# CITY OF WEST LINN PRE-APPLICATION CONFERENCE MEETING SUMMARY NOTES September 15, 2022

SUBJECT: Flood Management Area Development Permit and Willamette River Protection Area Permit at

3801 Calaroga Dr.

**FILE:** PA-22-26

ATTENDEES: Applicant: Shaun Catlin

Staff: John Floyd (Planning), Lynn Schroder (Planning); Benjamin Gardner (Planning);

Public: N/A

The following is a summary of the meeting discussion provided to you from staff meeting notes. Additional information may be provided to address any "follow-up" items identified during the meeting. <u>These comments are PRELIMINARY in nature</u>. Please contact the Planning Department with any questions regarding approval criteria, submittal requirements, or any other planning-related items. Please note disclaimer statement below.

**Site Information:** 

Site Address: 3801 Calaroga Dr.

Legal Description: Lot 14, Riverside Park (Plat No. 701)

Tax Lot No.: 21E13CB00200

Site Area: 26,741 Square Feet +/- per site plan submitted with application

25,788 Square Feet +/- per Clackamas County Assessor

Neighborhood: Robinwood Neighborhood Association

Comp. Plan: Low Density Residential

Zoning: Residential, R-10

Zoning Overlays: Habitat Conservation Areas (Moderate to High)

Flood Management Area (Floodway and Zone AE)

Willamette Greenway

#### **Project Site and Proposed Project**

Relevant details of the project and project site include the following:

- The proposal includes the removal of an existing rear porch to be replaced with a new tiered porch structure, stairs and walkways, a covered gazebo, and new dock.
- The site contains numerous large trees and direct frontage along the Willamette River.
- The lot is presently developed with a single-family home constructed circa 1973 per Clackamas County Assessment Records.
- An 8" sewer main crosses the property near the shoreline, with an associated manhole near the northerly property line.
- Per the attached Firmette and West Linn Maps, the project site is located partially within the floodway and partially within the 1% annual flood area.
- A majority of the project area is located within high to Moderate and Low Habitat Conservation Areas.
- The application included a wetland delineation dated August 30, 2022 that concluded there are no wetlands on the project site.

#### **Planning Staff Comments**

Planning staff has the following comments on the application:

• Decks, patios, and docks are permitted uses in the zone. Note that structures requiring a building permit are subject to lot coverage limitations.

- Redesign of the easternmost wood platform and walkway should be reconsidered as (1) it is located on top of a sewer manhole, and (2) it appears to be located nearly adjacent to the side property line and a 7.5 foot sideyard setback is required. If the setback cannot be met, a variance may be required per CDC 75.
- A Flood Hazard Development Permit shall be required for the project subject to submittal requirements in CDC 27.060(C) and standards in CDC 27.070-090.
- A Willamette Greenway Permit will be required, subject to the following:
  - Submittal requirements are found in CDC 28.090 and CDC 28.120 160
  - o Approval Criteria are found in CDC 28.110

#### **Discussion:**

Topics of conversation included the following:

- Project goals
- Applicable overlays on the property
- Floodplain and Willamette Greenway permit requirements
- Necessary changes to avoid conflicts with setback standards and existing sewer infrastructure crossing the property.

#### **Engineering:**

The Engineering department provided the following comments. For further details, please contact Maryna Asuncion at 503-722-3436 or MAsuncion@westlinnoregon.gov.

There is no issue with the Applicant building the deck/walkway structure across the existing sanitary sewer easement and pipe that runs along the shoreline. If maintenance is ever required on that pipe, sections of the walkway may need to be removed at the owner's expense, but the sewer pipe appears to be lined so it's unlikely to need repair soon.

Engineering's only concern is the proposed wood platform/walkway is shown to be built over the top of a sanitary sewer manhole cover near the NE property line. Please let the Applicant know that they will need to redesign that section of the platform so that the manhole cover is not covered by any permanent structures.

#### **Building:**

For building code and ADA questions, please contact Adam Bernert at <u>abernert@westlinnoregon.gov</u> or 503-742-6054 or Alisha Bloomfield at <u>abloomfield@westlinnoregon.gov</u> or 503-742-6053.

#### **Tualatin Valley Fire & Rescue:**

Please contact Jason Arn at jason.arn@tvfr.com or 503-259-1510 with any questions. **Note that a Service Provider Permit must be presented with the application in order for the application to be deemed complete.** https://www.tvfr.com/399/Service-Provider-Permit

#### **Process**:

For the proposal, address the submittal requirements and standards for decision making in the Community Development Code (CDC) chapters in the compliance narrative, plans, and other submittal requirements:

- Chapter 11: Residential, R-10
- Chapter 27: Flood Management Areas
- Chapter 28: Willamette and Tualatin River Protection
- Chapter 34: Accessory Structures
- Chapter 38: Exceptions to Yard Requirements
- Chapter 99: Procedures for Decision Making: Quasi-Judicial

#### **Compliance Narrative:**

When preparing the compliance narrative, N/A is not an acceptable response to the approval criteria. The submittal requirements may be waived, but the applicant must first identify the specific submittal requirement and request, in letter form, that it be waived by the Planning Manager and must identify the specific grounds for that waiver.

#### Fees:

The <u>deposit</u> for Willamette and Tualatin River Protection Permit is \$1,700. The <u>deposit</u> for a Flood Management Area Permit is \$1,050.

<u>Timelines:</u> Once the application and deposit/fee are submitted, the City has 30 days to determine if the application is complete or not. If the application is not complete, the applicant has 180 days to make it complete or provide written notice to staff that no other information will be provided. Once complete, the City has 120 days from the date of completeness to make a final decision on the application.

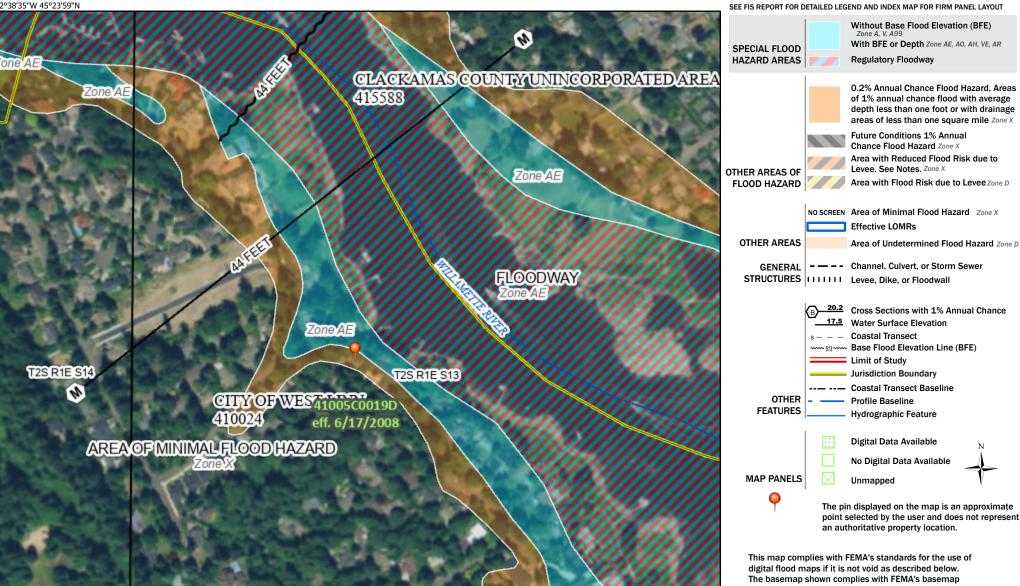
#### Typical land use applications can take 6-10 months from beginning to end.

**DISCLAIMER:** This summary discussion covers issues identified to date. It does not imply that these are the only issues. The burden of proof is on the applicant to demonstrate that all approval criteria have been met. These notes do not constitute an endorsement of the proposed application *or provide any assurance of potential outcomes*. Staff responses are based on limited material presented at this pre-application meeting. New issues, requirements, etc. could emerge as the application is developed. Pre-application notes are void after 18 months. After 18 months with no application approved or in process, a new pre-application conference is required. Any changes to the CDC standards may require a different design or submittal.

# National Flood Hazard Layer FIRMette



Legend



accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/2/2022 at 12:15 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

250 500 1,000 1,500 2.000 Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Feet

1:6,000



## PRE-APPLICATION CONFERENCE

## Thursday, September 15, 2022

Webex\*

10:00 am: Proposed Willamette River Greenway and Flood Management Permits

Applicant: Robert Endres
Property Address: 3801 Calaroga Drive

Neighborhood Assn: Robinwood Neighborhood Association

Planner: John Floyd Project #: PA-22-26



<sup>\*</sup>The pre-application conference will be conducted on Webex.

## **PRE-APPLICATION CONFERENCE**

	This S	ECTION FOR STAFF COMP	LETION	
CONFERENCE DATE:	9/15/22	<sup>Тіме:</sup> 10:00am	PROJECT#:	PA-22-26
STAFF CONTACT:	hn Floyd		FEE:	\$350
a conference, si	ubmit this this for	r on the first and third Thu m with the property owner m at least <u>15</u> days before t	r's signature, th	e fee, and

months with no application approved or in process, a new pre-application conference is required.

Address of Subject Property (or map/tax lot): 3801 CALAROGA DR. WESTLINN, OR 97068

hour notice is required to reschedule. Pre-application notes are valid for 18 months. After 18

Brief Description of Proposal: The project consists of removing the existing rear porch on the North side of the residence. Rebuilding the porch and adding planters, walkways, a lower porch, a covered gazebo with a fireplace, a walkway down to the water and a small dock in the recreational waters of the Willamette River.

Applicant's Name: SHAUN CATLIN

Mailing Address: 1661 SE 2<sup>ND</sup> ST. ASTORIA, OR 97103

Phone No: 971-222-6631 Email Address: shaun@steelandtimberconstruction.com

Please attach additional materials relating to your proposal including a site plan on paper  $\underline{up}$  to 11 x 17 inches in size depicting the following items:

- North arrow
- Scale
- Property dimensions
- Streets abutting the property
- Conceptual layout, design and/or building elevations
- Easements (access, utility, all others)

- > Access to and from the site, if applicable
- Location of existing trees, highly recommend a tree survey
- Location of creeks and/or wetlands, highly recommend a wetland delineation
- Location of existing utilities (water, sewer, etc.)

Please list any questions or issues that you may have for city staff regarding your proposal:

The main question I have is how to submit the DSL and Army Corps joint permit application and what information I need to provide them other than what I have covered here.

prepare for the pre-	-application conference.	
Robert 1	Endres	8-30-22
Property owner's sign	ature	Date

By my signature below. I grant city staff right of entry onto the subject property in order to

ROBERT & ROBIN ENDRES (address same as above)

## **Endres Residence back yard development proposal statement**

The scope of the project consists of:

- 1. Removing the home's existing porch
- 2. Building a new tiered porch structure that flows with the terrain, cascading down the hill in close proximity to the existing contours.
- 3. Building a small gazebo (19'x18') with a fireplace.
- 4. Building a staircase from the new porch down the hillside to the water. The main goal of this staircase is to provide a safe and sturdy route down to the recreational waters of the Willamette River from the residence.
- 5. Installing a new boat dock consisting of a few steel pilings that will be driven into the river bed, a 10'x30' boat dock and a ramp from the shore area out to the dock.

<u>Changes to the site</u> are fairly minimal. The new gazebo will have some minor footings on two sides of the structure, but other than that everything else will utilize post hole footings and PT 4x4's as a means of holding the structures upright. All of the surfaces including the gazebo will be an open joint decking material per the owner's specification. The open joint decking paired with the 4x structural pier system allows this large structure to sit very lightly on the terrain and allows water to drain through its permeable surface.

<u>The structure</u> as I mentioned above is a 4x4 post and pier system that will be attached to the undersides of the porches via Simpson brackets topping the posts and attaching to the structural girders. The gazebo structure will consist of two cinderblock walls with a stack stone façade. The floor and roof system will be pressure treated lumber and supported by structural posts opposite the two walls. See page G-3 for Gazebo layout and elevations.

In terms of landscaping, we have utilized an asymmetrical tiered planter system that allows bushes and small trees to be planted all around the new porch structure which keeps nature in very close proximity to the livable area of this porch. The new planter's combined area is 493 SF. No additional landscaping is proposed at this time other than the new planters. We are removing two existing trees, but as you can see from the tree survey included with this application as well as the spreadsheet on Page G-2 of the plan the two trees we plan to remove are in fairly poor condition so we don't think this will affect the landscape much if at all.

The only new <u>parking</u> for the proposed project is boat parking in the form of the new dock. All car parking will remain the same.

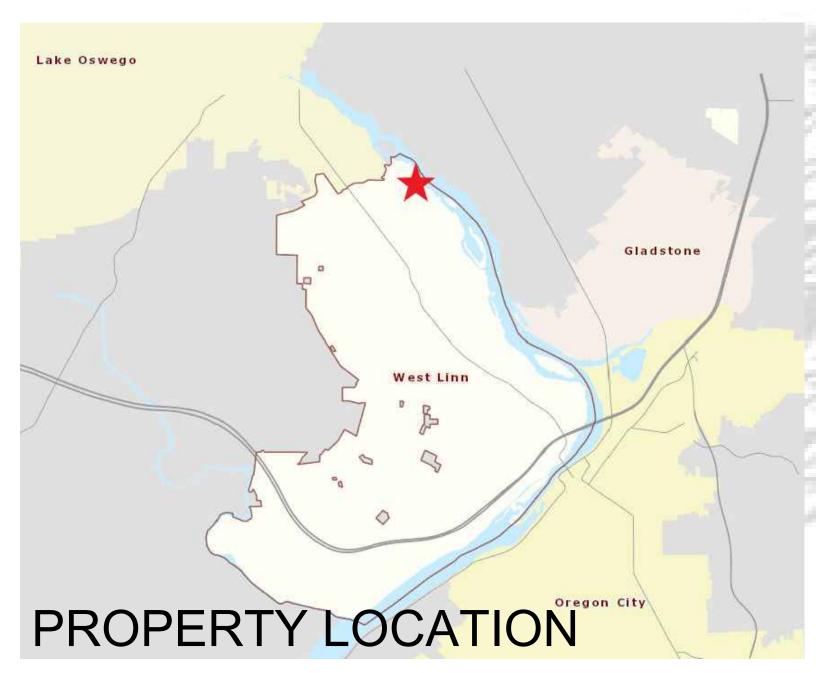
The <u>land use</u> will not change much as the areas in which we are adding this new porch are already utilized for porch like functions. The new structure will simply make the area much safer to inhabit by creating level surfaces and installing handrails to help protect against fall hazards near the steep slope. The structure also replaces the current path to the water which has been cut in to the hillside (and is quite treacherous to navigate even when dry) with a new staircase that safely leads people from the house to the recreational waters of the Willamette River and back again.

# Endres Residence Porch Addition









# **ADDRESS:**

3801 CALAROGA DR WEST LINN, OR 97068

# **DESCRIPTION OF WORK:**

SECOND MASTER BEDROOM ADDITION AS WELL AS ENTRY CANOPY, AND OTHER COSMETIC EXTERIOR UPGRADES.

# **BUILDING AREAS:**

EXISTING: 2823 SF ADDITION: 798 SF TOTAL: 3621 SF

GARAGE: 840 SF BALCONY: 114 SF

# **IMPERVIOUS AREAS:**

ROOF: 4059 SF DRIVEWAY: 1963 SF

TOTAL: 6022 SF (22.5% OF LOT AREA)

# **LEGAL DESCRIPTION**

RIVERSIDE PARK, LOT 14 PROPERTY ID: 200 TAX MAP: 2 1 E 13CB

# **ZONING INFORMATION:**

CITY OF WESTLINN TYPE: R-10

LOT SIZE: 0.61 ACRES (26,741 SF)

# **REQUIRED SETBACKS**

FRONT: 20' REAR: 20' SIDE: 7.5' GARAGE: 18'

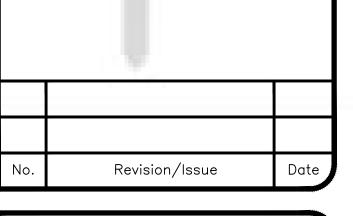
MAX ALLOWED BUILDING COVERAGE: 9359 SF (35% OF LOT) PROPOSED BLDG COVERAGE: 3368 SF (12.59% OF LOT)

MAX BLDG HEIGHT: 30'-0" PROPOSED BLDG. HEIGHT: 22'-11 1/2"

