City of Arlington | **Lindsay Subarea**

Planned Action Draft Environmental Impact Statement

Volume II – Appendices

September 2025

Appendices

List of Appendices

A Scoping Notice & Comment Summary

Notice of Application, Community Neighborhood Meeting, SEPA Determination of Significance, and Request for Comments on Scope of Environmental Impact Statement (EIS)

Lindsay Subarea Plan and Planned Action EIS

Permit Number: PLN #1315

Date of Issuance: March 18, 2025

Date of Publication: March 20, 2025

Date of Application: February 10, 2025

Date of Complete Application: March 10, 2025

Lead Agency: City of Arlington

Agency Contact: Amy Rusko, Deputy Director, arusko@arlingtonwa.gov, (360) 403-3551

Applicant: MJS Investors, Inc

Description of proposal: The City of Arlington, jointly with MJS Investors, is conducting a community planning process to develop a vision, plan, and implementation strategies for the Lindsay Subarea. This planning process will lay the groundwork for continued, coordinated, and efficient growth of the neighborhood. The final product is an adopted Lindsay Subarea Plan, which will be incorporated in the City's development code, and Planned Action Ordinance (PAO) to facilitate development that meets community goals. The subarea plan is being developed for consistency with the Growth Management Act, countywide planning policies, and the City of Arlington Comprehensive Plan.

The PAO will be developed under RCW 43.21C.440 and associated SEPA rules in WAC 197-11 based on the Environmental Impact Statement (EIS). Future proposals consistent with the Planned Action Ordinance, Subarea Plan, and development regulations would have a streamlined environmental review and permitting process.

The Planned Action Environmental Impact Statement (EIS) will assess two alternatives. The No Action alternative assumes no development within the subarea would occur under the existing Residential Ultra Low Capacity zoning and development standards. The Action Alternative assumes implementation of Ordinance 2023-016 to accommodate low- to moderate-intensity residential uses, including small-lot detached single-family homes, townhomes, and multi-family housing. This alternative also includes investments in capital infrastructure, transportation improvements, and a comprehensive system of parks, open spaces, and trails within the subarea.

Location of proposal: The Lindsay Master Plan Subarea is bounded by 172nd St NE (SR 531) on the north, the 84th Ave NE alignment on the east, the 168th St NE alignment on the south, and the 75th Ave NE alignment on the west, in the Hilltop neighborhood.

Determination: The City of Arlington has determined that this proposal could potentially have a significant adverse impact on the environment. An environmental impact statement (EIS) is required under RCW 43.21C.030 (2)(c) and will be prepared.

The lead agency has identified the following areas for discussion in the EIS:

- Natural Environment: Earth and Water Quality; Plants and Animals
- Land Use: Relationship to Existing Plans and Aesthetics
- Transportation
- Public Services: Parks, Schools, Police, Fire/Emergency Services
- Utilities: Sewer, Water, Stormwater, Street Lighting

Scoping: Agencies, affected tribes, and members of the public are invited to comment on the scope of the EIS. You may comment on alternatives, mitigation measures, probable significant adverse impacts, and licenses or other approvals that may be required. The method and deadline for giving us your comments are:

Send written comments by 5:00pm on Thursday, April 10, 2025 to the contact below. Email comments are preferred.

Email: arusko@arlingtonwa.gov (Subject: Lindsay Subarea NOA and EIS Scoping Comments)

Mail: City of Arlington
Attn: Amy Rusko, Community and Economic Development Deputy Director
18204 59th Avenue NE
Arlington, WA, 98233

Community Meeting: As part of the community planning process and to meet the Planned Action community meeting provisions in RCW 43.21C.440(3)(b), the City is holding a public neighborhood meeting on **April 7, 2025** at Putnam Hall in the Community and Economic Development Office (18204 59th Avenue NE, Arlington, WA 98223), from **5:00pm to 6:00pm**, with a presentation at 5:15pm. If you are in need of special accommodations for the meeting, please contact the City of Arlington at 360-403-3551. For more information, please see the City of Arlington project website: https://www.arlingtonwa.gov/892/Lindsay-Subarea-Plan.

Permits and Documents Required: Master Planned Neighborhood Overlay Subarea Plan, EIS, and Planned Action Ordinance; **Pending Project Area permits required (following subarea plan approval):** Land Use, Civil, and Building

Responsible Official: Marc Hayes, Community and Economic Development Director, City of Arlington, mhayes@arlingtonwa.gov, 360-403-3457

	3/18/2025
Signature	Date

Appeal Process

An agency or person may appeal the City's procedural compliance with WAC 197-11. The appeal shall meet the requirements of AMC 20.98.210, AMC 20.20, and AMC 20.24. The appeal period commences on the date of publication of notice. Any appeal to the Hearing Examiner must be addressed to the City Hearing Examiner, accompanied by an application, written findings, a filing fee (plus the actual cost of the Hearing Examiner), and be filed in writing at the City of Arlington, Community and Economic Development Department, 18204 59th Avenue NE, Arlington, WA 98223.

Public Neighborhood Meeting

Meeting Objectives

- Identify key EIS topics
- Highlight community assets and challenges
- Gather feedback on the preliminary site plan, proposed housing types, transportation improvements, and park/open spaces

On March 20, 2025, the City of Arlington issued a scoping notice advertising a 30-day written comment period on the scope of the Environmental Impact Statement (EIS) concluding on April 10, 2025. As part of the community planning process and to meet the Planned Action community meeting provisions in RCW 43.21C.440(3)(b), a community neighborhood meeting was held in person on April 7, 2025, and advertised in the scoping notice. The scoping notice identified the study of two alternatives and the following preliminary environmental topics:

- Natural Environment: Earth and Water Quality; Plants and Animals
- Land Use: Relationship to Existing Plans and Aesthetics
- Transportation
- Public Services: Parks, Schools, Police, Fire/Emergency Services
- Utilities: Sewer, Water, Stormwater, Street Lighting

Results

About 15 people attended the neighborhood meeting. 5 written comments were received, either written directly on the board and/or sticky notes. The presentation included a survey to gather feedback on the meeting objectives.

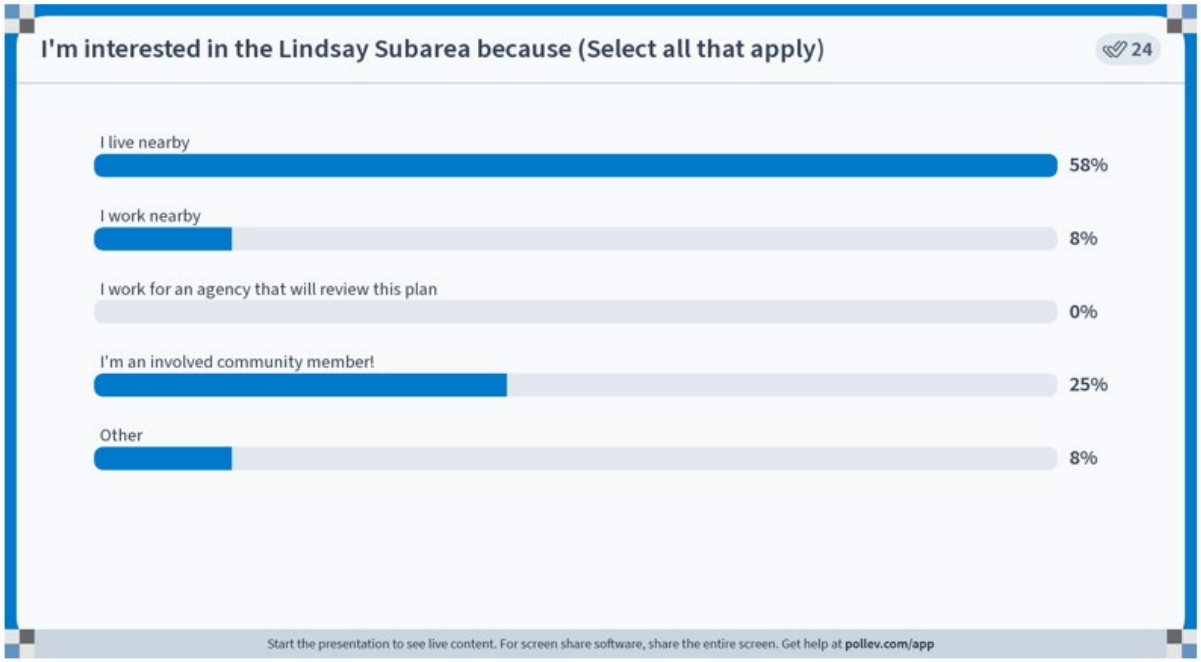
The following are summarized responses from community members:

- Single-family homes and attached home styles are most preferred in the area. Some community members raised concerns about smaller lot sizes and higher housing density, noting they may not align with the character of surrounding neighborhoods. Others emphasized the importance of offering affordable housing options to support young families and future generations.
- There is equal interest in placing multifamily homes close or away from 172nd St.
- There is strong interest in expanding park and recreational opportunities. The most desired park feature is an open field or lawn, followed by pedestrian lighting, playgrounds, and seating. Parks located near 172nd Street are considered the most accessible and likely to be used by residents
- Community members stressed the importance of conducting further traffic studies and prioritizing investments in infrastructure along 172nd Street to address safety and meet anticipated capacity needs.
- Preservation of cultural artifacts and environmental resources in coordination with the Tulalip and Stillaguamish Tribe.
- Residents should be made aware of the proximity of their dwelling to the Arlington Municipal Airport and associated airport-related impacts (noise and air pollution). Future plans should be reviewed for airspace hazard.

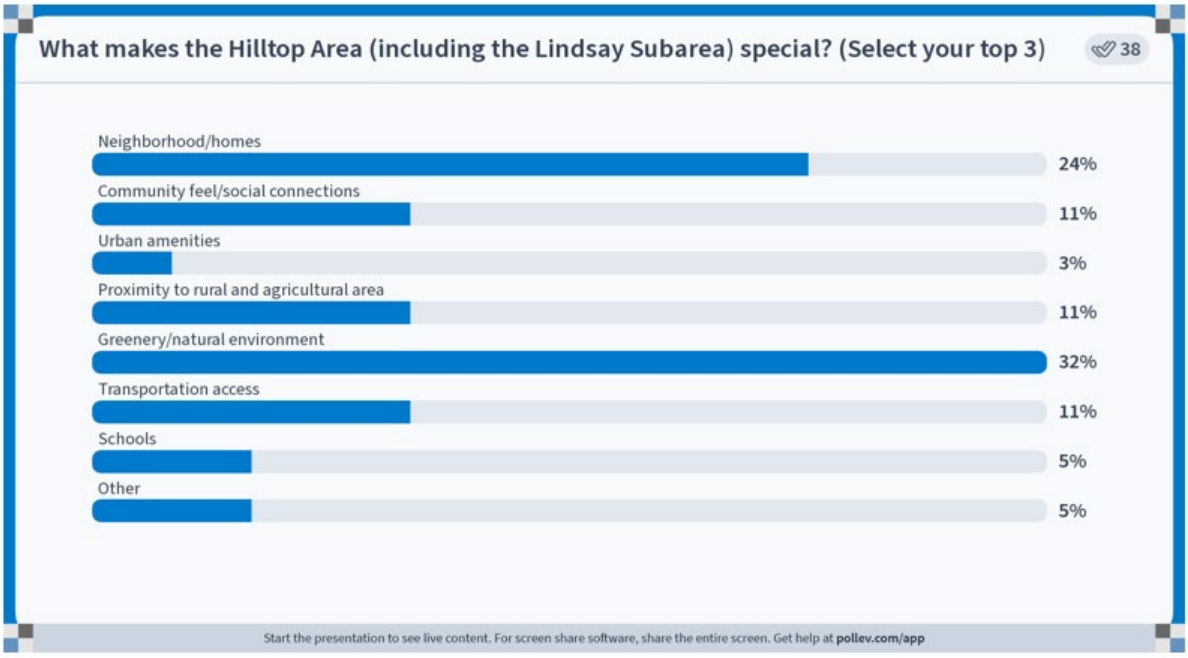
Survey Response Images

Visioning

Question 1. I'm interested in the Lindsay Subarea because (Select all that apply)

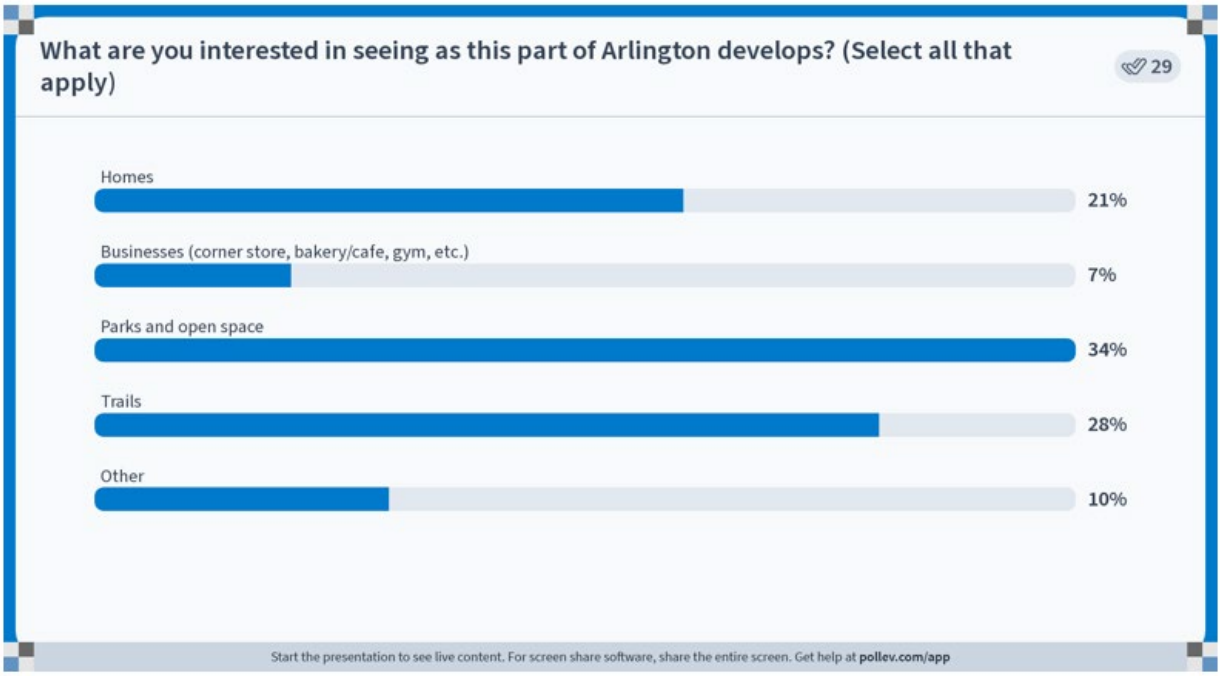


Question 2. What makes the Hilltop Area (including the Linsday Subarea) special? (Select your top 3)

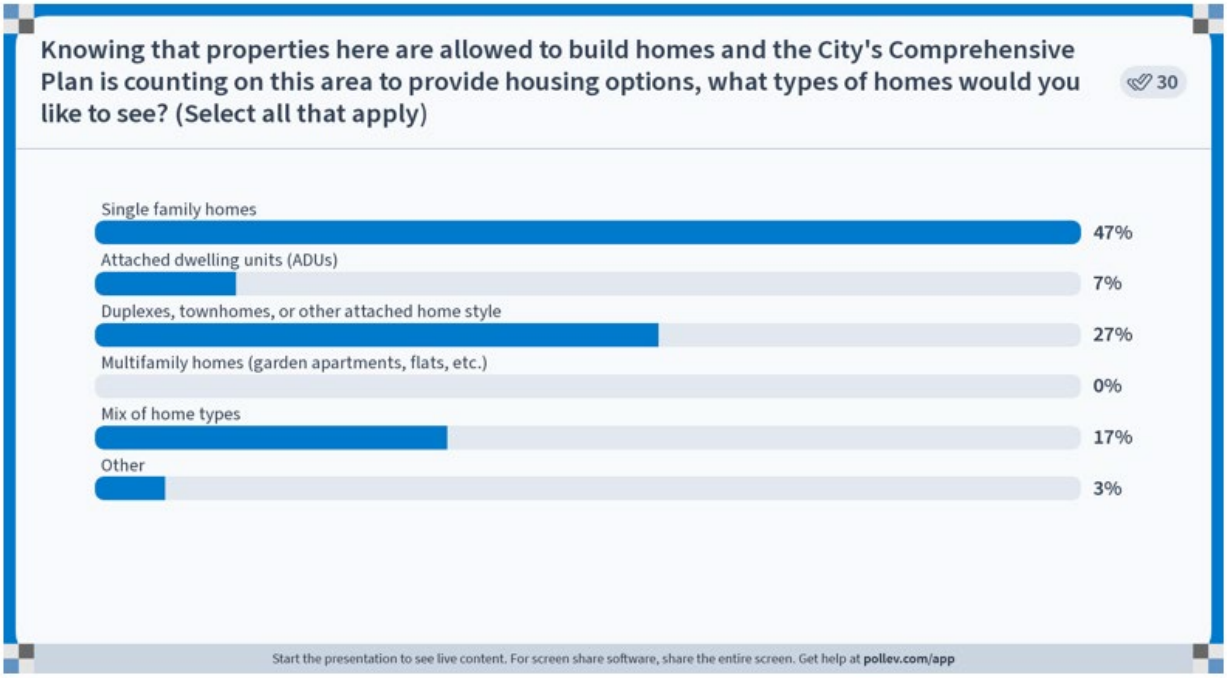


Question 3. What do you value most about living or working in your community? (Enter one word responses)

Question 4. What are you interested in seeing as this part of Arlington develops? (Select all that apply)

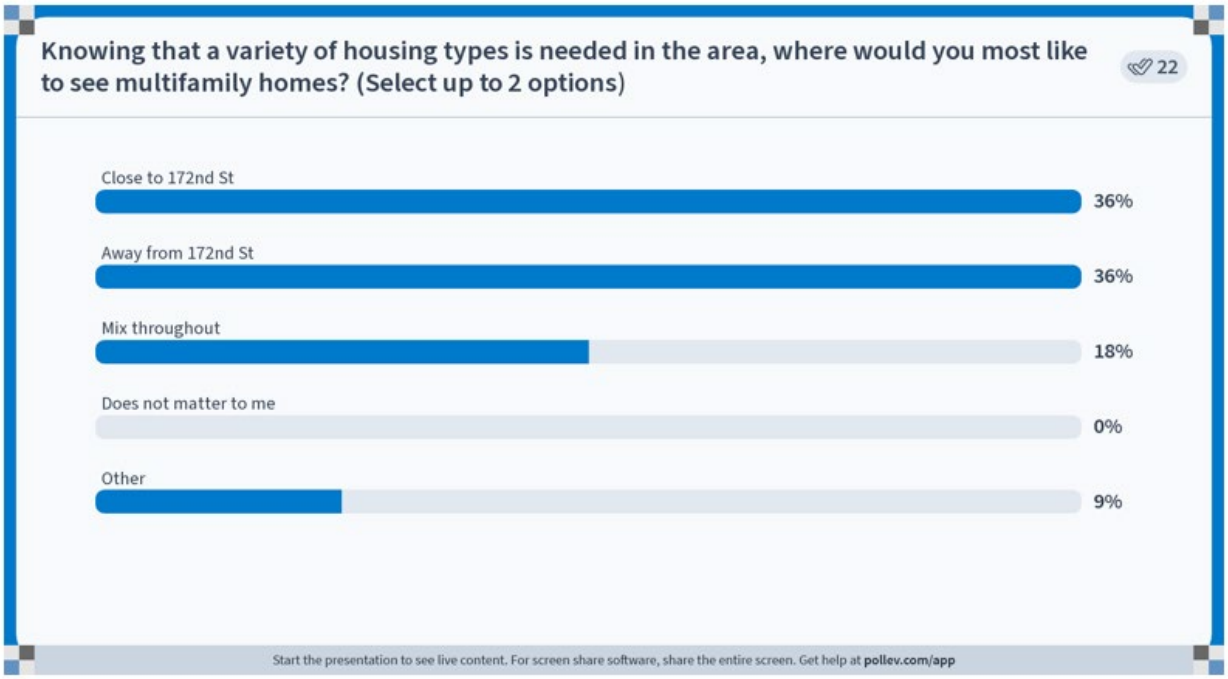


Question 5. Knowing that properties here are allowed to build homes and the City's Comprehensive Plan is counting on this area to provide housing options, what types of homes would you like to see?



Housing

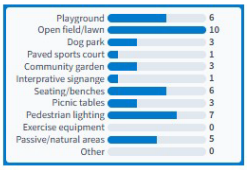
Question 6. Knowing that a variety of housing types is needed in the area, where would you most like to see multifamily homes? (Select up to 2 options)



Parks

Question 7. What amenities would you like to see in the parks? (Select your top 4)

What amenities would you like to see in the parks? (Select your top 4)

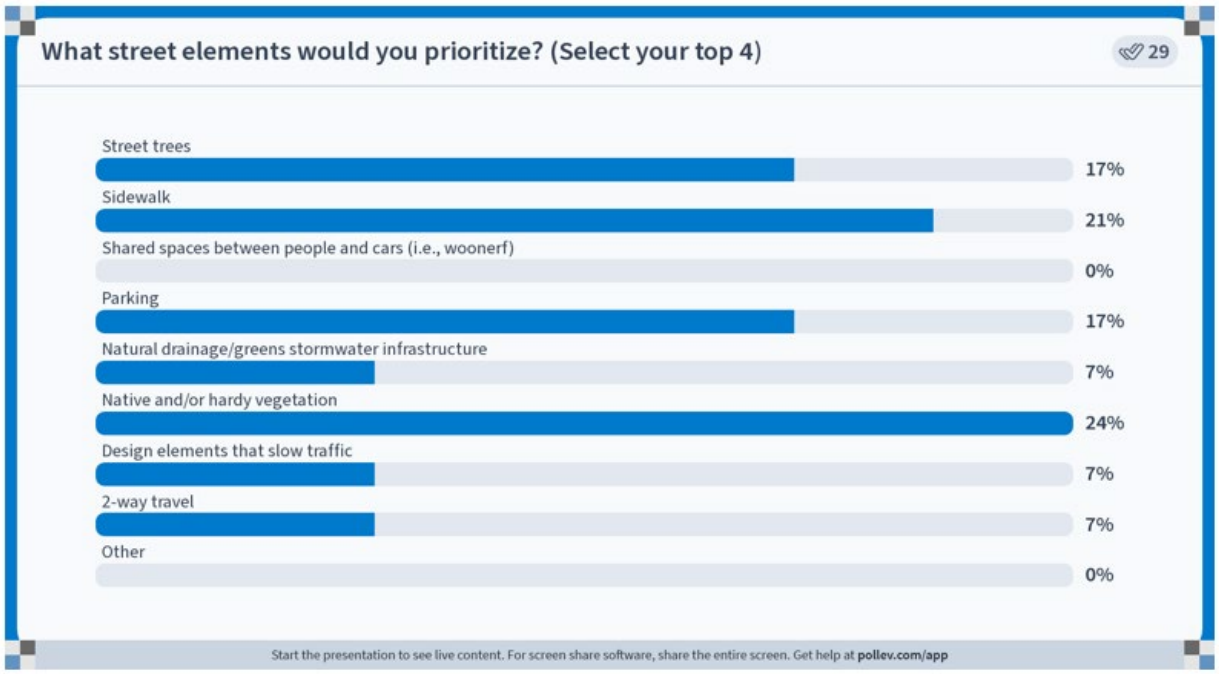


Response options	Count	Percentage
Playground	6	13%
Open field/lawn	**10**	**22%**
Dog park	3	7%
Paved sports court	1	2%
Community garden	3	7%
Interprative signange	1	2%
Seating/benches	6	13%
Picnic tables	3	7%
Pedestrian lighting	7	16%
Exercise equipment	0	0%
Passive/natural areas	5	11%
Other	0	0%

Question 8. If you lived in the area, which parks would you likely use the most

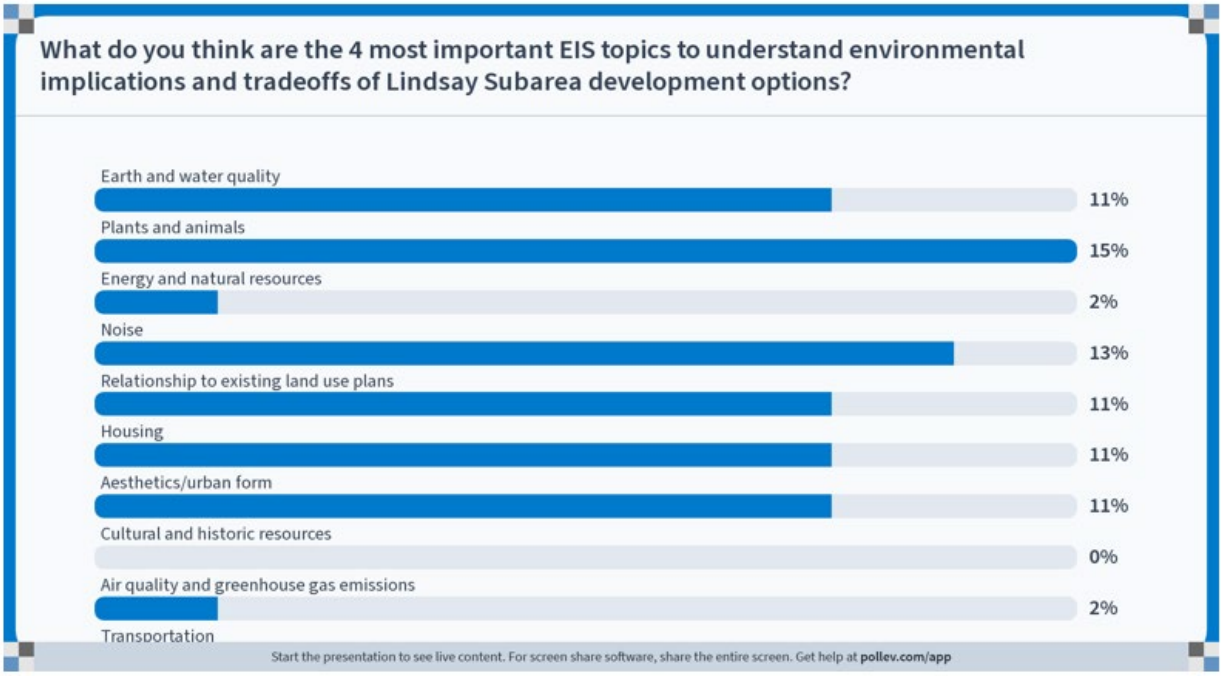
Transportation

Question 9. What street elements would you prioritize?



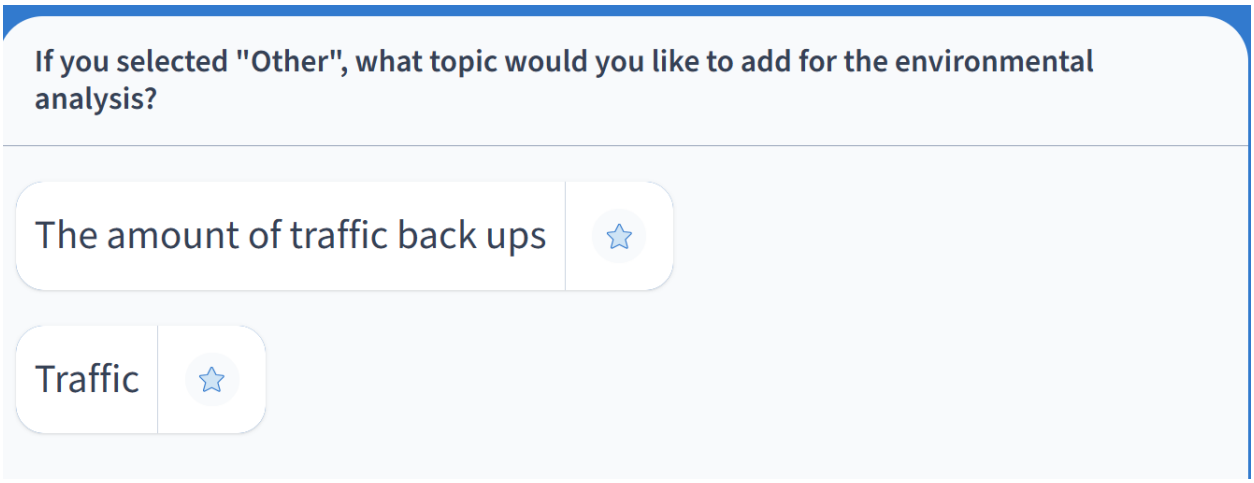
EIS Scoping

Question 10. What do you think are the 4 most important EIS topics to understand environmental implications and tradeoffs of Lindsay Subarea development options?



Response	Count
Plants and animals	8
Noise	7
Transportation	6
Aesthetics/urban form	6
Housing	6
Relationship to existing land use plans	6
Earth and water quality	6
Public services (Parks, Schools, Police, Fire/Emergency Services)	3
Utilities (sewer, water, stormwater, street lighting)	2
Other	1
Air quality and greenhouse gas emissions	1
Energy and natural resources	1

Question 11. If you selected "Other ", what topic would you like to add for the environmental analysis?



Note: Participants were informed that a transportation analysis model will be completed as part of the EIS.

B Wetland and Fish and Wildlife Habitat Assessment Report for Lindsay Annexation

WETLAND AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT

LINDSAY ANNEXATION

JUNE 2024

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

WETLAND AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT

LINDSAY ANNEXATION

JUNE 21, 2024

PROJECT LOCATION

8014/8228/8210/8326 172ND STREET NORTHEAST
ARLINGTON, WASHINTON 98223

PREPARED FOR

MJS INVESTORS
11201 SOUTHEAST 8TH STREET, SUITE 116
BELLEVUE, WASHINGTON 98004

PREPARED BY

SOUNDVIEW CONSULTANTS LLC.
2907 HARBORVIEW DRIVE
GIG HARBOR, WASHINGTON 98335
(253) 514-8952

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

Executive Summary

Soundview Consultants LLC (SVC) is assisting MJS Investors (Applicant) with a Wetland and Fish and Wildlife Habitat Assessment Report for the residential development of a 32.28-acre site located at 8014, 8228, 8210, and 8326 172nd Street Northeast within the City of Arlington, Washington. The subject property consists of five parcels situated in the Northeast ¼, of Section 26, Township 31 North, Range 5 East, (Snohomish County Tax Parcel Numbers 31052500200600, 31052600100100, 31052600100200, 31052600102200, 31052600102300).

SVC investigated the subject property for the presence of potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species in December of 2022 and April of 2024. Using current methodology, the site assessments identified four potentially-regulated wetlands onsite (Wetlands A – D) and one stream (Stream Z) on the subject property. Additionally, one offsite wetland (Wetland 1) was identified offsite to the west of the subject property. Wetlands A and D are classified as a Category IV wetlands per Arlington Municipal Code (AMC) 20.93.800 and are subject to a standard 40-foot buffer regardless of habitat score per AMC 20.93.830 Table 20.93-4 with the required use of minimization measures outlined in AMC Table 20.93-5. Wetlands B, C, and 1 are Category III wetlands per AMC 20.93.800 with moderate habitat scores of (6 or 7) and are subject to a standard 110-foot buffer per AMC 20.93.830 Table 20.93-4 with the required use of minimization measures outlined in AMC Table 20.93-5. Stream Z is a seasonal, non-fish bearing stream and is therefore considered a Type Ns water per AMC 20.93.700 and is subject to a standard 50-foot buffer per AMC 20.93.730 Table 20.93-3. In addition, a 15-foot structure setback is required at the edge of wetland and stream buffers per AMC 20.93.340. No other potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species were identified within 300 feet of the subject property.

The Applicant is assessing the potential for residential development on the subject property. All necessary code analytics and mitigation strategy will be outlined in a Conceptual Mitigation Plan under a separate cover.

The table below summarizes the identified critical areas on the subject property and their regulatory status.

Critical Area Name	Size Onsite	Category/ Type[1]	Regulated Under AMC Chapter 20.93	Regulated Under RCW 90.48	Regulated Under Clean Water Act
Wetland A	22,500 SF	IV	Yes	Yes	Likely
Wetland B	1.2 AC	III	Yes	Yes	Likely
Wetland C	30,080 SF	III	Yes	Yes	Likely
Wetland D	110 SF	IV	Yes	Yes	Not Likely
Wetland 1	NA	III	Yes	Yes	Likely
Stream Z	~160 linear feet	Type Ns	Yes	Yes	Likely

1. Washington State Department of Ecology (WSDOE) wetland rating system (Hruby and Yahnke 2023) per AMC 20.93.800 and AMC 20.93.730

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Chapter 1. Introduction

Soundview Consultants LLC (SVC) is assisting MJS Investors (Applicant) with a Wetland and Fish and Wildlife Habitat Assessment Report for the potential residential development of a 32.28-acre site located at 8014, 8228, 8210, and 8326 172nd Street Northeast within the City of Arlington, Washington. The subject property consists of five parcels situated in the Northeast ¼, of Section 26, Township 31 North, Range 5 East, (Snohomish County Tax Parcel Numbers 31052500200600, 31052600100100, 31052600100200, 31052600102200, and 31052600102300).

The purpose of this wetland and fish and wildlife habitat assessment is to identify the presence of potentially regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species that may be found on or near the subject property.

This report provides conclusions and recommendations regarding:

- Site description and areas of assessment;
- Background research, identification, and assessment of potentially-regulated wetlands and fish and wildlife habitat and/or species in the vicinity of the proposed project;
- Standard buffer recommendations, building setbacks, and development limitations;
- Existing site map detailing identified critical areas; and
- Supplemental information necessary for local, state, and federal regulatory review.

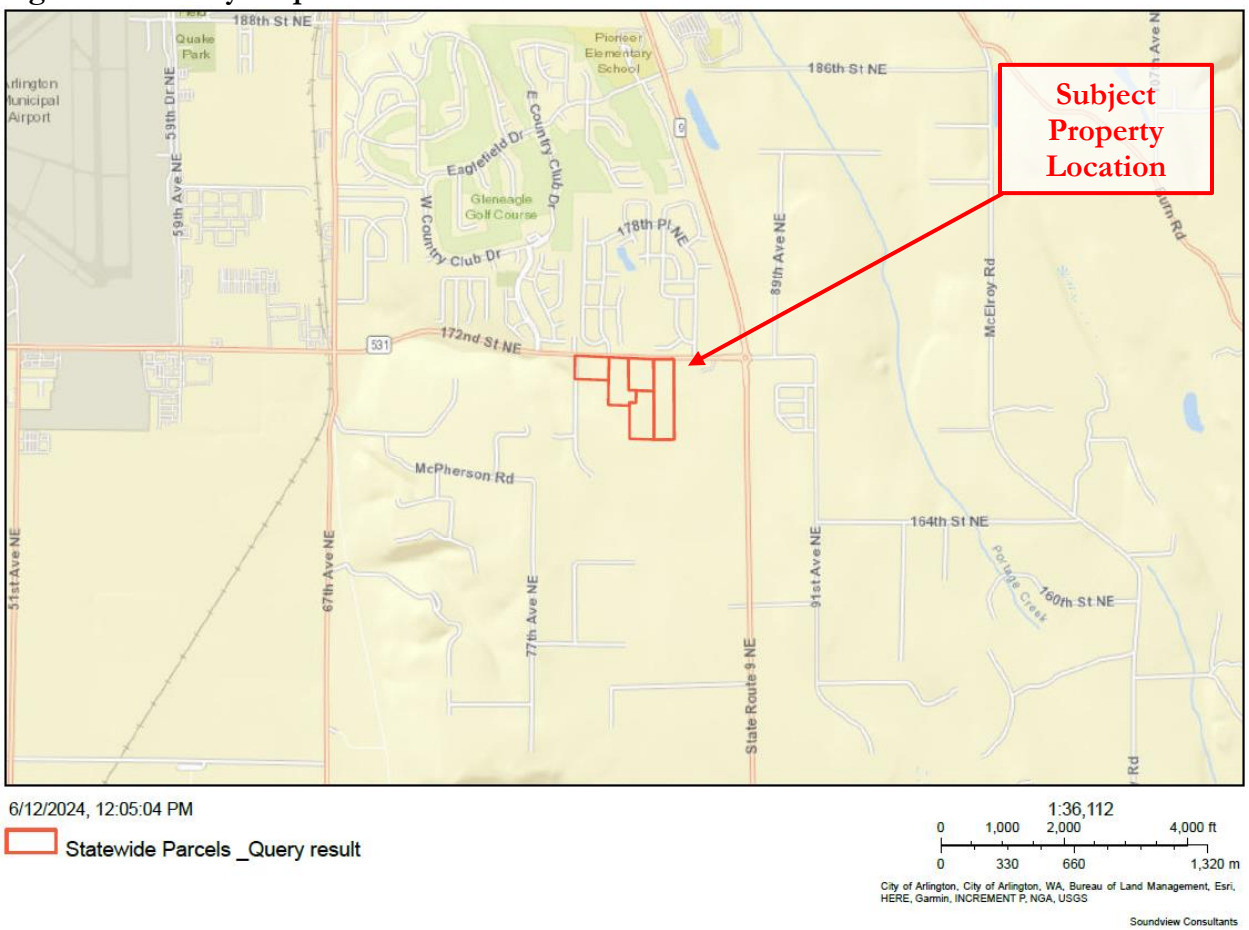
Chapter 2. Proposed Project Location

2.1 Location

The subject property is located at 8014, 8228, 8210, and 8326 172nd Street Northeast within the City of Arlington, Washington (Figure 1). The subject area consists of five parcels situated in the Northeast ¼, of Section 26, Township 31 North, Range 5 East, (Snohomish County Tax Parcel Numbers 31052500200600, 31052600100100, 31052600100200, 31052600102200, and 31052600102300).

To access the subject property from I-5 North, take Exit 206 for WA-531E/172nd Street Northeast/Edgecomb Road toward Lakewood/Smokey Point. Continue for approximately 3.5 miles, where the subject property will be on the right after the intersection of 172nd Street Northeast and 79th Avenue Northeast.

Figure 1. Vicinity Map



Chapter 3. Methods

SVC investigated, assessed, and delineated any potentially-regulated wetlands, waterbodies, and other fish and wildlife habitat on and within 300 feet of the subject property in December of 2022 and April of 2024. All determinations were made using observable vegetation, hydrology, and soils in conjunction with data from the U.S. Geological Survey (USGS) topographic maps, the Natural Resource Conservation Service (NRCS) soil survey, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) and SWIFD mapping tools, Department of Natural Resources (DNR) water typing system, Snohomish County's public geographic information systems (GIS), local precipitation data, and various orthophotographic resources.

Wetland boundaries were determined in accordance with Arlington Municipal Code (AMC) 20.93.810, and as outlined in the U.S. Army Corps of Engineers' (USACE) *Wetlands Delineation Manual* (Environmental Laboratory, 1987) as 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* (USDA, 2018). Qualified wetland scientists marked boundaries of the onsite wetlands with orange surveyor's flagging labeled alpha-numerically and tied to 3-foot lath or vegetation along the wetland boundary. 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 on the subject property (DP-1 to DP-32). Additional tests pits were excavated at regular intervals inside and outside of the wetland boundaries to further confirm the delineations.

SVC classified all wetlands using both the hydrogeomorphic (Brinson, 1993) and Cowardin (Cowardin, 1979; Federal Geographic Data Committee, 2013) classification systems. Following classification and assessment, all wetlands were rated and categorized using the *Washington State Wetlands Rating System for Western Washington- 2014 Updated Version 2.0* (Hruby and Yahnke 2023) and the guidelines and definitions established under AMC 20.93.800.

Ordinary high water (OHW) mark determinations were made using Washington State Department of Ecology's (WSDOE's) methodology, as detailed in *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al., 2016), and the definitions established in the Revised Code of Washington (RCW) 90.58.030(2)(b) and Washington Administrative Code (WAC) 173-22-030(11). To mark the centerline or banks of potentially-regulated streams and shorelines, blue surveyor's flagging was alpha-numerically labeled and tied to vegetation. Offsite waters were observed and OHW boundaries estimated based on topography and aerial imagery. Streams and surface water features were classified using the DNR water typing system as outlined in WAC 222-16-030 and the guidelines established in AMC 20.93.700.

The fish and wildlife habitat assessment was conducted during the same site visits by qualified fish and wildlife biologists. The experienced biologists made visual observations using stationary and walking survey methods for both aquatic and upland habitats noting any special habitat features or signs of fish and wildlife activity (e.g. nesting, foraging, and migration/movement). Special attention was given to assessing the presence of wildlife habitat areas outlined under AMC 20.93.400.

Chapter 4. Background

4.1 Landscape Setting

The subject property is located within a rural residential setting within the City of Arlington and is partially developed with four single-family residences, associated infrastructure, gravel driveways, and garages. Much of the site consists of open fields, lawn, and small pockets of deciduous trees and shrubs, with a larger forested area located on the southeast area of the subject property. The subject property abuts 172nd Street Northeast to the north, a single-family residence and undeveloped land to the east, undeveloped forested land and chicken farm facilities to the south, and single-family residences on large lots to the west. Topography on the site generally slopes from southeast to northwest with elevations ranging from approximately 408 feet above mean sea level (amsl) to 360 feet amsl (Appendix B1). The subject property is within the Snohomish River Watershed (Water Resources Inventory Area 7).

Figure 2. Aerial Image of the Subject Area

4.2 Soils

The NRCS soil survey identifies one soil series on the site: Tokul gravelly medial loam, 0 to 8 percent slopes. A NRCS soil survey map is provided in Appendix B2. A description of the soil profile is below.

Tokul gravelly medial loam, 0 to 8 percent slopes (72)

According to the NRCS survey, Tokul gravelly medial loam, 0 to 8 percent slopes is a moderately well drained soil formed in glacial till and volcanic ash. In a typical profile, the surface layer is approximately 4 inches thick and is a dark brown gravelly loam. From 4 to 22 inches the subsoil is a brown, strong brown and dark yellowish-brown gravelly loam. From 22 to 31 inches the soil is light olive brown gravelly fine sandy loam. A hard pan is present at a depth of approximately 31 inches. Water capacity is moderate and permeability is moderate above the hard pan and very slow through it. Tokul gravelly medial loam, 0 to 8 percent slopes is listed as a non-hydric soil (NRCS, N.d.), but as much as 5 percent of areas mapped as Tokul gravelly medial loam, 0 to 8 percent slopes may contain hydric inclusions of McKenna and Norma loams.

