetation an	Ч	
Thick Dark Surf	•	''/ .		dox Depre		, ,				ogy must be present,	<b>-</b>	
Sandy Mucky M	, ,	•		rnal Pools		(10)			-	ed or problematic.		
Sandy Gleyed N	` '	•		Tidi i ook	3 (1 3)				ariicoo diotarbe	od or problematio.		
								1				
Restrictive Layer (i	t present):											
Type:								l				v
Depth (inches): _								Hydric	c Soil Present?	Yes	No _	<u>X</u>
Remarks:												
4 inch duff layer pres	sent.											
HYDROLOGY												
Wetland Hydrology	/ Indicators:											
Primary Indicators (r	minimum of one re	equired; che	ck all th	at apply)					Secondary Indica	ators (2 or more require	:d)_	
Surface Water (	(A1)		Sal	It Crust (E	311)				Water Marks	(B1) (Riverine)		
—— High Water Tab	,			tic Crust	,					eposits (B2) (Riverine)		
Saturation (A3)	,	•		uatic Inve	, ,	s (B13)				s (B3) (Riverine)		
Water Marks (B	1) (Nonriverine)	•		drogen Sı		` '			Drainage Pa	, , ,		
	sits (B2) (Nonrive	erine)		•		` '	ving Roots (0	C3)	_	Water Table (C2)		
Drift Deposits (E	B3) (Nonriverine)	, . )	— Pre	esence of	Reduce	d Iron (C4)		,	Crayfish Bur	rows (C8)		
Surface Soil Cra	acks (B6)	•				on in Tilled S	Soils (C6)		Saturation V	isible on Aerial Imagery	/ (C9)	
 Inundation Visib	ole on Aerial Imag	ery (B7)	—— Thi	in Muck S	Surface (	C7)			Shallow Aqu	itard (D3)		
 Water-Stained L	_eaves (B9)		Oth	ner (Expla	ain in Re	marks)			FAC-Neutral	Test (D5)		
Field Observations	:											
Surface Water Pres			No	X	Dept	h (inches):						
Water Table Preser	-					h (inches):	>16"	-	Wotland Hy	drology Present?		
Saturation Present?	_				-	h (inches):	>16"	-	Tremailu fly	Yes	No	X
(includes capillary fi	_		· • • —		Борі	. (11101100).	- 10	-				
Describe Recorded		.ge, monitori	ng well,	aerial ph	otos, pre	vious inspe	ections), if av	ailable:	<b>I</b>			
Damanda												
Remarks: Soils very dry throug	ahout.											
, ,	•											

Project/Site: Percheron	City/County:	Boardman/ Morro	w County	Sampling Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC			State: OR	Sampling Point: 13
Investigator(s): Sonya Templeton, Margret Harburg, Stacey Reed,	PWS Section,	Township, Range:	: Sec. 28, T.3N., R.24E., W	/.M.
Landform (hillslope, terrace, etc.):		Local relief (co	oncave, convex, none): _ Co	oncave Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plateau	Lat: 45.707886	Long	j: -119.815872	Datum: NAD83
Soil Map Unit Name: Sagehill fine sandy loam hummod	cky (Unit 55B) , 2-5% s			sification: None
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes	No X	(If no, explain in Remarks)
Are Vegetation,Soil, or Hydrology			Normal Circumstances" pre	esent? Yes X_No
Are Vegetation,Soil, or Hydrology			eded, explain any answers	•
SUMMARY OF FINDINGS – Attach site map s		g point locatio	ns, transects, impo	rtant teatures, etc.
Hydrophytic Vegetation Present?  Yes X	No	l		
Hydric Soil Present? Yes X	No	Is the Sampled		
Wetland Hydrology Present? Yes X	No	within a Wetland		No
Precipitation prior to fieldwork: According to the AgACIS Boar inches during the two weeks p		-	•	n the day of fieldwork and 0.05
Remarks:	rior. Conditions for Mai	ich are weller than	normai.	
VEGETATION				
	Dania ant	la di a kan	D	h
Absolute Tree Stratum (Plot size:30' r) % Cover		Indicator Status	Dominance Test works  Number of Dominant Spe	
· ——	<del></del>			
1. Elaeagnus angustifolia 5% 2.	Yes	FAC	That Are OBL, FACW, or	r FAC: <u>3</u> (A)
3. ————————————————————————————————————			Total Name have of Danier	
			Total Number of Dominal	
4 5%	= Total Cover		Species Across All Strata	a: <u>3</u> (B)
Sapling/Shrub Stratum (Plot size:10' r)	_ = Total Covel		Percent of Dominant Spe	ecies
11.			That Are OBL, FACW, or	
2.	_		Prevalence Index works	` ,
3.	_		Total % Cover of:	Multiply by:
4.				x 1 = 0
5.				x 2 = 0
0%	= Total Cover		· · · · · · · · · · · · · · · · · · ·	x 3 = 321
Herb Stratum (Plot size:5' r)				x 4 = 0
1. Xanthium strumarium 60%	Yes	FAC	UPL species 0	x 5 = 0
2. Schoenoplectus americanus 40%	Yes	FAC*	Column Totals: 107	(A) 321 (B)
3. Bromus tectorum 2%	No	FAC*	Prevalence Index = B	3/A = 3.00
4.			Hydrophytic Vegetation	n Indicators:
5.			X Dominance Test is >5	50%
6.			X Prevalence Index is	≤3.0 <sup>1</sup>
7			Morphological Adapt	tations <sup>1</sup> (Provide supporting
8			data in Remark	s or on a separate sheet)
9.			Problematic Hydroph	hytic Vegetation <sup>1</sup> (Explain)
10.				
11			<sup>1</sup> Indicators of hydric soil	and wetland hydrology must
102%	= Total Cover		be present.	
Woody Vine Stratum (Plot size:10' r)	<del></del>			
1.			Uvdroch: 4: -	
2	- Total Cours		Hydrophytic	- <b>Y</b> Na
0%  Over Cround in Horb Stratum  Over Co.	_ = Total Cover			s_ X No
	ver of Biotic Crust		Present?	
Remarks:	cito vicit			

SOIL									Sampling Point:	13
Profile Description	n: (Describe to tl	ne depth nee	ded t	to docume	ent th	e indicator or o	confirm the	absence of indicators.)		
Depth	Matrix	(				Redox F	eatures			
(inches)	Color (moist)	%	_ C	Color (mois	t)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-2	10YR 2/1	100		•					SiL	
2-6	10YR 2/1	98		7.5YR 3/4	4	2	С	PL	SiL	
6-14	10YR 4/2	95		7.5YR 3/4	4	3	С		SCL	
									<u> </u>	
			_					. <u> </u>		
			_							
<sup>1</sup> Type: C=Concentra	ation, D=Depletio	n, RM=Reduc	ced M	latrix CS=0	Covere	ed or Coated Sa	and Grains.	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix.	
_ **	•							= very fine; + = heavy (mor		:lav)
							,,		blematic Hydric Soils	•
Hydric Soil Indicat Histosol (A1)	ors: (Applicable	to all LKKS,		ss otnerwi Sandy Redd		-		1 cm Muck (AS	•	<b>.</b>
Histic Epipedor	n (A2)	-		Stripped Ma	,	,		2 cm Muck (A		
Black Histic (A3	, ,	-		oamy Muc	,	,		Reduced Verti	, , ,	
Hydrogen Sulfic	•	-		oamy Gley	•	, ,		Red Parent Ma	` '	
Stratified Layer	` '	•		Depleted M		` '		Other (Explain	, ,	
1 cm Muck (A9	) (LRR D)	-	X R	Redox Dark	Surfa	ace (F6)			,	
Depleted Below	v Dark Surface (A	11)		Depleted Da	ark Sı	urface (F7)		<sup>3</sup> Indicators of hydr	ophytic vegetation and	
Thick Dark Sur	face (A12)	-	R	Redox Depi	ressio	ons (F8)		wetland hydrolog	gy must be present,	
Sandy Mucky N	/lineral (S1)	_	<u> </u>	/ernal Pool	ls (F9)	)		unless disturbed	or problematic.	
Sandy Gleyed I	Matrix (S4)									
Restrictive Layer (	if present):									
Type:	,									
Depth (inches):					•			Hydric Soil Present?	Yes X	No
Remarks:	<u> </u>							1.,,		
itemarks.										
HYDROLOGY										
Wetland Hydrology	y Indicators:									
Primary Indicators (	minimum of one r	equired; chec	k all t	that apply)				Secondary Indicate	ors (2 or more required	)_
Surface Water	(A1)		s	Salt Crust (I	B11)			Water Marks (	B1) (Riverine)	
High Water Tab	ole (A2)	_	в	Biotic Crust	(B12	)		Sediment Dep	osits (B2) (Riverine)	
Saturation (A3)			A	Aquatic Inve	ertebr	ates (B13)		Drift Deposits	(B3) (Riverine)	
X Water Marks (B	1) (Nonriverine)		H	łydrogen S	Sulfide	Odor (C1)		Drainage Patte	erns (B10)	
Sediment Depo	osits (B2) (Nonriv	erine)	c	xidized Rh	hizosp	heres along Liv	ing Roots (C	C3) Dry-Season W	/ater Table (C2)	
Drift Deposits (I	B3) (Nonriverine	) _	P	resence o	f Red	uced Iron (C4)		Crayfish Burro	ws (C8)	
Surface Soil Cr	acks (B6)		R	Recent Iron	Redu	uction in Tilled S	Soils (C6)	Saturation Visi	ible on Aerial Imagery (	(C9)
Inundation Visit	ble on Aerial Imag	gery (B7)	т	hin Muck S	Surfac	ce (C7)		Shallow Aquita	ard (D3)	
Water-Stained	Leaves (B9)	-	c	Other (Expl	ain in	Remarks)		FAC-Neutral T	est (D5)	
Field Observations	s:									
Surface Water Pres	sent? Yes_		No_	Х	. D	epth (inches):		_		
Water Table Prese	nt? Yes		No _	X	D	epth (inches):	>14"	Wetland Hydr	ology Present?	
Saturation Present	_				=	epth (inches):	>14"		V	No
(includes capillary f	-									
Describe Recorded	l Data (stream ga	uge, monitorii	ng we	ıll, aerial pl	hotos,	, previous inspe	ctions), if av	ailable:		
Remarks:										