- TOILET TO USE MAX 1.6 GAL PER. FLUSH. SHOWER ENCLOSURE TO BE MADE OF
- LEGAL STANDARDS AND BEST PRACTICES

# PAGE DIRECTORY

G-1: COVER PAGE G-2: SITE PLAN G-3: SITE ELEVATION



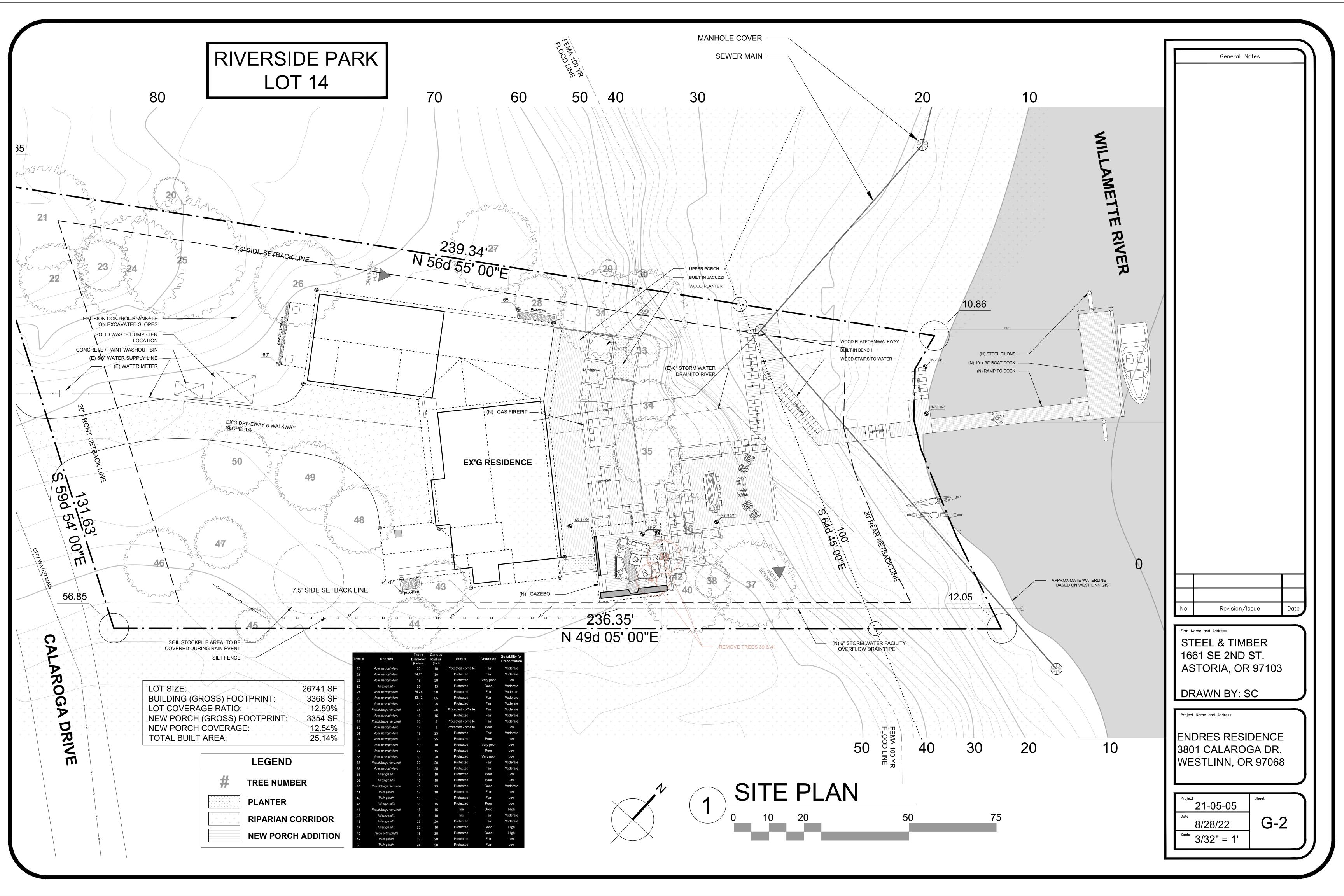
STEEL & TIMBER 1661 SE 2ND ST. ASTORIA, OR 97103

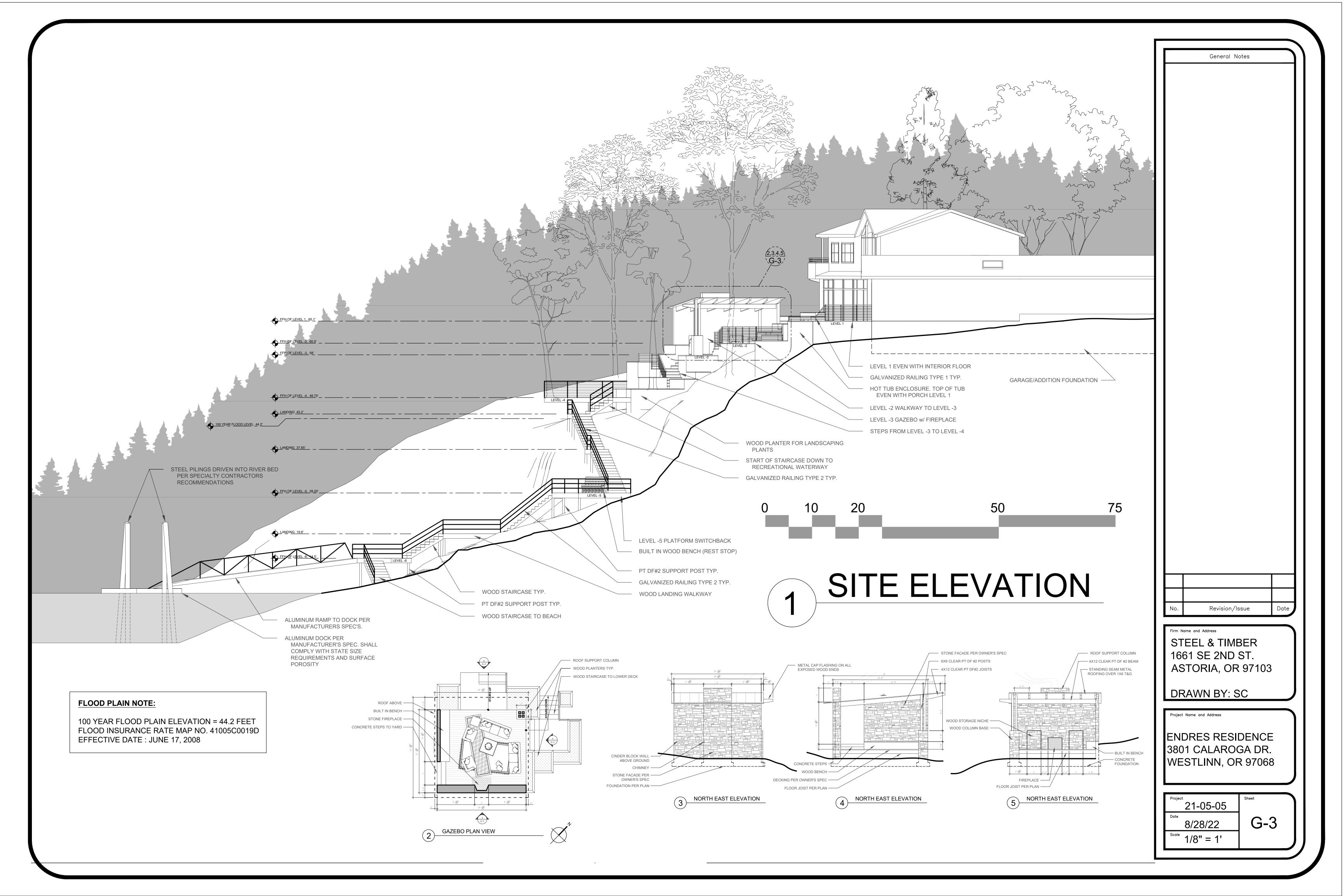
DRAWN BY: SC

Project Name and Address

**ENDRES RESIDENCE** 3801 CALAROGA DR. WESTLINN, OR 97068

Project 21-05-05	Sheet
Date 8/28/22	G-1
Scale NTS	







or: 503-353-9691 FAX: 503-353-9695 WA: 360-735-1109 www.envmgtsys.com 4080 SE International Way Suite B-112 Milwaukie, OR 97222

# **Wetland Delineation**

Section 13, Township 2 South, Range 1 East, Tax Lot 200 Parcel number: 00296959 West Linn, OR

**Prepared for:** 

Robert Endres 3801 Calaroga Dr. West Linn, OR 97068

Project:

**Endres West Linn** 

#### **Prepared By:**

**Environmental Management Systems, Inc.** 

4080 SE International Way Ste. B-112 Milwaukie, OR 97222

EMS Project Number: 22-0065

August 30, 2022

#### **Table of Contents**

A)	Landscape Setting and Land Use	3
, В)	Site Alterations	
-		
C)	Precipitation Data and Analysis	
1	Table 1. Portland KGW TV weather station daily summarized precipitation data for May 2022	4
7	Table 2. WETS Station table for Portland KGW-TV for years 2000-2022	5
	Cable 3. NOAA Northwest River Forecast Center Water Year Precipitation Table for October 1st,         2021, through May 25th, 2022	5
D)	Methods	5
E)	Description of All Wetlands and Other Non-Wetland Waters	7
F)	Deviation from LWI or NWI	8
G)	Mapping Method	8
H)	Additional Information	8
7	Fable 4. Vegetation observed in the study area on Site	8
I)	Results and Conclusions	9
J)	Disclaimer	9
Lite	erature Cited and Referenced	10

#### Appendix A: Maps

Figure 1. Location Map from City of West Linn GIS.

Figure 2. Clackamas County Tax Lot Map.

Figure 3a. Local Wetland Inventory Map West Linn.

Figure 3b. National Wetlands Inventory Map.

Figure 4a-4b. Natural Resources Conservation Service (NRCS) Web Soil Survey Map.

Figure 5. Google Earth Aerial Photograph from 06/2021.

Figure 6. Test Pit Location and Wetland Delineation Map.

**Appendix B**: Wetland Determination Data Forms

**Appendix C**: Representative Site Photos

**Appendix D**: Precipitation Data

Figure 8. Historic Google Earth Aerial Image from July 2001.

## A) Landscape Setting and Land Use

The study area (see Appendix A.), referred to hereafter as "Site", is the portion of the tax lot 200 (roughly .59-acres) in Township 2S, Range 1E of the NW ¼ of the SW ¼ of Section 13. The study area consisted of the landscape east of the house on Site, including the cliff and the area east of the cliff adjacent to the Willamette River. The Site is situated on a hillslope facing northeast that is adjacent to the Willamette River in West Linn, Oregon. The Site is developed with a single-family dwelling that sits roughly in the center of the property and contains a detached garage to the west. The Willamette River lies roughly 80 to 90 feet east and northeast of the dwelling. Site elevations run from 10 feet to 65 feet above sea level (see Appendix D. Figure 8).

The landscape setting for a large part of the Site is disturbed soil and disturbed vegetation that has been cleared of native vegetation. The landscape to the east and northeastern portion of the property, east of the cliff, is altered soil and vegetation that includes rock overlay and soil grading. A portion of the property along the Willamette River is a sandy beach. The landscape to the west of the cliff on the Site is altered soil and vegetation that includes mulch overlay over the soil and plant removal/addition.

According to the mapping by the Natural Resource Conservation Service (NRCS), the soil on the Site is 91C-Woodburn silt loam, 8 to 15 percent slopes, and W-Water. Both are classified as hydric.

The current land use was previously and is currently residential, and the property is zoned within the urban growth boundary.

## B) Site Alterations

According to historic aerial photographs reviewed on Google Earth, the Site alterations appeared to have occurred prior to the first legible historic aerial dating back to July 2001 (see Appendix D, Figure 9). Landscape alterations on the Site were taking place during the Site visit EMS conducted on May 25<sup>th</sup>,2022; this included soil grading and alteration in the northeast portion of the study area adjacent to the Willamette River.

The western portion of the Site, to the west of the cliff, has been mostly cleared of native vegetation and had mulch overlayed on the soil. The northeastern portion of the Site along the Willamette River has been mostly cleared of native vegetation and the soil has been graded and had a rock overlay at some point to alter the topography of the section. The eastern portion of the Site along the Willamette River appears to be unaltered.

## C) Precipitation Data and Analysis

The Portland KGW-TV weather station WETS table for the years 2000 through 2022 was used to analyze precipitation data. The station is located approximately 11 miles northwest of the Site at 45.5181°, -122.6894°. Daily data for the month was used to summarize the rainfall data that recorded approximately 1.52 inches of rainfall for the two weeks preceding and the days of the initial field investigation (see Table 1). 0.06 inches of precipitation occurred the day of the initial field investigation on May 25<sup>th</sup>, 2022.

Table 1. Portland KGW TV weather station daily summarized precipitation data for May 2022.

Climatological Data for PORTLAND KGW-TV, OR - May 2022

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Dept
2022-05-01	65	48	56.5	17	7	0.00	M	M
2022-05-02	57	45	51.0	11	1	0.33	M	M
2022-05-03	60	46	53.0	13	3	0.00	M	M
2022-05-04	74	45	59.5	20	10	0.00	M	M
2022-05-05	60	45	52.5	13	3	0.44	M	M
2022-05-06	58	47	52.5	13	3	0.80	M	M
2022-05-07	55	45	50.0	10	0	0.34	M	M
2022-05-08	49	41	45.0	5	0	0.19	M	M
2022-05-09	53	39	46.0	6	0	0.01	M	M
2022-05-10	60	41	50.5	11	1	0.01	M	M
2022-05-11	60	41	50.5	11	1	0.00	M	M
2022-05-12	53	42	47.5	8	0	0.29	M	M
2022-05-13	56	37	46.5	7	0	0.24	M	M
2022-05-14	69	48	58.5	19	9	0.48	M	M
2022-05-15	67	55	61.0	21	11	0.22	M	M
2022-05-16	63	53	58.0	18	8	0.00	M	M
2022-05-17	65	45	55.0	15	5	0.00	M	M
2022-05-18	61	46	53.5	14	4	0.18	M	M
2022-05-19	56	44	50.0	10	0	0.10	M	M
2022-05-20	60	42	51.0	11	1	0.00	M	M
2022-05-21	71	44	57.5	18	8	0.00	M	M
2022-05-22	75	48	61.5	22	12	0.00	M	M
2022-05-23	70	54	62.0	22	12	0.00	M	M
2022-05-24	68	47	57.5	18	8	T	M	М
2022-05-25	73	53	63.0	23	13	0.06	M	M
2022-05-26	73	56	64.5	25	15	0.20	M	М
2022-05-27	61	52	56.5	17	7	0.22	M	M
2022-05-28	60	50	55.0	15	5	0.31	М	М
2022-05-29	59	49	54.0	14	4	0.24	M	M
2022-05-30	64	47	55.5	16	6	0.03	М	М
2022-05-31	78	50	64.0	24	14	0.00	M	M
Average Sum	63.0	46.6	54.8	467	171	4.69	М	М

The Natural Resources Conservation Service (NRCS) WETS table for the period from 2000-2022 shows the observed rainfall at the KGW-TV station in Portland for February 2022 was 2.86 inches, March 2022 was 4.42 inches, and April 2022 was 6.22 inches. According to the WETS table (see Table 2) in February, the 30% and 70% exceedance values were 2.81 inches and 4.98 inches; For March, the 30% and 70% exceedance values were 3.53 inches and 5.62 inches. For April, the 30% and 70% exceedance values were 2.48 inches and 4.13 inches.

Table 2. WETS Station table for Portland KGW-TV for years 2000-2022.

WETS Station: PORTLAND KGW-TV, OR Requested years: 2000 -2022 Month Avg Max Avg Min Avg Avg number days precip 0.10 or more chance chance Snowfall Temp Temp precip less precip 42.4 4.47 7.23 13 Jan 47.2 37.7 6.14 1.3 Feb 49.9 38.2 44.1 4.16 2.81 4.98 10 1.1 55.2 40.7 4.79 3.53 12 0.1 43.7 52.3 2.48 4.13 0.1 Apr 60.9 3.49 10 2.43 68.1 49.2 58.6 1.46 2.94 0.0 May 73.7 53.8 63.8 1.47 0.88 1.78 0.0 Jul 58.0 69.4 0.33 0.21 0.40 80.8 58.7 0.0 81.0 69.9 0.47 0.11 0.49 Aug Sep 54.9 0.0 62.7 48.0 55.4 3.70 2.23 4.48 9 0.0 52.4 41.7 47.0 6.10 4.25 7.26 13 0.0 37.0 7.41 5.27 8.77 14 1.3 Dec 45.7 41.3 Annual: Average 42.35

The observed rainfall for the water year of October 2021 through May 26, 2022, for the KGW TV weather station was 45.01 inches. The Water Year Precipitation Table was obtained from the Northwest River Forecast Center (see Table 3) for October 1<sup>st</sup>, 2021, through May 25<sup>th</sup>, 2022. The amount of water for the water year was 54.9 inches at 92% normal for the Willamette River Basin above Portland.

Table 3. NOAA Northwest River Forecast Center Water Year Precipitation Table for October 1<sup>st</sup>, 2021, through May 25<sup>th</sup>, 2022.

Western Oregon								
DIVISION NAME	OBSERVED (in)	NORMAL (in)	DEPARTURE (in)	PERCENT of NORMAL				
Coastal River Basins	78.6	82.7	-4.1	95				
Clackamas River Basin	70.2	65.1	5.2	108				
Willamette Headwater River Basins	56.3	56.6	-0.3	100				
Willamette River Basin abv Harrisburg	49.4	63.3	-13.9	78				
Santiam River Basin	70.0	71.4	-1.4	98				
Willamette River Basin above Portland	54.9	59.7	-4.8	92				
Coquille River Basin	38.7	62.9	-24.2	62				
Umpqua River Basin	30.9	46.3	-15.5	67				
Rogue-Illinois River Basins	30.3	45.1	-14.8	67				
Report created 05/26/2022	30.3	43.1	-14.6	67				

## D) Methods

The field investigation was conducted on May 25<sup>th</sup> and May 26<sup>th</sup> of 2022 and additional field visit was done on August 18<sup>th</sup>, 2022, to observe the NWI mapped wetland during the dry season to allow safe access to the area, due to a lower water level for the Willamette River. Before visiting the Site, EMS gathered and analyzed data about the property that included tax lot maps, soil surveys, National Wetland inventory maps,

Local Wetland Inventory Maps, surveys, aerial photography, and climate The investigation utilized methodologies defined in The Army Corps of Engineers Wetlands Delineation Manual, January 1987 and in the Regional Supplement for Western Mountains, Valleys, and Coast region<sup>4</sup>. The Regional Supplement recognizes the differences in climate, geology, hydrology, soils, and vegetation that varies regionally and provides wetland indicators, delineation guidance, and other information specific to the western mountains, valleys, and coastal regions of the western United States. The project Site lies in USDA Land Resource Region (LRR) A.

Wetland data was recorded on United States Army Corps of Engineers (USACE) wetland determination field forms (see Appendix D.) which served as worksheets for determining the presence or absence of wetland hydrology, hydric soils, and hydrophytic vegetation (see Appendix A, Maps). Vegetation species were rated using the 2016 and 2020 National Wetland Plants List for the Western Mountains, Valleys, and Coast Region.

Prior to conducting quantitative data, the study area was explored for a visual assessment of plant communities, hydrological conditions, topography, and property boundaries. Exploratory soil samples and plant transects were taken to search for hydric soil and hydrophytic plant indicators. Data was collected for the two Data Sets that best represented upland and wetland conditions at the proposed wetland boundary. One additional wetland plot was taken in an area suspected to be a wetland because of its topographic setting in the landscape with proximity to the Willamette River. At least one test pit sample plot was taken within each soil map unit and within the NWI mapped wetland area.

Data set sample plots were chosen based on transitions in the plant communities and topographical changes. Site topography was also taken into account, as portions of the Site were inaccessible due to the Willamette River, the cliff on the Site, and unstable ground. Boundaries of the river adjacent to the Site and any wetlands present were determined using visual water marks and water table analysis via pits at the time of the Site visit.

