2907 Harborview Dr., Gig Harbor, WA 98335 Phone: (253) 514-8952 Fax: (253) 514-8954

### Technical Memorandum

To: Greg Helle, Ash Development File Number: 2544.0001

From: Alex Murphy, Soundview Consultants LLC Date: April 13, 2023

Re: Offsite Wetland Assessment

2902, 13102, and 3104 East Pioneer Avenue and 813, 901, and 911 Shaw Road East,

Puyallup, Washington 98374

Mr. Helle,

Soundview Consultants LLC (SVC) conducted a wetland assessment along the eastern boundary of an approximately 10.93-acre site located at 2902, 13102, and 3104 East Pioneer Avenue and 813, 901, and 911 Shaw Road East in the City of Puyallup, Washington (Figure 1). The site consists of seven parcels located in the in the Southeast ¼ of Section 26 and the Northeast ¼ of Section 35, Township 20 North, Range 04 East, W.M. (Pierce County Tax Parcel Numbers 0420264021, 0420264053, 0420264054, 0420351030, 0420351029, 0420351026 and 0420351066). This assessment was conducted to support mixed-use development of the subject property. SVC investigated areas along the eastern boundary of the subject property to determine whether potentially regulated wetlands are present.

Figure 1. Subject Property Location.



1

### **Background Data**

Prior to the site investigation, SVC staff conducted background research using Pierce County and City of Puyallup Geographic Information System (GIS) data, Washington Department of Fish and Wildlife Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) mapping tools, WDFW and Northwest Indian Fisheries Commission (NWIFC) Statewide Washington Integrated Fish Distribution (SWIFD) database, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), Washington Department of Natural Resources (DNR) stream typing map, and Natural Resource Conservation Service (NRCS) soil survey. Onsite determinations were made using observable vegetation, hydrology, and soils in conjunction with the sources listed above, U.S. Geological Survey (USGS) topographic maps, local precipitation data, and various orthophotographic resources.

The City of Puyallup Stream and Wetland Inventory Map (Attachment A1) identifies two potential wetlands in the northwest corner and in the central portion of the subject property. One stream is also identified by the City of Puyallup map as originating in the southeast corner of the subject property and extending offsite to the south. The USFWS NWI Map (Attachment A2) and the WDFW PHS Map (Attachment A3) also identify one potential wetland in the southeast corner of the subject property that extends offsite to the south. No other potential wetlands are identified by the Pierce County Stream & Wetland Inventory Map (Attachment A4) or the DNR Rare Plant and Wetland Inventory Map (Attachment A5). In addition, no fish and wildlife habitat conservation areas are documented in the subject property. The WDFW & NWIFC SWIFD Map (Attachment A6) and DNR Stream Typing Map (Attachment A7) do not identify any streams, salmonid presence, or other priority habitat or species on the site. No other wetlands, streams, or fish and wildlife habitat conservation areas are documented within 300 feet of the subject property.

The NRCS Soil Survey Map (Attachment A8) identifies two soil series on the subject property: Puyallup fine sandy loam (31A) and Briscot loam (6A). Puyallup fine sandy loam is a non-hydric soil; however, up to 2 percent of the soil map unit contains inclusions of the hydric Briscot undrained soil. Briscot loam, 6A, is considered a hydric soil in Pierce County (NRCS, N.d.). However, hydric soils are common in valley floors associated with historical floodplains, such as in the Puyallup area. Briscot loam is noted as occurring on floodplains, per the NRCS list of hydric soils for the Pierce County Area. Small 100-year floodplain areas are present along the mapped streams on the eastern and northern property boundaries (Attachment A9).

### Previous Wetland and Fish and Wildlife Habitat Assessments

The subject property was previously investigated by John Comis Associates, LLC in 2008 and 2009 for the presence of potentially regulated wetlands, waterbodies, and fish and wildlife habitat conservation areas, with follow-up investigations in 2020 to verify initial findings. More recently, Habitat Technologies investigated the site in 2021 and again in 2022. Using current methodology, John Comis Associates (2020) and Habitat Technologies (2021) confirmed the absence of onsite wetlands. However, Habitat Technologies identified two streams on the eastern and northern portions of the site and one potential wetland offsite to the east of the site. The potential offsite wetland to the east was vegetated with very dense reed canarygrass (*Phalaris arundinacea*) intermixed with blackberries (*Rubus* spp.). Habitat Technologies did not identify any wetland hydrology indicators during July through early November 2022 site investigations; additional assessments to document hydrology conditions were recommended to determine whether the area met wetland criteria. The east stream (herein referred to as Stream Y) is classified as a Type III water per Puyallup Municipal Code (PMC)

21.06.1010(3)(a). Type III streams are subject to a standard 50-foot buffer, and Type IV streams are subject to a standard 35-foot buffer per PMC 21.06.1050(2). The potential wetland identified offsite to the east was preliminarily classified as a Category III wetland with an associated 80-foot buffer under PMC 21.06.930(2) (Habitat Technologies, 2022). In addition, John Comis Associates identified and delineated one wetland (previously Wetland A, herein referred to as Wetland 1) offsite to the south, as previously delineated by Herrera Environmental Consultants in 2000. Wetland 1 was classified as a Category II wetland subject to a standard 100-foot buffer per PMC 21.06.930(2) (Comis, 2020).

### Methods

An investigation of areas along the subject property's eastern boundary, including the potential wetland area identified by Habitat Technologies, was performed during the winter of 2023 by qualified SVC staff. The investigation consisted of a walk-through survey and data collection to identify potentially regulated wetlands.

Wetlands are regulated features per Puyallup Municipal Code (PMC) Chapter 21.06 (Critical Areas) and subject to restricted uses/activities under the same title. Wetland presence/absence was determined in accordance with PMC 21.06.910(1) and outlined in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987) and modified according to the guidelines established in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, Version 2.0 (USACE, 2010) and Field Indicators of Hydric Soils in the United States (NRCS, 2018). Pink surveyor's flagging was labeled alpha-numerically and tied to 3-foot lath or vegetation at formal sampling locations to mark the points where detailed data was collected (DP-1 to DP-4). Additional test pits were excavated at regular intervals throughout the investigation area to further confirm wetland presence/absence. A total of four formal data plots were collected throughout the site, documenting the absence of wetland criteria (Attachments C and D).

### Precipitation

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) weather station at the Seattle-Tacoma International Airport Station in order to acquire percent of normal precipitation during and preceding the site investigation. A summary of precipitation data is provided in Table 1.

Table 1. Precipitation Summary<sup>1</sup>.

Site Visit	Day	Day	1 Week	2 Weeks	30 Days Prior	Year to Date	Percent of
Date	Of	Before	Prior	Prior	(Observed/Normal)	(Observed/Normal) <sup>2</sup>	Normal <sup>3</sup>
02/24/2023	0.00	trace	0.58	0.94	2.08/4.46	20.49/24.96	47/82

Precipitation volume provided in inches. Data obtained from NOAA (http://w2.weather.gov/climate/xmacis.php?wfo=sew) for Sea-Tac Airport.

Precipitation levels during the February 2023 site visit were lower than the statistical normal for the prior 30 days (47 percent of normal) and within the normal range for the 2022/2023 water year (82 percent of normal). Overall, this data suggests that hydrologic conditions encountered during the time of the site investigation may have been slightly drier than normal. Such conditions were considered in making professional wetland determinations.

<sup>2.</sup> Year-to-date precipitation is for the water year from October 1 to the onsite date.

<sup>3.</sup> Percent of normal shown is for the prior 30 days/year.

### Results

The 10.93-acre subject property is located in an area of mixed land use (residential, agricultural, industrial, and commercial) within the City of Puyallup. The topography on the site is generally flat at an elevation of approximately 60 feet above mean sea level (Attachment A10). Based on a review of historical aerial imagery, the subject property and portions of the adjacent parcels to the east were under agricultural use for several decades following 1940. Historical aerial imagery indicates the lack of agricultural activity onsite since 2006 following clearing and grading. Since at least 2002, active agricultural use of the offsite areas to the east appears to have ceased, and the prior fields appear to have revegetated. The offsite investigation area is dominated by non-native, invasive reed canarygrass (*Phalaris arundinacea*) surrounded by Himalayan blackberry (*Rubus armeniacus*) and Scotch broom (*Cytisus scoparius*). Patches of black cottonwood (*Populus balsamifera*) and red alder (*Alnus rubra*) are scattered along Stream Y. The ditched, historic channel of Stream Y runs along the subject property's eastern boundary; Stream Y is currently diverted into an onsite stormwater pond and piped beneath the subject property prior to discharging into Stream Z along the northern property boundary. The historic channel of Stream Y is adjacent to a large, offsite depressional swale identified as a potential wetland by Habitat Technologies (Habitat Technologies, 2022).

No potentially regulated wetlands were identified during the offsite investigation. Formal data plots were collected at four locations in the historic Stream Y channel and the large depressional swale to document the absence of wetlands. Photographs of each data plot and site conditions are included in Attachment B. None of the data plots met for all three required wetland criteria (i.e., vegetation, soils, and hydrology) according to current wetland delineation methodology. All data plots exhibited hydrophytic vegetation; however, only one data plot (DP-2) within the historic Stream Y channel exhibited hydric soils. All data plots were excavated to a depth of at least 18 inches and left open for a minimum of 2 hours to allow adequate time for the groundwater table to equilibrate. However, no water tables were observed in any data plots. No other indicators of primary wetland hydrology were observed. Due to the lack of wetland hydrology indicators, and the lack of hydric soil indicators in three out of the four formal data plots, no wetlands were observed.

The soils in the large swale (DP-3 and DP-4) did not meet any hydric soil indicators due to the lack of depleted layers, redox concentrations, and/or dark surface layers at depths required for hydric soil indicators. One of the two data plots (DP-1) collected in the historic Stream Y channel also did not meet hydric soil indicators, lacking a depleted matrix.

The existing vegetation onsite is not diagnostic of wetland conditions. The four data plots exhibited hydrophytic vegetation due to the presence of invasive, non-native reed canarygrass (*Phalaris arundinacea*). Reed canarygrass is an aggressive perennial grass that often invades sites after a disturbance. This grass is known to being present in roadside ditches and highly disturbed areas, such as old agricultural fields. It grows quickly in positive nutrient inputs environments, especially in nonpoint agricultural runoff. The presence of reed canarygrass is consistent with the prior agricultural use of the offsite investigation area and subsequent revegetation.

### Conclusions

SVC conducted a comprehensive investigation of offsite areas adjacent to the subject property's eastern boundary, including the potential wetland previously identified by Habitat Technologies. The investigation included the collection of four formal data plots during the wet season. While the offsite investigation area was dominated by hydrophytic vegetation, no wetland hydrology was observed, and

the area did not meet all three criteria required for a positive wetland determination. No additional wetland encumbrances should therefore be present along the subject property's eastern boundary.

If you have any further questions, please contact me at your earliest convenience.