4.3 Critical Area Inventories

The DNR Stream Typing map (Appendix B3), WDFW and NWIFC-SWIFD map (Appendix B4), and the Snohomish County Streams and Wetlands Inventory map (Appendix B5) identify a stream running parallel to the subject property from the southeast to the northwest before briefly coming onto the southwestern most portion of the property. The onsite portion of the stream is identified as Type N (non-fish bearing) by DNR Stream Typing and as a Type F (fish bearing) stream by WDFW and NWIFC-SWIFD. The stream is indicated to continue offsite to the northwest and eventually transitions to Type F per DNR Stream Typing and WDFW and NWIFC-SWIFD. The USFWS NWI map (Appendix B6) does not identify any wetlands or streams onsite or within 300 feet of the subject property. The WDFW PHS map (Appendix B7) identifies a linear wetland or stream feature located approximately 210 feet offsite to the east of the subject property. The Snohomish County Stream and Wetland Inventory map identifies an offsite wetland located on parcel 31052600101700 approximately 45 feet offsite to the west of the subject property. No other wetlands or streams are mapped onsite or within 300 feet of the subject property.

4.4 Priority Habitats and Species

The WDFW PHS map identifies the listed occurrence and migration of Dolly Varden/bull trout and the occurrence of coho salmon in Stream Z. The WDFW and NWIFC SWIFD map lists the documented spawning of coho salmon, the presumed presence of Dolly Varden/bull trout; and gradient accessible reaches for chinook salmon, pink salmon, and winter steelhead trout in Stream Z. No other wetlands, streams, or priority habitats or species are documented on or within 300 feet of the subject property.

4.5 Precipitation

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) weather station at Everett Paine Field Airport located in Snohomish County in order to acquire precipitation values during and preceding the field investigations. 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	Last 30 days (Observed/Normal)	Year-to-Date[2] (Observed/Normal)	Percent of Normal (month/year)
12/7/2022	0.04	0.00	0.16	1.65	2.19/5.04	7.20/9.42	43/76
4/2/2024	0.44	0.00	0.53	.85	1.43/3.50	19.07/23.41	40/81

4/3/2024	0.18	0.44	0.70	1.03	1.57/3.49	19.25/23.51	45/82
4/4/2024	Trace	0.18	0.62	1.03	1.57/3.48	19.25/23.61	45/82

Notes:

1. Precipitation level provided in inches. Data obtained from the NOAA (http://w2.weather.gov/climate/xmacis.php?wfo=sew) for Everett Paine Field Airport.
2. Year-to-date precipitation is the total for the water year from October 1st to the 2022 and 2024 onsite dates.

Precipitation levels during the December 2022 site visit were below the statistical normal range (70 to 130 percent of normal) for the prior 30 days (43 percent of normal) and were within the historical normal range for the water year (76 percent of normal). Precipitation levels during the April 2024 site visits were within the statistical normal range for the 2024 water year (81 to 82 percent of normal) and were below normal (40 to 45 percent of normal) for the prior 30 days. This precipitation data suggests that hydrologic conditions may have been drier than usual at the time of the site investigations; however hydrological conditions were still likely representative of normal conditions, as 0.70-inches of precipitation was recorded during the week leading up to the site investigation and 0.44-inches of precipitation was recorded on the first day of the wetland delineation (April 2nd). Such conditions were considered in making professional wetland determinations.

Chapter 5. Results

The site investigations in December of 2022 and April of 2024 identified four potentially-regulated wetlands (Wetlands A - D) and one stream (Stream Z) on the subject property. Additionally, one potentially regulated offsite wetland (Wetland 1) was identified offsite to the west within 300 feet of the subject property. No other potentially-regulated wetlands, waterbodies, fish and wildlife habitat, or priority species were identified on or within 300 feet of the subject property.

5.1 Upland Characterization

Vegetation on the majority of the site is dominated by grasses and forbs including non-native invasive reed canarygrass (*Phalaris arundinacea*), creeping buttercup (*Ranunculus repens*), perennial ryegrass (*Lolium perenne*), common velvetgrass (*Holcus lanatus*), and common dandelion (*Taraxacum officinale*). Forested cover is present on the southeastern portion of the site and includes western red cedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), black cottonwood (*Populus balsamifera*), and red alder (*Alnus rubra*) with an understory of non-native invasive Himalayan blackberry (*Rubus armeniacus*), salmonberry (*Rubus spectabalis*), western sword fern (*Polystichum munitum*), and trailing blackberry (*Rubus ursinus*).

5.2 Wetlands

Four wetlands (Wetland A - D) were identified and delineated on the subject property. One wetland (Wetland 1) was also identified offsite to the west within 300 feet of the subject property. The delineated wetlands contained indicators of wetland hydrology, hydric soils (presumed for offsite wetlands), and a predominance of hydrophytic vegetation according to current wetland delineation methodology. Maps depicting the location and size of the wetlands are presented in Appendix A. Data forms are provided in Appendix C, wetland rating forms are provided in Appendix D, and wetland rating maps are provided in Appendix E. Table 2 below summarizes the wetlands identified during the site investigation.

Table 2. Wetland Summary

Wetland	Predominant Wetland Classification / Rating			Wetland Size Onsite (SF)
	Cowardin[1]	HGM[2]	City of Arlington[3]	
A	PEMB	Slope	IV	22,500
B	PFO/SSBCH	Depressional	III	52,272
C	PEMBC	Depressional	III	30,080
D	PSS/EMBC	Depressional	IV	110
1	PEMAC	Depressional	III	NA - offsite

Notes:
1. Cowardin et al. (1979), Federal Geographic Data Committee (2013), or NWI Class based on vegetation: PFO = Palustrine Forested, PSS = Palustrine Scrub Shrub, PEM = Palustrine Emergent; Modifiers for Water Regime: A = Temporarily Flooded, B = Seasonally Saturated, C = Seasonally Flooded, H = Permanently Flooded.
2. Brinson, M.M. (1993).
3. Current WSDOE rating system (Hruby and Yahnke 2023) AMC 20.93.800.

Wetland A

Wetland A is approximately 22,500 square feet (0.52 acre) in size and is located on the southern portion of the subject property. Hydrology for Wetland A is provided by a seasonally-high water table, direct precipitation and surface runoff from adjacent uplands. Wetland vegetation is dominated by velvet grass, common rush (*Juncus effusus*), birdsfoot trefoil (*Lotus corniculatus*), and non-native invasive reed canarygrass. The buffer surrounding Wetland A consists of fields that are degraded by previous grading and non-native invasive reed canary grass. Hydric soil indicators A11 (Depleted below dark surface) and F3 (Depleted Matrix) were observed. Wetland boundaries were determined by a transition of topography and wetland hydrology. Wetland A is a Palustrine Emergent and Seasonally Saturated wetland (PEMB). Table 3 provides a summary of Wetland A.

Table 3. Wetland A Summary.

WETLAND A		
	**Local Jurisdiction**	City of Arlington
	City of Arlington Rating	IV
	Wetland Size (Onsite)	~ 22,500 SF
	Cowardin Classification	PEMB
	HGM Classification	Slope
	Wetland Data Sheet(s)	DP-7, DP-10, DP-12
	Upland Data Sheet(s)	DP-5, DP-6, DP-8, DP-9, DP-11,
Wetland Functions Summary		
Water Quality (Scores 5 out of 9 points)	• Low site potential to trap sediments and pollutants and remove nitrogen due moderate slopes and lack of uncut vegetation. • Low landscape potential to receive sediment and pollutants due to the lack of surrounding land uses that produce pollutants. • High societal value for water quality functions due to degraded waters within the sub-basin.	
Hydrologic (Scores 4 out of 9 points)	• Low site potential to reduce flooding and erosion due lack of dense uncut plants capable of reducing surface flow velocity. • Low landscape potential to support hydrologic functions due to the lack of excess surface runoff within 150 feet upslope. • Moderate societal value for hydrologic functions due to flooding problems within the sub-basin	
Habitat (Scores 6 out of 9 points)	• Low site potential to provide diverse and complex habitat as the wetland consists of one plant community, one hydroperiod, moderate species richness, no interspersion, and no special habitat features. • High landscape potential to support habitat use due to accessible and undisturbed habitat within 1 kilometer. • Moderate societal value for habitat functions due one to nearby WDFW Priority Habitat.	

Wetland B

Wetland B is approximately 52,272 square feet (1.2 acres) in size and is located in the southeast portion of the property within the forested area. The wetland is estimated to extend offsite to the south and west. Hydrology for Wetland B is provided by a seasonally-high water table, direct precipitation and surface runoff from adjacent uplands. Wetland vegetation is dominated by western red cedar and red alder with an understory of salmonberry (*Rubus spectabilis)*, skunk cabbage (*Lysticium americanum),* youth

on age (*Tolmiea menziesii*), water parsley (*Oenanthe sarmentosa*), creeping buttercup, water horsetail (*Equisetum fluviatile*), and slough sedge (*Carex obnupta*). Hydric soil indicators A11 (Depleted below dark surface) and F3 (Depleted Matrix) were observed. Wetland boundaries were determined by a transition to wetland hydrology and hydrophytic vegetation. Wetland B is a Palustrine Forested, Scrub-Shrub, Seasonally Saturated, Seasonally Flooded, and Permanently Flooded wetland (PFO/SSBCH). Table 4 provides a summary of Wetland B.

Table 4. Wetland B Summary.

WETLAND B		
	**Local Jurisdiction**	City of Arlington
	City of Arlington Rating	III
	Wetland Size (Onsite)	1.2 acres
	Cowardin Classification	PFO/SSBCH
	HGM Classification	Depressional
	Wetland Data Sheet(s)	DP-18
	Upland Data Sheet(s)	DP-17
Wetland Functions Summary		
Water Quality (Scores 6 out of 9 points)	• Moderate site potential to trap sediments and pollutants and remove nitrogen due to an unconstricted, permanently flowing outlet, greater than 95% cover of persistent, ungrazed vegetation and seasonal ponding of greater than 50% of the wetland area. • Low landscape potential to receive sediment and pollutants due to the wetland receiving stormwater inputs and the lack of surrounding land uses that produce pollutants. • High societal value for water quality functions due to degraded waters within the sub-basin.	
Hydrologic (Scores 5 out of 9 points)	• Moderate site potential to reduce flooding and erosion due to the limited storage depth during wet periods and the moderate size compared to the upstream basin. • Low landscape potential to provide flood protection due to the minimal pollutant discharges in the contributing basin. • Moderate societal value for hydrologic functions due to flooding problems within the sub-basin.	
Habitat (Scores 7 out of 9 points)	• Moderate site potential to provide diverse and complex habitat as the wetland consists of two plant communities, three hydroperiods, high species richness, moderate interspersion, and three special habitat features. • High landscape potential to support habitat use due to accessible and undisturbed habitat within 1 kilometer. • Moderate societal value for habitat functions due to one nearby WDFW Priority Habitat.	

Wetland C

Wetland C is approximately 30,080 square feet (0.69 acre) in size and is located on the southwest edge of the site. Hydrology for Wetland C is provided by a seasonally-high water table, direct precipitation, surface runoff from adjacent uplands, and flow from a ditch that runs south to north through the wetland. Wetland vegetation is dominated by common rush, and non-native invasive reed canarygrass. The buffer surrounding Wetland C consists of fields that are degraded by non-native invasive reed canarygrass and Kentucky bluegrass (*Poa pratensis*). Hydric soil indicators A11 (Depleted below dark surface) and F3 (Depleted Matrix) were observed. Wetland C is a Palustrine Emergent, Seasonally Saturated, and Seasonally Flooded wetland (PEMBC). Table 5 provides a summary of Wetland C.

Table 5. Wetland C Summary.

WETLAND C		
	**Local Jurisdiction**	City of Arlington
	City of Arlington Rating	III
	Wetland Size (Onsite)	~30,080 SF
	Cowardin Classification	PEMBC
	HGM Classification	Depressional
	Wetland Data Sheet(s)	DP-20
	Upland Data Sheet(s)	DP-21, DP-24
Wetland Functions Summary		
Water Quality (Scores 6 out of 9 points)	• Low site potential to trap sediments and pollutants and remove nitrogen due to the lack of persistent, ungrazed vegetation and moderate seasonal ponding. • Moderate landscape potential to receive sediment and pollutants due septic systems within 250 feet. • High societal value for water quality functions due to degraded waters within the sub-basin.	
Hydrologic (Scores 4 out of 9 points)	• Low site potential to reduce flooding and erosion due to the limited storage depth during wet periods and the basin is over 100 times the size of the wetland. • Low landscape potential to provide flood protection due to the less intensive land uses within the contributing basin. • Moderate societal value for hydrologic functions due to flooding problems within the sub-basin.	
Habitat (Scores 6 out of 9 points)	• Low site potential to provide diverse and complex habitat as the wetland consists of one plant community, two hydroperiods, moderate species richness, no interspersion, and no special habitat features. • High landscape potential to support habitat use due to accessible and undisturbed habitat and within 1 kilometer. • Moderate societal value for habitat functions due to one nearby WDFW Priority Habitat.	

Wetland D

Wetland D is approximately 110 square feet in size and is located in the central eastern area of the property. Hydrology for Wetland D is provided by a seasonally-high water table, direct precipitation, and surface runoff from adjacent uplands. Wetland vegetation is dominated by salmonberry, non-native invasive Himalayan blackberry, and non-native invasive reed canarygrass. The onsite buffer surrounding Wetland D consists of red alder with an understory of osoberry (*Oemleria cerasiformis*), false

lily-of-the-valley (*Maianthemum dilatatum*), and non-native invasive reed canarygrass and is partially degraded due to surrounding seasonally mowed fields and constructed paths. Hydric soil indicator A11 (Depleted Below Dark Surface) was observed. The wetland boundary was determined by a transition to wetland hydrology and hydric soils. Wetland D is a Scrub-Shrub, Emergent, Seasonally Saturated, and Seasonally Flooded wetland (PSS/EMBC). Table 6 provides a summary of Wetland D.

Table 6. Wetland D Summary.

WETLAND D		
	**Local Jurisdiction**	City of Arlington
	City of Arlington Rating	IV
	Wetland Size (Onsite)	110 SF
	Cowardin Classification	PSS/EMBC
	HGM Classification	Depressional
	Wetland Data Sheet(s)	DP-30
	Upland Data Sheet(s)	DP-31
Wetland Functions Summary		
Water Quality (Scores 6 out of 9 points)	• Moderate site potential to trap sediments and pollutants and remove nitrogen due to a permanently flowing outlet, greater than 95% cover of persistent, ungrazed vegetation, and a moderate area of seasonal ponding. • Low landscape potential to receive sediment and pollutants due to the lack of surrounding land uses that produce pollutants. • High societal value for water quality functions due to degraded waters within the sub-basin.	
Hydrologic (Scores 4 out of 9 points)	• Low site potential to reduce flooding and erosion due to the limited storage depth during wet periods and the small size of the wetland compared to the contributing basin. • Low landscape potential to provide flood protection due to the lack of intensive land uses within the contributing basin. • Moderate societal value for hydrologic functions due to flooding problems within the sub-basin.	
Habitat (Scores 5 out of 9 points)	• Low site potential to provide diverse and complex habitat as the wetland consists of two plant communities, two hydroperiods, moderate species richness, no interspersion, and no special habitat features. • High landscape potential to support habitat use due to the accessible and undisturbed habitat and lack of high intensity land uses within 1 kilometer. • Low societal value for habitat functions due to lack of nearby WDFW Priority Habitats	

Wetland 1

Wetland 1 is located approximately 80 feet offsite to the west of the subject property and is associated with Stream Z. Hydrology for Wetland 1 is provided primarily by a seasonally high groundwater table, direct precipitation, surface sheet flow from surrounding uplands, and overbank flooding from Stream Z. Due to its offsite location, no formal data was collected in Wetland 1 and hydric soils and wetland hydrology are presumed. The wetland boundary was estimated based on visual observations during the site investigations, aerial imagery, and LiDAR imagery. Wetland 1 is a Palustrine Emergent, Occasionally Flooded, and Seasonally Flooded wetland (PEMAC). As it is located offsite, no summary table is provided.

5.3 Streams

Edgecomb Creek (Stream Z)

Edgecomb Creek (flagged as Stream Z) originates offsite to the southwest of the subject property and the onsite potion is located on the northwestern edge of the property before continuing offsite to the northwest via a culvert beneath 79th Avenue Northeast. Stream Z flows from south to northwest. Stream Z appears to be artificially channelized through the subject property, and the onsite portion was flowing throughout the onsite reach during the April 2024 site investigations. The channel width varies from approximately 3 to 7 feet throughout the site with an average width of approximately 5 feet. Stream Z originates approximately 160 feet southwest of the subject property. The creek exits the subject property via a 2-foot culvert and continues to flow northwest from the subject property then southwest before meandering to the southeast. Edgecomb creek eventually outlets into Middle Fork Quilceda Creek approximately 2.25 miles to the southwest of the subject property. Middle Fork Quilceda Creek then outlets into the mainstem of Quilceda Creek, which outlets directly to Puget Sound. The onsite stream buffer area is degraded by seasonally mowed fields.

The actual consistently defined stream channel of Stream Z appears to begin at the downstream end of a culvert system on parcel 31052600102000. During the reconnaissance investigation in December of 2022, SVC staff had access to parcel 31052600102000, as the Applicant was assessing feasibility on parcel 31052600102000. During the reconnaissance investigation SVC staff observed no defined channel to the south of the southern culvert, while a defined channel was observed immediately north of the culvert system on parcel 31052600102000.

DNR Stream Typing and WDFW and NWIFC-SWIFD identify Stream Z originating near the northern culvert described above on parcel 31052600102000. DNR Stream Typing classifies the portions of Edgecomb Creek near or on the subject property as a Type N (non-fish-bearing stream). WDFW and NWIFC-SWIFD identifies the creek as gradient accessible for pink, chinook, and steelhead; the presumed presence of bull trout; and the documented spawning of coho salmon. However, there is a possible undocumented fish passage barrier beneath a large gravel staging area for machinery and access on Snohomish County parcel 31052600100800, as DNR Stream Typing displays a break from a Type F (fish bearing) stream to a Type N stream on parcel 31052600100800. No fish were observed within the stream at the time of the site investigation. Due to the heavily degraded conditions of the stream onsite and offsite to the west and south, with the stream channel being choked full of non-native invasive reed canarygrass, shallow flows, and potential downstream fish passage barrier on parcel 31052600100800, the onsite portion Stream Z is considered a Type N (non-fish-bearing) stream per AMC 20.93.700. A summary of Stream Z is provided in Table 7 below.

Table 7. Edgecomb Creek (Stream Z) Summary.

STREAM INFORMATION SUMMARY		
	**Feature Name**	Stream Z- Edgecomb Creek
	WRIA	7 – Snohomish
	Local Jurisdiction	City of Arlington
	DNR Stream Type	Type N
	Local Stream Rating	Type N
	Documented Fish Use per WDFW and NWIFC-SWIFD	Gradient accessible reaches for steelhead, pink, and chinook. Presumed presence of bull trout. Documented spawning of coho.
Location of Feature	Stream Z crosses through the northwestern portion of the subject property.	
Connectivity (where water flows from/to)	Stream Z originates offsite, approximately 160 feet southwest of the subject property. The creek's origin point is a culvert which is fed by a drainage ditch system. The creek exits the subject property via a 2-foot culvert and continues to flow northwest from the subject property then southwest before meandering and joining with Middle Fork Quilceda Creek approximately 2.25 miles south of the subject property.	
Riparian/Buffer Condition	The onsite stream channel is degraded, consisting of a shallow channel that is heavily vegetated with reed canary grass. The onsite buffer is degraded by seasonally mowed fields.	

5.4 Non-Regulated Ditches

A series of manmade, artificially constructed drainage ditches were observed on the southeastern area of the subject property. The ditch systems located within or adjacent to Wetlands A, B, and C flow from north to south and exit the subject property at the southwest corner of the subject property. The ditches continue offsite to the southwest and drain into Stream Z northwest of their exit point. These ditches are approximately 4 to 6 feet wide and feature linear, vertical-cut channels indicative of manmade conditions. The linear nature of the channels, steep vertical banks, and berms built up along the sides of the some of the ditches, indicate that these were likely constructed to manage surface runoff.

A second series of manmade, artificially constructed drainage ditches were observed on the northern area of the subject property. The ditches flow from south to north. The ditches on the northern half of the site are conveyed offsite to the north into a roadside stormwater ditch. The identified ditches are approximately 2 to 4 feet wide and feature linear, vertical-cut channels indicative of manmade conditions, and lack a defined bed or bank. The linear nature of the channels, steep vertical banks, and berms built up along the sides of the some of the ditches, indicate that these were constructed to manage surface runoff.

Per AMC 20.93.100, "*streams do not include irrigation ditches, canals, stormwater runoff devices or other entirely artificial watercourses unless they are used to convey any stream naturally occurring prior to construction*", and "*wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway*". As such, the drainage ditches onsite are not anticipated to be considered streams or wetlands and should not be subject critical area boundaries and buffers.

5.5 Fish and Wildlife Habitat Conservation Areas

Per AMC 20.93.400, fish and wildlife habitat conservation areas consist of the following:

A. Lands containing priority habitats and species, including plant and/or animal species listed on federal or state threatened or endangered species lists;

According to the USFWS IPaC mapping database, North American wolverine (*Gulo gulo luscus*), marbled murrelet (*Brachyramphus marmoratus*), yellow-billed cuckoo (*Coccyzus americanus*), Northwestern pond turtle (*Actinemys marmorata*), and bull trout (*Salvelinus confluentus*) have the potential to occur within 300 feet of the subject property. Additionally, WDFW PHS identifies the occurrence of coho salmon (*Oncorhynchus kisutch*) and bull trout within Edgecomb Creek.

North American wolverines (*Gulo gulo luscus*) 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.). Population estimates vary between 20 to 35 individuals residing in Washington state. Wolverines will travel hundreds of miles when hunting and will consume a wide variety of foods including insects, berries, marmots, ground squirrels, snowshoe hares and other small mammals but they are predominantly scavengers of carrion of large animals. No boreal forests or tundra ecosystems, marine waters, or riparian habitats are present within the vicinity of the subject property; as such North American wolverine are not present onsite 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 one hundred feet. Potential suitable habitat typically consists of tree stands 5 or more acres in size composed of 60% or more conifer cover with minimum 15-inch diameter at breast height (DBH) with nesting platform trees. Nesting platform trees include "platform branches" that are a relatively flat surface at least four inches wide, at least 33 feet high in a coniferous tree, with cover from the live crown of the same tree or an adjacent tree

(WSDOT, 2014). The nearest sightings of marbled murrelet occurred in 2023 approximately 8 miles to the east of the subject property in the vicinity of Twin Lakes (eBird, n.d.). Habitat requirements for this species are potentially present on the southeast forested area of the site; however, due to the surrounding fragmented landscape, adjacent roadways, residential homes, and commercial chicken farm, the habitat conditions onsite and surrounding the subject property are not likely conducive for marbled murrelet nesting and marbled murrelet are likely not 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. 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 of the yellow-billed cuckoo have been confirmed in Washington between the 1950s and 2017; none of these sightings were of breeding birds. Sixteen of these 20 confirmed sightings were east of the Cascades; and the sighted birds were likely vagrants or migrants (Wiles & Kalasz, 2017). The subject property is partially developed and vegetated but is not within a riparian area and is surrounded by residential housing and development, with no documented occurrences of yellow-billed cuckoo in the vicinity. The most recent sighting was recorded approximately 31 miles to the southeast in the vicinity of Sultan in 1979 (eBird, n.d). As the adjacent forested areas are typically smaller than the required habitat blocks and are comprised predominantly of red alder and evergreen trees, no suitable potential habitat is present on or near the site, and yellow-billed cuckoo is not likely present on or within 300 feet of the site.

The Northwestern pond turtle is a medium-size aquatic turtle. In Washington, they are only known to inhabit ponds and lakes, but also rely on adjacent upland habitats with extensive sun exposure such as prairies in the Puget Sound, oak-pine savanna, open forested in the Columbia Gorge, and pasture in order to lay eggs, disperse to new waters, overwinter, and aestivate. Northwestern pond turtles are omnivorous, relying on insects, aquatic vertebrates, and plants as food sources. Historical declines in their numbers may be attributed to hunting or collection as food, alteration or loss of habitat, and introduced predators including bullfrogs and largemouth bass. A small wetland with ponding exists approximately 75 feet offsite to the west; however, the conditions surrounding the ponded area are degraded by mowed lawns and field. As such, Northwestern pond turtle is likely not present on or within 300 feet of the subject property.

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, Straight of Juan de Fuca, and the Pacific Ocean (USFWS, 2015). WDFW and NWIFC-SWIFD indicate the presumed presence of bull trout/Dolly Varden and WDFW PHS indicates the occurrence and migration of bull trout within Stream Z onsite and adjacent to the subject property to the west. However, the portion of the Stream Z onsite is indicated as a Type Ns stream with likely downstream fish barriers, therefore bull trout are not likely present on or within 300 feet of the subject property.

B. *Ponds and their submerged aquatic beds that provide fish or wildlife habitat;*

No ponds have been identified on or within 300 feet of the subject property.

C. *Segments of natural waters and periodically inundated areas of their associated wetlands that are used by salmonids for off-channel habitat;*

Wetlands and streams are discussed in Section 5.2 and 5.3. Regulatory considerations are discussed in Chapter 6.

D. *Lakes, ponds, and streams planted with game fish (defined at RCW 77.09.020), including those planted under the auspices of a federal, state, local, or tribal programs, or which support priority fish species as identified by the department of fish and wildlife;*

No lakes, ponds, or streams planted with game fish are present on or within 300 feet of the subject property.

E. *State natural area preserves and natural resource conservation areas;*

No state natural area preserves of natural resource conservation areas are identified on or within 300 feet of the subject property.

F. *Habitats or species of local importance;*

No habitats or species of local importance were identified on or within 300 feet of the subject property.

Chapter 6. Regulatory Considerations

The site investigations in the spring of 2024 identified four potentially-regulated wetlands (Wetlands A - D) and one stream (Stream Z) on the subject property. The investigation also identified one potentially regulated offsite wetland (Wetland 1). No other potentially-regulated wetlands, waterbodies, fish and wildlife habitat, or priority species were identified on or within 300 feet of the subject property.

6.1 Local Critical Areas Requirements

6.1.1 Wetland Buffers

AMC 20.93.800(a) has adopted the current wetland rating system for western Washington (Hruby, 2014). Category IV wetlands have the lowest levels of functions (scoring fewer than 16 points) and are often heavily disturbed. These are wetlands that functions may be replaced, or in some cases improved. Category III wetlands include wetlands with moderate level of functions (scoring between 16 and 19 points) that have generally been disturbed in some ways and are often less diverse or more isolated in the landscape than Category II wetlands.

Per AMC 20.93.830, wetland buffers are based on wetland category and the level of habitat functions. Wetlands A and D are classified as Category IV wetlands per Arlington Municipal Code (AMC) 20.93.800 and are subject to a standard 40-foot buffer regardless of habitat score per AMC 20.93.830 Table 20.93-4 with the required use of minimization measures outlined in AMC Table 20.93-5. Wetlands B, C, and 1 are classified as Category III wetlands per AMC 20.93.800 with moderate habitat scores of (6 or 7) and are subject to a standard 110-foot buffer per AMC 20.93.830 Table 20.93-4 with the required use of minimization measures outlined in AMC Table 20.93-5. Table 8 presents the standard wetland buffer widths for the identified wetlands.

Table 8. Wetland Buffer Summary

Wetland	Category[1]	Habitat Score	Standard Buffer Width[2]
A	IV	6	40 Feet
B	III	7	110 Feet
C	III	6	110 Feet
D	IV	5	40 Feet
1	III	6	110 Feet

1. Washington State Department of Ecology (WSDOE) wetland rating system (Hruby and Yahnke 2023) per AMC 20.93.800 and AMC 20.93.730
2. Standard buffer width per AMC 20.93.830

The buffer widths above assume the implementation of minimization measures outlined in Table 9 below. A buffer increase is required if the minimization measures are not met per AMC Table 20.93-6.

Table 9. Measures to Minimize Impacts to Wetlands

Disturbance	Examples of Activities and Uses that Cause Disturbances	Required Measures to Minimize Impacts
Lights	•Parking lots •Warehouses •Manufacturing •Residential •Parks	•Direct lights away from critical areas and buffers •Day use only regulations preventing the need for lights •Timer on lights
Noise	•Manufacturing •Residential	•Locate activity that generates noise away from wetlands •Seasonal limitations on hours of operation
Toxic runoff*	•Parking lots •Roads •Manufacturing •Residential areas •Application of agricultural pesticides •Landscaping	•Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered •Establish covenants limiting use of pesticides within 150 ft of critical area or buffer •Apply integrated pest management
Stormwater runoff	•Parking lots •Roads •Manufacturing •Residential areas •Commercial •Landscaping	•Retrofit stormwater detention and treatment for roads and existing adjacent development •Prevent channelized flow from lawns that directly enters the buffer
Change in water regime	•Impermeable surfaces •Lawns •Tilling •Forest and forest duff removal	•Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns •Retain minimum forest and forest duff
Pets and human disturbance	•Residential areas •Parks	•Use privacy fencing; plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion; place wetland and its buffer in a separate tract
Dust	•Construction sites	•Use best management practices to control dust
Disruption of corridors or connections	•Roads •Residential •Commercial •Manufacturing •Landscaping •Stormwater	•Maintain connection to offsite areas that are undisturbed •Restore corridors or connections to offsite habitats by replanting
* These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.		

6.1.2 Stream Buffers

Edgecomb Creek (Stream Z) is considered to be a Type N (non-fish bearing) water according to DNR Stream Typing with a likely downstream fish barrier on parcel 31052600100800. Due to the shallow flows observed within Stream Z during the spring 2024 site investigations, and as the stream channel onsite and adjacent to the site is heavily altered and has extensive vegetation growing within the channel, Stream Z is considered to be a Type Ns (non-fish bearing seasonal) water per AMC 20.93.700 and is subject to a standard 50-foot buffer per AMC 20.93.730 Table 20.93-3.

6.2 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."

Edgecomb Creek connects into Middle Fork Quilceda Creek which connects into the main stem of Quilceda Creek which outlets directly to Puget Sound a WOTUS. As such, Edgecomb Creek (Stream Z) is regulated as a WOTUS under Category (a)(3) above. Wetlands A - D and offsite Wetland 1 all share hydrological connections to the onsite ditches that outlet into Edgecomb Creek offsite to the west; thus Wetlands A - D and Wetland 1 are likely federally regulated wetlands under the CWA, and as such are likely regulated as WOTUS under category (a)(4).

All identified wetlands (Wetlands A – D and 1), and Edgecomb Creek (Stream Z) are regulated as surface waters of the state by the WSDOE under the Revised Code of Washington (RCW) 90.48. If a future project required direct wetland impacts, authorization from USACE would be required, and coordination with WSDOE would also be necessary.

Chapter 7. Closure

The findings and conclusions documented in this report have been prepared for specific application to the Lindsay Annexation project. They have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. Our work was also performed in accordance with the terms and conditions set forth in our proposal. The conclusions and recommendations presented in this report are professional opinions based on an interpretation of information currently available to us and are made within the operation scope, budget, and schedule of this project. No warranty, expressed or implied, is made. In addition, changes in government codes, regulations, or laws may occur. Because of such changes, our observations and conclusions applicable to this project may need to be revised wholly or in part.

The critical area determinations by Soundview Consultants LLC are based on conditions present at the time of the site inspection and considered preliminary until the presence or absence and location of critical areas are validated by the jurisdictional agencies. Validation of the critical area determinations by the regulating agencies provides a certification, usually written, that the critical area boundaries or lack thereof verified are the boundaries that will be regulated by the agencies until a specific date or until the regulations are modified. Only the regulating agencies can provide this certification.

Since critical areas are dynamic communities affected by both natural and human activities, changes in critical area determinations and/or boundaries may be expected; therefore, critical area determinations cannot remain valid for an indefinite period of time. Local agencies typically recognize the validity of critical area determinations for a period of 5 years after completion of a wetland delineation and fish and wildlife habitat assessment report. Development activities on a site 5 years after the completion of this report may require revision of the critical area determinations and/or delineations. In addition, changes in government codes, regulations, or laws may occur. Because of such changes, our observations and conclusions applicable to this site may need to be revised wholly or in part.

Chapter 8. References

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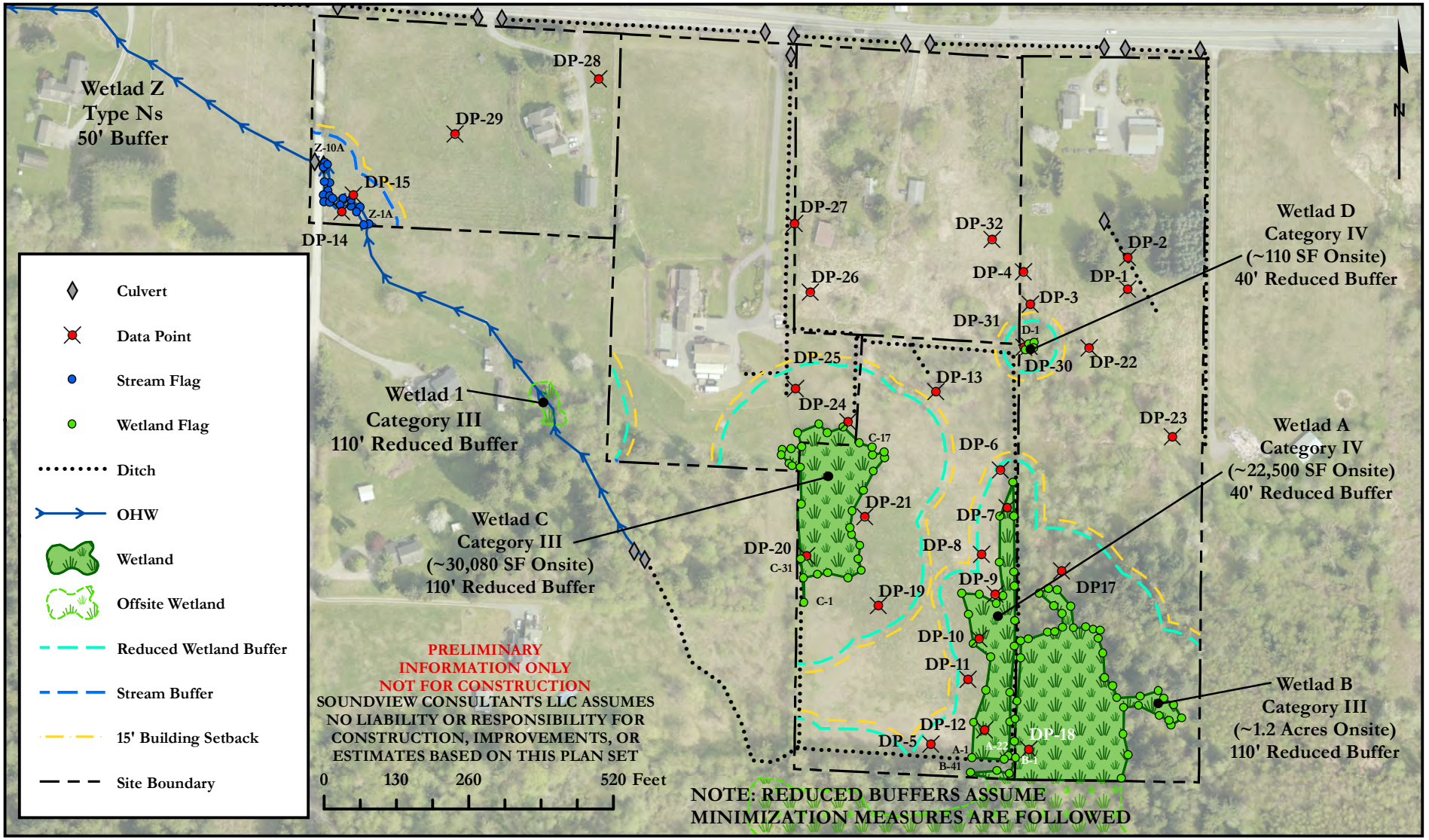
Appendix A — Existing Conditions Map

EXISTING CONDITIONS



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LINDSAY ANNEXATION

8014/8228/8210/8326 172ND STREET NE
ARLINGTON, WA 98223

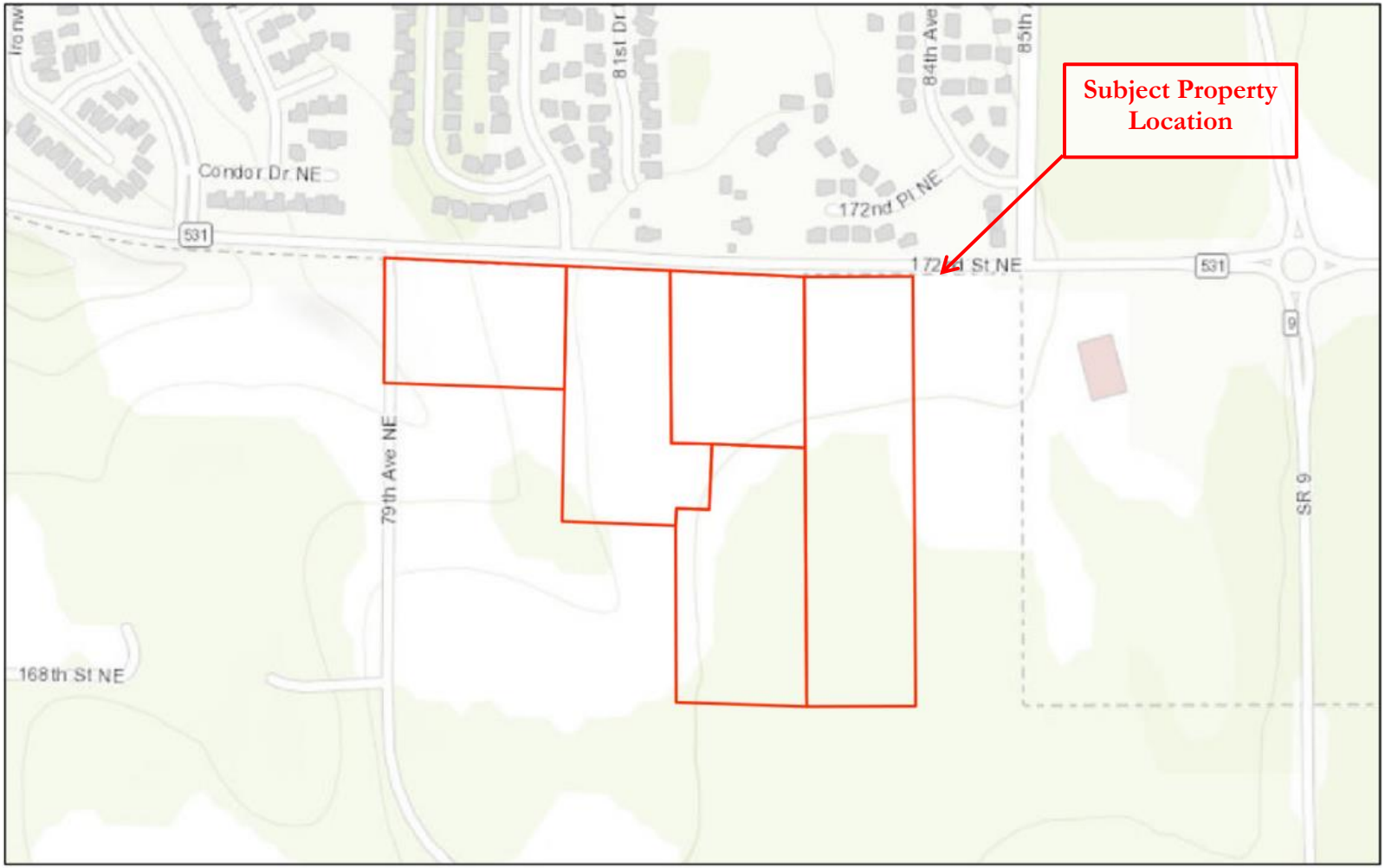
SNOHOMISH COUNTY PARCEL NUMBERS:
31052500200600, 31052600100100,
31052600100200, 31052600102200, & 31052600102300

DATE:	4/11/2024
JOB:	2419.0002
BY:	DDS
SCALE:	1 " = 260 '
FIGURE NO.	1

Appendix B — Subject Area Background Information

This appendix includes a USGS Topographic Map (B1); NRCS soil survey map (B2); DNR Stream Typing map (B3); WDFW and NWIFC-SWIFD (B4); Snohomish County Streams and Wetlands Inventory map(B5); USFWS NWI map (B6); WDFW PHS map (B7).

Appendix B1 – USGS Topographic Map



Appendix B2 – NRCS Soil Survey Map

Appendix B3 – DNR Stream Typing Map

Appendix B4 – WDFW and NWIFC-SWIFD

Appendix B5 – Snohomish County Stream and Wetland Inventory Map

Appendix B6 – USFWS NWI Map

Appendix B7 – WDFW PHS Map

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Coho	N/A	N/A	No
Dolly Varden/ Bull Trout	N/A	N/A	No
Coho	Candidate	N/A	No
Freshwater Forested/Shrub Wetland	N/A	N/A	No

Dolly Varden/ Bull Trout	
Scientific Name	*Salvelinus malma/S. confluentus*
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1221442481498, Fish Name: Bull Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	33123
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

Coho	
Scientific Name	*Oncorhynchus kisutch*
Priority Area	Occurrence
Site Name	Middle Fork Quilceda Creek
Accuracy	NA
Notes	LLID: 1221617481051, Stock Name: Snohomish Coho, Run: Unspecified, Status: Healthy
Source Record	3080
Source Dataset	SASI
Source Name	Not Given
Source Entity	WDFW Fish Program
Federal Status	Candidate
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PFOC
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

Appendix C — Data Forms

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-1

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.150394 Long: -122.11857935 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; only hydrophytic vegetation criteria met. Data collected approximately 5 feet west of a man made ditch likely excavated to draw surface runoff away from residential area to the north.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	15	Yes	FAC
2.			
3.			
4.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Rubus armeniacus	25	Yes	FAC
2.			
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Phalaris arundinacea	80	Yes	FACW
2. Poa pratensis	15	No	FAC
3. Ranunculus repens	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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 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 - 8	10YR 3/2	100	-	-	-	-	SiLo	Silt loam
8 - 10	10YR 3/2	96	5YR 4/6	4	C	M	SiLo	Silt loam
10 - 14+	10YR 3/2	85	5YR 4/6	5	C	M	SiLo	Silt loam
	10YR 3/4	8	5YR 4/6	2	C	M	SiLo	Silt loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 17"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 14"

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology criteria met. Saturation must be at or above 12" in order to meet for indicator A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-2

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear Slope (%): 1%

Subregion (LRR): A2 Lat: 48.150550 Long: -122.11858108 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, only hydrophytic vegetation criteria met. Data collected beside a man made ditch likely intended to draw surface runoff away from residential area; may account for the upland and wetland vegetation observed within the same plot.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	30	Yes	FACU
2. Alnus rubra	10	Yes	FAC
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Rubus armeniacus	15	Yes	FAC
2.			
3.			
4.			
5.			
	15	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Ranunculus repens	45	Yes	FAC
2. Lamium galeobdolon	20	Yes	FAC
3. Poa pratensis	15	No	FAC
4. Scirpus microcarpus	15	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (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 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 - 2	10YR 3/2	100	-	-	-	-	SiLo	Silt loam
2 - 9	10YR 3/3	95	5YR 4/6	5	C	M	SiLo	Silt loam
9 - 11	10YR 3/2	40	5YR 4/6	5	C	M	SiLo	Silt loam. Mixed matrix.
	10YR 3/3	50	5YR 4/6	5	C	M	SiLo	Silt loam. Mixed matrix.
11 - 14+	2.5Y 3/1	90	5YR 4/6	4	C	PL/M	Si	Silt

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 16"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 13"

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology criteria met. Saturation must be at or above 12" in order to meet for indicator A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-3

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.150311 Long: -122.11929330 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; missing hydric soils. Data collected 65 feet north of Wetland D.