Transect sizes were chosen to best represent the study area based on plant communities and topography. Tree and Sapling/Shrub transects were approximately 15 feet by 15 feet squares. The Herb transects were approximately 10 feet by 10 feet squares. Boundaries of the 10 feet by 10 feet sample plot vegetation transects were marked in the field using green flagging. Pink flagging was used to mark paired test pits, referred to as Data Sets (DS): DS-1 (proposed wetland plot) and DS-2b (proposed upland plot), DS-3 (proposed wetland plot) & DS-4 (proposed upland plot). Soil test pits were excavated to 14-16 inches below grade within the Data Sets. Pink wetland survey tape was used to mark the boundary of any wetland on the Site.

Due to the inability to access the NWI mapped wetland area in May of 2022, an additional field investigation was done by EMS on August 18<sup>th</sup>, 2022, to conduct additional wetland plot in the vicinity of NWI mapped wetland location (see Appendix B, Data Form 2a). DS-1 was as close as the investigation could safely get to the wetland mapped on Site per the NWI Mapper at the time of the initial investigation in May of 2022. A total of 2 proposed upland plots and 3 proposed wetland plots were completed (see Appendix A, Figure 6).

Additional soil test pits were also excavated to observe soil characteristics, redoximorphic features, and a visible water table or saturation that aided in locating wetland boundaries. Data set GPS coordinates were taken using a Garmin handheld GPS device.

## E) Description of All Wetlands and Other Non-Wetland Waters

The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Wetland Mapper<sup>5</sup>, has a Riverine mapped on the Site, classified as R1UBV (see Appendix A., Figure 3b). A Freshwater Forested/Shrub Wetland was mapped in the eastern corner of the Site and adjacent to the Site to the east on parcel number 00296940; classified as PFO1C (see Appendix A, Figure 3b).

The Local Wetland Inventory (LWI) for West Linn<sup>6</sup> has no wetlands mapped on or adjacent to the Site (see Appendix A, Figure 3a).

#### Wetlands

No wetland conditions were found on the Project Site.

#### **Uplands**

All of the Data Sets DS-1, DS-2a, DS-2b, DS-3, and DS-4 documented upland conditions. Plot DS-1 contained soils that had a restrictive layer at 1 inch below grade, preventing identification of hydric soil indicators. Plot DS-1 contained hydrophytic vegetation dominated by *Rubus armeniacus* (FAC), *Populus balsamifera* (FAC), and *Hedera helix* (FACU) but was determined upland due to no wetland hydrology indicators and the inability to determine the presence of hydric soil indicators. DS-2a soils had a restrictive boulder/cobble layer and prevented soil analysis; the NRCS soil map listed 91C-Woodburn silt loam, 8 to 15 percent slopes, as hydric and wetland hydrology indicators were present. DS-2a was dominated by *Hedera helix* (FACU) and *Rubus armeniacus* (FAC) and determined to be non-hydrophytic, therefore it was determined to be upland. DS-2b was dominated by *Acer macrophyllum* (FACU), *Abies grandis* (FACU), *Hedera helix* (FACU), and *Polystichum munitum* (FACU). DS-2b had no hydric soil indicators and no wetland hydrology indicators, therefore it was determined to be upland.

DS-3 was dominated by *Populus balsamifera* (FAC) and *Holcus lanatus* (FAC) with the majority of the plot containing no species of any stratum due to the presence of surface water and proximity to the Willamette River; on an additional Site visit on May 26<sup>th</sup>,

2022, the plot was submerged with water from the Willamette River. DS-3 contained wetland hydrology indicators with a water table present at 12 inches, saturation present at 10 inches, and surface water present due to around 1 inch of Willamette River surface water presence within the transect. DS-3 did not contain hydric soil indicators and was therefore determined to be upland.

DS-4 was dominated by *Geranium lucidum* (Presumed FACU), *Rubus armeniacus* (FAC) and *Hedera helix* (FACU) with no species in the tree stratum present in the sample plot. DS-4 contained no hydric soil indicators and no wetland hydrology indicators, therefore it was determined to be upland.

## F) Deviation from LWI or NWI

No deviation from the LWI mapping was found. The Riverine was observed adjacent to the Site and no other wetland was observed on the Site, in line with the LWI West Linn mapping.

The NWI lists a PFO1C Freshwater Forested/ Shrub Wetland approximately in the far eastern corner of the Site. Due to the unsafe conditions of the cliff and topographic constraints where the NWI contained a mapped wetland, DS-1 was as close as the investigation could allow for the initial site visit on May 25<sup>th</sup>, 2022. On August 18<sup>th</sup>, 2022, EMS conducted an additional field investigation to access the area the NWI mapped wetland was located. It was determined the area did not contain a wetland. See data determination forms in Appendix B.

## G) Mapping Method

Proposed parcel boundaries were marked by wooden stakes at the time of EMS's initial visit on May 25<sup>th</sup>, 2022. These markers were used to estimate approximate property lines for the determination data sets. Data Set test pits and wetland boundaries, if found, were professionally land surveyed by Andy Paris and Associates in August of 2022, with submeter accuracy.

## H) Additional Information

A detailed topographic survey was conducted by Andy Paris and Associates, Inc. in June and July 2022 (see Figure 8, Appendix D).

Table 4. Vegetation observed in the study area on Site.

Species	Indicator Status
Abies grandis	FACU
Acer macrophyllum	FACU
Bromus species	UPL*
Carex lacustris	OBL
Corylus cornuta	FACU
Danthonia californica	FAC
Geranium lucidium	FACU**
Hedera helix	UPL

Holcus lanatus	FACU
Leucanthemum vulgare	FACU
Lotus corniculatus	FAC
Lythrum salicaria	OBL
Maianthemum racemosum	FAC
Polystichum munitum	FACU
Populus balsamifera	FAC
Prosartes trachycarpa	FACU
Rubus armeniacus	FAC
Rubus ursinus	FACU
Schizachne purpurascens	FACU
Symphoriacarpos albus	FACU
Triticum aestivum	UPL
*	Assumed UPL
**	Assumed FACU

## I) Results and Conclusions

The field investigation found that no wetland was determined on Site. None of the Data Sets were determined to be Wetland. All Data Sets were determined to be Upland.

## J) Disclaimer

This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of my 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 <a href="OAR 141-090-0005">OAR 141-090-0005</a> (Purpose) through <a href="141-090-0055">141-090-0055</a> (Effective Date).

#### Literature Cited and Referenced

- Cook, Sarah Spear. 1997. A Field Guide to the Common Wetland Plants of Western Washington and Northwestern Oregon. Seattle Audubon Society. Washington Native Plant Society.
- Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.
- Environmental Laboratory. (2010). "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)". Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.
- Federal Geographic Data Committee. 2013. "Classification of wetlands and deepwater habitats of the United States". FGDC-STD-004-2013. Second Addition. Wetlands Subcommittee, Federal Geographic Data Committee and US Fish and Wildlife Service, Washington, DC.
- Guard, B. Jennifer. (1995). *Wetland Plants of Oregon and Washington*. Vancouver, BC: Lone Pine Publishing.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. (2016). "Western Mountains, Valleys & Coast 2016 Regional Wetland Plant List," *The National Wetland Plant List*: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X
- National Resource Conservation Service. (2017). "Web Soil Survey". US Department of Agriculture. Interactive map. Retrieved from: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx
- United States Department of Agriculture, Natural Resources Conservation Service. 2016. The PLANTS Database. National Plant Data Team. Greenboro, NC 27401-4901 USA. Retrieved from: https://plants.usda.gov/home/wetlandSearch
- United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296.
- United States Army Corps of Engineers 2020. National Wetland Plant List, version 3.5.
- Pojar, M., MacKinnon, A. (1994). *Plants of the Pacific Northwest Coast*. Vancouver, BC: Lone Pine Publishing.
- Thien. S. (1979). *A flow diagram for teaching texture by feel analysis.* Journal of Agronomic Education. 8:54-55.
- United States Department of Agriculture, Natural Resources Conservation Service. (2002). *Field Book for Describing and Sampling Soils, Version 2.0.* National Soil Survey Center. Lincoln, Nebraska.

- United States Department of Agriculture, Natural Resources Conservation Service. (2016). Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 8.1, 2017. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- United States Department of Agriculture, Natural Resources Conservation Service. (2008).

  Hydrogeomorphic Wetland Classification System: An Overview and Modification to Better Meet the Needs of the Natural Resources Conservation Service. Technical Note No 190-8-76.
- United States Fish & Wildlife Service (2017). "National Wetlands Inventory Surface Waters and Wetlands". Wetlands mapper. Retrieved from: https://www.fws.gov/wetlands/data/mapper.html

X-Rite Munsell (2013). Soil Book of Color. Grand Rapids, MI: X-Rite.

# Appendix A. Maps

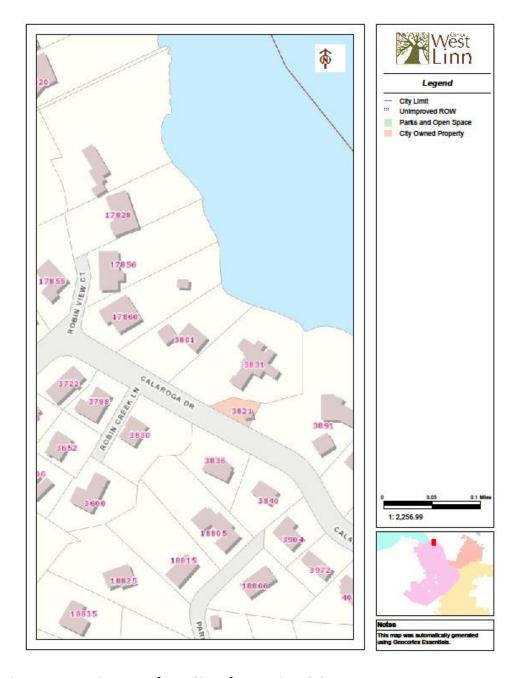


Figure 1. Location Map from City of West Linn GIS.

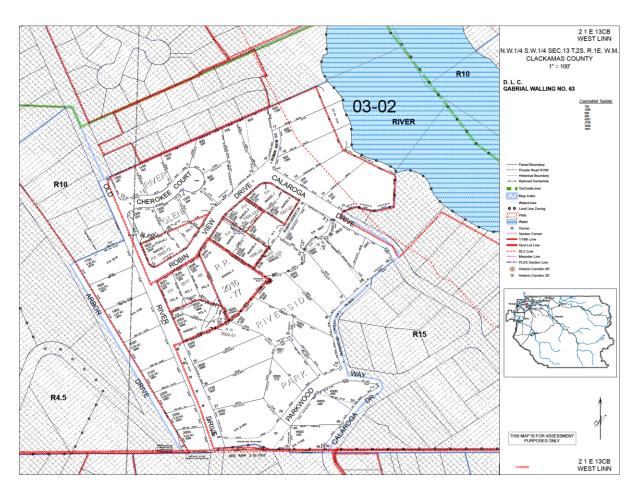


Figure 2. Clackamas County Tax Lot Map.

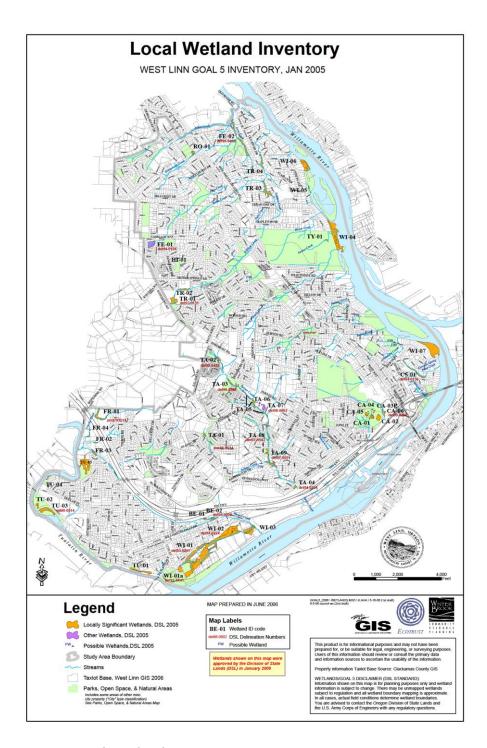


Figure 3a. Local Wetland Inventory Map West Linn.



Figure 3b. National Wetlands Inventory Map.



Figure 4a. Natural Resources Conservation Service (NRCS) Web Soil Survey Map.

# **Map Unit Legend**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
91C	Woodburn silt loam, 8 to 15 percent slopes	0.5	98.9%
W	Water	0.0	1.19
Totals for Area of Interest		0.5	100.09

Figure 4b. Natural Resources Conservation Service (NRCS) Web Soil Survey Map Legend.



Figure 5. Google Earth Aerial Photograph from 06/2021.

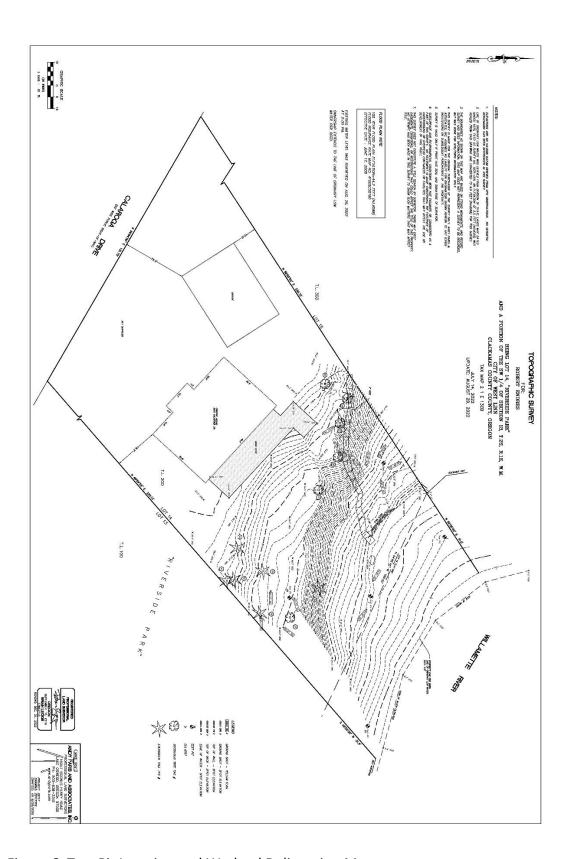


Figure 6. Test Pit Location and Wetland Delineation Map.

# **Appendix B. Data Forms**

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

Project/Site: 3801 Calaroga Dr. West Lin	City/0	City/County: West Linn/Clackamas Sampling Date: 05/25/22						
Applicant/Owner: Robert Endres		- 80 00	State: OR Sampling Point DS-1					
Investigator(s): Gus McKinley		Sect	Section, Township, Range: SEC: 13, T: 2S, R: 1E, TL: 200					
Landform (hillslope, terrace, etc.): Hillslope					convex, none): C			pe (%): 10
Subregion (LRR): A	Lat				Long: -122.63			m: WGS84
Soil Map Unit Name: 91C-Woodburn silt k					70	classificatio		
Are climatic / hydrologic conditions on the sit			res I	/ No	(If no, exp			
Are Vegetation, Soil, or Hydr					'Normal Circumst			No
Are Vegetation, Soil, or Hydr					eded, explain any			
SUMMARY OF FINDINGS - Attac								atures, etc.
Hydrophytic Vegetation Present?	′es No/			12000 10073 1	DOMAK.			6
	'es No	_	50000000	e Sampled in a Wetlar	Area	-	No	
	′es No <b>/</b>	<u> </u>	Asifu	in a wellar	ior re	<b></b>	. NO	-
Remarks:								
Hydrophytic vegetation was not pre	sent. Hydric soil ii	ndicato	's we	re not pre	sent. Wetland	l hydrolog	gy not prese	nt.
VEGETATION – Use scientific na	AT THE PROPERTY OF THE PERSON				D!			
Tree Stratum (Plot size: 15'x15'	% Co			Indicator Status	Dominance Te Number of Dom			
1					That Are OBL,			(A)
2			100		Total Number o	f Dominant		29 37 39
3					Species Across			(B)
4					Percent of Dom	inant Spec	ior	20 274 386
5 m 5 15/x15	, <u>o</u>	= To	otal Co	ver	That Are OBL,			(A/B)
Sapling/Shrub Stratum (Plot size: 15'x15	)				Prevalence Inc	lex worksl	reet:	
1	77				Total % Co	ver of:	Multipl	y by:
2		_			OBL species	100	x1=	
3	700				FACW species		x 2 =	
5			_		FAC species	33	x3= 99	
<u>.                                    </u>	0		otal Co	ver	FACU species	55	_ x4 = 220	
Herb Stratum (Plot size: 10'x10'					UPL species	4	x 5 = 20	<del></del>
1. Geranium lucidum	35	Ye:		FACU**	Column Totals:	92	(A) <u>339</u>	(B)
2. Rubus armeniacus	30	Yes	_	FAC	Prevalenc	e Index =	B/A = 3.68	
3. Hedera helix	20	Yes	<u> </u>	FACU	Hydrophytic V	egetation	Indicators:	
4. Triticum aestivum	3			UPL*	1 - Rapid T	est for Hyd	rophytic Veget	ation
5. Danthonia californica	<u>3</u> 1			FAC UPL*	2 - Domina	nce Test is	>50%	
6. Bromus species			-	UPL	3 - Prevale			
7					4 - Morpho	logical Ada	ptations¹ (Prov r on a separate	ide supporting
8			150		to the second second		ular Plants <sup>1</sup>	ander,
9	3.0.						tic Vegetation <sup>1</sup>	(Explain)
11					<sup>1</sup> Indicators of hy		1 <del></del>	
	92	= To	tal Cov		be present, unle	ess disturbe	ed or problema	tic.
Woody Vine Stratum (Plot size:				1 <del>11</del> 1				
1					Hydrophytic			
2					Vegetation Present?	Van	No	
% Bare Ground in Herb Stratum 8	_	= To	tal Co	/er	Presentr	105_	NO	
Remarks: Hyrophytic vegetation not present. *Assumed UPL. **Assumed FACU.								