Sincerely,

Slex Murphy
Alex Murphy

Planner and Project Manager

April 13, 2023

Date

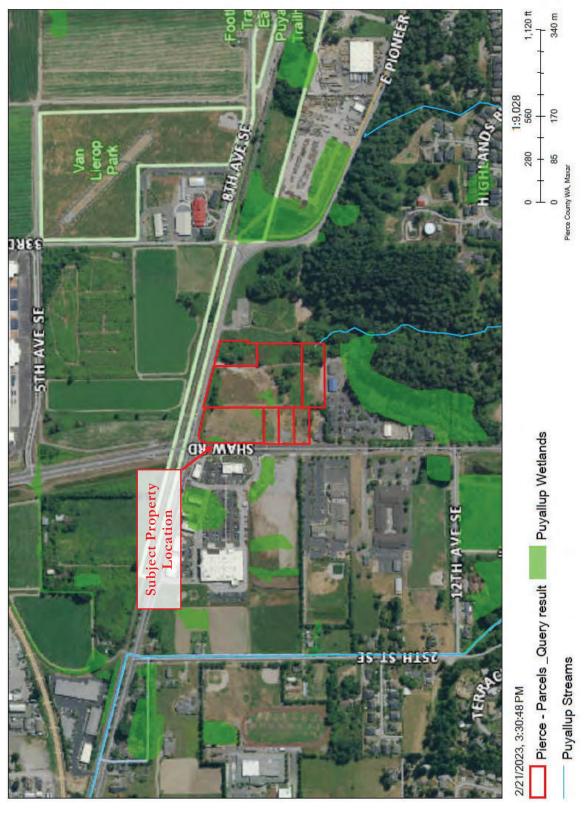
### References

- City of Puyallup. 2019. Puyallup Municipal Code. Title 21, Chapter 06 Critical Areas. Website: https://www.codepublishing.com/WA/Puyallup/ Current through April 10, 2023
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Habitat Technologies. 2021. Wetland Delineation Report: East Town Crossing. October 14, 2021. Puyallup, Washington.
- Habitat Technologies. 2022. Stream Corridor Restoration and Enhancement Program: East Town Crossing. Revised November 14, 2022. Puyallup, Washigton.
- Hitchcock, C.L. & A. Cronquist, Ed. by D. Giblin, B. Ledger, P. Zika, and R. Olmstead. 2018. *Flora of the Pacific Northwest, 2nd Edition*. U.W. Press and Burke Museum. Seattle, Washington.
- John Comis Associates. 2020. Verification Report for the Wetland and Stream Delineations at "East Town Crossing" for the Abbey Road Group. Report prepared on March 24, 2020.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List:* 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
- Munsell® Color. 2000. Munsell® Soil Color Charts. New Windsor, New York.
- Natural Resources Conservation Service (NRCS). N.d. Hydric Soils List: Pierce County Area, Washington. U.S. Department of Agriculture. Washington D.C.
- NRCS. 2018. Field Indictors of Hydric Soils in the United States, Version 8.2. L.M. Vasialas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-13. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- Zulauf, A.S. 1979. Soil Survey of Pierce County, Washington. United States Department of Agriculture, Soil Conservation Service in cooperation with Washington State Department of Natural Resources, and Washington State University, Agriculture Research Center. Washington, D.C.

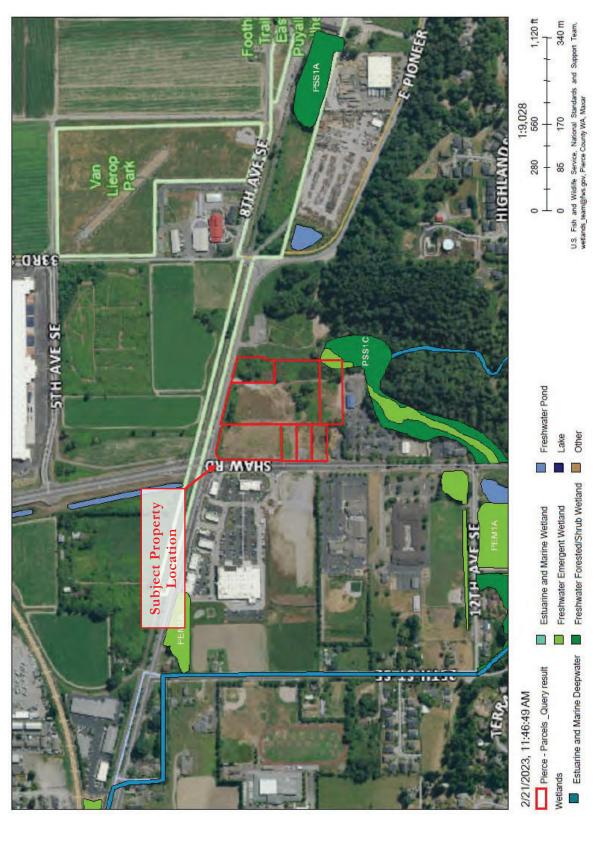
### Attachment A – Background Information

This attachment includes a City of Puyallup Stream and Wetland inventory Map (A1); USFWS NWI Map (Attachment A2); WDFW PHS Map (Attachment A3); Pierce County Stream and Wetland Inventory Map (Attachment A4); DNR Rare Plant and Wetland Inventory Map (Attachment A5); WDFW & NWIFC SWIFD Map (Attachment A6); DNR stream typing Map (Attachment A7); NRCS soil survey Map (Attachment A8); FEMA Floodplain Map (A9); Topographic Map (Attachment A10).

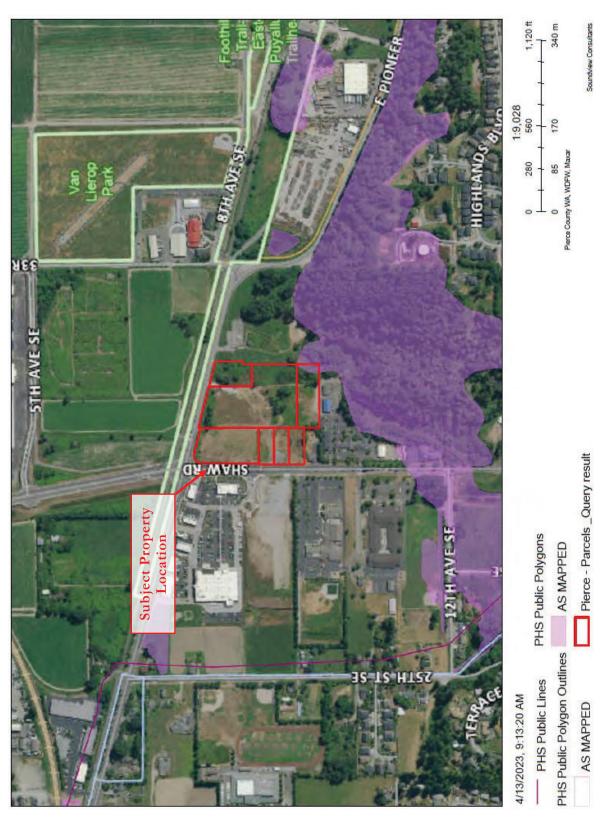
# Attachment A1 - City of Puyallup Stream and Wetland Inventory Map



### Attachment A2 – USFWS NWI Map



### Attachment A3 - WDFW PHS Map and Report



### PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Biodiversity Areas And Corridor	N/A	N/A	No
Freshwater Emergent Wetland	N/A	N/A	No
Freshwater Forested/Shrub Wetland	N/A	N/A	No

### PHS Species/Habitats Details:

Biodiversity Areas And Corridor	
Priority Area	Terrestrial Habitat
Site Name	CARBON RIVER OPEN SPACE
Accuracy	1/4 mile (Quarter Section)
Notes	STEEP SLOPES ALONG THE VALLEY TERRACE COVERED WITH NATIVE MIXED FOREST.
Source Record	903848
Source Dataset	PHSREGION
Source Name	TED MULLER WDFW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00023
Geometry Type	Polygons

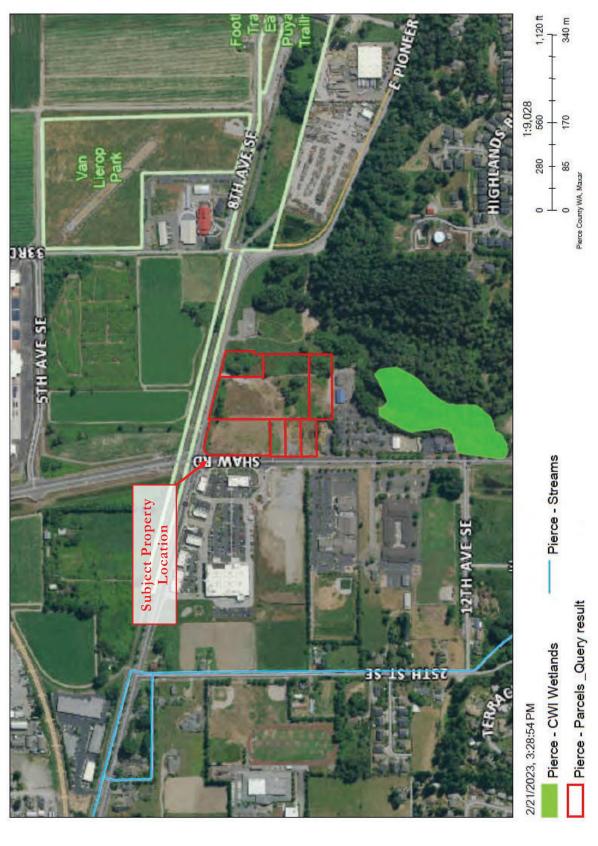
Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1C
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecv.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

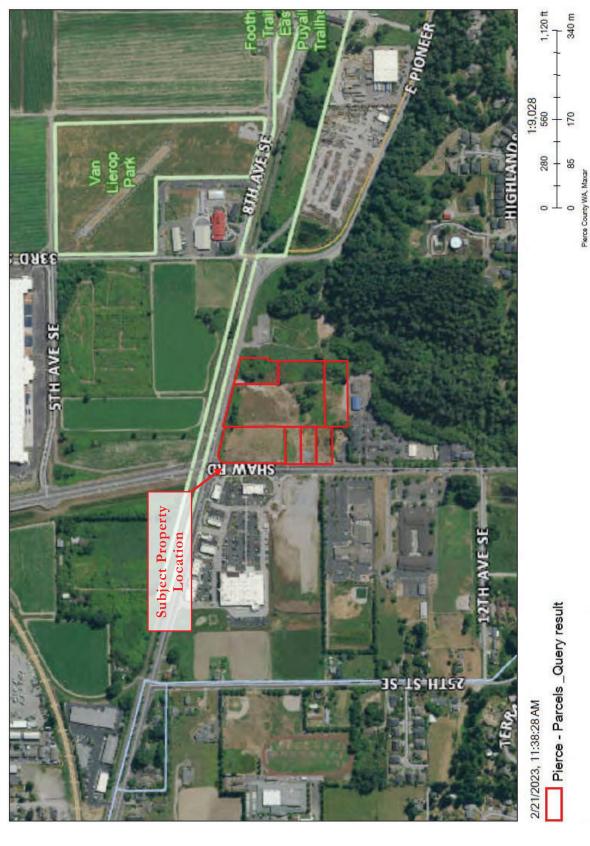
Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1C
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wellands/bas/index.html
Geometry Type	Polygons

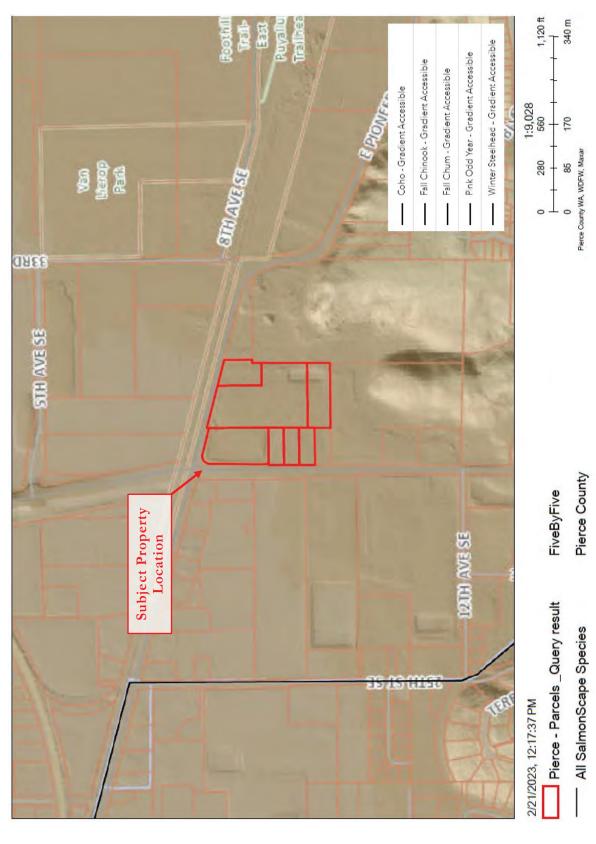
Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PSS1C
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA NA
Notes	Welland System: Freshwater Forested/Shrub Wetland - NWI Code: PSS1C
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