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 scouleriana	80	Yes	FAC
2.			
3.			
4.			
5.			
	80 = Total Cover		
Herb Stratum (Plot size: 10 ft)			
1. Phalaris arundinacea	50	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 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 - 9	10YR 2/1	100	-	-	-	-	SiLo	Silt loam
9 -15	5YR 4/4	94	7.5YR 5/8	6	C	M	SiLo	Silt loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 8"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 4"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-4

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.150473 Long: -122.11934723 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, only hydrophytic vegetation criteria met. Data collected approximately 130 feet north of Wetland D.

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 scouleriana	80	Yes	FAC
2.			
3.			
4.			
5.			
	80	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Phalaris arundinacea	45	Yes	FAC
2. Ranunculus repens	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 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 - 6	10YR 3/2	100	-	-	-	-	SiLo	Silt loam
6 - 8	10YR 3/2	98	5YR 4/6	2	C	M	SiLo	Silt loam
8 - 14	10YR 4/4	97	5YR 4/6	3	C	M	SiSaLo	Silty Sandy Loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 16"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 13"

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology criteria met. Saturation must be at or above 12" to meet for indicator A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-5

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Linear Slope (%): 3%

Subregion (LRR): A2 Lat: 48.150473 Long: -122.11934723 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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: **Not all three wetland criteria met, missing wetland hydrology. Data collected approximately 22 feet north of the southernmost ditch and approximately 75 feet west of Wetland A.**

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	40	Yes	FAC
2. Distichlis sp.	30	Yes	FAC
3. Alnus rubra	5	No	FAC
4. Populus balsamifera	5	No	FAC
5. Veronica americana	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 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 - 3	2.5Y 4/3	100	-	-	-	-	SiClLo	Silty clay loam
3 - 7	2.5Y 5/2	60	7.5YR 4/6	5	C	M	SiClLo	Silty clay loam. Mixed matrix.
	5Y 5/1	25	7.5YR 4/6	5	C	M	SiClLo	Silty clay loam. Mixed matrix.
7 - 15	2.5Y 4/2	92	7.5YR 4/6	8	C	M	SiClLo	Silty clay loam

[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: N/A

Depth (inches): --

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:

No hydrology criteria met. No evidence of hydrology to 16 inches.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-6

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Linear Slope (%): 3%

Subregion (LRR): A2 Lat: 48.149495 Long: -122.11949325 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, only hydrophytic vegetation criteria met. Data collected approximately 30 feet north of Wetland A.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Distichlis sp.	50	Yes	FAC
2. Holcus lanatus	20	Yes	FAC
3. Lotus corniculatus	13	No	FAC
4. Taraxacum officinale	7	No	FACU
5. Alnus rubra	5	No	FAC
6. Populus balsamifera	5	No	FAC
7.			
8.			
9.			
10.			
11.			
	100	= 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: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 Dominance test.

SOIL

Sampling Point: DP-6

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	10YR 3/4	100	-	-	-	-	SiLo	Silt loam
4 - 12	10YR 3/3	70					SiLo	Silt loam
	10YR 5/2	10	7.5YR 4/6	3	C	M	SiLo	Silt loam
	10YR 3/2	17		8	C	M	SiLo	Silt loam
12 - 15	2.5Y 4/3	80	7.5YR 4/6	5	C	M	SiLo	Silt loam w/ charcoal and gravel
	10YR 5/2	15					SiLo	Silt loam w/ charcoal and gravel

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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:

No hydrology criteria met. No evidence of hydrology to 15 inches.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-7

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

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

Subregion (LRR): A2 Lat: 48.149308 Long: -122.11943868 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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. Data collected within northern portion of Wetland A.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Holcus lanatus	40	Yes	FAC
2. Distichlis sp.	25	Yes	FAC
3. Lotus corniculatus	15	No	FAC
4. Alnus rubra	5	No	FAC
5. Populus balsamifera	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 Dominance test.

SOIL

Sampling Point: DP-7

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	10YR 2/2	100	-	-	-	-	SiLo	Silt loam
3 - 15	2.5Y 5/2	85	7.5 YR 5/6	15	C	M	SiLo	Silt loam with gravel

[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: N/A

Depth (inches): --

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): 12"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 10"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-8

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Linear Slope (%): 1%

Subregion (LRR): A2 Lat: 48.149076 Long: -122.11962163 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, only hydrophytic vegetation criteria met. Data collected approximately 30 feet west of Wetland A.

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. Rubus armeniacus	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Holcus lanatus	70	Yes	FAC
2. Phalaris arundinacea	15	No	FACW
3. Lotus corniculatus	5	No	FAC
4. Taraxacum officinale	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 Dominance test.

SOIL

Sampling Point: DP-8

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	10YR 2/2	100	-	-	-	-	SiLo	Silt loam
3 - 10	10YR 3/2	90	7.5 YR 4/6	3	C	M	SiLo	Silt loam
	2.5Y 5/2	5	7.5 YR 4/6	3	C	M	SiClLo	Silty clay loam
10-16	10YR 3/2	90	7.5 YR 4/6	5	C	M	SiLo	Silt loam
	2.5Y 5/2	3	7.5 YR 4/6	2	C	M	SiClLo	Silty clay loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 16"

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology criteria met. Saturation must be at or above 12" in order to meet for indicator A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-9

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Linear Slope (%): 1%

Subregion (LRR): A2 Lat: 48.148882 Long: -122.11951702 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, missing wetland hydrology. Data collected approximately 15 feet north and west of Wetland A.

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. Spiraea douglasii	5	Yes	FACW
2. Rubus armeniacus	3	Yes	FAC
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Holcus lanatus	70	Yes	FAC
2. Lotus corniculatus	8	No	FAC
3. Hypochaeris radicata	7	No	FACU
4. Taraxacum officinale	5	No	FACW
5. Distichlis spicata	5	No	FACW
6. Schoenoplectus acutus	5	No	OBL
7.			
8.			
9.			
10.			
11.			
	100	= 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 Dominance test.

SOIL

Sampling Point: DP-9

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	10YR 3/2	100	-	-	-	-	SiLo	Silt loam
3 - 5	7.5R 3/4	97	7.5 YR 4/6	3	C	M/PL	SiLo	Silt loam
5 - 8	10YR 3/1	30					SiLo	Silt loam
	7.5 YR 3/4	10					SiLo	Silt loam
	10YR 4/2	10	Decomposing w	50	N/A	N/A	SiLo	Silt loam
8 - 14	10YR 4/2	85	7.5 YR 4/6	15	C	M/PL	SiLo	Silt loam

[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: N/A

Depth (inches): --

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): 16"

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): 13"

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology criteria met. Saturation must be at or above 12" to meet for indicator A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-10

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Linear Slope (%): 1%

Subregion (LRR): A2 Lat: 48.148660 Long: -122.11962865 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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. Data collected within Wetland A.

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.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 10 ft)			
1. Phalaris arundinacea	60	Yes	FACW
2. Poa pratensis	40	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = 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: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 Dominance test.

SOIL

Sampling Point: DP-10

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	2.5Y 3/1	100	-	-	-	-	SiClLo	Silty clay loam
2 - 5	2.5Y 3/1	97	7.5YR 4/6	3	C	M	SiClLo	Silty clay loam
5 - 13	5Y 4/1	80	7.5YR 5/6	10	C	M	SiClLo	Silty clay loam. Mixed matrix.
	2.5Y 3/1	10	-	-	-	-	SiClLo	Silty 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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator F3 and A11.

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): 14"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 12"

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 A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-11

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Linear Slope (%): 1%

Subregion (LRR): A2 Lat: 48.148460 Long: -122.11970352 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, missing wetland hydrology. Data collected approximately 30 feet west of Wetland A.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	80	Yes	FAC
2. Phalaris arundinacea	10	No	FACW
3. Ranunculus repens	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-11

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	10YR 3/2	100	-	-	-	-	SiLo	Silt loam
2 - 10	10YR 3/2	82	7.5 YR 4/6	3	C	M	SiLo	Silt loam. Mixed matrix.
	2.5Y 5/1	10	7.5 YR 5/8	5	C	M	SiLo	Silt loam. Mixed matrix.
10 - 14+	10YR 4/2	65	7.5 YR 5/8	10	C	M	SiLo	Silt loam. Mixed matrix.
	10YR 3/2	20	7.5 YR 5/8	5	C	M	SiLo	Silt 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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator A11 and 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:

No wetland hydrology criteria met. No hydrology observed to 16 inches.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-12

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Linear Slope (%): 1%

Subregion (LRR): A2 Lat: 48.148209 Long: -122.11957655 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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. Data collected within Wetland A.

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. Populus balsamifera	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Holcus lanatus	30	Yes	FAC
2. Hypochaeris radicata	20	Yes	FACU
3. Juncus effusus	15	No	FACW
4. Lotus corniculatus	15	No	FAC
5. Taraxacum officinale	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (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 Dominance test.

SOIL

Sampling Point: DP-12

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	10YR 3/2	100	-	-	-	-	SiLo	Silt loam
2 - 7	5Y 3/1	100	-	-	-	-	SiLo	Silt loam
7- 14	2.5Y 4/1	90	7.5YR 5/8	10	C	M	SiLo	Silt loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator A11 and 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): 12"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 9"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-13

Investigator(s): Elisabeth Gonzalez / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Depressional Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.149873 Long: -122.11997727 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, missing hydric soils. Data collected at equidistant location between Wetland C and Wetland D, approximately 183 feet northeast and southwest from both.

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. Rubus armeniacus	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Phalaris arundinacea	80	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 Dominance test.

SOIL

Sampling Point: DP-13

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	10YR 3/1	100	-	-	-	-	SiLo	Silt loam
4 - 11	10YR 3/1	25	-	-	-	-	SiLo	Silt loam
	10YR 3/2	70	7.5 YR 4/6	2	C	M	SiLo	Silt loam
11 - 14	2.5Y 5/3	97	7.5 YR 4/6	3	C	M	SiLo	Silt loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 15"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 12"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A3 and B4.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/3/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-15

Investigator(s): William Bethel/ Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 3%

Subregion (LRR): A2 Lat: 48.150712 Long: -122.12437506 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; missing hydric soils. DP-15 is located to the south of Stream Z on the northwest area of the site.

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. Rubus armeniacus	20	Yes	FAC
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	60	Yes	FAC
2. Juncus effusus	20	Yes	FACW
3. Phalaris arundinacea	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10

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 Dominance test.

SOIL

Sampling Point: DP-15

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 - 7	10YR 3/2	100	-	-	-	-	SaLo	Sandy Loam
7 - 14	10YR 3/2	100	-	-	-	-	SaLo	Sandy Loam with Gravel

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 4"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/3/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-16

Investigator(s): William Bethel/ Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 3%

Subregion (LRR): A2 Lat: 48.150795 Long: -122.12428982 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; missing hydric soil. DP-16 is located to the north of Stream Z.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	85	Yes	FAC
2. Lolium arundinaceum	10	No	FAC
3. Juncus effusus	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-16

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	10YR 3/1	100	-	-	-	-	Lo	Loam
3 - 7	2.5Y 4/3	98	10YR 5/1	2	D	M	SaLo	Sandy Loam with Gravel
7 - 11	10YR 2/2	100	-	-	-	-	Lo	Loam
11 - 14+	10YR 2/2	96	10R 3/4	4	C	M	Lo	Loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 4"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/3/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-17

Investigator(s): Kramer Canup / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Linear Slope (%): 1

Subregion (LRR): A2 Lat: 48.149001 Long: -122.11903056 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; missing hydric soil. DP-17 is located to the north of Wetland B.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	40	Yes	FAC
2.			
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Rubus spectabilis	80	Yes	FAC
2.			
3.			
4.			
5.			
	80	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Athyrium cyclosorum	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 95

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 Dominance test.

SOIL

Sampling Point: DP-17

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	7.5YR 3/1	100	-	-	-	-	SiLo	SIlty Loam
3 - 13	10YR 3/3	100	-	-	-	-	Lo	Loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 12"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 9"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-18

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.148120 Long: -122.11924842 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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. Data collected within Wetland B.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Thuja plicata	25	Yes	FAC
2. Alnus rubra	15	Yes	FAC
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Rubus spectabilis	40	Yes	FAC
2.			
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Lysichiton americanus	20	Yes	OBL
2. Tolmiea menziesii	20	Yes	FAC
3. Oenanthe sarmentosa	15	Yes	OBL
4. Ranunculus repens	15	Yes	FAC
5. Equisetum fluviatile	15	Yes	OBL
6. Carex obnupta	15	Yes	OBL
7.			
8.			
9.			
10.			
11.			
	100	= 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: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (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 Dominance test.

SOIL

Sampling Point: DP-18

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 - 8	10YR 2/1	100	-	-	-	-	ClLo	Clay loam
8 - 14+	10YR 4/2	93	7.5YR 4/4	7	C	M	ClGr	Clay with gravel

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicators A11 and 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): 0"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-19

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

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

Subregion (LRR): A2 Lat: 48.148814 Long: -122.12037317 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, missing hydric soil. Data collected between Wetland C and Wetland A.

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.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 10 ft)			
1. Phalaris arundinacea	70	Yes	FACW
2. Poa pratensis	15	No	FAC
3. Ranunculus repens	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-19

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	10YR 3/2	100	-	-	-	-	SiLo	Silt loam
4 - 11	10YR 3/1	100	-	-	-	-	SiLo	Silt loam
11 - 16	10YR 3/1	60	-	-	-	-	SiLo	Silt loam
	10YR 4/2	28	7.5 YR 5/6	2	C	M	SiLo	Silt loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 10"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 9"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Hydrology criteria met through primary indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-20

Investigator(s): Elisabeth Gonzales / Kramer Canup Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.148120 Long: -122.11924842 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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. Data collected within Wetland C.

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.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 10 ft)			
1. Juncus effusus	55	Yes	FACW
2. Veronica americana	15	No	OBL
3. Ranunculus repens	10	No	FAC
4. Lotus corniculatus	10	No	FAC
5. Holcus lanatus	5	No	FAC
6. Taraxacum officinale	5	No	FACU
7.			
8.			
9.			
10.			
11.			
	100 = 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-20

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	10YR 3/1	100	-	-	-	-	SiLo	Silt loam with gravel
4 - 14+	10YR 5/1	70	7.5YR 5/6	30	C	M	SiSaLo	Silty sandy loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicators A11 and 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): 4"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-21

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

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

Subregion (LRR): A2 Lat: 48.149252 Long: -122.12048543 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, missing hydric soil. Data collected between approximately 23 feet east of Wetland C.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Phalaris arundinacea	70	Yes	FACW
2. Poa pratensis	20	Yes	FAC
3. Ranunculus repens	5	No	FAC
4. Taraxacum officinale	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 Dominance test.

SOIL

Sampling Point: DP-21

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 - 16	10YR 3/1	100	-	-	-	-	SiLo	Silt loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 9"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 7"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors State: WA Sampling Point: DP-22

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

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

Subregion (LRR): A2 Lat: 48.150102 Long: -122.11885615 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, missing hydric soil. DP-22 is located on the eastern are of the property.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Ranunculus repens	40	Yes	FAC
2. Poa pratensis	30	Yes	FAC
3. Taraxacum officinale	20	Yes	FACU
4. Juncus effusus	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (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 Dominance test.

SOIL

Sampling Point: DP-22

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 - 8	10YR 3/2	100	-	-	-	-	SaClLo	Sandy clay loam
8 - 16+	10YR 4/6	100	-	-	-	-	Lo	Loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 8"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 5"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-23

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

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

Subregion (LRR): A2 Lat: 48.149671 Long: -122.11822878 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; only hydrophytic vegetation met. DP-23 is located in the eastern central portion of the property.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	80	Yes	FAC
2. Ranunculus repens	10	No	FAC
3. Juncus effusus	5	No	FACW
4. Phalaris arundinacea	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-23

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 - 9	10YR 3/2	100	-	-	-	-	SaClLo	Sandy clay loam
9 - 16+	10YR 4/6	70	Ash	30	N/A	N/A	Lo	Loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 15"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 13"

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology criteria met. Saturation and water table must be at or above 12" in order to meet for indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-24

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Linear Slope (%): 1%

Subregion (LRR): A2 Lat: 48.149719 Long: -122.12062200 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; missing hydric soil. DP-24 is located to the north of Wetland C.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	80	Yes	FAC
2. Trifolium repens	10	No	FAC
3. Lotus corniculatus	5	No	FAC
4. Phalaris arundinacea	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-24

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 - 8	10YR 3/2	100	-	-	-	-	SaLo	Sandy loam w/ gravel
8 - 16	10YR 3/2	96	7.5YR 4/6	3	C	M	GrSaLo	Sandy Loam w/ gravel

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 7"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 4"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-25

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Linear Slope (%): 1%

Subregion (LRR): A2 Lat: 48.149877 Long: -122.12101087 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met, only hydrophytic vegetation criteria met. DP-25 is located northwest of Wetland C, adjacent to an onsite ditch.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	80	Yes	FAC
2. Ranunculus repens	15	No	FAC
3. Taraxacum officinale	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-25

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 - 18	10YR 3/2	100	-	-	-	-	Lo	Loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 13"

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology criteria met. Saturation must be at or above 12" to meet for indicator A3 as well as be accompanied by a water table.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-26

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.150356 Long: -122.12091190 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; only hydrophytic vegetation criteria met. DP-26 is located in the northern portion of the property, east of an onsite ditch.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	60	Yes	FAC
2. Phalaris arundinacea	35	Yes	FACW
3. Taraxacum officinale	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 Dominance test.

SOIL

Sampling Point: DP-26

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 - 9	10YR 3/2	100	-	-	-	-	Lo	Loam
9 - 16+	10 YR 4/3	60	-	-	-	-	SiLo	Silty Loam w/ gravel. Mixed matrix.
	2.5Y 4/2	40	-	-	-	-	SaLo	Sandy loam w/ gravel. 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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 14"

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology criteria met. Saturation must be at or above 12" in order to meet for indicator A3 as well as be accompanied by a water table.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-27

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Top of slope Local relief (concave, convex, none): Convex Slope (%): 2%

Subregion (LRR): A2 Lat: 48.150692 Long: -122.12104042 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; only hydrophytic vegetation criteria met. DP-27 is located to the east of a man made ditch beside a residential driveway.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Phalaris arundinacea	74	Yes	FACW
2. Ranunculus repens	15	No	FAC
3. Taraxacum officinale	5	No	FACU
4. Cardamine oligosperma	5	No	FAC
5. Urtica dioica	1	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	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 Dominance test.

SOIL

Sampling Point: DP-27

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 - 7	10YR 3/2	100	-	-	-	-	Lo	Loam
7 - 16	10 YR 3/2	30	-	-	-	-	Lo	Loam. Mixed matrix.
	10YR 4/3	70	-	-	-	-	Lo	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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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:

No wetland hydrology criteria met.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-28

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.151389 Long: -122.12249813 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; only hydrophytic vegetation criteria met. DP-28 is located on the northwest area of the subject property.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Juncus effusus	80	Yes	FACW
2. Poa pratensis	15	No	FAC
3. Schedonorus arundinaceus	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-28

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 - 8	10YR 3/2	100	-	-	-	-	Lo	Loam
8 - 16	10 YR 3/2	97	2.5YR 3/4	3	C	PL	Lo	Loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met. Layer two must have at least 5% redox concentrations in order to meet for 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:

No wetland hydrology criteria met.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-29

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): A2 Lat: 48.151105 Long: -122.12355035 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not all three wetland criteria met; only hydrophytic vegetation criteria met. DP-29 is located in the northwestern portion of the property within the mowed field.

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	85	Yes	FAC
2. Distichlis spicata	8	No	FACW
3. Trifolium repens	5	No	FAC
4. Cirsium vulgare	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-29

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 - 11	10YR 3/2	100	-	-	-	-	SiLo	Silt Loam
11 - 16	10 YR 3/2	70	-	-	-	-	SiLo	Silt Loam
	10YR 3/3	28	7.5YR 4/6	2	C	M	SiLo	Silt Loam

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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:

No wetland hydrology criteria met.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-30

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.150103 Long: -122.11929476 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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-30 is located within Wetland D.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	50	Yes	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Rubus spectabilis	25	Yes	FAC
2. Rubus armeniacus	20	Yes	FAC
3. Oemleria cerasiformis	5	No	FACU
4.			
5.			
	50	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Phalaris arundinacea	40	Yes	FACW
2. Athyrium cyclosorum	1	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	41	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 59

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 Dominance test.

SOIL

Sampling Point: DP-30

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	10YR 3/1	100	-	-	-	-	SaLo	Sandy Loam
4 - 10	10 YR 3/1	100	-	-	-	-	LoSa	Loamy Sand
10 - 14+	10YR 4/2	93	7.5YR 5/6	7	C	M	LoSa	Loamy Sand

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicators A11 and 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): +1"

Water Table Present? Yes ☒ No ☐ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A1, A2, and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-31

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.150100 Long: -122.11933280 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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:
Not three wetland criteria met; missing hydric soil. DP-31 is located upland to the east of Wetland D.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	65	Yes	FAC
2.			
3.			
4.			
	65	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Oemleria cerasiformis	40	Yes	FACU
2. Rubus armeniacus	35	Yes	FAC
3. Rubus spectabilis	15	No	FAC
4.			
5.			
	90	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Maianthemum dilatatum	15	Yes	FAC
2. Phalaris arundinacea	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 75

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (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 Dominance test.

SOIL

Sampling Point: DP-31

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 - 7	10YR 3/1	100	-	-	-	-	SiLo	Silty Loam
7 - 16+	10 YR 4/2	97	7.5YR 4/3	3	C	M	SiClLo	Silty Clay Loam, Faint Redox

[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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met. Redox in layer two not prominent must be at least 5% to meet depleted matrix requirements.

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): 7"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 4"

Wetland Hydrology Present? Yes ☒ No ☐

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

Redox is not prominent.

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

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

Project/Site: 2419.0002 - Lindsay Annexation City/County: Arlington / Snohomish Sampling Date: 4/2/24

Applicant/Owner: MJS Investors / Rob Risinger State: WA Sampling Point: DP-32

Investigator(s): Elisabeth Gonzalez / William Bethel Section, Township, Range: 26, 31N, 5E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 1%

Subregion (LRR): A2 Lat: 48.150628 Long: -122.11958033 Datum: WGS 84

Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

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: **Not all three wetland criteria met; missing hydric soils. DP-32 is located in the northeastern portion of the property within the mowed field.**

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.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Poa pratensis	77	Yes	FAC
2. Ranunculus repens	10	No	FAC
3. Juncus effusus	10	No	FACW
4. Taraxacum officinale	3	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	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 Dominance test.

SOIL

Sampling Point: DP-32

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 - 7	10YR 3/2	100	-	-	-	-	SiLo	Silty Loam
7 - 15	10 YR 3/2	30	-	-	-	-	SiLo	Silty Loam. Mixed matrix.
	10 YR 4/2	70	-	-	-	-	SiLo	Silty 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: N/A

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

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): 10"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 6"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met through indicators A2 and A3.

Appendix D — Wetland Rating Forms

Wetland name or number 1

RATING SUMMARY – Western Washington

Name of wetland (or ID #): 1 Date of site visit: 4/3/2024

Rated by Kramer Canup Trained by Ecology? ✔ Yes ___No Date of training 06/2022

HGM Class used for rating Depressional Wetland has multiple HGM classes? ___Y ✔ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY III (based on functions ✔ or special characteristics___)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

__X__**Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the appropriate ratings		
Site Potential	M	L	L	
Landscape Potential	M	M	H	
Value	H	M	M	TOTAL
Score Based on Ratings	7	5	6	18

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	N/A

Wetland name or number 1

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number 1

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

☐ The water leaves the wetland **without being impounded**.

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number 1

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number 1

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	1
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	1
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1 Add the points in the boxes above	6

Rating of Site Potential If score is: ___ **12-16 = H** _X_ **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ Yes = 1 No = 0	0
Total for D 2 Add the points in the boxes above	2

Rating of Landscape Potential If score is: ___ **3 or 4 = H** _X_ **1 or 2 = M** ___ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	2
Total for D 3 Add the points in the boxes above	3

Rating of Value If score is: _X_ **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number 1

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	1
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	3
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	0
Total for D 4 Add the points in the boxes above	4

Rating of Site Potential If score is: ___ **12-16 = H** ___ **6-11 = M** X **0-5 = L** *Record the rating on the first page*

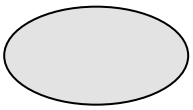
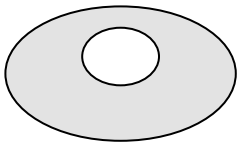
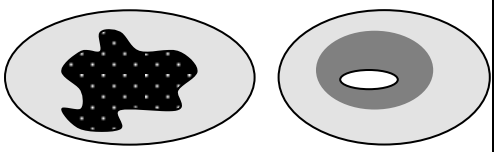
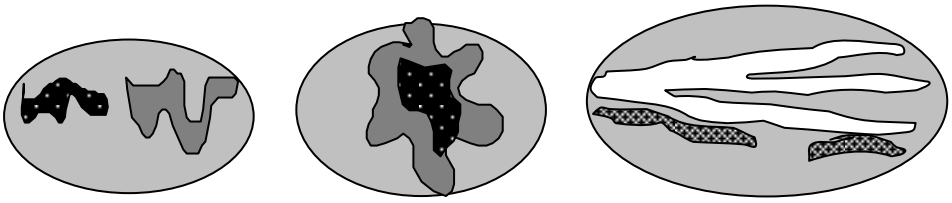
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	0
Total for D 5 Add the points in the boxes above	1

Rating of Landscape Potential If score is: ___ **3 = H** X **1 or 2 = M** ___ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0 _____ There are no problems with flooding downstream of the wetland. points = 0	1
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for D 6 Add the points in the boxes above	1

Rating of Value If score is: ___ **2-4 = H** X **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number 1

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.* ____Aquatic bed — 4 structures or more: points = 4 __x__Emergent — 3 structures: points = 2 ____Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1 ____Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if:* ____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	0
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 ac to count (*see text for descriptions of hydroperiods*). ____Permanently flooded or inundated — 4 or more types present: points = 3 __x__Seasonally flooded or inundated — 3 types present: points = 2 __x__Occasionally flooded or inundated — 2 types present: points = 1 ____Saturated only — 1 type present: points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland __x__Intermittently or seasonally flowing stream in, or adjacent to, the wetland — **2 points** ____**Lake Fringe wetland** — **2 points** ____**Freshwater tidal wetland**	2
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.* ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*** If you counted: > 19 species — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3points 	0

Wetland name or number 1

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ____Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extend at least 3.3 ft (1 m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata and H 1.5 in the manual for the list of aggressive plant species)*	0
Total for H 1 Add the points in the boxes above	3

Rating of Site Potential If score is:___**15-18 = H** ___**7-14 = M** _X_ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* [22.12] % relatively undisturbed habitat + [(% moderate and low intensity land uses) [16.71] /2] = 30.475 % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	2
H 2.2. Total habitat in 1 km Polygon around the wetland. *Calculate:* [40.44] % relatively undisturbed habitat + [(% moderate and low intensity land uses) [33.88] /2] = 57.379999999999 % Total habitat > 50% of Polygon points = 3 Total habitat 0-50% and in 1-3 patches points = 2 Total habitat 10-50% and > 3 patches points = 1 Total habitat < 10% of 1 km Polygon points = 0	3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	5

Rating of Landscape Potential If score is:_X_ **4-6 = H** ___**1-3 = M** ___**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 — It has 3 or more Priority Habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan × Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	1

Rating of Value If score is:___**2 = H** _X_ **1 = M** ___**0 = L** *Record the rating on the first page*

Wetland name or number 1

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). Priority Habitat and Species List.[133] This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife. This habitat automatically counts if mapped on the online map within 100m of the wetland. IIf not mapped, a determination can be made in the field.

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

X **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Do not select if Fresh Deepwater habitat is also present.

— **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in. (81 cm) diameter at breast height (dbh) or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in. (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

NOTES and FIELD OBSERVATIONS:

[133] http://wdfw.wa.gov/publications/00165/wdfw00165.pdf

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, WDFW's Management Recommendations for Oregon White Oak[134] provides more detail for determining if they are Priority Habitats

X **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in. (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in. (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

NOTES and FIELD OBSERVATIONS:

[134] https://wdfw.wa.gov/publications/00030/wdfw00030.pdf

Wetland name or number 1

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are *Spartina*, see chapter 4.8 in the manual. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?[135] ☐ Yes = **Category I** ☒ No - Go to **SC 2.2** SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements ☐ Yes = Submit data to WA Natural Heritage Program for determination,[136] Go to SC 2.3 ☒ No = **Not a WHCV** SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria? ☐ Yes = **Category I** ☒ No = **Not a WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES, you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Category I bog** ☐ No **= Is not a bog**	

[135] https://www.dnr.wa.gov/NHPdata
[136] https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

Wetland name or number 1

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☒ No = **Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*
- The lagoon retains some of its surface water at low tide during spring tides

☐ Yes – Go to SC 5.1 ☒ No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species in H 1.5 in the manual).
- At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- Long Beach Peninsula: Lands west of SR 103
- Grayland-Westport: Lands west of SR 105
- Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. ☐ Yes – Go to **SC 6.1** ☒ No = **Not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**

Category of wetland based on Special Characteristics
If you answered No for all types, enter "Not Applicable" on Summary Form

NOTES and FIELD OBSERVATIONS:

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Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): A Date of site visit: 4/3/2024

Rated by Kramer Canup Trained by Ecology? ✔ Yes ___No Date of training 06/2022

HGM Class used for rating Slope Wetland has multiple HGM classes? ___Y ✔ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY IV (based on functions ✔ or special characteristics___)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

_____**Category III** – Total score = 16 - 19

___X___**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the appropriate ratings		
Site Potential	L	L	L	
Landscape Potential	L	L	H	
Value	H	M	M	**TOTAL**
Score Based on Ratings	5	4	6	15

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	N/A

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☒ The wetland is on a slope (*slope can be very gradual*),

☒ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

☒ The water leaves the wetland **without being impounded**.

☐ NO – go to 5 ☒ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number A

☐ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☐ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number A

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: *(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*) Slope is 1% or less points = 3 Slope is > 1%-2% points = 2 Slope is > 2%-5% points = 1 Slope is greater than 5% points = 0	2
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*: Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.* Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > ½ of area points = 3 Dense, woody, plants > ½ of area points = 2 Dense, uncut, herbaceous plants > ¼ of area points = 1 Does not meet any of the criteria above for plants points = 0	0
Total for S 1 Add the points in the boxes above	2

Rating of Site Potential If score is: ___ **12 = H** ___ **6-11 = M** X **0-5 = L** *Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources _____ Yes = 1 No = 0	0
Total for S 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is: ___ **1-2 = M** X **0 = L** *Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list*. Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? *Answer YES if there is a TMDL for the basin in which unit is found.* Yes = 2 No = 0	2
Total for S 3 Add the points in the boxes above	3

Rating of Value If score is: X **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number A

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.* Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 All other conditions points = 0	0

Rating of Site Potential If score is: ___ **1 = M** X **0 = L** *Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	0

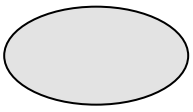
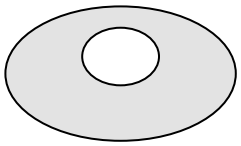
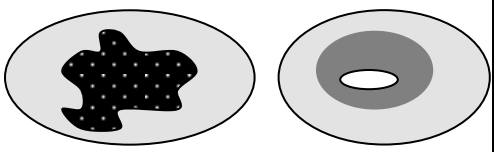
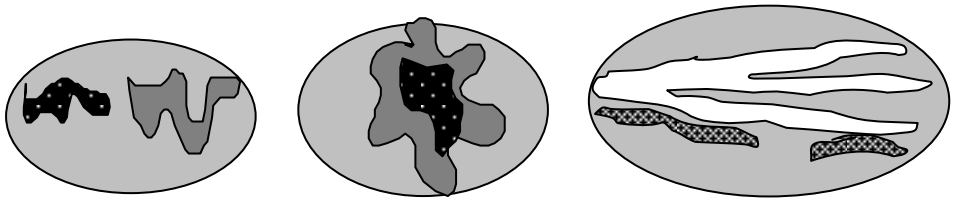
Rating of Landscape Potential If score is: ___ **1 = M** X **0 = L** *Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	1
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for S 6 Add the points in the boxes above	1

Rating of Value If score is: ___ **2-4 = H** X **1 = M** ___ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number A

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.* ____Aquatic bed — 4 structures or more: points = 4 __x__Emergent — 3 structures: points = 2 ____Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1 ____Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if:* ____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	0
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*). ____Permanently flooded or inundated — 4 or more types present: points = 3 ____Seasonally flooded or inundated — 3 types present: points = 2 ____Occasionally flooded or inundated — 2 types present: points = 1 __x__Saturated only — 1 type present: points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland ____Seasonally flowing stream in, or adjacent to, the wetland ____**Lake Fringe wetland** — **2 points** ____**Freshwater tidal wetland** — **2 points**	0
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.* ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*** If you counted: > 19 species — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3points 	0

Wetland name or number A

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ____Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	0
Total for H 1 Add the points in the boxes above	1

Rating of Site Potential If score is:___**15-18 = H** ___**7-14 = M** X **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* [22.12] % undisturbed habitat **+** [(% moderate and low intensity land uses) [16.71] /2] **=** 30.475 % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	2
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* [40.44] % undisturbed habitat **+** [(% moderate and low intensity land uses) [33.88] /2] **=** 57.379999999999 % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	5

Rating of Landscape Potential If score is: X **4-6 = H** ___**1-3 = M** ___**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan × Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	1

Rating of Value If score is:___**2 = H** X **1 = M** ___**0 = L** *Record the rating on the first page*

Wetland name or number A

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

— **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

X **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐Yes –Go to **SC 1.1** ☒No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐Yes = **Category I** ☐No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐Yes = **Category I** ☐No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐Yes **– Go to SC 2.2** ☒No **– Go to SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐Yes **= Category I** ☒No **= Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐Yes **– Contact WNHP/WDNR and go to SC 2.4** ☒No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐Yes **= Category I** ☒No **= Not a WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐Yes – Go to **SC 3.3** ☒No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐Yes – Go to **SC 3.3** ☒No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐Yes = **Is a Category I bog** ☐No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐Yes = **Is a Category I bog** ☐No **= Is not a bog**	

Wetland name or number A

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐Yes **= Category I** ☒No **= Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐Yes – Go to **SC 5.1** ☒No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).
- At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐Yes = **Category I** ☐No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- Long Beach Peninsula: Lands west of SR 103
- Grayland-Westport: Lands west of SR 105
- Ocean Shores-Copalis: Lands west of SR 115 and SR 109

☐Yes – Go to **SC 6.1** ☒No = **not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐Yes = **Category I** ☐No – Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐Yes = **Category II** ☐No – Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐Yes = **Category III** ☐No = **Category IV**

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

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Wetland name or number B

RATING SUMMARY – Western Washington

Name of wetland (or ID #): B Date of site visit: 4/3/2024

Rated by Kramer Canup Trained by Ecology? ✔ Yes ___No Date of training 06/2022

HGM Class used for rating Depressional Wetland has multiple HGM classes? ___Y ✔ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY III (based on functions ✔ or special characteristics___)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

__X__**Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the appropriate ratings		
Site Potential	M	M	M	
Landscape Potential	L	L	H	
Value	H	M	M	**TOTAL**
Score Based on Ratings	6	5	7	18

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	N/A

Wetland name or number B

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number B

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

☐ The water leaves the wetland **without being impounded**.

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number B

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number B

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	1
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1 Add the points in the boxes above	10

Rating of Site Potential If score is: ___ **12-16 = H** X **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ Yes = 1 No = 0	0
Total for D 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is: ___ **3 or 4 = H** ___ **1 or 2 = M** X **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	2
Total for D 3 Add the points in the boxes above	3

Rating of Value If score is: X **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number B

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	1
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	3
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	3
Total for D 4 Add the points in the boxes above	7

Rating of Site Potential If score is: ___ **12-16 = H** _X_ **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

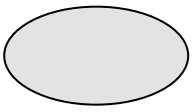
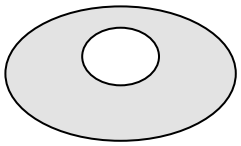
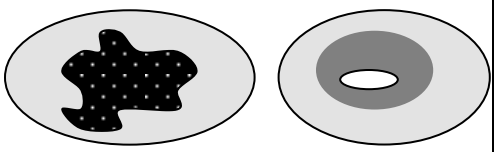
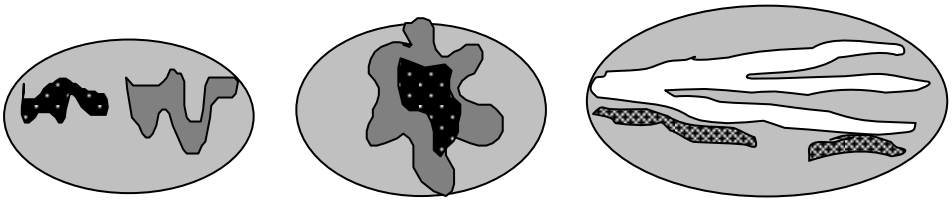
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	0
Total for D 5 Add the points in the boxes above	0

Rating of Landscape Potential If score is: ___ **3 = H** ___ **1 or 2 = M** _X_ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0 _____ There are no problems with flooding downstream of the wetland. points = 0	1
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for D 6 Add the points in the boxes above	1

Rating of Value If score is: ___ **2-4 = H** _X_ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number B

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.* ____Aquatic bed — 4 structures or more: points = 4 ____Emergent — 3 structures: points = 2 __×__Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1 __×__Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if:* __×__The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	2
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 ac to count (*see text for descriptions of hydroperiods*). __×__Permanently flooded or inundated — 4 or more types present: points = 3 __×__Seasonally flooded or inundated — 3 types present: points = 2 ____Occasionally flooded or inundated — 2 types present: points = 1 __×__Saturated only — 1 type present: points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland ____Intermittently or seasonally flowing stream in, or adjacent to, the wetland — **2 points** ____**Lake Fringe wetland** — **2 points** ____**Freshwater tidal wetland**	2
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.* ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*** If you counted: > 19 species — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	2
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3points 	2

Wetland name or number B

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* __×__Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). __×__Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extend at least 3.3 ft (1 m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____× Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata and H 1.5 in the manual for the list of aggressive plant species)*	3
Total for H 1 Add the points in the boxes above	11

Rating of Site Potential If score is:___**15-18 = H** __X__ **7-14 = M** ___**0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* 22.12 % relatively undisturbed habitat + [(% moderate and low intensity land uses) 16.71 /2] = 30.475 % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	2
H 2.2. Total habitat in 1 km Polygon around the wetland. *Calculate:* 40.44 % relatively undisturbed habitat + [(% moderate and low intensity land uses) 33.88 /2] = 57.379999999999 % Total habitat > 50% of Polygon points = 3 Total habitat 0-50% and in 1-3 patches points = 2 Total habitat 10-50% and > 3 patches points = 1 Total habitat < 10% of 1 km Polygon points = 0	3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	5

Rating of Landscape Potential If score is:__X__ **4-6 = H** ___**1-3 = M** ___**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 — It has 3 or more Priority Habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan × Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	1

Rating of Value If score is:___**2 = H** __X__ **1 = M** ___**0 = L** *Record the rating on the first page*

Wetland name or number B

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). Priority Habitat and Species List.[133] This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife. This habitat automatically counts if mapped on the online map within 100m of the wetland. IIf not mapped, a determination can be made in the field.

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Do not select if Fresh Deepwater habitat is also present.

— **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in. (81 cm) diameter at breast height (dbh) or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in. (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

NOTES and FIELD OBSERVATIONS:

[133] http://wdfw.wa.gov/publications/00165/wdfw00165.pdf

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, WDFW's Management Recommendations for Oregon White Oak[134] provides more detail for determining if they are Priority Habitats

— **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

X **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in. (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in. (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

NOTES and FIELD OBSERVATIONS:

[134] https://wdfw.wa.gov/publications/00030/wdfw00030.pdf

Wetland name or number B

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are *Spartina*, see chapter 4.8 in the manual. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?[135] ☐ Yes = **Category I** ☒ No - Go to **SC 2.2** SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements ☐ Yes = Submit data to WA Natural Heritage Program for determination,[136] Go to SC 2.3 ☒ No = **Not a WHCV** SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria? ☐ Yes = **Category I** ☒ No = **Not a WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES, you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Category I bog** ☐ No = **Is not a bog**	

[135] https://www.dnr.wa.gov/NHPdata
[136] https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

Wetland name or number B

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☒ No = **Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*
- The lagoon retains some of its surface water at low tide during spring tides

☐ Yes – Go to SC 5.1 ☒ No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species in H 1.5 in the manual).
- At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- Long Beach Peninsula: Lands west of SR 103
- Grayland-Westport: Lands west of SR 105
- Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. ☐ Yes – Go to **SC 6.1** ☒ No = **Not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**

Category of wetland based on Special Characteristics
If you answered No for all types, enter "Not Applicable" on Summary Form

NOTES and FIELD OBSERVATIONS:

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Wetland name or number C

RATING SUMMARY – Western Washington

Name of wetland (or ID #): C Date of site visit: 4/3/24

Rated by Kramer Canup Trained by Ecology? ✔ Yes ___No Date of training 6/2022

HGM Class used for rating Depressional Wetland has multiple HGM classes? ___Y ✔ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY III (based on functions ✔ or special characteristics___)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

__X__**Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the appropriate ratings		
Site Potential	L	L	L	
Landscape Potential	M	L	H	
Value	H	M	M	TOTAL
Score Based on Ratings	6	4	6	16

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	N/A

Wetland name or number C

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number C

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

☐ The water leaves the wetland **without being impounded**.

