Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
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Non-Wetland Technical Memorandum

To: **Carrie Veldman – The RJ Group** **File Number: 2166.0001**

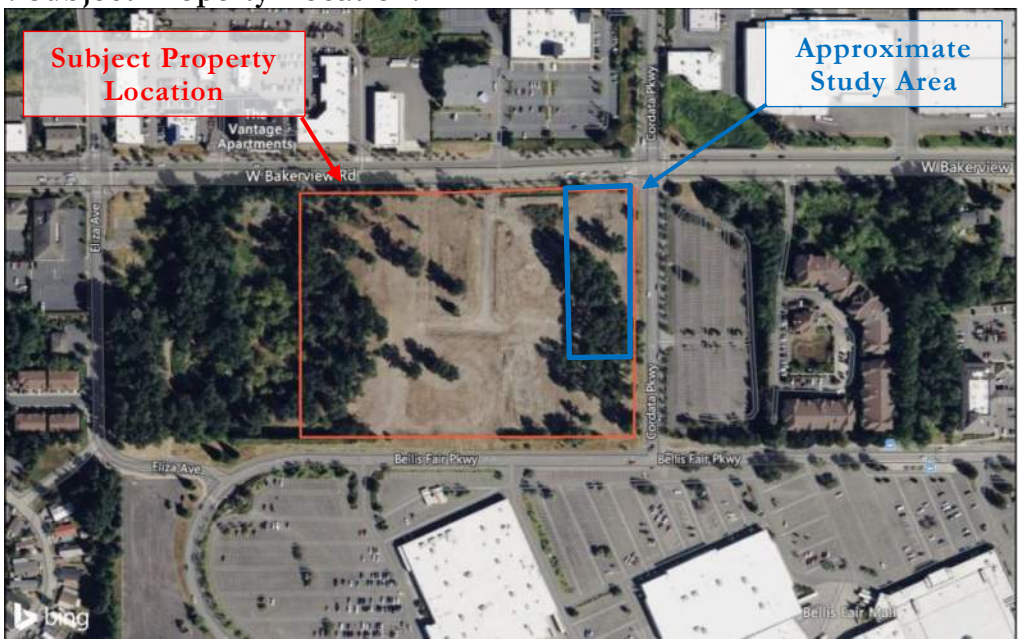
From: **Kramer Canup, Soundview Consultants LLC** **Date: August 8, 2024**

Re: **Non-Wetland and Fish and Wildlife Habitat Assessment**
Adjacent East of 433 West Bakerview Road, Bellingham, Washington 98226

Dear Carrie,

Soundview Consultants LLC (SVC) conducted a wetland and fish and wildlife habitat assessment on an approximately 11.40-acre site located at 415 West Bakerview Road in the City of Bellingham, Washington. The subject property consists of one parcel situated in the Northwest ¼ of Section 13, Township 38 North, Range 2 East, W.M. (Whatcom County Tax Parcel Numbers 3802133915240001). Attention was directed towards an approximately 60,041 square foot study area located in the northeast corner of the subject property, which is proposed for commercial development. SVC investigated the study area for potentially regulated wetlands, waterbodies, or other fish and wildlife habitat conservation areas within 300 feet. An Existing Conditions Exhibit is provided in Attachment A.

Figure 1. Subject Property Location.



Background Data

Prior to the site investigation, SVC staff conducted background research using the Whatcom County and City of Bellingham Geographic Information Systems (GIS) data, Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) mapping tools, WDFW and Northwest Indian Fisheries Commission (NWIFC) Statewide Integrated Fish Distribution (SWIFD) mapping tools, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), Washington Department of Natural Resources (DNR) water 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, local precipitation data, and various orthophotographic resources. Background maps are provided in Attachment B.

The USFWS NWI map (Attachment B1), WDFW PHS (Attachment B2), and Whatcom County Wetland Inventory (Attachment B3) identify one wetland approximately 150 feet west of the study area, and one wetland directly adjacent to the southeast. However, this wetland is indicated within a completely developed area including Cordata Parkway, Bellis Fair Parkway, and multiple parking lots associated with the Bellis Fair mall. In addition to these two wetlands, the City of Bellingham Stream and Wetland Inventory map (Attachment B4) indicates two wetlands directly adjacent to the west and south of the study area. Neither WDFW and NWIFC SWIFD (Attachment B5) nor DNR water typing map (Attachment B6) identify critical areas on or within 300 feet of the subject property.

Soils Onsite

The NRCS Soil Survey Map (Attachment B7) identifies one soil type within the study area: Whatcom-Labounty silt loams, 0 to 8 percent slopes.

Whatcom-Labounty silt loams, 0 to 8 percent slopes is listed as non-hydric on the NRCS hydric soils list but may contain as much as 42 percent hydric inclusions of Labounty, Bellingham, and Shalcar soils (NRCS, n.d.).

Precipitation

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) weather station at the Bellingham International Airport to obtain percent of normal precipitation for the general Puget Sound region during the investigation. A summary of data collected is provided in Table 1.

Table 1. Precipitation Summary[1].

Date	Day Of	Day Before	1 Week Prior	2 Weeks Prior	30 Days Prior (Observed/Normal)	Year to Date (Observed/Normal)[2]	Percent of Normal (Month/Year)[3]
11/12/2020	0.35	0.00	0.53	2.19	3.50/4.62	30.43/27.27	76/112
5/4/2021	0.01	0.11	0.35	0.78	1.20/2.66	28.04/27.16	45/103
7/19/2024	0.00	0.00	0.00	0.00	0.48/1.14	20.06/17.89	42/112
7/30/2024	0.06	0.96	0.00	0.00	1.21/0.89	21.08/18.16	136/116

1. Precipitation volume provided in inches. Data obtained from NOAA (http://w2.weather.gov/climate/xmacis.php?wfo=sew) for Bellingham International Airport
2. Year-to-date precipitation is for the calendar year from January 1st to the onsite date for the November 2020 and July 2024 site visits. Year-to-date precipitation is for the water year from October 1st to the onsite date for the May 2021 site visit.
3. Percent of normal is shown for the prior 30 days and 2024 calendar year from January 1st to the July site visit dates.

Precipitation for the site investigation on November 12, 2020, was within the statistical normal range (70 to 130 percent of normal) for the previous 30 days and for the 2020 calendar year (approximately 76 and 112 percent of normal). Precipitation for the site investigation on May 4, 2021, was below the statistical normal range for the prior 30 days (approximately 45 percent of normal) and within the statistical normal range for the 2020-2021 calendar year (approximately 103 percent of normal). Precipitation for the site investigation on July 19, 2024, was below the statistical normal range for the last 30 days and within the statistical normal range for the 2024 calendar year (approximately 42 and 112 percent of normal, respectively). Precipitation for the site investigation on July 30, 2024, was above the statistical normal range for the last 30 days and within the statistical normal range for the 2024 calendar year (approximately 136 and 116 percent of normal, respectively). This precipitation data suggests that hydrologic conditions were relatively normal for the time of year. Such conditions were considered in making professional wetland determinations.

Methods

Fromal site investigations were performed by qualified SVC staff in November of 2020, May of 2021, and July of 2024. The investigations consisted of a formal walk-through survey for wetlands, waterbodies, and other fish and wildlife habitat conservation areas within the study area and on publicly accessible areas within 300 feet of the study area.

Wetlands, streams and select fish and wildlife habitat conservation areas are regulated features under Bellingham Municipal Code (BMC) Chapter 16.55 – Critical Areas and subject to restricted uses/activities under the same title.

Wetland presence/absence was determined using the routine approach 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, n.d.). 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-5) (Attachment D). Additional test pits were excavated at regular intervals throughout the study area to further confirm or exclude wetland absence.