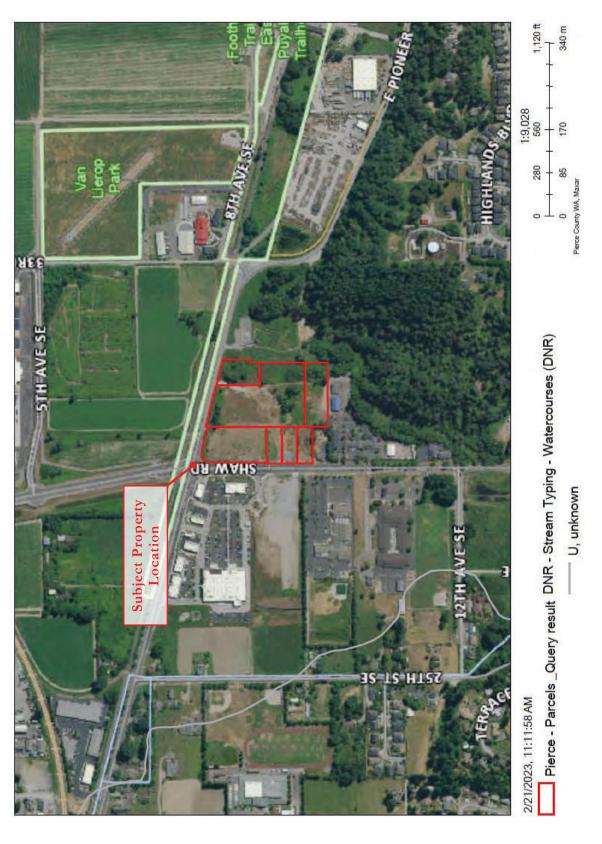
## Attachment A4 -Pierce County Stream and Wetland Inventory Map

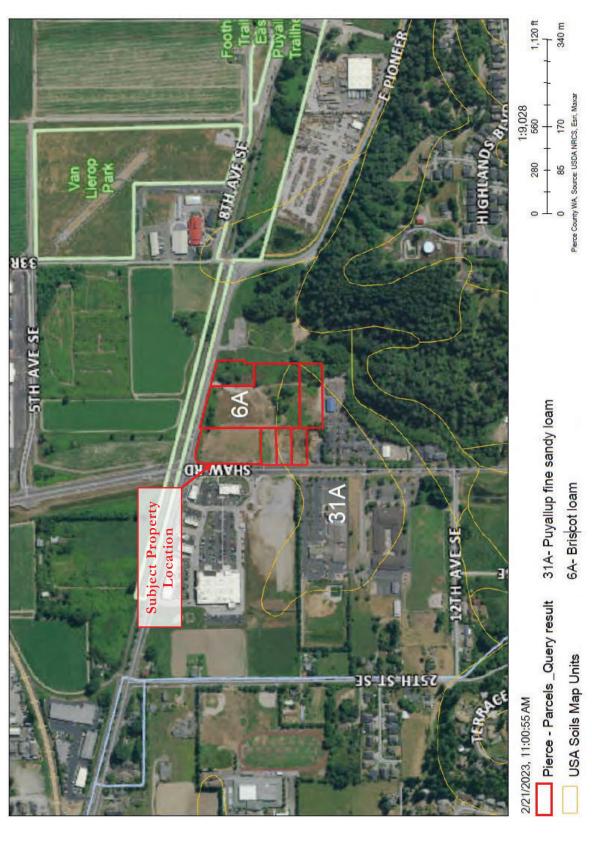




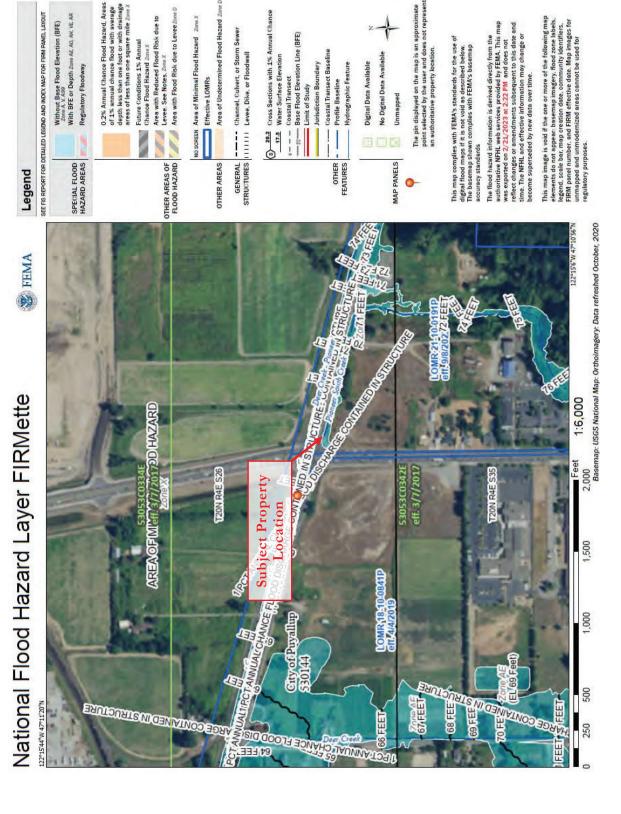


### Attachment A7 - DNR Stream Typing Map

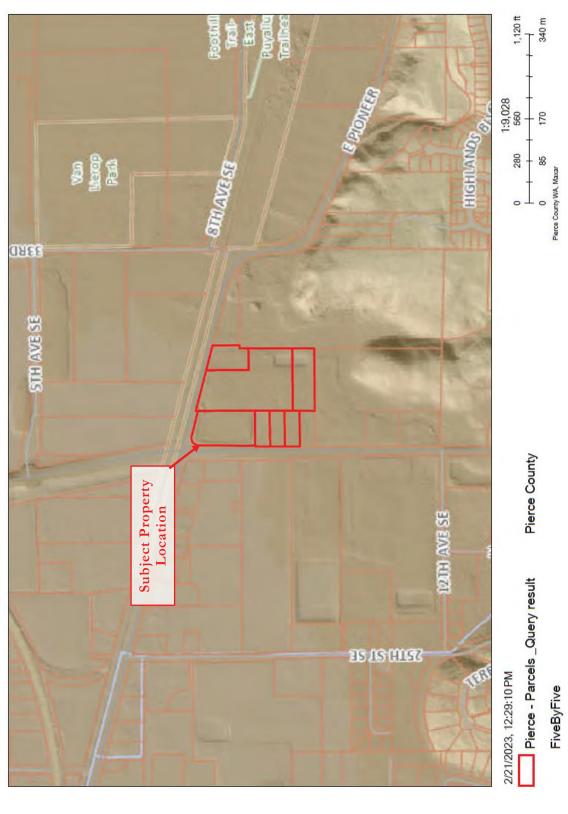




### Attachment A9 – FEMA Floodplain Map



### Attachment A10 - Topographic Map



### Attachment B – Site Photographs











General View of DP-2















### Attachment C – Data Plot Exhibit

### **EXISTING CONDITIONS**





2907 Harborview Dr., Suite D, Gig Harbor, WA 98335 Phone: (253) 514-8952 Fax: (253) 514-8954 www.soundviewconsultants.com

### EAST TOWN CROSSING

2902 E PIONEER ROAD PUYALLUP, WA 98374 PIERCE COUNTY PARCEL NUMBER: 0420264021, 0420264053, 0420264054, 0420351030, 0420351029, 0420351026 & 0420351066 DATE: 3/20/2023 JOB: 2544.0001

- DIC

BY: DLS

SCALE: 1 " = 120 '

figure no. 1

# Attachment D - Non-Wetland Data Forms

Project/Site: 2544.0001 East Town Crossing		City/Coun	<sub>ty:</sub> Puyallu	ıp/Pierce	Sampling Date: 2/24/2023		
Applicant/Owner: Ash Development - Greg Helle		State: WA Sampling Point:  Section, Township, Range: SE/NE 26/35 20N, 4					
Investigator(s): Casey Lanier, Ryan Krapp			Section, To	ownship, Range: SE/NE	26/35 20N, 4E		
Landform (hillslope, terrace, etc.): field							
Subregion (LRR): A	_ <sub>Lat:</sub> <u>4</u> 7.	183764		_ Long:122.253475	529 Datum: WGS-84		
Soil Map Unit Name: Briscot Ioam - 6A				NWI classific	ation: N/A		
Are climatic / hydrologic conditions on the site typical for this				f no, explain in Remarks.			
Are Vegetation, Soil, or Hydrology sign	nificantly dis	turbed?	Are "No	ormal Circumstances" pre	sent? Yes 🗵 No 🗌		
Are Vegetation, Soil, or Hydrology natu	urally probler	matic?	(If need	ed, explain any answers i	n Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samplir	ng point le	ocations, transects	, important features, etc.		
Hydrophytic Vegetation Present? Yes ☒ No ☐							
Hydric Soil Present?  Hydric Soil Present?  Yes No 🗵			he Sampled				
Wetland Hydrology Present? Yes ☐ No ☒		wit	hin a Wetlar	nd? Yes ☐ N	10 <b>⊠</b>		
Remarks:	111		-4:1	D-41-414-	d := 1:::- dia-1:-d		
Not all three wetland criteria met. Only	пуагорпу	ne vegen	ation obser	ved. Data plot locate	d in instoric ditched stream.		
VEGETATION – Use scientific names of plan	ts.						
		Dominan	t Indicator	Dominance Test work	sheet:		
Tree Stratum (Plot size: 30 ft)  1	% Cover			Number of Dominant S That Are OBL, FACW,	pecies or FAC: <u>1</u> (A)		
2				Total Number of Domin	nant		
3				Species Across All Stra	ata: <u>1</u> (B)		
4	0			Percent of Dominant Sp That Are OBL, FACW,			
Sapling/Shrub Stratum (Plot size: 30 ft)  1				Prevalence Index wor	ksheet:		
2					Multiply by:		
3.					x 1 =		
4				FACW species	x 2 =		
5					x 3 =		
Harl Otrature (District 40 ft)	0	= Total (	Cover		x 4 =		
Herb Stratum (Plot size: 10 ft)  1. Phalaris arundinacea	97	Yes	FACW		x 5 =		
2. Equisetum arvense	2	No	FAC	Column Totals:	(A) (B)		
3. Galium aparine	1	No	FACU	Prevalence Index	= B/A =		
4			. <u> </u>	Hydrophytic Vegetation	on Indicators:		
5				☐ Rapid Test for Hydi	ophytic Vegetation		
6				▼ Dominance Test is	>50%		
7				Prevalence Index is			
8					otations <sup>1</sup> (Provide supporting s or on a separate sheet)		
9				☐ Wetland Non-Vasc	ular Plants <sup>1</sup>		
10	-			☐ Problematic Hydrop	ohytic Vegetation¹ (Explain)		
11	100	= Total (	Cover		il and wetland hydrology must		
Woody Vine Stratum (Plot size: 30 ft)	-	Total	30701	be present, unless distr	urbed or problematic.		
1				Hydrophytic			
2				Vegetation	o ☑ No □		
% Bare Ground in Herb Stratum 0	0	= Total (	Cover	Present? Ye	s⊠ No □		
Remarks: Hydrophytic vegetation criteria met thr	ough dom		toet	1			
riyuropriyuo vegetation criteria met tili	ough uon	iii lai lue	iesi.				
1							