Soils saturated at 16 inches. Water marks approximately 3-4 feet high on *Elaeagnus angustifolia*.

Project/Site: Percheron	. City/Cou	ınty: Boardman/ Morr	ow County Sampling	Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC			State: OR San	ppling Point: 14
Investigator(s): Sonya Templeton, Margret Harburg, Sta	cey Reed, PWS	Section, Township, Ra	nge: Sec. 28, T.3N., R.24E., W.M.	
Landform (hillslope, terrace, etc.): Terrace		Local relief (	concave, convex, none): Convex	Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plateau	Lat: 45.70785	•	•	oatum: NAD83
Soil Map Unit Name: Sagehill fine sandy loam	hummocky (Unit 55B) , 2			n: None
Are climatic / hydrologic conditions on the site typical for	<del>, , , , , , , , , , , , , , , , , , , </del>		es No X (If no,	
Are Vegetation,Soil, , or I	Hydrologysignifica	ntly disturbed? Are	"Normal Circumstances" present?	Yes X No
	Hydrologynaturally		eeded, explain any answers in Rem	•
		pling point locati	ons, transects, important t	eatures, etc.
	X No	_		
Hydric Soil Present? Yes_	No <u>X</u>	Is the Sampled	Area	
	NoX	within a Wetlar		<u> </u>
1		•	precipitation was received on the da	y of fieldwork and 0.05
Remarks:	weeks prior. Conditions for	or March are wetter tha	n normai.	
Plot location approximately 2-3 feet higher in elevation	than Plot 13.			
VEGETATION			<u> </u>	
Trace Offictions (Distriction 2017)	Absolute Dominal		Dominance Test worksheet:	
Tree Stratum (Plot size: 30' r )	% Cover Species	Status Status	Number of Dominant Species	
1.  2.			That Are OBL, FACW, or FAC:	(A)
3.			L	
			Total Number of Dominant	0 (D)
4			Species Across All Strata:	(B)
Sapling/Shrub Stratum (Plot size: 10' r)	0% = Total Cover		Percent of Dominant Species	
11.			That Are OBL, FACW, or FAC:	100% (A/B)
2.	<u> </u>			(, 42)
3.			Prevalence Index worksheet:  Total % Cover of: Multip	lv bv
4.				0
5.		_	OBL species 0 x 1 = FACW species 0 x 2 =	0 —
ļ <sup>o.</sup>		_	FAC species 91 x 3 =	273
Herb Stratum (Plot size:5' r)			FACU species 6 x 4 =	24
Atriplex heterosperma	55% Yes	FAC*	UPL species 5 x 5 =	25
2. Bassia scoparia	35% Yes	FAC	Column Totals: 102 (A)	322 (B)
3. Sphaerophysa salsula	5% No	FACU	Prevalence Index = B/A =	<u>3.16</u>
4. Onopordum acanthium	5% No	— NOL	Hydrophytic Vegetation Indica	tors:
5. Chenopodium species	1% No	FAC*	X Dominance Test is >50%	
6. Amaranthus species	1% No	FACU*	Prevalence Index is ≤3.0 <sup>1</sup>	
7.			Morphological Adaptations <sup>1</sup>	(Provide supporting
8.			data in Remarks or on a	a separate sheet)
9.			Problematic Hydrophytic Ve	getation <sup>1</sup> (Explain)
10.				
11.			<sup>1</sup> Indicators of hydric soil and wet	land hydrology must
	102% = Total Cover		be present.	
Woody Vine Stratum (Plot size:10' r)				
1			Under a butte	
2	00/ = Tatal Carrer		Hydrophytic Vegetation Yes X	No
9/ Boro Cround in Horb Strations 00/	0% = Total Cover		-	No
% Bare Ground in Herb Stratum0%	% Cover of Biotic Crus	<u> </u>	Present?	
Remarks: *Assumed.				