The fish and wildlife habitat assessment was conducted during the same site visit by qualified fish and wildlife biologists. The experienced biologists made visual and auditory observations using stationery and walking survey methods for both upland and aquatic habitats noting any special habitat features and direct and indirect signs of fish and wildlife activity (e.g. nesting, foraging, and migration/movement). Special attention was given to assessing the presence of fish and wildlife habitat as defined under BMC 16.55.470.

Results

The 11.40-acre subject property is located in a commercial/residential interface in the City of Bellingham and contains an existing paved driveway and a disc golf course. The study area consists of an approximate 60,041 square foot area in the northeastern corner of the subject property. The subject property abuts West Bakerview Road to the north with commercial development beyond, and east, Cordata Parkway to the east with commercial development beyond, Bellis Parkway to the south with commercial development beyond, and undeveloped forested areas to the west. Topography onsite is generally flat with elevations at approximately 170 feet above mean sea level (amsl). A

Whatcom County contours map is provided in Attachment B8. The subject site is located within the Nooksack watershed (Water Resource Inventory Area (WRIA 1).

The study area and entire 11.40-acre parcel has undergone significant clean up efforts by the City of Bellingham resulting in the removal of large homeless encampments and debris removal. In addition, through a community effort, a recreational disc golf course has been developed onsite with wood chip and gravel pathways, tee boxes and associated infrastructure, which has resulted in the removal and chipping of much of the onsite vegetation.

Vegetation throughout the study area is dominated by black cottonwood (*Populus balsamifera*), non-native invasive Himalayan blackberry (*Rubus armeniacus*), non-native invasive creeping thistle (*Cirsium arvense*), non-native invasive wild carrot (*Daucus carota*), non-native invasive common tansy (*Tanacetum vulgare*), birdfoots trefoil (*Lotus corniculatus*), Kentucky bluegrass (*Poa pratensis*), and colonial bentgrass (*Agrostis capillaris*).

The site investigation confirmed the absence of wetlands on the subject property. No other potentially regulated wetlands, aquatic areas, and/or fish and wildlife habitat conservation areas were observed on or within 300 feet of the subject property.

Onsite Wetland Absence

Five data plots (DP-1 – DP-5) were collected on and adjacent to the study area during the site investigations to confirm onsite wetland absence. Data was collected in different topographic low points throughout the study area, in areas most likely to show wetland indicators.

DPs 1 and 2 are located approximately 60 feet to the west of the study area within a depressional area that had been historically cleared, excavated, and graded. Though both DPs technically met for all three wetland criteria (hydrophytic vegetation, hydric soil, and wetland hydrology), historic aerial imagery as well as historic hillshade data indicate that this area previously held a single-family residence and has since been significantly cleared and graded and excavated likely to dig the foundation for infrastructure associated with the residence in this location (Attachments B9 and B10, respectively). As these areas have clearly been manipulated and purposefully graded and excavated, conditions observed onsite are disturbed, and are not natural. In addition, the soil profiles observed in both data plot locations exhibit 1-3 inches of organic material and wood chips directly overlaying a hard-packed clay depleted layer. Such a configuration is indicative of previous grading and significant disturbance, as the depleted layer being adjacent to the surface suggests recent anthropogenic activity rather than natural wetland formation processes. This evidence undermines the criteria for wetland designation, as the disturbed soil profiles do not align with typical, undisturbed wetland characteristics. The surrounding uplands exhibit similar soils, indicating topsoil has been removed from these areas as well; however, these areas typically support less hydrophytic plant communities and do not appear to support wetland hydrology, indicating upland conditions. Per BMC 16.55.510, wetlands "do not include those artificial wetlands intentionally created from nonwetland sites". As such, these areas were determined to have been created from non-wetland conditions and are therefore not regulated as wetlands.

DPs 3 and 4 are located in the southern portion of the study area within the forested area. Though both DPs technically met for all three wetland criteria (hydrophytic vegetation, hydric soil, and wetland hydrology), these areas are similar to DPs 1 and 2, and have evidence of significant disturbance from

past clearing, grading, and terracing of the site. Historic aerials show that the entirety of the site was cleared prior to 1998, potentially preparing for additional commercial development as the Bellis Fair Mall was developed in the 1980s. Historic hillshade data also indicated significant excavation and land leveling within these data plot areas which likely have contributed to these artificial conditions created from significant historic disturbance. Per BMC 16.55.510, wetlands "do not include those artificial wetlands intentionally created from nonwetland sites". As such, these graded areas were determined to have been created from non-wetland conditions and are therefore not regulated as wetlands.

DP-5 is located approximately 140 feet south of the study area. Though DP-5 technically met for all three wetland criteria (hydrophytic vegetation, hydric soil, and wetland hydrology), this area has evidence of significant disturbance from past clearing and grading onsite. Historic aerials show that the entirety of the site was cleared prior to 1998, potentially for additional commercial development as the Bellis Fair Mall was developed in the 1980s. Historic hillshade data also indicated significant excavation and mass grading within the data plot which likely have contributed to wetland conditions created from significant historic disturbance. Per BMC 16.55.510, wetlands "do not include those artificial wetlands intentionally created from nonwetland sites". As such, this graded area was determined to have been created from non-wetland conditions and is therefore not regulated as wetland.

Non-Regulated Ditches

Artificially-excavated drainage ditches were identified adjacent to the study area. One man-made drainage ditch was observed west of the study area. The ditch appears to be artificially and intentionally created and terminates at a culvert 20 feet west of the study area. The ditch lacks a defined bed and bank and does not appear to support a baseflow or sorting. A second ditch was observed along the northern portion of the site, adjacent to West Bakerview Road. This ditch is a manmade stormwater ditch and can be found on the City of Bellingham Stormwater Map (Attachment B11). Per BMC 16.55.510, manmade ditches for the purposes of stormwater conveyance are not considered to be "watercourses", and therefore none of these features are anticipated to be regulated

Fish and Wildlife Habitat Conservation Areas

Per BMC 16.55.470.A, fish and wildlife habitat conservation areas (FWHCAs) consist of the following:

(1) Areas with Which State or Federally Designated Endangered, Threatened, and Sensitive Species Have a Primary Association.

> According to the USFWS IPaC mapping database, North American wolverine (*Gulo gulo luscus*), marbled murrelet (*Brachyramphus marmoratus*), yellow-billed cuckoo (*Coccyzus americanus*), and bull trout (*Salvelinus confluentus*) have the potential to occur within 300 feet of the subject property.
>
> North American Wolverines commonly occur in boreal forests and tundra ecosystems and in Washington they occupy alpine and subalpine forests within the North Cascades National Park and the wilderness areas of the Okanogan-Wenatchee National Forest where heavy snowpack persists well into the spring months (WDFW, n.d.). As the subject property does not contain any alpine or subalpine forests where wolverines commonly occur and is completely surrounded by commercial development, North American wolverines are not likely present on or within 300 feet of the subject property.

Marbled murrelet that occur in the state of Washington are year-round residents on coastal waters and primarily feed in waters within 500 feet of the shore out to 1.2 miles from shore at depths of less than 100 feet; preferred pray is includes small fish and crustaceans although nestlings may feed on larger fish (WDFW, 1991). Nests and roosts are found in mature and old growth forests of western Washington. Nest trees are typically greater than thirty-two inches diameter at breast height, with nesting preferences on large flat conifer branches, often covered in moss (WDFW, 1991). Marbled murrelets have been observed in the largest numbers near the coastal waters surrounding the Olympic Peninsula and are more sparsely distributed elsewhere in this region. The subject property mainly contains sparse forested patches that are not considered mature or old-growth and are fragmented by surrounding commercial land uses, therefore marbled murrelet are not likely present on or within 300 feet of the subject property.