Depth (inches)	Matrix Color (moist)	%	Colo	r (moist)	lox Featur %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-9	10YR 2/2	100		i (iiioist)		_ rype	-	SiLo	Silt Loam
9-15+	10YR 2/2	95	7.5	YR 3/3	5		M	SiLo	Silt Loam
9-101	10111 2/2	_ 33	7.5	11\\ 3/3			IVI	SILO	- Silt Loain
		-							
	-								
	-								
	oncentration, D=D						ed Sand G		<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
_	Indicators: (App	licable to				otea.)			licators for Problematic Hydric Soils <sup>3</sup> :
Histosol	` '			Sandy Redox					2 cm Muck (A10)
<ul><li>☐ Histic Ep</li><li>☐ Black Hi</li></ul>	pipedon (A2)			Stripped Matrix ₋oamy Mucky	. ,	E1) (avcan	+ MI DA 1\		Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
	n Sulfide (A4)			₋oamy Gleyed			LIVILKA I)	H	
	d Below Dark Surfa	ace (A11)		Depleted Matri		۷)			Other (Explain in Nemarks)
	ark Surface (A12)	200 (7111)		Redox Dark Si	. ,	3)		3In	dicators of hydrophytic vegetation and
	lucky Mineral (S1)			Depleted Dark	•	,			wetland hydrology must be present,
	Bleyed Matrix (S4)			Redox Depres					unless disturbed or problematic.
Restrictive	Layer (if present)	:		-	-	-			·
Type:									
Depth (in	ches):							Hydrid	Soil Present? Yes ☐ No 区
Remarks: No hydric	soil criteria me	t.							
No hydric	GY								
No hydric :  YDROLO Wetland Hy	GY drology Indicator	rs:							
No hydric :  YDROLO  Wetland Hy  Primary Indi	GY drology Indicator cators (minimum c	rs:	uired; che						Secondary Indicators (2 or more required)
IYDROLO Wetland Hy Primary Indi	drology Indicator cators (minimum c	rs:	uired; che	☐ Water-Sta	ained Lea		except ML		Secondary Indicators (2 or more required)  ☐ Water-Stained Leaves (B9) ( <b>MLRA 1</b> ,
No hydric :  YDROLO  Wetland Hy  Primary Indi  Surface  High Wa	drology Indicator cators (minimum o Water (A1) tter Table (A2)	rs:	uired; che	☐ Water-Sta	ained Lea I <b>A, and 4</b>		except ML	RA I	Secondary Indicators (2 or more required) □ Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
No hydric :  IYDROLO  Wetland Hy  Primary Indi  Surface  High Wa  Saturatio	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3)	rs:	uired; che	☐ Water-Sta 1, 2, 4 ☐ Salt Crus	ained Lea <b>IA, and 4</b> t (B11)	B)	except ML	RA I	Secondary Indicators (2 or more required)  Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)  Drainage Patterns (B10)
No hydric :  IYDROLO  Wetland Hy  Primary Indi  Surface High Wat  Saturatio Water M	drology Indicator cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1)	rs:	uired; che	☐ Water-Sta  1, 2, 4 ☐ Salt Crus ☐ Aquatic Ir	ained Lea IA, and 4 t (B11) nvertebrat	tes (B13)	except ML	RA	Secondary Indicators (2 or more required)  Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)
IYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer	drology Indicator cators (minimum o Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2)	rs:	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger	ained Lea  IA, and 4  t (B11)  nvertebrat  Sulfide (	tes (B13) Odor (C1)		RA I	Secondary Indicators (2 or more required)  Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C
Wetland Hy Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep	drology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3)	rs:	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized	ained Lea IA, and 4 t (B11) nvertebrat n Sulfide ( Rhizosph	tes (B13) Odor (C1) eres along	Living Roo	RA ots (C3)	Secondary Indicators (2 or more required)  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)
Wetland Hy Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)	rs:	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence	ained Lea  4A, and 4  t (B11)  nvertebrat  Sulfide (  Rhizosph  of Reduc	tes (B13) Odor (C1) eres along ced Iron (C	Living Roo 4)	RA	Secondary Indicators (2 or more required)  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)
No hydric :  IYDROLO  Wetland Hy  Primary Indi  Surface  High Wa  Saturatic  Water M  Sedimer  Drift Dep  Algal Ma	drology Indicator cators (minimum of Water (A1) ther Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	rs:	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea  4A, and 4  t (B11)  nvertebrat  Sulfide ( Rhizosph  of Reduct  on Reduct	tes (B13) Odor (C1) eres along ced Iron (C- tion in Tille	Living Roo 4) d Soils (C6	RA	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)
No hydric :  IYDROLO  Wetland Hy  Primary Indi  Surface  High Wa  Saturatio  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Surface	drology Indicator cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6)	's: f one requ		Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea  IA, and 4  t (B11)  nvertebrat  Sulfide ( Rhizosph  of Reduct  or Stresse	tes (B13) Odor (C1) Heres along Seed Iron (Cottion in Tille d Plants (E	Living Roo 4) d Soils (C6	RA	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
No hydric :  IYDROLO  Wetland Hy  Primary Indi  Surface  High Wa  Saturatio  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Surface  Inundation	drology Indicator cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (A2) Inter Table (B1) Inter Table (B2) Inter Table (B3) Inter Table (B4) Inter Tab	s: f one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea  IA, and 4  t (B11)  nvertebrat  Sulfide ( Rhizosph  of Reduct  or Stresse	tes (B13) Odor (C1) Heres along Seed Iron (Cottion in Tille d Plants (E	Living Roo 4) d Soils (C6	RA	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)
No hydric :    YDROLO	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aeria	s: f one requ	(B7)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Lea  IA, and 4  t (B11)  nvertebrat  Sulfide ( Rhizosph  of Reduct  or Stresse	tes (B13) Odor (C1) Heres along Seed Iron (Cottion in Tille d Plants (E	Living Roo 4) d Soils (C6	RA	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria at Vegetated Concar evations:	rs: f one requ Il Imagery ve Surfac	(B7) e (B8)	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of	ained Lea  1A, and 4  t (B11)  nvertebrat  Sulfide ( Rhizosph  of Reduc  on Reduc  or Stresse  cplain in R	tes (B13) Odor (C1) eres along ced Iron (Cation in Tille d Plants (Demarks)	Living Roo 4) d Soils (C6	RA	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
No hydric :  IYDROLO  Wetland Hy  Primary Indi  Surface  High Wa  Saturatio  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Surface  Inundatio  Sparsely  Field Obser	drology Indicator cators (minimum of water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca	f one requ Il Imagery eve Surfac	(B7) e (B8) No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co	ained Lea  1A, and 4  t (B11)  nvertebrat  a Sulfide ( Rhizosph  of Reduct  on Reduct  or Stresse  cplain in R	tes (B13) Odor (C1) eres along ced Iron (C- tion in Tille d Plants (E- Remarks)	Living Roo 4) d Soils (C6	RA	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary Indi Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Water Table	drology Indicator cators (minimum of water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar vations: ter Present? Present?	f one required in the second of the second o	(B7) e (B8) No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea  1A, and 4  t (B11)  nvertebrat  Sulfide ( Rhizosph  of Reduct  on Reduct  or Stresse  cplain in R	tes (B13) Odor (C1) heres along ced Iron (C tion in Tille d Plants (C Remarks)	Living Roo 4) d Soils (Co 1) (LRR A	RA	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
Wetland Hy Primary Indi Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation P	drology Indicator cators (minimum of water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Conca vations: ter Present? Present?	f one requ Il Imagery eve Surfac	(B7) e (B8) No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co	ained Lea  1A, and 4  t (B11)  nvertebrat  Sulfide ( Rhizosph  of Reduct  on Reduct  or Stresse  cplain in R	tes (B13) Odor (C1) heres along ced Iron (C tion in Tille d Plants (C Remarks)	Living Roo 4) d Soils (Co 1) (LRR A	RA	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
No hydric :  IYDROLO  Wetland Hy  Primary Indi  Surface  High Wa  Saturatio  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Surface  Inundatio  Sparsely  Field Obser  Surface Wat  Water Table  Saturation P  (includes ca	drology Indicator cators (minimum of water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar vations: ter Present? Present?	I Imagery ve Surfac Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea  1A, and 4  t (B11)  nvertebrat  a Sulfide ( Rhizosph  of Reduct  on Reduct  on Reduct  or Stresse  cplain in R  es):  es):  es):	tes (B13) Odor (C1) eres along ced Iron (C- tion in Tille d Plants (E- Remarks)	Living Roo 4) od Soils (Co 01) (LRR A	RA ots (C3)	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P (includes ca) Describe Re	drology Indicator cators (minimum of water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar vations: ter Present? Present?	I Imagery ve Surfac Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea  1A, and 4  t (B11)  nvertebrat  a Sulfide ( Rhizosph  of Reduct  on Reduct  on Reduct  or Stresse  cplain in R  es):  es):  es):	tes (B13) Odor (C1) eres along ced Iron (C- tion in Tille d Plants (E- Remarks)	Living Roo 4) od Soils (Co 01) (LRR A	RA ots (C3)	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation P (includes ca Describe Re	drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar vations: are Present? Present? pillary fringe) corded Data (streat	rs:  If one required in the second se	(B7) e (B8) No ⊠ No ⊠ No ⊠ , monitor	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea  IA, and 4  I (B11)  Invertebrat  I Sulfide (IA)  Rhizosph  I of Reduct  I on Reduct	tes (B13) Odor (C1) eres along ced Iron (C- tion in Tille d Plants (C- Remarks)	Living Roo 4) od Soils (Co 01) (LRR A Wet	RA  ots (C3)  land Hydi	Secondary Indicators (2 or more required)  Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (Casternation of the complete of the com
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Water Table Saturation P (includes ca Describe Re	drology Indicator cators (minimum of water (A1) ater Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar vations: are Present? Present? pillary fringe) corded Data (streat	rs:  If one required in the second se	(B7) e (B8) No ⊠ No ⊠ No ⊠ , monitor	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted of Other (Ex	ained Lea  IA, and 4  I (B11)  Invertebrat  I Sulfide (IA)  Rhizosph  I of Reduct  I on Reduct	tes (B13) Odor (C1) eres along ced Iron (C- tion in Tille d Plants (C- Remarks)	Living Roo 4) od Soils (Co 01) (LRR A Wet	RA  ots (C3)  land Hydi	Secondary Indicators (2 or more required)  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)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)