SOIL											Sampling Point	:	14
Profile Description:	: (Describe to th	ne depth ne	eded to	docume	nt the in	dicator or	confirm th	e abse	nce of indic	ators.)			
Depth	Matrix	(				Redox	Features						
_	Color (moist)	%	– — Cold	or (moist)	)	%	Type <sup>1</sup>		Loc <sup>2</sup>		<sup>3</sup> Texture	ļ	Remarks
0-14	10YR 4/3	100									LS		
_													
								_					
								_					
								_					
								_					
								_					
<sup>1</sup> Type: C=Concentrat	tion, D=Depletio	n, RM=Red	uced Matr	ix CS=C	overed o	r Coated S	and Grains	<b>3</b> .	<sup>2</sup> Location: F	L=Pore	Lining, M=Matrix.		
<sup>3</sup> Texture: S = sand; S	Si = silt; C = clay	; L = loam c	or loamy. ⅂	Texture N	Modifier:	co = coarse	e; f = fine; v	f = very	fine; + = he	avy (mo	ore clay); - = light (le	ss clay)	
Hydric Soil Indicato	rs: (Applicable	to all LRRs	s, unless	otherwi	se noted	l <b>.)</b>			Indicators	s for Pr	oblematic Hydric S	oils <sup>3</sup> :	
Histosol (A1)			San	ndy Redo	x (S5)				1 cm	Muck (A	(A9) ( <b>LRR C</b> )		
Histic Epipedon	(A2)		Strip	pped Mat	trix (S6)				2 cm	Muck (A	(10) ( <b>LRR B</b> )		
Black Histic (A3)	)		Loa	my Muck	ky Minera	ıl (F1)			Redu	ced Ver	tic (F18)		
Hydrogen Sulfide	, ,				ed Matrix	: (F2)			_		Naterial (TF2)		
Stratified Layers	, , , ,			oleted Ma	, ,				Other	(Explai	n in Remarks)		
1 cm Muck (A9)	` '	440			Surface	` '			3,				
Depleted Below		11)			ırk Surfac	, ,					rophytic vegetation a		
Thick Dark Surfa Sandy Mucky Mi	, ,		_	nal Pools	essions (	F6)				•	ogy must be present, d or problematic.		
Sandy Gleyed M	` '			iai Fuuis	s (F9)				uniess (	iistui be	d of problematic.		
	. ,												
Restrictive Layer (if	present):												
Type:													
Depth (inches):								Hydr	ic Soil Pres	ent?	Yes	No_	<u> </u>
Remarks:													
HYDROLOGY													
Wetland Hydrology	Indicators:												
Primary Indicators (m	ninimum of one r	equired; ch	eck all tha	ıt apply)					Secondar	y Indica	tors (2 or more requ	ired)	
Surface Water (A	A1)		Salt	t Crust (B	311)				Water	Marks	(B1) (Riverine)		
High Water Tabl	e (A2)		Biot	tic Crust	(B12)				Sedim	nent De	posits (B2) (Riverine	∍)	
Saturation (A3)			Aqu	atic Inve	rtebrates	; (B13)			Drift D	Deposits	(B3) (Riverine)		
Water Marks (B1	1) (Nonriverine)		Hyd	irogen Sı	ulfide Od	or (C1)			Draina	age Pat	terns (B10)		
Sediment Depos	sits (B2) ( <b>Nonriv</b>	erine)	Oxic	dized Rh	izospher	es along Li	ving Roots	(C3)	Dry-S	eason \	Water Table (C2)		
Drift Deposits (B	3) (Nonriverine	)	Pres	sence of	Reduced	d Iron (C4)			Crayfi	sh Burr	ows (C8)		
Surface Soil Cra	icks (B6)		Rec	ent Iron	Reductio	n in Tilled	Soils (C6)		Satura	ation Vi	sible on Aerial Image	ry (C9)	
Inundation Visibl	le on Aerial Imag	jery (B7)	Thir	า Muck S	Surface (C	27)			Shallo	w Aqui	tard (D3)		
Water-Stained L	eaves (B9)		Oth	er (Expla	ain in Rer	narks)			FAC-I	Neutral	Test (D5)		
Field Observations:													
Surface Water Prese	ent? Yes_		_No	X	Depth	n (inches):		_					
Water Table Present	t? Yes_		_No	Х	Depth	n (inches):	>14"		Wetla	nd Hyd	Irology Present?		
Saturation Present?	_		_No	Х	Depth	n (inches):	>14"	_			Yes	No_	X
(includes capillary fri		100 n==;t-	ring!	ooriel = !-	otoo ===	vious ins	actions\ if =	avoil-b!					
Describe Recorded I	⊔ata (stream gat	uge, monito	ning well,	aenai ph	iotos, pre	vious inspe	ections), if a	avallable	<b>5.</b>				
Remarks:													
Soils dry throughout.													

Project/Site: Percheron		City/County:	Boardman/ Mor	row County Sampling Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC	•			State: OR Sampling Point: 15
Investigator(s): Sonya Templeton, Margret Harbu	rg, Stacey Reed, PWS	Section	, Township, Ran	ge: <u>Sec. 28, T.3N., R.24E., W.M.</u>
Landform (hillslope, terrace, etc.): Terrace		_	Local relief	f (concave, convex, none): Concave Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Pla	ateau La	t: 45.705524	Lo	ong: -119.817927 Datum: NAD83
Soil Map Unit Name: Royal Silt Loam (L	Jnit 53A), 0% to 3% s	lopes; Non-hyd		NWI classification: None
Are climatic / hydrologic conditions on the site typ	•			YesNoX (If no, explain in Remarks)
	, or Hydrology			re "Normal Circumstances" present?  Yes X No
Are Vegetation ,Soil,Soil	, or Hydrology	naturally pro	blematic? (If	needed, explain any answers in Remarks.)
	site map showin	g sampling	point location	ons, transects, important features, etc.
	Yes <b>X</b> N	<u> </u>		, , , , ,
Hydric Soil Present?	Yes N	o <b>X</b>	Is the Sample	ed Area
		o <b>X</b>	within a Wetl	and? YesNoX
1	-			precipitation was received on the day of fieldwork and 0.05
Remarks:	ne two weeks prior. C	onditions for Ma	arch are wetter th	ian normal.
Plot located within Intermittent Water 1.				
VEGETATION				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r)	% Cover	Species?	Status	Number of Dominant Species
1. Elaeagnus angustifolia	50%	Yes	FAC	That Are OBL, FACW, or FAC: 2 (A)
2.				
3.				Total Number of Dominant
4.				Species Across All Strata: 2 (B)
		otal Cover		
Sapling/Shrub Stratum (Plot size: 10' r	_)			Percent of Dominant Species
1				That Are OBL, FACW, or FAC: 100% (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4	<u> </u>			OBL species 0 x 1 = 0
5				FACW species 1 x 2 = 2
Herb Stratum (Plot size:5' r)	= To	otal Cover		FAC species 110 x 3 = 330 FACU species 5 x 4 = 20
1. Atriplex heterosperma	50%	Yes	FAC*	UPL species 2 x 5 = 10
Xanthium strumarium	5%	No	FAC	Column Totals: 118 (A) 362 (B)
3. Nepeta cataria	5%	No	FACU	Prevalence Index = B/A = $\frac{3.07}{}$
4. Elaeagnus angustifolia (sprouts)	5%	- No	FAC	Hydrophytic Vegetation Indicators:
5. Onopordum acanthium	1%	No	NOL	X Dominance Test is >50%
6. Euthamia occidentalis	1%	No	FACW	Prevalence Index is ≤3.0 <sup>1</sup>
7. Bromus tectorum	1%	No	NOL	Morphological Adaptations <sup>1</sup> (Provide supporting
8.				data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10.				
11				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Manda Vina Ottobara		otal Cover		be present.
Woody Vine Stratum (Plot size: 10' r _	_)			
1. 2.				Hydrophytic
	0% = To	otal Cover		Vegetation Yes X No
% Bare Ground in Herb Stratum32%		Biotic Crust		Present?
Remarks:	<del>_</del> _			
I+A				

SOIL							Sampling Point:	15
Profile Description	: (Describe to t	he depth ne	eded to documen	t the indicator or	confirm the ab	sence of indicators	.)	
Depth	Matri	x		Redox	Features			
_	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-8	10YR 3/2	100					LS	
8-17	10YR 4/3	95	7.5YR 3/4	5			LS _	
			<u> </u>	_				
			_	_				
			_					
			_					
<sup>1</sup> Type: C=Concentra	ation, D=Depletio	n, RM=Redu	uced Matrix CS=Co	vered or Coated S	Sand Grains.	<sup>2</sup> Location: PL=Po	re Lining, M=Matrix.	
<sup>3</sup> Texture: S = sand;	Si = silt; C = clay	/; L = loam o	or loamy. Texture Mo	odifier: co = coars	e; f = fine; vf = ve	ery fine; + = heavy (r	nore clay); - = light (less c	lay)
Hydric Soil Indicate	ors: (Applicable	to all LRRs	s, unless otherwise	e noted.)		Indicators for I	Problematic Hydric Soils	s <sup>3</sup> :
Histosol (A1)			Sandy Redox	-		1 cm Muck	(A9) ( <b>LRR C</b> )	
Histic Epipedon	(A2)		Stripped Matr	ix (S6)		2 cm Muck	(A10) ( <b>LRR B</b> )	
Black Histic (A3	)		Loamy Mucky	Mineral (F1)		Reduced V	ertic (F18)	
Hydrogen Sulfid	le (A4)		Loamy Gleye	d Matrix (F2)		Red Parent	Material (TF2)	
Stratified Layers	s (A5) ( <b>LRR C</b> )		Depleted Mat	, ,		Other (Expl	ain in Remarks)	
1 cm Muck (A9)	,		Redox Dark S	` ,		3		
Depleted Below		A11)		k Surface (F7)			ydrophytic vegetation and	
Thick Dark Surfa	, ,		Redox Depres	, ,		•	ology must be present,	
Sandy Mucky M	` '		Vernal Pools	(F9)		uniess disturt	ped or problematic.	
Sandy Gleyed N	. ,							
Restrictive Layer (i	f present):							
Туре:								
Depth (inches):					Hy	ydric Soil Present?	Yes	No <u>X</u>
Remarks:								
HYDROLOGY								
Wetland Hydrology	Indicators:							
Primary Indicators (n		reauired: che	eck all that apply)			Secondary Indi	cators (2 or more required	)
Surface Water (		<u>'</u>	Salt Crust (B1	1)			s (B1) (Riverine)	_
——	,		Biotic Crust (E	•			Deposits (B2) (Riverine)	
Saturation (A3)	(,)		Aquatic Invert				its (B3) (Riverine)	
Water Marks (B	1) (Nonriverine	)	<del></del> -	fide Odor (C1)			atterns (B10)	
Sediment Depos	· ` `		<u> </u>	ospheres along Li	iving Roots (C3)	_	n Water Table (C2)	
Drift Deposits (E	33) (Nonriverine	· •)	Presence of F	Reduced Iron (C4)	,	Crayfish Bu	ırrows (C8)	
Surface Soil Cra	acks (B6)		Recent Iron R	Reduction in Tilled	Soils (C6)	Saturation	Visible on Aerial Imagery	(C9)
Inundation Visib	ole on Aerial Ima	gery (B7)	Thin Muck Su	rface (C7)		Shallow Aq	uitard (D3)	
Water-Stained L	_eaves (B9)		Other (Explain	n in Remarks)		FAC-Neutra	al Test (D5)	
Field Observations	:							
Surface Water Pres	ent? Yes		No X	Depth (inches):				
Water Table Presen	-		No X	Depth (inches):	>17"	Wetland H	ydrology Present?	
Saturation Present?			No X	Depth (inches):	>17"			No X
(includes capillary fr	-			(				· <u> </u>
Describe Recorded	Data (stream ga	uge, monito	ring well, aerial pho	tos, previous insp	ections), if availa	able:		
Damad								
Remarks: Soils dry throughout	durina both site	visits.						
, ag out	٠٠.٠٠ و							