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number C

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	1
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	2
Total for D 1 Add the points in the boxes above	5

Rating of Site Potential If score is: ___ **12-16 = H** ___ **6-11 = M** X **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ Yes = 1 No = 0	0
Total for D 2 Add the points in the boxes above	1

Rating of Landscape Potential If score is: ___ **3 or 4 = H** X **1 or 2 = M** ___ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	2
Total for D 3 Add the points in the boxes above	3

Rating of Value If score is: X **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	2
Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet	points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	

D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.*

Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	3
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
The wetland is a "headwater" wetland	points = 3	
Wetland is flat but has small depressions on the surface that trap water	points = 1	
Marks of ponding less than 0.5 ft (6 in)	points = 0	

D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.*

The area of the basin is less than 10 times the area of the unit	points = 5	0
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	

Total for D 4	Add the points in the boxes above	5

Rating of Site Potential If score is: ___ **12-16 = H** ___ **6-11 = M** X **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	Yes = 1 No = 0	0
Total for D 5	Add the points in the boxes above	0

Rating of Landscape Potential If score is: ___ **3 = H** ___ **1 or 2 = M** X **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.*

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- Surface flooding problems are in a sub-basin farther down-gradient. points = 1

Flooding from groundwater is an issue in the sub-basin. points = 1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0

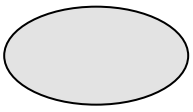
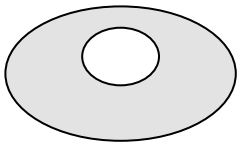
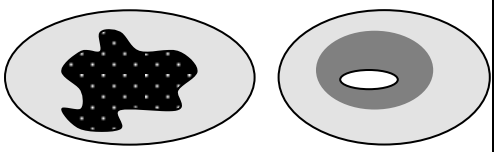
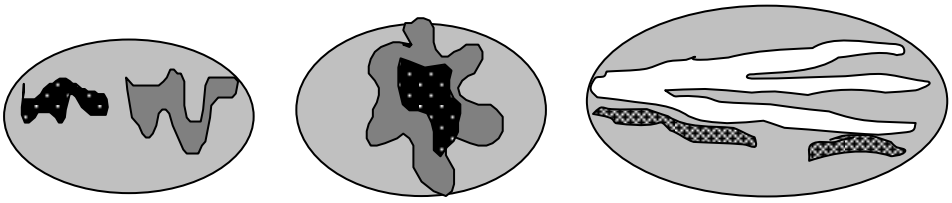
There are no problems with flooding downstream of the wetland. points = 0

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0 — 0

Total for D 6	Add the points in the boxes above	1

Rating of Value If score is: ___ **2-4 = H** X **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number C

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.* ____Aquatic bed — 4 structures or more: points = 4 __x__Emergent — 3 structures: points = 2 ____Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1 ____Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if:* ____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	0
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 ac to count (*see text for descriptions of hydroperiods*). ____Permanently flooded or inundated — 4 or more types present: points = 3 __x__Seasonally flooded or inundated — 3 types present: points = 2 ____Occasionally flooded or inundated — 2 types present: points = 1 __x__Saturated only — 1 type present: points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland ____Intermittently or seasonally flowing stream in, or adjacent to, the wetland — **2 points** ____**Lake Fringe wetland** — **2 points** ____**Freshwater tidal wetland**	1
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.* ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*** If you counted: > 19 species — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3points 	0

Wetland name or number C

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ____Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extend at least 3.3 ft (1 m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata and H 1.5 in the manual for the list of aggressive plant species)*	0
Total for H 1 Add the points in the boxes above	2

Rating of Site Potential If score is:___**15-18 = H** ___**7-14 = M** _X_ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* [22.12] % relatively undisturbed habitat + [(% moderate and low intensity land uses) [16.71] /2] = 30.475 % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	2
H 2.2. Total habitat in 1 km Polygon around the wetland. *Calculate:* [40.44] % relatively undisturbed habitat + [(% moderate and low intensity land uses) [33.88] /2] = 57.379999999999 % Total habitat > 50% of Polygon points = 3 Total habitat 0-50% and in 1-3 patches points = 2 Total habitat 10-50% and > 3 patches points = 1 Total habitat < 10% of 1 km Polygon points = 0	3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	5

Rating of Landscape Potential If score is:_X_ **4-6 = H** ___**1-3 = M** ___**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 — It has 3 or more Priority Habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan × Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	1

Rating of Value If score is:___**2 = H** _X_ **1 = M** ___**0 = L** *Record the rating on the first page*

Wetland name or number C

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). Priority Habitat and Species List.[133] This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife. This habitat automatically counts if mapped on the online map within 100m of the wetland. IIf not mapped, a determination can be made in the field.

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

X **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Do not select if Fresh Deepwater habitat is also present.

— **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in. (81 cm) diameter at breast height (dbh) or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in. (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

NOTES and FIELD OBSERVATIONS:

[133] http://wdfw.wa.gov/publications/00165/wdfw00165.pdf

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, WDFW's Management Recommendations for Oregon White Oak[134] provides more detail for determining if they are Priority Habitats

X **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in. (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in. (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

NOTES and FIELD OBSERVATIONS:

[134] https://wdfw.wa.gov/publications/00030/wdfw00030.pdf

Wetland name or number C

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are *Spartina*, see chapter 4.8 in the manual. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?[135] ☐ Yes = **Category I** ☒ No - Go to **SC 2.2** SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements ☐ Yes = Submit data to WA Natural Heritage Program for determination,[136] Go to SC 2.3 ☒ No = **Not a WHCV** SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria? ☐ Yes = **Category I** ☒ No = **Not a WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES, you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Category I bog** ☐ No = **Is not a bog**	

[135] https://www.dnr.wa.gov/NHPdata
[136] https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

Wetland name or number C

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☒ No = **Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*
- The lagoon retains some of its surface water at low tide during spring tides

☐ Yes – Go to SC 5.1 ☒ No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species in H 1.5 in the manual).
- At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- Long Beach Peninsula: Lands west of SR 103
- Grayland-Westport: Lands west of SR 105
- Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. ☐ Yes – Go to **SC 6.1** ☒ No = **Not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**

Category of wetland based on Special Characteristics
If you answered No for all types, enter "Not Applicable" on Summary Form

NOTES and FIELD OBSERVATIONS:

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Wetland name or number D

RATING SUMMARY – Western Washington

Name of wetland (or ID #): D Date of site visit: 4/4/24

Rated by Kramer Canup Trained by Ecology? ✔ Yes ___No Date of training 06/2022

HGM Class used for rating Depressional Wetland has multiple HGM classes? ___Y ✔ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY IV (based on functions ✔ or special characteristics___)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

_____**Category III** – Total score = 16 - 19

__X__**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the appropriate ratings		
Site Potential	M	L	L	
Landscape Potential	L	L	H	
Value	H	M	L	**TOTAL**
Score Based on Ratings	6	4	5	15

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	N/A

Wetland name or number D

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number D

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

☐ The water leaves the wetland **without being impounded**.

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number D

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number D

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1 Add the points in the boxes above	11

Rating of Site Potential If score is: ___ **12-16 = H** X **6-11 = M** ___ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ Yes = 1 No = 0	0
Total for D 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is: ___ **3 or 4 = H** ___ **1 or 2 = M** X **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	2
Total for D 3 Add the points in the boxes above	3

Rating of Value If score is: X **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number D

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	2
Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet	points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	

D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.*

Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	0
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
The wetland is a "headwater" wetland	points = 3	
Wetland is flat but has small depressions on the surface that trap water	points = 1	
Marks of ponding less than 0.5 ft (6 in)	points = 0	

D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.*

The area of the basin is less than 10 times the area of the unit	points = 5	0
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	

Total for D 4	Add the points in the boxes above	2

Rating of Site Potential If score is: ___ **12-16 = H** ___ **6-11 = M** X **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	Yes = 1 No = 0	0
Total for D 5	Add the points in the boxes above	0

Rating of Landscape Potential If score is: ___ **3 = H** ___ **1 or 2 = M** X **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.*

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- Surface flooding problems are in a sub-basin farther down-gradient. points = 1

Flooding from groundwater is an issue in the sub-basin. points = 1

The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0

_____

There are no problems with flooding downstream of the wetland. points = 0

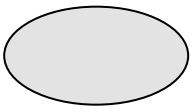
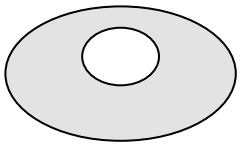
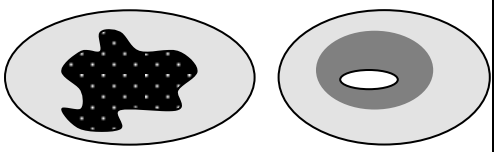
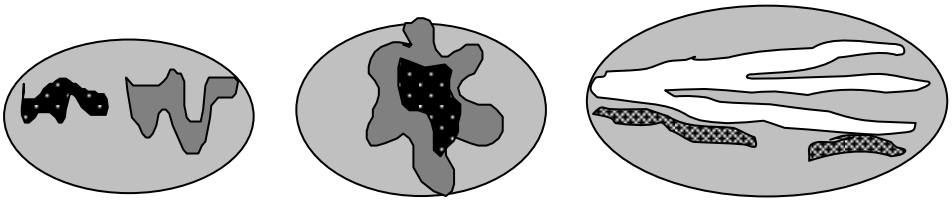
1

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0 — 0

Total for D 6	Add the points in the boxes above	1

Rating of Value If score is: ___ **2-4 = H** X **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number D

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.* ____Aquatic bed — 4 structures or more: points = 4 __x__Emergent — 3 structures: points = 2 __x__Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1 ____Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if:* ____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	1
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 ac to count (*see text for descriptions of hydroperiods*). ____Permanently flooded or inundated — 4 or more types present: points = 3 __x__Seasonally flooded or inundated — 3 types present: points = 2 ____Occasionally flooded or inundated — 2 types present: points = 1 __x__Saturated only — 1 type present: points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland ____Intermittently or seasonally flowing stream in, or adjacent to, the wetland — **2 points** ____**Lake Fringe wetland** — **2 points** ____**Freshwater tidal wetland**	1
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.* ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*** If you counted: > 19 species — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3points 	0

Wetland name or number D

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ____Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extend at least 3.3 ft (1 m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata and H 1.5 in the manual for the list of aggressive plant species)*	0
Total for H 1 Add the points in the boxes above	3

Rating of Site Potential If score is:___**15-18 = H** ___**7-14 = M** _X_ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* [22.12] % relatively undisturbed habitat + [(% moderate and low intensity land uses) [16.71] /2] = 30.475 % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	2
H 2.2. Total habitat in 1 km Polygon around the wetland. *Calculate:* [40.44] % relatively undisturbed habitat + [(% moderate and low intensity land uses) [33.88] /2] = 57.379999999999 % Total habitat > 50% of Polygon points = 3 Total habitat 0-50% and in 1-3 patches points = 2 Total habitat 10-50% and > 3 patches points = 1 Total habitat < 10% of 1 km Polygon points = 0	3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	5

Rating of Landscape Potential If score is:_X_ **4-6 = H** ___**1-3 = M** ___**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 — It has 3 or more Priority Habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	0

Rating of Value If score is:___**2 = H** ___**1 = M** _X_ **0 = L** *Record the rating on the first page*

Wetland name or number D

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). Priority Habitat and Species List.[133] This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife. This habitat automatically counts if mapped on the online map within 100m of the wetland. IIf not mapped, a determination can be made in the field.

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Do not select if Fresh Deepwater habitat is also present.

— **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in. (81 cm) diameter at breast height (dbh) or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in. (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

NOTES and FIELD OBSERVATIONS:

[133] http://wdfw.wa.gov/publications/00165/wdfw00165.pdf

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, WDFW's Management Recommendations for Oregon White Oak[134] provides more detail for determining if they are Priority Habitats

— **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in. (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in. (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

NOTES and FIELD OBSERVATIONS:

[134] https://wdfw.wa.gov/publications/00030/wdfw00030.pdf

Wetland name or number D

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are *Spartina*, see chapter 4.8 in the manual. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?[135] ☐ Yes = **Category I** ☒ No - Go to **SC 2.2** SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements ☐ Yes = Submit data to WA Natural Heritage Program for determination,[136] Go to SC 2.3 ☒ No = **Not a WHCV** SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria? ☐ Yes = **Category I** ☒ No = **Not a WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES, you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Category I bog** ☐ No **= Is not a bog**	

[135] https://www.dnr.wa.gov/NHPdata
[136] https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

Wetland name or number D

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☒ No = **Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*
- The lagoon retains some of its surface water at low tide during spring tides

☐ Yes – Go to SC 5.1 ☒ No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species in H 1.5 in the manual).
- At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- Long Beach Peninsula: Lands west of SR 103
- Grayland-Westport: Lands west of SR 105
- Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. ☐ Yes – Go to **SC 6.1** ☒ No = **Not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**

Category of wetland based on Special Characteristics
If you answered No for all types, enter "Not Applicable" on Summary Form

NOTES and FIELD OBSERVATIONS:

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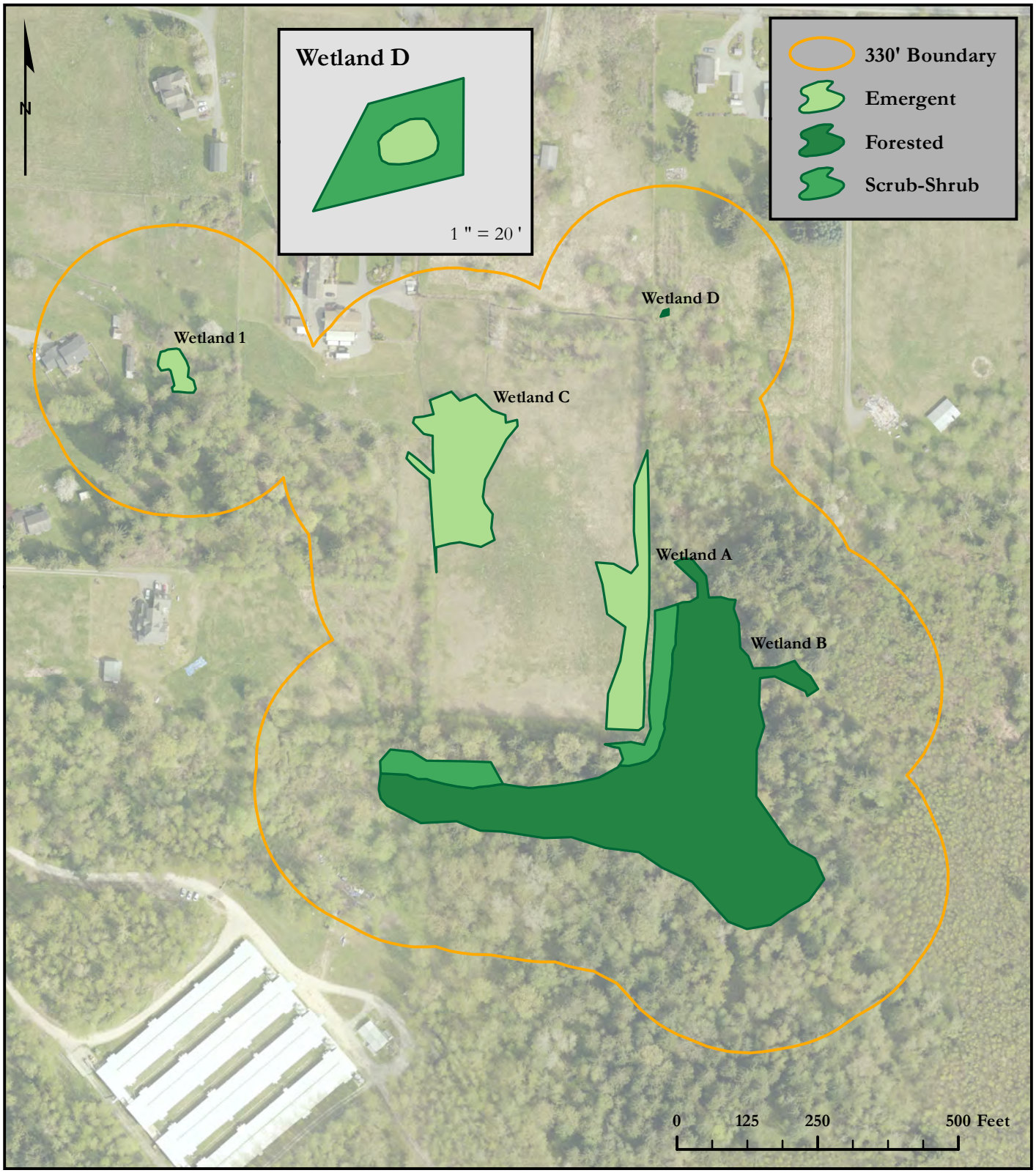
Appendix E — Wetland Rating Maps

COWARDIN MAP



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www.soundviewconsultants.com

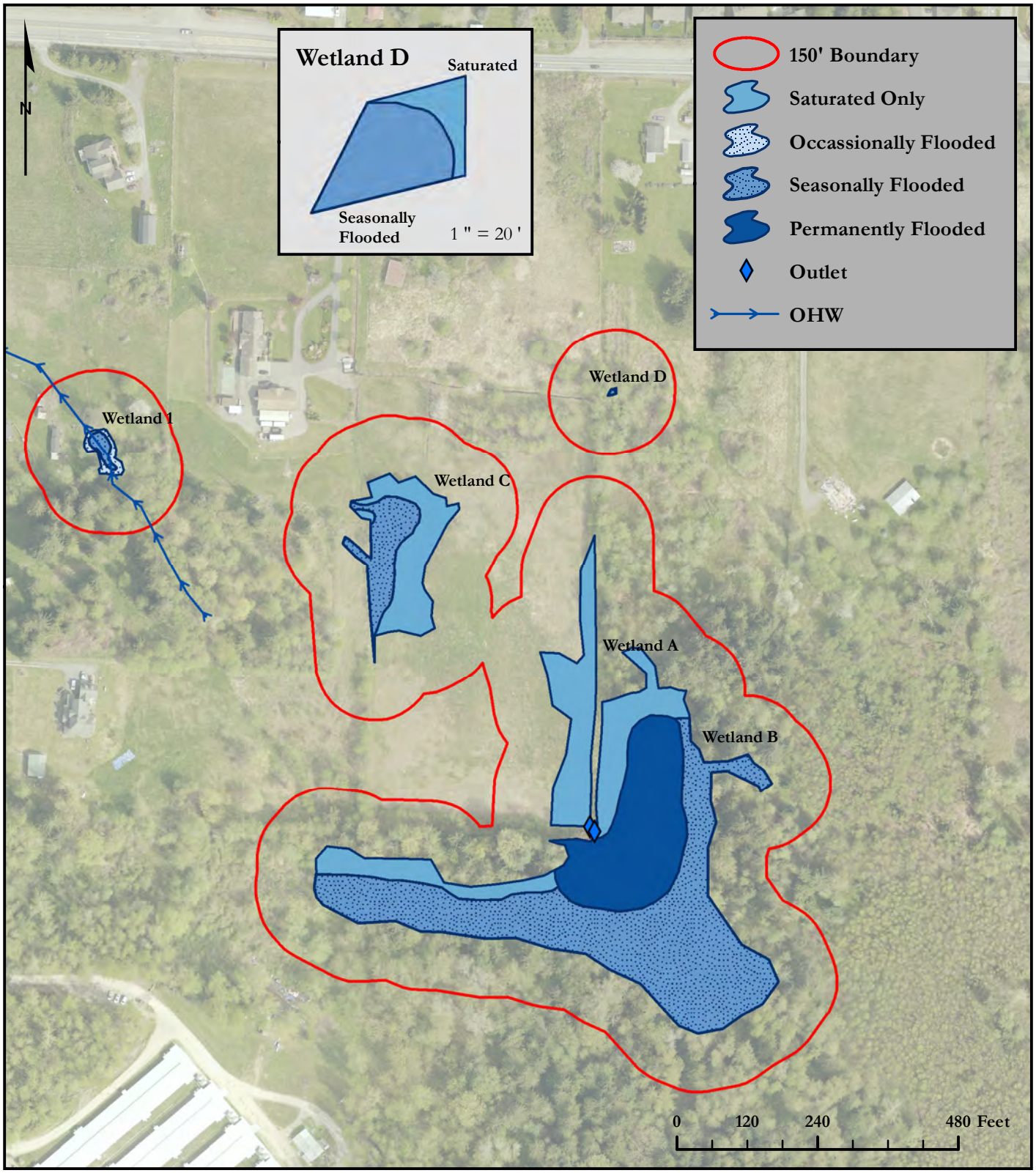
LINDSAY ANNEXATION

8014/8228/8210/8326 172ND STREET NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBERS:
31052500200600, 31052600100100,
31052600100200, 31052600102200, & 31052600102300

DATE:	4/11/2024
JOB:	2419.0002
BY:	DDS
SCALE:	1 " = 250 '
FIGURE NO.	1 of 7

HYDROPERIOD MAP



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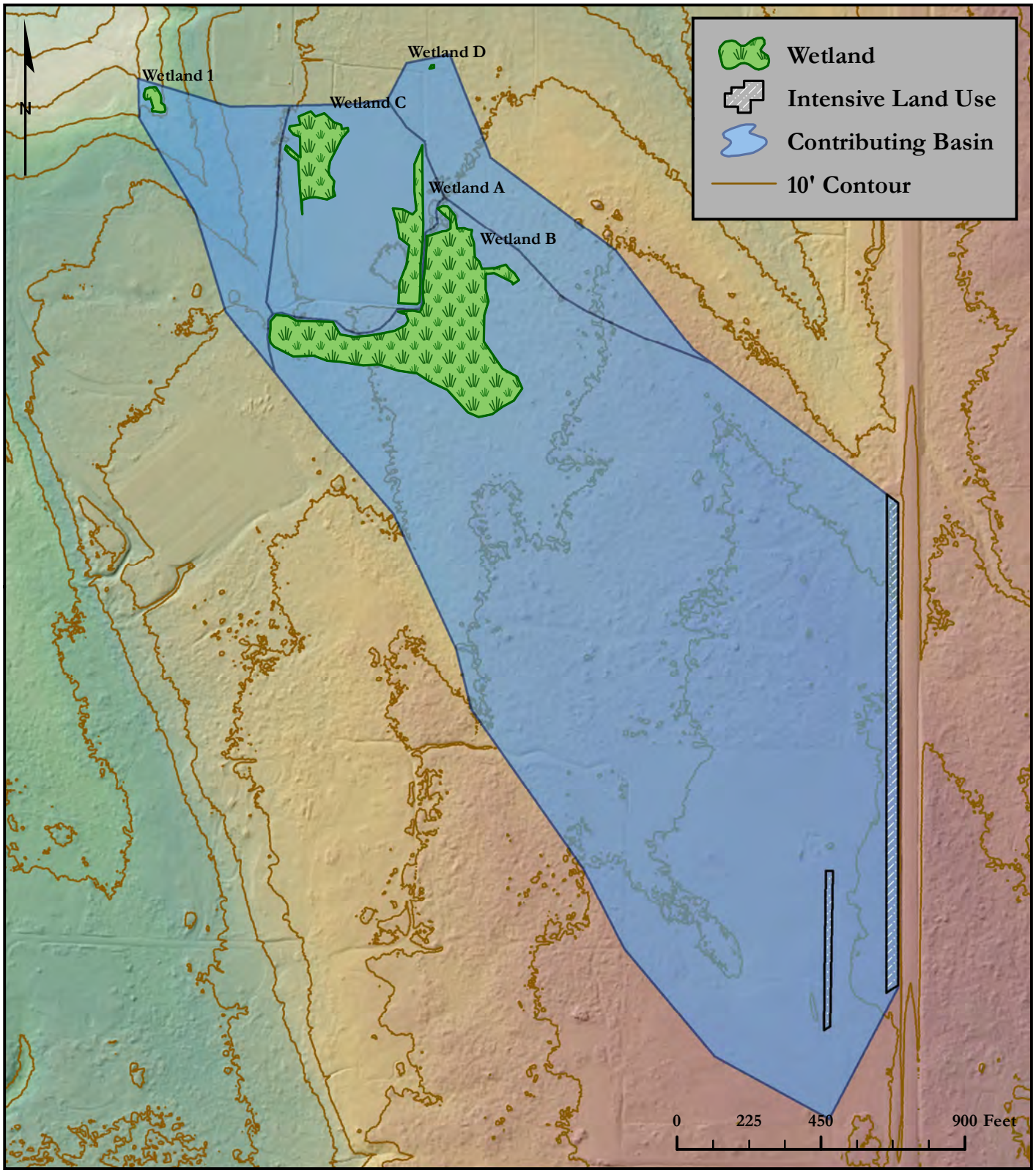
LINDSAY ANNEXATION

8014/8228/8210/8326 172ND STREET NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBERS:
31052500200600, 31052600100100,
31052600100200, 31052600102200, & 31052600102300

DATE:	4/11/2024
JOB:	2419.0002
BY:	DDS
SCALE:	1 " = 240 '
FIGURE NO.	2 of 7

CONTRIBUTING BASIN MAP



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LINDSAY ANNEXATION

8014/8228/8210/8326 172ND STREET NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBERS:
31052500200600, 31052600100100,
31052600100200, 31052600102200, & 31052600102300

DATE:	4/11/2024
JOB:	2419.0002
BY:	DDS
SCALE:	1 " = 440 '
FIGURE NO.	3 of 7

D.4.0 - D.5.3		
	Area of Contributing Basin (SF)	3,474,659
	Area of Wetland 1 (SF)	3,026
	Percent of Wetland 1 within Contributing Basin	**0.087%**
	Area of Intensive Human Land Uses (SF)	66,089
	Percent of Intensive Human Land Use within Contributing Basin for Wetland 1	**2%**
	Area of Contributing Basin (SF)	2,956,041
	Area of Wetland B (SF)	171,486
	Percent of Wetland B within Contributing Basin	**5.801%**
	Area of Intensive Human Land Uses (SF)	66,089
	Percent of Intensive Human Land Use within Contributing Basin for Wetland B	**2%**
	Area of Contributing Basin (SF)	3,269,379
	Area of Wetland C (SF)	30,776
	Percent of Wetland C within Contributing Basin	**0.941%**
	Area of Intensive Human Land Uses (SF)	66,089
	Percent of Intensive Human Land Use within Contributing Basin for Wetland C	**2%**
	Area of Contributing Basin (SF)	220,646
	Area of Wetland D (SF)	110
	Percent of Wetland D within Contributing Basin	**0.050%**
	Area of Intensive Human Land Uses (SF)	0
	Percent of Intensive Human Land Use within Contributing Basin for Wetland D	**0%**

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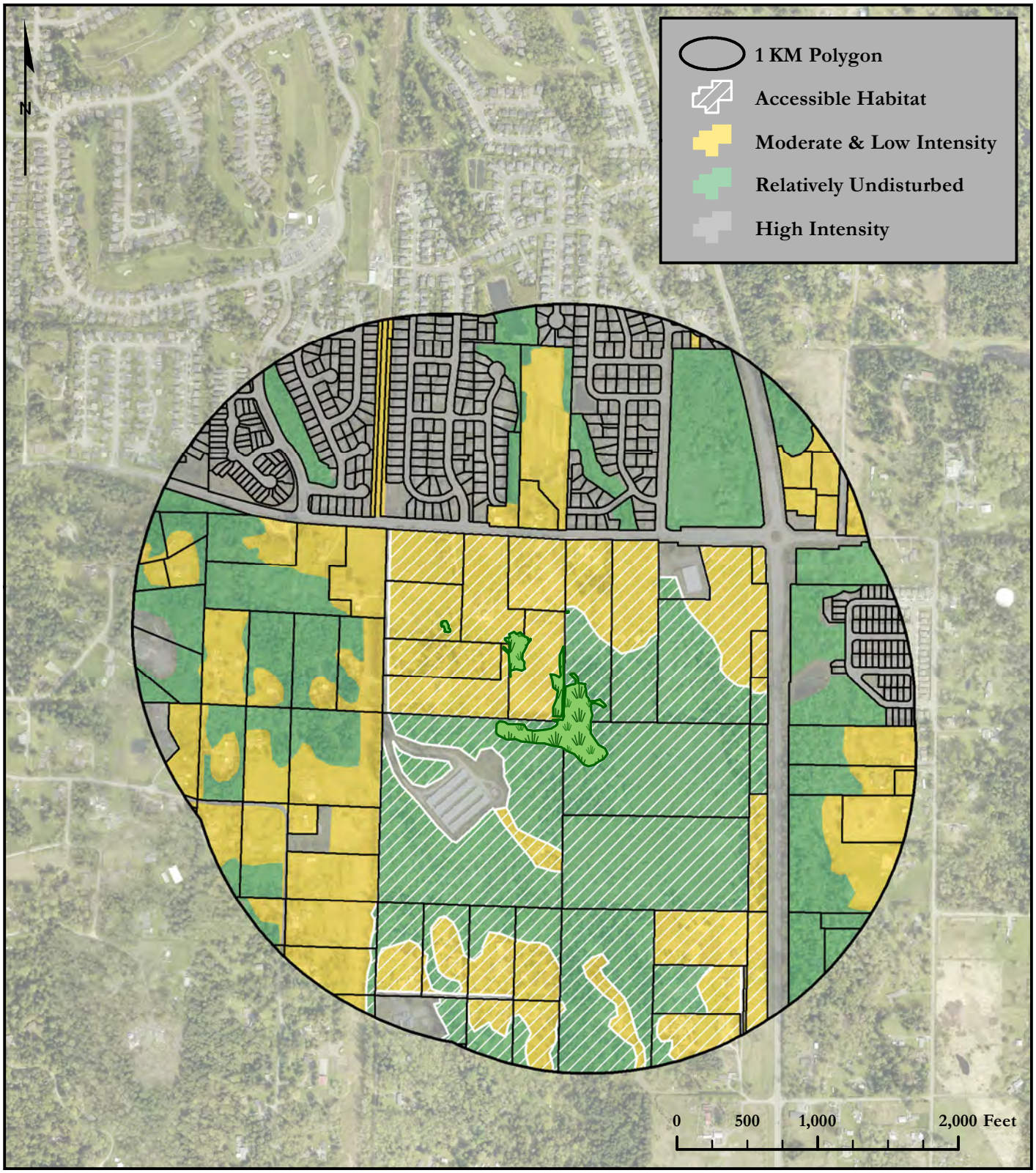
2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

LINDSAY ANNEXATION
8014/8228/8210/8326 172ND STREET NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBERS:
31052500200600, 31052600100100,
31052600100200, 31052600102200, & 31052600102300

DATE: 4/11/2024
JOB: 2419.0002
BY: DDS
SCALE: NONE
FIGURE NO. 4 of 7

HABITAT MAP



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8014/8228/8210/8326 172ND STREET NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBERS:
31052500200600, 31052600100100,
31052600100200, 31052600102200, & 31052600102300

DATE:	4/11/2024
JOB:	2419.0002
BY:	DDS
SCALE:	1 " = 1,000 '
FIGURE NO.	5 of 7

H.2.0		
H.2.1	All Wetlands	
	Abutting Undisturbed Habitat	22.12%
	Abutting Moderate & Low Intensity Land Uses	16.71%
	Accessible Habitat	**30.47%**
H.2.2		
	Undisturbed Habitat	40.44%
	Moderate & Low Intensity Land Uses	33.88%
	Undisturbed Habitat in 1 KM Polygon	**57.38%**
H.2.3		
	High Intensity Land Use in 1 KM Polygon	**25.68%**

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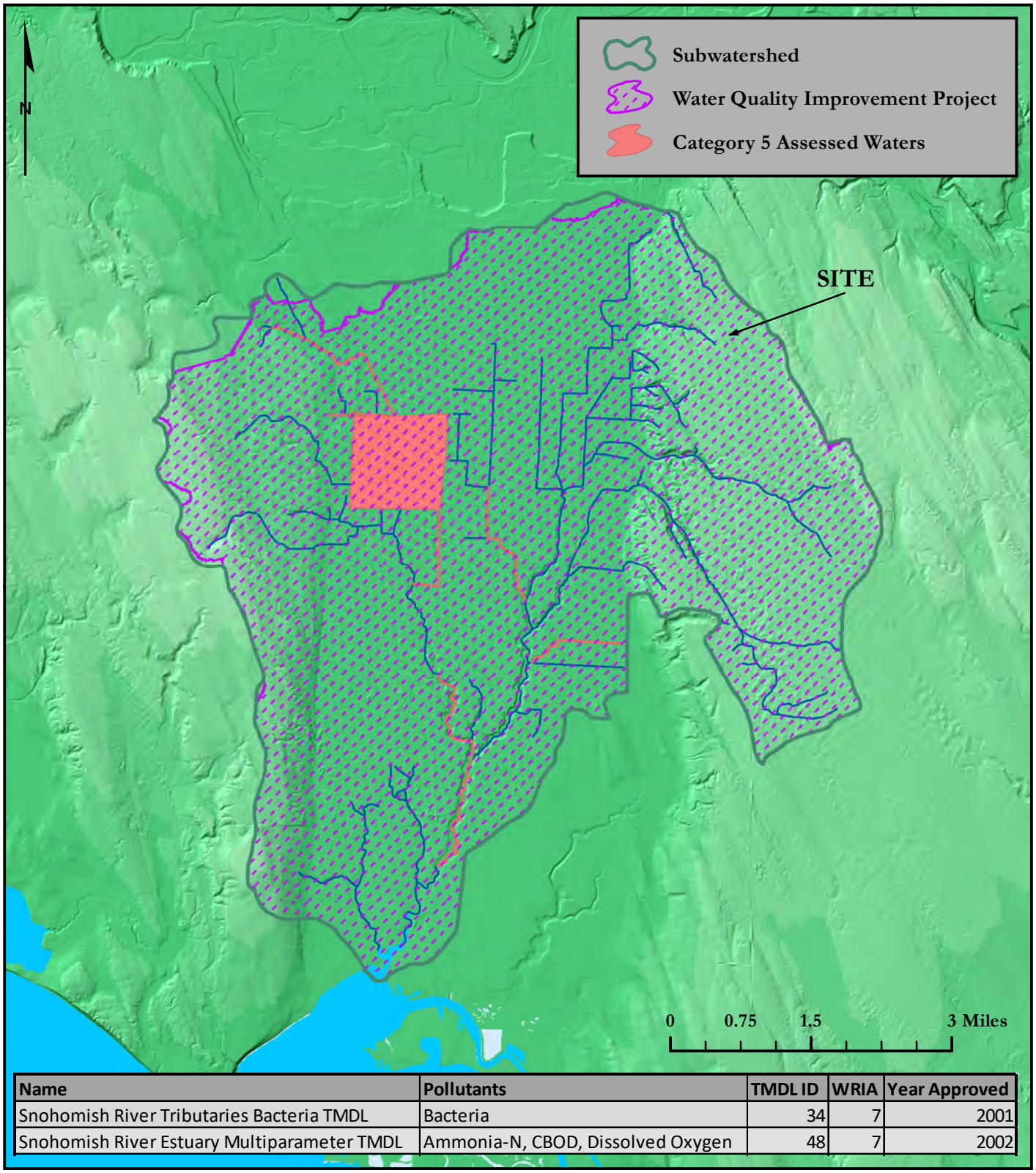
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBERS:
31052500200600, 31052600100100,
31052600100200, 31052600102200, & 31052600102300

DATE: 4/11/2024
JOB: 2419.0002
BY: DDS
SCALE: NONE
FIGURE NO. 6 of 7



Name	Pollutants	TMDL ID	WRIA	Year Approved
Snohomish River Tributaries Bacteria TMDL	Bacteria	34	7	2001
Snohomish River Estuary Multiparameter TMDL	Ammonia-N, CBOD, Dissolved Oxygen	48	7	2002

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ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBERS:
31052500200600, 31052600100100,
31052600100200, 31052600102200, & 31052600102300

DATE: 4/11/2024
JOB: 2419.0002
BY: DDS
SCALE: 1 " = 1.5 mi
FIGURE NO. 7 of 7

Appendix F — Site Photographs

General site conditions in the southeast portion of the site on 04/02/2024 (facing west).

General site conditions in the southeast portion of the site around Wetland A on 04/02/2024 (facing east).

Ditch conditions in the southeast portion of the site on 04/02/24 (facing south).

General site conditions in the north portion of the site on 04/02/24 (facing east).

General site conditions around Stream Z on 04/03/24 (facing west).

General site conditions in north ditch of the site on 04/02/24 (facing south).

General site conditions in Wetland B on 04/02/24 (facing south).

General site conditions around Wetland C on 04/02/24 (facing south).

Appendix G — Qualifications

All field inspections, jurisdictional wetland boundary delineations, habitat assessments, and supporting documentation, including this ***Wetland Delineation and Fish and Wildlife Habitat Assessment Report*** prepared for the ***Lindsay Annexation*** project site were prepared by, or under the direction of, Kramer Canup and Jon Pickett of SVC. In addition, the site investigations were performed by Kramer Canup, Elisabeth Gonzalez and William Bethel, report preparation was completed by William Bethel, and general project oversight and quality control was completed by Elisabeth Gonzalez and Kramer Canup.

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.

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.

William Bethel is a Staff Scientist with 4 years of professional experience. William has a background in environmental science in Washington State. At Simon Fraser University, he worked

in a research lab, studying the distribution and prediction of forest soils. Previously William has managed wetland site assessments and mitigation projects for Hamer Environmental and Aqua Terr Systems Inc., managed environmental compliance at the Phillips 66 refinery in Ferndale, WA, and organized environmental education programs for the Chief Seattle Council. His education and experience have provided him with extensive knowledge on forests ecology, remote sensing, GIS, soil science, hazardous waste management and wetland monitoring. Currently, William 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.

Education: Master of Science degree in Soil Science from Simon Fraser University, Burnaby British Columbia. Bachelor of Science degree in Environmental Science with a GIS minor from Western Washington University. *Professional Trainings:* 40-hour USACE wetland delineation training with Richard Chinn. Using the Revised Washington State Wetland Rating System (2014) in Western Washington from the Washington State Department of Ecology.

C Conceptual Mitigation Plan

CONCEPTUAL MITIGATION PLAN

LINDSAY ANNEXATION

JUNE 2025

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

CONCEPTUAL MITIGATION PLAN

LINDSAY ANNEXATION

JUNE 20, 2025

PROJECT LOCATION
8014, 8228, 8210, AND 8326 172ND STREET NORTHEAST
ARLINGTON, WASHINGTON 98223

PREPARED FOR
MJS INVESTORS
1140 Southeast 8th Street, Suite 200
BELLEVUE, WASHINGTON 98004

PREPARED BY
SOUNDVIEW CONSULTANTS LLC
2907 HARBORVIEW DRIVE
GIG HARBOR, WASHINGTON 98335
(253) 514-8952

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

Executive Summary

Soundview Consultants LLC (SVC) has been assisting MJS Investors (Applicant) with a conceptual mitigation plan for the proposed residential redevelopment of a 32.28-acre site located at 8014, 8228, 8210, and 8326 172nd Street Northeast within the City of Arlington, Washington. The Proposed Project Area (PPA; here forth referred to as the subject property) consists of five tax parcels situated in the Northeast ¼ of Section 26, Township 31 North, Range 05 East, W.M. (Snohomish County Tax Parcel Numbers 31052500200600, 31052600100100, 31052600100200, 31052600102200, and 31052600102300).

SVC investigated the subject property and publicly accessible areas within 300 feet of the project area for potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species in December of 2022 and April of 2024. Using current methodology, the site identified four potentially-regulated wetlands onsite (Wetlands A – D) and one stream (Stream Z) on the subject property. Additionally, one offsite wetland (Wetland 1) was identified offsite to the west of the subject property. Arlington Municipal Code (AMC) 20.93.800 establishes wetland buffers based on wetland rating, and wetland water quality and/or habitat score. Wetlands A and D are classified as Category IV wetlands and are subject to a standard 40-foot buffer regardless of habitat score per AMC 20.93.830 Table 20.93-4 with the required use of minimization measures outlined in AMC Table 20.93-5. Wetlands B, C, and 1 are Category III wetlands with moderate habitat scores of (6 or 7) and are subject to a standard 110-foot buffer per AMC 20.93.830 Table 20.93-4 with the required implementation of a relatively undisturbed, 100-foot wide protected corridor between the wetlands and other areas specified in AMC 20.93.830(1)(A) and use of minimization measures. Stream Z is a Type Ns (non-fish habitat, seasonal) water per AMC 20.93.700 and is subject to a standard 50-foot buffer per AMC 20.93.730 Table 20.93-3. In addition, a 15-foot structure setback is required from the edge of any wetland or stream buffers per AMC 20.93.340. No other potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species were identified within 300 feet of the subject property.

The Applicant proposes residential redevelopment of the subject property to include 167 single-family residences, internal site access and parking, open space areas, utilities, and stormwater facilities including several stormwater detention ponds that will disperse treated runoff to the outer portion of the wetland and stream buffer areas onsite to maintain existing site drainage patterns and hydrology. The project was carefully designed to minimize impacts to critical areas to the greatest extent feasible by fully utilizing all developable upland areas onsite. However, due to the odd shape of the subject property which constrains the orientation of development, the spatial requirements needed to provide a high-density residential development and associated infrastructure consistent with City development standards and the high capacity residential zoning designation of the site, the extent of encumbrance by the identified critical areas and associated buffers throughout the site, complete avoidance is not feasible. In order to meet density requirements and standards for open space, site access, utilities, and stormwater facilities associated with the proposed residential development, the proposed project requires the necessary, unavoidable complete fill of Wetland D, as well as the partial fill of Wetlands A and C. Additionally, permanent and temporary impacts to the buffers of Wetlands A, B, and C, offsite Wetland 1, and Stream Z are necessary and unavoidable in order to provide pedestrian walking trails and stormwater dispersion outfalls/trenches necessary to maintain existing site drainage patterns and hydrology. All temporary impacts will be fully restored immediately after construction is complete.

Direct impacts to Wetlands A, C, and D, indirect impacts to Wetlands A and C, and permanent impacts to the onsite wetland and stream buffer areas will be compensated through a combination of onsite, in-kind wetland creation and enhancement and buffer creation and enhancement actions. The

proposed onsite mitigation actions aim to establish higher functioning wetland habitat, improve screening and habitat between the identified critical areas and the proposed development, and, where feasible, establish protected corridors maintaining connectivity accessibility between onsite critical areas. It is anticipated that these measures will achieve a net positive ecological benefit onsite and in the greater Snohomish River watershed, and exceed the mitigation ratios establish in AMC 20.93.840(d) Table 20.93-7 to ensure no net loss of wetland or critical area buffer functions onsite. See Chapter 3 for further details and analysis.

The table below identifies the onsite critical areas and summarizes the potential regulatory status by local, state, and federal agencies.

Feature Name	Size (Onsite)	Category[1]	Regulated Under KCC Chapter 11.06	Regulated Under RCW 90.48	Regulated Under Clean Water Act
Wetland A	22,644 SF	IV	Yes	Yes	Likely
Wetland B	45,715 SF	III	Yes	Yes	Likely
Wetland C	29,723 SF	III	Yes	Yes	Likely
Wetland D	117 SF	IV	Yes	Yes	Not Likely
Wetland 1	NA	III	Yes	Yes	Likely
Stream Z	~160 linear feet	Type Ns	Yes	Yes	Likely

1. Washington State Department of Ecology (WSDOE) wetland rating system (Hruby and Yahnke 2023) per AMC 20.93.800 and AMC 20.93.730

The table below summarizes the proposed critical area impacts.

Impact Type	Total Impact Area
Direct Permanent Wetland Fill	11,399 SF
Indirect Permanent Wetland Impacts	12,003 SF
Permanent Buffer Impacts	2,467 SF
Temporary Buffer Impacts	7,379 SF

The table below summarizes the planned mitigation actions.

