



# Oregon

Tina Kotek, Governor

## 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](http://www.oregon.gov/dsl)

April 18, 2023

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

**State Land Board**

Tina Kotek  
Governor

Re: **WD # 2022-0436 Approved**  
Wetland Delineation Report for Percheron Industrial Campus  
Morrow County; T3N R24E S28 TL100 (Portion)

Shemia Fagan  
Secretary of State

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,

A handwritten signature in black ink, appearing to read "Peter Ryan", with a stylized flourish at the end.

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

**WETLAND DELINEATION TERMINATION REPORT COVER FORM**

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.

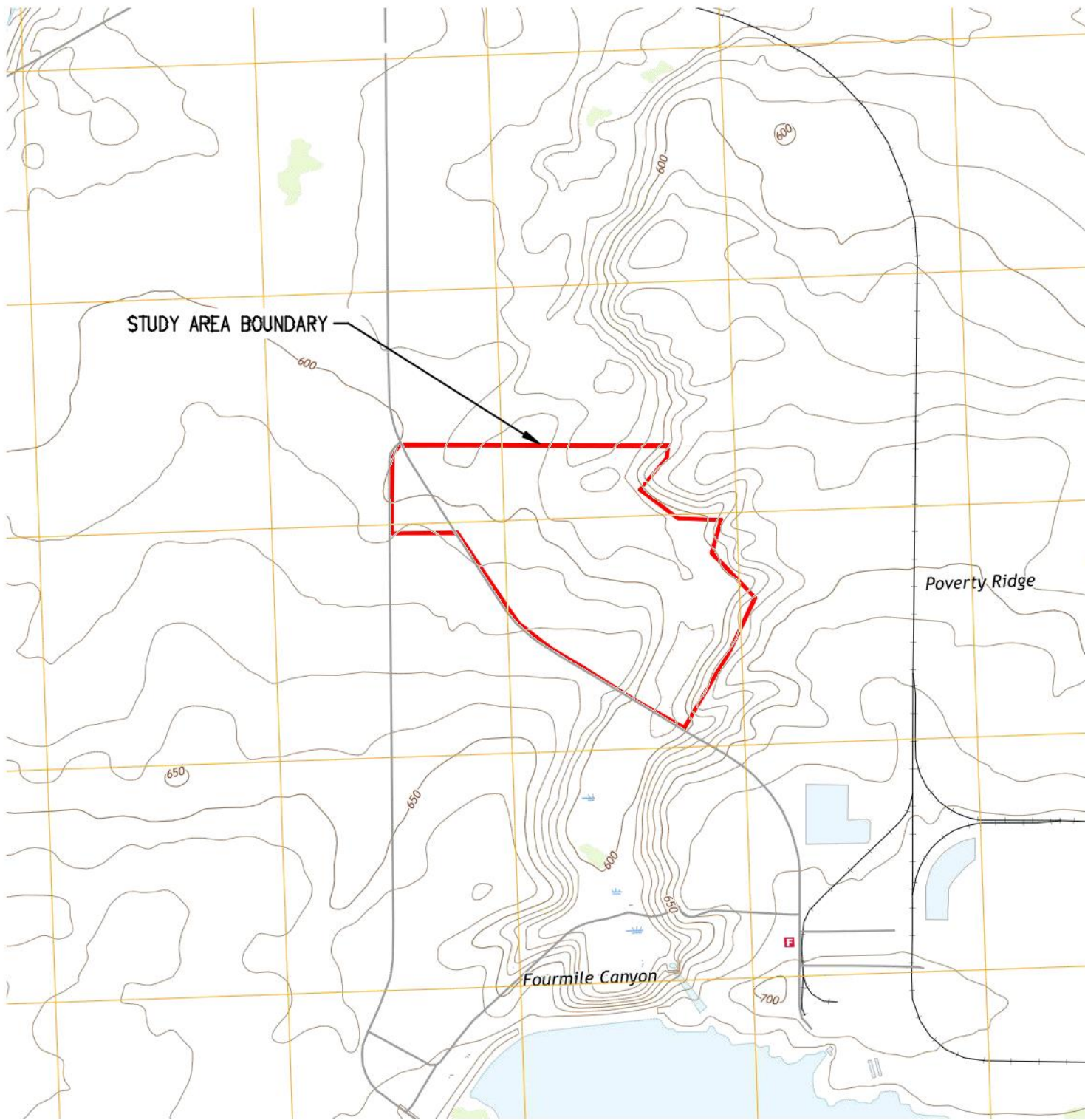
**Ways to submit report:**

**Ways to pay review fee:**

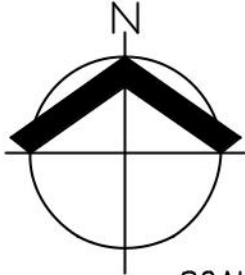
- ❖ **Under 50MB** - A single unlocked PDF can be emailed to: [wetland.delineation@dsl.oregon.gov](mailto:wetland.delineation@dsl.oregon.gov).
- ❖ **50MB or larger** - A single unlocked PDF can be uploaded to [DSL's Box.com](http://DSL's Box.com) website. After upload notify DSL by email at: [wetland.delineation@dsl.oregon.gov](mailto:wetland.delineation@dsl.oregon.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 **OR** attached to the complete signed cover form if report submitted electronically.

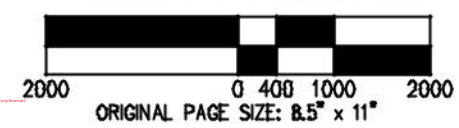
Contact and Authorization Information	
<input checked="" type="checkbox"/> Applicant <input type="checkbox"/> Owner Name, Firm and Address: Rowan Green Data, LLC. ATTN: David Shiflett 160 E State Street, Ste 120 Traverse City, MI 49684	Business phone # (231) 218-6278 Mobile phone # (optional) E-mail: <a href="mailto:dshiflett@rowandigit.al">dshiflett@rowandigit.al</a>
<input checked="" type="checkbox"/> Authorized Legal Agent, Name and Address (if different): Kenneth Davies 160 E State Street, Ste 120 Traverse City, MI 49684	Business phone # Mobile phone # (optional) E-mail: <a href="mailto:kdavis@rowandigit.al">kdavis@rowandigit.al</a>
I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.	
<b>Typed/Printed Name:</b> <u>Kenneth Davies</u> <b>Signature:</b> <u><i>Kenneth Davies</i></u> <b>Date:</b> <u>8/5/2022</u> Special instructions regarding site access: <u>Please contact David Shiflett prior to site visit</u>	
Project and Site Information	
Project Name: Percheron	Latitude: 45.708042      Longitude: -119.815957 <b>decimal degree</b> - centroid of site or start & end points of linear project
Proposed Use: Industrial Campus	Tax Map # Section 28 03N 24E Tax Lot(s) Portion of 100 Tax Map # Tax Lot(s)
Project Street Address (or other descriptive location): 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: Sonya Templeton AKS Engineering & Forestry 12965 SW Herman Road, Suite 100 Tualatin, OR 97062	Phone # (503) 563-6151 Mobile phone # (if applicable) E-mail: <a href="mailto:templetons@aks-eng.com">templetons@aks-eng.com</a>
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.	
<b>Consultant Signature:</b> <u><i>Sonya Templeton</i></u> <b>Date:</b> <u>8/8/2022</u>	
<b>Primary Contact</b> for report review and site access is <input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent	
Wetland/Waters Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No      Study Area size: 275 acres      Total Wetland Acreage: <b>1.75</b>	
Check Applicable Boxes Below	
<input type="checkbox"/> R-F permit application submitted <input type="checkbox"/> Mitigation bank site <input type="checkbox"/> EFSC/ODOE Proj. Mgr: _____ <input type="checkbox"/> Wetland restoration/enhancement project (not mitigation) <input type="checkbox"/> Previous delineation/application on parcel If known, previous DSL # _____	<input checked="" type="checkbox"/> Fee payment submitted \$ <u>500</u> <input type="checkbox"/> Resubmittal of rejected report (\$100) <input type="checkbox"/> Request for Reissuance. See eligibility criteria. (no fee) DSL # _____      Expiration date _____ <input type="checkbox"/> LWI shows wetlands or waters on parcel Wetland ID code _____
For Office Use Only	
DSL Reviewer: <u>JS</u> Fee Paid Date: ____ / ____ / ____	DSL WD # <b>2022-0436</b>
Date Delineation Received: <u>8/8/22</u>	DSL App.# _____



USGS 7.5' TOPOGRAPHIC SERIES QUADRANGLE:  
DALREED BUTTE, OR (2020)



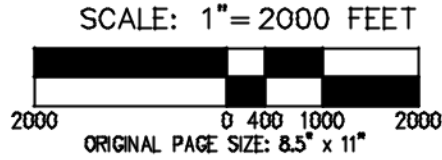
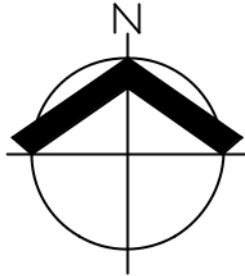
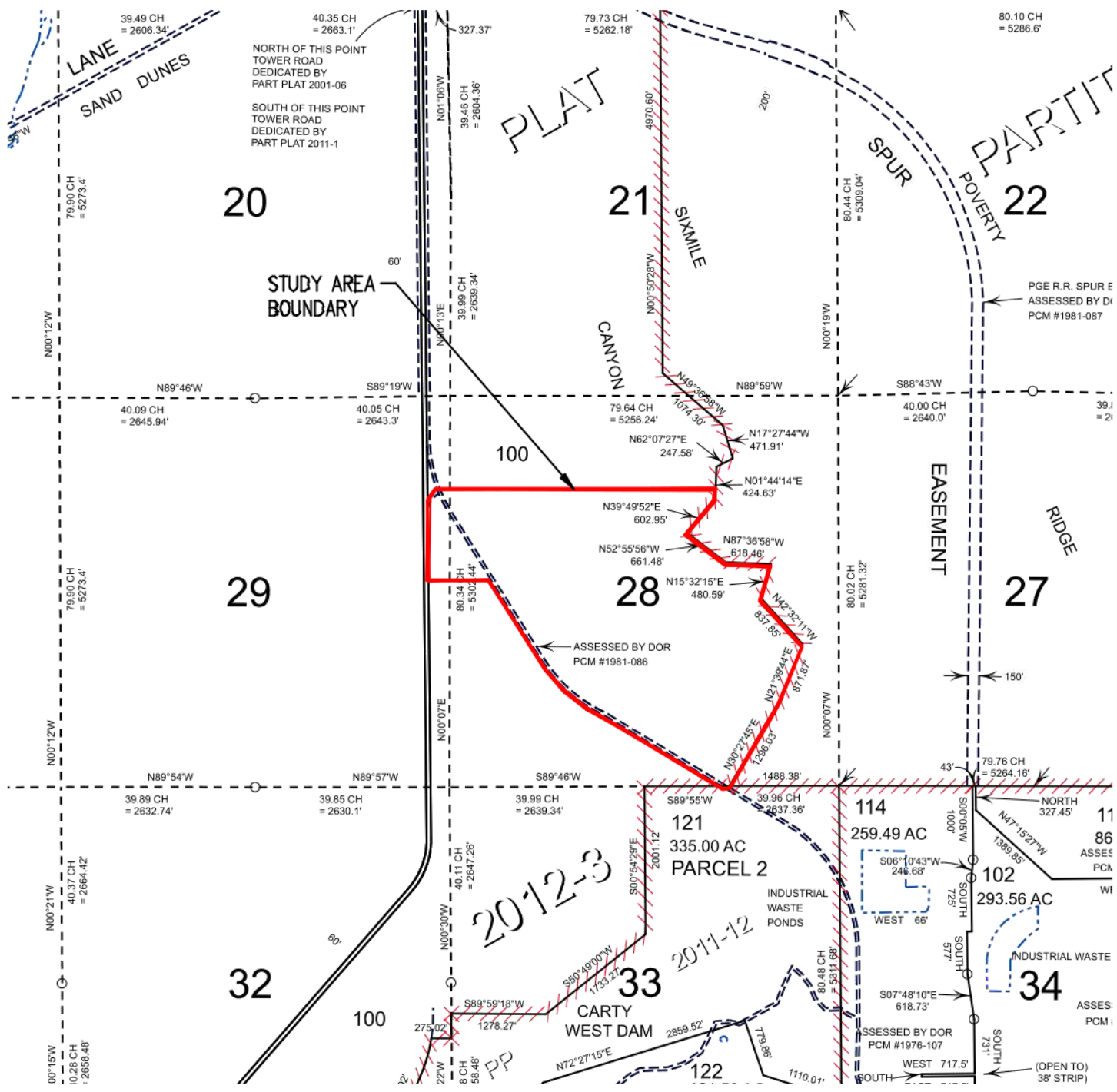
SCALE: 1" = 2000 FEET



DATE: 04/07/2022

USGS VICINITY MAP PERCHERON WETLAND AND WATER DELINEATION REPORT		FIGURE <b>1</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151    WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: 8858-04





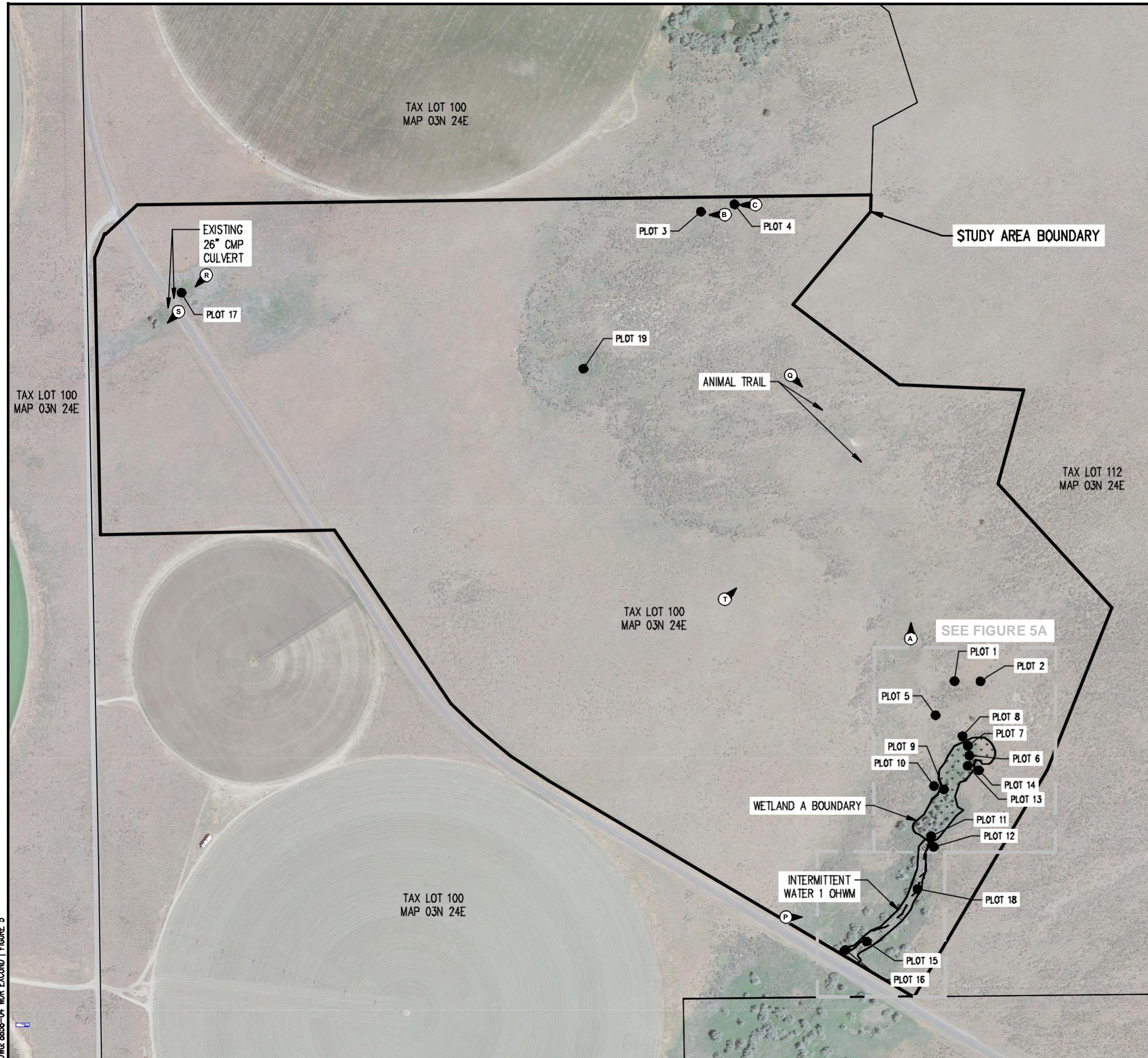
MORROW COUNTY  
 POTION OF TAX LOT 100  
 TAX MAP 3N 24E 28 W.M.

DATE: 04/07/2022

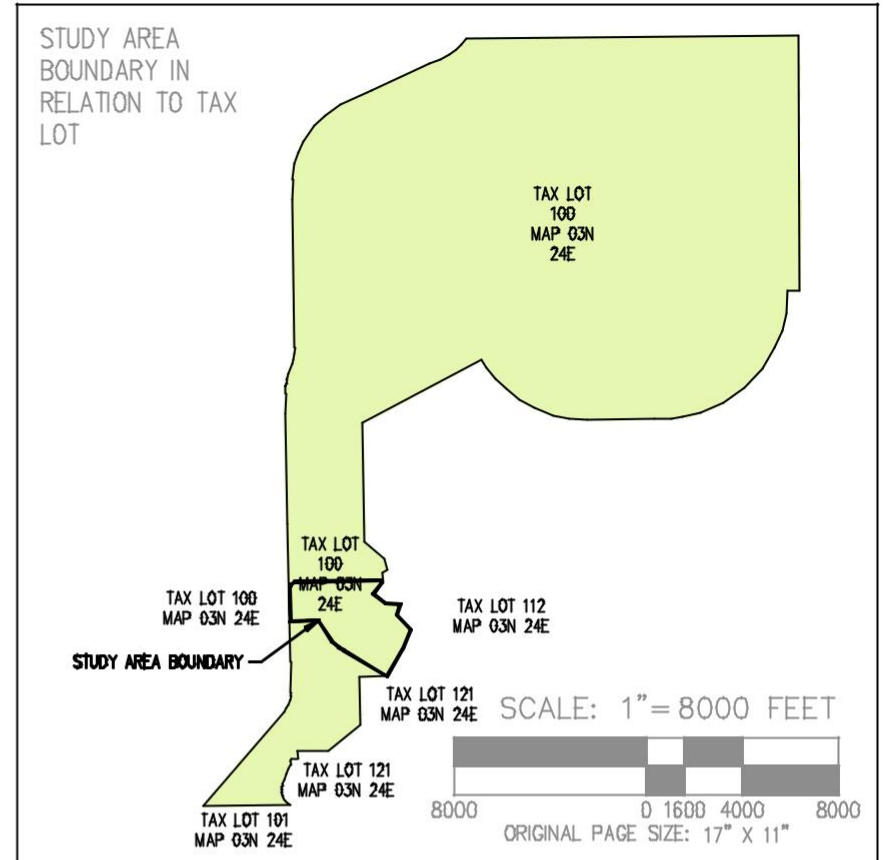
TAX MAP (MAP 3N 24E 28 W.M.) PERCHERON WETLAND AND WATER DELINEATION REPORT		FIGURE <b>2</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: 8858-04



DWG: 8858-04 MDR EXCOND | FIGURE 5



GOOGLE EARTH AERIAL IMAGERY  
JUNE 2019

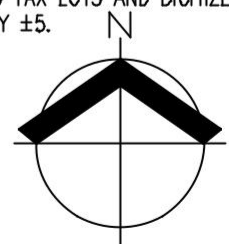
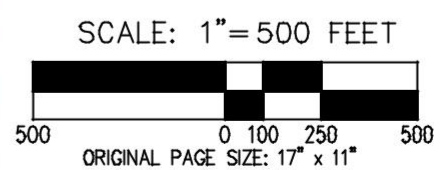


**LEGEND:**

- TOTAL ON-SITE WETLAND A PEM/PFO DEPRESSIONAL AREA:  
76,362 SF± (1.75 ACRES)
- TOTAL ON-SITE INTERMITTENT WATER 1 AREA:  
38,141 SF± (0.88 ACRES) (171 LF±)
- PHOTO POINT LOCATION AND ORIENTATION

WETLAND AND WATER BOUNDARIES AND PLOT LOCATIONS SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC ON MARCH 31, 2022 AND WERE LOCATED USING A TRIMBLE GEO 7X HANDHELD GPS RECEIVER WITH SUBMETER ACCURACY.