Project/Site: Percheron		City/County:	Boardman/ Morr	row County Sampling Date: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC	•			State: OR Sampling Point: 16
Investigator(s): Sonya Templeton, Margret Harburg,	Stacey Reed, PWS	Section,	, Township, Rang	ge: <u>Sec. 28, T.3N., R.24E., W.M.</u>
Landform (hillslope, terrace, etc.): Terrace				(concave, convex, none): Concave Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plate	au La	t: 45.705413	Lo	ong: -119.818335 Datum: NAD83
Soil Map Unit Name: Royal Silt Loam (Unit	•	-		NWI classification: None
Are climatic / hydrologic conditions on the site typical	al for this time of ye	ear?	Y	resNoX (If no, explain in Remarks)
Are Vegetation,Soil,				e "Normal Circumstances" present? Yes X No
Are Vegetation ,Soil ,, o	or Hydrology	naturally prob	elematic? (If	needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS –  Attach sit	e man showin	na samnlina	point location	ons, transects, important features, etc.
		lo		,,
1		lo <b>X</b>	Is the Sample	ed Area
'		lo <b>X</b>	within a Wetla	
		weather station,	0.00 inches of p	orecipitation was received on the day of fieldwork and 0.05
inches during the Remarks:	two weeks prior. C	onditions for Ma	rch are wetter th	an normal.
Plot located near culverts under Tower Road.				
VEGETATION				
VEGETATION			1 1 1	<u> </u>
Tree Stratum (Plot size: 30' r )	Absolute % Cover	Dominant Species?	Indicator	Dominance Test worksheet:  Number of Dominant Species
\ ————————————————————————————————————			Status	·
Elaeagnus angustifolia     2.	20%	<u>Yes</u>	<u>FAC</u>	That Are OBL, FACW, or FAC:3(A)
3.				Total Number of Deminent
4.				Total Number of Dominant Species Across All Strata: 3 (B)
<del></del>	20% = To	otal Cover		Opedes Across Air Strata.
Sapling/Shrub Stratum (Plot size: 10' r)	2070 - 10	otal Covel		Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100% (A/B)
2.				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
4.				OBL species 65 x 1 = 65
5.				FACW species0x 2 =0
	0% = To	otal Cover		FAC species <u>51</u> x 3 = <u>153</u>
Herb Stratum (Plot size:5' r)				FACU species 2 x 4 = 8
Schoenoplectus americanus	65%	Yes	OBL	UPL species0 _x 5 =0
2. Xanthium strumarium	25%	Yes	FAC	Column Totals:18(A)226(B)
3. Cuscuta species	5% _	No	—FAC*	Prevalence Index = B/A = 1.92
4. Bassia scoparia	1%	No	FACU	Hydrophytic Vegetation Indicators:
5. Atriplex heterosperma	. 1%	. No .	FAC	X Dominance Test is >50%
6. Nepeta cataria	1%	No	FACU	X Prevalence Index is ≤3.0 <sup>1</sup> Morphological Adaptations <sup>1</sup> (Provide supporting
7.				
8. 9.				data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
40				- Toblematic Hydrophytic vegetation (Explain)
11.				Indicators of hydric soil and wetland hydrology must
···	98% = To	otal Cover		be present.
Woody Vine Stratum (Plot size: 10' r)	- 10	0		
1.				
2.				Hydrophytic
Of Dana Chaused in 11-st. Otracture.		otal Cover		Vegetation Yes X No
% Bare Ground in Herb Stratum 2%	% Cover of	Biotic Crust		Present?
Remarks:				

SOIL								Sampling Point:		16		
Profile Description: (De	scribe to the o	lepth need	ded to d	docume	nt the indicator or	confirm the	absence of indicators.)					
Depth	Matrix				Redox I	- eatures						
	(moist)	%	Colo	or (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	F	Remarks		
<u> </u>	'R 4/3	100						SL -				
<sup>1</sup> Type: C=Concentration,	D=Depletion, R	M=Reduce	ed Matr	ix CS=C	overed or Coated S	and Grains.	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix.				
2	•						= very fine; + = heavy (mo	-	clav)			
						5,1 1110, 11			_			
Hydric Soil Indicators: (A Histosol (A1)	Applicable to	ali LRRS, t		otherwis dy Redo:			1 cm Muck (A	oblematic Hydric Soil	S:			
Histic Epipedon (A2)		_		pped Mat	, ,		2 cm Muck (A					
Black Histic (A3)		_		•	xy Mineral (F1)		Reduced Vert	, , , ,				
Hydrogen Sulfide (A4	1)	_		•	ed Matrix (F2)		Red Parent M	` '				
Stratified Layers (A5)	•	_		leted Ma	` '		Other (Explain	, ,				
1 cm Muck (A9) ( <b>LRF</b>	,	_			Surface (F6)			,				
Depleted Below Dark	,	_			rk Surface (F7)		<sup>3</sup> Indicators of hydi	rophytic vegetation and	ť			
Thick Dark Surface (/	, ,	_	Redox Depressions (F8)				wetland hydrolo	wetland hydrology must be present,				
Sandy Mucky Mineral (S1)				nal Pools	` ,		unless disturbed or problematic.					
Sandy Gleyed Matrix	(S4)	_			, ,			·				
Restrictive Layer (if pres	sont):						1					
Type:	sent).											
							Hydria Sail Brasant?	Vaa	No	X		
Depth (inches):							Hydric Soil Present?	Yes	<u> </u>			
Remarks: Shovel refusal at 12 inche	es due to cobble	es and aray	vels									
Onoverrenasar at 12 mone	os due to coppi	so and gra	vois.									
HYDROLOGY												
Wetland Hydrology Indi	cators:											
Primary Indicators (minim	um of one requ	ired; check	k all tha	t apply)			Secondary Indicat	tors (2 or more require	d)			
Surface Water (A1)		_	Salt	Crust (B	311)		Water Marks	(B1) (Riverine)				
High Water Table (A2	2)	_	Bioti	ic Crust (	(B12)		Sediment Dep	oosits (B2) (Riverine)				
Saturation (A3)		_	Aqu	atic Inve	rtebrates (B13)		Drift Deposits (B3) (Riverine)					
Water Marks (B1) ( <b>N</b>	onriverine)	_	Hyd	rogen Sເ	ulfide Odor (C1)		Drainage Patt	erns (B10)				
Sediment Deposits (E	32) ( <b>Nonriveri</b> r	ne) _	Oxic	dized Rhi	izospheres along Li	ving Roots (0	C3) Dry-Season V	Vater Table (C2)				
Drift Deposits (B3) (N	lonriverine)	_	Pres	sence of	Reduced Iron (C4)		Crayfish Burro	ows (C8)				
Surface Soil Cracks (	(B6)	_	Rec	ent Iron	Reduction in Tilled	Soils (C6)	Saturation Vis	sible on Aerial Imagery	(C9)			
Inundation Visible on	Aerial Imagery	(B7) _	Thin	Muck S	urface (C7)		Shallow Aquit	ard (D3)				
Water-Stained Leave	es (B9)	_	Othe	er (Expla	in in Remarks)		X FAC-Neutral T	est (D5)				
Field Observations:												
Surface Water Present?	Yes		No	X	Depth (inches):		_					
Water Table Present?	Yes			X	Depth (inches):	>12"	- Wetland Hvd	rology Present?				
Saturation Present?		 			Depth (inches):	>12"	-	Yes	No	X		
(includes capillary fringe)					(		-		_			
Describe Recorded Data	(stream gauge	, monitorin	g well, a	aerial ph	otos, previous inspe	ections), if av	ailable:					
Remarks:												

Soils slightly moist throughout.