Yellow-billed cuckoo habitat consists of low to mid-level riparian forests dominated by cottonwoods and willows. Additional riparian species may include ash, walnut, mesquite, and tamarisk. Breeding cuckoos prefer larger and wider patches of riparian habitat. Habitat assessments of yellow-billed cuckoo from California indicate that suitable habitat is approximately 100 to 198 acres and wider than 200 meters; marginal habitat is approximately 20 to 100 acres and 100 to 200 meters wide; and unsuitable habitat is smaller than approximately 37 acres and less than 100 meters wide (Wiles & Kalasz, 2017). Twenty sightings have been confirmed in Washington between the 1950s and 2017; none of these sightings were breeding birds. Further, sixteen of these twenty sightings were east of the Cascades, and the sighted birds were likely vagrants or migrants (Wiles & Kalasz, 2017). The study area lacks sufficient riparian habitat and is completely surrounded by dense commercial development, providing unsuitable habitat for yellow-billed cuckoo. In addition, yellow-billed cuckoo is unlikely to be present on or near the subject property due to limited sightings in Washington.

Bull trout have the most specific habitat requirements of salmonids. They require cold water temperatures, clean stream substrates for spawning and rearing, complex habitats including streams with riffles and deep pools, undercut banks and large logs, and they also rely on river, lake, and ocean habitats that connect to headwater streams for annual spawning and feeding migrations (Shellberg, 2002). In Washington, bull trout are typically found in major tributaries from the Cascades that flow into the Puget Sound as well as major tributaries for the Olympic Mountains that flow into the Hood Canal, Strait of Juan de Fuca, and the Pacific Ocean (USFWS, 2015). The subject property does not contain streams on site, therefore the site does not provide suitable habitat for bull trout.

WDFW PHS does not identify any priority species on or near the site.

(2) Commercial and recreational shellfish areas.

Not applicable to the study area.

(3) Naturally occurring ponds under 20 acres.

No naturally occurring ponds are located on or within 300 feet of the study area.

(4) Waters of the State.

No lakes, ponds or streams have been identified on or within 300 feet of the study area.

(6) Areas of Rare Plant Species and High Quality Ecosystems.

No rare plants are identified on or near the site by DNR.

(7) Land useful or essential for preserving connections between habitat blocks and open spaces.

The surrounding area does not provide essential connections between habitats due to the extent of commercial development.

Regulatory Considerations

Local Requirements

The City of Bellingham regulates wetlands and streams under its Critical Area chapter (BMC 16.55).

No critical areas are located on or within 300 feet of the subject site. No impacts are proposed to critical areas or associated buffers.

Abbreviated State and Federal Considerations

On January 18, 2023, USACE and EPA published a revised definition of "Waters of the United States" (USACE and EPA, 2023a). The revised rule became effective on March 20, 2023. On May 25, 2023, the U.S. Supreme Court issued a decision affecting the definition of Waters of the United States, or "WOTUS", in *Sackett Et Ux. V Environmental Protection Agency Et Al.* On August 29, 2023, the US EPA and USACE issued a final rule to amend the final "Revised Definition of 'Waters of the United States'" rule. The amendment conforms the definition of "Waters of the United States" to the U.S. Supreme Court's decision in the Sackett Et Ux. V Environmental Protection Agency Et Al case. The revised and amended definition of "Waters of the United States" is as follows:

(a) Waters of the United States means:

(1) Waters which are: (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (ii) The territorial seas; or (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) of this section; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters

identified in paragraph (a)(1) or (a)(3) of this section;

(b) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

The 2023 revised and amended definition of Waters of the United States defines "adjacent" as "having a continuous surface connection."

No potentially regulated wetlands or streams are located on or within 300 feet of the study area. Additionally, the ditches found onsite are manmade features and used for stormwater conveyance and are therefore not regulated features. As such, no Waters of the United States are on or within 300 feet of the study area, and no features are considered natural waters regulated by the WSDOE through the Revised Code of Washington (RCW) 90.48.

Conclusions

The site investigations did not identify potentially regulated wetlands, aquatic areas, and/or fish and wildlife habitat conservation areas were observed on or within 300 feet of the subject property. Multiple data plots were taken on and within the surrounding areas of the study area that met for all three wetland criteria, however, due to significant past disturbance on the property include the removal of a single family residence and clearing, grading, and excavation, these areas were determined to

contain wetland conditions as a result of these disturbances. Therefore, these areas do not meet the definition of wetlands per BMC 16.55.510.

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

Sincerely,

Kramer Canup
Project Manager / Environmental Scientist

August 8, 2024
Date

References

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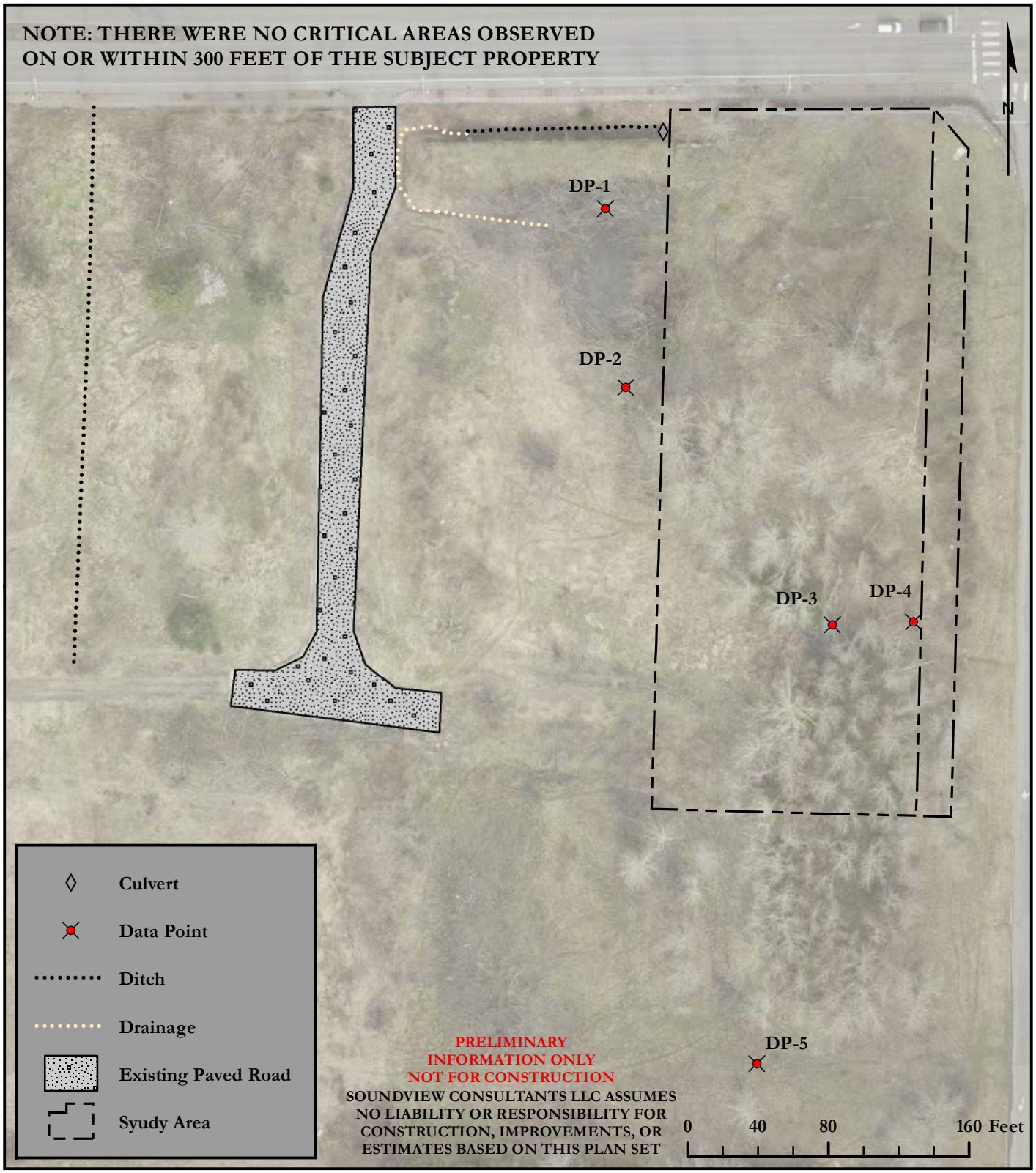
Attachment A – Existing Conditions Exhibit