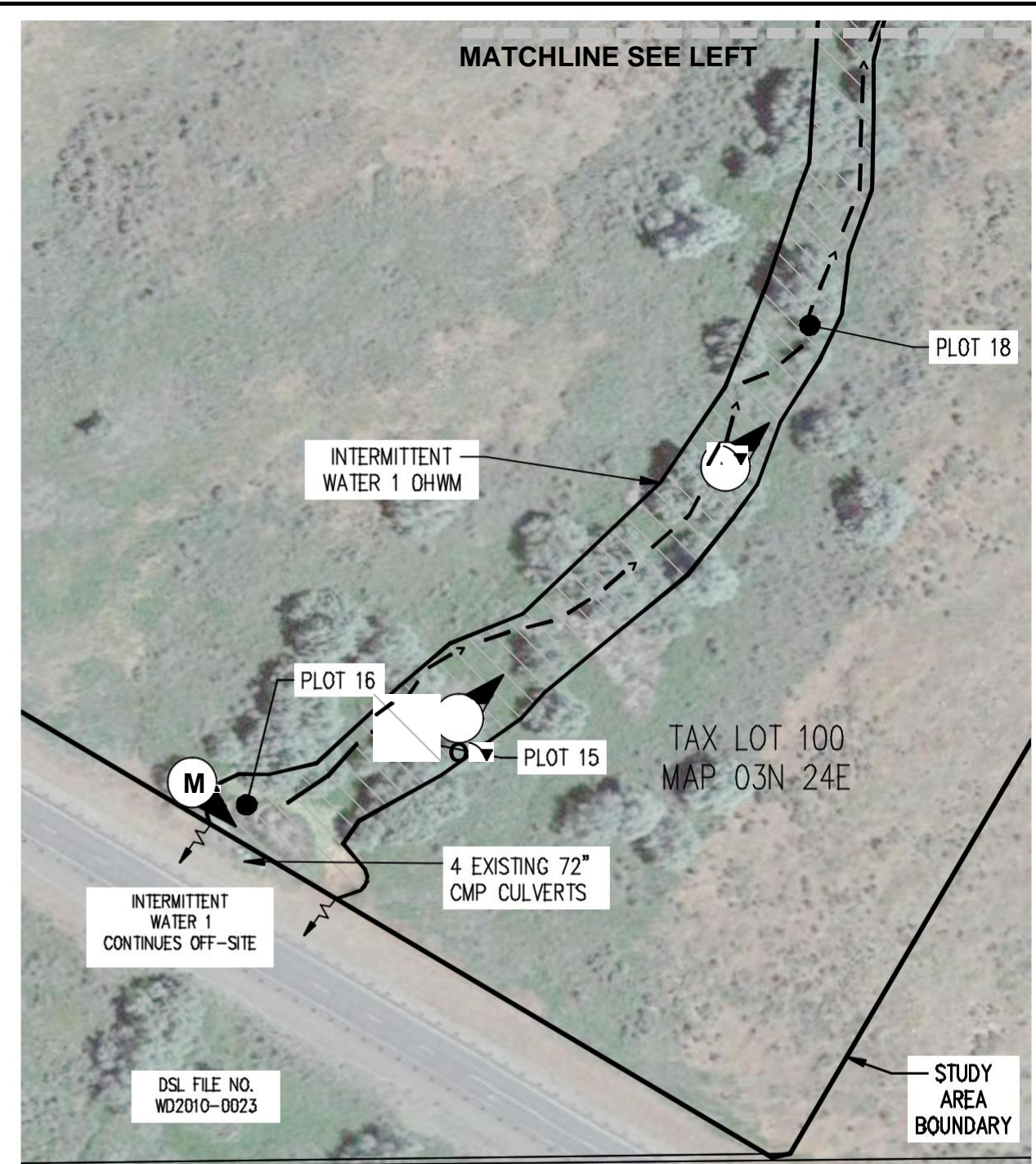
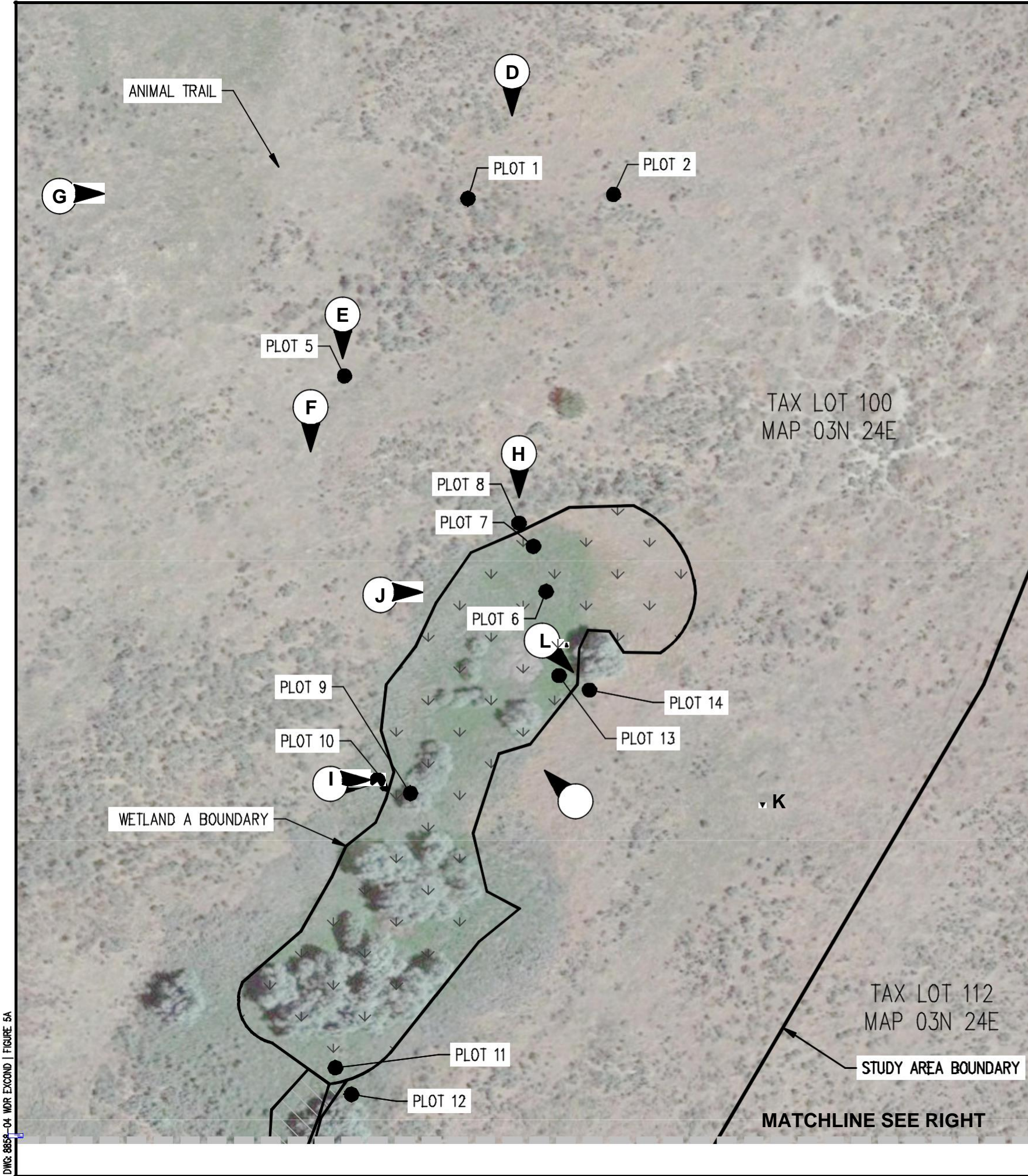
UNABLE TO OBTAIN NOAA LIDAR DUE TO PROXIMITY TO THE BOARDMAN NAVAL WEAPONS SYSTEMS TRAINING FACILITY. STUDY AREA BOUNDARY DERIVED FROM GIS TAX LOTS AND DIGITIZED POST-FIELD IN AUTOCAD, ACCURACY ±5.



DATE: 04/12/2023

<b>WETLAND AND WATER DELINEATION OVERVIEW MAP</b>		FIGURE
		<b>5</b>
PERCHERON WETLAND AND WATER DELINEATION REPORT		DRWN: RAS
AKS ENGINEERING & FORESTRY, LLC		CHKD: SKT
12965 SW HERMAN RD, STE 100		AKS JOB:
TUALATIN, OR 97062		<b>8858-04</b>
503.563.6151 WWW.AKS-ENG.COM		





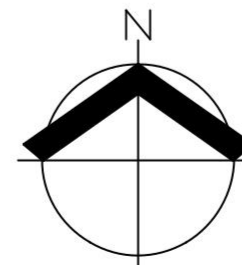
GOOGLE EARTH AERIAL IMAGERY  
JUNE 2019

**LEGEND:**

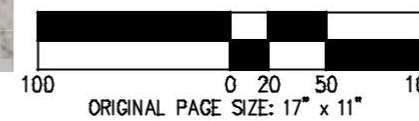
- TOTAL ON-SITE WETLAND A PEM/PFO DEPRESSIONAL AREA:  
76,362 SF± (1.75 ACRES)
- TOTAL ON-SITE INTERMITTENT WATER 1 AREA:  
38,141 SF± (0.88 ACRES) (171 LF±)
- PHOTO POINT LOCATION AND ORIENTATION

WETLAND AND WATER BOUNDARIES AND PLOT LOCATIONS SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC ON MARCH 31, 2022 AND WERE LOCATED USING A TRIMBLE GEO 7X HANDHELD GPS RECEIVER WITH SUBMETER ACCURACY.

UNABLE TO OBTAIN NOAA LIDAR DUE TO PROXIMITY TO THE BOARDMAN NAVAL WEAPONS SYSTEMS TRAINING FACILITY. STUDY AREA BOUNDARY DERIVED FROM GIS TAX LOTS AND DIGITIZED POST-FIELD IN AUTOCAD, ACCURACY ±5.



SCALE: 1" = 100 FEET



DATE: 04/12/2023

<b>WETLAND AND WATER DELINEATION MAP</b>		<b>FIGURE</b>
<b>PERCHERON WETLAND AND WATER DELINEATION REPORT</b>		<b>5A</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: 8858-04



DWG: 8858-04\_MDR\_EXCOND | FIGURE 5A

# 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



---

## Table of Contents

Introduction.....	2
A. Landscape Setting and Land Use.....	2
B. Site Alterations.....	3
C. Precipitation Data and Analysis.....	3
D. Methods.....	5
F. Description of All Wetlands and Other Non-Wetland Waters.....	5
Wetland A.....	5
Upland.....	6
Non-Wetland Waters.....	7
Intermittent Water 1.....	7
G. Deviation from NWI.....	8
H. Mapping Method.....	8
I. Additional Information.....	8
J. Summary of Results and Conclusions.....	8
K. Required Disclaimer.....	9
L. List of Preparers.....	9
Literature Cited and Referenced.....	10

## Tables

Table 1: Precipitation Data Prior to the October 14, 2021 Site Visit.....	4
Table 2: Precipitation Data Prior to the March 31, 2022 Site Visit.....	4

## Appendices

### Appendix A: Maps

**Figure 1:** USGS Vicinity Map

**Figure 2:** Clackamas County Assessor’s Tax Maps

**Figure 3:** NRCS Soils Map

**Figure 4:** USFWS National Wetland Inventory (NWI) Map

**Figure 5-5A:** Wetland Delineation Map

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

**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 (*Salsola 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 borders 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	Average	30% Chance		Condition	Condition	Month	Multiply
	Precipitation	WETS	Less	More				
	(Inches)	Precipitation	Than	Than	Dry, Wet,	(1=dry,		Two
		(Inches)			Normal	2=normal,		Columns
						3=wet)		
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
							<b>Sum</b>	<b>13</b>
								<b>normal</b>
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 15-18)								

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

Prior Months	Observed	Average	30% Chance		Condition	Condition	Month	Multiply
	Precipitation	WETS	Less	More				
	(Inches)	Precipitation	Than	Than	Dry, Wet,	(1=dry,		Two
		(Inches)			Normal	2=normal,		Columns
						3=wet)		
March 2022	1.10	0.68	0.43	0.82	Wetter	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
							<b>Sum</b>	<b>15</b>
								<b>wetter</b>
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 15-18)								

---

## 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 on-site 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 Duration 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 tumbled mustard (*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 tumbled mustard (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 tumbled mustard (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. Tumbled mustard (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 on-site 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, -119.815957	1.73 acres	PEM	None	DSL
Intermittent Water 1	45.705420, -119.818117	0.88 acres	Intermittent	Wetland A	DSL

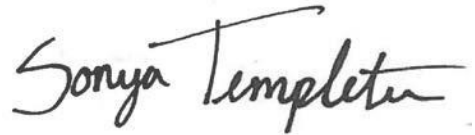
**K. Required Disclaimer**

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  
 Fieldwork and Report QA/QC



---

## Literature Cited and Referenced

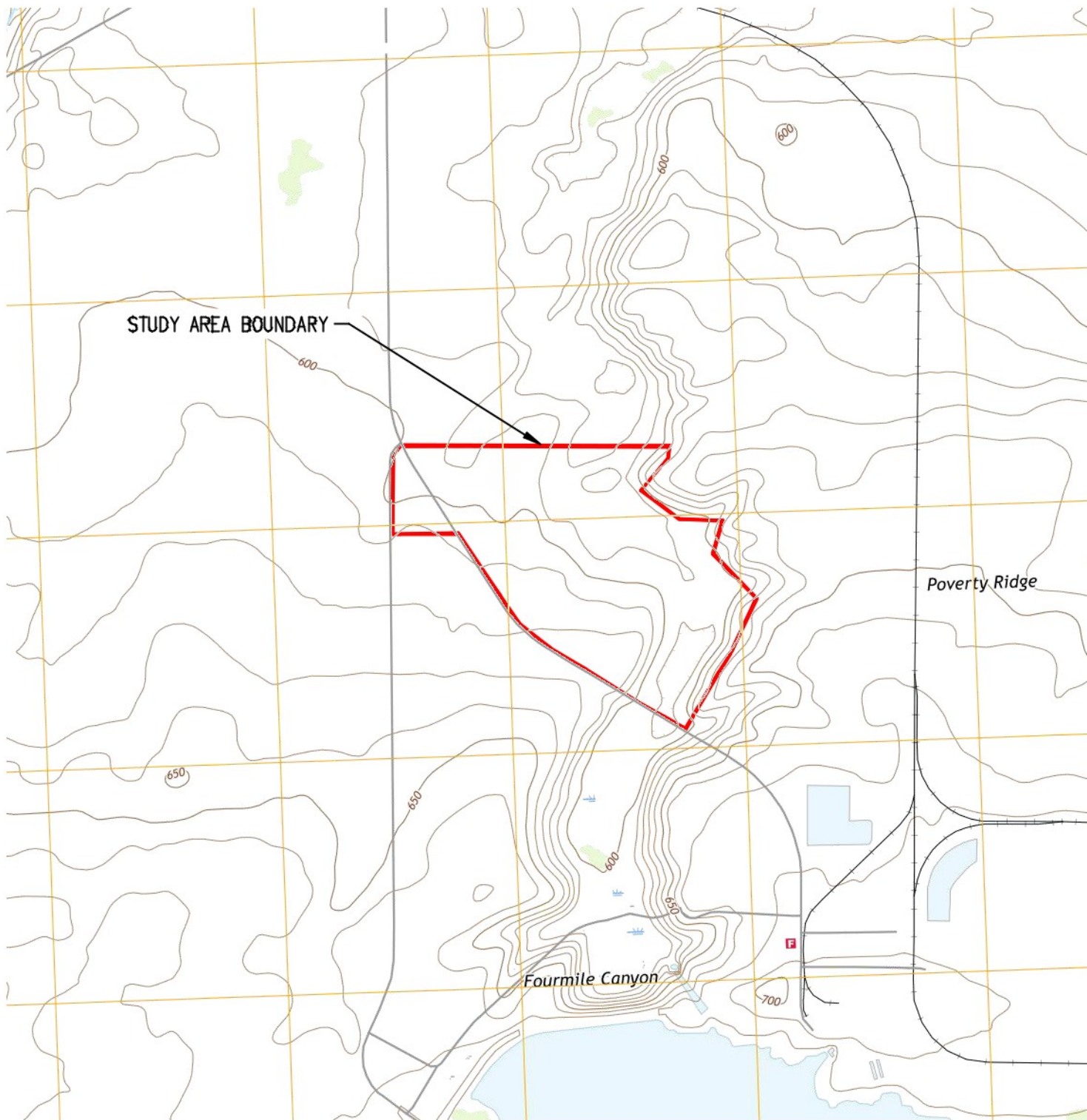
- Adams, P.R. 2001. *Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Sites: Statewide Classification and Profiles*. Salem (OR): Oregon Division of State Lands. Available at: [http://www.oregon.gov/dsl/WW/Documents/hydro\\_guide\\_class.pdf](http://www.oregon.gov/dsl/WW/Documents/hydro_guide_class.pdf). [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\\_delineation\\_manual\\_reg.pdf](https://www.sac.usace.army.mil/Portals/43/docs/regulatory/1987_wetland_delineation_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](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\\_053587](http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/soils/home/?cid=nrcs142p2_053587). [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](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](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]

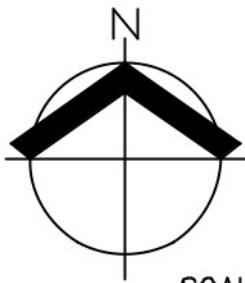


## Appendix A: Maps

---



USGS 7.5' TOPOGRAPHIC SERIES QUADRANGLE:  
DALREED BUTTE, OR (2020)



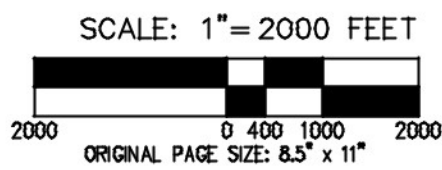
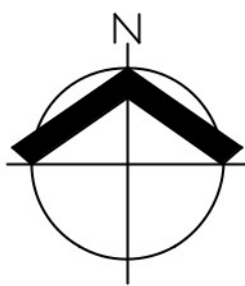
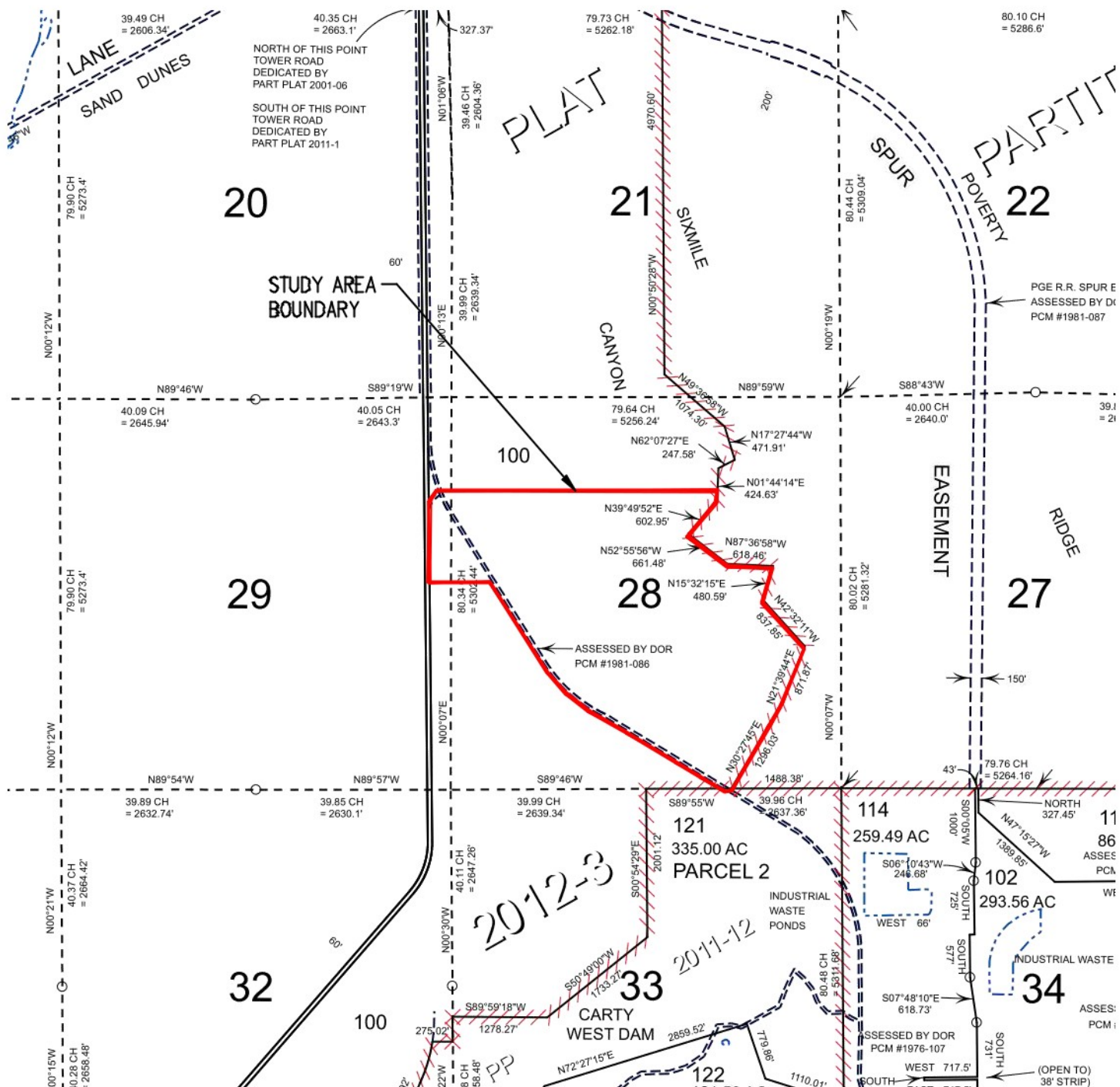
SCALE: 1" = 2000 FEET



DATE: 04/07/2022

USGS VICINITY MAP PERCHERON WETLAND AND WATER DELINEATION REPORT		FIGURE <b>1</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151    WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: 8858-04





MORROW COUNTY  
 POTION OF TAX LOT 100  
 TAX MAP 3N 24E 28 W.M.