Project/Site: 2544.0001 East Town Crossing		City/C	ounty: P	uyallu	o/Pierce	Samplir	ng Date: 2/24	/2023
Applicant/Owner: Ash Development - Greg Helle	State: WA Sampling F Section, Township, Range: SE/NE 26/35 20						ng Point: DP-	-2
Investigator(s): Casey Lanier, Ryan Krapp			Sec	tion, To	wnship, Range: SE/NE	26/35 2	20N, 4E	
Landform (hillslope, terrace, etc.): ditch		Loca	l relief (co	oncave,	convex, none): conca	ve	Slope (%	,
Subregion (LRR): A	_ <sub>Lat:</sub> <u>47.</u>	1842	273		Long: -122.253485	544	_ <sub>Datum:</sub> W	/GS-84
Soil Map Unit Name: Briscot Ioam - 6A					NWI classific	ation: N/	Α	
Are climatic / hydrologic conditions on the site typical for this	s time of yea	ar? Ye	es 🗷 N	lo 🗌 (If	no, explain in Remarks.	)		
Are Vegetation, Soil, or Hydrology sign	nificantly dis	turbed	1?	Are "No	rmal Circumstances" pre	sent? Ye	es 🗵 No 🗌	
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?	· (	(If neede	d, explain any answers i	n Remark	(s.)	
SUMMARY OF FINDINGS - Attach site map	showing	sam	pling p	oint lo	cations, transects	, impor	tant featur	es, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐								
Hydric Soil Present? Yes ⊠ No □			Is the Sa			_		
Wetland Hydrology Present? Yes ☐ No ☒			within a	Wetlan	d? Yes ☐ N	<b>√0 X</b>		
Remarks:		I						
Not all three wetland criteria met	. Data p	olot l	ocated	l withi	n historic ditch.			
VEGETATION – Use scientific names of plan	te							
VEGETATION – Ose scientific flames of plan	Absolute	Dom	inant Ind	licator	Dominance Test work	rehoot:		
Tree Stratum (Plot size: 30 ft)	% Cover				Number of Dominant S			
1					That Are OBL, FACW,		1	(A)
2					Total Number of Domin	ıant		
3					Species Across All Stra	ıta:	1	_ (B)
4	0				Percent of Dominant S	pecies	1000/	(4 (5)
Sapling/Shrub Stratum (Plot size: 30 ft)	<u> </u>	- 10	olai Govei	!	That Are OBL, FACW,	or FAC:	100%	(A/B)
1					Prevalence Index wor	ksheet:		
2					Total % Cover of:			
3					OBL species			
4					FACW species			
5	0				FACULARISIS			
Herb Stratum (Plot size: 10 ft)	<u> </u>	= 10	otal Cover	r	FACU species			
1. Phalaris arundinacea	100	Yes	s FA	ACW	Column Totals:			
2.					Column Totals.	(^,	/	(b)
3					Prevalence Index	= B/A =		
4					Hydrophytic Vegetation	on Indicat	tors:	
5					☐ Rapid Test for Hydi		egetation	
6					■ Dominance Test is	>50%		
7					☐ Prevalence Index is			
8					☐ Morphological Adap data in Remark			
9					☐ Wetland Non-Vasc		•	,
10					☐ Problematic Hydrop	ohytic Veg	jetation¹ (Expl	ain)
11	100		etal Cava	<u> </u>	<sup>1</sup> Indicators of hydric soi			/ must
Woody Vine Stratum (Plot size: 30 ft)	100	- 10	otal Cover	'    -	be present, unless distr	urbed or p	roblematic.	
1					Hydrophytic			
2					Vegetation		_	
% Bare Ground in Herb Stratum 0	0		otal Cover	r	Present? Ye	s 🗵 No	<i>,</i> □	
Remarks:	l. D			4				
Hydrophytic vegetation criteria met thr	ough Don	nınan	ice l'es	τ.				

S 41-			eptii needed t	o document th		or comm	iii tiie abs	serice or	muicators	·· <i>)</i>	
Depth inches)	Matrix Color (moist)	<u>(</u>	Color (mois	Redox Featu t) %	res Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	۵	F	Remarks	
)-12	10YR 4/1	90	7.5YR 4/		C C	M	SiSaL		Silt Sand L		
12+	10YR 2/2	96	7.5YR 4/		_ <del>C</del>	M	SiLo		Silt Loam	204111	
2.	1011(2/2		7.011(4)	<u> </u>				`	Jiit Louin		
	Concentration, D=D					ed Sand G				ore Lining, M	
] Histoso	l (A1)	incable to	☐ Sandy F	Redox (S5)	oteu.,			2 cm N	luck (A10)	-	
] Black F	ipipedon (A2) listic (A3)		☐ Loamy	d Matrix (S6) Mucky Mineral (		t MLRA 1)		Very S		k Surface (T	F12)
Deplete	en Sulfide (A4) ed Below Dark Surf eark Surface (A12)	ace (A11)	Deplete	Gleyed Matrix (F d Matrix (F3) Dark Surface (F	•		3100	·	Explain in F	vtic vegetati	ion and
] Sandy	Mucky Mineral (S1)		☐ Deplete	d Dark Surface	(F7)		-111	wetland	hydrology	must be pre	esent,
estrictive	Gleyed Matrix (S4)  Layer (if present)	):		Depressions (F8	)			uniess	disturbed or	r problemation	C.
							l			Vaa 🖾 Na	
emarks:	nches):il criteria met th			epleted Mat	rix).		Hydrid	c Soil Pi	resent?	Yes⊠ No	<u> </u>
emarks: /dric so	il criteria met th			epleted Mat	rix).		Hydrid	c Soil Pi	resent?	Tes 🗷 No	<u>о                                    </u>
emarks: ydric so	il criteria met th	rough ind	dicator F3 (E		rix).						
emarks: ydric so	oli criteria met the oliginal of the oliginal of the oliginal oligina	rough ind	dicator F3 (C	hat apply)				Seconda	ary Indicato	ors (2 or mor	re required)
emarks: ydric so  /DROLO /etland H rimary Inc  ] Surface	OGY ydrology Indicato	rough ind	dicator F3 (C	hat apply) ater-Stained Lea	aves (B9) ( <b>є</b>	•		Seconda Usate	ary Indicato er-Stained L	ors (2 or mor Leaves (B9)	e required)
emarks: ydric soi  /DROL( /etland H rimary Inc. ] Surface ] High W	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2)	rough ind	dicator F3 (C	hat apply) ater-Stained Lea 1, 2, 4A, and 4	aves (B9) ( <b>є</b>	•		Seconda Usate	ary Indicato er-Stained L <b>1A, and 4B</b> )	rs (2 or mor Leaves (B9)	e required)
emarks: ydric so  'DROLO  'etland H rimary Inc  ] Surface ] High W ] Saturat	OGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3)	rough ind	dicator F3 (C	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11)	aves (B9) (ε	•		Seconda  Wate	ary Indicato er-Stained L 1A, and 4B) nage Patter	ors (2 or mor Leaves (B9) ) rns (B10)	e required) (MLRA 1, 2
POROLO PO	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2)	rough ind	dicator F3 (Direct) check all to Wa	hat apply) ater-Stained Lea 1, 2, 4A, and 4	aves (B9) ( <b>є</b> I <b>B)</b> tes (B13)	•		Seconda  Wate  Drain  Dry-	ary Indicato er-Stained L <b>4A, and 4B)</b> nage Patter Season Wa	ers (2 or mor Leaves (B9) ) rns (B10) ater Table (C	e required) (MLRA 1, 2
emarks: ydric soi  /DROLO /etland H rimary Inc   Surface   High W   Saturat   Water N   Sedime	OGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1)	rough ind	dicator F3 (C	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra	aves (B9) ( <b>є</b> I <b>B)</b> tes (B13) Odor (C1)	·	RA	Seconda  Wate  Drain  Dry- Satu	ary Indicato er-Stained L 4A, and 4B) nage Patter Season Wa	urs (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial	e required) (MLRA 1, 2
emarks: ydric soi  /DROLO /etland H rimary Inc   Surface   High W   Saturat   Water N   Sedime   Drift De	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2)	rough ind	dicator F3 (C	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide (	aves (B9) (ceB) tes (B13) Odor (C1) neres along	Living Ro	RA	Seconda  Wate Drain Dry- Satu Geo	ary Indicato er-Stained L <b>1A, and 4B</b> ) nage Patter Season Wa ıration Visib	ors (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial osition (D2)	e required) (MLRA 1, 2
PROLO POROLO Portland H rimary Inc. Surface High W Saturat Water N Sedime Drift De Algal M	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	rough ind	ired; check all t	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide ( idized Rhizosph	eves (B9) (6 PB) tes (B13) Odor (C1) neres along ced Iron (C	Living Ro	RA ots (C3)	Seconda  Wate  Drain  Dry- Satu  Geo Shal	ary Indicato er-Stained L <b>1A, and 4B</b> ) nage Patter Season Wa iration Visib morphic Po	ers (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial esition (D2) rd (D3)	e required) (MLRA 1, 2
PROLO POROLO POR	posits (B4) posits (B5) e Soil Cracks (B6)	rough inc	ired; check all t  Sa  Hy  Pro	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide of didized Rhizosphesence of Reducement Iron Reducemented or Stresse	aves (B9) (e B) tes (B13) Odor (C1) neres along ced Iron (Cotion in Tille ad Plants (E	Living Roo 4) ed Soils (Co	RA ots (C3)	Seconda	ary Indicato er-Stained L 14A, and 4B) nage Patter Season Wa Iration Visib morphic Po Ilow Aquitar -Neutral Te	ers (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial esition (D2) rd (D3) est (D5) unds (D6) (L	e required) (MLRA 1, 2  C2) Imagery (C9
PROLO PROLO Petland H rimary Inc Surface High W Saturat Water N Sedime Drift De Algal M Iron De Surface	OGY  ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria	rs: of one requi	ired; check all t  Sa  Aq  Hy  Pri  Re  Sti  (B7)	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide of idized Rhizosphesence of Reducted	aves (B9) (e B) tes (B13) Odor (C1) neres along ced Iron (Cotion in Tille ad Plants (E	Living Roo 4) ed Soils (Co	RA ots (C3)	Seconda	ary Indicato er-Stained L 14A, and 4B) nage Patter Season Wa Iration Visib morphic Po Ilow Aquitar -Neutral Te	ors (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial sistion (D2) rd (D3) est (D5)	e required) (MLRA 1, 2  C2) Imagery (C9
Primary Inc.    Surface     Water No.   Sedime     Drift De     Surface     Algal M     Iron De     Surface     Surface     Surface     Inundat     Sparse	pogy water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca	rs: of one requi	ired; check all t  Sa  Aq  Hy  Pri  Re  Sti  (B7)	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide of didized Rhizosphesence of Reducement Iron Reducemented or Stresse	aves (B9) (e B) tes (B13) Odor (C1) neres along ced Iron (Cotion in Tille ad Plants (E	Living Roo 4) ed Soils (Co	RA ots (C3)	Seconda	ary Indicato er-Stained L 14A, and 4B) nage Patter Season Wa Iration Visib morphic Po Ilow Aquitar -Neutral Te	ers (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial esition (D2) rd (D3) est (D5) unds (D6) (L	e required) (MLRA 1, 2  C2) Imagery (C9
rDROLO retland H rimary Inc Surface High W Saturat Water M Sedime Control Surface Incomplete Surface Incomplete Incomplete Surface Surface Incomplete Surface Sur	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) exposits (B3) lat or Crust (B4) posits (B5) e Soil Cracks (B6) cion Visible on Aeria ly Vegetated Conca	rs: of one requi	dicator F3 (C	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide e idized Rhizosph esence of Reducent Iron Reducented or Stresse her (Explain in F	aves (B9) (6 B) tes (B13) Odor (C1) neres along ced Iron (C ction in Tille ad Plants (E Remarks)	Living Roo 4) ed Soils (Co	RA ots (C3)	Seconda	ary Indicato er-Stained L 14A, and 4B) nage Patter Season Wa Iration Visib morphic Po Ilow Aquitar -Neutral Te	ers (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial esition (D2) rd (D3) est (D5) unds (D6) (L	e required) (MLRA 1, 2  C2) Imagery (C9
emarks: ydric soi  /DROLO /etland H rimary Inc   Surface   High W   Saturat   Water N   Sedime   Drift De   Algal M   Iron De   Surface   Inundat   Sparse   ield Obse	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria by Vegetated Concaptivations: ater Present?	rs: of one required the surface of t	dicator F3 (C	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide e idized Rhizosph esence of Reducent Iron Reducent Iron Reducented or Stresse her (Explain in F	aves (B9) (e B) tes (B13) Odor (C1) neres along ced Iron (Cotion in Tille and Plants (E Remarks)	Living Roo 4) ed Soils (Co	RA ots (C3)	Seconda	ary Indicato er-Stained L 14A, and 4B) nage Patter Season Wa Iration Visib morphic Po Ilow Aquitar -Neutral Te	ers (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial esition (D2) rd (D3) est (D5) unds (D6) (L	e required) (MLRA 1, 2  C2) Imagery (CS
Primary Inc. Surface High W Saturat Water N Sedime Drift De Surface Inundat Sparse Water Table	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) e Soil Cracks (B6) cion Visible on Aeria ly Vegetated Conca	rs:  If one required at Imagery (ave Surface)  Yes  Yes  Yes	dicator F3 (E	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide ( idized Rhizosphesence of Reducent Iron Reducent Iron Reducent Great (Explain in Fin (inches):	aves (B9) (estable)  tes (B13)  Odor (C1)  neres along  ced Iron (Custion in Tille  and Plants (Custion in Tille  Remarks)	Living Roo 4) ed Soils (Co 01) (LRR A	RA ots (C3)	Seconda  Wate Drain Dry- Satu Geo Shal FAC Rais Fros	ary Indicato er-Stained L IA, and 4B) nage Patter Season Wa iration Visib morphic Po ilow Aquitar i-Neutral Te ied Ant Mou t-Heave Hu	ors (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial esition (D2) rd (D3) est (D5) unds (D6) (L	e required) (MLRA 1, 2 C2) Imagery (Cs
YDROLO Vetland H Immary Inc Surface High W Saturat Water N Sedime Incon De Surface Inundat Sparse Vater Table Saturation Includes ca	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca arvations: ater Present? are Present? Present? apillary fringe)	rs:  of one required ave Surface  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	dicator F3 (C	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide of didized Rhizosphesence of Reducent Iron Reducented or Stresseher (Explain in Formation (inches):  in (inches):	aves (B9) (e B) tes (B13) Odor (C1) neres along ced Iron (Cation in Tille ad Plants (D Remarks)	Living Roo 4) ad Soils (Co 01) (LRR A	RA ots (C3) 6)	Seconda  Wate Drain Dry- Satu Geo Shal FAC Rais Fros	ary Indicato er-Stained L 14A, and 4B) nage Patter Season Wa Iration Visib morphic Po Ilow Aquitar -Neutral Te	ors (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial esition (D2) rd (D3) est (D5) unds (D6) (L	e required) (MLRA 1, 2 C2) Imagery (CS
YDROLO Vetland H Immary Inc Surface High W Saturat Water N Sedime Incon De Surface Inundat Sparse Vater Table Saturation Includes ca	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria ly Vegetated Conca	rs:  of one required ave Surface  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	dicator F3 (C	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide of didized Rhizosphesence of Reducent Iron Reducented or Stresseher (Explain in Formation (inches):  in (inches):	aves (B9) (e B) tes (B13) Odor (C1) neres along ced Iron (Cation in Tille ad Plants (D Remarks)	Living Roo 4) ad Soils (Co 01) (LRR A	RA ots (C3) 6)	Seconda  Wate Drain Dry- Satu Geo Shal FAC Rais Fros	ary Indicato er-Stained L IA, and 4B) nage Patter Season Wa iration Visib morphic Po ilow Aquitar i-Neutral Te ied Ant Mou t-Heave Hu	ors (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial esition (D2) rd (D3) est (D5) unds (D6) (L	e required) (MLRA 1, 2 C2) Imagery (Cs
YDROLO Vetland H Immary Inc Surface High W Saturat Water N Sedime Incon De Surface Inundat Sparse Vater Table Saturation Includes ca	DGY ydrology Indicator licators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca arvations: ater Present? are Present? Present? apillary fringe)	rs:  of one required ave Surface  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	dicator F3 (C	hat apply) ater-Stained Lea 1, 2, 4A, and 4 It Crust (B11) uatic Invertebra drogen Sulfide of didized Rhizosphesence of Reducent Iron Reducented or Stresseher (Explain in Formation (inches):  in (inches):	aves (B9) (e B) tes (B13) Odor (C1) neres along ced Iron (Cation in Tille ad Plants (D Remarks)	Living Roo 4) ad Soils (Co 01) (LRR A	RA ots (C3) 6)	Seconda  Wate Drain Dry- Satu Geo Shal FAC Rais Fros	ary Indicato er-Stained L IA, and 4B) nage Patter Season Wa iration Visib morphic Po ilow Aquitar i-Neutral Te ied Ant Mou t-Heave Hu	ors (2 or mor Leaves (B9) ) rns (B10) ater Table (Cole on Aerial esition (D2) rd (D3) est (D5) unds (D6) (L	e required) (MLRA 1, 2 C2) Imagery (CS