Project/Site: Percheron		City/County:	Boardman/ Morro	w County	Sampling Da	te: 3/31/2022
Applicant/Owner: Birch Infrastructure, LLC				State: OR	Sampling	Point 17
Investigator(s): Sonya Templeton, Margret Harburg, S	tacey Reed, PWS	Section,	Township, Range:	Sec. 28, T.3N., R.24E.	., W.M.	
Landform (hillslope, terrace, etc.): Terrace			Local relief (co	oncave, convex, none):	SI. Concave	Slope (%): <3%
Subregion (LRR): (B) Columbia/Snake River Plateau	L	at: 45.71623172N	-	: -120.07752835W	-	NAD83
Soil Map Unit Name: Koehler loamy fine sar	•	•			assification:	
Are climatic / hydrologic conditions on the site typical			Yes		(If no, expla	
Are Vegetation,Soil , or	r Hydrology	significantly di	sturbed? Are "I	Normal Circumstances"	' present?	Yes X No
Are Vegetation,Soil, o				eded, explain any answ	,	
SUMMARY OF FINDINGS – Attach sit			g point locatio	ns, transects, im	portant featu	res, etc.
, , ,		No				
Hydric Soil Present? Yes		No <u>X</u>	Is the Sampled	Area		
		No <u>X</u>	within a Wetland			<u>X</u>
' '				ecipitation was received	d on the day of fie	ldwork and 0.05
inches during the tw	vo weeks prior. (	Conditions for Mai	rch are wetter than	normal.		
Remarks:						
VEGETATION				1		
	Absolute	Dominant	Indicator	Dominance Test wo		
Tree Stratum (Plot size: 30' r )	% Cover	Species?	<u>Status</u>	Number of Dominant	Species	
1				That Are OBL, FACW	/, or FAC:	<u>1</u> (A)
2.						
3.				Total Number of Dom	inant	
4				Species Across All St	rata:	(B)
Cardina/Charle Chartens (Distains 40)	<u>0%</u> = T	otal Cover		Dancant of Dancin ant	Charias	
Sapling/Shrub Stratum (Plot size: 10' r)				Percent of Dominant That Are OBL, FACW	•	1009/ (A/P)
1. 2.						100% (A/B)
3.				Prevalence Index wo Total % Cover o		
4				1 '	90 .x 1 =	90
5		Total Cover		FACW species		14
Herb Stratum (Plot size:5' r)	= 7	otal Cover		· · —	0 x 3 = 0 x 4 =	0
1. Schoenoplectus americanus	90%	Yes	OBL		3 x 5 =	15
Euthamia occidentalis	7%	No.	FACW	Column Totals: 1		119 (B)
3. Onopordum acanthium	3%	No	NOL	Prevalence Index		1.19
4.				Hydrophytic Vegeta		
5.				X Dominance Test i	s >50%	
6.				X Prevalence Index	a is ≤3.0 <sup>1</sup>	
7.				Morphological Ad	laptations <sup>1</sup> (Provi	de supporting
8.				data in Rem	arks or on a sepa	rate sheet)
9.				Problematic Hydr	ophytic Vegetation	n <sup>1</sup> (Explain)
10.						
11.				<sup>1</sup> Indicators of hydric s	soil and wetland h	ydrology must
	100% = 7	otal Cover		be present.		
Woody Vine Stratum (Plot size:10' r)						
<u>1.</u> <u>2.</u>				Hydronby4ia		
<sup>2.</sup>		Total Carre		Hydrophytic	Vaa <b>V</b>	
% Bare Ground in Herb Stratum 0%		otal Cover f Biotic Crust		Vegetation Present?	Yes_ X No	
	_ % Cover o	BIOLIC CIUSI		Present?		
Remarks:						