Mitigation Type	Mitigation Area
Wetland Mitigation	
Wetland Creation	69,115 SF
Wetland Enhancement	29,086 SF
Wetland as Buffer Enhancement	12,003 SF
Buffer Mitigation	
Buffer Creation	8,684 SF
Buffer Enhancement	101,308 SF
Buffer Restoration	6,379 SF

Site Map

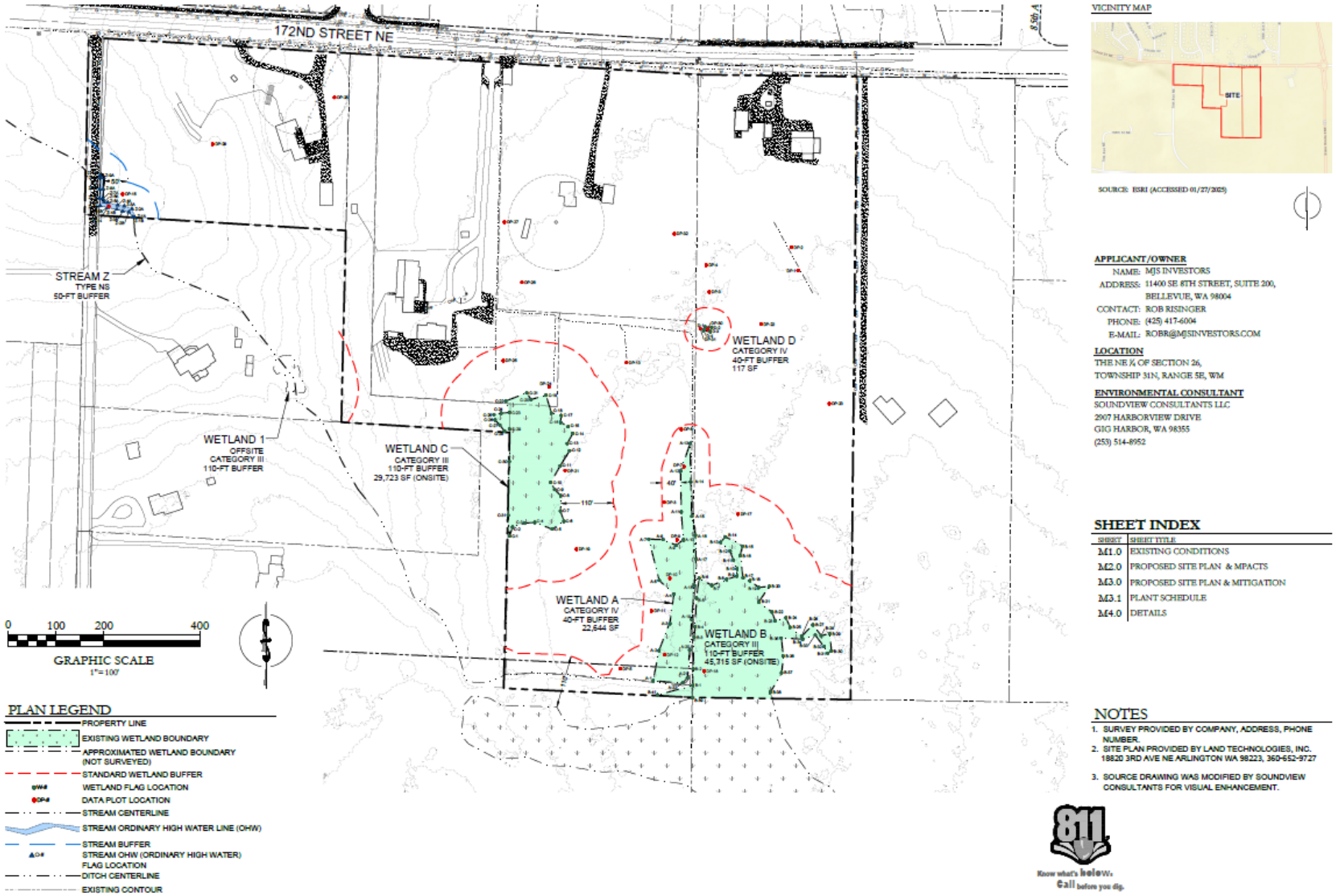
172ND STREET NE
STREAM Z
TYPE NS
50-FT BUFFER
WETLAND 1
OFFSITE
CATEGORY III
110-FT BUFFER
WETLAND C
CATEGORY III
110-FT BUFFER
29,723 SF (ONSITE)
WETLAND D
CATEGORY IV
40-FT BUFFER
117 SF
WETLAND A
CATEGORY IV
40-FT BUFFER
22,644 SF
WETLAND B
CATEGORY III
110-FT BUFFER
45,715 SF (ONSITE)
0 100 200 400
GRAPHIC SCALE
1"=100'
PLAN LEGEND
PROPERTY LINE
EXISTING WETLAND BOUNDARY
APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
STANDARD WETLAND BUFFER
WETLAND FLAG LOCATION
DATA PLOT LOCATION
STREAM CENTERLINE
STREAM ORDINARY HIGH WATER LINE (OHW)
STREAM BUFFER
STREAM OHW (ORDINARY HIGH WATER) FLAG LOCATION
DITCH CENTERLINE
EXISTING CONTOUR
VICINITY MAP
SITE
SOURCE: ESRI (ACCESSED 01/27/2025)
APPLICANT/OWNER
NAME: MJS INVESTORS
ADDRESS: 11400 SE 8TH STREET, SUITE 200, BELLEVUE, WA 98004
CONTACT: ROB RISINGER
PHONE: (425) 417-6004
E-MAIL: ROBR@MJSINVESTORS.COM
LOCATION
THE NE ¼ OF SECTION 26, TOWNSHIP 31N, RANGE 5E, WM
ENVIRONMENTAL CONSULTANT
SOUNDVIEW CONSULTANTS LLC
2907 HARBORVIEW DRIVE
GIG HARBOR, WA 98355
(253) 514-8952
SHEET INDEX
SHEET | SHEET TITLE
M1.0 | EXISTING CONDITIONS
M2.0 | PROPOSED SITE PLAN & MPACTS
M3.0 | PROPOSED SITE PLAN & MITIGATION
M3.1 | PLANT SCHEDULE
M4.0 | DETAILS
NOTES
1. SURVEY PROVIDED BY COMPANY, ADDRESS, PHONE NUMBER.
2. SITE PLAN PROVIDED BY LAND TECHNOLOGIES, INC. 18820 3RD AVE NE ARLINGTON WA 98223, 360-652-9727
3. SOURCE DRAWING WAS MODIFIED BY SOUNDVIEW CONSULTANTS FOR VISUAL ENHANCEMENT.
811
Know what's below. Call before you dig.

Table of Contents

Figures

Tables

Appendices

Chapter 1. Existing Conditions

Soundview Consultants LLC (SVC) has been assisting MJS Investors (Applicant) with a conceptual mitigation plan for the proposed residential redevelopment of a 32.28-acre site located at 8014, 82288, 8210, and 8326 172nd Street Northeast within the City of Arlington, Washington (Figure 1). The subject property consists of five tax parcels situated in the Northeast ¼ of Section 26, Township 31 North, Range 05 East, W.M. (Snohomish County Tax Parcel Numbers 31052500200600, 31052600100100, 31052600100200, 31052600102200, and 31052600102300).

The subject property is located within a rural residential setting within the City of Arlington and is partially developed with four single-family residences, associated infrastructure, gravel driveways, and garages. Much of the site consists of open fields, lawn, and small pockets of deciduous trees and shrubs, with a larger forested area located on the southeast area of the subject property. The subject property abuts 172nd Street Northeast to the north, a single-family residence and undeveloped land to the east, undeveloped forested land and chicken farm facilities to the south, and single-family residences on large lots to the west. Topography on the site generally slopes from southeast to northwest with elevations ranging from approximately 408 feet above mean sea level (amsl) to 360 feet amsl. The subject property is within the Snohomish River Watershed (Water Resources Inventory Area 7).

Figure 1. Subject Property.

1.1 Critical Area Findings

SVC investigated the subject property and publicly accessible areas within 300 feet of the project area for potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species in December of 2022 and April of 2024. Using current methodology, the site identified four potentially-regulated wetlands onsite (Wetlands A – D) and one stream (Stream Z) on the subject property. Additionally, one offsite wetland (Wetland 1) was identified offsite to the west within 300 feet of the subject property. AMC 20.93.800(a) has adopted the current wetland rating system for western Washington (Hruby and Yahnke 2023). Category IV wetlands have the lowest levels of functions (scoring fewer than 16 points) and are often heavily disturbed. These are wetlands that functions may be replaced, or in some cases improved. Category III wetlands include wetlands with moderate level of functions (scoring between 16 and 19 points) that have generally been disturbed in some ways and are often less diverse or more isolated in the landscape than Category II wetlands. Wetlands A and D are classified as Category IV wetlands, and Wetlands B, C, and 1 are classified as Category III wetlands with moderate habitat scores ranging from 6 to 7 points. Stream Z is a classified as a Type Ns (non-fish habitat, seasonal) water.

No other potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species were identified within 300 feet of the subject property during the site investigations. Critical area findings are described in a *Wetland and Fish and Wildlife Habitat Assessment: Lindsay Annexation* report by SVC dated June 21, 2024.

1.2 Regulatory Considerations

1.2.1 Local Buffer Requirements

Per AMC 20.93.830(a) Table 20.93-4, wetland buffers are based on wetland category and the level of habitat functions. Category IV wetlands are subject to a standard 40-foot buffer regardless of habitat score. Category III wetlands with moderate habitat scores ranging from 6 to 7 points are subject to standard 110-foot buffer. Table 1 below summarize the standard buffer widths for the identified wetlands. Per AMC 20.93.830(1), for wetlands with habitat scores of 6 points or more, these buffer widths presume the implementation of a relatively undisturbed vegetated corridor at least 100 feet wide protected between the wetland and:

i. A legally protected, relatively undisturbed and vegetated area (e.g., priority habitats, compensatory mitigation sites, wildlife areas/refuges, national, county, and state parks where they have habitat management plans with areas designated as natural, natural forest, or natural area preserve);
ii. An area that is the site of a watershed project identified within, and full consistent with a watershed plan as defined by RCW 89.08.460;
iii. An area where development is prohibited according to the provisions of the local shoreline master program; or
iv. An area with equivalent habitat quality that has conservation status in perpetuity, in consultation with WDFW.

Additionally, for all wetlands, regardless of category, standard buffer widths require the implementation of minimization measures described in AMC 20.93.830(a) Table 20.93-5 (Table 2 below). An Existing Conditions Exhibit is provided on Sheet 1 of Appendix A.

Table 1. Wetland Buffer Summary.

Wetland	Category	Habitat Score	Standard Buffer Width (Feet)
A	IV	6	40
B	III	7	110
C	III	6	110
D	IV	5	40
1	III	6	110

Table 2. Required Measures to Minimize Impacts to Wetlands

Disturbance	Examples of Activities and Uses that Cause Disturbances	Required Measures to Minimize Impacts
Lights	• Parking lots, warehouses, manufacturing, residential, parks	• Direct lights away from critical areas and buffers • Day use only regulations preventing the need for lights • Timer on lights
Noise	• Manufacturing • Residential	• Locate activity that generates noise away from wetlands • If warranted, enhance existing buffer with native vegetation planting adjacent to noise source • For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining establish an additional 10 ft heavily vegetated buffer strip • Seasonal limitations on hours of operation
Toxic runoff*	• Parking lots, roads, manufacturing, residential areas, application of agricultural pesticides, landscaping	• Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 feet of critical area or buffer • Apply integrated pest management
Stormwater runoff	• Parking lots, roads, manufacturing, residential areas, commercial, landscaping	• Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized flow from lawns that directly enters the buffer • Use Low Intensity Development technique
Change in water regime	• Impermeable surfaces • Lawns • Tilling • Forest and forest duff removal	• Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns • Retain minimum forest and forest duff
Pets and human disturbance	• Residential areas and parks	• Use privacy fencing; plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion • Place wetland and its buffer in a separate tract or protect with a conservation easement
Dust	• Construction sites	• Use best management practices to control dust

Disturbance	Examples of Activities and Uses that Cause Disturbances	Required Measures to Minimize Impacts
Disruption of corridors or connections	• Roads, residential, commercial, manufacturing, landscaping, stormwater	• Maintain connection to offsite areas that are undisturbed • Restore corridors or connections to offsite habitats by replanting

* These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.

In order to adopt the standard buffer widths described in AMC 20.93.830(a) Table 20.93-4, the greatest light and noise generating sources (such as internal access roads) associated with the proposed development will be located interior to the development away from critical areas to the greatest extent feasible. All new runoff will be collected in stormwater detention ponds and treated prior to being dispersed to wetland and stream buffers to retain existing site drainage patterns and hydrology. Protected corridors will be established where feasible onsite, maintaining accessibility between higher functioning habitat areas for local wildlife. Furthermore, critical areas signs and fencing will be installed along the boundaries of critical areas buffers to prevent intrusion.

Stream Z onsite is classified as a Type Ns (non-fish habitat, seasonal) water. Per AMC 20.93.730 Table 20.93-3, Type Ns waters are subject to a standard 50-foot buffer. Table 3 below summarizes the standard buffer width for Stream Z.

Table 3. Stream Buffer Summary.

Stream	Typing	Standard Buffer Width (feet)
Z	Type Ns	50

Per AMC 20.93.730(a), stream buffer widths shall be maintained on both sides of the stream channel and all existing native vegetation shall be preserved. The existing buffer areas associated with Stream Z onsite are degraded due to mowing, and the encroachment of non-native invasive species.

Per AMC 20.93.340 an additional 15-foot building setback is required from the edge of any critical area buffer.

1.2.2 State Regulations

All onsite wetlands and streams are regulated as surface waters of the state by the WSDOE under the Revised Code of Washington (RCW) 90.48.

1.2.3 Federal Regulations

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

Stream Z is a tributary to Edgecomb Creek, which connects into Middle Fork Quilceda Creek, a tributary to the main stem of Quilceda Creek which outlets directly to the Puget Sound, a regulated Water of the United States (WOTUS). As such, Stream Z is regulated as a WOTUS under Category (a)(3) above. Wetlands A - C and offsite Wetland 1 all share hydrological connections to the onsite ditches that outlet into Edgecomb Creek offsite to the west; thus Wetlands A - C and Wetland 1 are likely federally regulated wetlands under the CWA, and as such are likely regulated as WOTUS under category (a)(4). Wetland D is a small, isolated depression that lacks and outlet and therefore does not share a surface water connection with potential WOTUS and does not meet the criteria of an adjacent wetland under category (a)(4).

Chapter 2. Proposed Project

2.1 Purpose and Need

The purpose of the proposed project is to provide additional housing units within the City of Arlington to help alleviate the shortage of residences in the greater Seattle area.

2.2 Project Description

The Applicant proposes residential redevelopment of the subject property to include 167 single-family residences, internal site access and parking, open space areas, utilities, and stormwater facilities including several stormwater detention ponds that will disperse treated runoff to the outer portion of the wetland and stream buffer areas onsite to maintain existing site drainage patterns and hydrology.

The proposed residential development requires direct impacts to Wetland D and direct and indirect impacts to Wetlands A and C in order to provide a high-density residential development and associated infrastructure consistent with City development standards and the high capacity residential site zoning. Additionally, temporary and permanent impacts to the buffers of Wetlands A, B, and C, offsite Wetland 1, and Stream Z are required to support the construction of a walking trail and stormwater dispersion outfalls/trenches at a location that maintains existing site drainage patterns and hydrology. The project proposes to mitigate for these impacts through a combination of onsite wetland creation and enhancement, buffer creation, and restoration of all temporary impacts.

2.3 Site Planning

2.3.1 Mitigation Sequencing

Per AMC 20.93.740 and 20.93.840, adequate mitigation must be provided in order to avoid significant environmental impacts for activities where impacts to wetlands, streams, and/or associated buffers are unavoidable. What is considered adequate mitigation will depend on the nature and magnitude of the impact. According to AMC 20.93.100, "mitigation" is defined as avoiding, minimizing, or compensating for adverse critical area impacts in the following sequential order of preference:

a. *Avoiding the impact altogether by not taking a certain action or parts of actions.*

   The project was carefully designed to minimize impacts to critical areas to the greatest extent feasible by fully utilizing all developable upland areas onsite. However, due to the odd shape of the subject property which constrains the orientation of development, the spatial requirements needed to provide a high-density residential development and associated infrastructure consistent with City development standards and the high capacity residential zoning designation of the site, the extent of encumbrance by the identified critical areas and associated buffers throughout the site, complete avoidance is not feasible. In order to meet density requirements and standards for open space, site access, utilities, and stormwater facilities associated with the proposed residential development, the proposed project requires the necessary, unavoidable complete fill of Wetland D, as well as the partial fill of Wetlands A and C. Additionally, permanent and temporary impacts to the buffers of Wetlands A, B, and C, offsite Wetland 1, and Stream Z are necessary and unavoidable in order to provide pedestrian walking trails and stormwater dispersion outfalls/trenches necessary to maintained existing site drainage patterns and hydrology.

b. Minimize or limit the degree or magnitude of actions and their implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts.

The proposed project was carefully designed to limit critical area impacts to the minimum necessary while providing the space necessary to support a high-density residential development and associated infrastructure and maintain existing site drainage patterns and hydrology. Direct wetland impacts are limited to the fill of one small (<200 square feet), isolated Category IV wetland (Wetland D), a portion of the lower functioning, Category IV wetland (Wetland A), and a portion of Wetland C that is degraded due mowing and the encroachment of non-native invasive species. Permanent impacts to the critical area buffers onsite are situated within the outer 25 percent of the buffers and are limited to the footprint of the proposed pedestrian trail. Remaining buffer impacts are limited to temporary impacts necessary for grading during trail construction and the installation of stormwater outfalls/dispersion trenches necessary to retain existing site drainage patterns and hydrology. All buffer impacts are located in portions of the critical areas buffers degraded by prior land clearing, mowing, and the encroachment of non-native invasive species. In addition to limiting all permanent and temporary impacts to low-functioning, degraded areas onsite, minimization measures outlined in AMC 20.93.830(a) Table 20.93-5 will be implemented. Furthermore, all appropriate best management practices (BMPs) and temporary erosion and sediment control (TESC) measures consisting of silt fencing, seeding of disturbed soils, and items outlined in the project's erosion and stormwater control plans, to be prepared by a Project Engineer prior to clearing and grading activities, will be implemented throughout the duration of project construction.

c. Rectifying the impact by repairing, rehabilitating, or restoring the affected Mitigate any impacts by repairing, rehabilitating, or restoring the affected environment.

All temporary buffer impacts will be fully restored immediately following the completion of site grading to prevent erosion and sedimentation. Permanent direct impacts to Wetlands A, C, and D and permanent impacts to wetland and stream buffers cannot be rectified. Indirect impacts to Wetlands A and C will ultimately transition to function as wetland buffer. Areas indirectly impacted by the proposed development consist of degraded areas impacted by prior land clearing, mowing, and the encroachment of non-native invasive species. These wetland areas will be enhanced with native vegetation to improve habitat and screening between the remainder of the wetlands and the proposed development, improving existing onsite wetland functions.

d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

The proposed direct and indirect wetland impacts are the result of permanent actions that cannot be reduced or eliminated over time. However, additional potential impacts to critical areas will be reduced over time through a combination of buffer and wetland enhancement activities which will include densely planting targeted, degraded areas with appropriate native vegetation. Furthermore, appropriate fencing and critical areas signs will be posted to discourage intrusion into the critical areas and associated buffers consistent with the requirements of AMC 20.93.290.

e. Compensating for the impact by replacing, enhancing or providing substitute resources or environments.

Direct impacts to Wetlands A, C, and D, indirect impacts to Wetlands A and C, and permanent impacts to the onsite wetland and stream buffer areas will be compensated through a combination of onsite, in-kind wetland creation and enhancement and buffer creation and enhancement actions. The proposed onsite mitigation actions aim to establish higher functioning wetland habitat, improve screening and habitat between the identified critical areas and the proposed development, and, where feasible, establish protected corridors maintaining connectivity accessibility between onsite critical areas. It is anticipated that these measures will achieve a net positive ecological benefit onsite and in the greater Snohomish River watershed, and exceed the mitigation ratios establish in AMC 20.93.840(d) Table 20.93-7 to ensure no net loss of wetland or critical area buffer functions onsite.

f. Monitoring the hazard or other required mitigation and taking remedial action when necessary.

The wetland creation and enhancement areas and buffer creation and restoration areas will be maintained and monitored for a period of 10 years to ensure the success of mitigation actions, consistent with the requirements of AMC 20.93.850 and interagency guidance (WSDOE et al., 2021). Appropriate contingency measures will be implemented if monitoring indicates that the goals and performance standard of the mitigation plan are not being met.

2.3.2 Mitigation Requirements – Streams and Surface Water Features

Per AMC 20.93.740(a), in order to avoid significant environmental impacts for those activities not regulated by the Shoreline Master Program and allowed pursuant to Section 20.93.720, the applicant for a land use or development permit will select one or more of the following mitigation actions, listed in order of preference:

1. *On-site environmentally critical area restoration/improvement—Restoration or improvement in functional value of degraded on-site waterways and/or their buffers at a two to one ratio (two square feet for every one square foot impacted).*
2. *On-site ECA/Creation—Creation of on-site waterways and their buffers at a two to one ratio (two square feet for every one square foot impacted).*
3. *On-site ECA buffer restoration—Restoration or improvement in functional value of degraded on-site waterway buffers at a ratio of six to one.*

As mentioned in the mitigation sequencing (Section 2.3.1) described above, the proposed project requires necessary, unavoidable permanent impacts to the buffer of Stream Z to support the construction of a pedestrian trail and stormwater dispersion outfalls/trenches at a location that will maintain existing site drainage patterns and hydrology. Additional temporary impacts are also necessary for site grading and the construction of these facilities. The portions of the Stream Z buffer proposed to be impacted consist entirely of herbaceous areas degraded by mowing and the encroachment of non-native invasive species. Overall, approximately 2,467 square feet of buffer impacts are anticipated across the site, which will be offset through 8,684 square feet of buffer creation, exceeding a 2:1 ratio. Additionally, all temporary impacts will be fully restored immediately after construction is completed. With the implementation of buffer creation and restoration actions, no net loss of stream buffer functions is anticipated.

2.3.3 Activities Allowed in Wetland Buffers

The proposed project requires permanent impacts to the buffers of Wetlands A, B, and C, and offsite Wetland 1 to support the construction of a pedestrian pathway and stormwater

outfalls/dispersion trenches at locations that maintain existing site drainage patterns and hydrology. Per AMC 20.93.820(3), the following activities may be permitted in wetland buffers:

(A) Activities having minimal adverse impacts on buffers and no adverse impacts on regulated wetlands. These may include low intensity, passive recreational activities such as low impact trails in the outer twenty-five percent, non-permanent wildlife watching blinds, short-term scientific or educational activities, and sports fishing;

The proposed pedestrian trail is a low impact development activity that is located in the outer 25-percent of the buffers of Wetlands A, B, and C, offsite Wetland 1, and Stream Z. Permanent buffer impacts, totaling 2,467 square feet, are limited to the footprint of the trail and will be offset through onsite buffer creation exceeding a 1:1 ratio. Temporary impacts from grading during the construction of the trail will be fully restored immediately after construction is complete. All temporary and permanent impacts are located in portions of the wetland buffers already degraded due to prior land clearing, mowing, and the encroachment of non-native invasive species.

(B) With respect to Category III and IV wetlands, stormwater management facilities having no reasonable alternative on-site location; or

The proposed stormwater dispersion outfalls/trenches are located within the buffers of Category III and IV wetlands; and the locations are necessary to maintain existing site drainage patterns and hydrology. Impacts associated with these features will be limited to temporary buffer impacts during construction/installation, which will be fully restored immediately after site development is complete. All stormwater will undergo enhanced water quality treatment prior to being dispersed to wetland buffers, and wetland buffer enhancement is proposed to establish a dense native plant community to further disperse and remove pollutants from runoff before it reaches the wetlands.

(C) With respect to Category III and IV wetlands, development having no feasible alternative location when the following conditions have been met: Impacts are the minimum necessary; Buffer impacts are mitigated through buffer averaging.

No further impacts to wetland buffers are proposed onsite.

2.3.4 Mitigation Requirements – Wetlands

Per AMC 20.93.840, in order to avoid significant environmental impacts, the applicant for a land use or development permit shall compensate for unavoidable wetland impacts, listed in order of preference. What is considered adequate mitigation will depend on the nature and magnitude of the potential impact.

1. *On-site wetlands restoration/improvement—Restoration or improvement in functional value of degraded on-site wetlands and/or their buffers at the ratio listed in Table 20.93-7 according to the wetland type.*
2. *On-site wetlands creation—Creation of on-site wetlands and their buffers at the ratio listed in Table 20.93-7 according to the wetland type.*
3. *On-site wetlands buffer restoration—Restoration or improvement in functional value of degraded on-site wetland buffers at the ratio listed in Table 20.93-7 according to the wetland type.*

4. *Off-site wetlands protection—Where on-site protection is not possible, dedicate an exclusive easement for the protection of equivalent (in ecological type and function) wetland and its buffer on an off-site wetland at the ratio listed in Table 20.93-7 according to the wetland type. The location of any off-site wetland mitigation area shall be located within the same watershed as the impact and as near to the site as possible, following this preferred order:*
    A. Contiguous to the impacted wetland,
    B. Within the same drainage basin where it would best provide the same function as the impacted wetland, and
    C. Elsewhere within the city.

Compensatory mitigation for necessary, unavoidable direct and indirect wetland impacts will be provided through onsite, in kind wetland creation in order to meet the mitigation ratios specified under AMC 20.93.840(d) Table 20.93-7 and ensure no net loss of wetland functions onsite. Additional wetland and wetland buffer enhancement are also proposed in order to improve existing degraded critical areas functions onsite; however, wetland creation was determined to be more adequate to compensate for lost wetland functions due to the ratios required for enhancement to offset wetland impacts and the ability to compensate for the net loss in wetland area through wetland creation.

2.4 Description of Impacts

2.4.1 Wetland Impacts

The proposed project requires the necessary and unavoidable complete fill of Wetland D, and partial fill of Wetlands A and C (11,399 square feet of wetland fill total). Additionally, the partial fill of Wetlands A and C will result in 12,003 square feet of indirect wetland impacts. Wetland functions for the wetlands proposed to be impacted have been assessed using the *2014 Wetland Rating System for Western Washington* (Hruby and Yahnke, 2023). The wetland functions are summarized, and the wetland rating forms are provided in the *Wetland and Fish and Wildlife Habitat Assessment Report: Lindsay Annexation* (SVC, 2024). The proposed project will result in a complete loss of functions provided by total fill of Wetland D and partial loss of functions provided by partial fill of Wetlands A and C. A summary of wetland impacts is provided in Table 4. The proposed site plan and impacts are depicted on Sheet 2 of Appendix A.

- Wetland A: Wetland A is a Palustrine Emergent, Seasonally Saturated slope wetland. The proposed fill will result in the partial loss of these areas, as well as indirect impacts to additional areas that will transition to function as buffer. The portions of Wetland A proposed to be filled are degraded due to mowing, the encroachment of non-native invasive species, and the lack of native shrub and tree cover. The remaining portions of Wetland A outside of the proposed fill will continue to be representative of the existing Cowardin classes and hydroperiods.
- Wetland C: Wetland C is a Palustrine Emergent, Seasonally Saturated and Flooded depressional wetland. The proposed wetland fill will result in the partial loss of these areas, as well as indirect impacts to additional areas that will transition to function as buffer. The portions of Wetland C proposed to be filled are degraded due to mowing, the encroachment of non-native invasive species, and the lack of native shrub and tree cover. The remaining portions of Wetland C outside of the proposed fill will continue to be representative of the existing Cowardin classes and hydroperiods.

- Wetland D: Wetland D is a Palustrine Scrub-Shrub/Emergent, Seasonally Saturated depressional wetland. The proposed wetland fill will result in the complete loss of all associated wetland functions.

Table 3. Summary of Wetland Impacts

Wetland	HGM	Cowardin[1]	WSDOE Ratings[2]	Onsite Wetland Area	Impact Type	Impact Area
A	Slope	PEMB	IV	22,644 SF (0.52 ac)	Direct (fill)	1,499 SF (0.034 ac)
C	Depressional	PEMBC	III	29,723 SF (0.68 ac)	Direct (fill)	9,783 SF (0.225 ac)
D	Depressional	PSS/EMBC	IV	117 SF (0.003 ac)	Direct (fill)	117 SF (0.003 ac)
Total Direct Wetland Impacts						**11,399 SF (0.262 ac)**
A	Slope	PEMB	IV	22,644 SF (0.52 ac)	Indirect	690 SF (0.016 ac)
C	Depressional	PEMBC	III	29,723 SF (0.68 ac)	Indirect	11,313 SF (0.260 ac)
Total Indirect Wetland Impacts						**12,003 SF (0.276 ac)**

1. Current WSDOE rating system (Hruby and Yahnke 2023) per AMC 20.93.800.
2. Federal Geographic Data Committee (2013); class based on vegetation: PSS = Palustrine Scrub-Shrub; PEM = Palustrine Emergent. Modifiers for Water Regime or Special Situations: B = Seasonally Saturated; C= Seasonally Flooded.

2.4.2 Buffer Impacts

The proposed project requires 2,467 square feet of permanent impacts to the buffers of Wetlands A, B, and C, offsite Wetland 1, and Stream Z, as well as 7,379 square feet of additional temporary buffer impacts associated with site grading, the construction of a pedestrian trail, and the construction/installation of stormwater outfalls/dispersion trenches. These impacts will primarily result in the loss of herbaceous areas already degraded due to mowing and the encroachment of non-native invasive species. All temporary impacts will be fully restored by replanting native vegetation.

2.5 Authorizations

Proposed wetland impacts will require coordination and authorization from local, state, and federal agencies. The Applicant will apply for federal authorization under Section 404 of the CWA through Nationwide Permit (NWP) #29 – Residential Developments and will also require state authorization from WSDOE for Section 401 of the CWA through a Water Quality Certification and compliance with the Coastal Zone Management Program. Additionally, direct and indirect wetland impacts and buffer impacts will require coordination and authorization from the local agency (City of Arlington).

Chapter 3. Conceptual Mitigation Plan

The proposed project impacts and mitigation actions attempt to closely adhere to local critical areas regulations specified in AMC 20.93 while also utilizing the best available science (Granger et al., 2005; Hruby et al., 2009; WSDOE et al. 2006, and WSDOE et al., 2021). In general, compensatory mitigation should be located within the same watershed as the impact site and should be located where it is most likely to successfully replace lost functions and values that best benefit the impacted watershed. Potential compensatory wetland mitigation actions were examined in the context of both onsite and watershed processes to determine the most suitable wetland mitigation strategy.

The proposed mitigation actions are intended to compensate for lost wetland functions and values by providing an overall improvement in the quality of water quality, hydrologic, and habitat functions according to the needs of the site, local sub-basin, and overall Snohomish River watershed. The project proposes onsite wetland creation to mitigate the proposed direct and indirect impacts to Wetlands A, C, and D. In addition, onsite wetland enhancement, buffer enhancement, and buffer creation will be provided to further improve onsite wetland functions and screening between the identified critical areas and the proposed development. This chapter presents the mitigation details for the proposed residential development project. The Conceptual Mitigation Plan depicting existing conditions, proposed impacts, and onsite mitigation actions is included in Appendix A.

The Applicant will submit any proposed substantial changes to the project or mitigation plan, such as significant changes to the amount, location, or design of mitigation; the goals, benchmarks, or performance standards; the monitoring or adaptive management provisions, to WSDOE for review and approval prior to implementation. Minor changes, such as alterations to the species listed in the planting plan, will be documented in the as-built report.

3.1 Mitigation Strategy

3.1.1 Wetland Mitigation Strategy

The onsite mitigation actions are anticipated to compensate for the proposed direct and indirect wetland impacts through 69,115 square feet (1.587 acre) of compensatory wetland creation connecting the remaining portions of Wetlands A and C on the southern portion of the subject property. The compensatory wetland creation is proposed as mitigation according to local, state, and federal rules and guidance, and the mitigation ratios established in AMC 20.93.840(d) Table 20.93-7 and joint state and federal agency guidance (WSDOE et al., 2021). The area of calculations for the compensatory mitigation area are summarized in Table 5 below. In addition to the proposed compensatory wetland creation, 32,557 square feet (0.747 acre) of wetland enhancement are proposed to further offset the loss of functions provided by the wetlands proposed to be filled and provide a net gain in wetland area and functions onsite.

Table 5. Compensatory Wetland Mitigation Summary for Wetland Impacts

Wetland	WSDOE Rating[1]	Impact Type	Impact Area (acre)	Compensation	
				Creation/Re-Establishment Ratio	Area (acre)
A	IV	Direct	0.034	1.5:1	0.051
A	IV	Indirect	0.016	0.75:1[2]	0.012
C	III	Direct	0.225	2:1	0.450
C	III	Indirect	0.260	1:1[2]	0.260
D	III	Direct	0.003	1.5:1	0.004
Total Compensatory Wetland Creation Required:					**0.777**
Total Wetland Creation Proposed:					**1.587**

Notes:
1. WSDOE rating according to Washington State wetland rating system for Western Washington (Hruby and Yahnke, 2023).
2. Indirect impacts are mitigated at one half the standard mitigation ratio for direct wetland impacts (WSDOE et al, 2021).

The proposed onsite wetland creation area will be located on the southern portion of the subject property, between/connecting Wetlands A and C. The wetland mitigation area has been designed to ensure the created wetland area will be protected by a minimum of a 110-foot "perimeter buffer". The wetland creation area will be separated from the proposed development by this "perimeter buffer" at a minimum. Currently, the area surrounding the wetland creation area consists of herbaceous plants and areas degraded due to mowing, the encroachment of non-native invasive species, and lack of native trees and shrubs. Following development, the wetland creation area will be situated in a protected corridor with Wetlands A, B, and C on a site developed with a high-density residential plat that meet the criteria of a high intensity land use. According to local and joint state and federal guidance (WSDOE et al, 2021), Category III wetlands adjacent to high intensity land uses should have a protective 150-foot perimeter buffer. However, per AMC 20.93.830(a)(1), a 110-foot buffer associated with moderate land use impacts may be implemented when a relatively undisturbed vegetated corridor at least 100-feet wide is maintained between the wetland and any other protected areas, and minimization measures described in AMC 20.93.830 Table 20.93-5 are implemented. These measures will be enacted onsite to allow for a 110-foot perimeter buffer surrounding the wetland creation area. The 110-foot perimeter buffer overlaps with areas dominated by non-native invasive species and will be enhanced with native plantings (see section 3.1.2 below) to increase buffer functions surrounding the wetland creation site. The proposed wetland creation site will be further protected by the establishment of a protective easement or tract surrounding the wetland creation area and surrounding the existing wetlands and streams forming a connected corridor on the western portion of the subject property.

The goal of the proposed compensatory wetland creation is to create a larger, higher functioning forested and/or scrub-shrub depressional wetland on the southern portion of the subject property by connecting Wetlands A and C. The existing wetland areas proposed to be impacted onsite consist of predominantly emergent slope/depressional wetlands with areas of seasonal flooding and saturation that are partially degraded by mowing and the encroachment of non-native invasive species. Furthermore, Wetland D is isolated in the landscape. As such, the proposed wetland creation area situated between Wetlands A and C will provide an increase in wetland functions onsite.

The wetland creation areas will be excavated from uplands between Wetlands A and C. At a minimum, the excavation should achieve a water table within twelve inches of the soil surface during the early growing season for at least two consecutive weeks. Organic topsoil can be added to the wetland creation site as needed to provide a suitable substrate for native plantings; topsoil may be sourced from onsite or an approved offsite supplier.

Through careful design and utilization of best available science, the proposed mitigation plan has a high probability of success and persistence. The newly created wetland area will be installed in the same environment as the existing wetlands. The mitigation plan proposes to plant a variety of native tree, shrub, and groundcover species selected based on species wetland indicator statuses, targeted hydroperiods, local topography, and species currently present in the existing onsite wetland areas. By following the site preparation specifications outlined herein (e.g., excavation, topsoil installation as needed, and plantings), the wetland creation area will be able to maintain wetland hydrology during the growing season in most years to match the existing hydrologic regimes of the wetland areas proposed to be impacted and to provide functional wetland habitat.

In addition to the proposed wetland creation actions, the entirety of Wetland A and targeted areas in Wetland C that are currently degraded due to mowing and the encroachment of non-native invasive species will be enhanced by removing non-native invasive species and planting a dense assortment of native trees, shrubs, and groundcover to improve existing wetland functions onsite. Overall, the proposed wetland creation and wetland enhancement actions are anticipated to provide a net lift in wetland functions onsite when compared to the existing, degraded wetland areas proposed to be impacted by improving horizontal and vertical plant diversity which will improve opportunities for browsing, cover, and nesting, and by increasing plant density which will slow and attenuate surface runoff, improving water quality and hydrologic functions.

3.1.2 Buffer Mitigation Strategy

In order to offset 2,467 square feet of permanent wetland and stream buffer impacts, 8,684 square feet of buffer creation is proposed. Additionally, targeted buffer areas (totaling 101,308 square feet) that are currently degraded due to mowing, the encroachment of non-native invasive species, and largely lacking native tree and shrub cover, will be enhanced. Throughout both the buffer creation and buffer enhancement areas, non-native invasive species and other degradations (trash, debris, etc.) will be removed, and the areas will be densely planted with an assortment of native trees, shrubs, and groundcovers. The buffer creation and enhancement areas are depicted in Appendix A.

Providing native plantings within the buffer will enhance the habitat functions and critical area protection provided by the site, improve hydrology and quality of water leaving the project site, and increase buffer screening between the wetlands, Stream Z, and proposed development. Areas of established native vegetation will be retained. Overall, the proposed project will result in a net gain in ecological functions when compared to the existing degraded conditions of the existing wetland buffers.

3.1.3 Mitigation Recommendations

The wetland creation, wetland enhancement, buffer creation and buffer enhancement proposed will include, but may not be limited to, the following recommendations:

- Pre-treat invasive plants within the wetland buffer areas with a Washington Department of Agriculture approved herbicide. After pre-treatment, grub to remove the invasive plants and

replant all cleared areas with native trees, shrubs, and ground covers listed in the plan set. Pre-treatment of the invasive plants should occur a minimum of two weeks prior to removal;

- Excavate a wetland creation area contiguous with/connecting Wetlands A and C to a sufficient depth to hold wetland hydrology;
- Removal of all trash, refuse, and debris within the mitigation areas;
- Plant all mitigation areas with native trees, shrubs, and groundcovers listed in the plan set, or substitutes approved by the responsible Project Scientist, to help retain soils, filter stormwater, and increase biodiversity;
- Retention of established native vegetation where possible;
- An approved native seed mix will be used to seed the disturbed areas after planting;
- Maintain and control invasive plants annually, at a minimum, or more frequently if necessary. Maintenance to reduce the growth and spread of invasive plants is not restricted to chemical applications but may include hand removal, if warranted;
- Provide dry-season irrigation as necessary to ensure native plant survival;
- Direct exterior lights away from the critical areas wherever possible; and
- Place all activities that generate excessive noise (e.g., generators and air conditioning equipment) away from the remaining critical areas where feasible.

3.2 Approach and Best Management Practices

The proposed onsite mitigation actions will provide increased wetland functions and wetland and stream protections by the maintenance or improvement of wetland and wetland and stream buffer functions onsite. Mitigation actions should occur immediately after grading is complete. Temporary erosion and sediment control (TESC) measures will be implemented that consist of high-visibility fencing (HVF) installed around native vegetation along the reduced perimeter of the buffer, silt fencing between the graded areas and undisturbed buffer, plastic sheeting on stockpiled materials, and seeding of disturbed soils. These TESC measures should be installed prior to the start of development or mitigation actions and actively managed for the duration of the project.

All equipment staging and materials stockpiles will be kept out of the critical areas and associated buffers, and the area will need to be kept free of spills and/or hazardous materials. All fill material for site preparation and road surfacing will be sourced from upland areas onsite or from approved suppliers and will need to be free of pollutants and hazardous materials. Construction materials along with all construction waste and debris will be effectively managed and stockpiled on paved surfaces and kept free of the critical areas and buffers. Following completion of the development, the entire site will be cleaned, and detail graded using hand tools wherever necessary, and TESC measures will be removed.

3.3 Goals, Objectives, and Performance Standards

The goals and objectives for the onsite mitigation actions are based on replacing and improving onsite wetland and wetland and stream buffer functions impacted by the proposed project relative to existing conditions. These actions are capable of providing moderate to high levels of hydrologic, water quality, and habitat functions.

The goals, objectives, and performance standards are listed below. "Cover" is used in this Mitigation Plan to mean the proportion of the ground surface that is covered by vegetation when viewed from above. Native recruits will be utilized in assessing performance standards unless otherwise specified

for a particular performance standard. Dead or dying plants may be replaced, and replacement plants may be utilized in assessing performance standards, unless otherwise specified for a particular performance standard.

Goal 1 – Compensate for the loss of 11,399 square feet of wetlands and 12,003 square feet of indirect wetland impacts by creating a minimum of 69,115 square feet of wetland area that provides a moderate level of habitat functions.

Objective 1.1 – Establish a minimum of 69,115 square feet of wetland creation area between Wetlands A and C.

Performance Standard 1.1.1 – The wetland creation area will measure at least 69,115 square feet in size as demonstrated by wetland delineations in Year 5 and Year 10. The wetland area will be delineated using the *1987 Army Corps of Engineers Delineation Manual and the 2010 Western Mountains, Valleys, and Coast Regional Supplement, Version 2*.

Performance Standard 1.1.2 – In at least 5 out of the 10 monitoring years, the wetland creation area will have surface water or a water table or saturation within 12 inches of the soil surface for a minimum of 14 consecutive days during the growing season. Wetland hydrology will be assessed through soil pits and/or direct observations.

Objective 1.2 – Establish forested and scrub-shrub wetland habitat within the wetland creation area with diverse horizontal and vertical vegetation structure and species richness to provide habitat for wetland-associated wildlife.

Performance Standard 1.2.1 – At the end of Year 1, minimum plant survivorship within the wetland creation areas will be at 90 percent of the number of installed trees and shrubs (replacement of lost plants allowed). Native volunteer species may be included in the count.

Performance Standard 1.2.2 – Native woody vegetation in the wetland creation area will provide at least 20 percent cover by Year 3, at least 30 percent cover by Year 5, at least 50 percent cover by Year 7, and 75 percent cover by Year 10.

Performance Standard 1.2.3 – In all monitoring years, the wetland creation areas will have at least 2 species of native trees and 3 species of native shrubs.

Objective 1.3 – Effectively control and/or eliminate non-native invasive species from the wetland creation area.

Performance Standard 1.3.1 – Non-native, invasive plants (excluding reed canary grass) will not make up more than 20 percent cover during all monitoring years. Non-native, invasive plants are plants listed by the Washington State Noxious Weed Board.