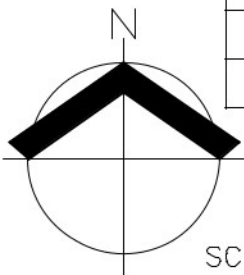
DATE: 04/07/2022

TAX MAP (MAP 3N 24E 28 W.M.) PERCHERON WETLAND AND WATER DELINEATION REPORT		FIGURE <b>2</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: 8858-04





MAP UNIT SYMBOL	MAP UNIT NAME
26B	KOEHLER LOAMY FINE SAND, 2-5% SLOPES; NON-HYDRIC
26C	KOEHLER LOAMY FINE SAND, 5-12% SLOPES; NON-HYDRIC
53A	ROYAL SILT LOAM, 0-3% SLOPES; NON-HYDRIC
55B	SAGEHILL FINE SANDY LOAM HUMMOCKY, 2-5% SLOPES; NON-HYDRIC
55C	SAGEHILL FINE SANDY LOAM HUMMOCKY, 5-12% SLOPES; NON-HYDRIC
58B	TAUNTON FINE SANDY LOAM, 2-5% SLOPES; NON-HYDRIC
58C	TAUNTON FINE SANDY LOAM, 5-12% SLOPES; NON-HYDRIC
40C	QUINCY LOAMY FINE SAND, 2-12% SLOPES; NON-HYDRIC



SCALE: 1" = 1000 FEET



ORIGINAL PAGE SIZE: 8.5" x 11"

NRCS WEB SOIL SURVEY FOR  
MORROW COUNTY

DATE: 04/07/2022

<b>NRCS SOIL SURVEY MAP</b> <b>PERCHERON WETLAND AND WATER DELINEATION REPORT</b>		<b>FIGURE</b> <b>3</b>
<b>AKS ENGINEERING &amp; FORESTRY, LLC</b> 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151    WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: 8858-04

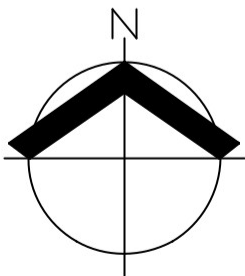




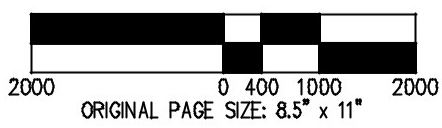


Wetlands					
	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Freshwater Pond
					Other
					Riveline

US FISH & WILDLIFE SERVICE  
NATIONAL WETLANDS INVENTORY



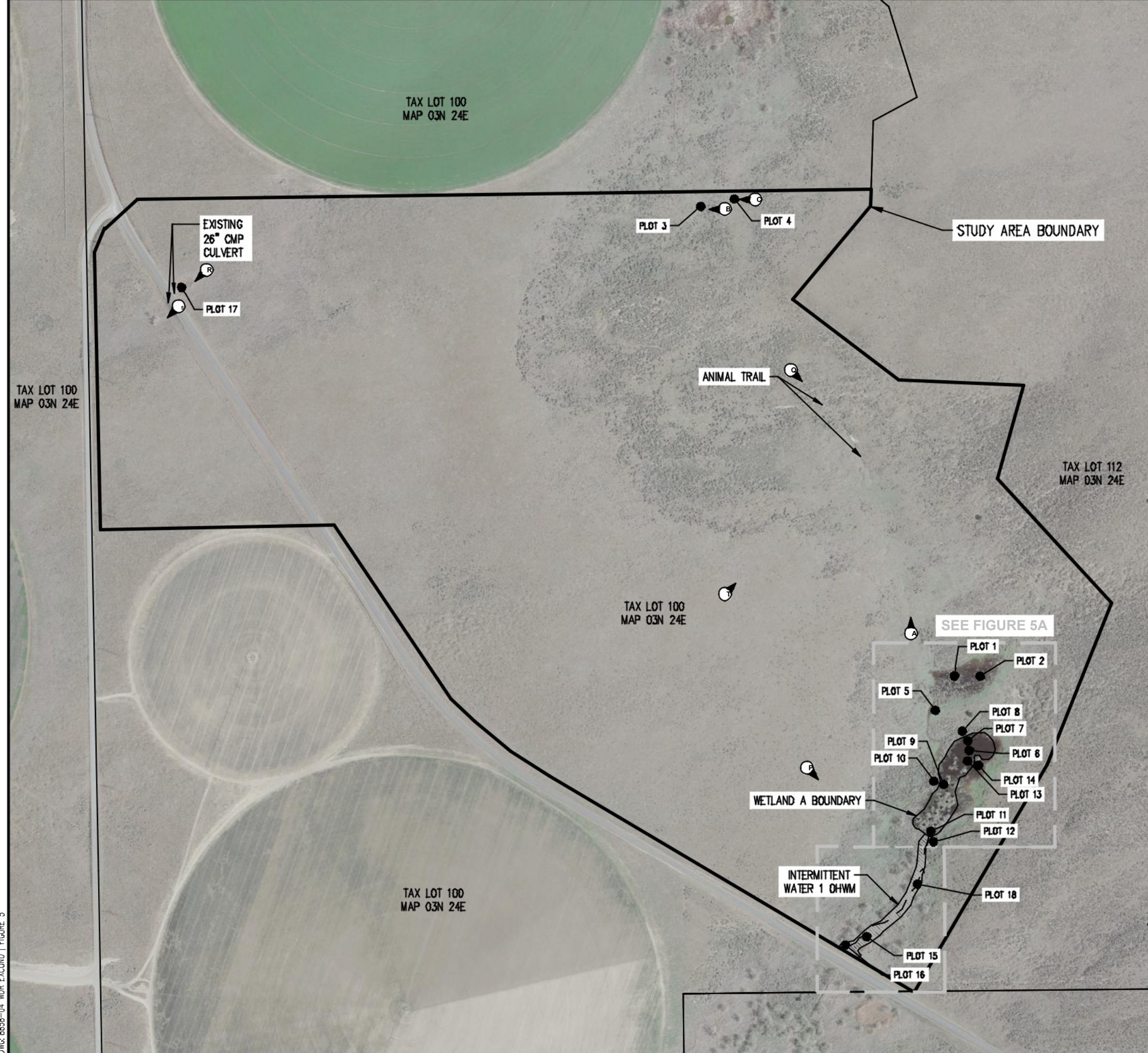
SCALE: 1" = 2000 FEET



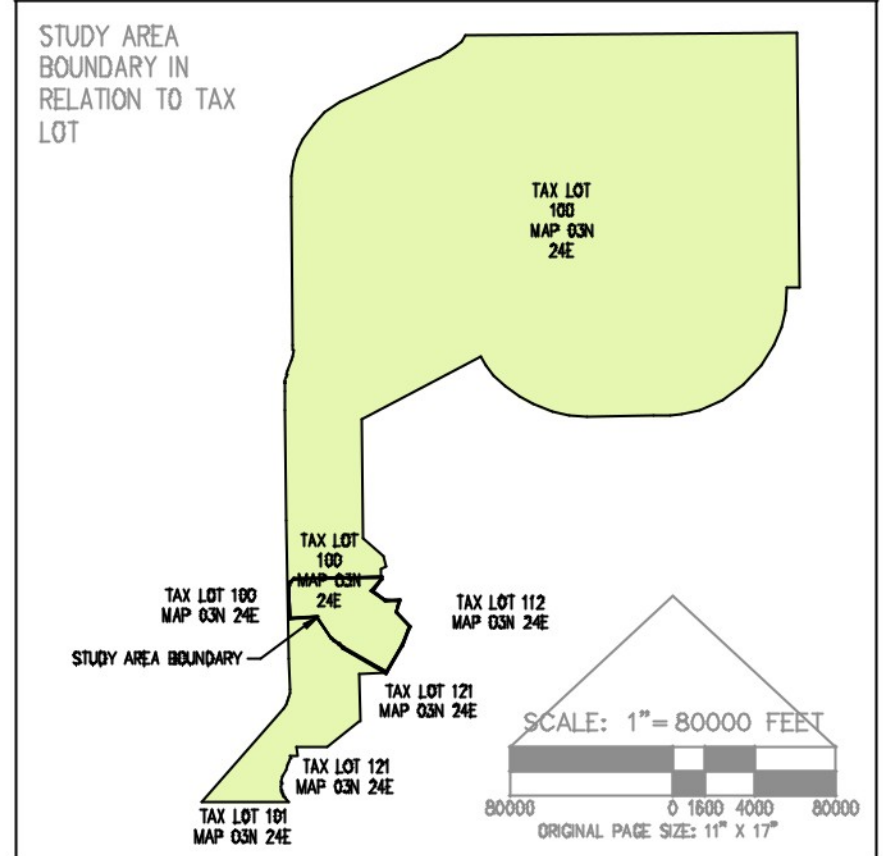
DATE: 04/07/2022

<b>NATIONAL WETLANDS INVENTORY MAP</b> <b>PERCHERON WETLAND AND WATER DELINEATION REPORT</b>		<b>FIGURE</b> <b>4</b>
<b>AKS ENGINEERING &amp; FORESTRY, LLC</b> 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151    WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: <b>8858-04</b>





GOOGLE EARTH AERIAL IMAGERY  
APRIL 2021

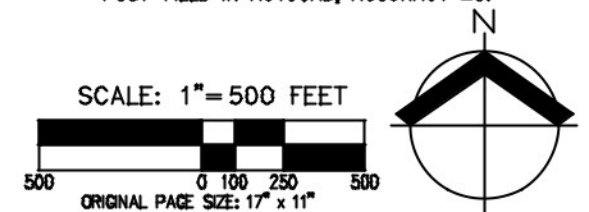


**LEGEND:**

- TOTAL ON-SITE WETLAND A PEM/PFO DEPRESSIONAL AREA:  
75,480 SF± (1.73 ACRES)
- TOTAL ON-SITE INTERMITTENT WATER 1 AREA:  
38,141 SF± (0.88 ACRES) (171 LF±)
- PHOTO POINT LOCATION AND ORIENTATION

WETLAND AND WATER BOUNDARIES AND PLOT LOCATIONS SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC ON MARCH 31, 2022 AND WERE LOCATED USING A TRIMBLE GEO 7X HANDHELD GPS RECEIVER WITH SUBMETER ACCURACY.

UNABLE TO OBTAIN NOAA LIDAR DUE TO PROXIMITY TO THE BOARDMAN NAVAL WEAPONS SYSTEMS TRAINING FACILITY. STUDY AREA BOUNDARY DERIVED FROM GIS TAX LOTS AND DIGITIZED POST-FIELD IN AUTOCAD, ACCURACY ±5.



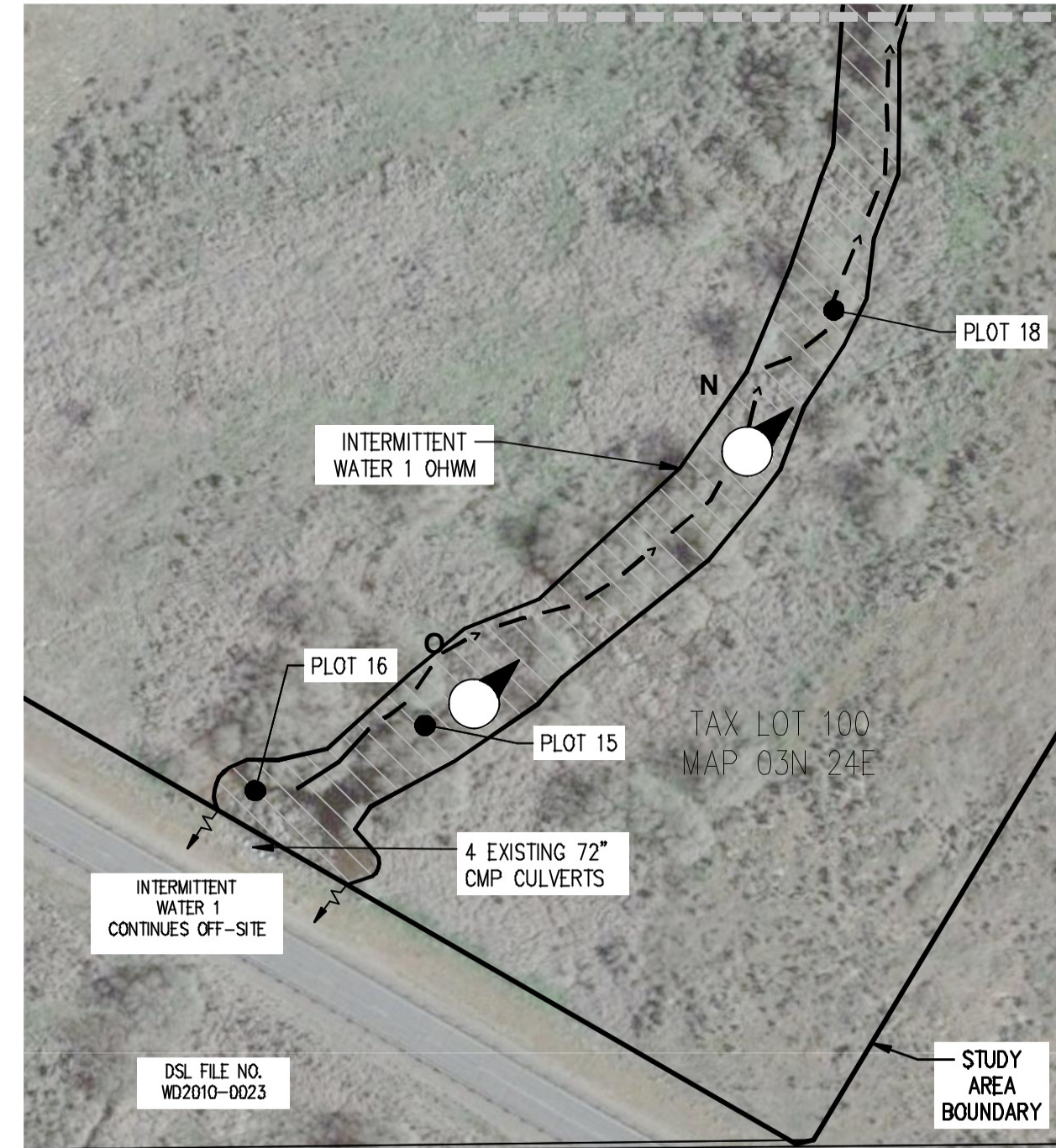
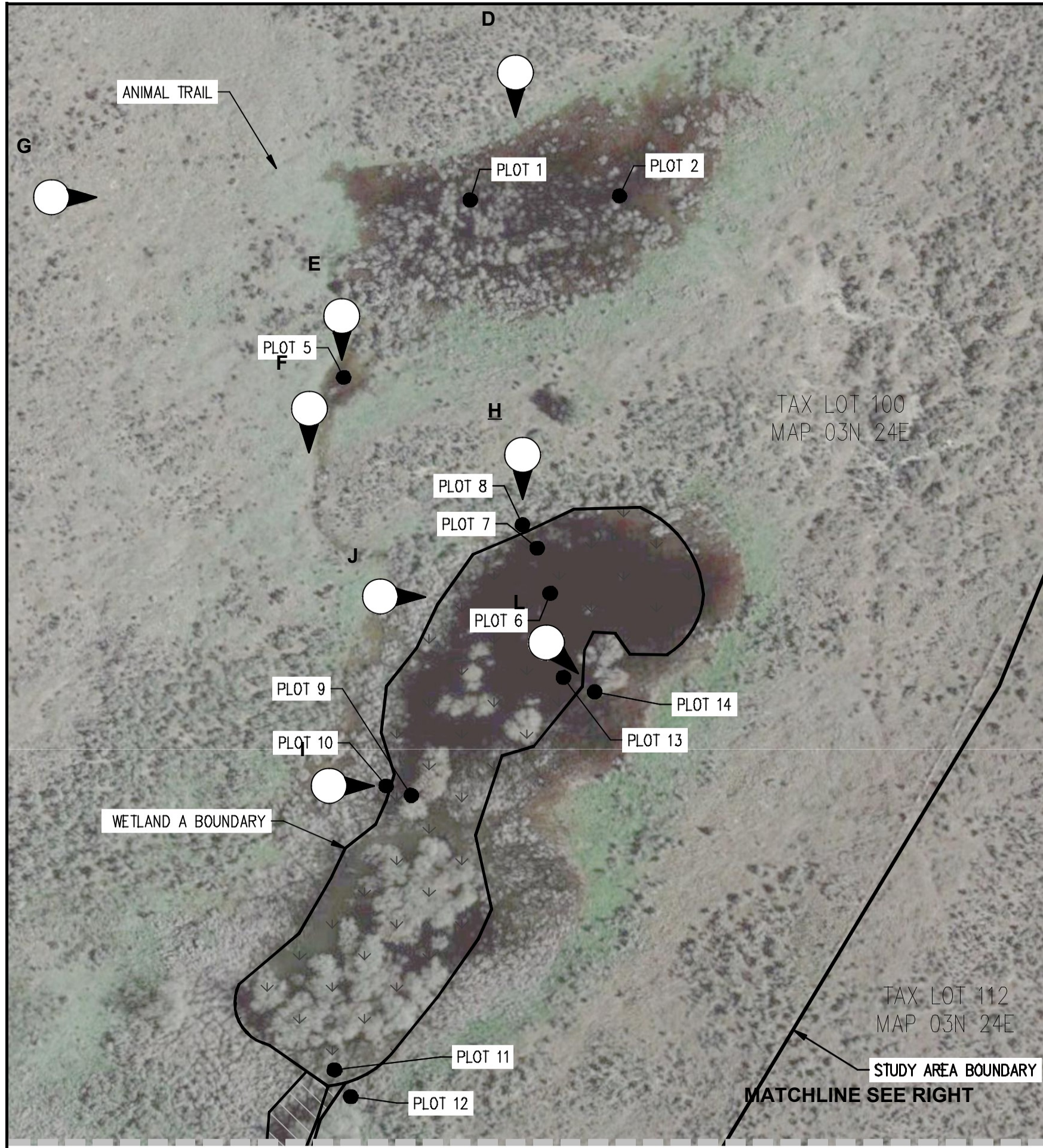
DATE: 04/19/2022

<b>WETLAND AND WATER DELINEATION OVERVIEW MAP</b>		FIGURE
		<b>5</b>
PERCHERON WETLAND AND WATER DELINEATION REPORT		DRWN: RAS
AKS ENGINEERING & FORESTRY, LLC		CHKD: SKT
12965 SW HERMAN RD, STE 100		AKS JOB:
TUALATIN, OR 97062		8858-04
503.563.6151 WWW.AKS-ENG.COM		



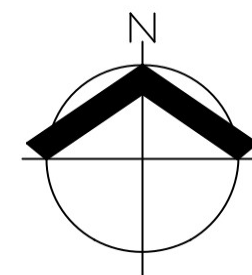
DWG: 8858-04\_MDR\_EXCOND | FIGURE 5

MATCHLINE SEE LEFT



LEGEND:

GOOGLE EARTH AERIAL IMAGERY  
APRIL 2021



- TOTAL ON-SITE WETLAND A PEM/PFO DEPRESSIONAL AREA:  
75,480 SF± (1.73 ACRES)
- TOTAL ON-SITE INTERMITTENT WATER 1 AREA:  
38,141 SF± (0.88 ACRES) (171 LF±)
- PHOTO POINT LOCATION AND ORIENTATION

WETLAND AND WATER BOUNDARIES AND PLOT LOCATIONS SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC ON MARCH 31, 2022 AND WERE LOCATED USING A TRIMBLE GEO 7X HANDHELD GPS RECEIVER WITH SUBMETER ACCURACY.

UNABLE TO OBTAIN NOAA LIDAR DUE TO PROXIMITY TO THE BOARDMAN NAVAL WEAPONS SYSTEMS TRAINING FACILITY. STUDY AREA BOUNDARY DERIVED FROM GIS TAX LOTS AND DIGITIZED POST-FIELD IN AUTOCAD, ACCURACY ±5.

**WETLAND AND WATER DELINEATION MAP**

DATE: 04/19/2022

PERCHERON WETLAND AND WATER DELINEATION REPORT		<b>FIGURE 5A</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: <b>8858-04</b>

DWG: 8858-04\_MDR\_EXCOND | FIGURE 5A



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

---



# Oregon

John A. Kitzhaber, MD, Governor

## Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

www.oregonstatelands.us

December 24, 2013

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

### 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.

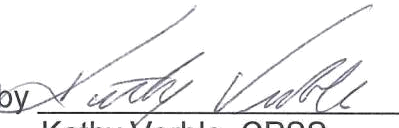
Thank you for having the site evaluated. Please phone me at 503-986-5297 if you have any questions.