EXISTING CONDITIONS



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BELLINGHAM CROSSROADS

415, 433, 451 AND 471 WEST BAKERVIEW ROAD
BELLINGHAM, WA 98226

WHATCOM COUNTY PARCEL NUMBERS:
380213310527, 380213341526, 380213391524, & 380213327523

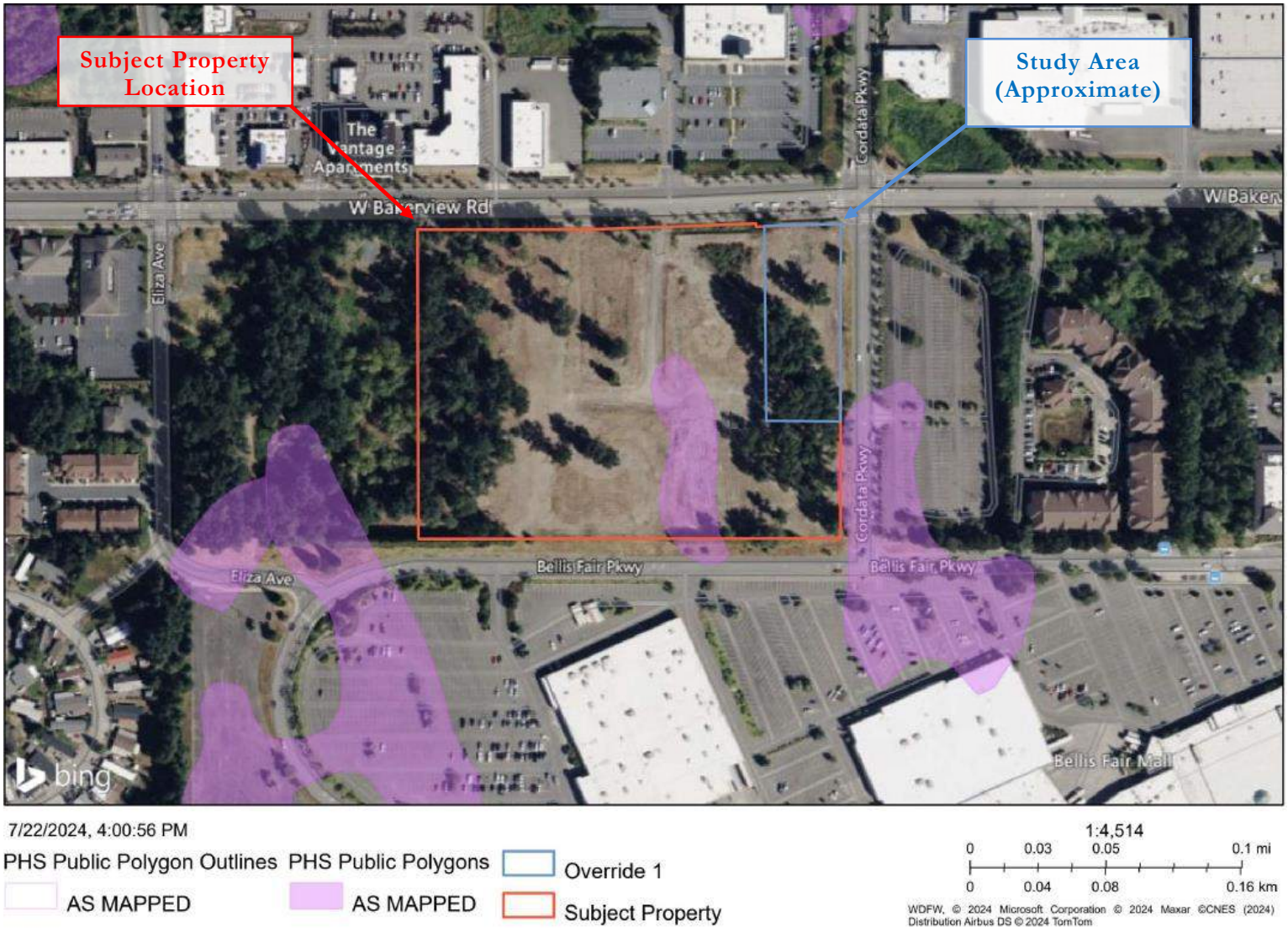
DATE:	7/23/2024
JOB:	2166.0001
BY:	DDS
SCALE:	1 " = 80 '
FIGURE NO.	1

Attachment B – Background Information

This attachment includes a USFWS NWI Map (B1); WDFW PHS Map (B2); Whatcom County Wetland Inventory (B3); City of Bellingham Stream and Wetland Inventory (B4); WDFW and NWIFC SWIFD (B5); DNR Stream Typing Map (B6); NRCS Soil Survey Map (B7); USGS Contours Map (B8); Historic Aerial Imagery (B9); Historic Hillshade Data (B10); and City of Bellingham Stormwater Map (Attachment B11).