US Army Corps of Engineers

SOIL Sampling Point: DS-1

Depth (inches) 0-3	Matrix		Rede	ox Feature	<u> </u>			
J-J	Color (moist)	%	Color (moist)	- %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	10YR 3/3		-13				Silt loam	No redox
3-10	10YR 3/3	_ 98	5YR 4/6	_ 2	<u>C</u>	<u>M</u>	Silt loam	Prominent contrast
10-15	10YR 3/3	93	5YR 4/6	7	<u>C</u>	<u>M</u>	Silt loam	Prominent contrast
			M=Reduced Matrix, C			ed Sand G		cation: PL=Pore Lining, M=Matrix.
		icable to a	II LAAs, unless othe		lea.)			ors for Problematic Hydric Soils <sup>3</sup> :
Histoso	57 B		Sandy Redox					m Muck (A10)
	pipedon (A2)		Stripped Matrix		4\ /	A BOL 17 A 14 S		d Parent Material (TF2)
Hydroge	listic (A3) en Sulfide (A4)		Loamy Mucky Loamy Gleyed	Matrix (F.		(MLRIAI)		y Shallow Dark Surface (TF12) er (Explain in Remarks)
	d Below Dark Surfa	ace (A11)	Depleted Matri				3.	
	ark Surface (A12)		Redox Dark Si		0.00000			ors of hydrophytic vegetation and
	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark Redox Depres					and hydrology must be present, ss disturbed or problematic.
lestrictive	Layer (if present):	•		(1 O)	·			and an arrangement of the second
	oulder/Rock nches): 15						Hydric Soi	I Present? Yes No ✔
inches be	low grade for the te et the indicators for	st pit.				,		ot. Restrictive boulder/rock layer was
YDROLO	)GY							
Vetland Hy	drology Indicators							
	rai ology iliaicatori	s:						
rimary Indi			ed; check all that app	ıly)			Seco	ndary Indicators (2 or more required)
Surface	cators (minimum of Water (A1)		Water-Sta	ained Leav	/es (B9) (e	эхсөрі		Water-Stained Leaves (B9) (MLRA 1,
Surface High Wa	icators (minimum of Water (A1) ater Table (A2)		Water-Sta	ained Leav 1, 2, 4A,		эхсөрt		Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
Surface High Wa Saturati	cators (minimum of Water (A1) ater Table (A2) ion (A3)		Water-Sta MLRA Salt Crus	ained Leav 1, 2, 4A, t (B11)	and 4B)	эхсөрt		Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10)
Surface High Wa Saturati Water M	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1)		Water-Str MLRA Salt Crus Aquatic Ir	ained Leav 1, 2, 4A, t (B11) overtebrate	and 4B) es (B13)	эхсэрt	_ r	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Surface High Wa Saturati Water M	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2)		Water-Sta MLFA Salt Crus Aquatic Ir Hydrogen	ained Leav 1, 2, 4A, t (B11) nvertebrate Sulfide C	and 4B) es (B13) dor (C1)		v r s	Water-Stained Leaves (B9) (MLFA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
Surface High Wa Saturati Water M Sedime Drift De	cators (minimum of water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3)		Water-Sta ML FA Saft Crus Aquatic Ir Hydroger Oxidized	ained Leav 1, 2, 4A, t (B11) nvertebrate Sulfide C Rhizosphe	and 4B) es (B13) dor (C1) eres along	Living Roo	\\ [ 5 ots (C3) C	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (G Geomorphic Position (D2)
Surface High Water Mater Mater Modern Drift De Algal Mater Modern Drift De	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3) at or Crust (B4)		Water-Sta ML FIA Salt Crus Aquatic Ir Hydrogen Oxidized Presence	ained Leav 1, 2, 4A, t (B11) nvertebrate Sulfide C Rhizosphe of Reduc	es (B13) dor (C1) eres along ed Iron (C	Living Roo	\\	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)
Surface High Water Mater	cators (minimum of b Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) eposits (B3) at or Crust (B4) posits (B5)		Water-Sta ML FLA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In	ained Leaven 1, 2, 4A, t (B11) Invertebrate Sulfide Control Reduction Reduction	es (B13) Odor (C1) eres along ed Iron (C	Living Roo 4) ad Soils (Ce	(C3)	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Surface High Water Mater	cators (minimum of b Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6)	fone requir	Water-Sta ML FLA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of	ained Leav 1, 2, 4A, t (B11) evertebrate Sulfide C Rhizosphe of Reduct or Reduct or Stressec	es (B13) odor (C1) eres along ed Iron (Ci ion in Tille d Plants (D	Living Roo	[ [ [ [ [ [ [ [ ]	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Ca) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Surface High Water M Sedime Drift De Algal M. Iron De Surface Inundat	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria	f one requir	Water-State Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of B7) Other (Ex	ained Leav 1, 2, 4A, t (B11) evertebrate Sulfide C Rhizosphe of Reduct or Reduct or Stressec	es (B13) odor (C1) eres along ed Iron (Ci ion in Tille d Plants (D	Living Roo 4) ad Soils (Ce	[ [ [ [ [ [ [ [ ]	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Surface High Water M Sedime Drift De Algal M. Iron De Surface Inundat Sparsel	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca	f one requir	Water-State Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of B7) Other (Ex	ained Leav 1, 2, 4A, t (B11) evertebrate Sulfide C Rhizosphe of Reduct or Reduct or Stressec	es (B13) odor (C1) eres along ed Iron (Ci ion in Tille d Plants (D	Living Roo 4) ad Soils (Ce	[ [ [ [ [ [ [ [ ]	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Surface High W. Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria by Vegetated Concarvations:	i Imagery (ive Surface	Water-Sta ML FIA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of B7) (B8)	ained Leav 1, 2, 4A, t (B11) vertebrate Sulfide C Rhizosphe of Reduct of Reduct or Stressec plain in Re	es (B13) odor (C1) eres along ed Iron (Ci ion in Tille d Plants (D	Living Roo 4) ad Soils (Ce	[ [ [ [ [ [ [ [ ]	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Surface High W. Saturati Water M. Sedime Drift De Algal M. Iron De Surface Inundat Sparsel	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca rvations: ter Present?	il Imagery (i ve Surface	Water-Sta  ML FIA  Salt Crus  Aquatic Ir  Hydrogen  Oxidized  Presence  Recent In  Stunted of  Other (Ex  (B8)	ained Leav 1, 2, 4A, t (B11) vertebrate Sulfide C Rhizosphe of Reduct of Reduct or Stressec plain in Re	es (B13) odor (C1) eres along ed Iron (Ci ion in Tille d Plants (D	Living Roo 4) ad Soils (Ce	[ [ [ [ [ [ [ [ ]	Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Ca) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Surface High W. Saturati Water M. Sedime Drift De Algal M. Iron De Surface Inundat Sparsel Field Obset Surface Wat Water Table	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria y Vegetated Conca rvations: ter Present?	il Imagery (ive Surface Yes	Water-Sta  ML FIA  Salt Crus  Aquatic Ir  Hydrogen  Oxidized  Presence  Recent In  Stunted of  Other (Ex  (B8)	ained Leau 1, 2, 4A, t (B11) Ivertebrate Sulfide C Rhizosphe of Reduct on Reduct on Reduct or Stresses plain in R	es (B13) odor (C1) eres along ed Iron (Ci ion in Tille d Plants (D	Living Roo 4) Ad Soils (CE 21) (LRR A	V	Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Ceomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsee Field Obser Surface Water Table Saturation F Saturation F Indudes ca	cators (minimum of a Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) sposits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca rvations: ter Present? Present? Present?	Il Imagery (Ive Surface Yes Yes	Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o B7) Other (Ex (B8)  No Depth (ii No Depth (ii	ained Leavant (1, 2, 4A, to (1))  Invertebrate Sulfide Con Reduction Reducti	es (B13) bdor (C1) eres along ed Iron (C cion in Tille d Plants (C emarks)	Living Roo 4) Ad Soils (Co 21) (LRR A		Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Surface High Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsee Field Obser Surface Water Table Saturation F Saturation F Indudes ca	cators (minimum of a Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) sposits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca rvations: ter Present? Present? Present?	Il Imagery (Ive Surface Yes Yes	Water-Sta  ML FIA  Salt Crus  Aquatic Ir  Hydrogen  Oxidized  Presence  Recent In  Stunted of  Other (Ex  (B8)	ained Leavant (1, 2, 4A, to (1))  Invertebrate Sulfide Con Reduction Reducti	es (B13) bdor (C1) eres along ed Iron (C cion in Tille d Plants (C emarks)	Living Roo 4) Ad Soils (Co 21) (LRR A		Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Surface High W. Saturati Water M. Sedime Drift De Algal M. Iron De Surface Inundat Sparsel Field Obsel Surface Wat Water Table Saurface B. Casturation F. Casturation F. Casturation E. Casturation F. Casturation E. Casturation F. Casturation E. Ca	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) sposits (B3) at or Crust (B4) posits (B5) soil Cracks (B6) ion Visible on Aeria ly Vegetated Conca rvations: ter Present? pillary fringe)	Il Imagery (Ive Surface Yes Yes	Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o B7) Other (Ex (B8)  No Depth (ii No Depth (ii	ained Leavant (1, 2, 4A, to (1))  Invertebrate Sulfide Con Reduction Reducti	es (B13) bdor (C1) eres along ed Iron (C cion in Tille d Plants (C emarks)	Living Roo 4) Ad Soils (Co 21) (LRR A		Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Surface High W. Saturati Water M. Sedime Drift De Algal M. Iron De Surface Inundat Sparsel Field Obsel Surface Wat Nater Table Saturation F includes ca Describe Re Remarks: Jetland hydr	cators (minimum of a Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria by Vegetated Concarvations:  ter Present?  Present?	I Imagery (ive Surface Yes Yes m gauge, n	Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o B7) Other (Ex (B8)  No Depth (ii No Depth (ii	ained Leavant (1, 2, 4A, to (B11)) evertebrate Sulfide Con Reduction Reducti	and 4B) es (B13) bdor (C1) eres along ed Iron (C cion in Tille d Plants (C emarks)	Living Roo 4) Ad Soils (Co 21) (LRR A ———————————————————————————————————		Nater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

US Army Corps of Engineers

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

Project/Site: 3801 Calaroga Dr. West Linn, OR 97068		City/Count	y: West Lin	n/Clackamas	Sampling E	oate: 05/25/22	2
Applicant/Owner: Robert Endres	- 1	50		State: OR			
Investigator(s): Gus McKinley		Section. To	ownship, Rai	nge: SEC: 13, T: 2S,	, R: 1E, TL: 2	00	
Landform (hillslope, terrace, etc.): Hillslope				convex, none): Conca			 5
Subregion (LRR): A			a (domagra, .	Long: -122.637544	.0	Datum: WGS	
Soil Map Unit Name: 91C-Woodburn silt loam, 8 to 15 9				NWI class			
Are climatic / hydrologic conditions on the site typical for this	time of ye	ar? Yes_	✓ No _	(If no, explain in	n Remarks.)		
Are Vegetation, Soil, or Hydrology s				Normal Circumstances		s 🗸 No	
Are Vegetation, Soil, or Hydrology n				eded, explain any ans			
SUMMARY OF FINDINGS - Attach site map	showing	samplii	ng point k	ocations, transec	ets, Importa	nt features	, etc.
Hydrophytic Vegetation Present? Yes No				77 <u>2</u> 3			
Hydric Soil Present? Yes No		*******	he Sampled hin a Wetlan		No	/	
Wetland Hydrology Present? Yes No	<u> </u>	****	IIIII & MALIA	101 165_		<u> </u>	
Remarks:							
Hydrophytic vegetation was not present. Hydric	soil indic	cators we	ere not pre	sent. Wetland hyd	drology not p	resent.	
VEGETATION III	<b>1</b> 24						
VEGETATION – Use scientific names of plan							
Tree Stratum (Plot size: 15'x15'	Absolute % Cover	Dominan Species?	t Indicator	Dominance Test wo	in in Milliotek		
1. Acer macrophyllum	55	Yes	FACU	Number of Dominant That Are OBL, FACV			(A)
2. Abies grandis	35	Yes	FACU		10		
3.				Total Number of Dor Species Across All S			(B)
4.				1/8	2 %	-	
Ten ser	90	= Total C	over	Percent of Dominant That Are OBL, FACV			(A/B)
Sapling/Shrub Stratum (Plot size: 15'x15' )	-		F10	Prevalence Index w			V/
1. Corylus cornuta	5	Yes	FAC	Total % Cover o		Aultiply by:	
2					x1=		_
3					x 2 =		
4			-	FAC species 4	x3=	12	±1 ±1
5	5			FACU species 127	7x4=	508	_
Herb Stratum (Plot size: 10'x10'		_ = Total C	over	UPL species 1	x5=	: <u>5</u>	4
1. Hedera helix	15	Yes	FACU	Column Totals: 132	2 (A)	525	(B)
2. Polystichum munitum	10	Yes	FACU	Prevalence Ind	lex = B/A = 3.	.98	
3. Symphoricarpos albus	5		FACU	Hydrophytic Vegeta			
4. Prosartes trachycarpa	4		FACU	1 - Rapid Test fo			
5. Maianthemum racemosum	4		FAC	2 - Dominance 1		2-9. <del></del>	
6. Schizachne purpurascens	1		UPL	3 - Prevalence I			
7				4 - Morphologica			orting
8		- 1	9	The second secon	arks or on a sep	100 m	
9	. ——			5 - Wetland Non			
10				Problematic Hyd	(i) (i) (ii) (iii)		10
11			<del></del>	<sup>1</sup> Indicators of hydric : be present, unless d			ust
Woody Vine Stratum (Plot size:)	39	_= Total Co	over		, , , , , , , , , , , , , , , , , , ,		
1.							
2.			-	Hydrophytic Vegetation			
		_= Total Co	over		Yes	No	
% Bare Ground in Herb Stratum 61	0						
Remarks: Hyrophytic vegetation not present.							
ID to a Compatible of the Comp				187-14- B4	Mallace 16		