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

**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.

<input checked="" type="checkbox"/> Applicant <input type="checkbox"/> Owner Name, Firm and Address: Portland General Electric Company 121 SW Salmon Street, 3WTC-BR05 Portland, OR 97204	Business phone # 503/464-8519 Mobile phone # (optional) FAX # 503-464-8527 E-mail: ray.hendricks@pgn.com
<input checked="" type="checkbox"/> Authorized Legal Agent, Name and Address: Mike Livingston 121 SW Salmon St Portland, OR 97204 <i>Lena A. Cope @ pgn.com Environmental Engineer</i>	Business phone # 503-464-8127 FAX # 503-464-2863 Mobile phone # 503-849-3299 E-mail: mike.livingston@pgn.com
I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.	
Typed/Printed Name: Mike Livingston Signature: _____	
Date: 2/15/2010 Special instructions regarding site access: _____	

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

Project Name: <b>Carty Generating Station</b>	Latitude: 45 41'59.937"N	Longitude: 119 48' 49.39" W
Proposed Use: <b>Combined-cycle natural gas power generating facility and associated 18-mile transmission line</b>	Tax Map # <b>Attached table lists all tax map numbers for the project. Table F revised</b>	
Project Street Address (or other descriptive location): <b>Near the existing Boardman Plant - accessed from I-84 and Tower Road</b>	Township _____ Range _____ Section _____	QQ _____
City: <b>near Boardman</b> County: <b>Morrow/Gilliam</b>	Tax Lot (s) <b>Attached table lists tax lots.</b>	
	Waterway: _____	River Mile: _____
	NWI Quad(s): <b>Arlington, Horn Butte, Dalreed Butte, Ella</b>	

**Wetland Delineation Information**

Wetland Consultant Name, Firm and Address: <b>Lucas C. Meek CLARE KENNY x4624</b> Ecology and Environment, Inc. 333 SW Fifth Ave, Suite 600, Portland, OR 97204	Phone # 503/248-5600 x4608 Mobile phone # FAX # 503/248-5577 E-mail: lmeek@ene.com	<i>reception 7:30-4</i> <i>cell ph # 360-907-0549</i>
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.		
Consultant Signature: _____	Date: <b>2/15/10</b>	
Primary Contact for report review and site access is <input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent <b>7.279</b>		
Wetland/Waters Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Study Area size: <b>2,400 acres</b>	Total Wetland Acreage: <b>4 acres</b>

**Check Box Below if Applicable:**

<input type="checkbox"/> R-F permit application submitted	<input checked="" type="checkbox"/> Fee payment submitted \$ <b>363.00</b>
<input type="checkbox"/> Mitigation bank site	<input type="checkbox"/> Fee (\$100) for resubmittal of rejected report
<input type="checkbox"/> Wetland restoration/enhancement project (not mitigation)	Name of Payor: <b>Eric White, E&amp;E</b>
<input type="checkbox"/> Industrial Land Certification Program Site	
Fees: <b>(see table F revised)</b>	
Other Information:	Y N
Has previous delineation/application been made on parcel?	<input type="checkbox"/> <input checked="" type="checkbox"/> If known, previous DSL # <b>Unknown</b>
Does LWI, if any, show wetland or waters on parcel?	<input type="checkbox"/> <input type="checkbox"/> <b>No LWI available</b>

**For Office Use Only**

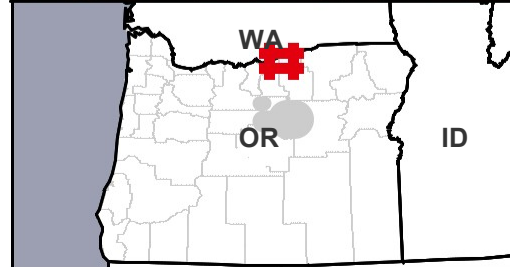
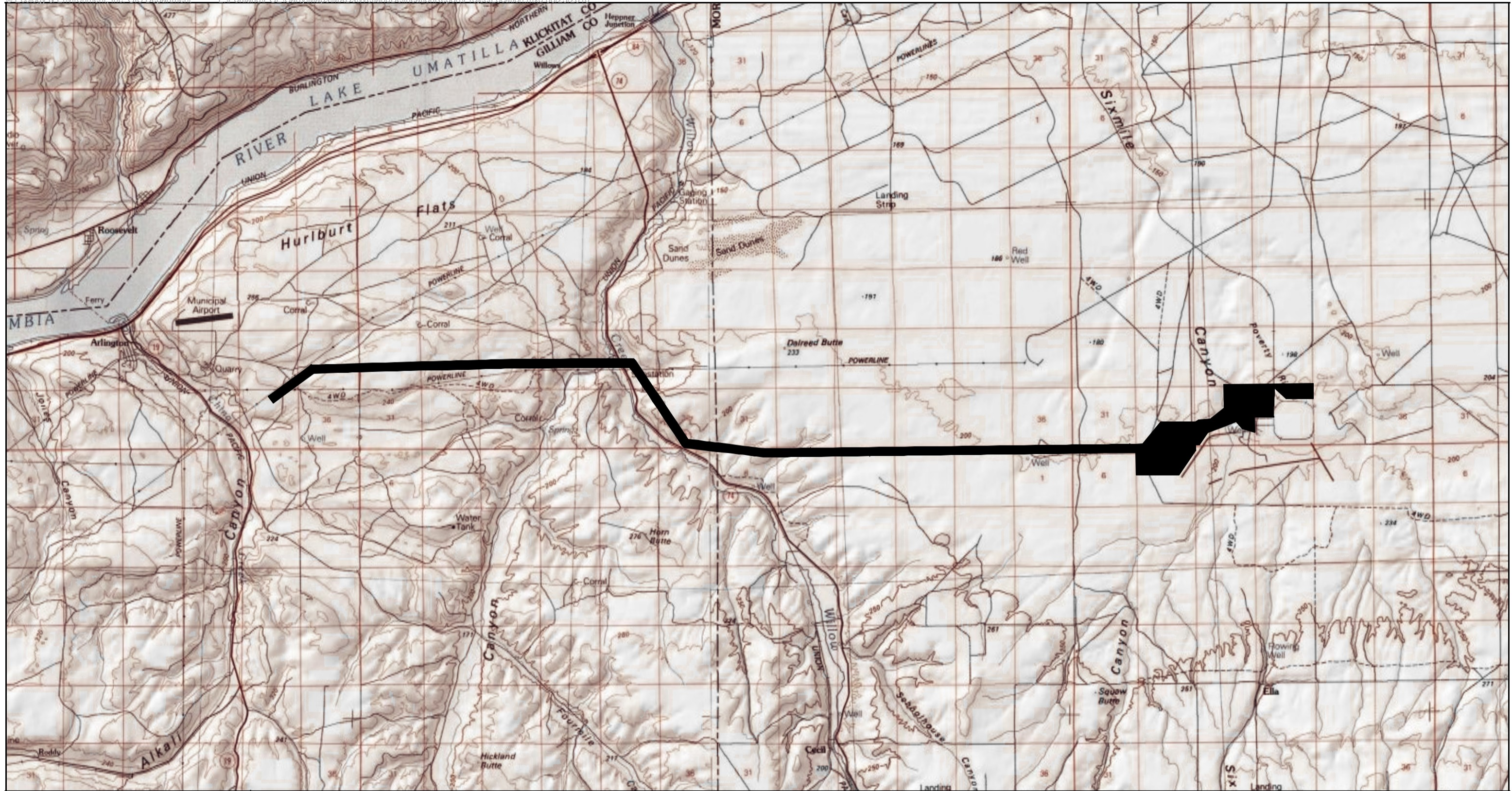
DSL Reviewer: <b>JB</b>	Fee Paid Date: ____/____/____	DSL WD # <b>200-0023</b>
Date Delineation Received: <b>2/15/10</b>	DSL Project # _____	DSL Site # _____
Scanned: <input checked="" type="checkbox"/> Final Scan: <input type="checkbox"/>	DSL WN # _____	DSL App. # _____

*Cover rec'd 2-15-10*

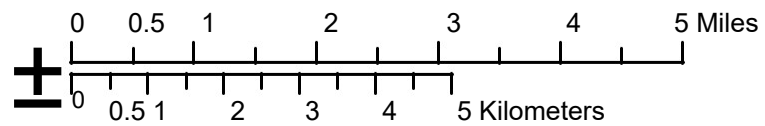
**Table F: Tax Lot and Figure Number Guide for Delineated Features - revised**

COUNTY	MAP NUMBER	TAX LOT	2013 ADDENDUM FIGURES	FINAL FIGURES	FEATURE ID	TOTAL ACRES	FINAL DSL DETERMI-NATION
MORROW	03N24E	102	--	--	(None)	--	
	03N24E	115	--	--	(None)	--	
	03N24E	114	--	--	(None)	--	
	02N24E	101	--	--	(None)	--	
	03N24E	101	--	--	(None)	--	
MORROW	02N24E	103	--	--	(None)	--	
MORROW	02N23E	100	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
			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
MORROW	03N24E	120	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
			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
			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, 5.1.2	Sixmile Canyon Drainage (None)	n/a	Yes, Figure 5.1.1 No, Fig. 5.1.2, ephemeral
GILLIAM	03N22E	2100	--	--	(None)	--	
GILLIAM	03N21E	506	--	--	(None)	--	
GILLIAM	03N22E	700	S8	5.4, 5.4.1	Willow Creek	n/a	Yes
			S8	5.4, 5.4.1	Eightmile Canyon Drainage	n/a	No, ephemeral
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
GILLIAM	02N22E	200	--	--	(None)	--	
	03N22E	2202	--	--	(None)	--	
	03N22E	2201	--	--	(None)	--	
	03N22E	3601	--	--	(None)	--	
	02N22E	300	--	--	(None)	--	
	03N22E	2203	--	--	(None)	--	





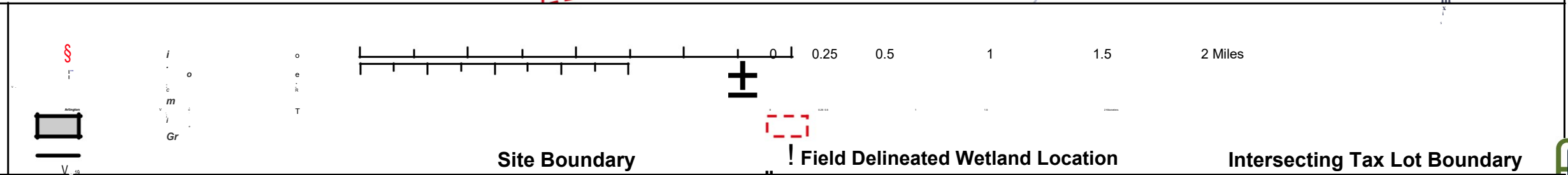
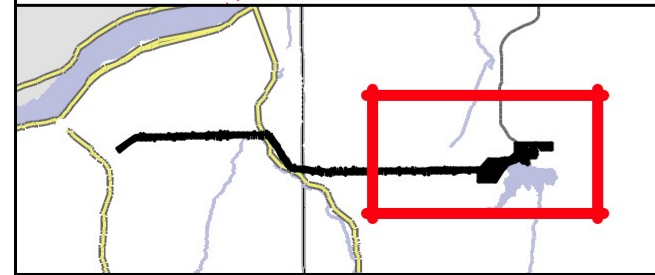
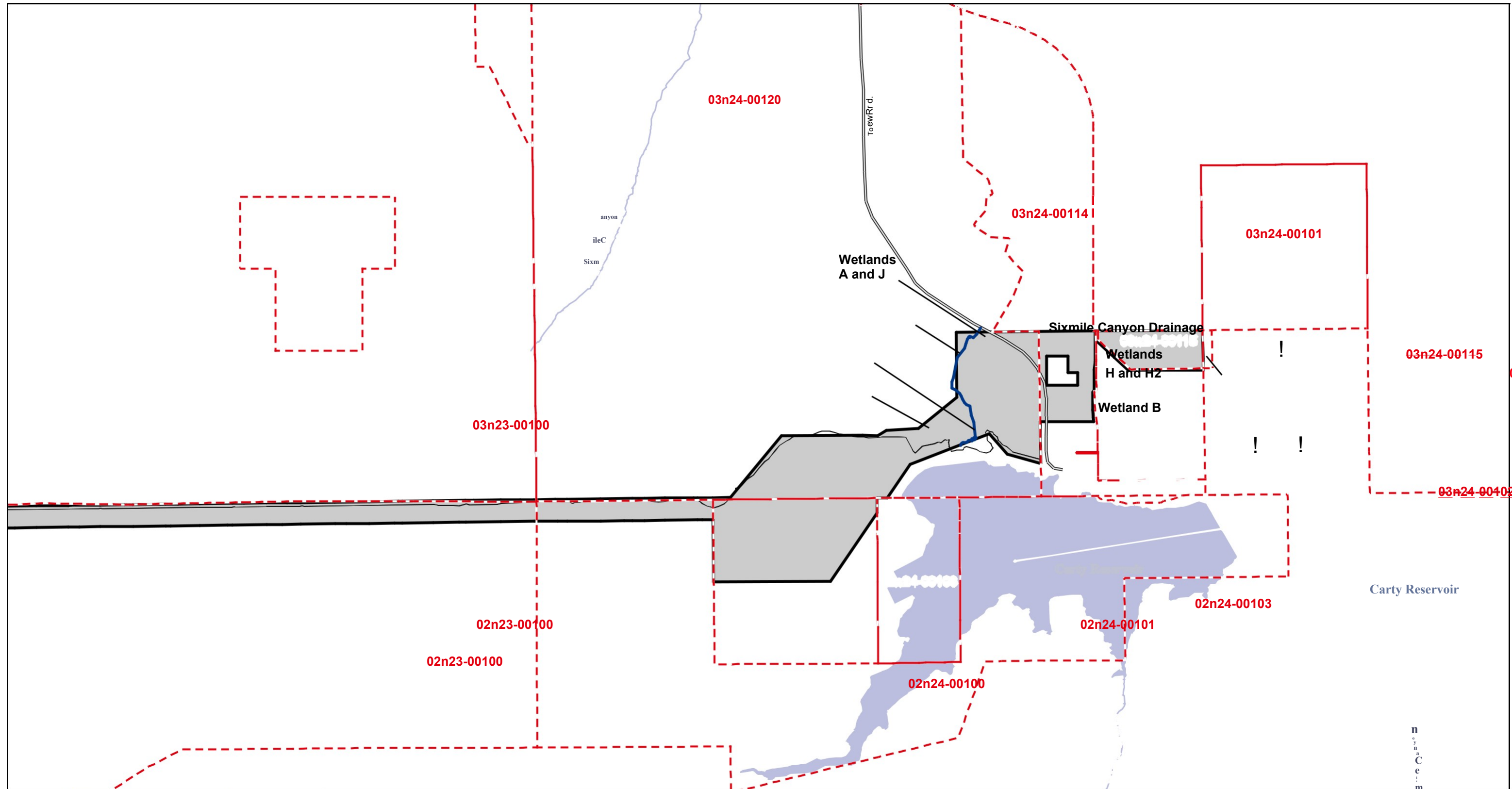
■ Site Boundary



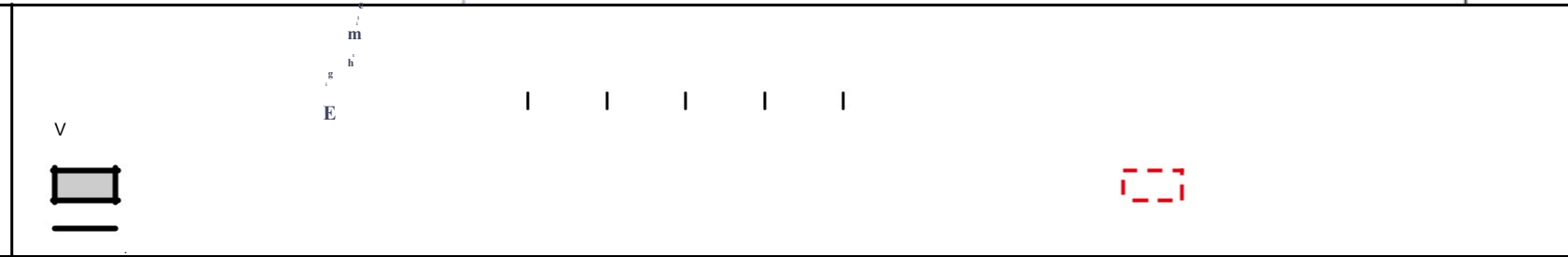
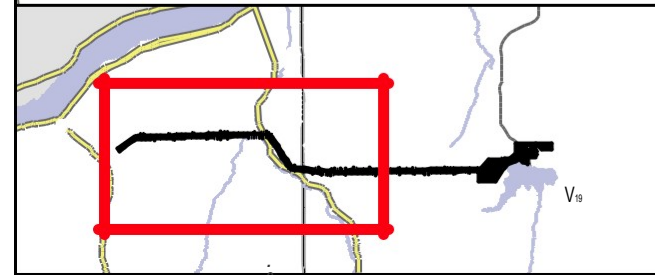
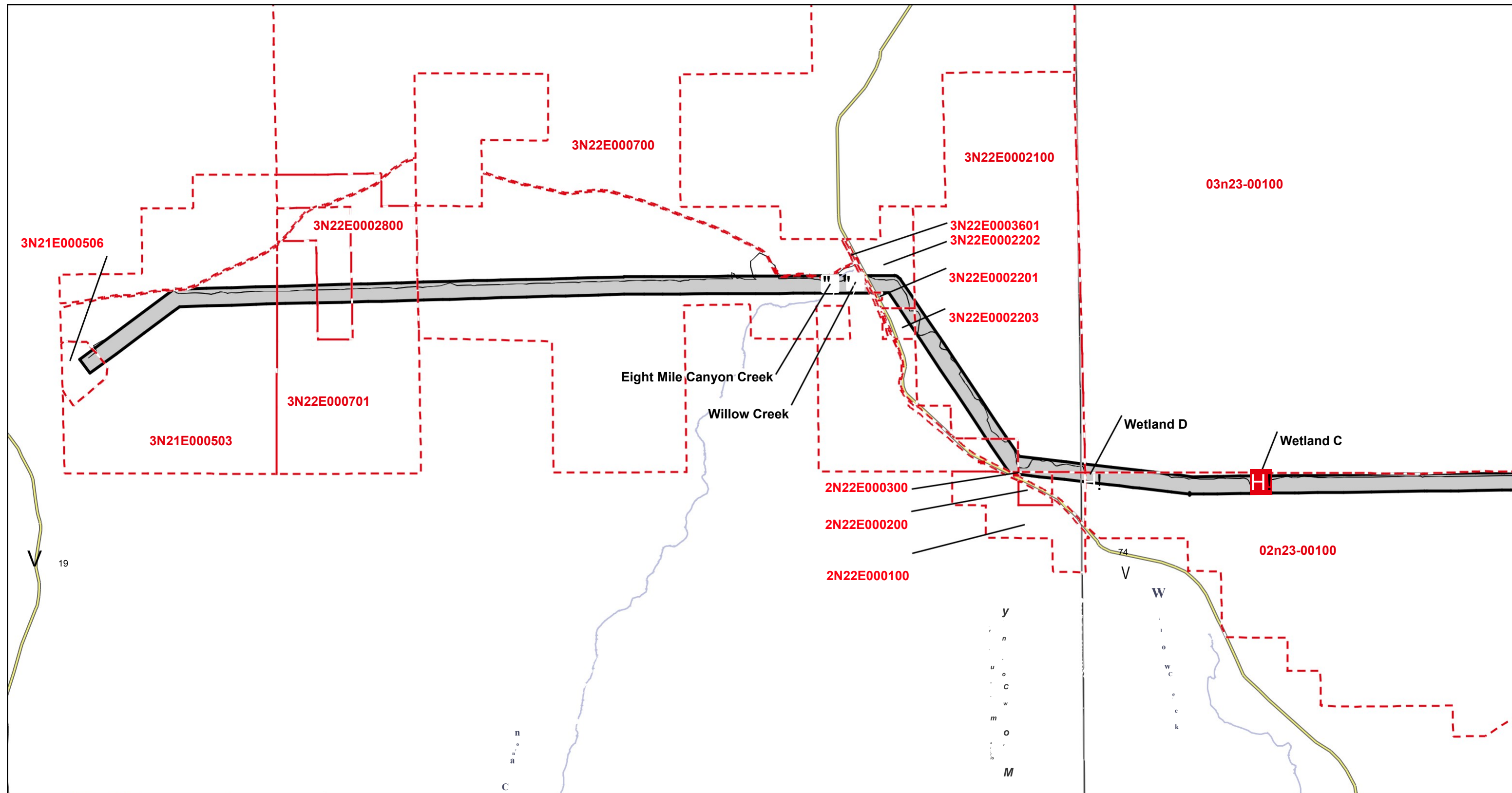
**Figure 1**  
**Project Location**  
**PGE Carty Generating Station**  
**Application for Site Certificate**