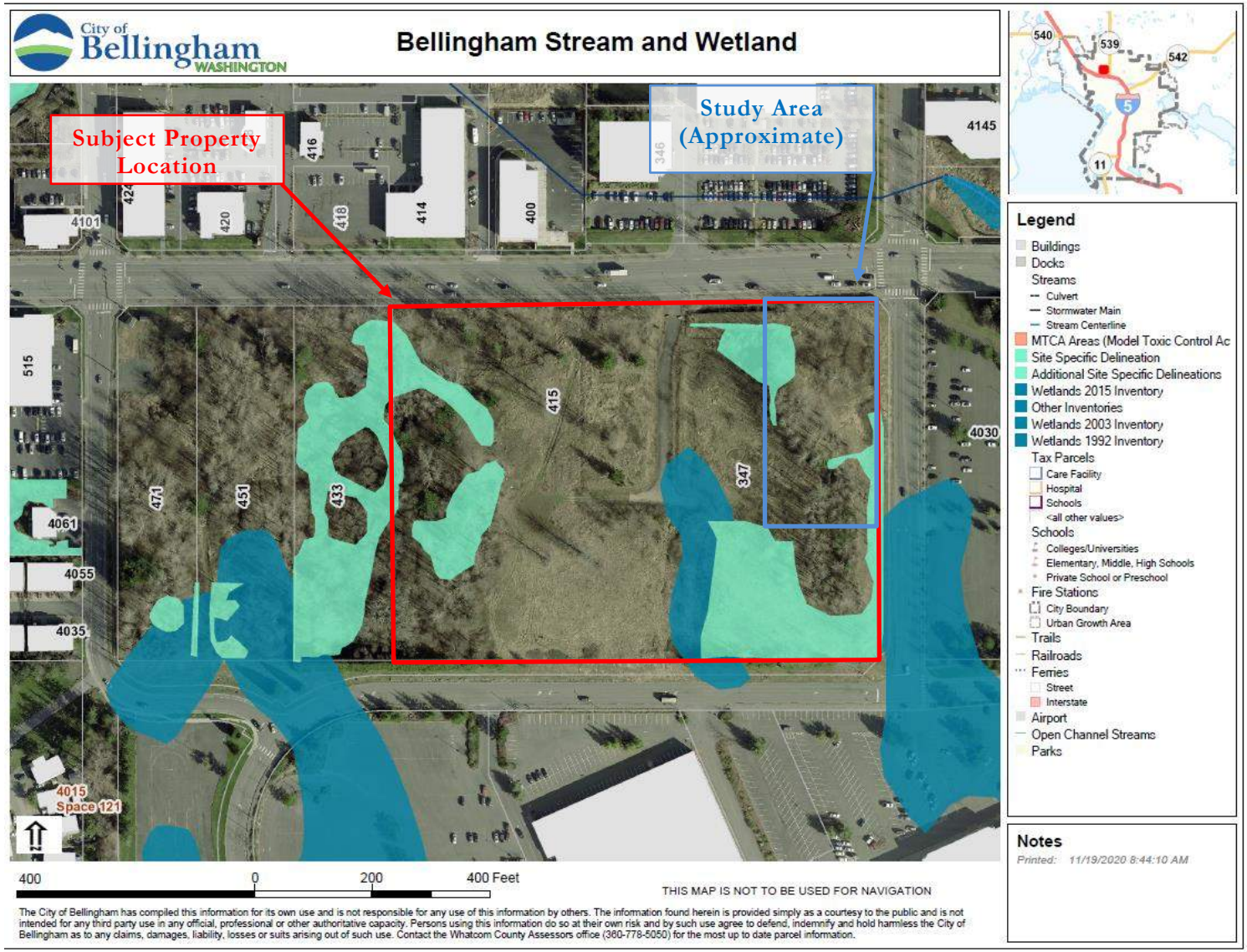
Attachment B1 – USFWS NWI Map

Attachment B2 – WDFW PHS Map



Attachment B3 – Whatcom County Wetland Inventory

Attachment B4 – City of Bellingham Stream and Wetland Inventory



Attachment B5 – WDFW and NWIFC SWIFD

Attachment B6 – DNR Stream Typing Map

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Override 1

Subject Property

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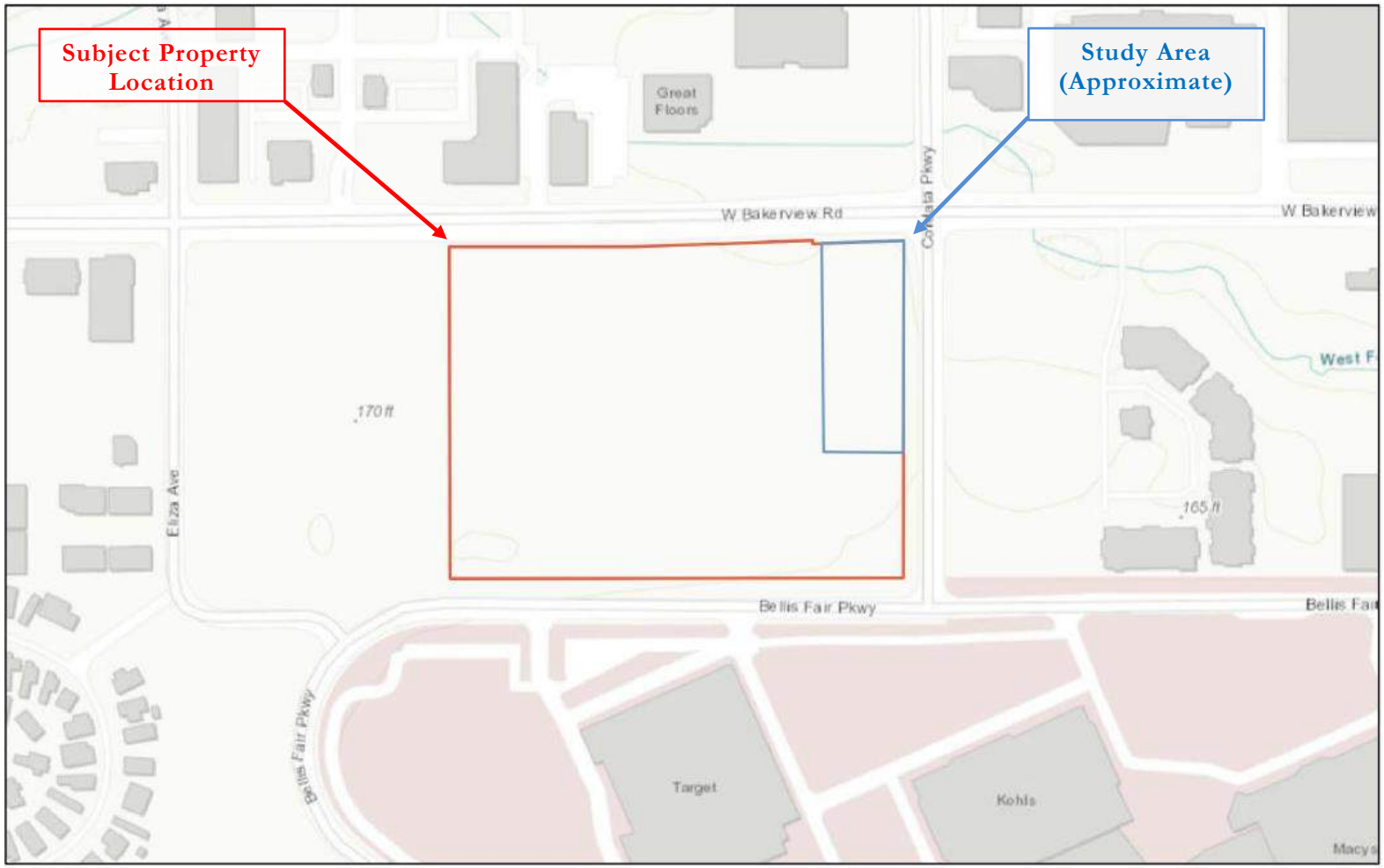
0 0.04 0.08 0.16 km