Project/Site: 2544.0001 East Town Crossing		City/C	county: P	uyallu	o/Pierce	Sampling	g Date: 2/24	/2023
Applicant/Owner: Ash Development - Greg Helle	Section, Township, Range: SE/NE 26/35 20						g Point: DP-	-3
Investigator(s): Casey Lanier, Ryan Krapp			Sec	tion, To	wnship, Range: SE/NE	26/35 2	20N, 4E	
Landform (hillslope, terrace, etc.): swale		Loca	al relief (co	oncave,	convex, none): concav	<u>e</u>	Slope (%	,): <u>&lt;1</u>
Subregion (LRR): A	_ Lat: <u>47.</u>	1838	319		Long: -122.2532921	5	_ <sub>Datum:</sub> W	/GS-84
Soil Map Unit Name: Briscot Ioam - 6A					NWI classifica	tion: N/A	4	
Are climatic / hydrologic conditions on the site typical for this	s time of yea	ar? Ye	es 🗷 N	o 🔲 (If	no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology sign	nificantly dist	turbed	d? .	Are "No	rmal Circumstances" pres	ent? Ye	s 🗵 No 🗌	
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?	? (	If neede	d, explain any answers in	Remarks	s.)	
SUMMARY OF FINDINGS - Attach site map	showing	sam	pling p	oint lo	cations, transects,	import	ant featur	es, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐								
Hydric Soil Present? Yes ☐ No 🗵			Is the Sa			_		
Wetland Hydrology Present? Yes ☐ No 🗵			within a	Wetlan	d? Yes ☐ N	o 🔀		
Remarks:								
Not all three wetland criteria met	. Only h	iydr	ophytic	c vege	tation observed.			
VEGETATION – Use scientific names of plant	ts							
VEGETATION OSC SCIENTING HAINES OF Plant	Absolute	Dom	inant Ind	icator	Dominance Test works	sheet:		
Tree Stratum (Plot size: 30 ft)  1	% Cover				Number of Dominant Sp That Are OBL, FACW, o		1	(A)
2					Total Number of Domina	ant		
3					Species Across All Strat	a:	1	(B)
4	0				Percent of Dominant Sp That Are OBL, FACW, o		100%	(A/B)
Sapling/Shrub Stratum (Plot size: 30 ft)  1				-	Prevalence Index work	sheet:		
2				-	Total % Cover of:		Multiply by:	
3					OBL species	x 1	=	
4					FACW species	x 2	<u> </u>	_
5					FAC species			
(5)	0	= To	otal Cover	r	FACU species			
Herb Stratum (Plot size: 10 ft)  1 Phalaris arundinacea	100	۷e	s FA	4C/W	UPL species			
2				1011	Column Totals:	(A)		(B)
3					Prevalence Index	= B/A = _		
4					Hydrophytic Vegetatio	n Indicate	ors:	
5.				-	☐ Rapid Test for Hydro	ophytic Ve	getation	
6.					▼ Dominance Test is >	·50%		
7					☐ Prevalence Index is	≤3.0 <sup>1</sup>		
8					☐ Morphological Adapt data in Remarks			
9					☐ Wetland Non-Vascu	lar Plants	1	
10					☐ Problematic Hydropl	nytic Vege	etation¹ (Expla	ain)
11	100	= To	otal Cover		<sup>1</sup> Indicators of hydric soil			must
Woody Vine Stratum (Plot size: 30 ft)					be present, unless distu	rbed or pr	oblematic.	
1 2		-			Hydrophytic			
	0	= To	otal Cover	r	Vegetation Present? Yes	s⊠ No		
% Bare Ground in Herb Stratum 0								
Remarks: Hydrophytic vegetation criteria met thro	ough Don	ninar	nce Test	t.				

Depth	Matrix			Redo	x Feature		0. 00	. uio uboc	ence of indicators.)
(inches)	Color (moist)	<u>%</u>	Color	(moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	
0-13	10YR 2/2	100	-					SiLo	Silt Loam
13-16	10YR 3/2	97	7.5	/R 4/4	3	С	M	SaLo	Sand Loam
					-				
1Typo: C=C	oncentration, D=D	onlotion Pl	1-Podu	rood Matrix CS	S=Covere	d or Coat	od Sand Gr	raine	21 ocation: DI -Poro Lining M-Matrix
	Indicators: (Appl						eu Sanu Gi		<sup>2</sup> Location: PL=Pore Lining, M=Matrix. icators for Problematic Hydric Soils <sup>3</sup> :
☐ Histosol				andy Redox (S		.04.,			2 cm Muck (A10)
	oipedon (A2)			tripped Matrix					Red Parent Material (TF2)
☐ Black His	,			oamy Mucky M	. ,	1) (excep	t MLRA 1)		Very Shallow Dark Surface (TF12)
	n Sulfide (A4)			oamy Gleyed N			,		Other (Explain in Remarks)
☐ Depleted	l Below Dark Surfa	ace (A11)		epleted Matrix	. ,				
	rk Surface (A12)			edox Dark Sur	` ,				licators of hydrophytic vegetation and
	lucky Mineral (S1)			epleted Dark S		7)			wetland hydrology must be present,
-	leyed Matrix (S4)		⊔к	edox Depressi	ions (F8)			T	unless disturbed or problematic.
Type:	Layer (if present)								
,	ches):							l	0 "P
								Hyaric	Soil Present? Yes ☐ No ⊠
Remarks:									
Hydric soil	criteria not me	t.							
HYDROLO	GY								
Wetland Hy	drology Indicator	s:							
Primary Indi	cators (minimum o	f one requir	ed; che	ck all that appl	y)				Secondary Indicators (2 or more required)
☐ Surface	Water (A1)			☐ Water-Stai	ned Leav	es (B9) ( <b>e</b>	xcept MLR	RA [	☐ Water-Stained Leaves (B9) (MLRA 1, 2,
	ter Table (A2)				A, and 4B	, , ,	•		4A, and 4B)
☐ Saturation	on (A3)			☐ Salt Crust	(B11)	•			☐ Drainage Patterns (B10)
	arks (B1)			☐ Aquatic Inv	. ,	s (B13)			☐ Dry-Season Water Table (C2)
Sedimer	t Deposits (B2)			☐ Hydrogen \$	Sulfide O	dor (C1)			☐ Saturation Visible on Aerial Imagery (C9)
☐ Drift Dep	osits (B3)			☐ Oxidized R	hizosphe	res along	Living Root	ts (C3)	Geomorphic Position (D2)
☐ Algal Ma	t or Crust (B4)			☐ Presence o	of Reduce	ed Iron (C	4)		☐ Shallow Aquitard (D3)
☐ Iron Dep	osits (B5)			☐ Recent Iron	n Reducti	on in Tille	d Soils (C6)	) [	☐ FAC-Neutral Test (D5)
Surface	Soil Cracks (B6)			☐ Stunted or	Stressed	Plants (D	1) ( <b>LRR A</b> )		Raised Ant Mounds (D6) (LRR A)
☐ Inundation	on Visible on Aeria	l Imagery (E	37)	☐ Other (Exp	lain in Re	marks)			☐ Frost-Heave Hummocks (D7)
☐ Sparsely	Vegetated Conca	ve Surface	(B8)						
Field Obser	vations:								
Surface Wat	er Present?	Yes 🗌 🛚 N	No 🔀	Depth (inches	s):				
Water Table	Present?	Yes 🗌 🛚 1	√o ⊠	Depth (inches	s):				
Saturation P		Yes 🗌 🛚 N	No 🗵	Depth (inches			Wetla	and Hydro	ology Present? Yes ☐ No ☒
(includes ca	oillary fringe)		n o r: ! - ···'					_	
Describe Re	corded Data (strea	ım gauge, r	nonitorii	ng well, aerial į	pnotos, p	revious in	spections),	ır avaılabl	e:
Remarks:									0.51
vvetland h	ydrology criteri	a not met	. No h	nydrology ol	bserved	to 18+	inches.	est pit	open 2.5 hours.