DSL WD2010-0023







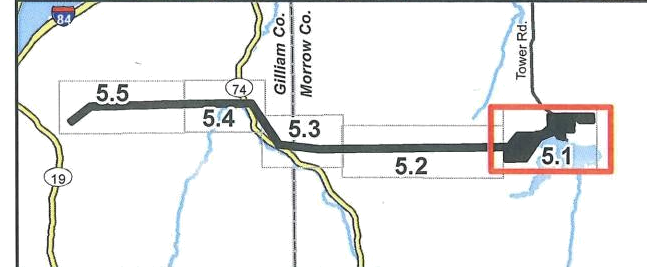
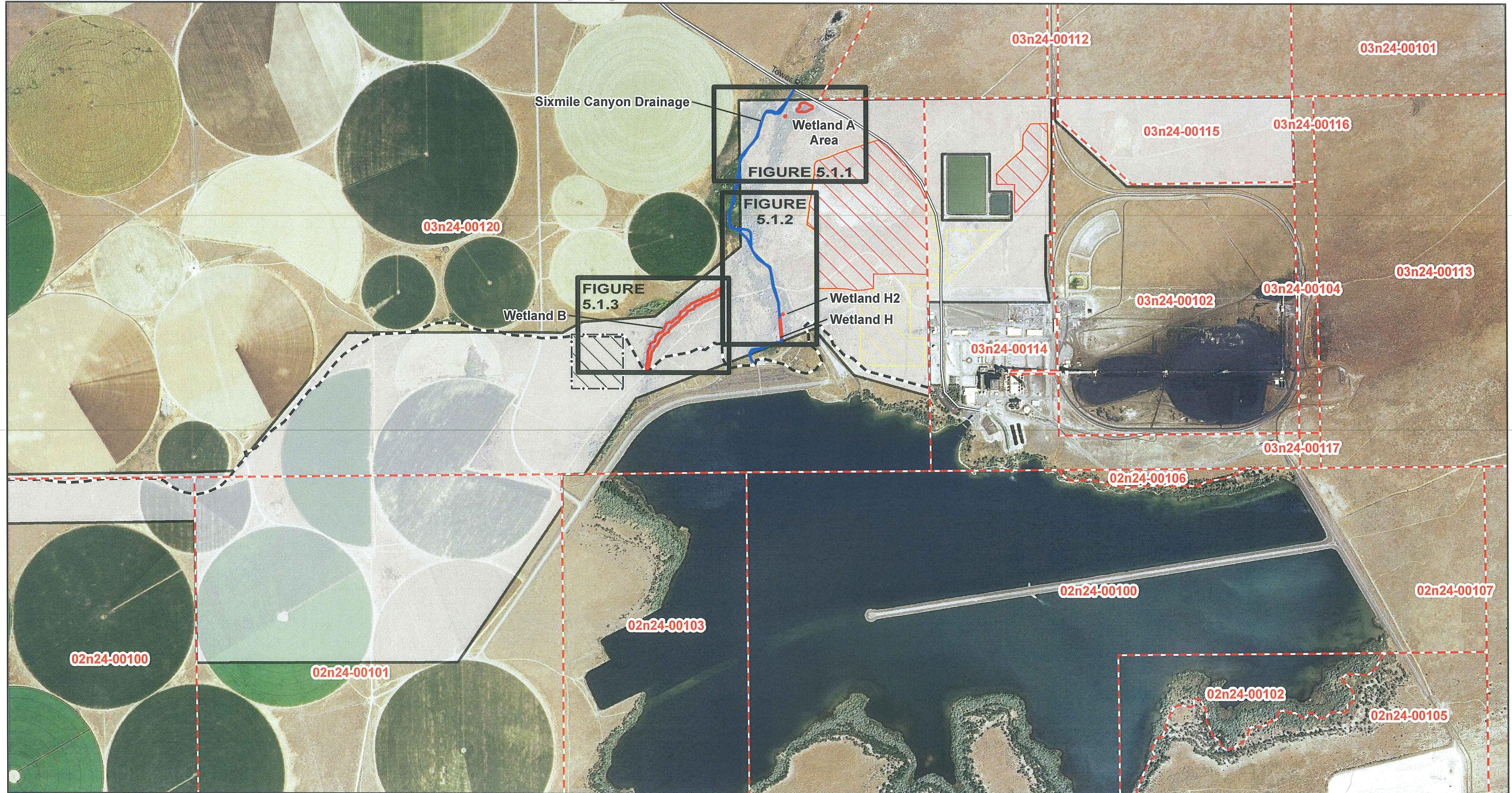


**Site Boundary**

Access Road Corridor

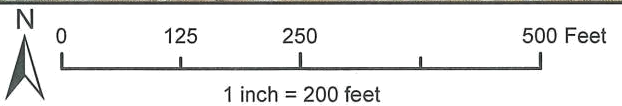
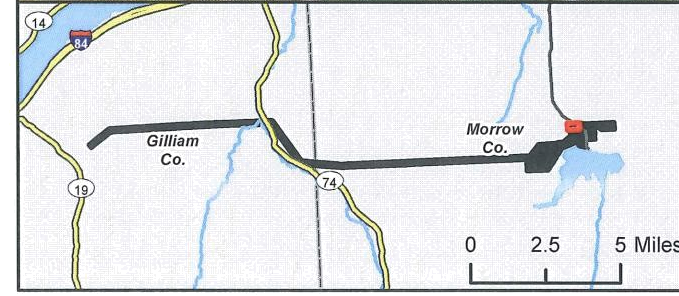
**Intersecting Tax Lot Boundary**

Map Tax Lot # Labeled



<ul style="list-style-type: none"> <li> Site Boundary</li> <li> Proposed Energy Facility Area</li> <li> Temporary Construction Area</li> <li> Proposed Grassland Switchyard</li> </ul>	<ul style="list-style-type: none"> <li> Tax Lots</li> <li> Access Road</li> <li> Field Delineated Wetland</li> <li> Stream Features</li> </ul>	<p>N</p> <p>0 0.25 0.5 1 Miles</p> <p>0 0.25 0.5 1 Kilometers</p>	<p>DSL WD # <u>2010-0023 10f11</u></p> <p>Approval Issued <u>12/24/2013</u></p> <p>Approval Expires <u>12/24/2018</u></p>
--	--	---	---

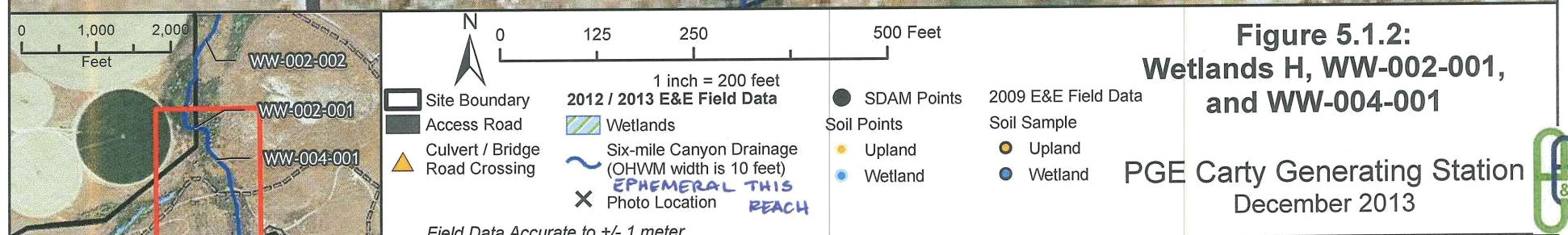
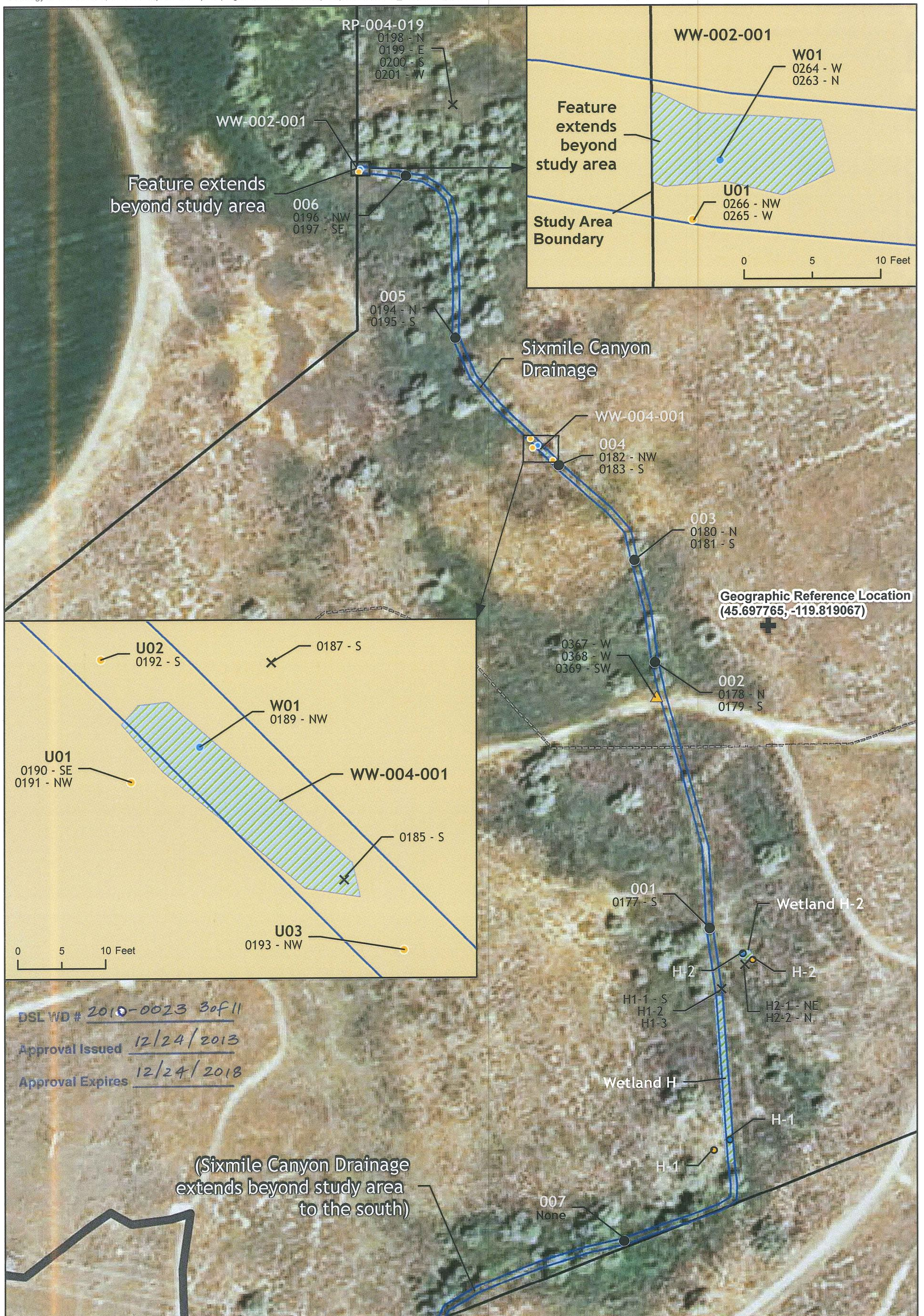
**Figure 5.1**  
**Wetland and Watebodies**  
**Map Tile Overview, including**  
**Tax Lot Boundaries**  
 PGE Carty Generating Station  
 December 2013



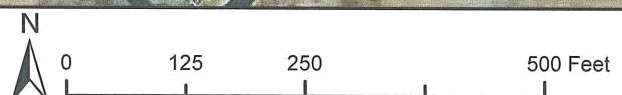
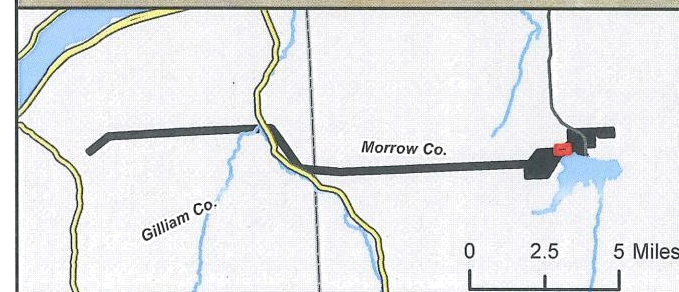
- Site Boundary
  - Access Road
  - Tax Lots
  - 2012 / 2013 E&E Field Data
    - Wetlands
    - Photo Location
    - Point marks transition to intermittent flow (to NE) THIS REACH
  - Soil Points
    - Upland
    - Wetland
    - Delineated Water Features
  - 2009 E&E Field Data Soil Sample
    - Upland
    - Wetland
- OHWM = 15' MAX WIDTH SIXMILE CANYON  
Field Data Accurate to +/- 1 meter

DSL WD # 2010-0023 <sup>2 of 11</sup> **Figure 5.1.1: Wetland A Area**  
 Approval Issued 12/24/2013  
 PGE Carty Generating Station  
 Approval Expires 12/24/2018

Geographic Reference Location  
(45.702529, -119.815928)







- |               |                            |                                  |
|---------------|----------------------------|----------------------------------|
| Site Boundary | 2012 / 2013 E&E Field Data | Investigative Wetland Point (XW) |
| Access Road   | Wetlands                   | 2009 E&E Field Data              |
| Tax Lots      | Photo Location             | Soil Sample                      |
|               |                            | Upland                           |
|               |                            | Wetland                          |

Field Data Accurate to +/- 1 meter

DSL WD # 2010-0023 4 of 11  
 Approval Issued 12/24/2013  
 Approval Expires 12/24/2018

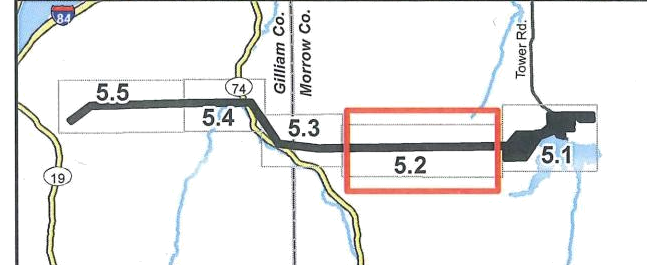
**Figure 5.1.3:  
Wetland B Area**

PGE Carty Generating Station

December 2013

Exhibit 14





**Legend**

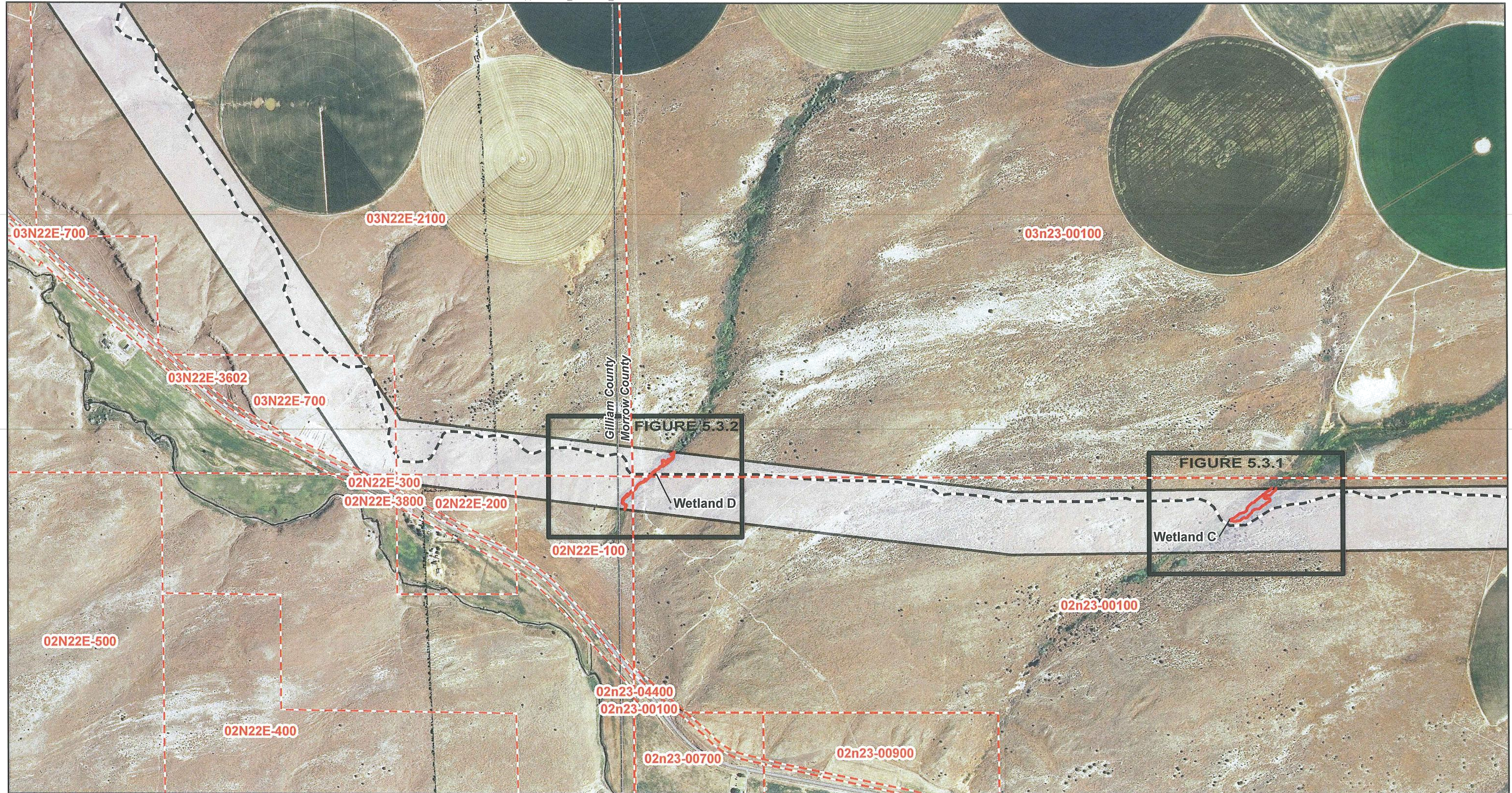
- Site Boundary
- Proposed Energy Facility Area
- Temporary Construction Area
- Proposed Grassland Switchyard
- Tax Lots
- Access Road
- Field Delineated Wetland
- Stream Features
- Reference Location

**Scale**

0 0.25 0.5 1 Miles

0 0.25 0.5 1 Kilometers

DSL WD # 2010-0023 5 of 11 **Figure 5.2**  
**Wetland and Waterbodies**  
 Approval Issued 12/24/2013 **Map Tile Overview, including**  
**Tax Lot Boundaries**  
 Approval Expires 12/24/2010 **PGE Carty Generating Station**  
 December 2013

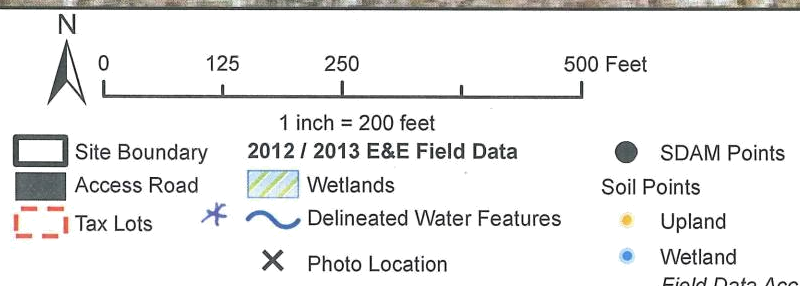


<ul style="list-style-type: none"> <li> Site Boundary</li> <li> Proposed Energy Facility Area</li> <li> Temporary Construction Area</li> <li> Proposed Grassland Switchyard</li> </ul>	<ul style="list-style-type: none"> <li> Field Delineated Wetland</li> <li> Stream Features</li> </ul>	<ul style="list-style-type: none"> <li> Tax Lots</li> <li> Access Road</li> </ul>	<p>N</p> <p>0 0.25 0.5 1 Miles</p> <p>0 0.25 0.5 1 Kilometers</p>	<p>DSL WD # <u>2010-0023 6 of 11</u></p> <p>Approval Issued <u>12/24/2013</u></p> <p>Approval Expires <u>12/24/2018</u></p>
--	---	---	---	---

**Figure 5.3**  
**Wetland and Waterbodies**  
**Map Tile Overview, including**  
**Tax Lot Boundaries**  
 PGE Carty Generating Station  
 December 2013

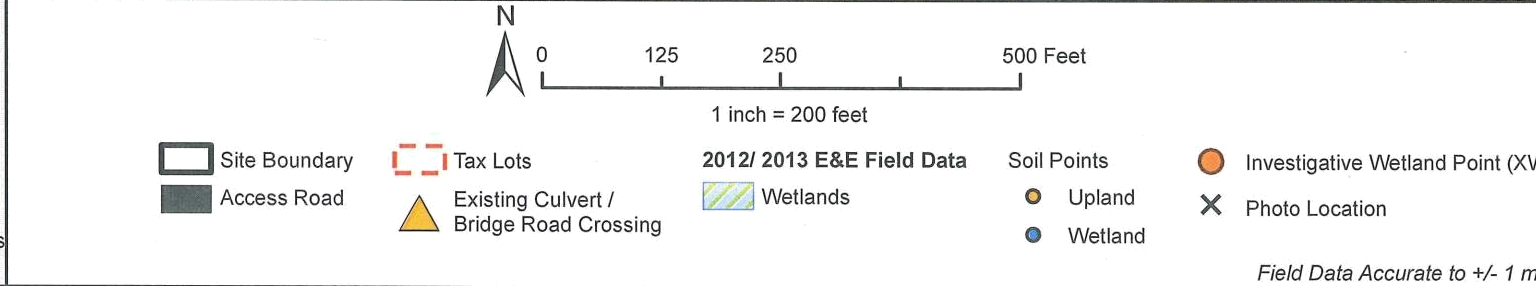
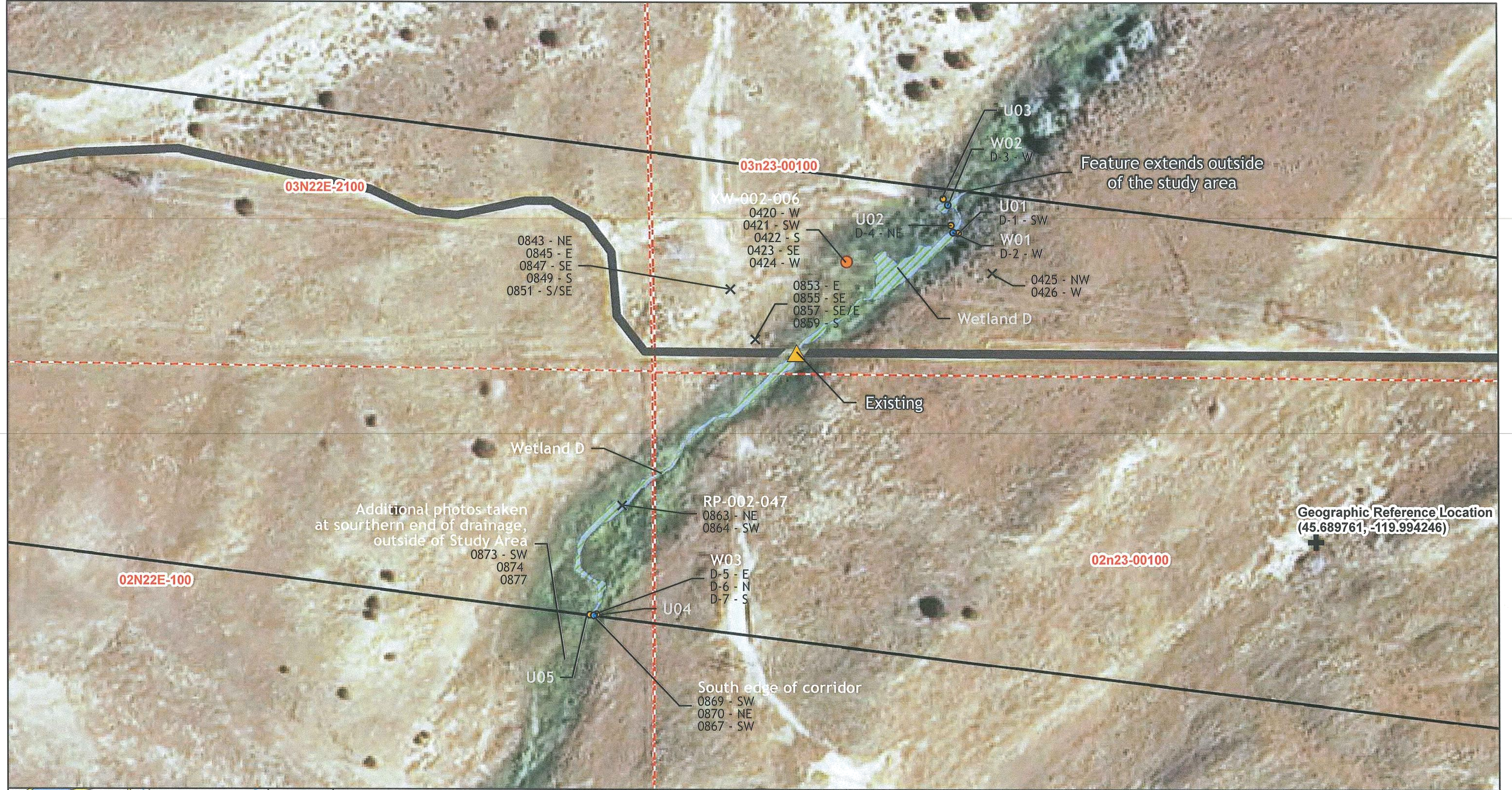


\* SS-002-001  
intermittent &  
jurisdictional  
within study area  
OHWM MAX WIDTH = 2ft.