SOIL							
Profile Description: (Des	cribe to the depth	needed to document t	he indicator or co	onfirm the abse	nce of indicators	i.)	
Depth	Matrix		Redox Fe	atures			
(inches) Color (i	moist) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-17 10YR	4/3 100					s	
		_					
Type: C=Concentration, D	=Depletion RM=Re	educed Matrix CS=Cove	ered or Coated Sar	nd Grains	<sup>2</sup> Location: PL =Pc	ore Lining, M=Matrix.	
Texture: S = sand; Si = sil	•						clav)
				1 - IIIIC, VI - VCI			
ydric Soil Indicators: (A Histosol (A1)	pplicable to all LR	Rs, unless otherwise ا Sandy Redox (۶	•			Problematic Hydric Soil (A9) (LRR C)	is":
Histic Epipedon (A2)		Stripped Matrix	•		<del></del>	(A10) (LRR B)	
Black Histic (A3)		Loamy Mucky N			Reduced V	, , , ,	
Hydrogen Sulfide (A4)		Loamy Gleyed				: Material (TF2)	
Stratified Layers (A5) (	I RR C)	Depleted Matrix	, ,			ain in Remarks)	
1 cm Muck (A9) ( <b>LRR</b>	,	Redox Dark Su	` '			am m remane)	
Depleted Below Dark S	•	Depleted Dark S	, ,		<sup>3</sup> Indicators of h	ydrophytic vegetation and	d
Thick Dark Surface (A	` '	Redox Depress	` ,			ology must be present,	
	/		, ,		•	•	
Sandv Muckv Mineral (	'S1)	vemai Pools (F	91		ui iless distuit	ded of broblematic.	
Sandy Mucky Mineral (	,	Vernal Pools (F	9)		uriless distur	oed or problematic.	
Sandy Gleyed Matrix (	S4)	vernal Pools (F	9)		uniess distant	ed or problematic.	
Sandy Gleyed Matrix (	S4)	vernal Pools (F	9)		uniess distur	ей ог рговієтанс.	
Sandy Gleyed Matrix (:  Restrictive Layer (if present the content of the content	S4)	vernai Poois (F	9)			<u> </u>	<b>V</b>
Sandy Gleyed Matrix (Sestrictive Layer (if present Type:  Depth (inches):	S4)	vernal Pools (F	9)	Hyd	ric Soil Present?	Yes	No <u>X</u>
Sandy Gleyed Matrix (:  destrictive Layer (if present the content of the content	S4)	vemai Pools (F	9)	Hyd		<u> </u>	No X
Sandy Gleyed Matrix (interpretation of the same set of the sam	S4)	vemai Pools (F	9)	Hyd		<u> </u>	No X
Sandy Gleyed Matrix (: estrictive Layer (if prese Type: Depth (inches): emarks:	S4)	vemai Pools (F	9)	Hyd		<u> </u>	No X
Sandy Gleyed Matrix (:  destrictive Layer (if preserving)  Type: Depth (inches): demarks:	S4)	vemai Pools (F	9)	Hyd		<u> </u>	No X
Sandy Gleyed Matrix (: estrictive Layer (if prese Type: Depth (inches): emarks:	ent):		9)	Hyd	ric Soil Present?	Yes	
Sandy Gleyed Matrix (: estrictive Layer (if prese Type: Depth (inches): emarks:  YDROLOGY Vetland Hydrology Indicatrimary Indicators (minimum	ent):	check all that apply)		Hyd	ric Soil Present?	Yes	
Sandy Gleyed Matrix (: estrictive Layer (if prese Type: Depth (inches): emarks:  YDROLOGY fetland Hydrology Indicationary Indicators (minimum Surface Water (A1)	ent):	check all that apply)Salt Crust (B11		Hyd	ric Soil Present?  Secondary India	Yescators (2 or more require	
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY //etland Hydrology Indica rimary Indicators (minimum Surface Water (A1) High Water Table (A2)	ent):	check all that apply)Salt Crust (B11	) 2)	Hyd	ric Soil Present?  Secondary India Water Mark	Yescators (2 or more required as (B1) (Riverine) Deposits (B2) (Riverine)	
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY //etland Hydrology Indica rimary Indicators (minimul Surface Water (A1) High Water Table (A2) Saturation (A3)	ent):  ators:  m of one required; of	check all that apply)Salt Crust (B11Biotic Crust (B1Aquatic Invertet	) 2) prates (B13)	Hyd	ric Soil Present?  Secondary Indi Water Mark Sediment D Drift Depos	Yes	
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY  /etland Hydrology Indica rimary Indicators (minimul Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nor	ent):  Intors: Intor of one required; of	check all that apply)Salt Crust (B11Biotic Crust (B1Aquatic Invertet	) 2) prates (B13) de Odor (C1)		Secondary India Water Mark Sediment D Drift Depos	Yes cators (2 or more require is (B1) (Riverine) Deposits (B2) (Riverine) atterns (B10)	
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY /etland Hydrology Indication (minimum of the company of the comp	ent):  Intors: Intors: In of one required; of the continuous of th	check all that apply)  Salt Crust (B11 Biotic Crust (B1 Aquatic Invertet Hydrogen Sulfic	) 2) prates (B13) le Odor (C1) spheres along Livi		Secondary India Water Mark Sediment D Drift Depos Drainage P Dry-Seasor	Yes	
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY  /etland Hydrology Indication frimary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Noto Sediment Deposits (B2) Drift Deposits (B3) (Noto	ent):  ators: m of one required; of the continuous cont	Sheck all that apply) Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizos	) 2) prates (B13) le Odor (C1) spheres along Livii duced Iron (C4)	ng Roots (C3)	Secondary India Water Mark Sediment D Drift Depos Drainage P Dry-Season Crayfish Bu	ves	<u></u>
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY /etland Hydrology Indica rimary Indicators (minimul Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Noi Sediment Deposits (B2) Drift Deposits (B3) (Noi Surface Soil Cracks (B	ent):  ators: m of one required; of the continuous cont	check all that apply)  Salt Crust (B11 Biotic Crust (B1 Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec	) 2) orates (B13) le Odor (C1) spheres along Livii duced Iron (C4) duction in Tilled Sc	ng Roots (C3)	Secondary India  Water Mark  Sediment D  Drift Depos  Drainage P  Dry-Seasor  Crayfish Bu  Saturation	Yes	<u></u>
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY  //etland Hydrology Indica rimary Indicators (minimul Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Not Sediment Deposits (B2) Drift Deposits (B3) (Not Surface Soil Cracks (B Inundation Visible on A	ntiverine) (Nonriverine) (nriverine) (nriverine) (nriverine) (nriverine) (nriverine)	check all that apply)  Salt Crust (B11 Biotic Crust (B1 Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec	) 2) orates (B13) le Odor (C1) spheres along Livin duced Iron (C4) duction in Tilled Sc ace (C7)	ng Roots (C3)	Secondary India  Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Crayfish Bu Saturation S	Yes	<u></u>
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY /etland Hydrology Indica rimary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Noth Sediment Deposits (B2) Drift Deposits (B3) (Noth Surface Soil Cracks (B Inundation Visible on A Water-Stained Leaves	ntiverine) (Nonriverine) (nriverine) (nriverine) (nriverine) (nriverine) (nriverine)	check all that apply)  Salt Crust (B11 Biotic Crust (B1 Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec	) 2) orates (B13) le Odor (C1) spheres along Livin duced Iron (C4) duction in Tilled Sc ace (C7)	ng Roots (C3)	Secondary India  Water Mark  Sediment D  Drift Depos  Drainage P  Dry-Seasor  Crayfish Bu  Saturation	Yes	<u></u>
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY  /etland Hydrology Indica rimary Indicators (minimul Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Noi Sediment Deposits (B2) Drift Deposits (B3) (Noi Surface Soil Cracks (B Inundation Visible on A Water-Stained Leaves ield Observations:	ntiverine) (Nonriverine) (nriverine) (nriverine) (nriverine) (nriverine) (nriverine) (nriverine) (nriverine)	check all that apply)  Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Thin Muck Surfa	) 2) orates (B13) le Odor (C1) spheres along Livii duced Iron (C4) duction in Tilled So ace (C7) n Remarks)	ng Roots (C3)	Secondary India  Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Crayfish Bu Saturation S	Yes	<u></u>
Sandy Gleyed Matrix (:  estrictive Layer (if prese Type: Depth (inches): emarks:  IYDROLOGY  /etland Hydrology Indica rimary Indicators (minimul Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Noi Sediment Deposits (B2) Drift Deposits (B3) (Noi Surface Soil Cracks (B Inundation Visible on A Water-Stained Leaves ield Observations:	nriverine) (Nonriverine) (Nonriverine) (nriverine) (nriverine) (nriverine) (nriverine) (nriverine) (nriverine) (nriverine)	check all that apply)  Salt Crust (B11 Biotic Crust (B1 Aquatic Inverted Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Thin Muck Surfa Other (Explain i	prates (B13) le Odor (C1) spheres along Livinduced Iron (C4) duction in Tilled Scace (C7) n Remarks)  Depth (inches):	ng Roots (C3)	Secondary India  Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Crayfish Bu Saturation Shallow Aq X FAC-Neutra	Yes	<u></u>
Sandy Gleyed Matrix (sestrictive Layer (if present Type: Depth (inches): Depth (inches): Demarks:  IYDROLOGY Vetland Hydrology Indicators (minimumany Indicators (minimumany Indicators (Minimumany Indicators (Material Material Ma	nriverine) (B) (Nonriverine) (B) (R) (R) (R) (R) (R) (R) (R) (R) (R) (R	check all that apply)  Salt Crust (B11 Biotic Crust (B11 Aquatic Invertet Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Thin Muck Surfa Other (Explain i	prates (B13) le Odor (C1) spheres along Lividuced Iron (C4) duction in Tilled Scace (C7) n Remarks)  Depth (inches): Depth (inches):	ng Roots (C3) bils (C6)	Secondary India  Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Crayfish Bu Saturation Shallow Aq X FAC-Neutra	Yes	<u>d)</u>
Sandy Gleyed Matrix (:  Restrictive Layer (if preserved for preserved fo	nriverine) (B) (Nonriverine) (B) (R) (R) (R) (R) (R) (R) (R) (R) (R) (R	check all that apply)  Salt Crust (B11 Biotic Crust (B11 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Thin Muck Surfa Other (Explain i	prates (B13) le Odor (C1) spheres along Livinduced Iron (C4) duction in Tilled Scace (C7) n Remarks)  Depth (inches):	ng Roots (C3) bils (C6)	Secondary India  Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Crayfish Bu Saturation Shallow Aq X FAC-Neutra	Yes	<u></u>
Sandy Gleyed Matrix (stestrictive Layer (if present Type: Depth (inches): Impermediate (stemarks:  IYDROLOGY Vetland Hydrology Indication (stemary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Notes Sediment Deposits (B2) Drift Deposits (B3) (Notes Surface Soil Cracks (B1) Inundation Visible on Attempt Water-Stained Leaves (stellar Water Present? Water Table Present?	ntors: nof one required; of the continuation o	Sheck all that apply) Salt Crust (B11 Biotic Crust (B1 Aquatic Invertel Hydrogen Sulfic Oxidized Rhizos Presence of Re Recent Iron Rec Thin Muck Surfa Other (Explain i	prates (B13) le Odor (C1) spheres along Livil duced Iron (C4) duction in Tilled Sc ace (C7) n Remarks)  Depth (inches): Depth (inches):	ng Roots (C3)  bils (C6)  >17"  >17"	Secondary India Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Crayfish Bu Saturation Shallow Aq X FAC-Neutra	Yes	<u>d)</u>