Performance Standard 1.3.2 – Reed canary grass cover will be reduced compared to baseline conditions established immediately prior to the mitigation actions: 15 percent reduction below baseline cover by Year 5, and 30 percent reduction below baseline by Year 10.

Performance Standard 1.4.3 – State-listed, Class-A noxious weeds, purple loosestrife (*Lythrum salicaria*), and all non-native knotweeds and hybrids, and hybrids including *Polygonum cuspidatum*, *P. polystachyum*, *P. sachalinense*, *P. bohemicum*, etc. will be eradicated from the wetland creation area during all monitoring years.

Goal 2 – Enhance a minimum of 41,089 square feet of existing wetlands to provide a moderate level of habitat functions.

Objective 2.1 – Increase native woody plant cover within the wetland enhancement areas to create diverse horizontal and vertical vegetation structure and additional wildlife habitat.

Performance Standard 2.1.1 – At the end of Year 1, minimum plant survivorship within the wetland enhancement area will be at least 90 percent of the number of installed trees and shrubs.

Performance Standard 2.1.2 – Native woody vegetation in the wetland enhancement area will provide at least 20 percent cover by Year 3, at least 30 percent cover by Year 5, at least 50 percent cover by Year 7, and 75 percent cover by Year 10.

Performance Standard 2.1.3 – In all monitoring years, the wetland enhancement areas will have at least 2 species of native trees and 3 species of native shrubs.

Objective 2.2 – Effectively control non-native invasive species within the wetland enhancement areas.

Performance Standard 2.2.1 – Non-native invasive plants, excluding reed canarygrass, will not make up more than 20 percent cover during all monitoring years. Non-native invasive plants are plants listed by the Washington State Noxious Weed Board.

Performance Standard 2.2.2 – During all monitoring years, Reed canary grass cover will not exceed the baseline percent cover established during Year 0 (As-Built).

Performance Standard 1.2.3 – State-listed, Class-A noxious weeds, purple loosestrife (*Lythrum salicaria*), and all non-native knotweeds and hybrids, and hybrids including *Polygonum cuspidatum*, *P. polystachyum*, *P. sachalinense*, *P. bohemicum*, etc. will be eradicated from the wetland enhancement area during all monitoring years.

Goal 3 – Enhance 109,992 square feet of buffer (which includes 8,684 square feet of buffer creation) to offset 2,467 square feet of permanent buffer impacts and improve onsite buffer functions by creating native woody plant communities.

Objective 3.1 – Establish 109,992 square feet of buffer enhancement areas that are vegetated with native woody plant cover to create diverse horizontal and vertical vegetation structure and wildlife habitat.

Performance Standard 3.1.1 – At the end of Year 1, minimum plant survivorship within the buffer enhancement area will be at least 90 percent of the number of installed trees and shrubs.

Performance Standard 3.1.2 – Native woody vegetation in the wetland buffer enhancement areas will provide at least 20 percent cover by Year 3, at least 30 percent cover by Year 5, at least 50 percent cover by Year 7, and 75 percent cover by Year 10.

Performance Standard 3.1.3 – In all monitoring years, the buffer enhancement areas will have at least 2 native tree species and 4 native shrubs species.

Objective 3.2 – Effectively control and/or eliminate non-native invasive species in the buffer enhancement areas.

Performance Standard 3.2.1 – Non-native invasive plants (excluding reed canary grass) will not make up more than 20 percent cover during all monitoring years. Non-native invasive plants are plants listed by the Washington State Noxious Weed Board.

Performance Standard 3.2.2 – During all monitoring years, Reed canary grass cover will not exceed the baseline percent cover established during Year 0 (As-Built).

Performance Standard 3.2.3 – State-listed, Class-A noxious weeds, purple loosestrife (*Lythrum salicaria*), and all non-native knotweeds and hybrids, and hybrids including *Polygonum cuspidatum*, *P. polystachyum*, *P. sachalinense*, *P. bohemicum*, etc. will be eradicated from the buffer enhancement area during all monitoring years.

Goal 4 – Restore 6,379 square feet of buffer to replace existing buffer functions in areas temporarily impacted by development activities.

Objective 4.1 – Establish native plant cover within the targeted buffer areas to create diverse horizontal and vertical vegetation structure and additional wildlife habitat.

Performance Standard 4.1.1 – At the end of Year 1, minimum plant survivorship within the buffer restoration area will be at least 90 percent of the number of installed trees and shrubs.

Performance Standard 4.1.2 – Native woody vegetation in the buffer restoration areas will provide at least 20 percent cover by Year 3, at least 30 percent cover by Year 5, at least 50 percent cover by Year 7, and 75 percent cover by Year 10.

Performance Standard 4.1.3 – In all monitoring years, the buffer restoration area will have at least 2 species of native trees and 3 species of native shrubs.

Objective 4.2 – Effectively control non-native invasive species within the buffer restoration area.

Performance Standard 4.2.1 – Non-native invasive plants will not make up more than 20 percent cover during all monitoring years. Non-native invasive plants are plants listed by the Washington State Noxious Weed Board.

3.4 Plant Materials and Installation

Plant Materials

All plant materials to be used for mitigation actions will be nursery grown stock from a reputable, local source. Only native species are to be used; no hybrids or cultivars will be allowed. Plant material provided will be typical of their species or variety; if not cuttings they will exhibit normal, densely developed branches and vigorous, fibrous root systems. Plants will be sound, healthy, vigorous plants free from defects, and all forms of disease and infestation.

Container stock shall have been grown in its delivery container for not less than six months but not more than two years. Plants shall not exhibit rootbound conditions. Under no circumstances shall container stock be handled by their trunks, stems, or tops. Seed mixture used for hand or hydroseeding shall contain fresh, clean, and new crop seed mixed by an approved method. The mixture is specified in the plan set.

All plant material shall be inspected by the Project Scientist upon delivery. Plant material not conforming to the specifications below will be rejected and replaced by the planting contractor. Rejected plant materials shall be immediately removed from the site.

Fertilizer will be in the form of Agriform plant tabs or an approved like form. Mulch will consist of sterile wheat straw for seeded areas (if necessary) and clean recycled wood chips approximately ½-inch to 1-inch in size and ½-inch thick for woody plants. The mulch material may be sourced from non-invasive woody materials sourced from the land clearing activities.

Plant Scheduling, Species, Size, and Spacing

Plant installation should occur as close to conclusion of the construction activities as possible to limit erosion and limit the temporal loss of function provided by the wetlands, stream and buffers. All planting should occur between September 1 and May 1 to ensure plants do not dry out after installation, or temporary irrigation measures may be necessary.

Quality Control for Planting Plan

All plant material shall be inspected by the qualified Project Scientist upon delivery. Plant material not conforming to the specifications above will be rejected and replaced by the planting contractor. Rejected plant materials shall be immediately removed from the site. Under no circumstances shall container stock be handled by their trunks, stems, or tops.

The landscape contractor shall provide the responsible Project Scientist with documentation of plant material that includes the supplying nursery contact information, plant species, plant quantities, and plant sizes.

Product Handling, Delivery, and Storage

All seed and fertilizer should be delivered in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. This material should be stored in a manner to prevent wetting and deterioration. All precautions customary in good trade practice shall be taken in preparing plants for moving. Workmanship that fails to meet industry standards will be rejected. Plants will be packed, transported, and handled with care to ensure protection against injury and from drying out. If plants cannot be planted immediately upon delivery they should be protected with soil, wet peat moss, or in a manner acceptable to the responsible Project Scientist. Plants, fertilizer, and mulch not installed immediately upon delivery shall be secured on the site to prevent theft or tampering. No

plant shall be bound with rope or wire in a manner that could damage or break the branches. Plants transported on open vehicles should be secured with a protective covering to prevent windburn.

Preparation and Installation of Plant Materials

The planting contractor shall verify the location of all elements of the mitigation plan with the responsible Project Scientist prior to installation. The responsible Project Scientist reserves the right to adjust the locations of landscape elements during the installation period as appropriate. If obstructions are encountered that are not shown on the drawings, planting operations will cease until alternate plant locations have been selected by and/or approved by the Project Scientist.

Circular plant pits with vertical sides will be excavated for all container stock. The pits should be at least 1.5 times the width of the rootball, and the depth of the pit should accommodate the entire root system.

Broken roots should be pruned with a sharp instrument and rootballs should be thoroughly soaked prior to installation. Set plant material upright in the planting pit to proper grade and alignment. Water plants thoroughly midway through backfilling and add Agriform tablets. Water pits again upon completion of backfilling. No filling should occur around trunks or stems. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water and install a 4- to 6-inch layer of mulch around the base of each container plant.

Temporary Irrigation Specifications

While the native species selected for mitigation actions are hardy and typically thrive in northwest conditions and the proposed actions are planned in areas with sufficient hydroperiods for the species selected, some individual plants might perish due to dry conditions. Therefore, irrigation or regular watering may be provided as necessary for the duration of the first two growing seasons, two times per week while the native plantings become established. If used, irrigation will be discontinued after two growing seasons. Frequency and amount of irrigation will be dependent upon climatic conditions and may require more or less frequent watering than two times per week.

Invasive Plant Control and Removal

Invasive species onsite to be removed include Himalayan blackberry, reed canarygrass, and any listed noxious weeds or other invasive species that are existing or may colonize the mitigation area. These species are found nearby; therefore, to ensure these species do not expand following the mitigation actions, invasive species within the mitigation areas will be pretreated with a root-killing herbicide approved for use in aquatic sites (e.g., e.g. Glyphosate 5.4 containing herbicide) a minimum of two weeks prior to being removed from the wetland and stream buffers. The pre-treatment with herbicide should occur prior to all planned mitigation actions, and spot treatment of any surviving other invasive vegetation should be performed again each fall prior to leaf senescence for a minimum of three years.

3.5 Maintenance & Monitoring Plan

Conceptual Maintenance and Monitoring Plans are described below in accordance with AMC 20.93.390, and anticipated conditions from other regulatory agencies. The Applicant is committed to compliance with the mitigation plan and overall success of the project. As such, the Applicant will continue to maintain the mitigation areas, keeping the site free from of non-native invasive vegetation, trash, and yard waste.

The mitigation actions will require continued monitoring and maintenance to ensure the mitigation actions are successful. Therefore, the mitigation areas will be monitored for a period of ten years, with formal inspections by a qualified Project Scientist. Monitoring events will be scheduled at the time of construction, 30 days after planting, and minimally on an annual basis during Years 1, 2, 3, 5, 7, and 10. Closeout monitoring will also occur in Year 10. Delineation of compensatory wetland creation areas by a qualified Wetland Scientist will be conducted in Years 5 and 10 to ensure the success of the compensatory actions.

Monitoring will consist of percent cover measurements and stem counts at permanent monitoring stations, walk-through surveys to identify invasive species presence and dead or dying enhancement plantings, photographs taken at fixed photo points, wildlife observations, and general qualitative habitat and wetland function observations. Data collected during monitoring visits will be appropriate for the performance standards of the relevant monitoring year. The permanent monitoring stations will be established such that the mitigation site is representatively sampled. Circular sample plots, approximately 30 feet in diameter (706 square feet), will be centered at each monitoring station. Sample plots will be located entirely within the proposed mitigation site. Sample plot shapes may need to be adjusted to ensure that sample plots do not cross the mitigation site boundaries; adjusted sample plot shapes should maintain the same area as the 30-foot-diameter circular sample plots. Mean survivorship and percent cover measurements from the sample plots will be used to estimate survivorship and percent cover across the mitigation site.

To determine survivorship, individual tree and shrub stems within the relevant circular sampling plots will be counted. Plants which grow several stems from a single base will be counted as one individual plant. These trees and shrubs will then be recorded as dead/dying or alive. To determine percent cover and species richness of woody vegetation, each species of tree or shrub within the approximately 30-foot-diameter circular sampling plots will be recorded and identified as native or invasive. Plants may be recorded by genus if species is unable to be determined at the time of the monitoring visit. Herbaceous vegetation will be sampled from a 10-foot diameter (78.5 square feet), established at the same location as the center of each tree and shrub sample plot. Herbaceous vegetation within the sampling plot will be recorded to at least the genus level and identified as native or invasive. A list of observed tree, shrub, and herbaceous genera or species, cover estimates, and wetland indicator status will be included within each monitoring report.

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3.6 Reporting

Following construction, an as-built report will be submitted to the City of Arlington, WSDOE, and the USACE. Additionally, a brief monitoring report detailing the current ecological status of the wetland creation and enhancement and the buffer creation and enhancement actions, measurement of performance standards, and management recommendations will be prepared and submitted to the City of Arlington, WSDOE, and USACE within 90 days of each monitoring event to ensure full compliance with the mitigation plan.

3.7 Contingency Plan

If monitoring results indicate that performance standards are not being met, it may be necessary to implement all or part of the contingency plan. Careful attention to maintenance is essential in ensuring that problems do not arise. Should any portions of the mitigation areas fail to meet the success criteria, a contingency plan will be developed and implemented with Agency approval. Such plans are adaptive and should be prepared on a case-by-case basis to reflect the failed mitigation characteristics.

Contingency plans can include additional plant installation, erosion control, and plant substitutions including type, size, and location. The Contingency measures outlined below can also be utilized in perpetuity to maintain the wetlands and buffers associated with the proposed project site.

Contingency/maintenance activities may include, but are not limited to:

1. Using plugs instead of seed for emergent vegetation coverage where seeded material does not become well-established;
2. Replacing plants lost to vandalism, drought, or disease, as necessary;
3. Replacing any plant species with a 20 percent or greater mortality rate after two growing seasons with the same species or native species of similar form and function;
4. Irrigating the mitigation areas only as necessary during dry weather if plants appear to be too dry, with a minimal quantity of water;
5. Reseeding and/or repair of wetland and buffer areas as necessary if erosion or sedimentation occurs;
6. Spot treat non-native invasive plant species; and
7. Removing all trash or undesirable debris from the buffer area as necessary.

3.8 Critical Area Protective Measures

Long-term protection of the mitigation site shall be provided by placement in a separate critical area tract in which development is prohibited or by execution of an easement dedicated to the City of Arlington, a conservation organization, land trust, or similarly preserved through a permanent protective mechanism acceptable to the city. The location and limitations associated with the mitigation area shall be shown on the face of the deed or plat applicable to the property and shall be recorded with the Snohomish County recording department.

3.9 Financial Assurances

Under AMC 20.93.390(5), performance security is required to assure that all actions approved under this Mitigation Plan are satisfactorily completed in accordance with the mitigation plan, performance standards, and regulatory conditions of approval. Prior to final inspection, a maintenance and warranty security (bond) shall be obtained according to the conditions of approved development agreements with the City and appropriate permitting agencies.

Chapter 4. Closure

The findings and conclusions documented in this report have been prepared for specific application for the Lindsay Annexation project. These findings and conclusions have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. The conclusions and recommendations presented in this assessment report are professional opinions based on an interpretation of information currently available to us and are made within the operation scope, budget, and schedule of this project. No warranty, expressed or implied, is made. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, our observations and conclusions applicable to this assessment may need to be revised wholly or in part in the future.

Chapter 5. References

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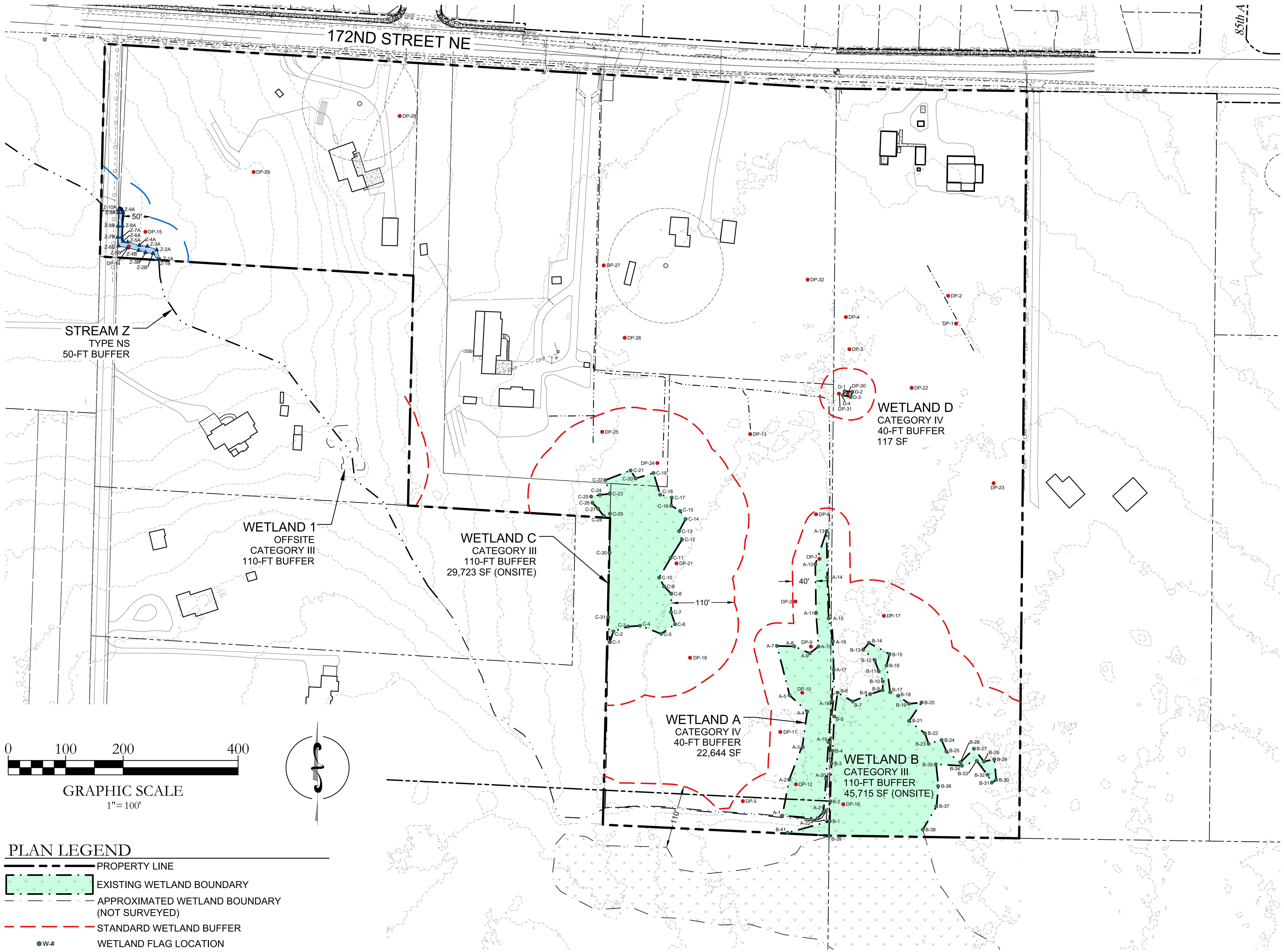
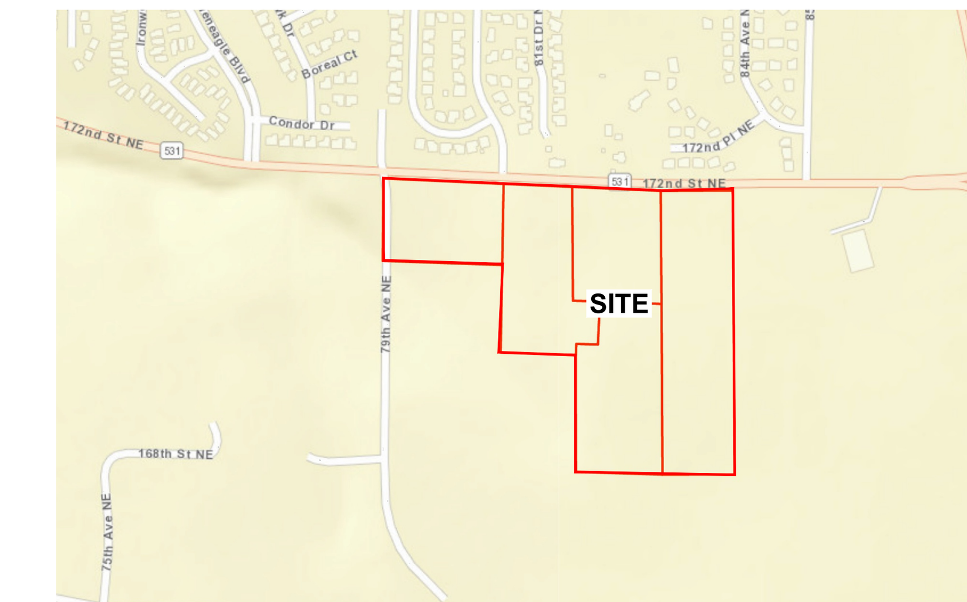
Appendix A – Existing Conditions and Site Plans



PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND BOUNDARY
- APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
- STANDARD WETLAND BUFFER
- W-# WETLAND FLAG LOCATION
- DP-# DATA PLOT LOCATION
- STREAM CENTERLINE
- STREAM ORDINARY HIGH WATER LINE (OHW)
- STREAM BUFFER
- O-# STREAM OHW (ORDINARY HIGH WATER) FLAG LOCATION
- DITCH CENTERLINE
- EXISTING CONTOUR

VICINITY MAP



SOURCE: ESRI (ACCESSED 01/27/2025)

APPLICANT/OWNER

NAME: MJS INVESTORS
ADDRESS: 11400 SE 8TH STREET, SUITE 200, BELLEVUE, WA 98004
CONTACT: ROB RISINGER
PHONE: (425) 417-6004
E-MAIL: ROBR@MJSINVESTORS.COM

LOCATION

THE NE ¼ OF SECTION 26, TOWNSHIP 31N, RANGE 5E, WM

ENVIRONMENTAL CONSULTANT

SOUNDVIEW CONSULTANTS LLC
2907 HARBORVIEW DRIVE
GIG HARBOR, WA 98355
(253) 514-8952

SHEET INDEX

SHEET	SHEET TITLE
M1.0	EXISTING CONDITIONS
M2.0	PROPOSED SITE PLAN & MPACTS
M3.0	PROPOSED SITE PLAN & MITIGATION
M3.1	PLANT SCHEDULE
M4.0	DETAILS

NOTES

1. SURVEY PROVIDED BY COMPANY, ADDRESS, PHONE NUMBER.
2. SITE PLAN PROVIDED BY LAND TECHNOLOGIES, INC. 18820 3RD AVE NE ARLINGTON WA 98223, 360-652-9727
3. SOURCE DRAWING WAS MODIFIED BY SOUNDVIEW CONSULTANTS FOR VISUAL ENHANCEMENT.

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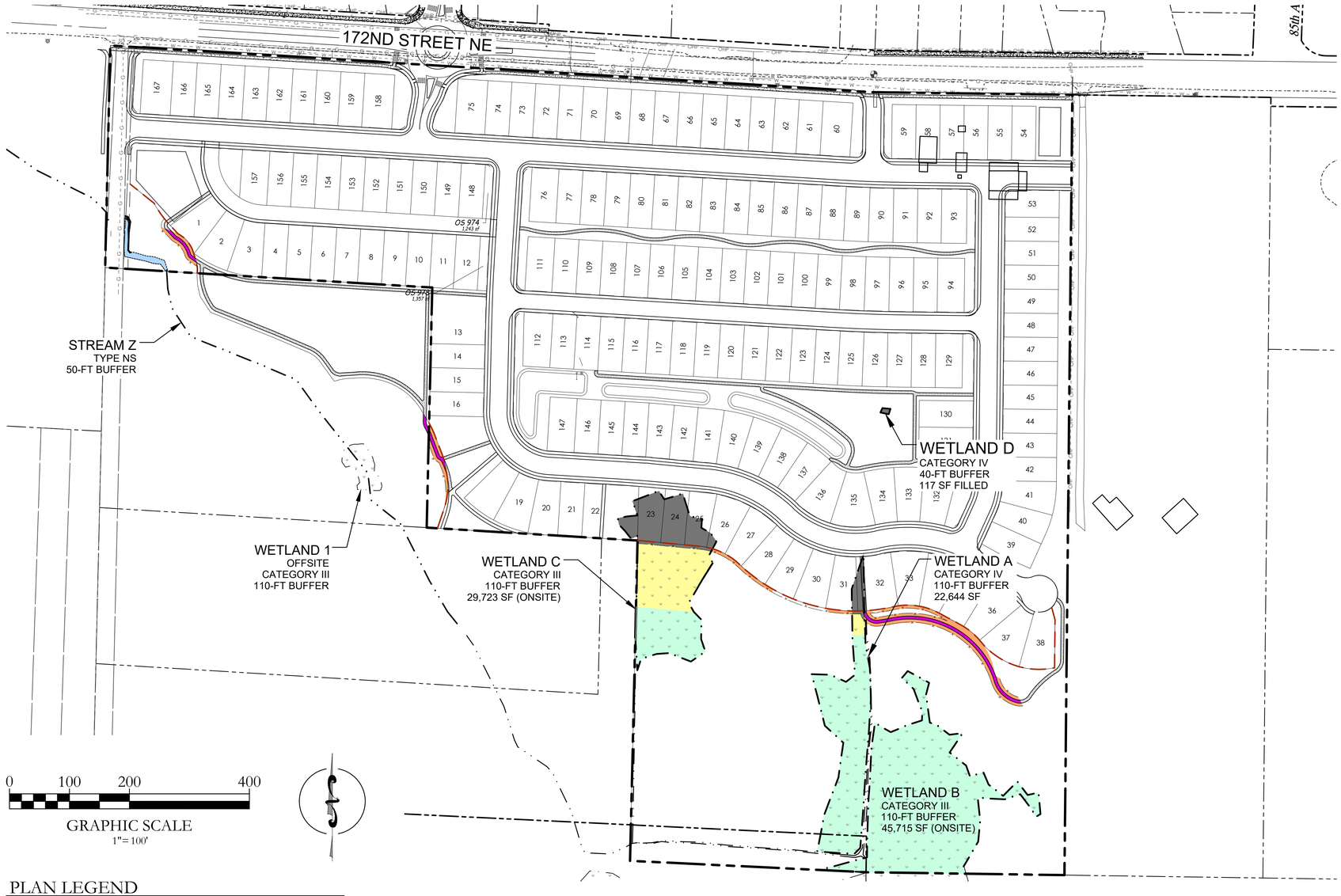
LINDSAY ANNEXATION - PENDING PROJECT
8014, 8228, 8210, 8326 172ND STREET NE, ARLINGTON, WA 98223
SNOHOMISH COUNTY PARCEL NUMBER(S): 31052500200600, 31052600100100, 31052600100200, 31052600102200, 31052600102300

REVISIONS:	DATE	BY

DATE: 8/4/2025
SCALE: AS SHOWN
BY: MW
JOB #: 2419.0002
SHEET: M1.0



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GRAPHIC SCALE
1"= 100'

PLAN LEGEND

- PROPERTY LINE
- WETLAND BOUNDARY
- APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
- STREAM CENTERLINE
- STREAM ORDINARY HIGH WATER LINE (OHW)
- EXISTING DITCH CENTERLINE
- POST-CONSTRUCTION BUFFER
- PROPOSED CLEARING LIMIT

IMPACTS LEGEND

WETLAND IMPACTS

TOTAL WETLAND FILL	11,399 SF
FILL -- WETLAND A	1,499 SF
FILL -- WETLAND C	9,783 SF
FILL -- WETLAND D	117 SF
INDIRECT WETLAND IMPACTS	12,003 SF
INDIRECT IMPACTS -- WETLAND A	690 SF
INDIRECT IMPACTS -- WETLAND C	11,313 SF

BUFFER IMPACTS

TEMPORARY CONSTRUCTION RELATED IMPACTS (FOR GRADING AND UTILITIES; TO BE RESTORED)	7,379 SF
PERMANENT BUFFER IMPACTS (FOR PEDESTRIAN TRAIL)	2,467 SF

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LINDSAY ANNEXATION - PENDING PROJECT

8014, 8228, 8210, 8326 172ND STREET NE,
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBER(S):
31052500200600, 31052600100100, 31052600100200,
31052600102200, 31052600102300

REVISIONS: DATE: BY:

DATE: 8/4/2025
SCALE: AS SHOWN
BY: MW
JOB #: 2419.0002
SHEET: M2.0

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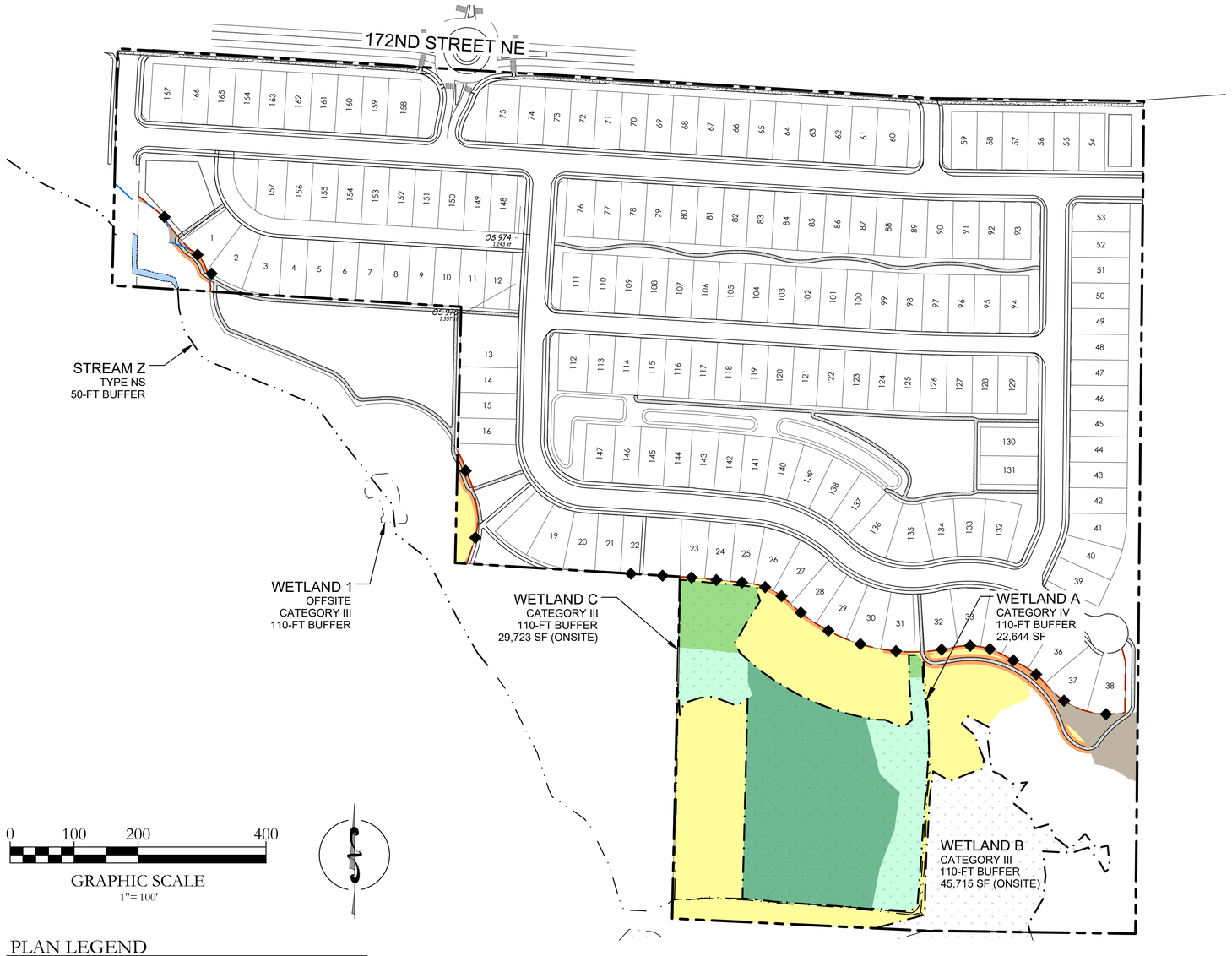
Printed August 4, 2025



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GRAPHIC SCALE
1"= 100'

PLAN LEGEND

- PROPERTY LINE
- WETLAND BOUNDARY
- APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
- POST CONSTRUCTION BUFFER
- STREAM CENTERLINE
- STREAM ORDINARY HIGH WATER LINE (OHW)
- EXISTING DITCH CENTERLINE

MITIGATION LEGEND

WETLAND MITIGATION

WETLAND ENHANCEMENT	29,086 SF
WETLAND CREATION	69,115 SF

FENCES & SIGNS

POST-CONSTRUCTION BUFFER/ CRITICAL AREA FENCE	1,235 SF
CRITICAL AREA SIGN	23 SIGNS

BUFFER MITIGATION

WETLAND AS BUFFER ENHANCEMENT (INDIRECT WETLAND IMPACTS)	12,003 SF
BUFFER ENHANCEMENT	101,308 SF
BUFFER RESTORATION (FOR TEMPORARY CONSTRUCTION RELATED IMPACTS)	6,379 SF
BUFFER CREATION	8,684 SF

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LINDSAY ANNEXATION - PENDING PROJECT

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ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBER(S):
31052500206000, 31052600100100, 31052600100200,
31052600102200, 31052600102300

REVISIONS: DATE BY

DATE: 8/4/2025
SCALE: AS SHOWN
BY: MW
JOB #: 2419.0002
SHEET: M3.0

Y:\CURRENT\2419 MJS Investors\2419.0002 Lindsay Annexation\Graphics & Maps\CAD\A - CURRENT SVC DRAWINGS\A - Current Base Plot\2419.0002 (2025-08) PPA base.dwg
Plotted August 4, 2025

PLANT SCHEDULE

			Area (sf):	69,115	41,089	15,063	101,308	226,575				
			Cov'g (%):	100	75	100	75					
			Trees (%):	50	50	50	50					
			Shrubs (%):	50	50	50	50					
Scientific Name	Common Name	WL Status		Wetland Creation	Wetland Enhancement	Buffer Creation and Restoration	Buffer Enhancement	TOTAL	Spacing (min.)	Height (min.)	Size (min.)	Planting Area
TREES				(Qty)	(Qty)	(Qty)	(Qty)	(Qty)				
Alnus rubra	red alder	FAC		0	0	0	100	**100**	**10 ft**	**3 ft**	**1 gal**	**Dry/Moist - on hummock**
Frangula purshiana (Rhamnus p.)	cascara	FAC		0	0	4	18	**22**	**10 ft**	**3 ft**	**2 gal**	**Dry**
Malus fusca (Pyrus f.)	Pacific crabapple	FACW		18	8	0	0	**26**	**10 ft**	**3 ft**	**2 gal**	**Wet - in wetland**
Picea sitchensis	Sitka spruce	FAC		27	12	4	27	**70**	**10 ft**	**3 ft**	**5 gal**	**Moist - on hummock**
Populus trichocarpa	black cottonwood	FAC		18	0	8	0	**26**	**10 ft**	**3 ft**	**2 gal**	**Moist/Wet - on hummock**
Pseudotsuga menziesii	Douglas fir	FACU		0	0	4	18	**22**	**10 ft**	**3 ft**	**5 gal**	**Dry**
Salix lasiandra	Pacific willow	FACW		45	23	8	54	**130**	**10 ft**	**4 ft**	**Stakes**	**Wet**
Salix scouleriana	Scouler's willow	FAC		142	60	31	180	**413**	**5 ft**	**4 ft**	**Stakes**	**Dry**
Salix sitchensis	Sitka willow	FACW		142	75	31	144	**392**	**5 ft**	**4 ft**	**Stakes**	**Moist/Wet**
Thuja plicata	western redcedar	FAC		9	4	0	0	**13**	**10 ft**	**3 ft**	**5 gal**	**Moist - on hummock**
		Total:		**401**	**182**	**90**	**541**	**1214**				
SHRUBS				(Qty)	(Qty)	(Qty)	(Qty)	(Qty)				
Acer circinatum	vine maple	FAC		0	0	0	89	**89**	**10 ft**	**4 ft**	**2 gal**	**Dry/Moist**
Cornus stolonifera	red-osier dogwood	FACW		692	335	0	0	**1027**	**4 ft**	**3 ft**	**1 gal**	**Moist/Wet**
Crataegus douglasii	Douglas hawthorn	FAC		222	0	0	0	**222**	**5 ft**	**3 ft**	**2 gal**	**Moist**
Lonicera involucrata	black twinberry	FAC		116	0	0	0	**116**	**4 ft**	**2 ft**	**1 gal**	**Moist/Wet**
Physocarpus capitatus	Pacific ninebark	FACW		222	43	0	0	**265**	**5 ft**	**2 ft**	**1 gal**	**Moist/Wet**
Rosa gymnocarpa	bald hip rose	FACU		0	0	70	556	**626**	**4 ft**	**2 ft**	**1 gal**	**Dry/Moist**
Rosa nutkana	Nootka rose	FAC		0	0	70	0	**70**	**4 ft**	**2 ft**	**1 gal**	**Dry**
Rosa pisocarpa	clustered wild rose	FAC		0	0	70	0	**70**	**4 ft**	**2 ft**	**1 gal**	**Wet**
Rubus spectabilis var. spectabilis	salmonberry	FAC		0	268	70	556	**894**	**4 ft**	**2 ft**	**1 gal**	**Moist**
Spiraea douglasii	Douglas spirea	FACW		346	67	0	0	**413**	**4 ft**	**2 ft**	**1 gal**	**Moist/Wet**
Symphoricarpos albus var. laevigatus	common snowberry	FACU		0	0	70	556	**626**	**4 ft**	**2 ft**	**1 gal**	**Dry**
		Total:		**1598**	**713**	**350**	**1757**	**4418**				
GRASSES				(Qty)	(Qty)	(Qty)	(Qty)	(Qty)				
Carex obnupta	slough sedge	OBL		500	0	0	0	**500**	**4 ft**	**6 in**	**plug**	**Wet**
		Total:		**500**	**0**	**0**	**0**	**500**				

SEED MIXES (www.riverrefugeseed.com)		WL Status	Wetland Creation	Wetland Enhancement	Buffer Creation and Restoration	Buffer Enhancement	TOTAL
Native Upland Grass Mix #9	**20 lbs/acre**		(Qty)	(Qty)	(Qty)	(Qty)	(Qty)
Elymus glaucus	Blue wildrye	30%					
Bromus carinatus	California brome	25%					
Hordeum brachyantherum	Meadow barley	10%					
Festuca roemeri	Roemer's fescue	10%					
Deschampsia elongata	Slender hairgrass	10%					
Agrostis exarata	Spike bentgrass	5%					
Deschampsia cespitosa	Tufted hairgrass	5%					
Festuca rubra var. rubra	Red fescue	5%					
		Total (lbs):	**0**	**0**	**7**	**0**	**7**
Native Wetland Grass Mix #10	**20 lbs/acre**		(Qty)	(Qty)	(Qty)	(Qty)	(Qty)
Glyceria occidentalis	Western mannagrass	40%					
Beckmannia syzigachne	American sloughgrass	30%					
Hordeum brachyantherum	Meadow barley	20%					
Alopecurus aequalis	Shortawn foxtail	10%					
		Total (lbs):	**24**	**0**	**0**	**0**	**24**
Moist Soil Sedge & Rush Mix #11	**20 lbs/acre**		(Qty)	(Qty)	(Qty)	(Qty)	(Qty)
Carex unilateralis	One-sided sedge	70%					
Carex densa	Dense sedge	12%					
Juncus effusus	Common rush	5%					
Juncus tenuis	Slender rush	5%					
Juncus bufonius	Toad rush	5%					
Carex stipata	Awl fruited sedge	2%					
Carex obnupta	Slough sedge	1%					
		Total (lbs):	**8**	**0**	**0**	**0**	**8**

1 - Scientific names and species identification taken from *Flora of the Pacific Northwest, 2nd Edition (Hitchcock and Cronquist, Ed. by Giblin, Ledger, Zika, and Olmstead, 2018).*
2 - Over-sized container plants are suitable for replacement pending Project Biologist approval.
3 - Alternate native plant species may be substituted or added with Project Biologist approval.
4 - All disturbed and bare soil areas in the buffer to be seeded with a native grass seed mix.
5 - Shrub calculations based upon 5-ft average spacing.
6 - Tree calculations based upon 10-ft average spacing.

Soundview Consultants
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2907 HARBORVIEW DRIVE
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LINDSAY ANNEXATION - PENDING PROJECT
8014, 8228, 8210, 8326 172ND STREET NE,
ARLINGTON, WA 98223
SNOHOMISH COUNTY PARCEL NUMBER(S):
31052500206600, 31052600100100, 31052600100200, 31052600102200, 31052600102300

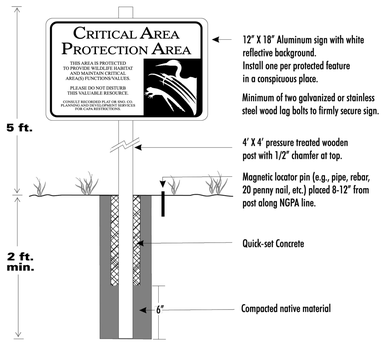
REVISIONS: DATE: BY:

DATE: 8/4/2025
SCALE: AS SHOWN
BY: MW
JOB #: 2419.0002
SHEET: M3.1

Y:\CURRENT\2419 MJS Investors\2419.0002 Lindsay Annexation\Graphics & Maps\CAD\A - CURRENT SVC DRAWINGS\A - Current Base Plan\24190002 (2025-08) PPA base.dwg
Plotted August 4, 2025

Critical Area Protection Area Sign Installation Guidelines

TYPE 1 SIGN



12" X 18" Aluminum sign with white reflective background. Install one per protected feature in a conspicuous place.

Minimum of two galvanized or stainless steel wood lag bolts to firmly secure sign.

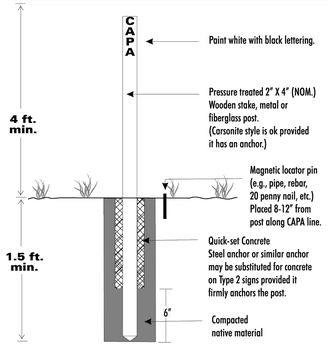
4' X 4' pressure treated wooden post with 1/2" chamfer at top.

Magnetic locator pin (e.g., pipe, rebar, 20 penny nail, etc.) placed 8-12" from post along NGPA line.

Quick-set Concrete

Compacted native material

TYPE 2 SIGN



Paint white with black lettering.

Pressure treated 2" X 4" (NOM.) Wooden stake, metal or fiberglass post. (Carsonite style is ok provided it has an anchor.)

Magnetic locator pin (e.g., pipe, rebar, 20 penny nail, etc.) Placed 8-12" from post along CAPA line.

Quick-set Concrete
Steel anchor or similar anchor may be substituted for concrete on Type 2 signs provided it firmly anchors the post.