US Army Corps of Engineers

SOIL Sampling Point: DS-2b

Depth   Matrix   Redox Features   Texture   Color (most)   %   Oye   Los'   Texture   Remarks		Matrix							
0-1 1-4 2.5YR 3/2 99 5YR 4/4 1 C M Sit toam Prominent contrast.  4-16 7.5YR 3/3 99 5YR 4/4 1 C M Sit toam Prominent contrast.  4-16 7.5YR 3/3 99 5YR 4/4 1 C M Sit toam Prominent contrast.  **Cocation: PL=Pore Lining, M=Matrix, Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to all LRRs, unless otherwise noted.)  ### Indicators: (Applicable to Applicable to App	(inches)		%				Loc²	Texture	Remarks
1-4 2.5YR 3/2 99 5YR 4/4 1 C M Sit loam Prominent contrast.  4-16 7.5YR 3/3 99 5YR 4/4 1 C M Sit loam Prominent contrast.	Mining Color							120	0.00 pow process
4-16 7.5YR 3/3 99 5YR 4/4 1 C M Silt loam Prominent contrast.    Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.   **Location: PL=Pore Lining, M=Matrix, Hydric Soil Indicators: (Applicable to all LRIRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils*:	1-4	2.5YR 3/2	99	5YR 4/4	1	С	<u>м</u>	Contract Contract Contract	Prominent contrast.
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  **Location: PL=Pore Lining, M=Matrix, Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Helsic Epipedon (A2)  Stripped Matrix (S6)  Black Hesic (A3)  Loamy Micky Mineral (F1) (except MLRA 1)  Depleted Bellow Dark Surface (A11)  Depleted Bellow Dark Surface (A12)  Trick Dark Surface (A11)  Trick Dark Surface (A11)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Depleted Dark Surface (F8)  **Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if present):  Type:  Depth (inches):  **PTPROLOGY**  Wetland Hydrology Indicators:  **Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Water Stained Leaves (B9) (except Matrix (S1)  High Water Table (A2)  High Water Table (A2)  Mark Raix (B1)  Water Marks (B1)  Water Marks (B1)  Aguatic Inverterbarates (B13)  Dirainage Patterns (B14)  Dirainage Patt	4-16		99		<del>- i -</del>		8400	Contract Assert Contracts	Control and Contro
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Histosol (A2)  Stripped Matrix (S5)  Black Histix (A3)  Loary Mucky Mineral (F1) (except MLRA 1)  Depleted Dark Surface (A11)  Depleted Below Dark Surface (A11)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Redox Depressions (F8)  Hydric Soil Present?  Type:  Depth (inches):  Remarks:  Soil was disturbed with one inch mulch layer over native soil. Hydric soil not present.  Hydric Soil Present?  Yes No  Water-Stained Leaves (B9) (except MLRA 1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Hydric Soil Presence Sandy Blay Mater Table (C2)  Drift Deposits (B3)  Agal Mat or Crust (B4)  Fresence or Redox Briting Romania (C4)  Fresence or Redox Briting Romania (C4)  Surface Water (A10)  Water Marks (B1)  Aquetic Invertebrates (B13)  Cyber Season Water Table (C2)  Drift Deposits (B3)  Agal Mat or Crust (B4)  Fresence or Redox (B4)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Water Table Present?  Yes No  Depth (inches):  Redox Depressions (F8)  Hydric Soil Present?  Water-Stained Leaves (B9) (MLRA 1, 2, 4, 4, and 4B)  Agal Mat or Crust (B4)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Sturface Water Present?  Yes No  Depth (inches):  Wetland Hydrology Present? Yes No  Frost-Heave Hummocks (D7)		7.51110/0		<u> </u>		. <del>-</del>		- Ont loans	Tommont contrast.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Histosol (A2)  Stripped Matrix (S5)  Black Histix (A3)  Loary Mucky Mineral (F1) (except MLRA 1)  Depleted Dark Surface (A11)  Depleted Below Dark Surface (A11)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Redox Depressions (F8)  Hydric Soil Present?  Type:  Depth (inches):  Remarks:  Soil was disturbed with one inch mulch layer over native soil. Hydric soil not present.  Hydric Soil Present?  Yes No  Water-Stained Leaves (B9) (except MLRA 1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Hydric Soil Presence Sandy Blay Mater Table (C2)  Drift Deposits (B3)  Agal Mat or Crust (B4)  Fresence or Redox Briting Romania (C4)  Fresence or Redox Briting Romania (C4)  Surface Water (A10)  Water Marks (B1)  Aquetic Invertebrates (B13)  Cyber Season Water Table (C2)  Drift Deposits (B3)  Agal Mat or Crust (B4)  Fresence or Redox (B4)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Water Table Present?  Yes No  Depth (inches):  Redox Depressions (F8)  Hydric Soil Present?  Water-Stained Leaves (B9) (MLRA 1, 2, 4, 4, and 4B)  Agal Mat or Crust (B4)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Sturface Water Present?  Yes No  Depth (inches):  Wetland Hydrology Present? Yes No  Frost-Heave Hummocks (D7)				-			0		
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histo Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) High Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (except MLRA 1) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Wetland hydrology must be present, unless disturbed or problematic.  Hydric Soil Present? Yes No  ### Muter Asia (A2) Present:  ### Water Asia (A3) Surface (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Saturation (A4) Sa							ed Sand Gr		
Histic Epipedon (A2) Stripped Matrix (S8) Red Parent Material (TF2) Usery Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Usery Stufface (T12) Usery Stufface (A11) Depleted Matrix (F2) Usery Stufface (A12) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Usery Stufface (A12) Depleted Matrix (F2) Usery Stufface (F6) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if present):  Type:			icable to all			led.)			
Black Histic (A3)					- 10 Mari				
Hydrogen Sulfide (A4)						1) /avcan	MI DA 1V	10000000	ALT DESCRIPTION OF EXPERIENCE SECURITION OF A
Depleted Below Dark Surface (A11) Depleted Matrix (F8) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mukey Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)  Wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if present): Type: Depth (inches): Describe Recorded Data (stream gauge, monitoring well, serial photos, previous inspections), if available: Describe Recorded Data (stream gauge, monitoring well, serial photos, previous inspections), if available:  Remarks:							micrus i)		
Thick Dark Surface (A12)			ce (A11)			-,		0	(Explain in Homano)
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic.  Restrictive Layer (if present):  Type:			(Artificial St. 1816) (1915) #4			)		3Indicat	ors of hydrophytic vegetation and
Restrictive Layer (if present): Type: Depth (inches): Remarks: Soil was disturbed with one inch mulch layer over native soil. Hydric soil not present.  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Saturation (A3) Satiration (A4) Satiration (A5) Sati	Sandy M	lucky Mineral (S1)		Depleted Da	ark Surface (I	F7)		wetla	and hydrology must be present,
Type:		1500 10 1100 50		Redox Depr	essions (F8)			un le:	ss disturbed or problematic.
Remarks: Soil was disturbed with one inch mulch layer over native soil. Hydric soil not present.    AVDROLOGY	Restrictive L	ayer (if present):							
Remarks: Soil was disturbed with one inch mulch layer over native soil. Hydric soil not present.    AyDROLOGY   Wetland Hydrology Indicators:	Туре:								
Soil was disturbed with one inch mulch layer over native soil. Hydric soil not present.    AVDROLOGY	Depth (inc	:hes):						Hydric Soi	l Present? Yes No
Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (2 or more required)  Surface Water (A1)  Water At 1, 2, 4A, and 4B)  Saturation (A3)  Satt Crust (B11)  Water Marks (B1)  Sediment Deposits (B2)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Check (B6)  Depth (inches):  Water Table Present?  Yes  No  Depth (inches):  Water Stained Leaves (B9) (except  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water Marks (B1)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)  Research Iron Reduction in Tilled Soils (C6)  FAC-Neutral Test (D5)  Frost-Heave Hummocks (D7)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Yes  No  Depth (inches):  Wetland Hydrology Present? Yes  No  Saturation Present? Yes  No  Depth (inches):  Wetland Hydrology Present? Yes  No  Remarks:									
Surface Water (A1)	(5/4 7)	78							
High Water Table (A2)  MILRA 1, 2, 4A, and 4B)  Saturation (A3)  Salt Crust (B11)  Drainage Patterns (B10)  Water Marks (B1)  Aquatic Invertebrates (B13)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Hydrogen Sulfide Odor (C1)  Saturation Visible on Aerial Imagery (C9  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Sulface Soil Cracks (B6)  Sunface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Yes  No  Depth (inches):  Water Table Present?  Yes  No  Depth (inches):  Saturation Present?  Yes  No  Depth (inches):  Wetland Hydrology Present? Yes  No  Remarks:  Remarks:	Wetland Hyd	trology Indicators							
Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9 Drift Deposits (B3) Oxid zed Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)  Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturat	Wetland Hyd Primary Indic	drology Indicators ators (minimum of			9004991/83597				ACKNOWN WITH APT. WE SENT
Water Marks (B1)	Wetland Hyd Primary Indic Surface	drology Indicators ators (minimum of Water (A1)		Water-	Stained Leav		xcept		Water-Stained Leaves (B9) (MLRA 1, 2,
Sediment Deposits (B2)	Wetland Hyd Primary Indic Surface High Wa	drology Indicators ators (minimum of Water (A1) ter Table (A2)		Water-	Stained Leav		xcept	_,	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Drift Deposits (B3)	Wetland Hyd Primary Indio Surface High Wa	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3)		Water- MLI Salt Cr	Stained Leav RA 1, 2, 4A, ust (B11)	and 4B)	xcept	_ ·	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Shallow Aquitard (D3)  Iron Deposits (B5)  Recent Iron Reduction in Tilled Soils (C6)  FAC-Neutral Test (D5)  Surface Soil Cracks (B6)  Stunted or Stressed Plants (D1) (LRR A)  Raised Ant Mounds (D6) (LRR A)  Inundation Visible on Aerial Imagery (B7)  Other (Explain in Remarks) Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches):  Wetland Hydrology Present? Yes No Depth (inches):  Wetland Hydrology Present? Yes No Depth (inches):  Includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hyd Primary Indic Surface High Wa Saturatic Water M	dirology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1)		Water-: MLI Salt Cr Aquatio	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate	and 4B)	oxcept	_ '	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Wetland Hyd Primary Indic Surface High Wa Saturatio Water M Sedimen	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2)		Water MLI Salt Cr Aquation Hydrog	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O	and 4B)  ss (B13)  dor (C1)	The second secon	_ \ _ [ 	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Security Find Hydrology Present? Yes No Find Hydrology Present	Wetland Hyd Primary Indio Surface High Wa Saturatio Water M Sedimer Drift Dep	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3)		Water- MLI Salt Cr Aquatic Hydrog Oxidize	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe	and 4B) ss (B13) dor (C1) eres along	Living Roo	\ I S ots (C3) C	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) tt or Crust (B4)		Water- MLI Salt Cr Aquatio Hydrog Oxidize Presen	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe ce of Reduc	and 4B) es (B13) dor (C1) eres along ed Iron (C	Living Roc 4)	\ [ 5 ots (C3) 6	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) osits (B5)		Water- MLI Salt Cr Aquatic Hydrog Oxidize Presen	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe ace of Reduce t Iron Reduct	and 4B)  ss (B13)  dor (C1)  eres along  ed Iron (C-  ion in Tille	Living Roo 4) d Soils (C6		Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Wetland Hydrology Present? Yes No  Includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Wetland Hyd Primary Indio Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) tt or Crust (B4) oosits (B5) Soil Cracks (B6)	one required	Water- MLI Salt Cr Aquatic Hydrog Oxidize Presen Recent	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe ice of Reduct t Iron Reduct d or Stressed	and 4B)  (B13)  (dor (C1)  eres along  ed Iron (C)  ion in Tille  I Plants (E	Living Roo 4) d Soils (C&	\\ [] [] [] [] [] [] [] [] [] [] [] [] [] []	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Yes No Depth (in	Wetland Hyv Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) oosits (B3) ot or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria	one required	Water- MLI Salt Cr Aquatic Hydrog Oxidiz Presen Recent Stunter Other (	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe ice of Reduct t Iron Reduct d or Stressed	and 4B)  (B13)  (dor (C1)  eres along  ed Iron (C)  ion in Tille  I Plants (E	Living Roo 4) d Soils (C&	\\ [] [] [] [] [] [] [] [] [] [] [] [] [] []	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Yes No Depth (in	Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) ossits (B3) tt or Crust (B4) ossits (B5) Soil Cracks (B6) on Visible on Aeria v Vegetated Concai	one required	Water- MLI Salt Cr Aquatic Hydrog Oxidiz Presen Recent Stunter Other (	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe ice of Reduct t Iron Reduct d or Stressed	and 4B)  (B13)  (dor (C1)  eres along  ed Iron (C)  ion in Tille  I Plants (E	Living Roo 4) d Soils (C&	\\ [] [] [] [] [] [] [] [] [] [] [] [] [] []	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Wetland Hyd Primary Indic Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Observa	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca	I Imagery (Bi		Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe ace of Reduce t Iron Reduct d or Stressec Explain in Ro	and 4B)  (B13)  (dor (C1)  eres along  ed Iron (C)  ion in Tille  I Plants (E	Living Roo 4) d Soils (C&	\\ [] [] [] [] [] [] [] [] [] [] [] [] [] []	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Remarks:	Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Obsern Surface Water	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) oosits (B3) ot or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Conca- vations: er Present?	I Imagery (B) ve Surface (I		Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe toe of Reduo t Iron Reduct d or Stressed Explain in Re (inches):	and 4B) as (B13) dor (C1) ares along ed Iron (C ion in Tille I Plants (D emarks)	Living Roc 4) d Soils (CE 1) (LRR A	\\ [] [] [] [] [] [] [] [] [] [] [] [] [] []	Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
	Wetland Hyv Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Obsen Surface Water Table Saturation Pr (includes cap	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) ot or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Conca vations: er Present? Present? vesent?	I Imagery (Bive Surface (I	Water- MLI Salt Cr Aquatic Hydrog Oxidiz Presen Recent Stuntes Other ( 38)  No Depth No Depth Depth	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe use of Reduce I Iron Reduct d or Stressed (Explain in Re (inches): (inches): (inches):	es (B13) Idor (C1) Idor (C	Living Roc 4) d Soils (CE 11) (LRR A		Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
	Wetland Hyv Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Obsen Surface Water Table Saturation Pr (includes cap	drology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) ot or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Conca vations: er Present? Present? vesent?	I Imagery (Bive Surface (I	Water- MLI Salt Cr Aquatic Hydrog Oxidiz Presen Recent Stuntes Other ( 38)  No Depth No Depth Depth	Stained Leav RA 1, 2, 4A, ust (B11) c Invertebrate gen Sulfide O ed Rhizosphe use of Reduce I Iron Reduct d or Stressed (Explain in Re (inches): (inches): (inches):	es (B13) Idor (C1) Idor (C	Living Roc 4) d Soils (CE 11) (LRR A		Nater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

US Army Corps of Engineers

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

Project/Site: 3801 Calaroga Dr. West Linn, OR 97068		City/County	West Lin	n/Clackamas	Sampling Date: 05/25/22
Applicant/Owner: Robert Endres		5			Sampling Point DS-3
Investigator(s): Gus McKinley		Section, To	wnship. Ra	nge: SEC: 13, T: 28, R	
Landform (hillslope, terrace, etc.): Hillslope				convex, none): Concave	
	Lat 45.3			Long: -122.637565°	
Soil Map Unit Name: 91C-Woodburn silt loam, 8 to 15 9				NWI classific	
Are climatic / hydrologic conditions on the site typical for this		r2 Von	✓ No	(If no, explain in R	
			- NO_		resent? Yes 🔽 No
Are Vegetation, Soil, or Hydrology s					
Are Vegetation, Soil, or Hydrology n SUMMARY OF FINDINGS - Attach site map				eded, explain any answer	-
Hydrophytic Vegetation Present? Yes ✓ N	0	1		•	0
	。 <u> </u>	0.7569.9992	e Sampled	Area	🗸
	·	with	in a Wetlar	nd? Yes	No
Remarks:					
Hydrophytic vegetation was present. Hydric soi	l indicator	rs were n	ot presen	t. Wetland hydrology	was present.
The state of the s	DK 00007			- 100100000 10 000000000000000000000000	20
VEGETATION – Use scientific names of plan	2510000000				
Tree Stratum (Plot size: 15'x15'	Absolute % Cover	Dominant Species?		Dominance Test work	10 10000000
1.	70 GG4C1	<u>Opcolos I</u>	Оцша	Number of Dominant Sp That Are OBL, FACW, of	
8		95. <u>2</u> 0		3 0	
3.				Total Number of Domin. Species Across All Stra	
4				Percent of Dominant Sp	
15/45/	0	= Total Co	ver	That Are OBL, FACW, of	
Sapling/Shrub Stratum (Plot size: 15'x15' )  1. Populus balsamifera	15	Yes	FAC	Prevalence Index work	ksheet:
10.1		163	170	Total % Cover of:	Multiply by:
2				OBL species	x 1 =
4.				FACW species	x 2 =
5.	. —			Secretaria de la constante de	x3 = 87
	15	= Total Co	ver	FACU species 5	x 4 = 20
Herb Stratum (Plot size: 10'x10'	-	V	E40	UPL species 5 Column Totals: 39	x 5 = 25 (A) 132 (B)
1. Holcus lanatus	· <del>7</del>	Yes Yes	FAC UPL*	2/-	(7)
Bromus species     Lotus corniculatus	. 3	res	FAC	Prevalence Index	
4. Geranium lucidum	4	-	FACU**	Hydrophytic Vegetatio	to the transfer of the total
Rubus armeniacus	3	<del> </del>	FAC	1 - Rapid Test for I	OF A STATE OF THE PERSON OF TH
6 Leucanthemum vulgare	1	-	FACU		
7	. —	i i		The state of the s	adaptations <sup>1</sup> (Provide supporting
8.		00 00 00			or on a separate sheet)
9.				5 - Wetland Non-Va	ascular Plants <sup>1</sup>
10				Problematic Hydrop	phytic Vegetation1 (Explain)
11				<sup>1</sup> Indicators of hydric soil be present, unless distu	and wetland hydrology must
	24	= Total Co	/er	be present, unless distr	irbed or problematic.
Woody Vine Stratum (Plot size:)					
2.	•	-		Hydrophytic Vegetation	
		= Total Co		Present? Yes	s <u>/</u> No
% Bare Ground in Herb Stratum 76	le .				
Remarks: Hyrophytic vegetation was present.					
*Assumed UPL.					
**Assumed FACU.					
					Name of the state

US Army Corps of Engineers

SOIL Sampling Point: DS-3

Profile Des	cription: (Describe	to the de	pth needed to docu	ment the	indicator	or confirm	n the absence	e of indicators.)
Depth	Matrix			ox Feature				
(inches)	Color (moist)	%	Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	10YR 3/1	100		_			Sand	No redox
3-11	10YR 3/1	99	5YR 5/6	1	<u>c</u>	M	Sand	Prominent contrast
11-16	10YR 3/3	98	5YR 4/6	2	<u>C</u>	<u>M</u>	Sand	Prominent contrast
Hydric Soil  Histoso Histic E Black H Hydroge Deplete Thick D Sandy F	Indicators: (Applie	cable to al	=Reduced Matrix, C I LRRs, unless othe  Sandy Redox ( Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark St Depleted Dark Redox Depres	(S5) ((S6) Mineral (F Matrix (F x (F3) urface (F6 Surface (	ted.) -1) (excep 2) ) F7)		Indicat 2 c Re Ve Otl  3Indicat wetl	ocation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils <sup>3</sup> : orn Muck (A10) dd Parent Material (TF2) ry Shallow Dark Surface (TF12) her (Explain in Remarks) tors of hydrophytic vegetation and and hydrology must be present, ses disturbed or problematic.
Type: Depth (in							Hydric Soi	il Present? Yes No
Hydric soil no Portion of plo HYDROLO	ot has had soil grade	d.						
570 5	drology Indicators							
5			ed; check all that app	.hr\			Sam	ondary Indicators (2 or more required)
✓ Surface ✓ High W: ✓ Saturati ─ Water M ─ Sedime ─ Drift De ─ Algal M ─ Iron De ─ Surface ─ Inundat ─ Sparsel	Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3) at or Crust (B4) posits (B5) soil Cracks (B6) ion Visible on Aerial y Vegetated Concav	Imagery (E		ained Lear 1, 2, 4A, t (B11) overtebrate Sulfide C Rhizospho of Reduct on Reduct or Stresse	es (B13) Odor (C1) eres along ed Iron (Cotion in Tille d Plants (E	Living Roo 4) d Soils (Cl	ots (C3) (	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Water Table Saturation F (includes ca	ter Present? Present? Present? pillary fringe)	res V res V res V	No Depth (ir No Depth (ir	nches): 12 nches): 10	)			gy Present? Yes No
Describe Re	corded Data (stream	n gauge, m	onitoring well, aerial	photos, p	revious in:	spections),	if available:	
Remarks: Wetland hydi Sample plot i plot.	rology was present. was roughly 3 feet fr	om river at	the time of investiga	ition with	1 inch of si	urface wate	er from the Wi	llamette River present in a portion of the

US Army Corps of Engineers

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

Project/Site: 3801 Calaroga Dr. West Linn, OR 9706	88	City/County	West Lin		Sampling Date: 05/25/22
Applicant/Owner: Robert Endres				State: OR	Sampling Point DS-4
Investigator(s): Gus McKinley		Section, To	wnship, Ra	nge: SEC: 13, T: 28, R	: 1E, TL: 200
Landform (hillslope, terrace, etc.): Hillslope		Local relief	(concave,	convex, none): Concave	Slope (%): 5
Subregion (LRR): A	Lat 964	60°	**	Long: 122.637706°	Datum: WGS84
Soil Map Unit Name: 91C-Woodburn silt loam, 8 to 1	5 % slopes			NWI classific	ation: None
Are climatic / hydrologic conditions on the site typical for	this time of ye	ar? Yes_[	No_	(If no, explain in R	
Are Vegetation, Soil, or Hydrology				"Normal Circumstances" p	resent? Yes No
Are Vegetation, Soil, or Hydrology				eded, explain any answe	
SUMMARY OF FINDINGS - Attach site ma	p showing	samplin	a point l	ocations, transects	. Important features, etc.
Hydrophytic Vegetation Present? Yes	No 🗸	3,500 to 10 May 0 1 may 10 m		Process and an experience of the process of the pr	<ul> <li>Additional Conference on Training Conference described and the Local Building of Manage and Physics</li> <li>On the Conference of Manage Conference described and the Local Building of Manage Conference described and the Conference</li></ul>
Hydric Soil Present? Yes		10000000	e Sampled		
Wetland Hydrology Present? Yes	No 🗾	with	in a Wetlai	nd? Yes	No
Remarks:					
Hydrophytic vegetation was not present. Hyd	ric soil indic	ators we	e not pre	sent. Wetland hydro	logy was not present.
VEGETATION – Use scientific names of pla	ants.				
**************************************	Absolute	Dominant	Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size: 15'x15' )	% Cover	Species?	Status	Number of Dominant Sp	
1				That Are OBL, FACW, o	or FAC: 2 (A)
2				Total Number of Domin	
J				Species Across All Stra	ta: 4 (B)
	0	= Total Co	ver	Percent of Dominant Sp That Are OBL, FACW, of	
Sapling/Shrub Stratum (Plot size: 15'x15' )		-27		Prevalence Index work	(AB)
1. Corylus cornuta	5	Yes	FACU	Total % Cover of:	Multiply by:
2			-	OBL species	x1=
3		-	<del></del>		x 2 =
4				FAC species 30	x 3 = 90
b	_ <del>5</del>	= Total Co		FACU species 20	x 4 = <u>80</u>
Herb Stratum (Plot size: 10'x10'	2			UPL species	x5=
1. Hedera helix	15	Yes	FAC	Column Totals: 50	(A) <u>170</u> (B)
2. Rubus armeniacus	_ 15	Yes	FAC	Prevalence Index	= B/A = <u>3.4</u>
3. Geranium lucidum	15	Yes	FACU**	Hydrophytic Vegetation	on Indicators:
4		02. 20		1 - Rapid Test for H	the special parties of the constant of the special properties of the special parties of the
5				2 - Dominance Tes	
7	_			3 - Prevalence Inde	2010/2007 (1940/2007) 120
7				4 - Morphological A	daptations1 (Provide supporting or on a separate sheet)
9.				5 - Wetland Non-Va	. 400. 10000
10	- 1 N			Problematic Hydron	hytic Vegetation1 (Explain)
11.					and wetland hydrology must
	45	= Total Cov	er	be present, unless distu	irbed or problematic.
Woody Vine Stratum (Plot size:)					
1		-		Hydrophytic Vegetation	
<sup>2.</sup>				Present? Yes	s No
% Bare Ground in Herb Stratum 55	10	_= Total Cov			
Remarks: Hyrophytic vegetation was not present.					
**Assumed FACU.					