Applicant/Owner   Birch Infrastructure, LLC   Interestination   Server Femiles, Nature Health (1997)   Section, Township, Ranger Sec. 28, T. N. P. Z.A.F. W.M.   Landform (hibbors herice, vic.)   Tomaco   Subscipring (LRF)   (B) Columbiationship Ranger Sec. 28, T. N. P. Z.A.F. W.M.   Landform (hibbors herice, vic.)   Tomaco   Subscipring (LRF)   (B) Columbiationship Ranger Sec. 28, T. N. P. Z.A.F. W.M.   Landform (hibbors herice, vic.)   Tomaco   Tomaco   Subscipring (No. 1997)   Towards (No. 1997)   Toward	Project/Site: Percheron		City/County:	Boardman/ Mo	orrow County Sampling Date: 3/31/2022
Load reflet (settings, terrings, etc.)   Terrings   Load 14570532   Load reflet (settings, 2006, 2006)   Contractive   Subtregion (LRS) (B) Cohmbis/Shake Rever Plateau   Lot 4570532   Load reflet (settings, 2006)   Cohmbis/Shake Rever Plateau   Lot 4570532   Load reflet (settings, 2006)   Cohmbis/Shake Rever Plateau   Lot 4570532   Load reflet (settings, 2006)   Cohmbis/Shake Rever Plateau   Lot 4570532   Load reflet (settings, 2006)   Cohmbis/Shake Rever Plateau   Lot 4570532   Load reflet (settings, 2006)   Cohmbis/Shake Rever Plateau   Lot 4570532   Load reflet (settings, 2006)   Cohmbis/Shake Rever Plateau   Lot 4570532   Load reflet (settings, 2006)   Cohmbis/Shake Rever Plateau   Lot 4570532   Load Rever Plateau   Load Rever P	Applicant/Owner: Birch Infrastructure, LLC				
Subscription LRRS;   (B) Columbia/Shake River Piletiaus   Lat 45.706232   Long; +118.16862   Datum KAD83   Datum KAD84   Datum	Investigator(s): Sonya Templeton, Margret Harbu	rg, Stacey Reed, PWS	Section,	Township, Ran	ge: Sec. 28, T.3N., R.24E., W.M.
Sol May Unit Name:   Sagehill fine sarry loam hummorary (Unit SSB), 25% eloges. Non-hydric   None	Landform (hillslope, terrace, etc.):			Local relie	f (concave, convex, none): Concave Slope (%): <3%
Ace climate: / hydrologic conditions on the site bylorial for his time of year?	Subregion (LRR): (B) Columbia/Snake River Pla	ateau La	at: 45.706232	. Lo	ong: -119.816892 Datum: NAD83
Are Vegetation	Soil Map Unit Name: Sagehill fine sand	y loam hummocky (L	Jnit 55B) , 2-5% s		
Are Vegetation Soil or Hydrology maturally problematic? (If needed, explain any anawers in Remarks, SUMMARY OF FINDINGS – Attach site maps showing sampling point locations, transects, important features, etc.  Hydrology Present? Yes No X No X within a Weltand Pytorology Present? Yes No X within a Weltand? Yes No Precipitation prior to fleidwork. According to the AgaCis Boardman weather station, 0.00 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was received on the day of fleidwork and 0.05 inches of precipitation was recei					
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.	Are Vegetation,Soil	, or Hydrology	significantly d	isturbed? Ar	
Psychophylic Vegetation Present?					,
Vetal hydrology Present?   Yes   No   X   within a Wetland?   Yes   No	Hydrophytic Vegetation Present?	Yes <b>X</b> 1	No		
Vestina Phydrology Present?   Yes	Hydric Soil Present?	Yes 1	No <b>X</b>	Is the Sample	ed Area
inches during the two weeks prior. Conditions for March are wetter than normal.  Remarks: Plot located within Intermittent Water 1 and within low flow channel.  VEGETATION  Tree Stratum (Plot size: 30'r			NoX	within a Wetl	and? Yes No
Remarks:   Plot located within Informittent Water 1 and within low flow channel.	1	-			· · · ·
VEGETATION		io tiro modito pironi	, , , , , , , , , , , , , , , , , , ,		
Absolute   Dominant   Indicator   Nature   Nat	Plot located within Intermittent Water 1 and within	low flow channel.			
Tree Stratum	VEGETATION				
1. Elaeagnus angustifolia		Absolute	Dominant	Indicator	Dominance Test worksheet:
3.	Tree Stratum (Plot size: 30' r_)	% Cover	Species?	Status	Number of Dominant Species
4.	1. Elaeagnus angustifolia	40%	Yes	FAC	That Are OBL, FACW, or FAC: 3 (A)
4.	2				
4.					
Sapling/Shrub Stratum	-				
Percent of Dominant Species   Percent of Dominant Species   That Are OBL, FACW, or FAC: 75% (A/B)	4				Species Across All Strata: 4 (B)
1. Artemisia tridentata  10% Yes NOL That Are OBL, FACW, or FAC: 75% (A/B)  Prevalence Index worksheet: Total % Cover of: Multiply by:  OBL species 40 x1 = 40	Sapling/Shrub Stratum (Plot size: 10' r		otal Cover		Percent of Dominant Species
2.	· • — · — —		Yes	NOL	·
3.					
4.					
5.	4				
Herb Stratum					<u> </u>
1. Atriplex heterosperma 50% Yes FAC* UPL species 11 x 5 = 55 2. Schoenoplectus americanus 40% Yes OBL Column Totals: 146 (A) 385 (B) 3. Nepeta cataria 5% No FACU Prevalence Index = B/A = 2.64 4. Onopordum acanthium 1% No NOL Hydrophytic Vegetation Indicators: 5.		10% = T	otal Cover		· <del></del>
2. Schoenoplectus americanus 40% Yes OBL	Herb Stratum (Plot size: 5' r)				FACU species 5 x 4 = 20
3. Nepeta cataria	Atriplex heterosperma	50%	Yes	FAC*	UPL species11 x 5 =55
4.	2. Schoenoplectus americanus	40%	Yes	OBL	
5.       X Dominance Test is >50%         6.       X Prevalence Index is ≤3.0¹         Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)       Problematic Hydrophytic Vegetation¹ (Explain)         11.       96% = Total Cover         Woody Vine Stratum       (Plot size: 10' r )         1.       Hydrophytic         2.       Hydrophytic         We Bare Ground in Herb Stratum       4% % Cover of Biotic Crust       Present?	3. Nepeta cataria	_ 5% _	_ No	FACU	Prevalence Index = B/A = 2.64
6.		1%	<u>No</u>	NOL	
7	5				<b>—</b>
8					
9		<u> </u>			
1 1					· · · · · · · · · · · · · · · · · · ·
Woody Vine Stratum	9. 1				Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum	o				
Woody Vine Stratum	·	<u> </u>			1
Woody Vine Stratum         (Plot size:10' r)           1.         1.           2.	11	<u> </u>			, , , ,
1.         2.         Hydrophytic           2.         0% = Total Cover         Vegetation         Yes X No           % Bare Ground in Herb Stratum         4% % Cover of Biotic Crust         Present?	Woody Vine Stratum (Plot size: 10' f		otal Cover		be present.
2		_/			
% Bare Ground in Herb Stratum 4% % Cover of Biotic Crust Present?  Remarks:					Hydrophytic
Remarks:		0% = T	otal Cover	·	Vegetation Yes X No
	% Bare Ground in Herb Stratum 4%	% Cover of	f Biotic Crust		Present?