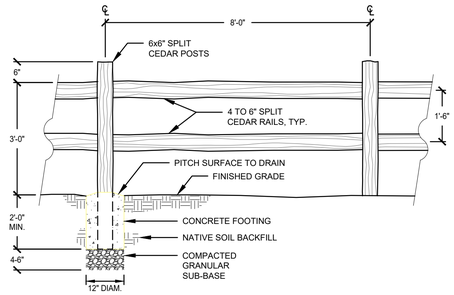
Compacted native material

NOTES:

1. CAPA signs shall be placed no greater than 100 feet apart around the perimeter of the Critical Area Protection Area. Minimum placement shall include one Type 1 sign per wetland, and at least one Type 1 sign shall be placed in any lot that borders the Critical Area Protection Area, unless otherwise approved by the County biologist.
2. Sign placement shall be subject to the approval of Snohomish County. Alternative sign designs may be submitted to Snohomish County for approval.
3. All signs must be secure and permanent.

SPLIT RAIL FENCE DETAIL

NOT TO SCALE

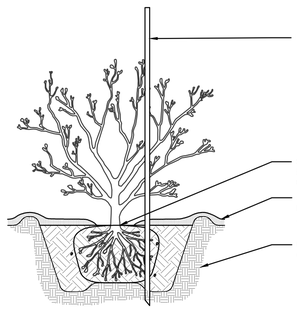


NOTES:

1. POSTS AND RAILINGS PRE-CUT FOR ASSEMBLY.
2. 3-RAIL DESIGNS ARE PERMITTED.
3. FENCE SHALL BE PLACED AT APPROVED BUFFER EDGE.

TREE AND SHRUB PLANTING DETAIL, TYP.

NOT TO SCALE



LOCATOR LATH (IF SPECIFIED)

SET TOP OF ROOT MASS / ROOT BALL FLUSH WITH FINISH GRADE OR SLIGHTLY ABOVE

3 to 4 INCH LAYER OF MULCH - KEEP MULCH MIN. 3" AWAY FROM TRUNK OF SHRUB

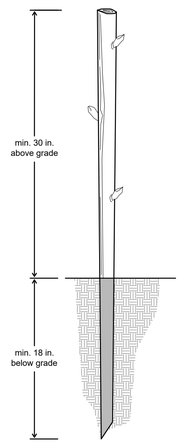
UNDISTURBED OR COMPACTED SUBGRADE

NOTES:

1. PLANT SHRUBS OF THE SAME SPECIES IN GROUPS OF 3 to 9 AS APPROPRIATE, OR AS SHOWN ON PLAN. AVOID INSTALLING PLANTS IN STRAIGHT LINES TO ACHIEVE A NATURAL-LOOKING LAYOUT.
2. EXCAVATE PIT TO FULL DEPTH OF ROOT MASS AND 2 X ROOT MASS DIAMETER. SPREAD ROOTS TO FULL WIDTH OF CANOPY. SCARIFY SIDES OF PIT.
3. MIDWAY THROUGH PLANTING ADD AGROFORM TABLET AND WATER THOROUGHLY.
4. BACKFILL TO BE COMPACTED USING WATER ONLY.
5. WATER IMMEDIATELY AFTER INSTALLATION.

LIVE STAKE PLANTING DETAIL (TYPICAL)

NOT TO SCALE



STORAGE OF LIVE STAKES:
ALL WOODY PLANT CUTTINGS COLLECTED MORE THAN 12 HR PRIOR TO INSTALLATION, MUST BE CAREFULLY BOUND, SECURED, AND STORED OUT OF DIRECT SUNLIGHT AND SUBMERGED IN CLEAN FRESH WATER FOR A PERIOD OF UP TO TWO WEEKS.

OUTDOOR TEMPERATURES MUST BE LESS THAN 50 DEGREES F AND TEMPERATURE INDOORS AND IN STORAGE CONTAINERS MUST BE BETWEEN 34 AND 50 DEGREES F.

IF THE LIVE STAKES CANNOT BE INSTALLED DURING THE DORMANT SEASON, CUT DURING THE DORMANT SEASON AND HOLD IN COLD STORAGE AT TEMPERATURES BETWEEN 33 AND 39 DEGREES F FOR UP TO 2 MONTHS.

NOTES:

1. LIVE STAKES TO BE A MIN. 1/2 INCH DIAMETER; MIN. 48 INCH LENGTH.
2. USE 1/2 INCH MIN. DIAMETER REBAR OR ROCK BAR TO MAKE PILOT HOLE WHEN PLANTING IN DENSE OR GRAVELY SOILS TO A MIN. DEPTH OF 18 INCHES.
3. MANUALLY INSERT LIVE STAKE INTO PILOT HOLE TAPERED END UP AND TEMP SOIL AROUND BASE. CUTTINGS SHOULD BE INSERTED TO A DEPTH OF AT LEAST 18 INCHES. LEAVE A MIN. OF 30" OF THE CUTTING ABOVE GROUND SURFACE TO ALLOW FOR SUCCESSFUL FOLIAGE DEVELOPMENT.
4. MINUMUM TWO BUDS ABOVE GRADE.
5. SET LIVE STAKES WITH DEAD-BLOW HAMMER.
6. WATER IMMEDIATELY AFTER INSTALLATION.

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LINDSAY ANNEXATION - PENDING PROJECT
8014, 8228, 8210, 8326 172ND STREET NE,
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SNOHOMISH COUNTY PARCEL NUMBER(S):
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31052600102200, 31052600102300

REVISIONS:	DATE	BY

DATE: 8/4/2025
SCALE: AS SHOWN
BY: MW
JOB #: 2419.0002
SHEET: M4.0

Appendix B – Qualifications

Project Manager: Kramer Canup
Report Preparation By: Monique Metza
Map Preparation By: Gerardo Solorzano Zaragoza
Document Quality Assurance By: Morgan Kirsanov

Kramer Canup is a Senior 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.

Monique Metza is a Staff Scientist III/ Junior Project Manager with 8 years of professional experience. Monique has a background in Wildlife Biology, Ecology and Conservation. She currently supports Soundview 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 to support clients through the regulatory and planning process for various land use projects. Her noteworthy experiences include analyzing large datasets to understand bat activity and the potential presence of disease in bat populations during winter seasons, collecting environmental samples to determine presence of the White-nose syndrome causing fungus in outdoor recreation areas, translocation of bighorn sheep to decrease prevalence of pneumonia in domestic and wild populations, and managing public lands to ensure Peregrine falcon nest success over multiple years.

Education: Master of Arts and Science in Biology from the college of William & Mary, Virginia. Bachelor of Science in Organismal Biology from Montana State University, Bozeman. *Professional Licenses/Certifications*: Desktop GIS (Pace University). Wildlife Chemical Restraint and Immobilization Certification (Center for Wildlife Studies). Animal Health Certification (Baldy View Regional Occupational Program). Animal Science Certification (Baldy View Regional Occupational Program). *Professional Trainings*: Wildland Firefighter Type 2 (USFS). *Qualified Author and Scientist Lists*: 2022 Summer Acoustic Bat Monitoring Field Report, Devils Tower National Monument. National Park Service. 2021 Summer Acoustic Bat Monitoring Field Report, Devils Tower National Monument. National Park Service. *Publications*: Metza, M.L., Swaddle, J.P., (2024). Bats and Rockreation: is

recreation a vector of Pseudogymnoascus destructans at Devils Tower National Monument? [Unpublished master's thesis]

Gerardo Solorzano Zaragoza has been a licensed Architect in Mexico since 2016, with 7 years of professional experience. Gerardo has a background in Architectural design for residential structural and industrial design. Currently he works with landscape, mitigation, tree assessment, and grading plans. Experience includes 7 years of AutoCAD and more than 11 years as a student using Architectural CAD programs for all types of processes.

Education: Bachelor of Architecture from Mexico Colima State University & specialty of Design and History of Art (2016). *Professional training:* 6 months Architectural design company (Punto Arquitectura Guadalajara Mexico, 2015) 6 months Architectural design company (Dcasa, Colima Mexico, 2015), Using professional blueprints, engineer calculations, CAD programs & files, structural & installations.

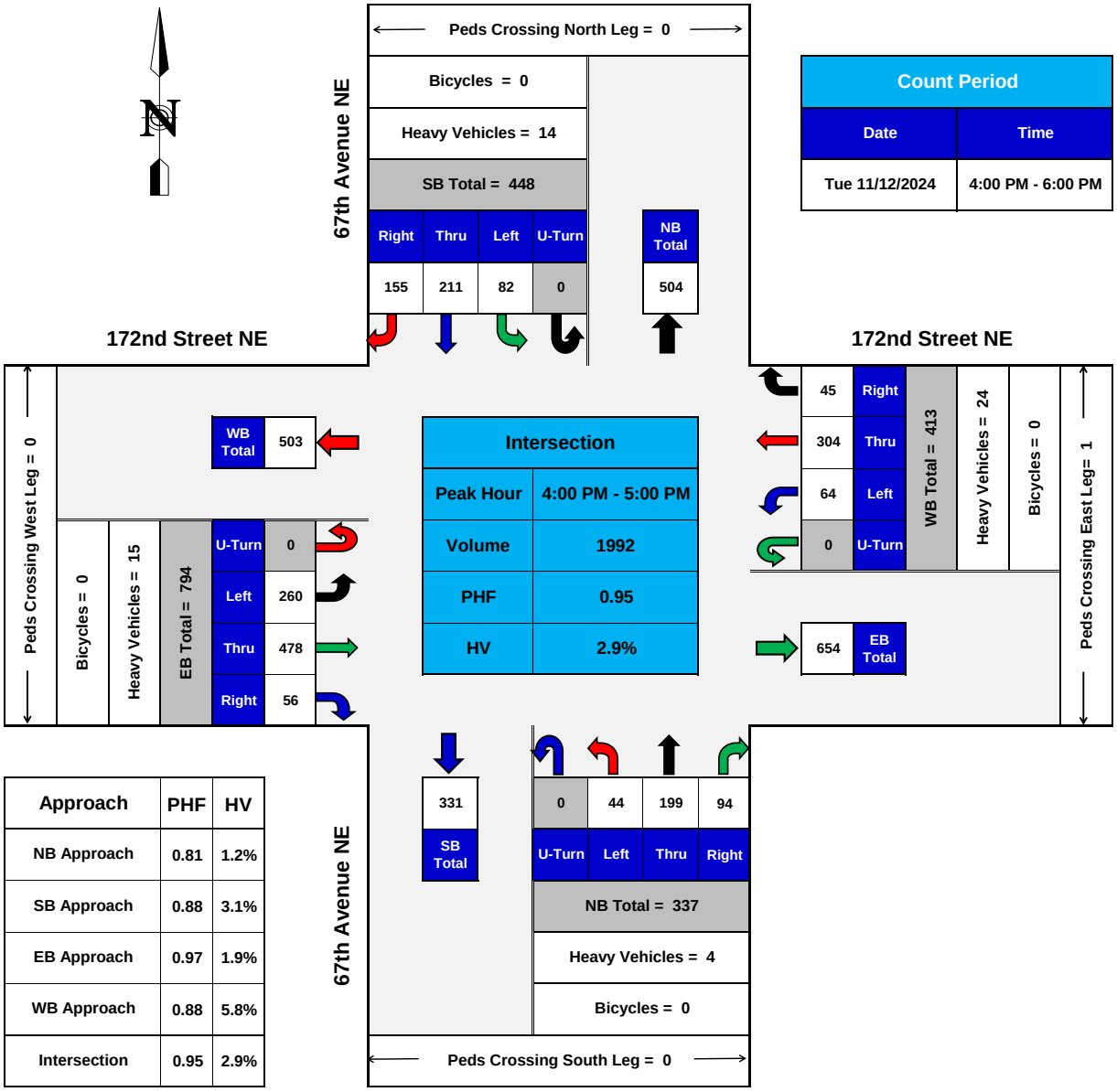
Morgan Kirsanov is an Environmental Scientist III with 6 years of professional experience. She has a background in marine and freshwater ecology, wildlife and natural resource assessments, and monitoring wetland and riparian habitat restoration sites in the Pacific Northwest. She currently assists with performing wetland, stream, and shoreline delineations and fish and wildlife habitat assessments, conducting environmental code analysis, and preparing and/or providing final quality assurance/control for various types of scientific reports and permits for agency submittal. Her noteworthy experiences include analyzing datasets for wetland hydrology monitoring, collecting eDNA samples from streams for analysis, providing document quality assurance on critical area reports, mitigation plans, and permitting documents prior to submittal, and assisting with Endangered Species Act documentation for federal permit submittals.

Education: Bachelor of Science degree in Biology with Marine Emphasis from Western Washington University, Bellingham. *Professional Training:* 40-hour Wetland Delineation Training (Western Mountains, Valleys, and Coast and Arid West Regional Supplements), Using the 2014 Wetland Rating System, How to Determine the Ordinary High Water Mark, and Using the 2021 Interagency Wetland Mitigation Guidance. *Qualified Author and Scientists Lists*: Pierce County Wetland Specialist.

D Existing Traffic Counts

67th Avenue NE @ 172nd Street NE

Arlington, WA



Approach	PHF	HV
NB Approach	0.81	1.2%
SB Approach	0.88	3.1%
EB Approach	0.97	1.9%
WB Approach	0.88	5.8%
Intersection	0.95	2.9%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: 67th Avenue NE @ 172nd Street NE
Arlington, WA

DATE OF COUNT: Tue. 11/12/2024
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 11/14/2024
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON (Southbound) 67th Avenue NE							FROM SOUTH ON (Northbound) 67th Avenue NE							FROM EAST ON (Westbound) 172nd Street NE							FROM WEST ON (Eastbound) 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	0	0	5	0	26	56	46	0	0	1	0	9	51	13	0	0	7	0	22	85	11	0	0	5	0	68	120	16	523
04:30 PM	0	0	5	0	17	41	39	0	0	3	0	12	60	32	0	0	5	0	13	74	11	0	0	4	0	58	112	13	482
04:45 PM	0	0	2	0	24	65	36	0	0	0	0	10	44	27	0	0	6	0	15	74	11	0	0	2	0	70	123	12	511
05:00 PM	0	0	2	0	15	49	34	0	0	0	0	13	44	22	1	0	6	0	14	71	12	0	0	4	0	64	123	15	476
05:15 PM	0	0	4	0	26	40	49	0	0	1	0	8	40	22	2	0	5	0	4	61	12	0	0	5	0	75	131	20	488
05:30 PM	0	0	3	0	16	36	39	0	0	0	0	7	43	22	0	0	3	0	12	65	14	0	0	3	0	64	137	13	468
05:45 PM	0	0	2	0	12	41	48	0	0	3	0	6	28	14	0	0	4	0	17	61	9	0	0	3	0	66	136	13	451
06:00 PM	0	0	4	0	10	29	40	0	0	0	0	4	33	14	0	0	2	0	5	74	7	0	0	4	0	61	122	15	414
PEAK HOUR TOTALS	0	0	14	0	82	211	155	0	0	4	0	44	199	94	1	0	24	0	64	304	45	0	0	15	0	260	478	56	INTERSECTION
ALL MOVEMENTS				448							337							413							794			1992
% HV			3.1%							1.2%							5.8%							1.9%				2.9%
PEAK HOUR FACTOR				0.88							0.81							0.88							0.97			0.95

HV = Heavy Vehicle
PHF = Peak Hour Factor

4:00 PM - 6:00 PM PEAK HOUR: 4:00 PM - 5:00 PM

ROLLING HOUR COUNT

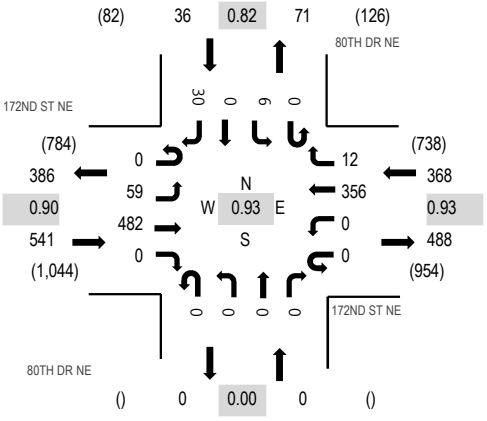
TIME INTERVAL	FROM NORTH ON (Southbound) 67th Avenue NE							FROM SOUTH ON (Northbound) 67th Avenue NE							FROM EAST ON (Westbound) 172nd Street NE							FROM WEST ON (Eastbound) 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	0	0	14	0	82	211	155	0	0	4	0	44	199	94	1	0	24	0	64	304	45	0	0	15	0	260	478	56	1992
4:15 PM - 5:15 PM	0	0	13	0	82	195	158	0	0	4	0	43	188	103	3	0	22	0	46	280	46	0	0	15	0	267	489	60	1957
4:30 PM - 5:30 PM	0	0	11	0	81	190	158	0	0	1	0	38	171	93	3	0	20	0	45	271	49	0	0	14	0	273	514	60	1943
4:45 PM - 5:45 PM	0	0	11	0	69	166	170	0	0	4	0	34	155	80	3	0	18	0	47	258	47	0	0	15	0	269	527	61	1883
5:00 PM - 6:00 PM	0	0	13	0	64	146	176	0	0	4	0	25	144	72	2	0	14	0	38	261	42	0	0	15	0	266	526	61	1821
4:00 PM - 6:00 PM Total:	0	0	27	0	146	357	331	0	0	8	0	69	343	166	3	0	38	0	102	565	87	0	0	30	0	526	1004	117	3813

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 80TH DR NE & 172ND ST NE PM
Date: Thursday, June 27, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour

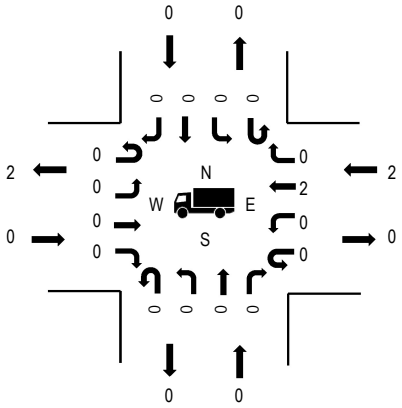
Motorized Vehicles



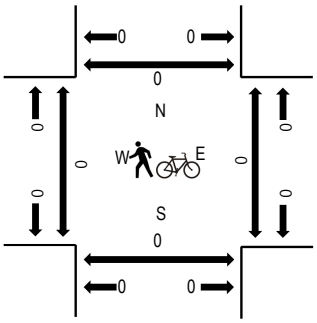
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.90
WB	0.5%	0.93
NB	0.0%	0.00
SB	0.0%	0.82
All	0.2%	0.93

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

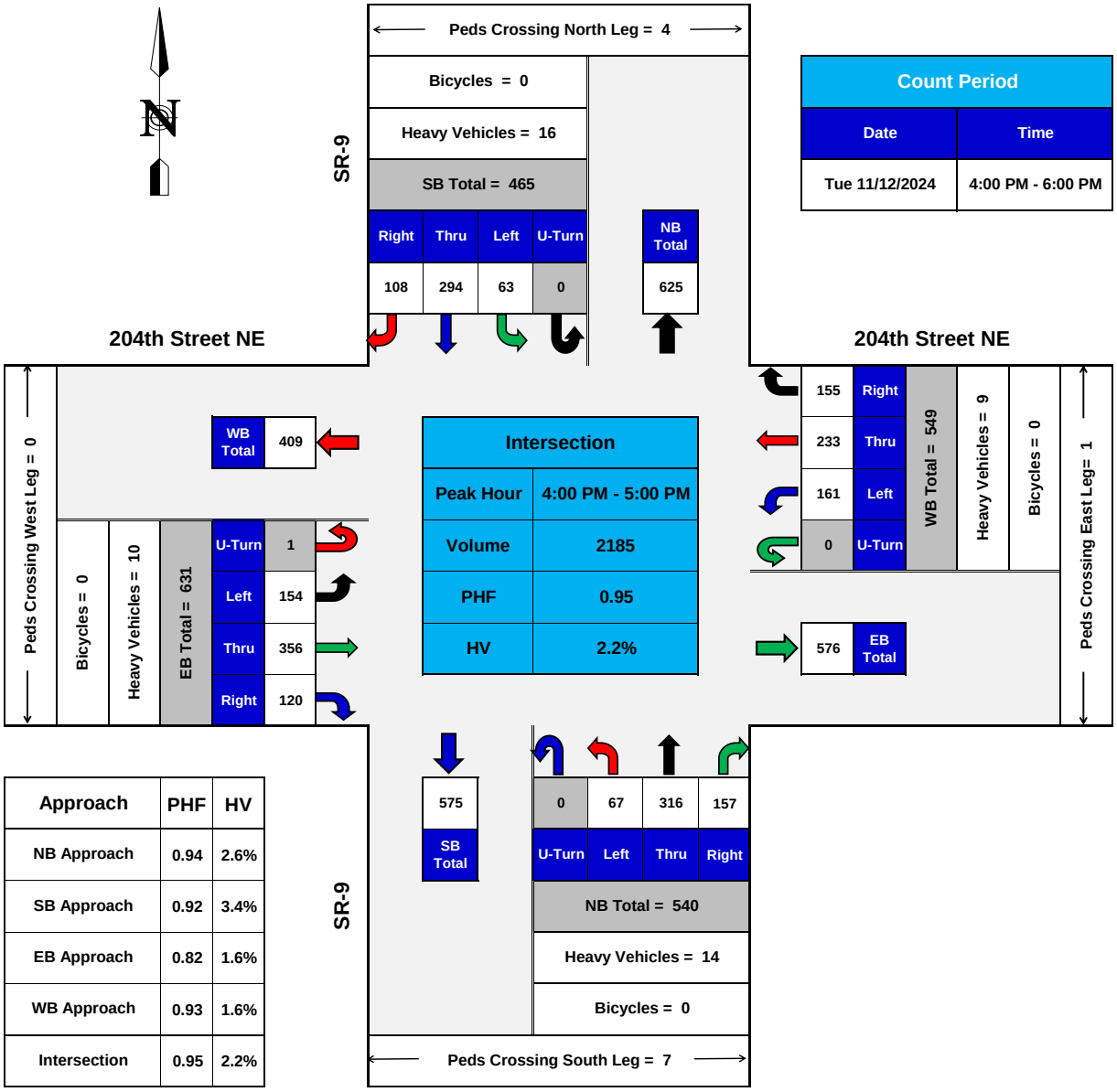
Interval Start Time	172ND ST NE Eastbound				172ND ST NE Westbound				80TH DR NE Northbound				80TH DR NE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	13	110	0	0	0	89	0	0	0	0	0	0	2	0	7	221	945
4:15 PM	0	17	118	0	0	0	84	5	0	0	0	0	0	1	0	10	235	940
4:30 PM	0	17	134	0	0	0	93	4	0	0	0	0	0	1	0	4	253	937
4:45 PM	0	12	120	0	0	0	90	3	0	0	0	0	0	2	0	9	236	918
5:00 PM	0	6	109	0	0	0	87	3	0	0	0	0	0	1	0	10	216	919
5:15 PM	0	14	119	0	0	0	89	1	0	0	0	0	0	3	0	6	232	
5:30 PM	0	14	118	0	0	0	88	2	0	0	0	0	0	2	0	10	234	
5:45 PM	0	12	111	0	0	0	97	3	0	0	0	0	0	3	0	11	237	
Count Total	0	105	939	0	0	0	717	21	0	0	0	0	0	15	0	67	1,864	
Peak Hour	0	59	482	0	0	0	356	12	0	0	0	0	0	6	0	30	945	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	0	0	1	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	0	1	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	0	0	3	0	3	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	0	2	0	2	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

SR-9 @ 204th Street NE

Arlington, WA



Count Period	
Date	Time
Tue 11/12/2024	4:00 PM - 6:00 PM

Approach	PHF	HV
NB Approach	0.94	2.6%
SB Approach	0.92	3.4%
EB Approach	0.82	1.6%
WB Approach	0.93	1.6%
Intersection	0.95	2.2%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: SR-9 @ 204th Street NE
Arlington, WA

DATE OF COUNT: Tue. 11/12/2024
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 11/14/2024
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON (Southbound) SR-9							FROM SOUTH ON (Northbound) SR-9							FROM EAST ON (Westbound) 204th Street NE							FROM WEST ON (Eastbound) 204th Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	3	0	8	0	9	87	31	1	0	7	0	14	85	37	1	0	2	0	41	64	39	0	0	3	0	43	101	23	574
04:30 PM	0	0	1	0	19	75	32	0	0	2	0	14	76	43	0	0	1	0	43	63	41	0	0	1	1	32	76	29	544
04:45 PM	0	0	4	0	24	56	23	0	0	1	0	22	75	30	0	0	3	0	34	64	36	0	0	6	0	43	111	38	556
05:00 PM	1	0	3	0	11	76	22	6	0	4	0	17	80	47	0	0	3	0	43	42	39	0	0	0	0	36	68	30	511
05:15 PM	0	0	4	0	11	76	19	0	0	0	0	19	75	33	0	0	0	0	33	60	22	0	0	1	0	27	97	34	506
05:30 PM	0	0	1	0	16	65	22	1	0	0	0	16	80	36	0	0	2	0	31	51	45	0	0	0	0	34	75	16	487
05:45 PM	0	0	1	0	16	53	27	0	0	0	0	7	81	36	0	0	1	0	33	50	31	0	0	1	0	26	68	16	444
06:00 PM	0	0	0	0	11	51	19	1	0	0	0	9	57	31	0	0	0	0	34	59	20	0	0	4	0	17	84	18	410
PEAK HOUR TOTALS	**4**	**0**	**16**	**0**	**63**	**294**	**108**	**7**	**0**	**14**	**0**	**67**	**316**	**157**	**1**	**0**	**9**	**0**	**161**	**233**	**155**	**0**	**0**	**10**	**1**	**154**	**356**	**120**	**INTERSECTION**
ALL MOVEMENTS				**465**							**540**							**549**							**631**			**2185**
% HV			**3.4%**							**2.6%**							**1.6%**							**1.6%**				**2.2%**
PEAK HOUR FACTOR				**0.92**							**0.94**							**0.93**							**0.82**			**0.95**

HV = Heavy Vehicle
PHF = Peak Hour Factor

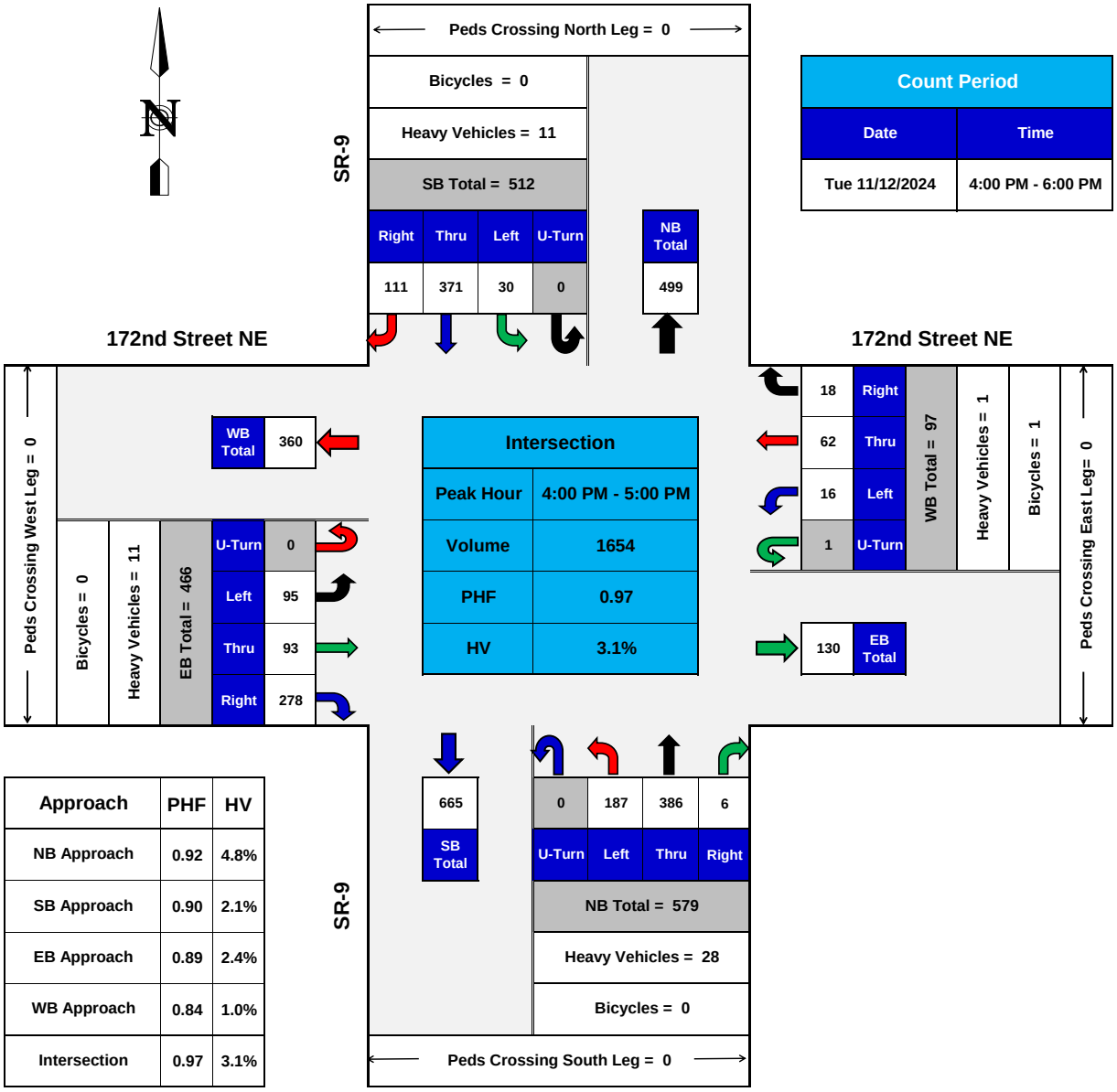
4:00 PM - 6:00 PM PEAK HOUR: 4:00 PM - 5:00 PM

ROLLING HOUR COUNT

TIME INTERVAL	FROM NORTH ON (Southbound) SR-9							FROM SOUTH ON (Northbound) SR-9							FROM EAST ON (Westbound) 204th Street NE							FROM WEST ON (Eastbound) 204th Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	4	0	16	0	63	294	108	7	0	14	0	67	316	157	1	0	9	0	161	233	155	0	0	10	1	154	356	120	2185
4:15 PM - 5:15 PM	1	0	12	0	65	283	96	6	0	7	0	72	306	153	0	0	7	0	153	229	138	0	0	8	1	138	352	131	2117
4:30 PM - 5:30 PM	1	0	12	0	62	273	86	7	0	5	0	74	310	146	0	0	8	0	141	217	142	0	0	7	0	140	351	118	2060
4:45 PM - 5:45 PM	1	0	9	0	54	270	90	7	0	4	0	59	316	152	0	0	6	0	140	203	137	0	0	2	0	123	308	96	1948
5:00 PM - 6:00 PM	0	0	6	0	54	245	87	2	0	0	0	51	293	136	0	0	3	0	131	220	118	0	0	6	0	104	324	84	1847
4:00 PM - 6:00 PM Total:	4	0	22	0	117	539	195	9	0	14	0	118	609	293	1	0	12	0	292	453	273	0	0	16	1	258	680	204	4032

SR-9 @ 172nd Street NE

Arlington, WA



Count Period	
Date	Time
Tue 11/12/2024	4:00 PM - 6:00 PM

Approach	PHF	HV
NB Approach	0.92	4.8%
SB Approach	0.90	2.1%
EB Approach	0.89	2.4%
WB Approach	0.84	1.0%
Intersection	0.97	3.1%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: SR-9 @ 172nd Street NE
Arlington, WA

DATE OF COUNT: Tue. 11/12/2024
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 11/14/2024
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON (Southbound) SR-9							FROM SOUTH ON (Northbound) SR-9							FROM EAST ON (Westbound) 172nd Street NE							FROM WEST ON (Eastbound) 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	0	0	5	0	6	92	30	0	0	7	0	45	95	3	0	0	1	1	4	20	4	0	0	7	0	23	25	76	424
04:30 PM	0	0	1	0	7	113	22	0	0	6	0	53	103	2	0	0	0	0	4	13	4	0	0	1	0	17	23	67	428
04:45 PM	0	0	3	0	4	84	31	0	0	8	0	39	91	1	0	1	0	0	7	16	1	0	0	2	0	29	21	81	405
05:00 PM	0	0	2	0	13	82	28	0	0	7	0	50	97	0	0	0	0	0	1	13	9	0	0	1	0	26	24	54	397
05:15 PM	0	1	1	0	3	76	35	0	0	9	0	44	95	1	0	0	0	0	0	4	8	0	0	3	0	28	26	78	398
05:30 PM	0	0	2	0	5	93	21	0	0	2	0	51	83	5	0	0	0	0	2	12	0	0	0	1	0	29	29	61	391
05:45 PM	0	0	2	0	4	69	26	0	0	1	0	39	80	2	0	0	2	0	0	9	8	0	0	1	0	40	28	34	339
06:00 PM	0	0	0	1	6	48	23	0	0	3	0	45	76	4	0	0	0	0	0	13	6	0	0	2	0	29	20	41	312
PEAK HOUR TOTALS	**0**	**0**	**11**	**0**	**30**	**371**	**111**	**0**	**0**	**28**	**0**	**187**	**386**	**6**	**0**	**1**	**1**	**1**	**16**	**62**	**18**	**0**	**0**	**11**	**0**	**95**	**93**	**278**	**INTERSECTION**
ALL MOVEMENTS				**512**							**579**							**97**							**466**				**1654**
% HV			**2.1%**							**4.8%**							**1.0%**							**2.4%**				**3.1%**
PEAK HOUR FACTOR				**0.90**							**0.92**							**0.84**							**0.89**				**0.97**

HV = Heavy Vehicle
PHF = Peak Hour Factor

4:00 PM - 6:00 PM PEAK HOUR: 4:00 PM - 5:00 PM

ROLLING HOUR COUNT

TIME INTERVAL	FROM NORTH ON (Southbound) SR-9							FROM SOUTH ON (Northbound) SR-9							FROM EAST ON (Westbound) 172nd Street NE							FROM WEST ON (Eastbound) 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	0	0	11	0	30	371	111	0	0	28	0	187	386	6	0	1	1	1	16	62	18	0	0	11	0	95	93	278	1654
4:15 PM - 5:15 PM	0	1	7	0	27	355	116	0	0	30	0	186	386	4	0	1	0	0	12	46	22	0	0	7	0	100	94	280	1628
4:30 PM - 5:30 PM	0	1	8	0	25	335	115	0	0	26	0	184	366	7	0	1	0	0	10	45	18	0	0	7	0	112	100	274	1591
4:45 PM - 5:45 PM	0	1	7	0	25	320	110	0	0	19	0	184	355	8	0	0	2	0	3	38	25	0	0	6	0	123	107	227	1525
5:00 PM - 6:00 PM	0	1	5	1	18	286	105	0	0	15	0	179	334	12	0	0	2	0	2	38	22	0	0	7	0	126	103	214	1440
4:00 PM - 6:00 PM Total:	0	1	16	1	48	657	216	0	0	43	0	366	720	18	0	1	3	1	18	100	40	0	0	18	0	221	196	492	3094

E LOS Definitions

Highway Capacity Manual 7th Edition

Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. Table 1 summarizes the LOS criteria for signalized intersections, as described in the *Highway Capacity Manual* 7th Edition (Transportation Research Board, 2022).

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F[1]	>80	Forced flow (congested and queues fail to clear)

Source: *Highway Capacity Manual 7th Edition*, Transportation Research Board, 2022, respectively.
1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Unsignalized intersection LOS criteria can be further reduced into two intersection types: all-way stop and two-way stop controlled. All-way stop controlled intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements. Table 2 shows LOS criteria for unsignalized intersections.

Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F[1]	>50

Source: *Highway Capacity Manual 7th Edition*, Transportation Research Board, 2022, respectively.
1. If the volume-to-capacity (v/c) ratio exceeds 1.0, LOS F is assigned an individual lane group for all unsignalized intersections, or minor street approach at two-way stop-controlled intersections. Overall intersection LOS is determined solely by control delay.

F LOS Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	480	55	65	305	45	45	200	95	80	210	155
Future Volume (veh/h)	271	480	55	65	305	51	45	200	95	84	210	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1811	1811	1811	1885	1885	1885	1856	1856	1856
Adj Flow Rate, veh/h	285	505	58	68	321	54	47	211	100	88	221	163
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	6	6	6	1	1	1	3	3	3
Cap, veh/h	626	1129	957	472	829	140	98	239	113	165	217	160
Arrive On Green	0.08	0.60	0.60	0.03	0.55	0.55	0.03	0.20	0.20	0.05	0.22	0.22
Sat Flow, veh/h	1781	1870	1585	1725	1511	254	1795	1208	572	1767	991	731
Grp Volume(v), veh/h	285	505	58	68	0	375	47	0	311	88	0	384
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1725	0	1765	1795	0	1780	1767	0	1722
Q Serve(g_s), s	10.8	23.4	2.4	2.8	0.0	19.5	3.3	0.0	27.2	6.2	0.0	35.1
Cycle Q Clear(g_c), s	10.8	23.4	2.4	2.8	0.0	19.5	3.3	0.0	27.2	6.2	0.0	35.1
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.32	1.00		0.42
Lane Grp Cap(c), veh/h	626	1129	957	472	0	969	98	0	352	165	0	378
V/C Ratio(X)	0.46	0.45	0.06	0.14	0.00	0.39	0.48	0.00	0.88	0.53	0.00	1.02
Avail Cap(c_a), veh/h	815	1129	957	749	0	969	275	0	391	301	0	378
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.9	17.2	13.0	15.5	0.0	20.7	52.2	0.0	62.4	49.4	0.0	62.5
Incr Delay (d2), s/veh	0.5	1.3	0.1	0.1	0.0	1.2	3.6	0.0	20.2	2.7	0.0	50.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	10.6	0.9	1.1	0.0	8.5	1.6	0.0	14.3	2.9	0.0	20.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.5	18.5	13.2	15.7	0.0	21.8	55.8	0.0	82.7	52.1	0.0	113.0
LnGrp LOS	B	B	B	B		C	E		F	D		F
Approach Vol, veh/h		848			443			358			472	
Approach Delay, s/veh		16.8			20.9			79.1			101.6	
Approach LOS		B			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	101.5	9.2	40.0	18.1	92.7	12.7	36.5
Change Period (Y+Rc), s	4.5	4.9	4.5	4.9	4.5	4.9	4.5	4.9
Max Green Setting (Gmax), s	30.5	55.1	20.5	35.1	30.5	55.1	20.5	35.1
Max Q Clear Time (g_c+I1), s	4.8	25.4	5.3	37.1	12.8	21.5	8.2	29.2
Green Ext Time (p_c), s	0.1	5.5	0.1	0.0	0.8	3.7	0.1	1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	47.0
HCM 7th LOS	D

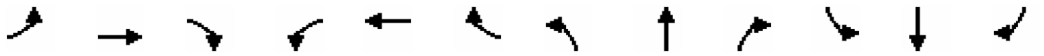
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	60	480	355	10	5	30
Future Vol, veh/h	60	480	355	10	5	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	-	0	160
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	65	516	382	11	5	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	392	0	-	0	1032	387
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	645	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1177	-	-	-	260	665
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	526	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1177	-	-	-	246	665
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	526	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.92	0	12.01
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1177	-	-	-	246	665
HCM Lane V/C Ratio	0.055	-	-	-	0.022	0.048
HCM Control Delay (s/veh)	8.2	-	-	-	20	10.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	355	120	160	235	155	65	315	155	65	295	110
Future Volume (veh/h)	155	366	120	160	235	155	65	315	155	65	295	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	163	385	126	168	247	163	68	332	163	68	311	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	3	3	3
Cap, veh/h	204	469	392	209	483	403	88	408	200	88	647	544
Arrive On Green	0.11	0.25	0.25	0.12	0.26	0.26	0.05	0.35	0.35	0.05	0.35	0.35
Sat Flow, veh/h	1781	1870	1563	1781	1870	1560	1767	1170	574	1767	1856	1561
Grp Volume(v), veh/h	163	385	126	168	247	163	68	0	495	68	311	116
Grp Sat Flow(s),veh/h/ln	1781	1870	1563	1781	1870	1560	1767	0	1744	1767	1856	1561
Q Serve(g_s), s	7.6	16.6	5.6	7.9	9.7	7.4	3.3	0.0	22.1	3.3	11.2	4.5
Cycle Q Clear(g_c), s	7.6	16.6	5.6	7.9	9.7	7.4	3.3	0.0	22.1	3.3	11.2	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	204	469	392	209	483	403	88	0	608	88	647	544
V/C Ratio(X)	0.80	0.82	0.32	0.80	0.51	0.40	0.77	0.00	0.81	0.77	0.48	0.21
Avail Cap(c_a), veh/h	539	566	473	530	548	457	320	0	1200	320	1276	1074
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	30.3	26.2	36.8	27.1	26.3	40.2	0.0	25.4	40.2	21.8	19.6
Incr Delay (d2), s/veh	7.0	8.5	0.6	7.0	1.0	0.8	13.1	0.0	3.8	13.1	0.8	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	8.3	2.1	3.8	4.3	2.8	1.7	0.0	9.4	1.7	4.9	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.0	38.7	26.7	43.8	28.2	27.1	53.3	0.0	29.2	53.3	22.6	19.9
LnGrp LOS	D	D	C	D	C	C	D		C	D	C	B
Approach Vol, veh/h		674			578			563			495	
Approach Delay, s/veh		37.8			32.4			32.1			26.2	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	35.9	14.6	26.4	8.8	35.9	13.9	27.0
Change Period (Y+Rc), s	4.5	6.1	4.5	* 4.9	4.5	6.1	4.1	4.9
Max Green Setting (Gmax), s	15.5	58.9	25.5	* 26	15.5	58.9	25.9	25.1
Max Q Clear Time (g_c+I1), s	5.3	24.1	9.9	18.6	5.3	13.2	9.6	11.7
Green Ext Time (p_c), s	0.1	5.4	0.4	1.9	0.1	3.7	0.4	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	32.6
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