DSL WD # 2010-0023 7 of 11  
Approval Issued 12/24/2013  
Approval Expires 12/24/2018

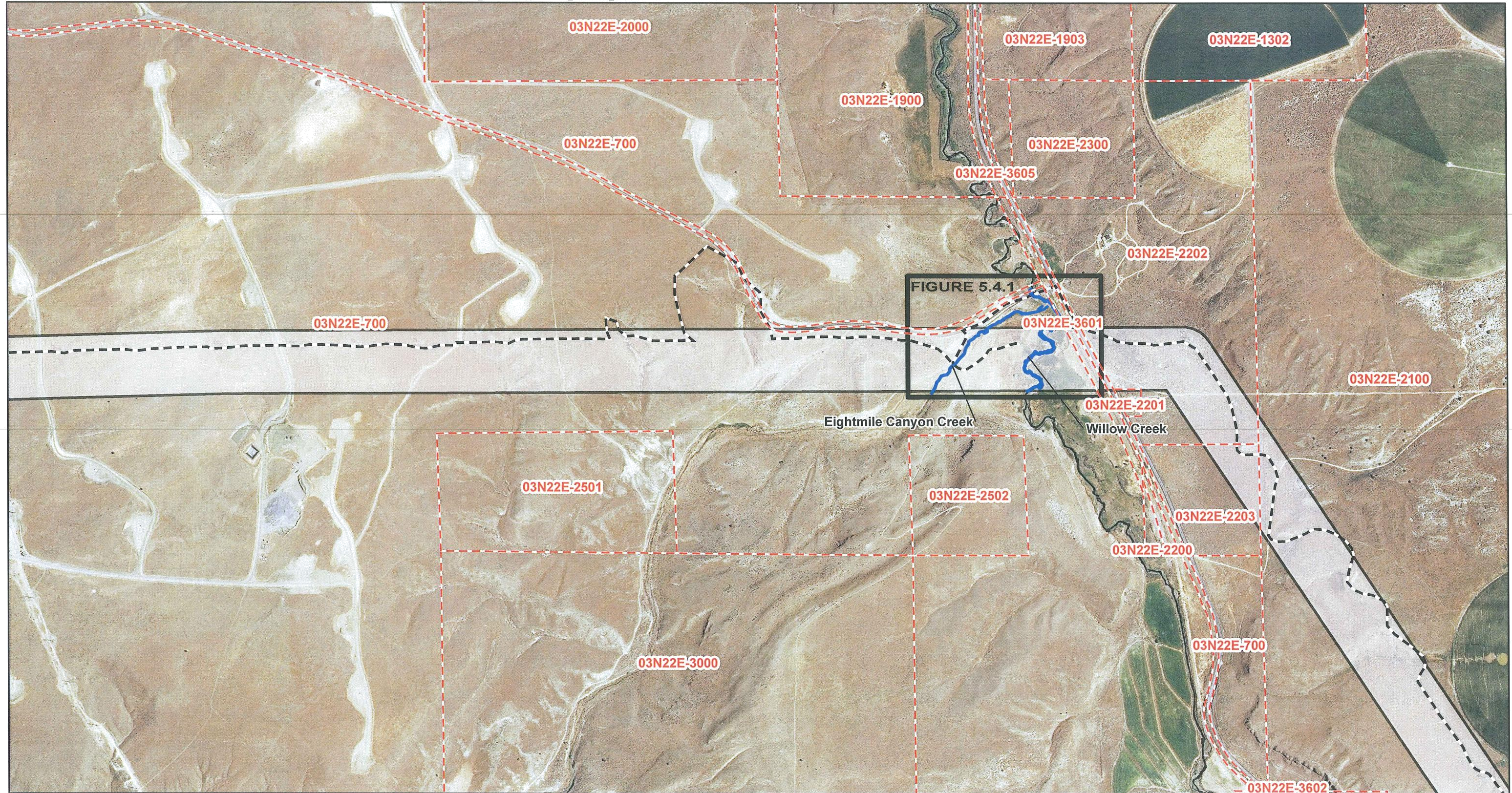
**Figure 5.3.1:  
Wetland C Area**  
PGE Carty Generating Station  
December 2013



**Figure 5.3.2: Wetland D Area**

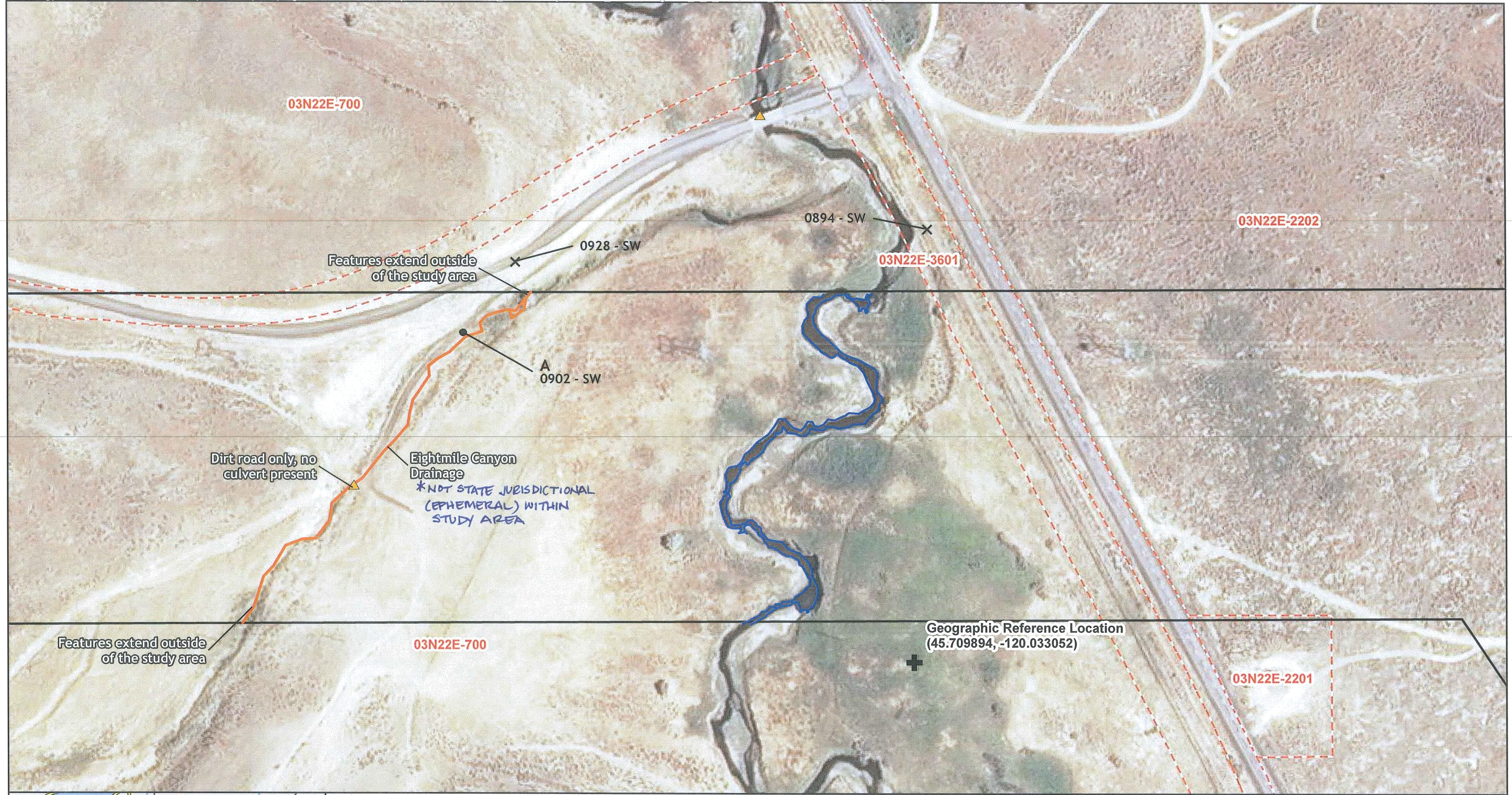
DSL WD # 2010-0023 Bof11  
12/24/2013  
**Approval Issued** PGE Carty Generating Station  
**Approval Expires** 12/29/2018 December 2013

Field Data Accurate to +/- 1 meter



<ul style="list-style-type: none"> <li> Site Boundary</li> <li> Proposed Energy Facility Area</li> <li> Temporary Construction Area</li> <li> Proposed Grassland Switchyard</li> </ul>	<p>N</p>	<p>0 0.25 0.5 1 Miles</p> <p>0 0.25 0.5 1 Kilometers</p>	<ul style="list-style-type: none"> <li> Tax Lots</li> <li> Access Road</li> <li> Field Delineated Wetland</li> <li> Stream Features</li> </ul>	<p>DSL WD # <u>2010-0023 9 of 11</u></p> <p>Approval Issued <u>12/24/2013</u></p> <p>Approval Expires <u>12/24/2018</u></p>	<p><b>Figure 5.4</b>  <b>Wetland and Waterbodies</b>  <b>Map Tile Overview, including</b>  <b>Tax Lot Boundaries</b>  <b>PGE Carty Generating Station</b>          December 2013</p>
--	----------	--	--	---	--





Green signature is a stand of russian thistle

0 125 250 500 Feet  
1 inch = 200 feet

2012 E&E Field Data  
 Eightmile Stream (OHWM width is 3 feet)  
 \*EPHEMERAL WITHIN STUDY AREA  
 Willow Creek OHWM PERENNIAL

X Photo Location  
 ● SDAM Points

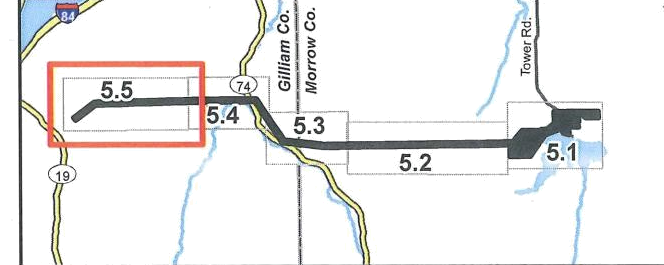
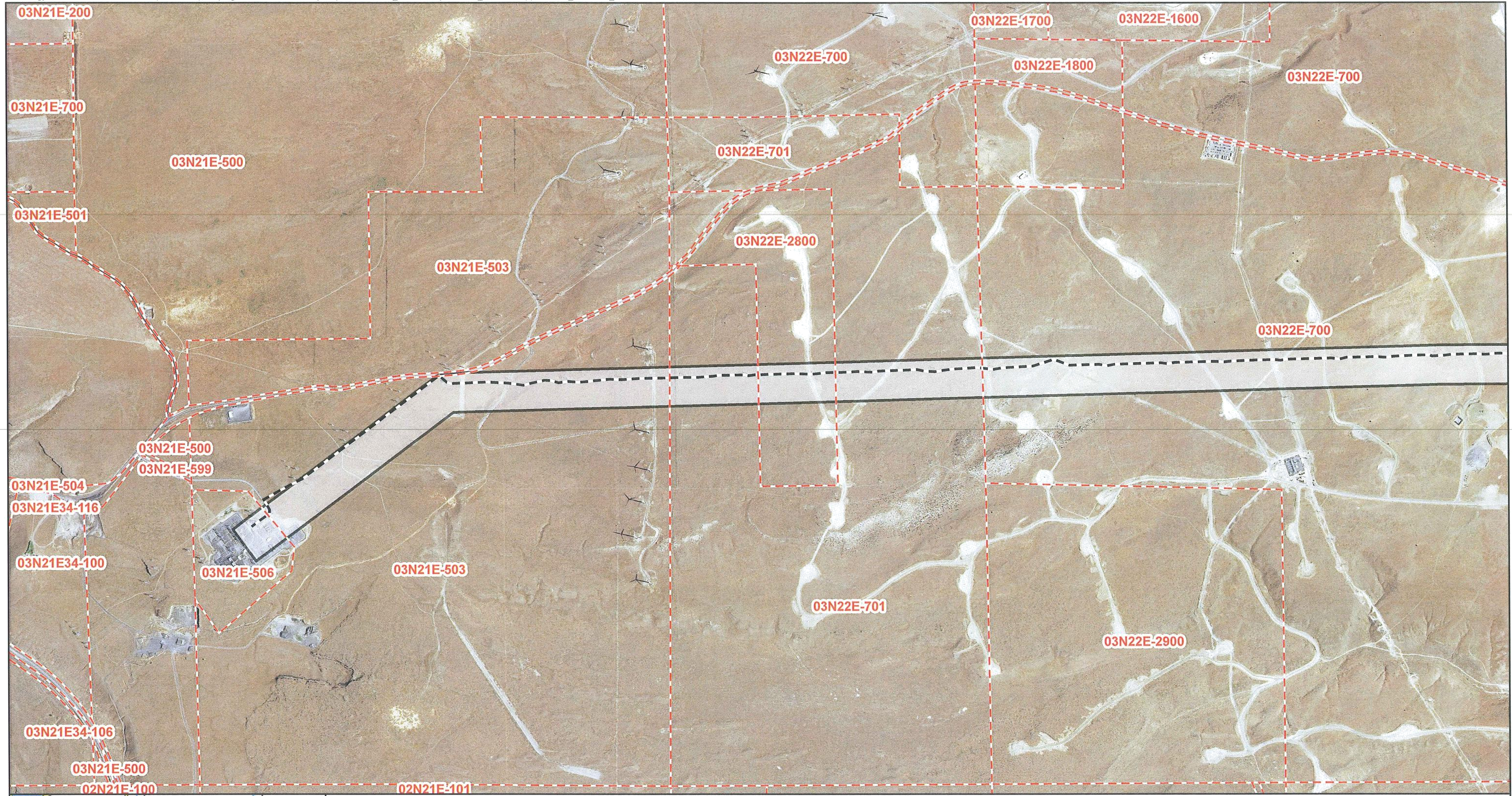
Soil Sample  
 ● Upland  
 ● Wetland  
 ▲ Culvert / Bridge Road Crossing

DSL WD # 2010-0023 10 of 11  
 Approval Issued 12/24/2013  
 Approval Expires 12/24/2018

**Figure 5.4.1:  
Willow Creek and  
Eightmile Drainage**

PGE Carty Generating Station  
December 2013





<ul style="list-style-type: none"> <li> Site Boundary</li> <li> Proposed Energy Facility Area</li> <li> Temporary Construction Area</li> <li> Proposed Grassland Switchyard</li> </ul>	<p>N</p>	<p>0 0.25 0.5 1 Miles</p> <p>0 0.25 0.5 1 Kilometers</p>	<ul style="list-style-type: none"> <li> Tax Lots</li> <li> Access Road</li> <li> Field Delineated Wetland</li> <li> Stream Features</li> </ul>
--	----------	--	--

DSL WD # 2010-0023 11 of 11  
 Approval Issued 12/24/2013  
 Approval Expires 12/24/2018

**Figure 5.5**  
**Wetland and Watebodies**  
**Map Tile Overview, including**  
**Tax Lot Boundaries**  
 PGE Carty Generating Station  
 December 2013







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

---



Tower Rd

Tower Rd

Google Earth

Image U. S. Geological Survey



2000 ft

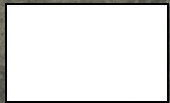
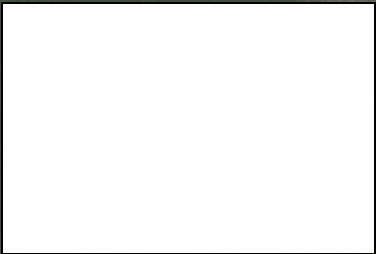
Exhibit 14



Google Earth

Image U. S. Geological Survey





Tower Rd

Tower Rd

Google Earth

Image Satellite of Oregon





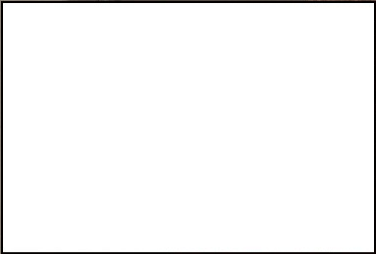


Google Earth

Image USDA Farm Service Agency



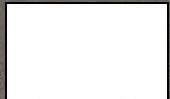
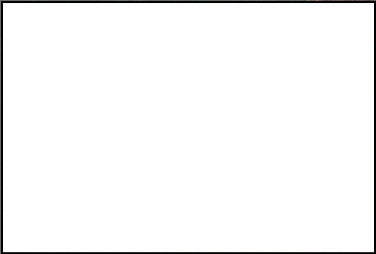
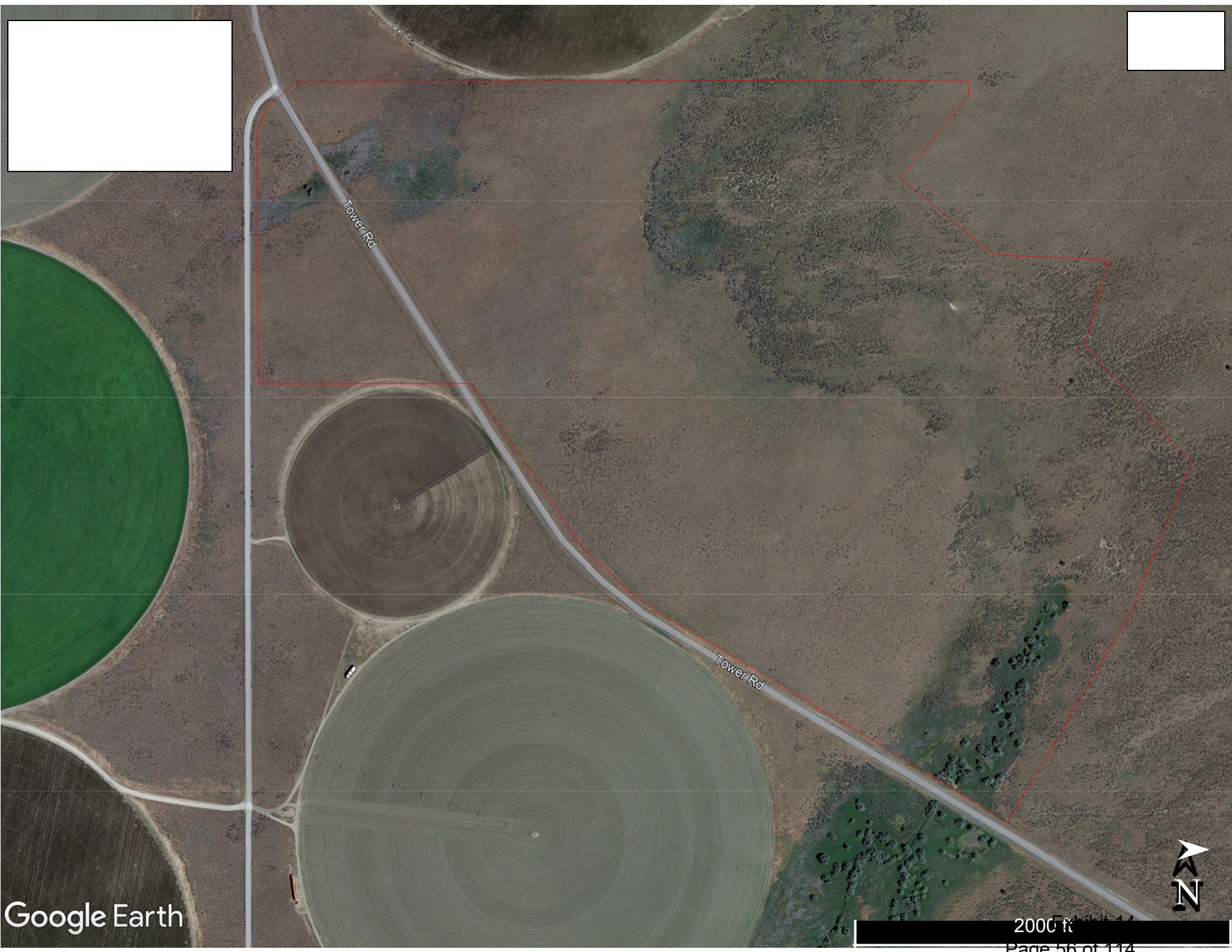
2000 ft  
Page 54 of 114