Project/Site: 2544.0001 East Town Crossing	(	City/C	County:	Puyallu	p/Pierce	Samplin	ng Date: 2/24	/2023
Applicant/Owner: Ash Development - Greg Helle	State: WA					Sampling Point: DP-4		
Investigator(s): Casey Lanier, Ryan Krapp			s	ection, To	wnship, Range: SE/NE	26/35 2	20N, 4E	
Landform (hillslope, terrace, etc.): swale		Loca	al relief	(concave,	convex, none): concav	е	Slope (%	): <u>&lt;1</u>
Subregion (LRR): A	_ <sub>Lat:</sub> <u>47.</u> ′	1840	)72		Long: -122.2532975	52	Datum: W	GS-84
Soil Map Unit Name: Briscot Ioam - 6A					NWI classifica	tion: N/	A	
Are climatic / hydrologic conditions on the site typical for this	time of yea	ır? Ye	es 🕱	No ☐ (If	no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology sign	nificantly dist	turbed	d?	Are "No	rmal Circumstances" pres	ent? Ye	es 🗵 No 🗌	
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	?	(If neede	ed, explain any answers ir	ı Remark	(s.)	
SUMMARY OF FINDINGS - Attach site map	showing	sam	pling	point lo	ocations, transects,	impor	tant featur	es, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐								
Hydric Soil Present? Yes ☐ No 🗵	Is the Sampled Area							
Wetland Hydrology Present? Yes ☐ No 🗵		within a Wetland? Yes ☐ No 🗵						
Remarks:	0.1.1	-		. •	1 1			
Not all three wetland criteria met	. Only h	iyar	opny	tic vege	etation observed.			
VEGETATION – Use scientific names of plant	ts.							
Trac Stratum (Diet circ. 20 ft)	Absolute				Dominance Test works	sheet:		
Tree Stratum (Plot size: 30 ft)  1					Number of Dominant Sp That Are OBL, FACW, o		1	(A)
2					Total Number of Domina		4	
3					Species Across All Strat	a:	1	(B)
4	0		otal Co		Percent of Dominant Sp That Are OBL, FACW, o	ecies or FAC:	100%	(A/B)
1				-	Prevalence Index work	sheet:		
2					Total % Cover of:		Multiply by:	
3					OBL species	x	1 =	
4					FACW species	x:	2 =	
5					FAC species			
Horb Stratum (Plot size: 10 ft)	0	= To	otal Co	ver	FACU species			
Herb Stratum (Plot size: 10 ft)  1. Phalaris arundinacea	100	Ye	s	FACW	UPL species			
2.					Column Totals:	(A)	)	(B)
3					Prevalence Index	= B/A =		
4				Г	Hydrophytic Vegetatio	n Indicat	tors:	
5					☐ Rapid Test for Hydro	ophytic V	egetation	
6					■ Dominance Test is >	>50%		
7					Prevalence Index is			
8					☐ Morphological Adap data in Remarks			
9					☐ Wetland Non-Vascu			•,
10					☐ Problematic Hydrop	hytic Veg	getation¹ (Expla	ain)
11	100		otal Co		<sup>1</sup> Indicators of hydric soil			must
Woody Vine Stratum (Plot size: 30 ft)	100	- 10	olai Co	vei	be present, unless distu	rbed or p	roblematic.	
1					Hydrophytic			
2					Vegetation			
% Bare Ground in Herb Stratum 0	0	= To	otal Co	ver	Present? Yes	× No	<b>,</b> 🗆	
Remarks:								
Hydrophytic vegetation criteria met thro	ough Dom	ninar	nce Te	est.				

Color (moist)	%	Colo		dox Featu %	Type <sup>1</sup>	Loc <sup>2</sup>	Textur	re Remarks
10YR 2/2	100	-		-	_		SiLo	Silt Loam
10YR 2/2	99	7.5	YR 4/4	1	С	М	SiLo	Silt Loam
10YR 4/1	92	7.5	YR 4/4	8	C	M	SaLo	Sand Loam
		_		-				
	<u> </u>							<del></del>
		_						
								·
ncentration, D=De	epletion, F	RM=Red	uced Matrix,	CS=Cover	ed or Coat	ed Sand G	rains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
								dicators for Problematic Hydric Soils <sup>3</sup> :
<b>A1</b> )			Sandy Redox	(S5)				2 cm Muck (A10)
, ,				. ,				Red Parent Material (TF2)
						t MLRA 1)	Ļ	Very Shallow Dark Surface (TF12)
	ce (A11)				-2)		L	Other (Explain in Remarks)
	CC (A11)				3)		<sup>3</sup>  ı	ndicators of hydrophytic vegetation and
, ,				•	,			wetland hydrology must be present,
• '		□ F	Redox Depres	ssions (F8	)			unless disturbed or problematic.
•								
hes):							Hydr	ic Soil Present? Yes □ No 区
SY Y								
rology Indicators								
rology Indicators ators (minimum of		uired; che						Secondary Indicators (2 or more required)
rology Indicators ators (minimum of later (A1)		uired; che	☐ Water-St	tained Lea	, , ,	except MLF	RA	☐ Water-Stained Leaves (B9) (MLRA 1, 2
rology Indicators ators (minimum of Vater (A1) er Table (A2)		iired; che	☐ Water-St	tained Lea	, , ,	except MLF	RA	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3)		iired; che	☐ Water-St 1, 2, ☐ Salt Crus	tained Lea <b>4A, and 4</b> st (B11)	В)	except MLF	RA	<ul><li> Water-Stained Leaves (B9) (MLRA 1, 2</li><li> 4A, and 4B)</li><li> □ Drainage Patterns (B10)</li></ul>
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3) rks (B1)		iired; che	☐ Water-Si 1, 2, ☐ Salt Crus ☐ Aquatic I	tained Lea <b>4A, and 4</b> st (B11) Invertebra	<b>B)</b> tes (B13)	except MLF	RA	<ul> <li>□ Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)</li> <li>□ Drainage Patterns (B10)</li> <li>□ Dry-Season Water Table (C2)</li> </ul>
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)		uired; che	Water-Si 1, 2, Salt Crus Aquatic I Hydroge	tained Lea  4A, and 4  st (B11)  Invertebrat  n Sulfide (	tes (B13) Odor (C1)	·		<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)</li> <li>□ Drainage Patterns (B10)</li> <li>□ Dry-Season Water Table (C2)</li> <li>□ Saturation Visible on Aerial Imagery (C</li> </ul>
rology Indicators ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3)		uired; che	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized	tained Lea  4A, and 4  st (B11) Invertebrat  n Sulfide (  Rhizosph	tes (B13) Odor (C1) eres along	Living Roc		<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)</li> <li>□ Drainage Patterns (B10)</li> <li>□ Dry-Season Water Table (C2)</li> <li>□ Saturation Visible on Aerial Imagery (C</li> <li>□ Geomorphic Position (D2)</li> </ul>
rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)		uired; che	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence	tained Lea  4A, and 4  st (B11)  Invertebrat  n Sulfide (  Rhizosph  e of Reduc	tes (B13) Odor (C1) teres along ted Iron (C	· Living Roc 4)	ots (C3)	<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2</li> <li>4A, and 4B)</li> <li>□ Drainage Patterns (B10)</li> <li>□ Dry-Season Water Table (C2)</li> <li>□ Saturation Visible on Aerial Imagery (C</li> <li>□ Geomorphic Position (D2)</li> <li>□ Shallow Aquitard (D3)</li> </ul>
rology Indicators ators (minimum of later (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)		uired; che	Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (I I Rhizosph I Reduction Reduction	tes (B13) Odor (C1) eres along ced Iron (C	Living Roc 4) d Soils (C6	ots (C3)	<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2</li> <li>4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Saturation Visible on Aerial Imagery (C</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6)	one requ		Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (I I Rhizosph I Reduction Reduction	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E	· Living Roc 4)	ots (C3)	<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Saturation Visible on Aerial Imagery (C</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Raised Ant Mounds (D6) (LRR A)</li> </ul>
rology Indicators ators (minimum of later (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	one requ	(B7)	Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide ( I Rhizosph I Reduct I Reduct I Reduct I Reduct I Reduct I Reduct I Resse	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E	Living Roc 4) d Soils (C6	ots (C3)	<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2</li> <li>4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Saturation Visible on Aerial Imagery (C</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial	one requ	(B7)	Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide ( I Rhizosph I Reduct I Reduct I Reduct I Reduct I Reduct I Reduct I Resse	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E	Living Roc 4) d Soils (C6	ots (C3)	<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Saturation Visible on Aerial Imagery (C</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Raised Ant Mounds (D6) (LRR A)</li> </ul>
rology Indicators ators (minimum of later (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial Vegetated Concavations:	one requ	(B7)	Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (I) In Sulfide (I	tes (B13) Odor (C1) eres along ced Iron (C ction in Tille d Plants (E	Living Roc 4) d Soils (C6	ots (C3)	<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Saturation Visible on Aerial Imagery (C</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Raised Ant Mounds (D6) (LRR A)</li> </ul>
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6) n Visible on Aerial Vegetated Concav ations: r Present?	Imagery ve Surfac	(B7) e (B8)	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted Other (E	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (In Rhizosph In Green Reduction Reduction Reduction Reduction Report Stresse (In Rhizosph) In Sulfan (In Rhizosph) In S	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E Remarks)	Living Roc 4) d Soils (C6	ots (C3)	<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Saturation Visible on Aerial Imagery (C</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Raised Ant Mounds (D6) (LRR A)</li> </ul>
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6) n Visible on Aerial Vegetated Concavations: r Present?	Imagery	(B7) e (B8) No ⊠	Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted ( Other (E	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (I) Invertebrat I	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E Remarks)	Living Roc 4) d Soils (C6 01) ( <b>LRR A</b>	ots (C3)	<ul> <li>Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Saturation Visible on Aerial Imagery (C</li> <li>Geomorphic Position (D2)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> <li>Raised Ant Mounds (D6) (LRR A)</li> </ul>
rology Indicators ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6) n Visible on Aerial vegetated Concav ations: r Present? Present? esent?	Imagery /e Surfac  Yes  Yes  Yes  Yes  Yes  Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted ( Other (E)  Depth (inch	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (In Rhizosph In Green Reduct In	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E Remarks)	Living Roo 4) d Soils (C6 01) (LRR A	ots (C3)  i)  dand Hyd	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)  □ Drainage Patterns (B10)  □ Dry-Season Water Table (C2)  □ Saturation Visible on Aerial Imagery (C □ Geomorphic Position (D2)  □ Shallow Aquitard (D3)  □ FAC-Neutral Test (D5)  □ Raised Ant Mounds (D6) (LRR A)  □ Frost-Heave Hummocks (D7)
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6) n Visible on Aerial Vegetated Concavations: r Present? Present?	Imagery /e Surfac  Yes  Yes  Yes  Yes  Yes  Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted ( Other (E)  Depth (inch	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (In Rhizosph In Green Reduct In	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E Remarks)	Living Roo 4) d Soils (C6 01) (LRR A	ots (C3)  i)  dand Hyd	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)  □ Drainage Patterns (B10)  □ Dry-Season Water Table (C2)  □ Saturation Visible on Aerial Imagery (C □ Geomorphic Position (D2)  □ Shallow Aquitard (D3)  □ FAC-Neutral Test (D5)  □ Raised Ant Mounds (D6) (LRR A)  □ Frost-Heave Hummocks (D7)
rology Indicators ators (minimum of vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6) n Visible on Aerial vegetated Concav ations: r Present? Present? esent?	Imagery /e Surfac  Yes  Yes  Yes  Yes  Yes  Yes	(B7) e (B8) No ⊠ No ⊠ No ⊠	Water-St 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted ( Other (E)  Depth (inch	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (In Rhizosph In Green Reduct In	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E Remarks)	Living Roo 4) d Soils (C6 01) (LRR A	ots (C3)  i)  dand Hyd	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)  □ Drainage Patterns (B10)  □ Dry-Season Water Table (C2)  □ Saturation Visible on Aerial Imagery (C □ Geomorphic Position (D2)  □ Shallow Aquitard (D3)  □ FAC-Neutral Test (D5)  □ Raised Ant Mounds (D6) (LRR A)  □ Frost-Heave Hummocks (D7)
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6) n Visible on Aerial Vegetated Concav ations: r Present? Present? esent? ellary fringe) orded Data (strea	Imagery ve Surfac Yes  Yes  Yes  Yes  m gauge,	(B7) e (B8) No ⊠ No ⊠ No ⊠ monitor	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted I Other (E	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (In Rhizosph In Green Reduct In	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E Remarks)  previous in	Living Roo 4) ad Soils (C6 01) (LRR A Weti	ots (C3)  i)  land Hyo  if availa	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)  □ Drainage Patterns (B10)  □ Dry-Season Water Table (C2)  □ Saturation Visible on Aerial Imagery (C □ Geomorphic Position (D2)  □ Shallow Aquitard (D3)  □ FAC-Neutral Test (D5)  □ Raised Ant Mounds (D6) (LRR A)  □ Frost-Heave Hummocks (D7)
rology Indicators ators (minimum of /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) esits (B3) or Crust (B4) esits (B5) oil Cracks (B6) n Visible on Aerial Vegetated Concav ations: r Present? Present? esent? ellary fringe) orded Data (strea	Imagery ve Surfac Yes  Yes  Yes  Yes  m gauge,	(B7) e (B8) No ⊠ No ⊠ No ⊠ monitor	Water-Si 1, 2, Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted I Other (E  Depth (inch Depth (inch	tained Lea  4A, and 4  st (B11) Invertebrat In Sulfide (In Rhizosph In Green Reduct In	tes (B13) Odor (C1) eres along ced Iron (C tion in Tille d Plants (E Remarks)  previous in	Living Roo 4) ad Soils (C6 01) (LRR A Weti	ots (C3)  i)  land Hyo  if availa	Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)  □ Drainage Patterns (B10)  □ Dry-Season Water Table (C2)  □ Saturation Visible on Aerial Imagery (C □ Geomorphic Position (D2)  □ Shallow Aquitard (D3)  □ FAC-Neutral Test (D5)  □ Raised Ant Mounds (D6) (LRR A)  □ Frost-Heave Hummocks (D7)
	10YR 2/2 10YR 2/2 10YR 4/1  ncentration, D=Dendicators: (Application (A2)) tic (A3) Sulfide (A4) Below Dark Surfact (A12) ucky Mineral (S1) eyed Matrix (S4) ayer (if present):	10YR 2/2 99 10YR 4/1 92 10YR 4/1 92 10YR 4/1 92  ncentration, D=Depletion, Findicators: (Applicable to A1) pedon (A2) tic (A3) Sulfide (A4) Below Dark Surface (A11) k Surface (A12) ucky Mineral (S1) eyed Matrix (S4) ayer (if present): hes):	10YR 2/2	10YR 2/2 99 7.5YR 4/4  10YR 4/1 92 7.5YR 4/4  10YR 4/1 92 7.5YR 4/4  10YR 4/1 92 7.5YR 4/4  Incentration, D=Depletion, RM=Reduced Matrix, andicators: (Applicable to all LRRs, unless other A1) Sandy Redox Stripped Matrix (A3) Sulfide (A4) Loamy Mucky Sulfide (A4) Loamy Gleyer (A11) Depleted Matrix (A12) Redox Dark Surface (A12) Redox Dark Surface (A13) Depleted Dark Surface (A14) Redox Depresent (A15) Redox Depresent (A16) Redox Depresent (A17) Redox Depresent (A18) Redox Depresen	10YR 2/2 99 7.5YR 4/4 1  10YR 4/1 92 7.5YR 4/4 8  ncentration, D=Depletion, RM=Reduced Matrix, CS=Cover adicators: (Applicable to all LRRs, unless otherwise not all LRs, unless otherwise	10YR 2/2 99 7.5YR 4/4 1 C  10YR 4/1 92 7.5YR 4/4 8 C  10YR 4/1 92 7.5YR 4/4 8 C  ncentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coate andicators: (Applicable to all LRRs, unless otherwise noted.)  A1) Sandy Redox (S5)  pedon (A2) Stripped Matrix (S6) tic (A3) Loamy Mucky Mineral (F1) (exceptic (A3)  Sulfide (A4) Loamy Gleyed Matrix (F2)  Below Dark Surface (A11) Depleted Matrix (F3) k Surface (A12) Redox Dark Surface (F6) ucky Mineral (S1) Depleted Dark Surface (F7) eyed Matrix (S4) Redox Depressions (F8)  ayer (if present):	10YR 2/2	10YR 2/2