SOIL							Sampling Point:	18
Profile Description:	(Describe to the	depth ne	eded to documen	t the indicator or	confirm the	absence of indicators.	)	
Depth	Matrix			Redox F	eatures			
_	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
0-18	10YR 4/3	100		_			LS _	
				_				
_			· ·					
_								
Type: C=Concentrat	ion, D=Depletion,	RM=Redu	ıced Matrix CS=Co	vered or Coated S	and Grains.	<sup>2</sup> Location: PL=Por	e Lining, M=Matrix.	
<sup>3</sup> Texture: S = sand; S	Si = silt; C = clay; L	_ = loam o	r loamy. Texture M	odifier: co = coarse	e; f = fine; vf =	very fine; + = heavy (m	ore clay); - = light (less o	olay)
Hydric Soil Indicator	rs: (Applicable to	all LRRs	, unless otherwis	e noted.)		Indicators for P	roblematic Hydric Soils	s <sup>3</sup> :
Histosol (A1)			Sandy Redox	-		1 cm Muck (	A9) ( <b>LRR C</b> )	
Histic Epipedon (	(A2)		Stripped Mati	rix (S6)		2 cm Muck (	A10) ( <b>LRR B</b> )	
Black Histic (A3)			Loamy Muck	y Mineral (F1)		Reduced Ve	rtic (F18)	
Hydrogen Sulfide	e (A4)		Loamy Gleye	d Matrix (F2)		Red Parent I	Material (TF2)	
Stratified Layers	(A5) ( <b>LRR C</b> )		Depleted Mat	trix (F3)		Other (Expla	in in Remarks)	
1 cm Muck (A9) (	(LRR D)		Redox Dark S	Surface (F6)		2		
Depleted Below I	Dark Surface (A1	1)	Depleted Dar	k Surface (F7)		Indicators of hy	drophytic vegetation and	I
Thick Dark Surfa	, ,		Redox Depre	, ,		wetland hydrol	ogy must be present,	
Sandy Mucky Mi	` '		Vernal Pools	(F9)		unless disturbe	ed or problematic.	
Sandy Gleyed Ma	atrix (S4)							
Restrictive Layer (if	present):							
Туре:								
Depth (inches):						Hydric Soil Present?	Yes	No <u>X</u>
Remarks:								
Half inch duff layer pr	esent.							
HYDROLOGY								
Wetland Hydrology	Indicators:							
Primary Indicators (m		guired: che	eck all that apply)			Secondary Indica	ators (2 or more required	1)
Surface Water (A		<b>,</b>	Salt Crust (B	11)			(B1) (Riverine)	<u>/_</u>
High Water Table	,		Biotic Crust (	•		<del></del>	eposits (B2) (Riverine)	
Saturation (A3)	5 (AZ)			tebrates (B13)			s (B3) (Riverine)	
Water Marks (B1	) (Nonriverine)			lfide Odor (C1)		Drainage Pa	, , ,	
	its (B2) (Nonriver	rine)		zospheres along Li	vina Roots (C		Water Table (C2)	
Drift Deposits (B3	`			Reduced Iron (C4)	villig r tooto (o	Crayfish Bur		
Surface Soil Crac				Reduction in Tilled	Soils (C6)	<del></del> _	isible on Aerial Imagery	(C9)
	e on Aerial Image	rv (B7)	Thin Muck Su		()	Shallow Aqu		()
—— Water-Stained Le	_	, ,		n in Remarks)		FAC-Neutral	, ,	
Field Observations:	. ,			, , , , , , , , , , , , , , , , , , ,		<del>-</del>	. ,	
Surface Water Prese			No X	Depth (inches):				
Water Table Present				Depth (inches):	>18"	Watland Hy	drology Present?	
Saturation Present?			No X	Depth (inches):	>18"	Wetiand Hy		No X
(includes capillary fri				Dopai (mones).				<u>//</u>
Describe Recorded D		je, monitor	ing well, aerial pho	otos, previous inspe	ections), if ava	ailable:		
Remarks: Soils dry throughout.								
cons ary arroughout.								



## **Appendix F: Representative Site Photos**



**Photo A.** View facing north of one of the animal trails during the October 14, 2021 site visit.



**Photo C.** View west of upland Plot 4 during the October 14, 2021 site visit.



**Photo B.** View of Plot 3 facing west during the October 14, 2021 site visit.



**Photo D.** View facing south towards Plots 1 and 2 and of higher eleva on topographic area isola ng Wetland A with juniper tree during March 31, 2022 site visit.



**Photo E.** View of Plot 5 during the March 31, 2022 site visit.



**Photo G.** View east towards Plots 1, 2, and 5 showing undula ng topography and rolling shrub steppe plains during March 31, 2022 site visit.



**Photo F.** View south from Plot 5 showing no channel or defined bed and bank present during March 31, 2022 site visit.



**Photo H.** View facing south from upland Plot 8 and Wetland A boundary towards Plot 7 and Plot 6 in the center of Wetland A approximately 5 feet lower in eleva on than Plot 8. Photo taken during October 14, 2021 site visit.



**Photo I.** View east of upland Plot 10 with Wetland A boundary and Plot 9 in the background during October 14, 2021 site visit.



**Photo K.** View northwest towards Wetland A in low topographic depression from October 14, 2021 site visit.



**Photo J.** View east of Wetland A located within low topographic depression during October 14, 2021 site visit.



**Photo L.** View east of Plot 13 with Wetland A boundary toward upland Plot 14 loca on approximately 3 feet higher in elevaon than Plot 13. Photo taken March 2022 site visit.



**Photo M.** View of 4 culverts under Tower Road draining into Intermi ent Water 1 at March 31, 2022 site visit. No flow or surface water was present.



**Photo O.** View north of Intermi ent Water 1 from Plot 15 during March 31, 2022 site visit.



**Photo N.** View north of Intermi ent Water 1 near Plot 18 from October 14, 2021 site visit.



**Photo P.** View northeast towards Intermi ent Water 1 within Russian olive tree grove from October 14, 2021 site visit.





**Photo Q.** View facing south of an animal trail and shrubsteppe habitat during the October 14, 2021 site visit.



**Photo S** View facing southwest of the culvert on southern side of Tower Road from March 31, 2022 site visit.



**Photo R.** View of Plot 17 facing southwest from March 31, 2022 site visit.



**Photo T.** View facing north of shrub steppe habitat during March 31, 2022 site visit.



# Appendix G: SDAM Forms

### **Appendix B: Streamflow Duration Field Assessment Form**

Proje	ect#/Na	ame Pe	Assessor Marg	ret Harbur	g, Natural Resource Speci	alist			
Addı	ress Mo	orrow County Assessor's Ma	t 100, Boardman, 0	Oregon	Date 03/31/2022				
Wate	erway Na	ame Intermittent Water 1			Coordinates a	t Lat.	45.705323 -	N	
Rea	ch Boun	daries from 4 roadsi	de culverts to V	Vetland A	downstream e	nd Long.	119.818314	W	
Pred	ipitation	w/in 48 hours (cm) (	0.00 Channe	el Width (m)	15		curbed Site / Difficult		
		% of reach w/observe	d surface flow	0%					
Observed Hydrology  % of reach w/any flow (surface or hyporheic)									
		# of pools observed_							
	(and in Schoe	red Wetland Plants dicator status): enoplectus america Phragmites australis					Ephemer- # of optera? Individuals		
ť				N/A					
	1 Δre :	aquatic macroinvertebr	ates present?			□ Yes	■ No	$\dashv$	
		or more individuals of	· · · · · · · · · · · · · · · · · · ·	meroptera p	resent?	☐ Yes		$\dashv$	
		perennial indicator taxa	<u>.</u>	<u> </u>		☐ Yes		$\dashv$	
-		FACW, OBL, or SAV pl		,					
' '			-			~3	%	$\dashv$	
	Are a macroini pre (India	If Yes: A more ind of the Epheme prese (Indica vertebrates sent? cator 1)  If No: An FACW, plants pi (Indica	ore 6 or viduals order roptera int?  or 2)  SAV, or OBL esent?	Yes: Are perennial indicator taxa present?  (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope?  (Indicator 5)  If No: EPHEMERAL		10.5%: TTENT 10.5%: ERAL			
	☐ Fish				3		ntermittent		
	∐ Am¦	ohibians				∐ F	Perennial		

<b>Notes:</b> (explanation of any single indicate may interfere with indicators, etc.)	or conclusions, description of dist	urbances o	or modifica	tions that
Difficult Situation:	Describe situation. For dis extent, type, and history o			
☐ Prolonged Abnormal Rainfall / Snowpack	o,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
☐ Below Average				
☐ Above Average				
☐ Natural or Anthropogenic Disturbance				
Other:				
Additional Notes: (sketch of site, descrip Attach additional sheets as necessary. Shallow broad floodplain with narrowide. OHWM was defined in changand bank. There was no evidence observed wetland plants had no necessary.	ow low flow channel present ge in vegetation, change in of recent surface water flow	t approxi slope, ar	mately 2- nd a defin	3 feet
Ancillary Information:				
Riparian Corridor				
☐ Erosion and Deposition				
☐ Floodplain Connectivity				
_				
	Observed Amphibians, Aquatic S	nakes, and	l Fish:	Number of
	Taxa	History Stage	Location Observed	Individuals Observed
		9-		