Tower Rd

Tower Rd



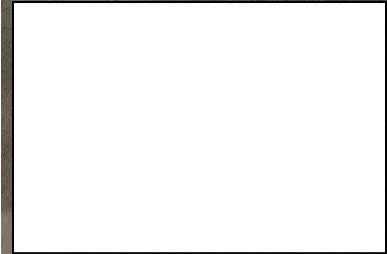


Tower Rd

Tower Rd







Google Earth



2000 ft



## **Appendix D: Precipitation Data**

---

Climatological Data for BOARDMAN, OR - July 2021

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

Climatological Data for BOARDMAN, OR - August 2021

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

Climatological Data for BOARDMAN, OR - September 2021

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	M	M	M	M	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	45	57.0	17	7	0.00	0.0	0
2021-09-30	70	47	58.5	19	9	0.00	0.0	0

Climatological Data for BOARDMAN, OR - January 2022

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

Climatological Data for BOARDMAN, OR - February 2022

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	54	40	47.0	7	0	0.00	0.0	0
2022-02-22	46	21	33.5	0	0	0.00	0.0	0
2022-02-23	31	12	21.5	0	0	0.00	0.0	0
2022-02-24	32	12	22.0	0	0	0.00	0.0	0
2022-02-25	34	12	23.0	0	0	0.50	0.0	0
2022-02-26	39	12	25.5	0	0	0.00	0.0	0
2022-02-27	42	19	30.5	0	0	0.00	0.0	0
2022-02-28	47	32	39.5	0	0	0.06	0.0	0

Climatological Data for BOARDMAN, OR - March 2022

2022-03-01	62	39	50.5	11	1	T	M	M
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	M
2022-03-04	57	31	44.0	4	0	0.00	M	M
2022-03-05	55	30	42.5	3	0	0.00	M	M
2022-03-06	58	27	42.5	3	0	0.00	M	M
2022-03-07	57	29	43.0	3	0	0.00	M	M
2022-03-08	66	34	50.0	10	0	0.00	M	M
2022-03-09	47	34	40.5	1	0	0.18	M	M
2022-03-10	46	35	40.5	1	0	0.00	M	M
2022-03-11	50	35	42.5	3	0	0.00	M	M
2022-03-12	67	33	50.0	10	0	0.00	M	M
2022-03-13	65	34	49.5	10	0	T	M	M
2022-03-14	61	42	51.5	12	2	T	M	M
2022-03-15	56	42	49.0	9	0	0.25	M	M
2022-03-16	62	43	52.5	13	3	0.00	M	M
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	M
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	M
2022-03-25	65	37	51.0	11	1	0.00	M	M
2022-03-26	61	39	50.0	10	0	0.00	M	M
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

Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number 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	41.6	27.7	34.7	1.30	0.75	1.58	5	2.9
Annual:					7.01	8.97		
Average	65.7	41.2	53.5	-	-	-	-	-
Total	-	-	-	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: 252 days	4/3 to 10/29: 209 days	4/16 to 10/16: 183 days
70 percent *	3/2 to 11/24: 267 days	3/29 to 11/4: 220 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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1971								M0.19	0.	0.	0.91	1.33	3.74
1972	0.48	0.49	0.40	0.02	1.99	1.79	0.06	0.01	88	43	0.60	1.30	7.40
1973	0.87	0.41	0.19	0.21	0.42	0.03	0.03	0.01	04	22	3.43	2.76	9.66
1974	0.79	0.69	0.88	1.20	0.20	0.13	0.25	0.00	62	68	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.	0.53	0.98	7.71
1976	0.88	0.58	0.42	0.71	0.10	0.13	0.23	0.94	82	0.	0.50	0.15	5.18
1977	0.10	0.57	0.65	0.02	0.86	0.16	0.09	1.01	46	08	1.34	2.62	8.74
1978	2.40	0.91	0.47	1.49	0.48	0.26	0.82	1.07	82	50	1.40	1.13	10.59
1979	1.28	0.60	0.69	1.12	0.21	0.02	0.36	0.50	14	02	1.65	0.48	7.97

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

2014	0.67	1.21	0.62	0.45	0.10	0.41	T	0.77	14 02	20 67	0.76	1.23	6.91
2015	0.63	1.11	0.45	0.19	1.39	T	T	0.02	06 25	0.	1.09	2.24	7.43
2016	1.55	0.46	0.78	0.46	1.55	0.21	0.29	0.16	37 81	1. 056	M0.	8.30	10
2017	1.85	1.85	1.25	1.68	0.16	0.04	0.00	0.09	25 02	1. 99	M0.	0.96	10. 14
2018	1.29	0.21	0.27	1.30	0.48	0.20	0.00	0.03	00 76	0. 0.	0.41	M0. 68	5.63
2019	1.75	2.67	2.05	0.82	0.86	0.54	0.05	0.20	23 28	0. 0.	0.09	0.65	10. 19
2020	1.47	0.10	0.50	0.09	1.54	0.32	0.00	0.14	00 33	0. 0.	1.45	0.89	6.83
2021	0.66	1.02	0.00	0.09	0.28	0.25	0.00	0.02	59	0. 68	1.16	1.89	6.64
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/ Morrow County Sampling Date: 3/31/2022  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 1  
 Investigator(s): Sonya Templeton, Margret Harburg, Stacey Reed, PWS Section, Township, Range: Sec. 28, T.3N., R.24E., W.M.

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Sl. Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.709058 Long: -119.816177 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.

Remarks:  
 Plot located in slightly low topographic location.

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0% = Total Cover				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )				
1. <u>Artemisia tridentata</u>	<u>35%</u>	<u>Yes</u>	<u>NOL</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>31</u> x 3 = <u>93</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>102</u> x 5 = <u>510</u> Column Totals: <u>133</u> (A) <u>603</u> (B) Prevalence Index = B/A = <u>4.53</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>35%</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> Dominance Test is >50% Prevalence Index is ≤3.0 <sup>1</sup> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
Herb Stratum (Plot size: <u>5' r</u> )				
1. <u>Onopordum acanthium</u>	<u>65%</u>	<u>Yes</u>	<u>NOL</u>	
2. <u>Atriplex heterosperma</u>	<u>25%</u>	<u>Yes</u>	<u>FAC*</u>	
3. <u>Chenopodium species</u>	<u>5%</u>	<u>No</u>	<u>FAC*</u>	
4. <u>Centaurea solstitialis</u>	<u>2%</u>	<u>No</u>	<u>NOL</u>	
5. <u>Bassia scoparia</u>	<u>1%</u>	<u>No</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>98%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>2%</u> % Cover of Biotic Crust _____				

Remarks:  
 \* Assumed FAC. Salsola tumbleweeds present, not rooted in plot.

**SOIL**

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 4/3	100					LS	
10-16	10YR 3/2	99	7.5YR 3/4	1	C	PL	SL	Less Sand

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> )
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> )	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

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

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )
<input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

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

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

Remarks:  
 Soils very dry throughout, no evidence of previous surface water ponding.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 3/31/2022  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 2  
 Investigator(s): Sonya Templeton, Margret Harburg, Stacey Reed, PWS Section, Township, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Sl. Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.709065 Long: -119.815667 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes        No X (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.

Remarks:  
 Located within slightly low topographic location.

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0% = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>33</u> x 5 = <u>165</u> Column Totals: <u>103</u> (A) <u>375</u> (B) Prevalence Index = B/A = <u>3.64</u>
1. <u>Artemisia tridentata</u>	<u>20%</u>	<u>Yes</u>	<u>NOL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
20% = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <u>Atriplex heterosperma</u>	<u>60%</u>	<u>Yes</u>	<u>FAC*</u>	
2. <u>Bassia scoparia</u>	<u>10%</u>	<u>No</u>	<u>FAC</u>	
3. <u>Onopordum acanthium</u>	<u>10%</u>	<u>No</u>	<u>NOL</u>	
4. <u>Bromus tectorum</u>	<u>3%</u>	<u>No</u>	<u>NOL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
83% = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>17%</u>	% Cover of Biotic Crust _____			

Remarks:  
 \*Assumed FAC.

**SOIL**

Sampling Point: 2

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 4/3	100					LS	
10-16	10YR 3/2	99	7.5YR 3/4	1	C	PL	SL	Less Sand

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> 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)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> 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"  
 (includes capillary fringe)

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

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

Remarks:  
 Soils slightly moist at 16 inches.



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow 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 Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.715733 Long: -119.820386 Datum: NAD83  
 Soil Map Unit Name: Quincy loamy fine sand (Unit 40C) , 2-12% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No        (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>      </u>	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>X</u>
Hydric Soil Present?	Yes <u>      </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u>      </u>	No <u>X</u>	
Precipitation prior to fieldwork: <u>According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.14 inches during the two weeks prior.</u>			
Remarks: <u>Lowest topographic location within undulating topography.</u>			

**VEGETATION**

Tree Stratum (Plot size: <u>30'</u> r <u>   </u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>0%</u> = Total Cover				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
Sapling/Shrub Stratum (Plot size: <u>10'</u> r <u>   </u> )				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u>Artemisia tridentata</u>	<u>5%</u>	<u>Yes</u>	<u>NOL</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: <u>      </u> Multiply by: <u>      </u> OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>1</u> x 3 = <u>3</u> FACU species <u>90</u> x 4 = <u>360</u> UPL species <u>7</u> x 5 = <u>35</u> Column Totals: <u>98</u> (A) <u>398</u> (B) Prevalence Index = B/A = <u>4.06</u>
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>5%</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> r <u>   </u> )				<b>Hydrophytic Vegetation Indicators:</b>
1. <u>Salsola tragus</u>	<u>80%</u>	<u>Yes</u>	<u>FACU</u>	<u>      </u> Dominance Test is >50%
2. <u>Sisymbrium altissimum</u>	<u>10%</u>	<u>No</u>	<u>FACU</u>	<u>      </u> Prevalence Index is ≤3.0 <sup>1</sup>
3. <u>Bromus tectorum</u>	<u>2%</u>	<u>No</u>	<u>NOL</u>	<u>      </u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. <u>Cleomella species</u>	<u>1%</u>	<u>No</u>	<u>FAC*</u>	<u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
6. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
7. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
8. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
9. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
10. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
11. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>93%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10'</u> r <u>   </u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>X</u>
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>0%</u> = Total Cover				
% Bare Ground in Herb Stratum <u>7%</u> % Cover of Biotic Crust <u>      </u>				
Remarks: <u>*Assumed FAC.</u>				

**SOIL**

Sampling Point: **3**

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

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

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

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

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )
	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )
	<input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> 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"  
 (includes capillary fringe)

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

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

Remarks:  
 Soils very dry throughout.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow 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.): Terrace Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.715492 Long: -119.821023 Datum: NAD83  
 Soil Map Unit Name: Quincy loamy fine sand (Unit 40C) , 2-12% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No        (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>      </u>	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>X</u>
Hydric Soil Present?	Yes <u>      </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u>      </u>	No <u>X</u>	
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.14 inches during the two weeks prior.			
Remarks: Plot 4 located in low topographic location in area with undulating topography.			

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
	<u>0%</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )				
1. <u>Artemisia tridentata</u>	<u>20%</u>	<u>Yes</u>	<u>NOL</u>	
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
	<u>20%</u> = Total Cover			
Herb Stratum (Plot size: <u>5' r</u> )				
1. <u>Bromus tectorum</u>	<u>50%</u>	<u>Yes</u>	<u>NOL</u>	
2. <u>Sisymbrium altissimum</u>	<u>20%</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Salsola tragus</u>	<u>10%</u>	<u>No</u>	<u>FACU</u>	
4. <u>Lactuca serriola</u>	<u>3%</u>	<u>No</u>	<u>FACU</u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
6. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
7. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
8. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
9. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
10. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
11. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
	<u>83%</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>10' r</u> )				
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
	<u>0%</u> = Total Cover			
% Bare Ground in Herb Stratum <u>17%</u>	% Cover of Biotic Crust <u>      </u>			

**Dominance Test worksheet:**  
 Number of Dominant Species  
 That Are OBL, FACW, or FAC: 0 (A)  
  
 Total Number of Dominant Species Across All Strata: 3 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of:        Multiply by:         
 OBL species 0 x 1 = 0  
 FACW species 0 x 2 = 0  
 FAC species 0 x 3 = 0  
 FACU species 33 x 4 = 132  
 UPL species 70 x 5 = 350  
 Column Totals: 103 (A) 482 (B)  
 Prevalence Index = B/A = 4.68

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes        No X

Remarks:

**SOIL**

Sampling Point: **4**

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

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

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

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

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )
	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )
	<input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> 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"  
 (includes capillary fringe)

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

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

Remarks:  
 Soils very dry throughout.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 3/31/2022  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 5  
 Investigator(s): Sonya Templeton, Margret Harburg, Stacey Reed, PWS Section, Township, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.708632 Long: -119.816632 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes        No X (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>      </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>      </u> No <u>X</u>
Hydric Soil Present?	Yes <u>      </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u>      </u> No <u>X</u>		
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.			
Remarks: Plot 5 located within ephemeral swale. No defined bank bed or OHWM present.			

**VEGETATION**

Tree Stratum (Plot size: <u>30'</u> r <u>   </u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	Number of Dominant Species
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	That Are OBL, FACW, or FAC: <u>0</u> (A)
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	Percent of Dominant Species
0% = Total Cover				That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
Sapling/Shrub Stratum (Plot size: <u>10'</u> r <u>   </u> )				<b>Prevalence Index worksheet:</b>
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	Total % Cover of: <u>      </u> Multiply by: <u>      </u>
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	OBL species <u>0</u> x 1 = <u>0</u>
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	FACW species <u>0</u> x 2 = <u>0</u>
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	FAC species <u>0</u> x 3 = <u>0</u>
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	FACU species <u>46</u> x 4 = <u>184</u>
0% = Total Cover				UPL species <u>52</u> x 5 = <u>260</u>
Herb Stratum (Plot size: <u>5'</u> r <u>   </u> )				Column Totals: <u>98</u> (A) <u>444</u> (B)
1. <u>Centaurea solstitialis</u>	<u>50%</u>	<u>Yes</u>	<u>NOL</u>	Prevalence Index = B/A = <u>4.53</u>
2. <u>Sisymbrium altissimum</u>	<u>45%</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Salsola tragus</u>	<u>1%</u>	<u>No</u>	<u>FACU</u>	
4. <u>Bromus tectorum</u>	<u>1%</u>	<u>No</u>	<u>NOL</u>	
5. <u>Erodium cicutarium</u>	<u>1%</u>	<u>No</u>	<u>NOL</u>	
6. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
7. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
8. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
9. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
10. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
11. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
98% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Woody Vine Stratum (Plot size: <u>10'</u> r <u>   </u> )				<u>      </u> Dominance Test is >50%
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u> Prevalence Index is ≤3.0 <sup>1</sup>
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
0% = Total Cover				<u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
% Bare Ground in Herb Stratum <u>2%</u> % Cover of Biotic Crust <u>      </u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
Remarks:				<b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>X</u>

**SOIL**

Sampling Point: **5**

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

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

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

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

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )
	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )
	<input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> 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"  
 (includes capillary fringe)

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

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

Remarks:  
 Soils very dry throughout, no evidence of recent flow or surface water ponding.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 3/31/2022  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 6  
 Investigator(s): Sonya Templeton, Margret Harburg, Stacey Reed, PWS Section, Township, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.708092 Long: 119.815915 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes        No  X  (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes  X  No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.

Remarks:  
 Plot location in lowest topographic location within Wetland A and is approximately 5 feet lower in elevation than Plot 8.

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u> 1 </u> (A)  Total Number of Dominant Species Across All Strata: <u> 1 </u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 100% </u> (A/B)
1. <u>Elaeagnus angustifolia</u>	<u> 1% </u>	<u> No </u>	<u> FAC </u>	
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<b>Prevalence Index worksheet:</b> Total % Cover of: <u>      </u> Multiply by: <u>      </u> OBL species <u> 0 </u> x 1 = <u> 0 </u> FACW species <u> 0 </u> x 2 = <u> 0 </u> FAC species <u> 86 </u> x 3 = <u> 258 </u> FACU species <u> 14 </u> x 4 = <u> 56 </u> UPL species <u> 1 </u> x 5 = <u> 5 </u> Column Totals: <u> 101 </u> (A) <u> 319 </u> (B) Prevalence Index = B/A = <u> 3.16 </u>
<u> 1% </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <u> X </u> Dominance Test is >50% Prevalence Index is $\leq 3.0^1$ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u> 0% </u> = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <u> X </u> No <u>      </u>
1. <u>Xanthium strumarium</u>	<u> 81% </u>	<u> Yes </u>	<u> FAC </u>	
2. <u>Sphaerophysa salsula</u>	<u> 14% </u>	<u> No </u>	<u> FACU </u>	
3. <u>Atriplex heterosperma</u>	<u> 4% </u>	<u> No </u>	<u> FAC* </u>	
4. <u>Onopordum acanthium</u>	<u> 1% </u>	<u> No </u>	<u> NOL </u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
6. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
7. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
8. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
9. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
10. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
11. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u> 100% </u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u> 0% </u> = Total Cover				
% Bare Ground in Herb Stratum <u> 0% </u>	% Cover of Biotic Crust <u>      </u>			

Remarks:  
 \*Assumed FAC.

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/1	100					SiL	
4-18	10YR 3/2	95	7.5YR 3/4	5	C	M/PL	SiCL	Fine sands

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

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

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): >18"

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

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

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

Remarks:  
Soils moist throughout, Evidence of prior ponding. Water marks approximately 3-4 feet high on *Elaeagnus angustifolia*.





**SOIL**

Sampling Point: 7

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

Depth (inches)	Matrix		Redox Features					Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	
0-6	10YR 3/2	100					SiL	
6-16	10YR 4/2	55	7.5YR 4/4	5	C	M	SL	
	10YR 3/2	35	7.5YR 4/4	5	C	M/PL	SiCL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

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

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

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

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

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

Remarks:  
Soils slightly moist throughout. Water marks approximately 3-4 feet high on *Elaeagnus angustifolia*.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow 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, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 3-10%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.708260 Long: -119.816008 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.			
Remarks: Plot located approximately 2 feet higher in elevation than Plot 7.			

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0% = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>125</u> (A) <u>505</u> (B) Prevalence Index = B/A = <u>4.04</u>
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )				
1. <u>Artemisia tridentata</u>	<u>30%</u>	<u>Yes</u>	<u>NOL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
30% = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )				
1. <u>Sphaerophysa salsula</u>	<u>60%</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Atriplex heterosperma</u>	<u>20%</u>	<u>Yes</u>	<u>FAC*</u>	
3. <u>Amaranthus species</u>	<u>10%</u>	<u>No</u>	<u>FACU*</u>	
4. <u>Chenopodium species</u>	<u>5%</u>	<u>No</u>	<u>FAC*</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
95% = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>5%</u> % Cover of Biotic Crust _____				
Remarks: *Assumed.				

**SOIL**

Sampling Point: 8

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR 4/3	100					LS	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

<b>Restrictive Layer (if present):</b>	
Type: _____	
Depth (inches): _____	
	<b>Hydric Soil Present?    Yes _____ No <u>X</u></b>

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b>	
Surface Water Present?    Yes _____ No <u>X</u> Depth (inches): _____	
Water Table Present?    Yes _____ No <u>X</u> Depth (inches): <u>&gt;14"</u>	
Saturation Present?    Yes _____ No <u>X</u> Depth (inches): <u>&gt;14"</u> (includes capillary fringe)	
	<b>Wetland Hydrology Present?    Yes _____ No <u>X</u></b>

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

Remarks:  
Soils very dry throughout.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 10/14/2021  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 9  
 Investigator(s): Sonya Templeton and Marget Harburg Section, Township, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.707589 Long: -119.816378 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No        (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u>      </u>	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u> No <u>      </u>
Hydric Soil Present?	Yes <u>X</u> No <u>      </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u>      </u>		
Precipitation prior to fieldwork: <u>According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.14 inches during the two weeks prior.</u>			
Remarks: <u>Plot located approximately 1 foot lower in elevation than Plot 10.</u>			

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Elaeagnus angustifolia</i></u>	<u>40%</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>40%</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>140</u> x 3 = <u>420</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>140</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>3.00</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0%</u> = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Atriplex heterosperma</i></u>	<u>100%</u>	<u>Yes</u>	<u>FAC*</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>
2. _____	_____	_____	_____	
<u>0%</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u> % Cover of Biotic Crust <u>      </u>				
Remarks: <u>*Assumed FAC.</u>				

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

Depth (inches)	Matrix		Redox Features				Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		Texture <sup>3</sup>
0-6	10YR 4/2	100					LS	
6-16	10YR 4/2	95	7.5YR 3/4	5	C	M	LS	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

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

**Hydric Soil Present?**    Yes     No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present?    Yes \_\_\_\_\_ No     Depth (inches): >16"

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

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

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

Remarks:  
 Water marks approximately 3-4 feet high on *Elaeagnus angustifolia* .