MOVEMENT SUMMARY

Site: 3 [3. SR 9/SR 531 (Site Folder: Existing 2024)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Existing (2024) PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: SR 9															
3	L2	All MCs	191	5.0	191	5.0	0.189	11.0	LOS B	0.9	22.4	0.38	0.64	0.38	32.1
8	T1	All MCs	397	5.0	397	5.0	0.319	5.0	LOS A	1.7	44.6	0.40	0.46	0.40	35.1
18	R2	All MCs	5	5.0	5	5.0	0.319	5.0	LOS A	1.7	44.6	0.40	0.46	0.40	34.8
Approach			593	5.0	593	5.0	0.319	6.9	LOS A	1.7	44.6	0.39	0.52	0.39	34.1
East: 172nd St NE															
1u	U	All MCs	1	1.0	1	1.0	0.107	14.2	LOS B	0.4	10.2	0.49	0.61	0.49	33.9
1	L2	All MCs	15	1.0	15	1.0	0.107	11.7	LOS B	0.4	10.2	0.49	0.61	0.49	33.9
6	T1	All MCs	62	1.0	62	1.0	0.107	5.9	LOS A	0.4	10.2	0.49	0.61	0.49	34.6
16	R2	All MCs	21	1.0	21	1.0	0.107	5.7	LOS A	0.4	10.2	0.49	0.61	0.49	34.3
Approach			99	1.0	99	1.0	0.107	6.8	LOS A	0.4	10.2	0.49	0.61	0.49	34.4
North: SR 9															
7	L2	All MCs	31	2.0	31	2.0	0.321	10.9	LOS B	1.7	42.6	0.41	0.49	0.41	34.3
4	T1	All MCs	381	2.0	381	2.0	0.321	5.1	LOS A	1.7	42.6	0.41	0.49	0.41	35.0
14	R2	All MCs	113	2.0	113	2.0	0.131	5.6	LOS A	0.5	13.7	0.39	0.55	0.39	35.1
Approach			526	2.0	526	2.0	0.321	5.5	LOS A	1.7	42.6	0.41	0.50	0.41	35.0
West: SR 531															
5	L2	All MCs	98	2.0	98	2.0	0.201	11.7	LOS B	1.0	25.1	0.51	0.64	0.51	33.1
2	T1	All MCs	98	2.0	98	2.0	0.201	5.9	LOS A	1.0	25.1	0.51	0.64	0.51	33.8
12	R2	All MCs	289	2.0	289	2.0	0.249	5.7	LOS A	1.3	34.0	0.51	0.58	0.51	34.8
Approach			485	2.0	485	2.0	0.249	7.0	LOS A	1.3	34.0	0.51	0.60	0.51	34.2
All Vehicles			1702	3.0	1702	3.0	0.321	6.5	LOS A	1.7	44.6	0.44	0.54	0.44	34.4

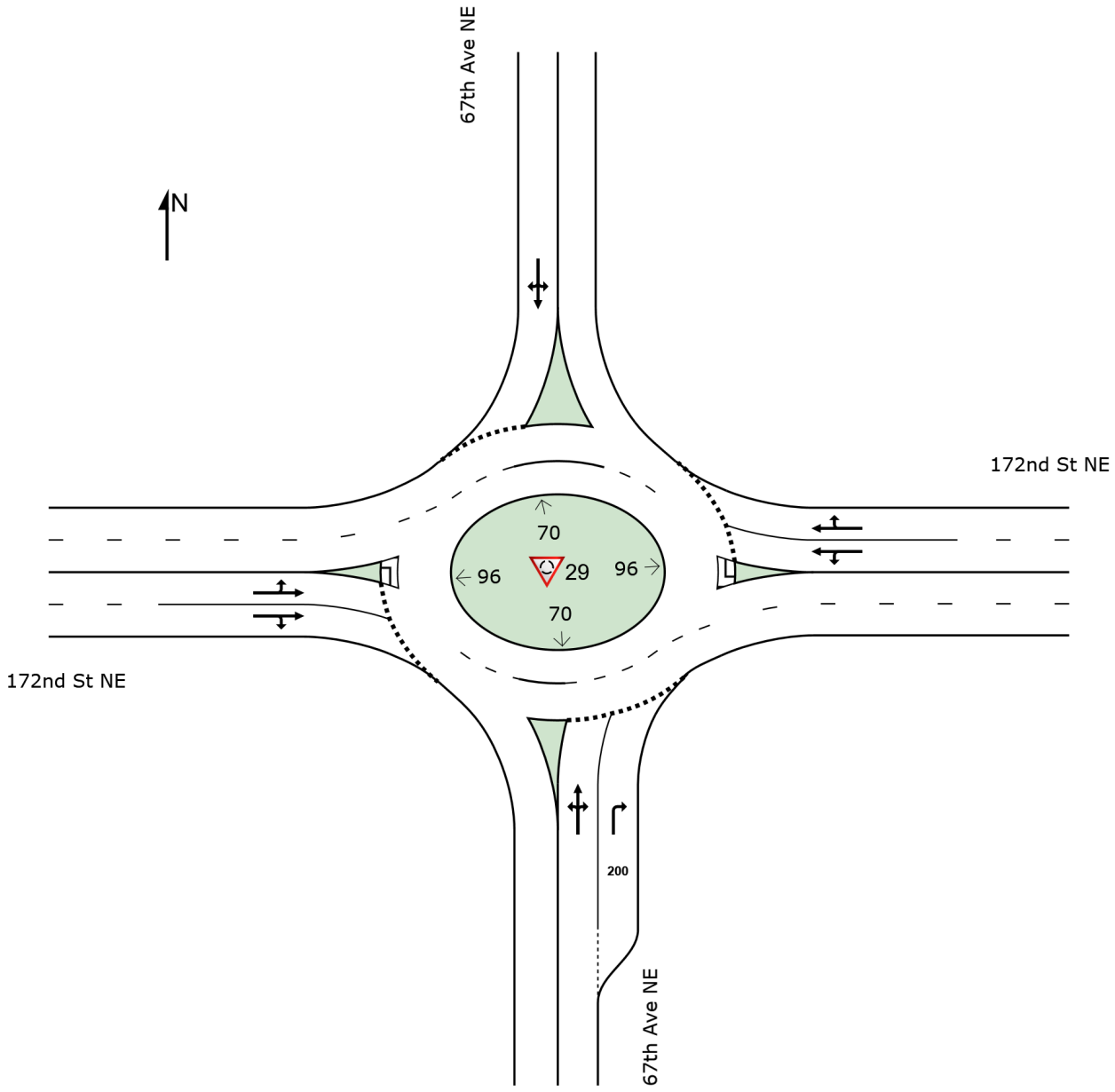
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SITE LAYOUT

Site: 29 [29. 172nd Street NE/67th Avenue NE_Added Short Lane (Site Folder: Future 2044 Plan)]

Future (2044) PM Peak Hour Plan Improvement
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: THE TRANSPO GROUP | Licence: NETWORK / 1PC | Created: Monday, September 22, 2025 4:31:05 PM
Project: M:\24\1.24222.00 - Lindsay Sub Area\Traffic Analysis\Traffic Operations\EIS\From TE\Existing_Future_RABs.sip9

MOVEMENT SUMMARY

Site: 29 [29. 172nd Street NE/67th Avenue NE_Added Short Lane (Site Folder: Future 2044 Plan)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Future (2044) PM Peak Hour Plan Improvement
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: 67th Ave NE															
3	L2	All MCs	74	1.0	74	1.0	0.701	14.9	LOS B	5.1	128.4	0.88	0.98	1.16	32.5
8	T1	All MCs	442	1.0	442	1.0	0.701	9.6	LOS A	5.1	128.4	0.88	0.98	1.16	33.1
18	R2	All MCs	384	1.0	384	1.0	0.663	10.8	LOS B	4.1	104.5	0.85	0.99	1.11	32.3
Approach			900	1.0	900	1.0	0.701	10.6	LOS B	5.1	128.4	0.86	0.99	1.14	32.7
East: 172nd St NE															
1	L2	All MCs	205	4.0	205	4.0	0.588	19.0	LOS B	5.5	141.9	0.94	0.90	1.20	30.0
6	T1	All MCs	679	4.0	679	4.0	0.588	12.2	LOS B	6.2	160.8	0.95	0.87	1.18	31.9
16	R2	All MCs	21	4.0	21	4.0	0.588	11.5	LOS B	6.2	160.8	0.96	0.85	1.18	32.2
Approach			905	4.0	905	4.0	0.588	13.7	LOS B	6.2	160.8	0.95	0.87	1.19	31.5
North: 67th Ave NE															
7	L2	All MCs	111	2.0	111	2.0	0.696	14.4	LOS B	4.6	115.7	0.82	0.95	1.05	32.5
4	T1	All MCs	242	2.0	242	2.0	0.696	9.1	LOS A	4.6	115.7	0.82	0.95	1.05	33.1
14	R2	All MCs	132	2.0	132	2.0	0.696	9.2	LOS A	4.6	115.7	0.82	0.95	1.05	32.8
Approach			484	2.0	484	2.0	0.696	10.3	LOS B	4.6	115.7	0.82	0.95	1.05	32.9
West: 172nd St NE															
5	L2	All MCs	279	2.0	279	2.0	0.654	16.2	LOS B	6.8	173.0	0.87	0.85	1.11	31.2
2	T1	All MCs	911	2.0	911	2.0	0.654	9.9	LOS A	7.3	186.2	0.87	0.81	1.07	32.9
12	R2	All MCs	137	2.0	137	2.0	0.654	9.3	LOS A	7.3	186.2	0.87	0.79	1.05	33.2
Approach			1326	2.0	1326	2.0	0.654	11.2	LOS B	7.3	186.2	0.87	0.82	1.07	32.6
All Vehicles			3616	2.3	3616	2.3	0.701	11.5	LOS B	7.3	186.2	0.88	0.89	1.11	32.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

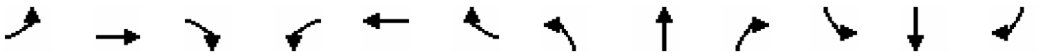
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1195	760	10	20	45
Future Vol, veh/h	10	1195	760	10	20	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	1299	826	11	22	49

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	837	0	-	0	1503	418
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	671	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	793	-	-	-	112	583
Stage 1	-	-	-	-	388	-
Stage 2	-	-	-	-	469	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	793	-	-	-	111	583
Mov Cap-2 Maneuver	-	-	-	-	111	-
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	469	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.08	0	22.05
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	793	-	-	-	111	583
HCM Lane V/C Ratio	0.014	-	-	-	0.196	0.084
HCM Control Delay (s/veh)	9.6	-	-	-	45.3	11.7
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	580	165	160	405	185	160	440	275	110	285	95
Future Volume (veh/h)	175	580	165	160	405	185	160	440	275	110	285	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1870	1870	1870	1826	1826	1826
Adj Flow Rate, veh/h	184	611	174	168	426	195	168	463	289	116	300	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	5	5	5
Cap, veh/h	201	523	418	141	468	386	192	403	251	102	593	503
Arrive On Green	0.11	0.28	0.28	0.08	0.25	0.25	0.11	0.37	0.39	0.06	0.32	0.32
Sat Flow, veh/h	1767	1856	1485	1781	1870	1544	1781	1077	672	1739	1826	1547
Grp Volume(v), veh/h	184	611	174	168	426	195	168	0	752	116	300	100
Grp Sat Flow(s),veh/h/ln	1767	1856	1485	1781	1870	1544	1781	0	1749	1739	1826	1547
Q Serve(g_s), s	15.0	40.9	13.8	11.5	32.1	15.7	13.5	0.0	54.3	8.5	19.3	6.8
Cycle Q Clear(g_c), s	15.0	40.9	13.8	11.5	32.1	15.7	13.5	0.0	54.3	8.5	19.3	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	201	523	418	141	468	386	192	0	654	102	593	503
V/C Ratio(X)	0.92	1.17	0.42	1.19	0.91	0.51	0.88	0.00	1.15	1.14	0.51	0.20
Avail Cap(c_a), veh/h	201	523	418	141	468	386	239	0	661	102	593	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	52.2	42.4	66.9	52.9	46.7	63.8	0.0	44.9	68.4	39.6	35.4
Incr Delay (d2), s/veh	40.9	95.1	0.8	136.1	22.1	1.3	24.6	0.0	84.1	131.7	1.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	32.8	5.2	10.6	18.0	6.2	7.5	0.0	38.5	7.5	8.9	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	104.6	147.3	43.2	203.0	75.0	48.0	88.4	0.0	129.0	200.0	40.6	35.6
LnGrp LOS	F	F	D	F	E	D	F		F	F	D	D
Approach Vol, veh/h		969			789			920			516	
Approach Delay, s/veh		120.5			95.6			121.6			75.5	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	64.4	17.0	49.8	21.1	57.3	21.6	45.2
Change Period (Y+Rc), s	5.5	7.1	5.5	* 5.9	5.5	7.1	5.1	5.9
Max Green Setting (Gmax), s	8.5	57.9	11.5	* 44	19.5	46.9	16.5	38.5
Max Q Clear Time (g_c+I1), s	10.5	56.3	13.5	43.9	15.5	22.3	17.0	35.1
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.2	3.1	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	107.4
HCM 7th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

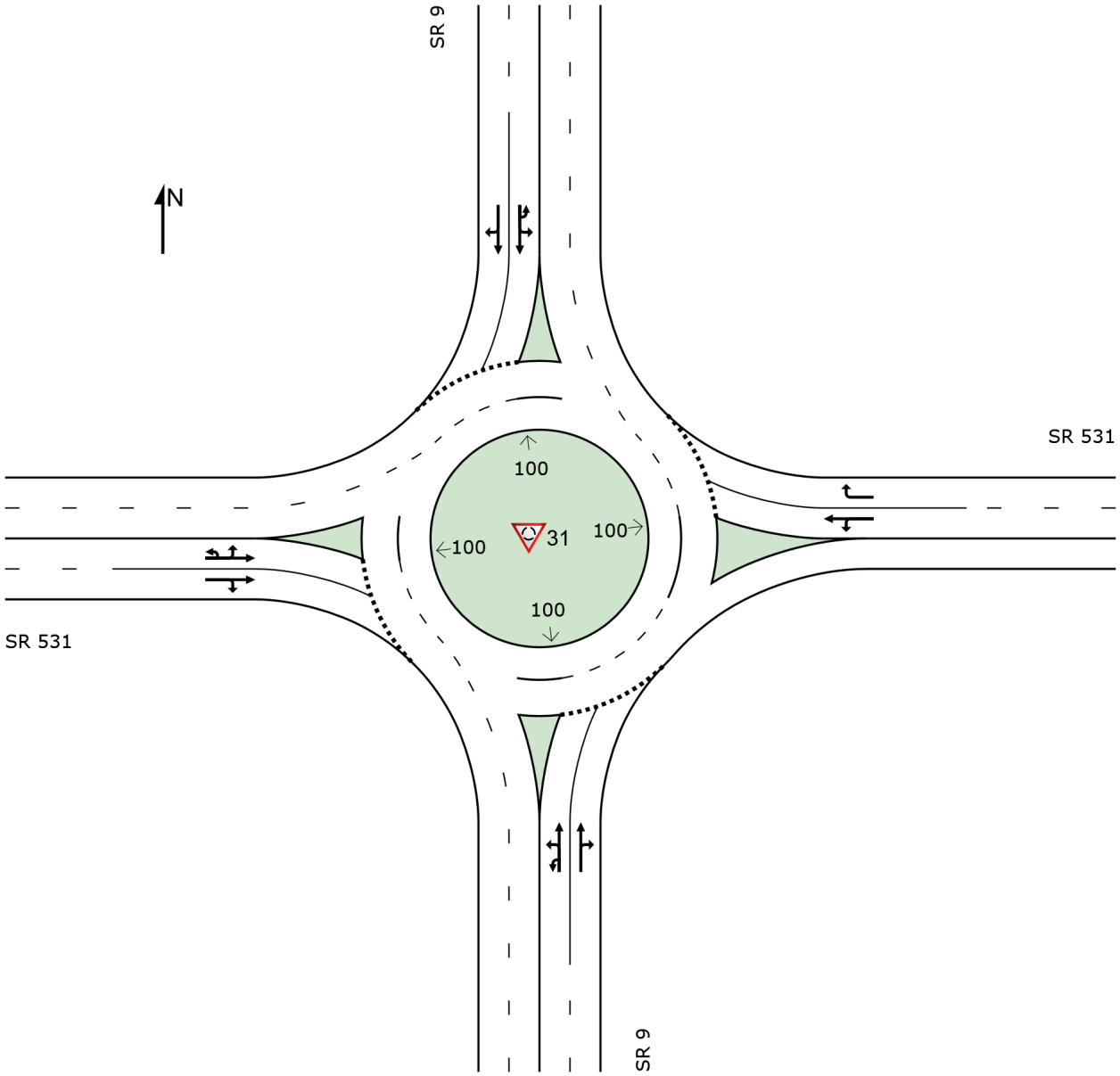
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

SITE LAYOUT

Site: 31 [31. SR 9/SR 531 (Site Folder: Future 2044 Plan)]

Future (2044) PM Peak Hour Plan Improvement
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 31 [31. SR 9/SR 531 (Site Folder: Future 2044 Plan)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Future (2044) PM Peak Hour Plan Improvement
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: SR 9															
3u	U	All MCs	5	5.0	5	5.0	0.681	19.4	LOS B	5.4	140.8	0.87	0.97	1.17	30.3
3	L2	All MCs	387	5.0	387	5.0	0.681	16.9	LOS B	5.4	140.8	0.87	0.97	1.17	30.3
8	T1	All MCs	567	5.0	567	5.0	0.681	10.0	LOS B	5.9	153.9	0.88	0.91	1.15	33.1
18	R2	All MCs	77	5.0	77	5.0	0.681	9.9	LOS A	5.9	153.9	0.88	0.91	1.14	33.1
Approach			1036	5.0	1036	5.0	0.681	12.6	LOS B	5.9	153.9	0.87	0.93	1.15	32.0
East: SR 531															
1	L2	All MCs	139	3.0	139	3.0	0.663	15.4	LOS B	5.0	127.6	0.88	0.96	1.14	32.2
6	T1	All MCs	371	3.0	371	3.0	0.663	9.6	LOS A	5.0	127.6	0.88	0.96	1.14	32.9
16	R2	All MCs	77	3.0	77	3.0	0.156	8.1	LOS A	0.7	16.9	0.71	0.81	0.71	33.9
Approach			588	3.0	588	3.0	0.663	10.7	LOS B	5.0	127.6	0.85	0.94	1.08	32.8
North: SR 9															
7u	U	All MCs	5	2.0	5	2.0	0.449	20.4	LOS C	3.3	83.7	0.88	0.86	1.01	30.3
7	L2	All MCs	175	2.0	175	2.0	0.449	17.9	LOS B	3.3	83.7	0.88	0.86	1.01	30.3
4	T1	All MCs	299	2.0	299	2.0	0.449	11.1	LOS B	3.6	91.3	0.89	0.82	1.00	32.4
14	R2	All MCs	113	2.0	113	2.0	0.449	10.8	LOS B	3.6	91.3	0.90	0.80	0.99	32.8
Approach			593	2.0	593	2.0	0.449	13.1	LOS B	3.6	91.3	0.89	0.83	1.00	31.8
West: SR 531															
5u	U	All MCs	5	1.0	5	1.0	0.629	15.5	LOS B	4.9	122.6	0.74	0.77	0.88	32.9
5	L2	All MCs	175	1.0	175	1.0	0.629	13.0	LOS B	4.9	122.6	0.74	0.77	0.88	32.9
2	T1	All MCs	490	1.0	490	1.0	0.629	7.2	LOS A	4.9	122.6	0.74	0.77	0.88	33.5
12	R2	All MCs	351	1.0	351	1.0	0.422	6.8	LOS A	2.3	56.8	0.65	0.72	0.69	34.5
Approach			1021	1.0	1021	1.0	0.629	8.1	LOS A	4.9	122.6	0.71	0.75	0.81	33.7
All Vehicles			3237	2.8	3237	2.8	0.681	11.0	LOS B	5.9	153.9	0.82	0.86	1.01	32.6

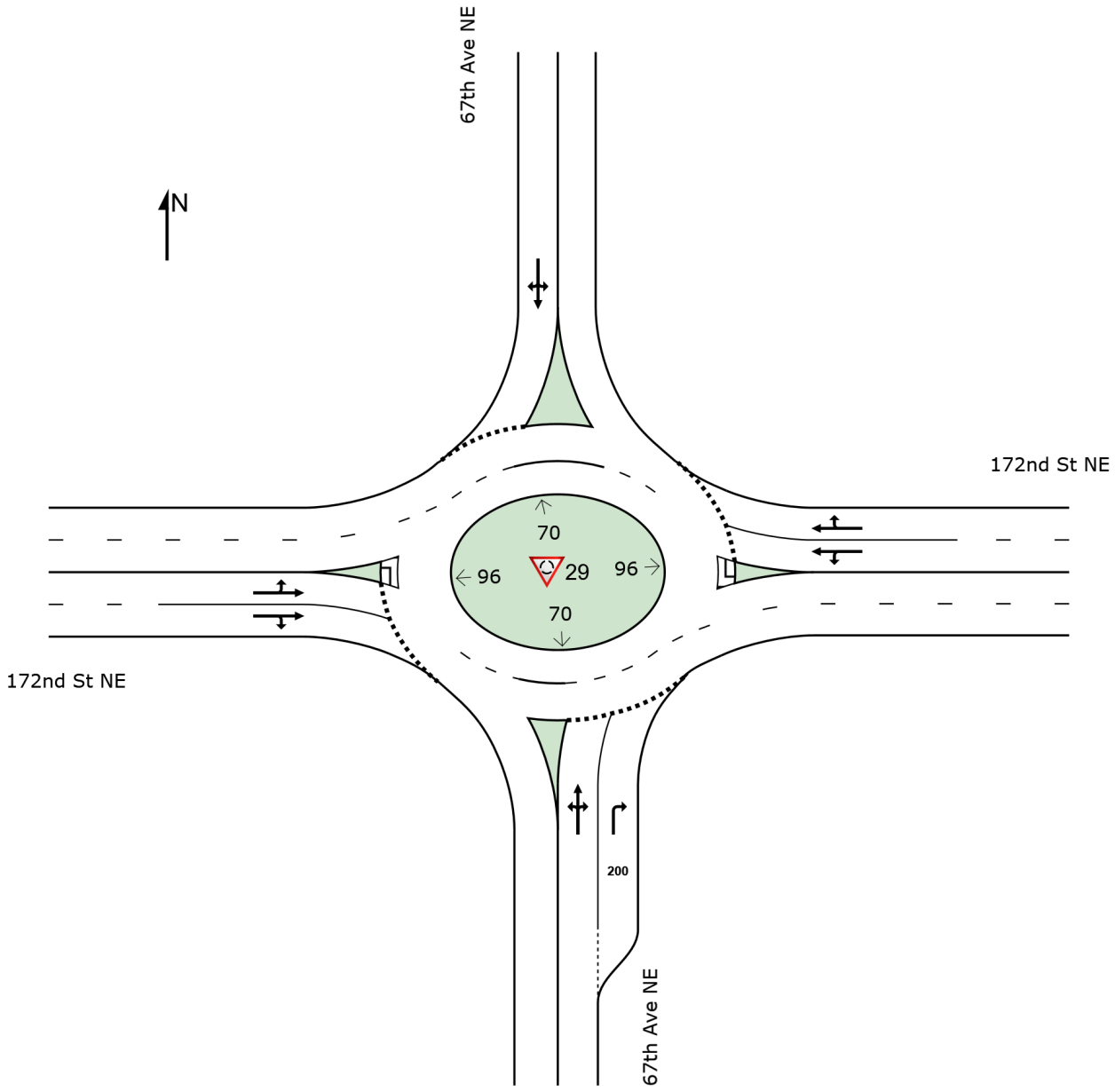
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SITE LAYOUT

Site: 29 [29. 172nd Street NE/67th Avenue NE_Added Short Lane (Site Folder: Lindsay Subarea Plan)]

Future (2044) PM Peak Hour Plan Improvement
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: THE TRANSPO GROUP | Licence: NETWORK / 1PC | Created: Thursday, May 22, 2025 2:27:34 PM
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MOVEMENT SUMMARY

Site: 29 [29. 172nd Street NE/67th Avenue NE_Added Short Lane (Site Folder: Lindsay Subarea Plan)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Future (2044) PM Peak Hour Plan Improvement
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: 67th Ave NE															
3	L2	All MCs	89	1.0	89	1.0	0.631	15.5	LOS B	4.3	109.0	0.89	0.98	1.13	32.1
8	T1	All MCs	316	1.0	316	1.0	0.631	10.3	LOS B	4.3	109.0	0.89	0.98	1.13	32.7
18	R2	All MCs	273	1.0	273	1.0	0.559	11.1	LOS B	3.2	79.8	0.84	0.97	1.04	32.2
Approach			678	1.0	678	1.0	0.631	11.3	LOS B	4.3	109.0	0.87	0.98	1.10	32.4
East: 172nd St NE															
1	L2	All MCs	133	4.0	133	4.0	0.552	17.6	LOS B	4.8	124.5	0.89	0.86	1.11	30.9
6	T1	All MCs	747	4.0	747	4.0	0.552	11.1	LOS B	5.4	138.6	0.90	0.82	1.08	32.5
16	R2	All MCs	27	4.0	27	4.0	0.552	10.3	LOS B	5.4	138.6	0.91	0.80	1.07	32.8
Approach			907	4.0	907	4.0	0.552	12.0	LOS B	5.4	138.6	0.90	0.83	1.08	32.3
North: 67th Ave NE															
7	L2	All MCs	55	2.0	55	2.0	0.603	13.5	LOS B	3.5	87.9	0.76	0.88	0.93	33.0
4	T1	All MCs	195	2.0	195	2.0	0.603	8.2	LOS A	3.5	87.9	0.76	0.88	0.93	33.6
14	R2	All MCs	174	2.0	174	2.0	0.603	8.3	LOS A	3.5	87.9	0.76	0.88	0.93	33.3
Approach			423	2.0	423	2.0	0.603	8.9	LOS A	3.5	87.9	0.76	0.88	0.93	33.4
West: 172nd St NE															
5	L2	All MCs	353	2.0	353	2.0	0.734	15.2	LOS B	9.0	228.6	0.85	0.80	1.05	31.7
2	T1	All MCs	1086	2.0	1086	2.0	0.734	9.0	LOS A	9.3	235.2	0.83	0.77	1.00	33.2
12	R2	All MCs	284	2.0	284	2.0	0.734	8.4	LOS A	9.3	235.2	0.82	0.75	0.97	33.5
Approach			1723	2.0	1723	2.0	0.734	10.2	LOS B	9.3	235.2	0.84	0.77	1.01	32.9
All Vehicles			3732	2.3	3732	2.3	0.734	10.7	LOS B	9.3	235.2	0.85	0.83	1.03	32.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
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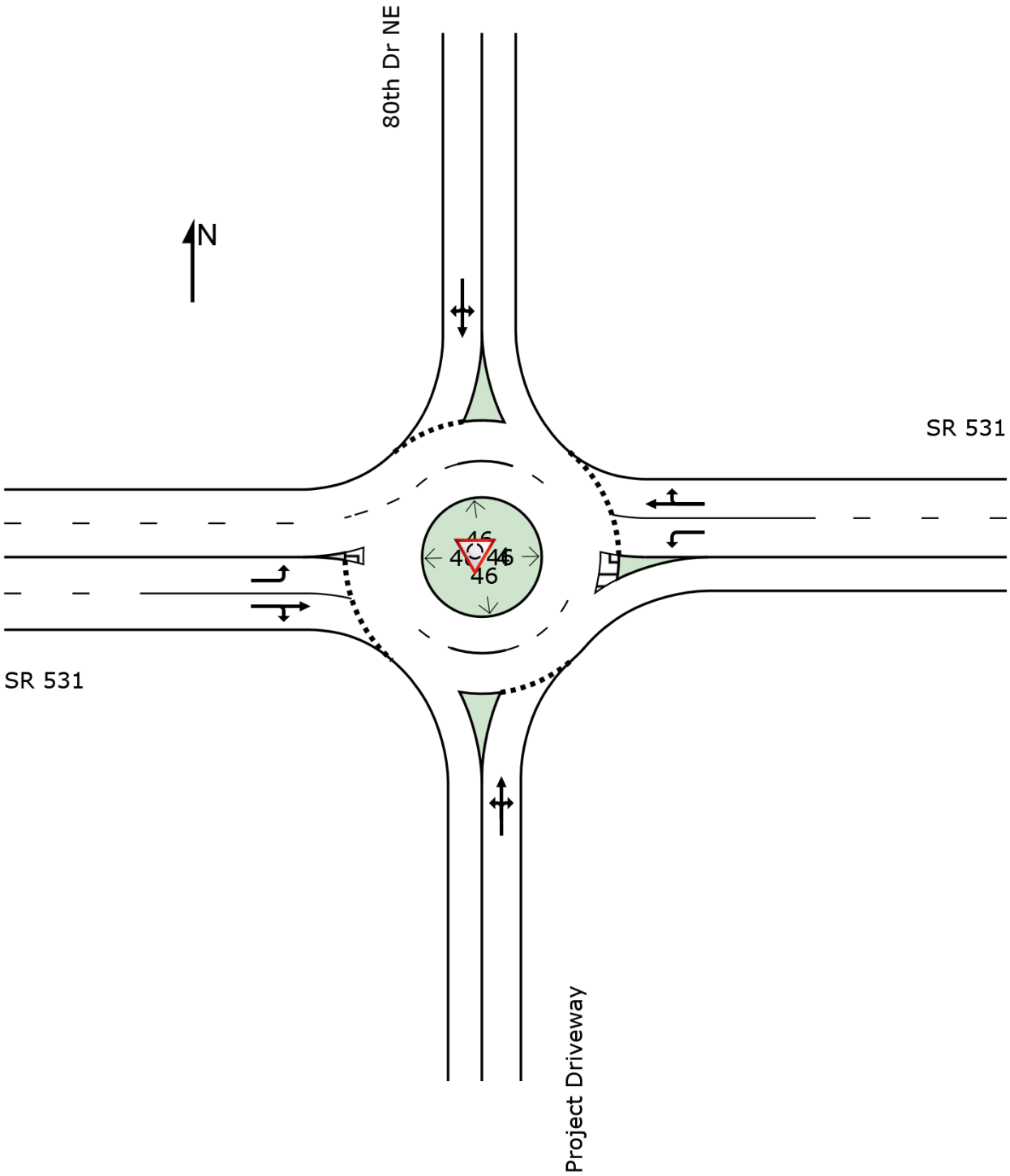
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SITE LAYOUT

Site: 4 [SR 531/80th Dr NE - 2 lane option - Lindsay Subarea Plan (Site Folder: EIS Lindsay Subarea Plan)]

2044 Horizon Year
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 4 [SR 531/80th Dr NE - 2 lane option - Lindsay Subarea Plan (Site Folder: EIS Lindsay Subarea Plan)]

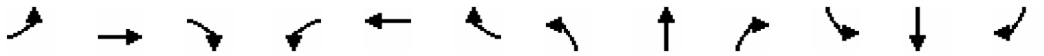
Output produced by SIDRA INTERSECTION Version: 9.1.3.210

2044 Horizon Year
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: Project Driveway															
3	L2	All MCs	6	0.0	6	0.0	0.222	17.0	LOS B	1.4	34.0	0.89	0.85	0.89	31.0
8	T1	All MCs	1	0.0	1	0.0	0.222	13.1	LOS B	1.4	34.0	0.89	0.85	0.89	31.5
18	R2	All MCs	78	0.0	78	0.0	0.222	12.8	LOS B	1.4	34.0	0.89	0.85	0.89	31.2
Approach			85	0.0	85	0.0	0.222	13.1	LOS B	1.4	34.0	0.89	0.85	0.89	31.2
East: SR 531															
1	L2	All MCs	129	1.0	129	1.0	0.126	8.9	LOS A	0.6	15.1	0.10	0.64	0.10	32.9
6	T1	All MCs	801	1.0	801	1.0	0.536	5.0	LOS A	4.5	113.7	0.14	0.44	0.14	35.2
16	R2	All MCs	10	1.0	10	1.0	0.536	5.2	LOS A	4.5	113.7	0.14	0.44	0.14	34.7
Approach			940	1.0	940	1.0	0.536	5.5	LOS A	4.5	113.7	0.14	0.47	0.14	34.8
North: 80th Dr NE															
7	L2	All MCs	20	0.0	20	0.0	0.088	12.1	LOS B	0.3	8.5	0.56	0.75	0.56	32.8
4	T1	All MCs	1	0.0	1	0.0	0.088	8.2	LOS A	0.3	8.5	0.56	0.75	0.56	33.4
14	R2	All MCs	45	0.0	45	0.0	0.088	7.9	LOS A	0.3	8.5	0.56	0.75	0.56	33.1
Approach			66	0.0	66	0.0	0.088	9.2	LOS A	0.3	8.5	0.56	0.75	0.56	33.0
West: SR 531															
5	L2	All MCs	10	0.0	10	0.0	0.011	9.7	LOS A	0.0	1.2	0.31	0.62	0.31	32.5
2	T1	All MCs	1165	0.0	1165	0.0	0.842	7.4	LOS A	12.6	316.1	0.77	0.59	0.79	33.4
12	R2	All MCs	9	0.0	9	0.0	0.842	7.5	LOS A	12.6	316.1	0.77	0.59	0.79	33.0
Approach			1184	0.0	1184	0.0	0.842	7.4	LOS A	12.6	316.1	0.76	0.59	0.79	33.4
All Vehicles			2275	0.4	2275	0.4	0.842	6.9	LOS A	12.6	316.1	0.50	0.55	0.51	33.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	520	143	163	410	170	106	423	276	65	255	105
Future Volume (veh/h)	180	520	143	163	410	170	106	423	276	65	255	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1870	1870	1870	1826	1826	1826
Adj Flow Rate, veh/h	189	547	151	172	432	179	112	445	291	68	268	111
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	5	5	5
Cap, veh/h	206	515	412	168	483	399	135	399	261	75	631	535
Arrive On Green	0.12	0.28	0.28	0.09	0.26	0.26	0.08	0.38	0.40	0.04	0.35	0.35
Sat Flow, veh/h	1767	1856	1484	1781	1870	1545	1781	1056	690	1739	1826	1547
Grp Volume(v), veh/h	189	547	151	172	432	179	112	0	736	68	268	111
Grp Sat Flow(s),veh/h/ln	1767	1856	1484	1781	1870	1545	1781	0	1746	1739	1826	1547
Q Serve(g_s), s	15.4	40.3	11.9	13.7	32.3	14.1	9.0	0.0	54.9	5.7	16.3	7.3
Cycle Q Clear(g_c), s	15.4	40.3	11.9	13.7	32.3	14.1	9.0	0.0	54.9	5.7	16.3	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	206	515	412	168	483	399	135	0	660	75	631	535
V/C Ratio(X)	0.92	1.06	0.37	1.02	0.89	0.45	0.83	0.00	1.12	0.90	0.42	0.21
Avail Cap(c_a), veh/h	206	515	412	168	483	399	200	0	668	75	631	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.5	52.4	42.2	65.7	51.9	45.2	66.2	0.0	44.6	69.1	36.4	33.5
Incr Delay (d2), s/veh	40.8	57.1	0.7	75.6	19.0	1.0	16.7	0.0	71.1	70.8	0.6	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	26.9	4.5	9.8	17.7	5.6	4.7	0.0	36.5	4.0	7.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	104.3	109.6	42.8	141.4	70.9	46.1	82.9	0.0	115.6	140.0	37.1	33.7
LnGrp LOS	F	F	D	F	E	D	F		F	F	D	C
Approach Vol, veh/h		887			783			848			447	
Approach Delay, s/veh		97.1			80.7			111.3			51.9	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	65.0	19.2	49.2	16.5	60.3	22.0	46.4
Change Period (Y+Rc), s	5.5	7.1	5.5	* 5.9	5.5	7.1	5.1	5.9
Max Green Setting (Gmax), s	6.3	58.5	13.7	* 43	16.3	48.5	16.9	39.7
Max Q Clear Time (g_c+I1), s	7.7	56.9	15.7	43.3	11.0	19.3	17.4	35.3
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.1	3.0	0.0	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	90.0
HCM 7th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

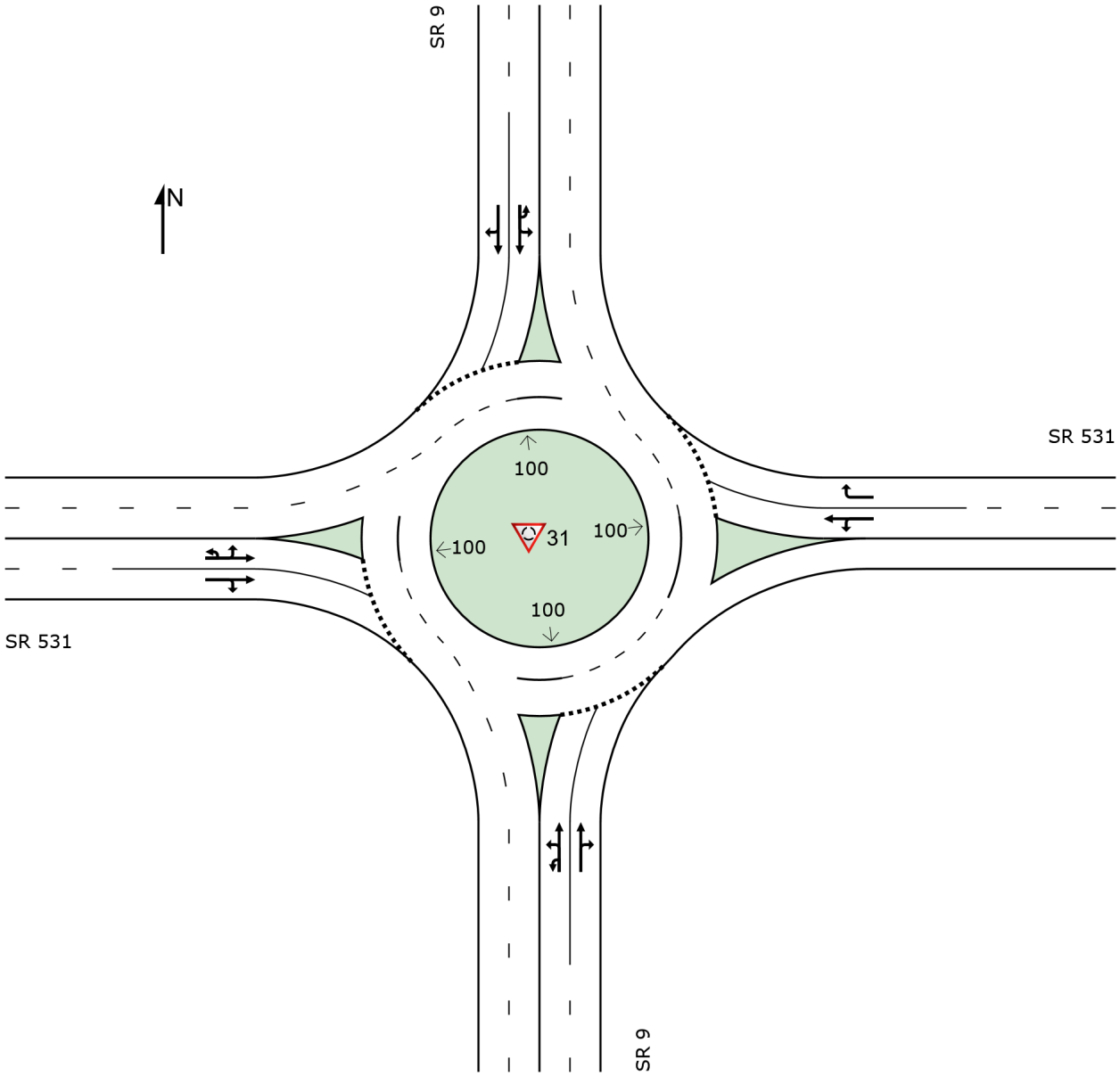
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

SITE LAYOUT

Site: 31 [31. SR 9/SR 531 (Site Folder: Lindsay Subarea Plan)]

Future (2044) PM Peak Hour Plan Improvement
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 31 [31. SR 9/SR 531 (Site Folder: Lindsay Subarea Plan)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Future (2044) PM Peak Hour Plan Improvement
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: SR 9															
3u	U	All MCs	5	5.0	5	5.0	0.685	19.5	LOS B	5.3	138.9	0.86	0.98	1.17	30.0
3	L2	All MCs	455	5.0	455	5.0	0.685	17.0	LOS B	5.3	138.9	0.86	0.98	1.17	30.0
8	T1	All MCs	552	5.0	552	5.0	0.685	9.8	LOS A	5.8	151.9	0.87	0.91	1.14	33.5
18	R2	All MCs	36	5.0	36	5.0	0.685	9.9	LOS A	5.8	151.9	0.87	0.91	1.14	33.2
Approach			1047	5.0	1047	5.0	0.685	13.0	LOS B	5.8	151.9	0.87	0.94	1.15	31.8
East: SR 531															
1	L2	All MCs	52	3.0	52	3.0	0.604	14.4	LOS B	4.1	105.8	0.85	0.88	1.05	32.7
6	T1	All MCs	414	3.0	414	3.0	0.604	8.6	LOS A	4.1	105.8	0.85	0.88	1.05	33.4
16	R2	All MCs	211	3.0	211	3.0	0.382	8.4	LOS A	1.9	47.9	0.76	0.86	0.83	33.8
Approach			677	3.0	677	3.0	0.604	9.0	LOS A	4.1	105.8	0.82	0.88	0.98	33.5
North: SR 9															
7u	U	All MCs	5	2.0	5	2.0	0.506	22.0	LOS C	4.0	101.7	0.90	0.90	1.11	29.6
7	L2	All MCs	216	2.0	216	2.0	0.506	19.5	LOS B	4.0	101.7	0.90	0.90	1.11	29.6
4	T1	All MCs	294	2.0	294	2.0	0.506	12.7	LOS B	4.4	112.4	0.92	0.86	1.11	31.7
14	R2	All MCs	147	2.0	147	2.0	0.506	12.3	LOS B	4.4	112.4	0.92	0.85	1.11	32.0
Approach			663	2.0	663	2.0	0.506	14.9	LOS B	4.4	112.4	0.91	0.87	1.11	31.0
West: SR 531															
5u	U	All MCs	5	1.0	5	1.0	0.607	15.1	LOS B	4.6	114.7	0.72	0.71	0.83	33.1
5	L2	All MCs	128	1.0	128	1.0	0.607	12.6	LOS B	4.6	114.7	0.72	0.71	0.83	33.1
2	T1	All MCs	523	1.0	523	1.0	0.607	6.8	LOS A	4.6	114.7	0.72	0.71	0.83	33.7
12	R2	All MCs	540	1.0	540	1.0	0.590	7.4	LOS A	4.1	104.2	0.72	0.77	0.84	34.3
Approach			1196	1.0	1196	1.0	0.607	7.7	LOS A	4.6	114.7	0.72	0.74	0.83	33.9
All Vehicles			3584	2.7	3584	2.7	0.685	10.8	LOS B	5.8	151.9	0.82	0.85	1.01	32.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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Roundabout Capacity Model: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1179	9	51	846	25	11
Future Vol, veh/h	1179	9	51	846	25	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1282	10	55	920	27	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1291	0	2317	1286
Stage 1	-	-	-	-	1286	-
Stage 2	-	-	-	-	1030	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	537	-	42	201
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	344	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	537	-	37	201
Mov Cap-2 Maneuver	-	-	-	-	145	-
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	309	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.71	34.93
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	159	-	-	537	-
HCM Lane V/C Ratio	0.246	-	-	0.103	-
HCM Control Delay (s/veh)	34.9	-	-	12.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.9	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1185	33	0	820	0	20
Future Vol, veh/h	1185	33	0	820	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1288	36	0	891	0	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1306
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	195
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	195
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	25.72
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	195	-	-	-
HCM Lane V/C Ratio	0.111	-	-	-
HCM Control Delay (s/veh)	25.7	-	-	-
HCM Lane LOS	D	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-