Attachment B7 – NRCS Soil Survey Map

Attachment B8 – USGS Contours Map



7/22/2024, 4:18:43 PM

Override 1

Subject Property

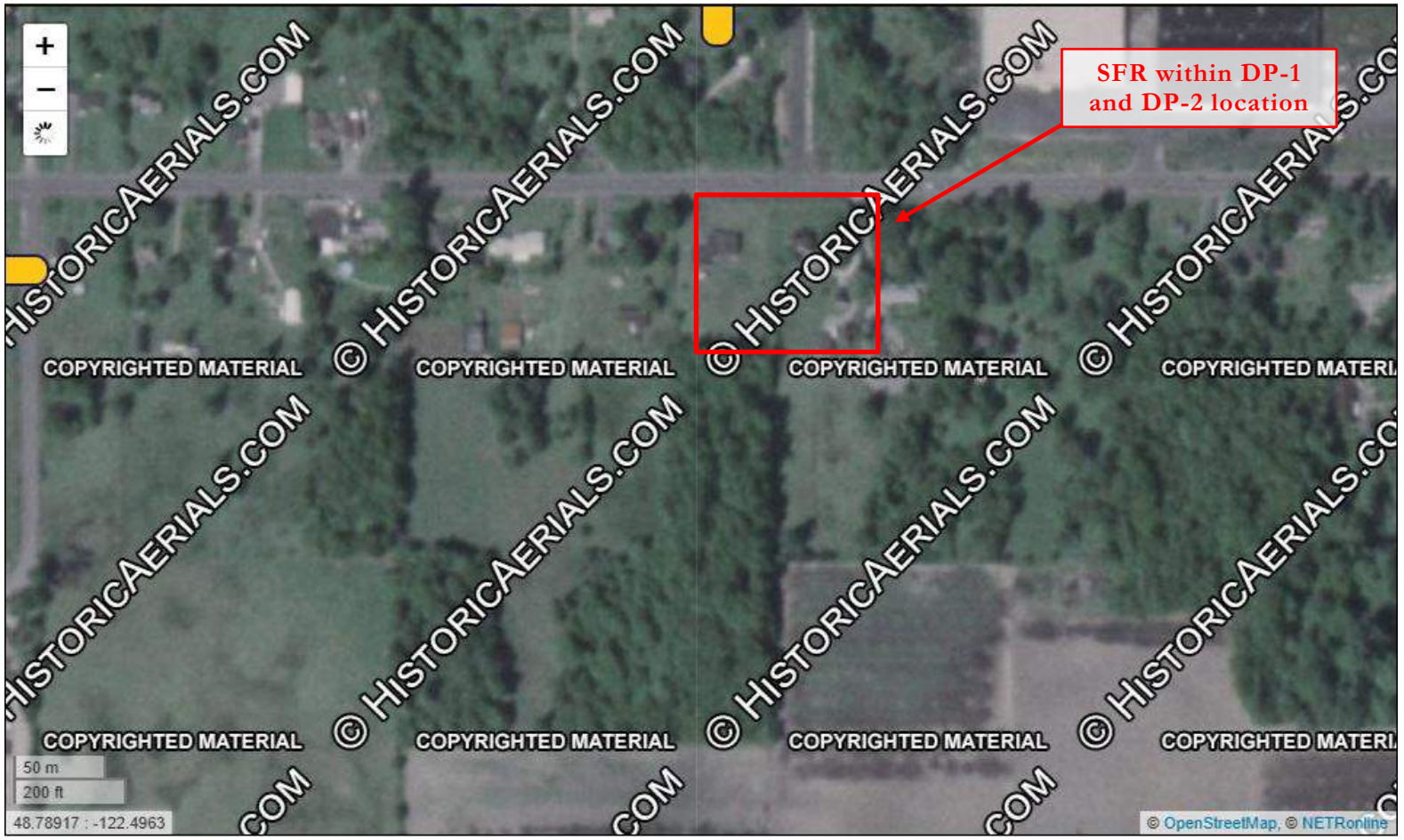
1:4,514

0 0.03 0.05 0.1 mi

0 0.04 0.08 0.16 km

City of Bellingham, Bureau of Land Management, Province of British Columbia, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA,

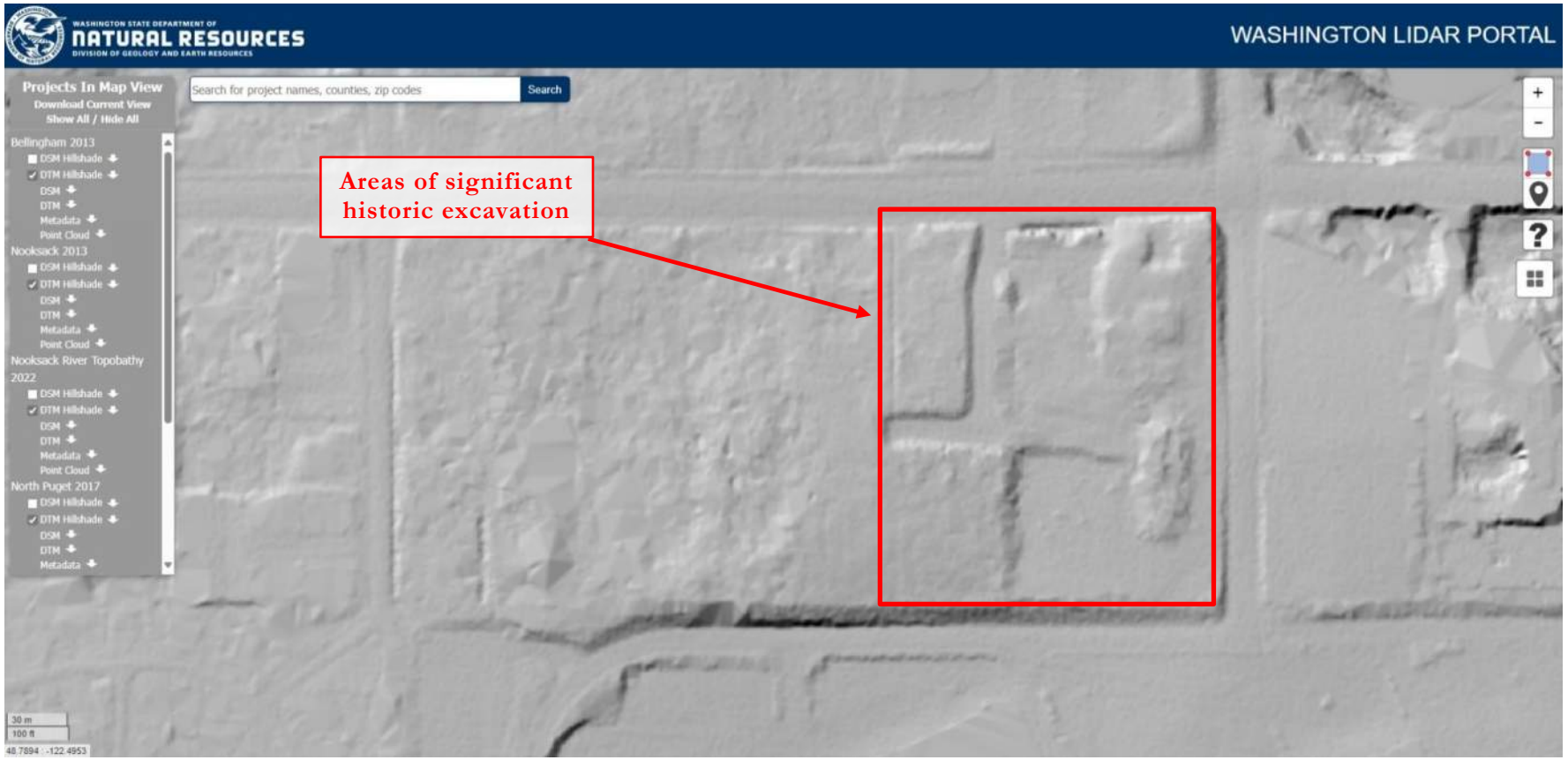
Attachment B9 – Historic Aerial Imagery (1981)