US Army Corps of Engineers

SOIL Sampling Point: DS-4

Depth (inches) 0-16	Matrix		ueeded to docui	nduf fud u	ndicator	or confirm	the absence	of indicators.)
A CONTRACTOR OF THE PARTY OF TH				x Features				
0-16	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc2	Texture	Remarks
U 10	10YR 3/3	100					Silt loam	No redox
								-
								-
		-03 <del>-</del>					<u> </u>	
		<del></del>			<del></del>		<del> </del>	
	907 SMS07 50809 3000.		00 100 MARKET 1 20 000					TORNE NECESSARIAN AND NO WHAT WAS
	ncentration, D=De ndicators: (Appli					d Sand Gr		cation: PL=Pore Lining, M=Matrix.  ors for Problematic Hydric Soils <sup>3</sup> :
Histosol (			_ Sandy Redox (S					n Muck (A10)
	ipedon (A2)	_	Stripped Matrix	(1) - 1)				Parent Material (TF2)
Black His		_	_ Loamy Mucky N		\ /	MI 118.43		y Shallow Dark Surface (TF12)
The state of the s	n Sulfide (A4)	_	Loamy Gleyed			MLDA I)	· · · · · · · · · · · · · · · · · · ·	and the state of the
	Below Dark Surfa		Depleted Matrix		,		0111	er (Explain in Remarks)
		GE (ATT)		CARLO			3, 41, 41	ors of hydrophytic vegetation and
	rk Surface (A12)	·	Redox Dark Su		71			ors or nydropnytic vegetation and and hydrology must be present,
	ucky Mineral (S1)	1	Depleted Dark : Redox Depress		")			and nydrology must be present, as disturbed or problematic.
	eyed Matrix (S4) ayer (if present):	<del>-</del>	_ Redux Depless	idis (Fo)			шпез	s distribed of problematic.
Type:	ayer (ii present):							
Depth (inch	hoal:		_				Hydric Soil	Present? Yes No
Remarks:	nes)						Hydric 30H	Fresenti res NO
HYDROLOG	gy .							
Wetland Hyd	rology Indicators							
			heck all that anni	n)			Seco	ndary Indicators (2 or more required)
X1	E RE		heck all that appl	0,617	(DO) (			ndary Indicators (2 or more required)
Surface V	Nater (A1)		Water-Sta	ned Leave		xcept		Vater-Stained Leaves (B9) (MLRA 1, 2,
Surface V	Nater (A1) er Table (A2)		Water-Stai	ned Leave 1, 2, 4A, a		xcept	v	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Surface V High Wate Saturation	Nater (A1) er Table (A2) n (A3)		Water-Stai MLRA Salt Crust	ned Leave 1, 2, 4A, a (B11)	ind 4B)	xcept	_ v	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Frainage Patterns (B10)
Surface V High Wate Saturation Water Ma	Nater (A1) er Table (A2) n (A3) arks (B1)		Water-Stai MLRA Salt Crust Aquatic In	ned Leave 1, 2, 4A, a (B11) vertebrates	ind 4B) s (B13)	xcept	_ r	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Irainage Patterns (B10) Iry-Season Water Table (C2)
Surface V High Wate Saturation Water Ma Sediment	Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)		Water-Stai MLRA Salt Crust Aquatic Int Hydrogen	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od	s (B13)	Secretary 2000	v c s	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Frainage Patterns (B10)
Surface V High Wate Saturation Water Ma	Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)		Water-Stai MLRA Salt Crust Aquatic In	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od	s (B13)	Secretary 2000	V C S nts (C3) G	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Irainage Patterns (B10) Iry-Season Water Table (C2) Iaturation Visible on Aerial Imagery (C9) Reomorphic Position (D2)
Surface V High Wate Saturation Water Ma Sediment Drift Depo	Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)		Water-Stai MLRA Salt Crust Aquatic Int Hydrogen	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od Rhizospher	s (B13) for (C1) es along	Living Roc	V C S nts (C3) G	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Irainage Patterns (B10) Iry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Surface V High Wate Saturation Water Ma Sediment Drift Depo	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		Water-Stai ML FA Salt Crust Aquatic Inv Hydrogen Oxidized F	ned Leave 1, 2, 4A, a (B11) rertebrates Sulfide Od Rhizospher of Reduce	s (B13) for (C1) res along d Iron (C4	Living Roc	V C S sts (C3) G	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Irainage Patterns (B10) Iry-Season Water Table (C2) Iaturation Visible on Aerial Imagery (C9) Reomorphic Position (D2)
Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		Water-Stai MLFA Salt Crust Aquatic Im Hydrogen Oxidized F	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od Rhizospher of Reduce n Reduction	s (B13) for (C1) res along d Iron (C4 on in Tille	Living Roo ) d Soils (C6	V C S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) brainage Patterns (B10) bry-Season Water Table (C2) laturation Visible on Aerial Imagery (C9) decomorphic Position (D2) shallow Aquitard (D3)
Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S	Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)	one required; o	Water-Stai MLRA Salt Crust Aquatic Im Hydrogen Oxidized F Presence Recent Iro Stunted or	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od Rhizospher of Reduce n Reductio Stressed	s (B13) for (C1) res along d Iron (C4 on in Tilled Plants (D	Living Roo ) d Soils (C6	V C S S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irainage Patterns (B10)  Iry-Season Water Table (C2)  Isturation Visible on Aerial Imagery (C9)  Isturation Position (D2)  Istaliaw Aquitard (D3)  AC-Neutral Test (D5)  Istaled Ant Mounds (D6) (LRR A)
Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation	Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial	one required; o	Water-Stai  MLRA  Salt Crust  Aquatic In  Hydrogen  Oxidized F  Presence c  Recent Iro  Stunted or  Other (Exp	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od Rhizospher of Reduce n Reductio Stressed	s (B13) for (C1) res along d Iron (C4 on in Tilled Plants (D	Living Roo ) d Soils (C6	V C S S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irrainage Patterns (B10)  Irry-Season Water Table (C2)  Inaturation Visible on Aerial Imagery (C9)  Recomorphic Position (D2)  Irrainage (D3)  AC-Neutral Test (D5)
Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concav	one required; o	Water-Stai  MLRA  Salt Crust  Aquatic In  Hydrogen  Oxidized F  Presence c  Recent Iro  Stunted or  Other (Exp	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od Rhizospher of Reduce n Reductio Stressed	s (B13) for (C1) res along d Iron (C4 on in Tilled Plants (D	Living Roo ) d Soils (C6	V C S S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irainage Patterns (B10)  Iry-Season Water Table (C2)  Isturation Visible on Aerial Imagery (C9)  Isturation Position (D2)  Istaliaw Aquitard (D3)  AC-Neutral Test (D5)  Istaled Ant Mounds (D6) (LRR A)
Surface V High Wate Saturation Water Ma Sediment Drift Depot Algal Mat Iron Depot Surface S Inundation Sparsely Field Observer	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concav ations:	one required; on	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Oc Rhizospher of Reduce n Reductic Stressed olain in Rei	s (B13) for (C1) res along d Iron (C4 on in Tilled Plants (D	Living Roo ) d Soils (C6	V C S S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irainage Patterns (B10)  Iry-Season Water Table (C2)  Isturation Visible on Aerial Imagery (C9)  Isturation Position (D2)  Istaliaw Aquitard (D3)  AC-Neutral Test (D5)  Istaled Ant Mounds (D6) (LRR A)
Surface V High Water Saturation Water Ma Sediment Drift Depot Algal Mat Iron Depot Surface S Inundation Sparsely Field Observa Surface Water	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Vegetated Concav ations: ir Present?	Imagery (B7) ve Surface (B8)	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Oc thizospher of Reduce n Reductio Stressed olain in Res	s (B13) for (C1) res along d Iron (C4 on in Tilled Plants (D	Living Roo ) d Soils (C6	V C S S S S S S S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irainage Patterns (B10)  Iry-Season Water Table (C2)  Isturation Visible on Aerial Imagery (C9)  Isturation Position (D2)  Istaliaw Aquitard (D3)  AC-Neutral Test (D5)  Istaled Ant Mounds (D6) (LRR A)
Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Field Observa Surface Water Table F	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concav ations: ir Present?	Imagery (B7) ve Surface (B8) Yes No Yes No	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Oc Rhizospher of Reduce n Reductio Stressed blain in Res ches):	s (B13) for (C1) res along d Iron (C4 on in Tilled Plants (D	Living Roc i) d Soils (CE 1) (LRR A	V E S S S S F F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irrainage Patterns (B10)  Irry-Season Water Table (C2)  atturation Visible on Aerial Imagery (C9)  Recomorphic Position (D2)  rhallow Aquitard (D3)  AC-Neutral Test (D5)  Laised Ant Mounds (D6) (LRR A)  rost-Heave Hummocks (D7)
Surface V High Wate Saturation Water Ma Sediment Drift Depc Algal Mat Iron Depc Surface S Inundation Sparsely Field Observ: Surface Water Table F Saturation Pre	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B6) soil Cracks (B6) in Visible on Aerial Vegetated Concavations: ar Present?	Imagery (B7) ve Surface (B8) Yes No Yes No	Water-Stai MLRA Salt Crust Aquatic Int Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Oc Rhizospher of Reduce n Reductio Stressed blain in Res ches):	s (B13) for (C1) res along d Iron (C4 on in Tilled Plants (D	Living Roc i) d Soils (CE 1) (LRR A	V E S S S S F F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irainage Patterns (B10)  Iry-Season Water Table (C2)  Isturation Visible on Aerial Imagery (C9)  Isturation Position (D2)  Istaliaw Aquitard (D3)  AC-Neutral Test (D5)  Istaled Ant Mounds (D6) (LRR A)
Surface V High Wate Saturation Water Ma Sediment Drift Depc Algal Mat Iron Depc Surface S Inundation Sparsely Field Observ Surface Water Table F Saturation Pre (includes capi	Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concavations: ir Present? Present?	Imagery (B7) ve Surface (B8) Yes No Yes No Yes No	Water-Stai  MLRA  Salt Crust  Aquatic Int  Hydrogen  Oxidized F  Presence o  Recent Iro  Stunted or  Other (Exp  Depth (int  Depth (int)	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Och thizospher of Reduce on Reduction Stressed olain in Reduction ches):	s (B13) for (C1) res along d Iron (C4 on in Tiller Plants (D marks)	Living Roc ) d Soils (CE 1) (LRR A	V E S sts (C3) G S S F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irrainage Patterns (B10)  Irry-Season Water Table (C2)  atturation Visible on Aerial Imagery (C9)  Recomorphic Position (D2)  rhallow Aquitard (D3)  AC-Neutral Test (D5)  Laised Ant Mounds (D6) (LRR A)  rost-Heave Hummocks (D7)
Surface V High Wate Saturation Water Ma Sediment Drift Depc Algal Mat Iron Depc Surface S Inundation Sparsely Field Observ Surface Water Table F Saturation Pre (includes capi	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B6) Soil Cracks (B6) in Visible on Aerial Vegetated Concavations: ar Present?	Imagery (B7) ve Surface (B8) Yes No Yes No Yes No	Water-Stai  MLRA  Salt Crust  Aquatic Int  Hydrogen  Oxidized F  Presence o  Recent Iro  Stunted or  Other (Exp  Depth (int  Depth (int)	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Och thizospher of Reduce on Reduction Stressed olain in Reduction ches):	s (B13) for (C1) res along d Iron (C4 on in Tiller Plants (D marks)	Living Roc ) d Soils (CE 1) (LRR A	V E S sts (C3) G S S F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irrainage Patterns (B10)  Irry-Season Water Table (C2)  atturation Visible on Aerial Imagery (C9)  Recomorphic Position (D2)  rhallow Aquitard (D3)  AC-Neutral Test (D5)  Laised Ant Mounds (D6) (LRR A)  rost-Heave Hummocks (D7)
Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Field Observ Surface Water Table F Saturation Pre (includes capi Describe Reco	Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concavations: ir Present? Present?	Imagery (B7) ve Surface (B8) Yes No Yes No Yes No	Water-Stai  MLRA  Salt Crust  Aquatic Int  Hydrogen  Oxidized F  Presence o  Recent Iro  Stunted or  Other (Exp  Depth (int  Depth (int)	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Och thizospher of Reduce on Reduction Stressed olain in Reduction ches):	s (B13) for (C1) res along d Iron (C4 on in Tiller Plants (D marks)	Living Roc ) d Soils (CE 1) (LRR A	V E S sts (C3) G S S F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irrainage Patterns (B10)  Irry-Season Water Table (C2)  atturation Visible on Aerial Imagery (C9)  Recomorphic Position (D2)  rhallow Aquitard (D3)  AC-Neutral Test (D5)  Laised Ant Mounds (D6) (LRR A)  rost-Heave Hummocks (D7)
Surface V High Water Saturation Water Ma Sediment Drift Depot Algal Mat Iron Depot Surface S Inundation Sparsely Field Observe Surface Water Water Table F Saturation Pre (includes capit Describe Reco	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B6) in Visible on Aerial Vegetated Concav ations: ir Present? Present? psent? esent? orded Data (strean	Imagery (B7) ve Surface (B8) Yes No Yes No Yes No	Water-Stai  MLRA  Salt Crust  Aquatic Int  Hydrogen  Oxidized F  Presence o  Recent Iro  Stunted or  Other (Exp  Depth (int  Depth (int)	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Och thizospher of Reduce on Reduction Stressed olain in Reduction ches):	s (B13) for (C1) res along d Iron (C4 on in Tiller Plants (D marks)	Living Roc ) d Soils (CE 1) (LRR A	V E S sts (C3) G S S F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irrainage Patterns (B10)  Irry-Season Water Table (C2)  atturation Visible on Aerial Imagery (C9)  Recomorphic Position (D2)  rhallow Aquitard (D3)  AC-Neutral Test (D5)  Laised Ant Mounds (D6) (LRR A)  rost-Heave Hummocks (D7)
Surface V High Water Saturation Water Ma Sediment Drift Depot Algal Mat Iron Depot Surface S Inundation Sparsely Field Observe Surface Water Water Table F Saturation Pre (includes capit Describe Reco	Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Vegetated Concavations: ir Present? Present?	Imagery (B7) ve Surface (B8) Yes No Yes No Yes No	Water-Stai  MLRA  Salt Crust  Aquatic Int  Hydrogen  Oxidized F  Presence o  Recent Iro  Stunted or  Other (Exp  Depth (int  Depth (int)	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Och thizospher of Reduce on Reduction Stressed olain in Reduction ches):	s (B13) for (C1) res along d Iron (C4 on in Tiller Plants (D marks)	Living Roc ) d Soils (CE 1) (LRR A	V E S sts (C3) G S S F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irrainage Patterns (B10)  Irry-Season Water Table (C2)  atturation Visible on Aerial Imagery (C9)  Recomorphic Position (D2)  rhallow Aquitard (D3)  AC-Neutral Test (D5)  Laised Ant Mounds (D6) (LRR A)  rost-Heave Hummocks (D7)
Surface V High Wate Saturation Water Ma Sediment Drift Depot Algal Mat Iron Depot Surface S Inundation Sparsely Field Observe Surface Water Water Table F Saturation Pre (includes capit Describe Reco	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B6) in Visible on Aerial Vegetated Concav ations: ir Present? Present? psent? esent? orded Data (strean	Imagery (B7) ve Surface (B8) Yes No Yes No Yes No	Water-Stai  MLRA  Salt Crust  Aquatic Int  Hydrogen  Oxidized F  Presence o  Recent Iro  Stunted or  Other (Exp  Depth (int  Depth (int)	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Och thizospher of Reduce on Reduction Stressed olain in Reduction ches):	s (B13) for (C1) res along d Iron (C4 on in Tiller Plants (D marks)	Living Roc ) d Soils (CE 1) (LRR A	V E S sts (C3) G S S F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irrainage Patterns (B10)  Irry-Season Water Table (C2)  atturation Visible on Aerial Imagery (C9)  Recomorphic Position (D2)  rhallow Aquitard (D3)  AC-Neutral Test (D5)  Laised Ant Mounds (D6) (LRR A)  rost-Heave Hummocks (D7)
Surface V High Wate Saturation Water Ma Sediment Drift Depot Algal Mat Iron Depot Surface S Inundation Sparsely Field Observe Surface Water Water Table F Saturation Pre (includes capit Describe Reco	Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B6) in Visible on Aerial Vegetated Concav ations: ir Present? Present? psent? esent? orded Data (strean	Imagery (B7) ve Surface (B8) Yes No Yes No Yes No	Water-Stai  MLRA  Salt Crust  Aquatic Int  Hydrogen  Oxidized F  Presence o  Recent Iro  Stunted or  Other (Exp  Depth (int  Depth (int)	ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Och thizospher of Reduce on Reduction Stressed olain in Reduction ches):	s (B13) for (C1) res along d Iron (C4 on in Tiller Plants (D marks)	Living Roc ) d Soils (CE 1) (LRR A	V E S sts (C3) G S S F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Irrainage Patterns (B10)  Irry-Season Water Table (C2)  atturation Visible on Aerial Imagery (C9)  Recomorphic Position (D2)  rhallow Aquitard (D3)  AC-Neutral Test (D5)  Laised Ant Mounds (D6) (LRR A)  rost-Heave Hummocks (D7)