### Attachment E – Qualifications

All field inspections, jurisdictional wetland determinations, habitat assessments, and supporting documentation, including this <u>Wetland Assessment Technical Memorandum</u> prepared for the <u>East Town Crossing Site</u>, were prepared by, or under the direction of, Alex Murphy of SVC. In addition, the site inspections were completed by Cassey Lanier and Ryan Krapp. Report preparation was completed by Carolina Lizana. Final quality assurance was performed by Laura Livingston.

### Alex Murphy, AICP

Planner & Project Manager Professional Experience: 7 years

Alex Murphy is a Planner and Project Manager with a background in land use planning, site planning & design, permitting, and project management. He has over 7 years of experience working for local jurisdictions in the Intermountain West and Pacific Northwest with an emphasis on maximizing opportunities for culturally and environmentally sensitive projects.

Alex earned a Bachelor of Landscape Architecture degree from Utah State University. He is a Certified Planner through the American Institute of Certified Planners and has received formal training in climate adaptation planning for coastal communities from NOAA. Mr. Murphy currently assists in wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports. He also manages development projects, supporting clients through the regulatory and planning process for various land use proposals.

### Ryan Krapp

Environmental Scientist / Field Lead Professional Experience: 10+ years

Ryan Krapp is an Environmental Scientist and Field Lead with a background in conducting wetland delineations, habitat assessments, botanical surveys, avian surveys, threatened & endangered species surveys, and fisheries studies. He has considerable experience in production of Environmental Assessments and Biological Assessments and Evaluations under NEPA guidelines for projects regulated by the U.S. Forest Service, U.S. Army Corps of Engineers, and Bureau of Indian Affairs as well as leading Section 7 ESA consultation with the U.S. Fish and Wildlife Service. Project planning, permitting, and compliance are all part of his professional experiences and practices at SVC.

Ryan has managed environmental investigation projects including wetlands, streams, and critical habitats data collection on large pipeline corridors, overhead electrical transmission corridors, and oil/natural gas drilling development. He has extensive experience in utilizing GIS to collect, manage, and analyze large volumes of spatial and temporal field data to aide in project management, monitoring, analysis, and mapping. In addition, he is a FAA trained recreational pilot and a PADI certified SCUBA diver with fresh and saltwater diving experience. Ryan is a USFWS-approved Mazama pocket gopher survey biologist.

### **Casey Lanier**

Environmental Scientist

Professional Experience: 10 years

Casey Lanier is an Environmental Scientist with a varied background in fisheries, habitat assessments, water quality monitoring, data telemetry and habitat restoration. He has over 10 years of experience within the private sector and county level conducting surface water investigations, anadromous fish passage surveys, long-term water quality monitoring, mitigation design, installation and monitoring. He has experience conducting presence absence surveys for migratory and nesting birds, environmental compliance monitoring on construction and infrastructure maintenance projects for county and public utilities. Casey been formally trained in using the Washington Department of Ecology Wetland Rating Manual. He has also received 40-hour wetland delineation training utilizing the US Army Corps of Engineers Wetland Delineation Manual (Western Mtns, Valleys, & Coast and Arid West Regional Supplement). He is also a Pierce County Qualified Wetland Specialist.

Casey earned a Bachelor of Science degree in Environmental Science, Technology, and Policy with a specialization in Hydrology and Watershed Systems from California State University, Monterey Bay. In addition, Casey also has a graduate-level course work in Fisheries and Wildlife Management from Oregon State University. During his time at Cal State Monterey Bay, he worked as a research assistant conducting in depth analysis of steelhead habitats investigating potential impacts of post-wildfire sediment yields and fish passage restoration feasibility studies. He currently assists in wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations. Casey also manages small, and single-family residence projects to support clients through the regulatory and planning process for various land use projects.

### Carolina Lizana, MS, WPIT

Environmental Scientist

Professional Experience: 5 years

Carolina Lizana is a Wetland Scientist with a background in Natural Resources Engineering in Chile and Washington State. Carolina earned her Bachelor of Science degree in Engineering with Environmental specialization from Universidad De Chile. She successfully completed the Certificate in Wetland Science and Management from University of Washington. In addition, she has a Master of Science degree in Civil and Environmental Engineering at University of Washington, Seattle. In Chile, she worked in a research lab, studying restoration processes in an old growth forest region and socio-ecological factors. She has published research articles in local and international peer-reviewed journals, with a focus on landscape ecology.

Her education and experience have provided her with extensive knowledge on watershed ecology, remote sensing, GIS, water quality modeling, fluvial geomorphology and wetland monitoring. Currently, Carolina assists in wetland, stream and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications. Carolina has been formally trained through the Washington State Department of Ecology, Coastal Training Program, Using the Washington State Wetland Rating System, and she is also a Wetland Professional In-Training (WPIT) through the Society of Wetland Scientists.

### Laura Livingston

Senior Environmental Planner Professional Experience: 9 years

Laura Livingston is an Environmental Planner with a background in water quality monitoring, invasive species monitoring, wildlife monitoring, wilderness stewardship, and erosion control projects. Laura has field experience working on natural resources projects, with an emphasis on stream and river projects, in the Northwest, Northeast, and Southwest United States. She has also worked on a variety of environmental science research, grant, and teaching projects requiring scientific writing, science communication, laboratory work, and statistical analysis. She currently performs ordinary high water delineations; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process. Laura has a particular interest in shoreline projects and has prepared a variety of application materials to support projects within Shoreline Master Program jurisdictions.

Laura earned a Master of Science degree in Environmental Science from Washington State University, Pullman. She has received training from the Washington State Department of Ecology in How to Administer Shoreline Development Permits in Western Washington's Shorelines, Determining the Ordinary High Water Mark, the revised Washington State Wetland Rating System, Puget Sound Coastal Processes, How to Conduct a Forage Fish Survey, and Using the Credit-Debit Method for Estimating Mitigation Needs. Laura has also received training from the Washington State Department of Transportation in Biological Assessment Preparation for Transportation Projects and is listed by WSDOT as a junior author for preparing Biological Assessments. Laura is interested in stormwater management and has received a certificate in Low Impact Development Design from the Washington Stormwater Center.