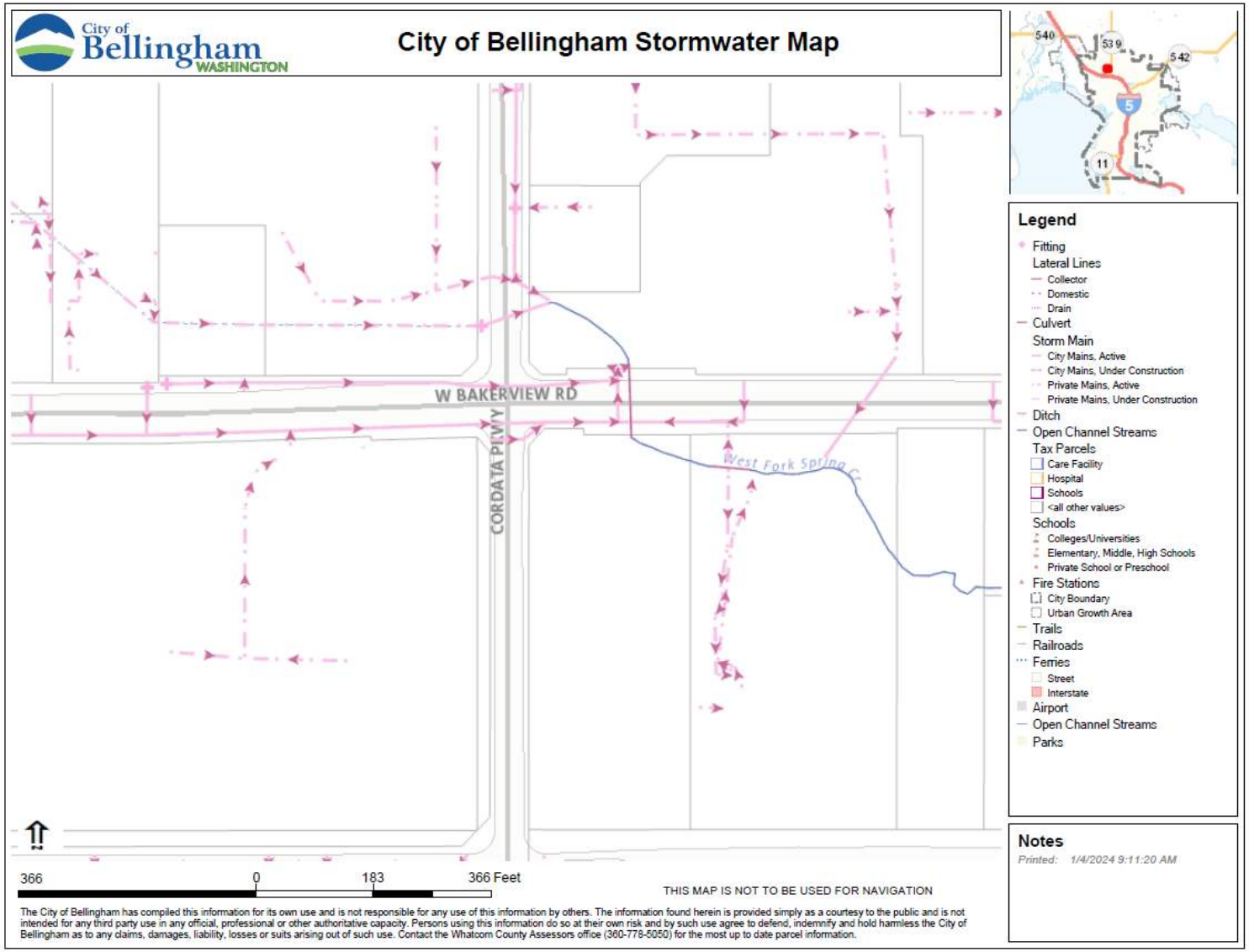
Attachment B9 – Historic Aerial Imagery (1998)

Attachment B9 – Historic Aerial Imagery (2017)

Attachment B10 – Historic Hillshade (2013)



Attachment B11 – City of Bellingham Stormwater Map



Attachment C – Site Photographs

DP-1 Soil Profile

DP-1 Soil Pit

General Conditions at DP-1 Facing East

DP-2 Soil Profile

DP-2 Soil Pit

General Conditions at DP-2 Facing North

DP-3 Soil Profile

DP-3 Soil Pit

General Conditions surrounding DP-3

DP-4 Soil Profile

DP-4 Soil Pit

General Conditions surrounding DP-4

DP-5 Soil Profile

DP-5 Soil Pit

General Conditions surrounding DP-5

General Representation of Disturbed Upland Areas

General Representation of Upland Areas

General Representation of Upland Areas

Attachment D – Data Forms

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

Project/Site: 2166.0001- Bellingham Crossroads City/County: Bellingham / Whatcom Sampling Date: 7/19/2024

Applicant/Owner: The RJ Group State: WA Sampling Point: DP-1

Investigator(s): Shaun Sweeney Section, Township, Range: 13/38N/02E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): A2 Lat: 48.789448 Long: -122.49240667 Datum: WGS 84

Soil Map Unit Name: Whatcom-Labounty silt loams, 0 to 8 percent slopes NWI classification: None

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

Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: All three wetland criteria met. DP-1 is located west of the study. Area is highly disturbed due to a previous SFR being present, heavy grading and excavating and creating false wetland indicators.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Salix lasiandra	30	Yes	FACW
2. Populus balsamifera	30	Yes	FAC
3. Spiraea douglasii	15	Yes	FACW
4.			
5.			
	75	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Juncus effusus	35	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: Hydrophytic vegetation criteria met through the dominance test.

SOIL

Sampling Point: DP-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 1		100						Decomposing organic material
1 - 7	5Y 5/1	60					ClLo	Clay loam. Mixed matrix.
	2.5Y 4/2	25	10YR 3/6	15	C	M	ClLo	Clay loam. Mixed matrix.
7 - 12+	5Y 5/1	80					ClLo	Clay loam. Mixed matrix.
	2.5Y 4/2	10	10YR 4/4	10	C	M	ClLo	Clay loam. Mixed matrix.

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compacted clay from clearing and grading

Depth (inches): 1 - 12+

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator F3.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ 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)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): None

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicator B9.

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

Project/Site: 2166.0001- Bellingham Crossroads City/County: Bellingham / Whatcom Sampling Date: 7/19/2024

Applicant/Owner: The RJ Group State: WA Sampling Point: DP-2

Investigator(s): Shaun Sweeney Section, Township, Range: 13/38N/02E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 4

Subregion (LRR): A2 Lat: 48.789170 Long: -122.49235000 Datum: WGS 84

Soil Map Unit Name: Whatcom-Labounty silt loams, 0 to 8 percent slopes NWI classification: None

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

Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: All three wetland criteria met. DP-2 is located west of the study area. Area is highly disturbed due to heavy grading and excavating, creating false wetland indicators.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	40	Yes	FAC
2.			
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Populus balsamifera	30	Yes	FAC
2. Rubus armeniacus	25	Yes	FAC
3.			
4.			
5.			
	55	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: Hydrophytic vegetation criteria met through the dominance test.

SOIL

Sampling Point: DP-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3		100						Decomposing organic material
3 - 12+	2.5Y 5/2	80	10YR 3/6	15	C	M	ClLo	Clay loam.
			10YR 5/6	5	C	M		

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compacted clay from clearing and grading

Depth (inches): 3 - 12+

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator F3.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ 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)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): None

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicator B9.

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

Project/Site: 2166.0001- Bellingham Crossroads City/County: Bellingham / Whatcom Sampling Date: 7/30/2024

Applicant/Owner: The RJ Group State: WA Sampling Point: DP-3

Investigator(s): Kramer Canup Section, Township, Range: 13/38N/02E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): A2 Lat: 48.788807 Long: -122.49185923 Datum: WGS 84

Soil Map Unit Name: Whatcom-Labounty silt loams, 0 to 8 percent slopes NWI classification: None

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

Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: All three wetland criteria met. DP-3 is located in the southern portion of the study area. Area is highly disturbed due to heavy grading and excavating and vegetation removal, creating false wetland indicators.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	60	Yes	FAC
2.			
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Spiraea douglasii	20	Yes	FACW
2. Symphoricarpos albus	20	Yes	FACU
3. Lonicera involucrata	7	No	FAC
4. Alnus rubra	5	No	FAC
5.			
	52	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Juncus effusus	10	Yes	FACW
2. Poa pratensis	10	Yes	FAC
3. Ranunculus repens	8	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	28	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: Hydrophytic vegetation criteria met through the dominance test.