US Army Corps of Engineers

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

Project/Site: 3801 Calaroga Dr. West Linn, C	R 97068	City/County: West Lin		Sampling Date: 08/18/22
Applicant/Owner: Robert Endres			State: OR	Sampling Point DS-2a
Investigator(s): Gus McKinley			inge: SEC: 13, T: 28, R	
				Slope (%): 10
Subregion (LRR): A	Lat 45.3	396435°	Long: -122.637257°	Datum: WGS84
Soil Map Unit Name: 91C-Woodburn silt loam	, 8 to 15 % slopes		NWI classific	ation: PFO1C
Are climatic / hydrologic conditions on the site typ	ical for this time of ye	ar? Yes 🖊 No _	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrolog	/ significantly	disturbed? Are	"Normal Circumstances" p	resent? Yes 🖊 No
Are Vegetation, Soil, or Hydrolog	/ naturally pro		eeded, explain any answer	
SUMMARY OF FINDINGS - Attach si	ite map showing	sampling point i	ocations, transects	, Important features, etc.
Hydrophytic Vegetation Present? Yes _				6
Hydric Soil Present? Yes _	The second secon	is the Sampled within a Wetlan	nd? Yes	No
Wetland Hydrology Present? Yes _ Remarks:	No			
Hydrophytic vegetation was not present. Hydric s		ot be determined due to	o restricitve boulder/rock la	iyer. Wetland hydrology present.
TEGETATION - 555 SCIOILING TOURS	V 1900 COTA	Dominant Indicator	Dominance Test work	sheat:
<u>Tree Stratum</u> (Plot size: <u>15'x15'</u> )  1		Species? Status	Number of Dominant Sp That Are OBL, FACW, o	pecies
2			Total Number of Domina	ant _
3			Species Across All Stra	ta: <u>2</u> (B)
4	0	= Total Cover	Percent of Dominant Sp That Are OBL, FACW, of	
Sapling/Shrub Stratum (Plot size: 15'x15'			Prevalence Index work	ksheet:
2	3/ 2		Total % Cover of:	Multiply by:
3.				x 1 = <u>11</u>
4.			FACW species 25	x 2 =
5			opodioo	x 3 = 75 x 4 = 120
	0	= Total Cover	UPL species	x5=
Herb Stratum (Plot size: 10'x10' )  Rubus armeniacus	25	Yes FAC	Column Totals: 66	(A) 201 (B)
2. Hedera helix	20	Yes FACU		
3. Carex lacustris	10	OBL	Prevalence Index Hydrophytic Vegetation	
4. Rubus ursinus	10	FACU	1 - Rapid Test for H	
5. Lythrum salicaria	1	OBL	2 - Dominance Tes	ver make the second make the second of the second
6			3 - Prevalence Inde	
7			4 - Morphological A	Adaptations 1 (Provide supporting
8		<u> </u>		s or on a separate sheet)
9			5 - Wetland Non-Va	2.20
10			The the case and all the	phytic Vegetation¹ (Explain)
11			Indicators of hydric soil be present, unless distu	l and wetland hydrology must urbed or problematic.
Woody Vine Stratum (Plot size:		_= Total Cover		
1			Hydrophytic	
2			Vegetation	
% Bare Ground in Herb Stratum 24		= Total Cover	Present? Yes	. No
Remarks:			•	
Hyrophytic vegetation not present.				

US Army Corps of Engineers

Western Mountains, Valleys, and Coast - Version 2.0

SOIL Sampling Point: DS-2a

	Color (moist)	%	Color (moist)	- %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
)-1	10YR 3/3						Silt loam	No redox
								50% Boulder
				-			)**	10% Cobble
								1070 00000
							57.	
				( <del>)</del>	: <del></del> :		s	0
	N 100 NO 100		B 19/2/2014 21 202					
			educed Matrix, CS IRs, unless other			d Sand Gr		cation: PL=Pore Lining, M=Matrix.  ors for Problematic Hydric Soils <sup>3</sup> :
Histosol (/	A1)	<u>-</u>	_ Sandy Redox (S	55)			2 ci	m Muck (A10)
Histic Epip	oedon (A2)	N	_ Stripped Matrix	(S6)			Red	l Parent Material (TF2)
Black Hist	ic (A3)	-	_ Loamy Mucky N	lineral (F1	) (except	MLRA 1)		y Shallow Dark Surface (TF12)
	Sulfide (A4)		_ Loamy Gleyed I		)		Oth	er (Explain in Remarks)
	Below Dark Surfac	ce (A11)	_ Depleted Matrix				3	
	k Surface (A12) cky Mineral (S1)	_	Redox Dark Sur		7\			ors of hydrophytic vegetation and
	eyed Matrix (S4)	£	_ Depleted Dark S _ Redox Depress		")			and hydrology must be present, ss disturbed or problematic.
- W NCN	yer (if present):	_	_ Redox Depress	ulia (1 u)				sa distribed of problematic.
Dan Dan	lder/Rock		_					9
Type: Bou								and the second s
Depth (inch temarks: oil analysis wa	es): <u>1</u>		boulder layer. Hyd	dric soil co	ould not be	determin	Hydric Soil	Present? Yes No
Depth (inch Remarks: oil analysis wa RCS soil map	as not possible du unit is listed as h	ydric.	boulder layer. Hye	dric soil co	ould not be	e determin	1-200 10 30000	Present? Yes No
Depth (inche Remarks: oil analysis was RCS soil map  YDROLOG  Yetland Hydrolica  Primary Indica	as not possible du au unit is listed as h av av av rology Indicators tors (minimum of	ydric.	check all that apply	y)			ed.	ndary Indicators (2 or more required)
Depth (inche lemanks: bil analysis was RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W	as not possible du u unit is listed as h it vology Indicators tors (minimum of	ydric.	check all that apply	r) ned Leave	es (B9) ( <b>e</b> s		ed.	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Trimary Indica  Surface Wa High Wate	as not possible du u unit is listed as h it it rology Indicators tors (minimum of later (A1) er Table (A2)	ydric.	check all that apph Water-Stai	r) ned Leave	es (B9) ( <b>e</b> s		<u>Seco</u>	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
Depth (inch Remarks: oil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W High Wate  Saturation	as not possible du u unit is listed as h sy rology Indicators tors (minimum of later (A1) er Table (A2)	ydric.	check all that apply Water-Stai MLRA Salt Crust	r) ned Leave 1, 2, 4 <b>A, a</b> (B11)	es (B9) (e: and 4B)		Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
Depth (inch Remarks: oil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W High Wate Saturation Water Ma	as not possible du punit is listed as h sy rology Indicators tors (minimum of later (A1) er Table (A2) p (A3) rks (B1)	ydric.	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv	r) ned Leave I, 2, 4 <b>A, a</b> (B11) rertebrates	es (B9) (ex and 4B) s (B13)		Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W High Wate Saturation Water Ma Sediment	as not possible du punit is listed as h every rology Indicators tors (minimum of later (A1) er Table (A2) price (B1) price (B2)	ydric.	check all that apply Water-Stai MLFIA Salt Crust Aquatic Inv	r) ned Leave I, 2, 4 <b>A, a</b> (B11) rertebrates	es (B9) (exid 4B) s (B13) lor (C1)	ксерт	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydri Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo	as not possible du o unit is listed as h  iY  rology Indicators fater (A1) ar Table (A2) (A3) rks (B1) Deposits (B2) sits (B3)	ydric.	check all that apply Water-Stai MLPA Salt Crust Aquatic Inv Hydrogen	r) ned Leave I, 2, 4A, a (B11) rertebrates Sulfide Od thizospher	es (B9) (ex and 4B) s (B13) lor (C1) res along	xcept Living Roc	Seco V Seco V Seco Seco Seco Seco Seco Seco Seco Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Co
Depth (inchemarks: oil analysis was RCS soil map  YDROLOG  Yetland Hydromatic Market M	as not possible du s unit is listed as h  Y  Yology Indicators tors (minmum of later (A1) or Table (A2) or (A3) nks (B1) Deposits (B2) sits (B3) or Crust (B4)	ydric.	check all that apply Water-Stai MLPA Salt Crust Aquatic Inv Hydrogen Oxidized R	r) ned Leave 1, 2, 4A, a (B11) rertebrates Sulfide Od hizospher	es (B9) (ex ind 4B) s (B13) lor (C1) es along d Iron (C4	xcept Living Roco	Seco V [ [ C S	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Company) Shallow Aquitard (D3)
Depth (inch Remarks: oil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W High Wate Saturation  Water Ma Sediment Drift Depo Algal Mat Iron Depo	as not possible du unit is listed as h  Y  rology Indicators tors (minimum of /ater (A1) er Table (A2) u (A3) Deposits (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	ydric.	check all that apply Water-Stai MLFA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence o	r) ned Leave 1, 2, 4A, a (B11) rertebrates Sulfide Od thizospher of Reduce	es (B9) (ex and 4B) s (B13) dor (C1) res along l d Iron (C4 on in Tilled	xcept Living Roc ) J Soils (CE	Seco V [ C S S S	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Company of the company of the com
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W High Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S	as not possible du unit is listed as h  Y  rology Indicators tors (minimum of /ater (A1) er Table (A2) er (A3) prossits (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6)	;	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro	ned Leave 1, 2, 4A, a (B11) rertebrates Sulfide Od thizospher of Reduce n Reductio Stressed	es (B9) (ex and 4B) s (B13) dor (C1) res along i d Iron (C4 on in Tilleo	xcept Living Roc ) J Soils (CE	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Dry-Season Water Table (C2) saturation Visible on Aerial Imagery (Cite) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W  High Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Surface S  Inundatior	as not possible du unit is listed as h  rology Indicators tors (minimum of /ater (A1) er Table (A2) er (A3) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial	: one required;	water-Stai  MLRA  Salt Crustr  Aquatic Inv  Hydrogen  Oxidized F  Presence c  Recent Iro  Stunted or	ned Leave 1, 2, 4A, a (B11) rertebrates Sulfide Od thizospher of Reduce n Reductio Stressed	es (B9) (ex and 4B) s (B13) dor (C1) res along i d Iron (C4 on in Tilleo	xcept Living Roc ) J Soils (CE	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Company of the company of the com
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W  High Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Surface S  Inundatior  Sparsely Water Inch	as not possible du unit is listed as h  rology Indicators tors (minimum of /ater (A1) er Table (A2) (A3) Deposits (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial /egetated Concav	: one required;	water-Stai  MLRA  Salt Crustr  Aquatic Inv  Hydrogen  Oxidized F  Presence c  Recent Iro  Stunted or	ned Leave 1, 2, 4A, a (B11) rertebrates Sulfide Od thizospher of Reduce n Reductio Stressed	es (B9) (ex and 4B) s (B13) dor (C1) res along i d Iron (C4 on in Tilleo	xcept Living Roc ) J Soils (CE	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Dry-Season Water Table (C2) saturation Visible on Aerial Imagery (Cite) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W  High Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Surface S  Inundation  Sparsely Weiler Mater  Sparsely Weiler  Indicator  Sparsely Weiler  Indicator  Sparsely Weiler  Remarks:  Indicator  Sparsely Weiler  Remarks:	as not possible du as not possible du punit is listed as h rology Indicators tors (minimum of /ater (A1) ar Table (A2) (A3) peposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial Vegetated Concav stions:	inagery (B7) e Surface (B8	water-Stai  MLRA  Salt Crust:  Aquatic Inv  Hydrogen:  Oxidized  Presence o  Recent Iro  Stunted or  Other (Exp	ned Leave I, 2, 4A, a (B11) ertebrates Sulfide Od thizospher of Reduce n Reductic Stressed	es (B9) (ex and 4B) s (B13) dor (C1) res along i d Iron (C4 on in Tilleo	xcept Living Roc ) J Soils (CE	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) GC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W  High Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Surface S  Inundation  Sparsely Weiler Water Ma  Surface S  Inundation  Sparsely Weiler Water Ma  Sediment  Field Observator  Surface Water	as not possible du unit is listed as h  rology Indicators tors (minimum of /ater (A1) er Table (A2) f (A3) peposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial /egetated Concav stions: Present?	Imagery (B7) ve Surface (B8	water-Stai  MLFA  Salt Crust:  Aquatic Inv  Hydrogen in  Oxidized in  Presence of Recent Iro  Stunted or  Other (Exp	r) ned Leave I, 2, 4A, a (B11) rertebrates Sulfide Oc thizospher of Reduce on Reductic Stressed Italian in Res	es (B9) (ex and 4B) s (B13) dor (C1) res along i d Iron (C4 on in Tilleo	xcept Living Roc ) J Soils (CE	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Dry-Season Water Table (C2) saturation Visible on Aerial Imagery (Cite) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydr  Primary Indica  Surface W High Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Willed Observa  Surface Water Water Water Table P	as not possible du unit is listed as h  rology Indicators tors (minimum of /ater (A1) ar Table (A2) ar (A3) or Crust (B4) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) a Visible on Aerial /egetated Concavations: Present?	Imagery (B7) ve Surface (B8 Ves No	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized Presence of Recent Iron Stunted or Other (Exp ) Depth (inc	r) ned Leave I, 2, 4A, a (B11) retrebrates Sulfide Od thizospher of Reduce n Reduceto Stressed Idain in Rei	es (B9) (ex and 4B) s (B13) dor (C1) res along i d Iron (C4 on in Tilleo	Living Roc ) d Soils (CE	Seco V [] [] Sists (C3) Sists (C3)	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Orainage Patter
Depth (inch Remarks: bil analysis wa RCS soil map  YDROLOG  Yetland Hydri Primary Indica  Surface Water Ma  Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely V  Tield Observa Surface Water Vater Table P  Vater Table P  Saturation Pre Includes capil	as not possible du unit is listed as h  vology Indicators tors (minimum of later (A1) er Table (A2) u (A3) u (A3) or Crust (B4) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) u Visible on Aerial vegetated Concav attions: Present? resent? sent? lary fringe)	Imagery (B7)  Ye Surface (B8  Yes No Yes No Yes No	water-Stai MLFA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp ) Depth (inc	r) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od thizospher of Reduce n Reductic Stressed dain in Red thes): thes):	es (B9) (e: and 4B) s (B13) for (C1) res along d Iron (C4 on in Tillec Plants (D: marks)	Living Roc.) d Soils (CE) 1) (LRR A	Seco V [ C S S S F F	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) GC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Depth (inch Remarks: oil analysis wa RCS soil map  YDROLOG  Wetland Hydr  Primary Indica  Surface Water  Nater Vales  Inundatior  Surface S  Inundatior  Surface Water  Nater Table P  Saturation Pre  Saturation Pre  Saturation Pre  Saturation Pre  Includes capiling	as not possible du unit is listed as h  vology Indicators tors (minimum of later (A1) er Table (A2) u (A3) u (A3) or Crust (B4) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) u Visible on Aerial vegetated Concav attions: Present? resent? sent? lary fringe)	Imagery (B7)  Ye Surface (B8  Yes No Yes No Yes No	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized Presence of Recent Iron Stunted or Other (Exp ) Depth (inc	r) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od thizospher of Reduce n Reductic Stressed dain in Red thes): thes):	es (B9) (e: and 4B) s (B13) for (C1) res along d Iron (C4 on in Tillec Plants (D: marks)	Living Roc.) d Soils (CE) 1) (LRR A	Seco V [ C S S S F F	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Orainage Patter
Depth (inch Remarks: oil analysis wa RCS soil map  YDROLOG Wetland Hydr Primary Indica Surface W High Water Mater Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V Field Observe Surface Water Table P Saturation Pre includes capil Describe Reco	as not possible du unit is listed as h  rology Indicators tors (minimum of later (A1) ar Table (A2) ar (A3) brossits (B3) brocr Crust (B4) sits (B5) bill Cracks (B6) a Visible on Aerial laterations: Present? resent? lary fringe) prided Data (strear	Imagery (B7)  Ye Surface (B8  Yes No Yes No Yes No	water-Stai MLFA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp ) Depth (inc	r) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od thizospher of Reduce n Reductic Stressed dain in Red thes): thes):	es (B9) (e: and 4B) s (B13) for (C1) res along d Iron (C4 on in Tillec Plants (D: marks)	Living Roc.) d Soils (CE) 1) (LRR A	Seco V [ C S S S F F	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Orainage Patter
Depth (inchemarks: oil analysis was RCS soil map  YDROLOG  Yetland Hydromary Indica  Surface Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Surface Soil map  Iron Depo  Surface Soil map  Surface Water Ma  Sediment  Primary Indica  Sediment  Drift Depo  Algal Mat  Iron Depo  Surface Soil mandation  Sparsely Virold Observa  Surface Water Table P  Saturation Preincludes capil  Describe Reco	as not possible du unit is listed as h  iY rology Indicators tors (minimum of /ater (A1) ar Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) on Visible on Aerial /egetated Concav ations: Present? resent? lary fringe) orded Data (strear	Imagery (B7) re Surface (B8 Yes No Yes No Yes No n gauge, monit	water-Stai MLFA Salt Crust Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp ) Depth (inc	ned Leave 1, 2, 4A, a (B11) retrebrates Sulfide Od thizospher of Reduce of Reduce stressed lain in Rel thes): thes): thes):	es (B9) (exind 4B) s (B13) for (C1) res along id fron (C4 or in Tilleo Plants (D' marks)	Living Roc ) d Soils (C6 1) (LRR A	Seco V [ C S S S F F	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Orainage Patter

US Army Corps of Engineers

Western Mountains, Valleys, and Coast - Version 2.0



Figure 7a. Ground level photograph of cliff on Site between the house and Willamette River facing northeast; DS-1 is located within the toe slope between the cliff and the Willamette River. Flag presence is hard to spot due to vegetation growth. Note the boulders present.