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 10/14/2021  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 10  
 Investigator(s): Sonya Templeton and Margret Harburg Section, Township, Range: 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: 45.707665 Long: -119.816567 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>    </u>	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Hydric Soil Present?	Yes <u>    </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u>    </u>	No <u>X</u>	
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.14 inches during the two weeks prior.			
Remarks: Plot located approximately 1 foot higher in elevation than Plot 9.			

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
3. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
4. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
<u>0%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: <u>    </u> Multiply by: <u>    </u> OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>66</u> x 4 = <u>264</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>101</u> (A) <u>369</u> (B) Prevalence Index = B/A = <u>3.65</u>
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
3. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
4. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
<u>0%</u> = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Sphaerophysa salsula</u>	<u>60%</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Atriplex heterosperma</u>	<u>30%</u>	<u>Yes</u>	<u>FAC*</u>	
3. <u>Amaranthus species</u>	<u>5%</u>	<u>No</u>	<u>FACU*</u>	
4. <u>Verbena bracteata</u>	<u>5%</u>	<u>No</u>	<u>FAC</u>	
5. <u>Solanum nigrum</u>	<u>1%</u>	<u>No</u>	<u>FACU</u>	
6. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
7. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
8. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
9. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
10. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
11. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
<u>101%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	
<u>0%</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>		% Cover of Biotic Crust <u>    </u>		
Remarks: *Assumed.				

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

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

**Hydrophytic Vegetation Present?** Yes      No X

**SOIL**

Sampling Point: **10**

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

Depth (Inches)	Matrix		Redox Features			Loc <sup>2</sup>	<sup>3</sup> Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-14	10YR3/2	99	7.5YR 3/4	1	C	M	LS	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

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

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )
	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )
	<input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes \_\_\_\_\_ No **X** Depth (inches): >14"

Saturation Present? Yes \_\_\_\_\_ No **X** Depth (inches): >14"  
 (includes capillary fringe)

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

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

Remarks:  
 Soils very dry throughout.



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow 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, Range: Sec. 28, T.3N., R.24E., W.M.

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Sl. Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.707396 Long: -119.816674 Datum: NAD83

Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No        (If no, explain in Remarks)

Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No       

Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.14 inches during the two weeks prior.

Remarks:  
Plot located approximately half a foot lower in elevation than Plot 12.

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
1. <u>Elaeagnus angustifolia</u>	<u>80%</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>80%</u> = Total Cover				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )				
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<b>Prevalence Index worksheet:</b> Total % Cover of: <u>      </u> Multiply by: OBL species <u>55</u> x 1 = <u>55</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>125</u> x 3 = <u>375</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>180</u> (A) <u>430</u> (B) Prevalence Index = B/A = <u>2.39</u>
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>0%</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 <sup>1</sup> <u>      </u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
Herb Stratum (Plot size: <u>5' r</u> )				
1. <u>Schoenoplectus americanus</u>	<u>55%</u>	<u>Yes</u>	<u>OBL</u>	
2. <u>Xanthium strumarium</u>	<u>25%</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Atriplex heterosperma</u>	<u>20%</u>	<u>Yes</u>	<u>FAC*</u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
6. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
7. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
8. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
9. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
10. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
11. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>100%</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>
Woody Vine Stratum (Plot size: <u>10' r</u> )				
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>0%</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>	% Cover of Biotic Crust <u>      </u>			

Remarks:  
\*Assumed FAC.

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 2/1	100					SiL	
8-16	10YR 3/2	95	7.5YR 3/4	5	C	PL	SL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

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

**Hydric Soil Present?**    Yes     No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present?    Yes \_\_\_\_\_ No     Depth (inches): >14"

Saturation Present?    Yes \_\_\_\_\_ No     Depth (inches): >14"  
 (includes capillary fringe)

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

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

Remarks:  
 Soils dry throughout. No evidence of recent surface water. Water marks approximately 3-4 feet high on *Elaeagnus angustifolia*.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 10/14/2021  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 12  
 Investigator(s): Sonya Templeton and Margret Harburg Section, Township, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.706846 Long: -119.816699 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No        (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u>      </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>X</u>
Hydric Soil Present?	Yes <u>      </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u>      </u> No <u>X</u>	
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.14 inches during the two weeks prior.		
Remarks: Plot 12 slightly higher in elevation than Plot 11.		

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Elaeagnus angustifolia</i></u>	<u>50%</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>50%</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Artemisia tridentata</i></u>	<u>10%</u>	<u>Yes</u>	<u>NOL</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: <u>      </u> Multiply by: <u>      </u> OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>125</u> x 3 = <u>375</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>11</u> x 5 = <u>55</u> Column Totals: <u>141</u> (A) <u>450</u> (B) Prevalence Index = B/A = <u>3.19</u>
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>10%</u> = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Atriplex heterosperma</i></u>	<u>70%</u>	<u>Yes</u>	<u>FAC*</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> X Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u><i>Xanthium strumarium</i></u>	<u>5%</u>	<u>No</u>	<u>FAC</u>	
3. <u><i>Nepeta cataria</i></u>	<u>5%</u>	<u>No</u>	<u>FACU</u>	
4. <u><i>Onopordum acanthium</i></u>	<u>1%</u>	<u>No</u>	<u>NOL</u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
6. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
7. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
8. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
9. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
10. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
11. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>81%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>0%</u> = Total Cover				
% Bare Ground in Herb Stratum <u>19%</u> % Cover of Biotic Crust <u>      </u>				
Remarks: *Assumed FAC.				



**SOIL**

Sampling Point: **12**

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

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

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

<sup>3</sup>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)

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

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

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

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

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

Remarks:  
4 inch duff layer present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (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)

**Field Observations:**

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

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

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

Remarks:  
Soils very dry throughout.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow 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.): Terrace Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.707886 Long: -119.815872 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes        No   X   (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes   X   No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>  X  </u> No <u>      </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>  X  </u> No <u>      </u>
Hydric Soil Present?	Yes <u>  X  </u> No <u>      </u>	
Wetland Hydrology Present?	Yes <u>  X  </u> No <u>      </u>	
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.		
Remarks:		

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Elaeagnus angustifolia</u>	<u>5%</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>  3  </u> (A)  Total Number of Dominant Species Across All Strata: <u>  3  </u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5%</u> = Total Cover				
<b>Sapling/Shrub Stratum (Plot size: <u>10' r</u>)</b>				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: <u>      </u> Multiply by: <u>      </u> OBL species <u>  0  </u> x 1 = <u>  0  </u> FACW species <u>  0  </u> x 2 = <u>  0  </u> FAC species <u>107</u> x 3 = <u>321</u> FACU species <u>  0  </u> x 4 = <u>  0  </u> UPL species <u>  0  </u> x 5 = <u>  0  </u> Column Totals: <u>107</u> (A) <u>321</u> (B) Prevalence Index = B/A = <u>3.00</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0%</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5' r</u>)</b>				
1. <u>Xanthium strumarium</u>	<u>60%</u>	<u>Yes</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Schoenoplectus americanus</u>	<u>40%</u>	<u>Yes</u>	<u>FAC*</u>	
3. <u>Bromus tectorum</u>	<u>2%</u>	<u>No</u>	<u>FAC*</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>102%</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>10' r</u>)</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>
2. _____	_____	_____	_____	
<u>0%</u> = Total Cover				
<b>% Bare Ground in Herb Stratum <u>  0%  </u> % Cover of Biotic Crust <u>      </u></b>				

Remarks:  
 \* Assumed FAC. Atriplex species present during the 10/14/2022 site visit.

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

Depth (inches)	Matrix		Redox Features					Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<sup>3</sup> Texture	
0-2	10YR 2/1	100					SiL	
2-6	10YR 2/1	98	7.5YR 3/4	2	C	PL	SiL	
6-14	10YR 4/2	95	7.5YR 3/4	3	C	M	SCL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b>	
Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >14"	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Saturation Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): >14" (includes capillary fringe)	

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

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

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 3/31/2022  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 14  
 Investigator(s): Sonya Templeton, Margret Harburg, Stacey Reed, PWS Section, Township, Range: 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: 45.707856 Long: -119.815792 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes        No X (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.

Remarks:  
Plot location approximately 2-3 feet higher in elevation than Plot 13.

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>91</u> x 3 = <u>273</u> FACU species <u>6</u> x 4 = <u>24</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>102</u> (A) <u>322</u> (B) Prevalence Index = B/A = <u>3.16</u>
0% = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> Dominance Test is >50% Prevalence Index is ≤3.0 <sup>1</sup> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
0% = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )				
1. <u>Atriplex heterosperma</u>	<u>55%</u>	<u>Yes</u>	<u>FAC*</u>	
2. <u>Bassia scoparia</u>	<u>35%</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Sphaerophysa salsula</u>	<u>5%</u>	<u>No</u>	<u>FACU</u>	
4. <u>Onopordum acanthium</u>	<u>5%</u>	<u>No</u>	<u>NOL</u>	
5. <u>Chenopodium species</u>	<u>1%</u>	<u>No</u>	<u>FAC*</u>	
6. <u>Amaranthus species</u>	<u>1%</u>	<u>No</u>	<u>FACU*</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
102% = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>	% Cover of Biotic Crust _____			

Remarks:  
\*Assumed.



**SOIL**

Sampling Point: 14

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR 4/3	100					LS	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

<b>Restrictive Layer (if present):</b>	
Type: _____	
Depth (inches): _____	
	<b>Hydric Soil Present?    Yes _____ No <u>X</u></b>

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b>	
Surface Water Present?    Yes _____ No <u>X</u> Depth (inches): _____	
Water Table Present?    Yes _____ No <u>X</u> Depth (inches): <u>&gt;14"</u>	
Saturation Present?    Yes _____ No <u>X</u> Depth (inches): <u>&gt;14"</u> (includes capillary fringe)	
	<b>Wetland Hydrology Present?    Yes _____ No <u>X</u></b>

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

Remarks:  
Soils dry throughout.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 3/31/2022  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 15  
 Investigator(s): Sonya Templeton, Margret Harburg, Stacey Reed, PWS Section, Township, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.705524 Long: -119.817927 Datum: NAD83  
 Soil Map Unit Name: Royal Silt Loam (Unit 53A), 0% to 3% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS –**

**Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b>	
Hydric Soil Present?	Yes _____ No <u>X</u>		Yes _____ No <u>X</u>
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.			
Remarks: Plot located within Intermittent Water 1.			

**VEGETATION**

Tree Stratum (Plot size: <u>30'</u> r <u>  </u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Elaeagnus angustifolia</i></u>	50%	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>50%</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10'</u> r <u>  </u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>1</u> x 2 = <u>2</u> FAC species <u>110</u> x 3 = <u>330</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>2</u> x 5 = <u>10</u> Column Totals: <u>118</u> (A) <u>362</u> (B) Prevalence Index = B/A = <u>3.07</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0%</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> r <u>  </u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. <u><i>Atriplex heterosperma</i></u>	50%	Yes	FAC*	
2. <u><i>Xanthium strumarium</i></u>	5%	No	FAC	
3. <u><i>Nepeta cataria</i></u>	5%	No	FACU	
4. <u><i>Elaeagnus angustifolia (sprouts)</i></u>	5%	No	FAC	
5. <u><i>Onopordum acanthium</i></u>	1%	No	NOL	
6. <u><i>Euthamia occidentalis</i></u>	1%	No	FACW	
7. <u><i>Bromus tectorum</i></u>	1%	No	NOL	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>68%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10'</u> r <u>  </u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0%</u> = Total Cover				
% Bare Ground in Herb Stratum <u>32%</u>	% Cover of Biotic Crust _____			
Remarks: *Assumed FAC.				

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

Depth (inches)	Matrix		Redox Features				Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		Texture <sup>3</sup>
0-8	10YR 3/2	100					LS	
8-17	10YR 4/3	95	7.5YR 3/4	5	C	M	LS	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

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

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

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present?      Yes \_\_\_\_\_ No X      Depth (inches): >17"

Saturation Present?      Yes \_\_\_\_\_ No X      Depth (inches): >17"  
 (includes capillary fringe)

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

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

Remarks:  
 Soils dry throughout during both site visits.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow 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, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.705413 Long: -119.818335 Datum: NAD83  
 Soil Map Unit Name: Royal Silt Loam (Unit 53A), 0% to 3% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS –**

**Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.		
Remarks: Plot located near culverts under Tower Road.		

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Elaeagnus angustifolia</i></u>	<u>20%</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>20%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>65</u> x 1 = <u>65</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>51</u> x 3 = <u>153</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>118</u> (A) <u>226</u> (B) Prevalence Index = B/A = <u>1.92</u>
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0%</u> = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Schoenoplectus americanus</i></u>	<u>65%</u>	<u>Yes</u>	<u>OBL</u>	
2. <u><i>Xanthium strumarium</i></u>	<u>25%</u>	<u>Yes</u>	<u>FAC</u>	
3. <u><i>Cuscuta species</i></u>	<u>5%</u>	<u>No</u>	<u>FAC*</u>	
4. <u><i>Bassia scoparia</i></u>	<u>1%</u>	<u>No</u>	<u>FACU</u>	
5. <u><i>Atriplex heterosperma</i></u>	<u>1%</u>	<u>No</u>	<u>FAC</u>	
6. <u><i>Nepeta cataria</i></u>	<u>1%</u>	<u>No</u>	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>98%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0%</u> = Total Cover				
% Bare Ground in Herb Stratum <u>2%</u>	% Cover of Biotic Crust _____			

**Hydrophytic Vegetation Indicators:**  
 X Dominance Test is >50%  
 X Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

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

Remarks:  
 \*Assumed FAC. *Schoenoplectus americanus* observed dead with no new growth during both site visits.

**SOIL**

Sampling Point: 16

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

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

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

<b>Restrictive Layer (if present):</b>	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
Type: _____	
Depth (inches): _____	

Remarks:  
Shovel refusal at 12 inches due to cobbles and gravels.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b>
Surface Water Present?	Yes _____ No <u>X</u> Depth (inches): _____	Yes _____ No <u>X</u>
Water Table Present?	Yes _____ No <u>X</u> Depth (inches): <u>&gt;12"</u>	
Saturation Present? (includes capillary fringe)	Yes _____ No <u>X</u> Depth (inches): <u>&gt;12"</u>	

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

Remarks:  
Soils slightly moist throughout.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 3/31/2022  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 17  
 Investigator(s): Sonya Templeton, Margret Harburg, Stacey Reed, PWS Section, Township, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Sl. Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.71623172N Long: -120.07752835W Datum: NAD83  
 Soil Map Unit Name: Koehler loamy fine sand (Unit 26B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes        No X (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u>      </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>X</u>
Hydric Soil Present?	Yes <u>      </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u>      </u> No <u>X</u>	
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 inches during the two weeks prior. Conditions for March are wetter than normal.		
Remarks:		

**VEGETATION**

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0% = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0% = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )				
1. <u>Schoenoplectus americanus</u>	<u>90%</u>	<u>Yes</u>	<u>OBL</u>	
2. <u>Euthamia occidentalis</u>	<u>7%</u>	<u>No</u>	<u>FACW</u>	
3. <u>Onopordum acanthium</u>	<u>3%</u>	<u>No</u>	<u>NOL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100% = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0% = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>	% Cover of Biotic Crust <u>      </u>			

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of:        Multiply by:         
 OBL species 90 x 1 = 90  
 FACW species 7 x 2 = 14  
 FAC species 0 x 3 = 0  
 FACU species 0 x 4 = 0  
 UPL species 3 x 5 = 15  
 Column Totals: 100 (A) 119 (B)  
 Prevalence Index = B/A = 1.19

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

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

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-17	10YR 4/3	100					S	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

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

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

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)

**Field Observations:**

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

Water Table Present?    Yes \_\_\_\_\_ No \_\_\_\_\_    Depth (inches): >17"

Saturation Present?    Yes \_\_\_\_\_ No \_\_\_\_\_    Depth (inches): >17"  
 (includes capillary fringe)

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

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

Remarks:  
 Soils very dry throughout.

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Percheron City/County: Boardman/ Morrow County Sampling Date: 3/31/2022  
 Applicant/Owner: Birch Infrastructure, LLC State: OR Sampling Point: 18  
 Investigator(s): Sonya Templeton, Margret Harburg, Stacey Reed, PWS Section, Township, Range: Sec. 28, T.3N., R.24E., W.M.  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): <3%  
 Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 45.706232 Long: -119.816892 Datum: NAD83  
 Soil Map Unit Name: Sagehill fine sandy loam hummocky (Unit 55B), 2-5% slopes; Non-hydric NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes        No X (If no, explain in Remarks)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u>      </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>      </u>
Hydric Soil Present?	Yes <u>      </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u>      </u> No <u>X</u>	
Precipitation prior to fieldwork: According to the AgACIS Boardman weather station, 0.00 inches of precipitation was received on the day of fieldwork and 0.05 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: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Elaeagnus angustifolia</i></u>	<u>40%</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>40%</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Artemisia tridentata</i></u>	<u>10%</u>	<u>Yes</u>	<u>NOL</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: <u>      </u> Multiply by: <u>      </u> OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>11</u> x 5 = <u>55</u> Column Totals: <u>146</u> (A) <u>385</u> (B) Prevalence Index = B/A = <u>2.64</u>
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
3. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
4. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>10%</u> = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Atriplex heterosperma</i></u>	<u>50%</u>	<u>Yes</u>	<u>FAC*</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u><i>Schoenoplectus americanus</i></u>	<u>40%</u>	<u>Yes</u>	<u>OBL</u>	
3. <u><i>Nepeta cataria</i></u>	<u>5%</u>	<u>No</u>	<u>FACU</u>	
4. <u><i>Onopordum acanthium</i></u>	<u>1%</u>	<u>No</u>	<u>NOL</u>	
5. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
6. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
7. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
8. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
9. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
10. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
11. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>96%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>
2. <u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	
<u>0%</u> = Total Cover				
% Bare Ground in Herb Stratum <u>4%</u>		% Cover of Biotic Crust <u>      </u>		
Remarks: *Assumed FAC.				



**SOIL**

Sampling Point: 18

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

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

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.  
<sup>3</sup>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)

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

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

<b>Restrictive Layer (if present):</b>	
Type: _____	
Depth (inches): _____	
	<b>Hydric Soil Present?    Yes _____ No <u>X</u></b>

Remarks:  
Half inch duff layer present.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one required; check all that apply)</b>	<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b>	
Surface Water Present?    Yes _____ No <u>X</u> Depth (inches): _____	
Water Table Present?    Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u>	
Saturation Present?    Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)	
	<b>Wetland Hydrology Present?    Yes _____ No <u>X</u></b>

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

Remarks:  
Soils dry throughout.



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

---



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



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



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



**Photo D.** View facing south towards Plots 1 and 2 and of higher elevation topographic area including 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 F.** View south from Plot 5 showing no channel or defined bed and bank present during March 31, 2022 site visit.



**Photo G.** View east towards Plots 1, 2, and 5 showing undulating topography and rolling shrub steppe plains 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 elevation 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 J.** View east of Wetland A located within low topographic depression during October 14, 2021 site visit.



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



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



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



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



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



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



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



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



**Photo S** View facing southwest of the culvert on southern side of Tower Road 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

Project # / Name	<b>Percheron</b>	Assessor	Margret Harburg, Natural Resource Specialist								
Address		Morrow County Assessor's Map Sec 28 3N 24E, Portion of Tax Lot 100, Boardman, Oregon	Date								
Waterway Name		Intermittent Water 1	Coordinates at Lat.								
Reach Boundaries		from 4 roadside culverts to Wetland A	downstream end Long.								
Precipitation w/in 48 hours (cm)		0.00	Channel Width (m)								
			15								
		<input type="checkbox"/> Disturbed Site / Difficult Situation (Describe in "Notes")									
<b>Observed Hydrology</b>	% of reach w/observed surface flow _____ 0%										
	% of reach w/any flow (surface or hyporheic) _____ 0%										
	# of pools observed _____ 0										
<b>Observed Wetland Plants (and indicator status):</b>	<b>Observed Macroinvertebrates:</b>										
Schoenoplectus americanus, OBL Phragmites australis, FACW	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Taxon</th> <th style="width: 15%;">Indicator Status</th> <th style="width: 15%;">Ephemeroptera?</th> <th style="width: 40%;"># of Individuals</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;">N/A</td> </tr> </tbody> </table>			Taxon	Indicator Status	Ephemeroptera?	# of Individuals	N/A			
Taxon	Indicator Status	Ephemeroptera?	# of Individuals								
N/A											
<p>1. Are aquatic macroinvertebrates present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>2. Are 6 or more individuals of the Order Ephemeroptera present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>3. Are perennial indicator taxa present? (refer to Table 1) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>4. Are FACW, OBL, or SAV plants present? (Within 1/2 channel width) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>5. What is the slope? (In percent, measured for the valley, not the stream) _____ ~3 %</p>											
<b>Single Indicators:</b>		<b>Finding:</b>									
<input type="checkbox"/> Fish <input type="checkbox"/> Amphibians		<input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial									

**Notes:** (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)

**Difficult Situation:**

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

Prolonged Abnormal Rainfall / Snowpack

Below Average

Above Average

Natural or Anthropogenic Disturbance

Other: \_\_\_\_\_

**Additional Notes:** (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Shallow broad floodplain with narrow low flow channel present approximately 2-3 feet wide. OHWM was defined in change in vegetation, change in slope, and a defined bed and bank. There was no evidence of recent surface water flow or ponding. The observed wetland plants had no new growth.

**Ancillary Information:**

Riparian Corridor

Erosion and Deposition

Floodplain Connectivity

**Observed Amphibians, Aquatic Snakes, and Fish:**

Taxa	Life History Stage	Location Observed	Number of Individuals Observed