SOIL

Sampling Point: DP-3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 2	7.5Y 3/2	60	7.5YR 4/6	5	C	M	SiClLo	Silty clay loam
	2.5Y 4/1	30	7.5YR 4/6	5	C	M	SiCl	Silty clay
2 - 14+	2.5Y 4/1	80	7.5YR 4/6	10	C	M	Cl	Clay
			7.5YR 6/6	10	C	M		

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compacted clay from clearing and grading

Depth (inches): 2 - 14+

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator F3.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ 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)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): None

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicator B9.

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

Project/Site: 2166.0001- Bellingham Crossroads City/County: Bellingham / Whatcom Sampling Date: 7/30/2024

Applicant/Owner: The RJ Group State: WA Sampling Point: DP-4

Investigator(s): Kramer Canup Section, Township, Range: 13/38N/02E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Linear Slope (%): 0

Subregion (LRR): A2 Lat: 48.788806 Long: -122.49167238 Datum: WGS 84

Soil Map Unit Name: Whatcom-Labounty silt loams, 0 to 8 percent slopes NWI classification: None

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

Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: All three wetland criteria met. DP-4 is located in the southeastern corner of the study area. Area is highly disturbed due to heavy grading and excavating and vegetation removal, creating false wetland indicators.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	40	Yes	FAC
2.			
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Spiraea douglasii	5	Yes	FACW
2. Ranunculus repens	5	No	FAC
3. Populus balsamifera	3	No	FAC
4.			
5.			
	13	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	8	Yes	FAC
2. Equisetum arvense	3	Yes	FAC
3. Cornus alba	2	No	FACW
4. Phalaris arundinacea	2	No	FACW
5. Lotus corniculatus	2	No	FAC
6. Hypochaeris radicata	1	No	FACU
7.			
8.			
9.			
10.			
11.			
	18	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: Hydrophytic vegetation criteria met through the dominance test.

SOIL

Sampling Point: DP-4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	2.5Y 3/2	95	7.5YR 4/6	5	C	M	SiCl	Silty clay
4 - 10	2.5Y 3/2	60	7.5YR 4/6	15	C	M	SiCl	Silty clay
	10YR 4/2	20	7.5YR 4/6	5	C	M	Cl	Clay
10 - 15	2.5Y 3/2	50	7.5YR 4/6	15	C	M	SiCl	Silty clay
	10YR 4/2	20	7.5YR 4/6	5	C	M	Cl	Clay
	10YR 3/1	10	-	-	-	-	Cl	Clay

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compacted clay from clearing and grading

Depth (inches): 4 - 15

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator F6.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ 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)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): None

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicator B6.

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

Project/Site: 2166.0001- Bellingham Crossroads City/County: Bellingham / Whatcom Sampling Date: 7/30/2024

Applicant/Owner: The RJ Group State: WA Sampling Point: DP-5

Investigator(s): Kramer Canup Section, Township, Range: 13/38N/02E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Linear Slope (%): 0

Subregion (LRR): A2 Lat: 48.788134 Long: -122.49205800 Datum: WGS 84

Soil Map Unit Name: Whatcom-Labounty silt loams, 0 to 8 percent slopes NWI classification: None

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

Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: All three wetland criteria met. DP-5 is located to the south of the study area. Area is highly disturbed due to heavy grading and excavating and creating false wetland indicators.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	20	Yes	FAC
2.			
3.			
4.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Populus balsamifera	7	Yes	FAC
2.			
3.			
4.			
5.			
	7	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	30	Yes	FAC
2. Lotus corniculatus	10	No	FAC
3. Cirsium arvense	1	No	FAC
4. Tanacetum vulgare	1	No	FACU
5. Cirsium vulgare	1	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	43	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: Hydrophytic vegetation criteria met through the dominance test.

SOIL

Sampling Point: DP-5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 1	7.5YR 3/2	90	7.5YR 4/6	10	C	M	SiCl	Silty clay
1 - 15+	2.5Y 4/1	80	7.5YR 4/6	20	C	M	SiCl	Silty clay

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compacted clay from grading

Depth (inches): 1 - 15+

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator F3.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ 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)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): None

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicator B6.

Attachment E – Qualifications

All field inspections, jurisdictional wetland absence determinations, habitat assessments, and supporting documentation, including this ***Wetland and Fish and Wildlife Habitat Assessment Technical Memorandum*** prepared for the ***Bellingham Crossroads*** project, were prepared by, or under the direction of, Kramer Canup of SVC. In addition, the site investigations were performed Shaun Sweeney and Kramer Canup and report preparation was completed by Elisabeth Gonzalez.

Kramer Canup is a Project Manager and Environmental Scientist with 10 years of professional experience. Kramer has a professional background in project management, ecological restoration, vegetation monitoring, invasive plant management, monitoring protocol development, grant writing, tropical ecology, wildlife monitoring and environmental education. He currently manages residential and commercial projects, performs wetland and ordinary high-water delineations and shoreline assessments; conducts environmental code analysis and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the planning and permitting processes. His noteworthy experiences include supporting clients with navigating environmental regulations related to land use and development, managing wetland and riparian restoration projects, leading wetland and ordinary high water delineations throughout the Puget Sound region, and instructing study abroad courses in the Peruvian Amazon for the University of Washington.

Education: Bachelor of Arts in Environmental Studies with a minor in Ecological Restoration from the University of Washington. *Professional Trainings:* Basic Wetland Delineator Training with the Wetland Training Institute 40-hour USACE wetland delineation training. Kramer has been formally trained through the Washington State Department of Ecology, Coastal Training Program, How to Determine the Ordinary High Water Mark, Using the Washington State Wetland Rating System (2014), and Using the Credit-Debit Method for Estimating Mitigation Needs.

Shaun Sweeney is an Environmental Scientist with 4 years of professional experience. Shaun has a background in wetland delineations, project management, vegetation monitoring, shoreline and stream assessments, and permitting processes. She currently performs wetland and ordinary highwater delineations, conducts environmental code analysis and prepares environmental assessments. Previously Shaun has managed multiple single family and residential development projects in assisting clients with permitting processes, mitigation planning and implementing regulations within engineering designs. She completed her training in wetland delineations with the Wetland Training Institute in August of 2021 and has since been involved in wetland delineations across western Washington. Her noteworthy experiences include supporting clients with navigating environmental regulations related to land use and development, managing mitigation and restoration projects, leading wetland and ordinary high-water delineations throughout the Puget Sound region, and experience in conducted various ecological surveys while studying abroad courses in South Africa.

Education: Bachelor of Arts in Environmental Studies with a minor in Geography from Western Washington University. *Professional Trainings:* Basic Wetland Delineator Training with the Wetland Training Institute 40-hour USACE wetland delineation training. Shaun has been formally trained through the Washington State Department of Ecology, Coastal Training Program, How to Determine the Ordinary High Water Mark, Using the Washington State Wetland Rating System (2014), and forage fish survey.

Elisabeth Gonzalez is an Environmental Project Manager and Scientist with 3 years of professional experience. Elizabeth has a background in project management, shoreline permitting, forest and marine ecology, and wetland delineations. Elisabeth brings experience in managing bulkhead repair and replacement projects, single-family residence planning and wetland delineations, and extensive permitting projects for marina renovations. Previously, she has managed multiple shoreline projects in assisting clients with permitting processes while implementing regulations within engineering designs. She completed her training in wetland delineations with the Wetland Training Institute in October of 2021 and has since been involved in wetland delineations all across western Washington. Elisabeth has also completed two internships with the US Forest Service and Maui Ocean Center, where she performed a variety of research-based field work and worked as a research assistant with Saving the Blue collecting data on shark species and environmental impacts on the ocean.

Education: Bachelor of Science in Environmental Science with a concentration in Forest and Marine Ecology and Oceanography from the University of Colorado, Boulder.