Figure 7b. Ground level photograph of DS-2a facing west.



Figure 7c. Ground level photograph of DS-2b facing east.



Figure 7d. Ground level photograph facing northeast of DS-3 (between the kayaks and the Willamette River) and DS-4 (between the kayaks and the stairway).



Figure 7e. Ground level photograph of DS-3 facing west.



Figure 7f. Ground level photograph of restrictive soil layer at and adjacent to DS-1.

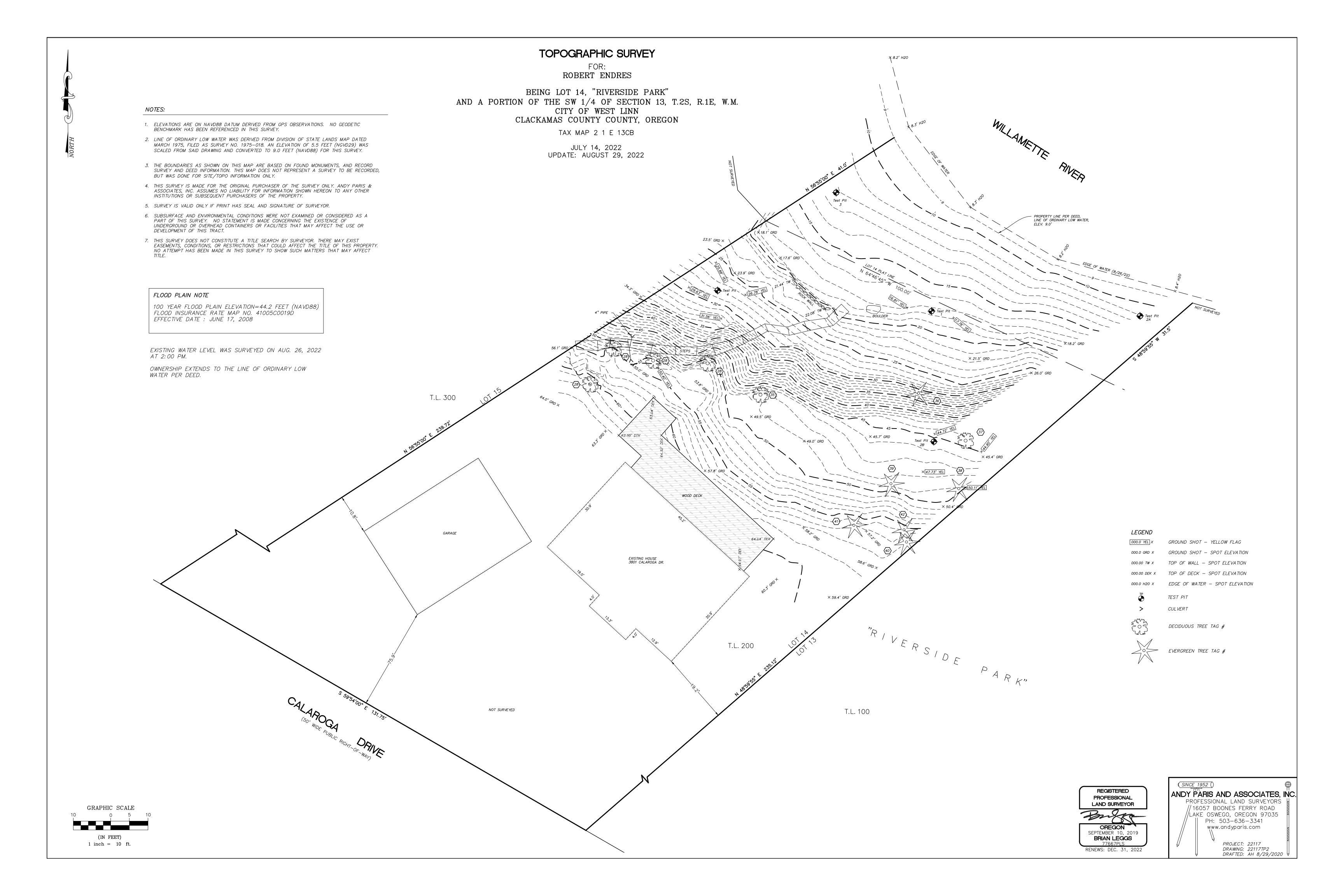


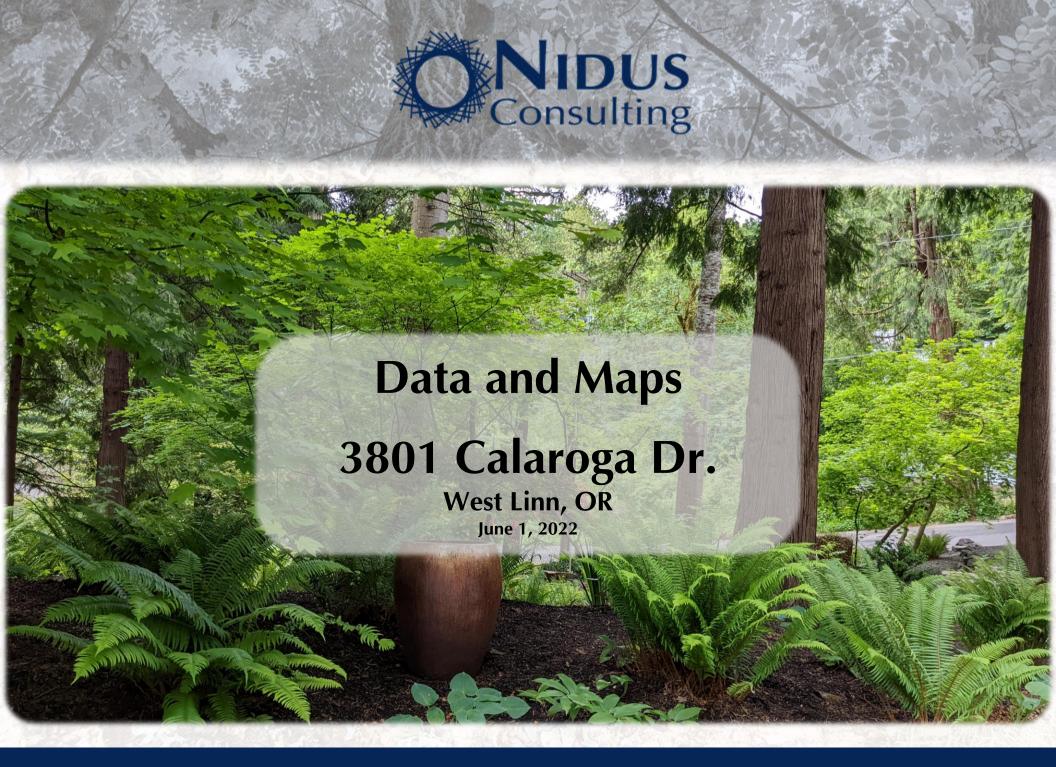
Figure 7g. Ground level photograph of restrictive soil layer at and adjacent to DS-2a.

#### **Appendix D. Additional Tables and Information**



Figure 8. Historic Google Earth Aerial Image from July 2001.





#### **Methods**



Ryan Gilpin (Principal Consultant, Certified Arborist WE10268A, Tree Risk Assessment Qualified) assessed all Oregon white oaks, pacific madrones and pacific dogwoods 6" and greater and all other species 12" and greater in trunk diameter on or with canopy overhanging the property. The following data were collected for each tree:

- 1. Tree genus and species
- 2. Trunk diameter (rounded to inches) at 54" height
- 3. Canopy radius (estimated in 5-foot increments)
- 4. Tree condition, see table to right based on the *Guide for Plant Appraisal* (Council of Landscape Appraisers 2019). Health, structure and form were assessed independently, and the lowest rating equals the overall condition rating.
- 5. Suitability for preservation considers future factors affecting the tree's ability to be an asset to the future site.
  - High, tree is likely to be an asset of the future site and should be the focus of preservation efforts.
  - **Moderate**, tree may be an asset of the future site and should be considered for preservation.
  - Low, tree is unlikely to be an asset to the project and should be considered for removal when near construction.

Suitability for preservation starts with the current tree condition and includes species specific factors such as:

- species success in region,
- species susceptibility to root loss and other construction impacts,
- typical species longevity, and
- species invasiveness

Suitability for preservation also includes factors of the individual tree such as:

- existing infrastructure around trees,
- structural features that do not affect stability today but are likely to in the future, and
- forest stand dynamics as neighboring trees are removed.

Jes 1035			The state of the state of
	Health	Structure	Form
Excellent	Vigor nearly perfect with little or no twig dieback, discoloration or defoliation.	Strong branch attachments with few or no features affecting tree or branch stability.	Tree shape highly functional and aesthetic in landscape.
Good	Typical vigor with minor twig dieback, defoliation or discoloration.	Good branch attachments with minor and correctable features affecting tree or branch stability.	Tree shape functional and aesthetic in landscape.
Fair	Reduced vigor with moderate twig dieback, defoliation, and/or discoloration.	A single feature significantly affecting or multiple features moderately affecting tree or branch stability that would not be practical to correct or would require multiple treatments over several years.	Tree shape compromises function and/or aesthetics in landscape.
Poor	Compromised vigor with extensive twig and/or branch dieback and defoliation.	A single feature seriously affecting or multiple features significantly affecting tree stability that cannot be corrected.	Tree shape significantly detracts from function and/or aesthetics to a significant degree.
Very Poor	Poor vigor with little live foliage or branches.	Multiple features seriously affecting tree stability that cannot be corrected.	Tree shape provides little to no function and is visually unappealing in landscape.
Dead	No live foliage or branches	Tree failed.	-



Гree #	Species	Trunk Canopy Diameter Radius Sta			Conditio	Suitability for Preservation		
20	20 <i>Acer macrophyllum</i>	er macronhyllum 20 10 Pro	Protected off-site	Fair	Fair health Good structure Good form	Moderate branch dieback  Multiple trunks arise from 40 feet  Wide spreading crown	Moderate	
21	Acer macrophyllum	24,21	30	Protected	Fair	Fair health Fair structure Good form	Moderate branch dieback Codominant trunks, swollen base, decay likely Dominant tree	Moderate
22	Acer macrophyllum	18	20	Protected	Very poor	Fair health  Very poor structure  Poor form	Dense crown Topped, poorly attached regrowth One sided crown south	Low
23	Abies grandis	26	15	Protected	Good	Good health Good structure Good form	Dense, green crown Strong central leader, minor girdling root Crown one sided east	Moderate On edge of slope
24	Acer macrophyllum	24,24	30	Protected	Fair	Good health Fair structure Fair form	Dense, green crown  Codominant trunks, swollen base, decay likely  Crown one sided west	Moderate
25	Acer macrophyllum	33,12	35	Protected	Fair	Good health Fair structure Good form	Dense, green crown  Codominant trunks, swollen base, decay likely  Dominant tree	Moderate
26	Acer macrophyllum	23	25	Protected	Fair	Good health Good structure Fair form	Dense, green crown  Codominant trunks  Crown one sided east	Moderate
27	Pseudotsuga menziesii	35	25	Protected off-site	Fair	Good health Good structure Fair form	Dense, green crown, difficult to see top Strong central leader Crown one sided west	Moderate
28	Acer macrophyllum	16	15	Protected	Fair	Good health Fair structure Fair form	Minor dieback Swollen base, decay likely Crown one sided east	Moderate
29	Pseudotsuga menziesii	30	5	Protected off-site	Fair	Good health Good structure Fair form	Dense, green crown, difficult to see top Strong central leader Crown one sided west	Moderate



Гree #	Species	Trunk Canopy Diameter Radius S (inches) (feet)		Status	Conditio	Condition		
30	Acer macrophyllum		1	Protected off-site	Poor	Fair health Poor structure Poor form	Moderate branch dieback Lost top, poorly attached regrowth Supressed	Low
31	Acer macrophyllum	19	25	Protected	Fair	Good health Good structure Fair form	Dense, green crown Strong Central leader Crown one sided west	Moderate
32	Acer macrophyllum	30	25	Protected	Poor	Fair health Very poor structure Poor form	Moderate branch dieback Extensive basal cavity, trunk bows Crown one sided north	Low
33	Acer macrophyllum	18	10	Protected	Very poor	Poor health  Very poor structure  Poor form	Dieback & epicormic sprouting  Large cavity at 15 feet  Supressed	Low
34	Acer macrophyllum	22	15	Protected	Poor	Fair health Fair structure Poor form	Minor dieback  Multiple trunks arise from 35 feet  Supressed	Low
35	Acer macrophyllum	30	20	Protected	Very poor	Fair health  Very poor structure  Fair form	Moderate branch dieback  Tree splitting down middle with decay  Two dimensional crown	Low
36	Pseudotsuga menziesii	30	20	Protected	Fair	Good health Good structure Fair form	Dense, green crown Strong central leader Crown one sided north	Moderate
37	Acer macrophyllum	34	25	Protected	Fair	Good health Fair structure Good form	Dense, green crown  Codominant trunks with response growth  Dominant tree	Moderate
38	Abies grandis	13	10	Protected	Poor	Poor health Excellent structure Poor form	Significant dieback Strong central leader One sided east	Low
39	Abies grandis	16	10	Protected	Poor	Fair health Good structure Fair form	Moderate branch dieback Strong central leader, girdling root Narrow form, interior tree	Low



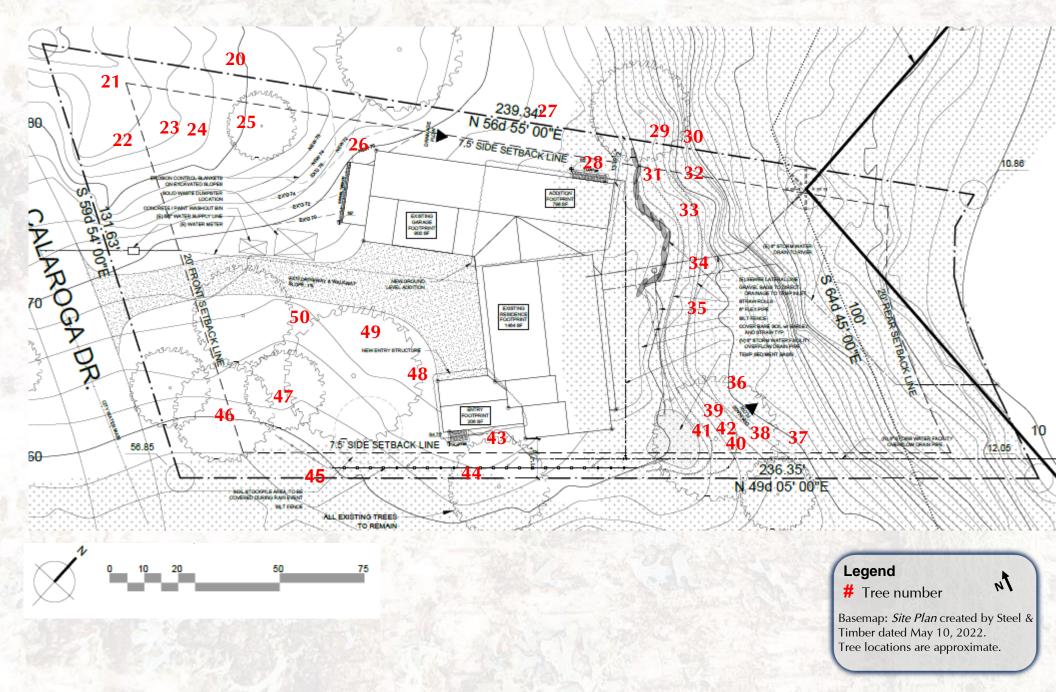
Tree #	Species	ies Trunk Canopy Diameter Radius Status (inches) (feet)				Condition			
40	40 <i>Pseudotsuga menziesii</i>	Pseudotsuga menziesii	43	25	Protected	Good	Good health Good structure Good form	Dense, green crown, difficult to see top Trunk sweeps at 10 feet Dominant tree	Moderate Mature/old
41	Thuja plicata	17	10	Protected	Fair	Excellent health Fair structure Good form	Dense, green crown Trunk sweeps north Narrow form	Low	
42	Thuja plicata	15	5	Protected	Fair	Fair health Good structure Fair form	Minor dieback Strong central leader Narrow, upright form	Low Too close to tree #40	
43	Abies grandis	33	15	Protected	Poor	Poor health Fair structure Fair form	Severe branch dieback Strong central leader Narrow form	Low	
44	Pseudotsuga menziesii	18	15	Protected Property line	Good	Good health Good structure Good form	Dense green crown Strong central leader Typical, upright form	High	
45	Abies grandis	18	10	Protected Property line	Fair	Fair health Good structure Fair form	Moderate branch dieback Strong central leader Crown one sided east	Moderate	
46	Abies grandis	23	20	Protected	Fair	Fair health Good structure Fair form	Thin crown Strong central leader Typica, upright form	Moderate	
47	Abies grandis	32	16	Protected	Good	Good health Good structure Good form	Dense crown Strong central leader Narrow form	High	
48	Tsuga heterophylla	19	20	Protected	Good	Good health Good structure Good form	Dense, green crown Strong central leader Typica, upright form	High	
49	Thuja plicata	22	20	Protected	Fair	Good health Good structure Fair form	Dense, green crown strong central leader Crown one sided east	Low Too hot and dry	



Tree # Species	Trunk Diameter (inches)	Canopy Radius (feet)	Status Condition		Suitability for Preservation		
A Property of the second	The second second	No de			Fair health	Minor dieback	Low
50 Thuja plicata	24	20	Protected	Fair	Good structure	Strong central leader	Too hot and dry
					Fair form	Short, wide form	100 flot and dry

#### **Tree Map**





# **Photos**





# **Photos**





