Wetland and Fish and Wildlife Habitat Assessment and Conceptual Buffer Averaging Plan

Arlington Apartments

July 2024
Revised June 2025

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

WETLAND AND FISH AND WILDLIFE HABITAT ASSESSMENT AND CONCEPTUAL BUFFER AVERAGING PLAN

ARLINGTON APARTMENTS

JULY 2, 2024
REVISED JUNE 6, 2025

PROJECT LOCATION

21117 59TH AVENUE NORTHEAST
ARLINGTON, WASHINGTON 98223

PREPARED FOR

QUARTERRA
1325 4TH AVENUE, SUITE 1300
SEATTLE, WASHINGTON 98101

PREPARED BY

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Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

Executive Summary

Soundview Consultants LLC (SVC) is assisting Quarterra (Applicant) with a Wetland and Fish and Wildlife Habitat Assessment and Buffer Averaging Plan for the proposed residential development of a 9.60-acre site located at 21117 59th Avenue Northeast in the City of Arlington, Washington. The subject property consists of one parcel situated in the Southeast ¼, of Section 10, Township 31 North, Range 5 East, W.M (Snohomish County Tax Parcel Number 31051000402700).

SVC investigated the subject property for the presence of potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species in the Summer of 2021, Spring of 2022, Fall of 2022, Spring of 2024 and Winter of 2025. Using current methodology, the site assessment identified one potentially-regulated wetland (Wetland A) onsite. In addition, one stream (Stream 1) was identified offsite approximately 125 feet south of the subject property. In SVC's opinion, based on the criteria in Arlington Municipal Code (AMC) 20.93- Critical Areas Ordinance 20.93.800, Wetland A is a Category III wetland with a low habitat score of 5 points due to the lack of identified PHS Priority Snags and Logs within 330 feet of Wetland A. However, SVC has adjusted the Wetland A rating to account for the potential that PHS Priority Snags and Logs may be present within 330 feet of Wetland A, though no PHS Snags or Logs have been directly observed by SVC. SVC has adjusted Wetland A to be considered a Category II wetland with a moderate habitat score of 6 points in response to comments from the property owner to the south. Thus, Wetland A is considered a Category II wetland with a moderate habitat score (6 points) and is subject to a standard 110-foot buffer per AMC 20.93.830 Table 20.93-4, provided that minimization measures identified in AMC 20.93.830 Table 20.93-5 are implemented. Stream 1 is classified as a Type F-ESA (fish bearing) stream and is subject to a standard 150-foot buffer per AMC 20.93.730 Table 20.93-3. 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 to develop a mixed use residential and commercial development on the subject property that will include residential and commercial buildings, access roads, wet and dry utilities, open space and stormwater infrastructure. The project was carefully designed to fully utilize the developable upland area onsite, and all permanent impacts are avoided. However, in order to provide enough space for development infrastructure, the project will require minor buffer averaging associated with the onsite buffers of Wetland A and Stream 1, as allowed per AMC 20.93.320. The project proposes reducing the Stream 1 buffer by 1,482-square feet along the northwestern area of the Stream 1 buffer and increasing the Stream 1 buffer by 1,487-sqaure feet along the northeast area of the Stream 1 buffer, resulting in a net gain of 5-square feet of Stream 1 buffer onsite. Additionally, the project proposes reducing the Wetland A buffer by 4,313-square feet along the northeastern area of the Wetland A buffer and increasing the Wetland A buffer by 4,323-sqaure feet along the northwestern area of the Wetland A buffer, resulting in a net gain of 10-square feet of Wetland A buffer onsite. The proposed buffer averaging plan will result in 5,795-square feet of buffer decrease along the northeastern and northwestern portions of the Wetland A and Stream 1 buffers onsite and will result in 5,810-square feet of buffer increase along the central portion of the Wetland A and Stream 1 buffer, to ensure not net loss in functional buffer area and provide an increase of 15-square feet. The proposed wetland and stream buffer averaging will not reduce the wetland or stream buffers by more than 25-percent in any location. Additionally, the entire onsite Wetland A and Stream 1 buffer area will be fully enhanced through installing native trees and shrubs and controlling non-native invasive species for a period of 5 years. Overall, the project will result in no net loss in ecological functions within the Wetland A and Stream 1 buffer, and the buffer enhancement will provide a net lift in

ecological function compared to the current existing degraded vegetative conditions within the onsite buffer areas.

The table below summarizes the identified critical areas and the potential regulatory status by different agencies.

Wetland/ Stream Name	Size Onsite	Category/ Type[1]	Regulated Under AMC Chapter 20.93	Regulated Under RCW 90.48	Regulated Under Clean Water Act
Wetland A	3,693 SF	II	Yes	Yes	Likely
Stream 1	N/A	F-ESA	Yes	Yes	Likely

1. Washington State Department of Ecology (WSDOE) wetland rating system (Hruby and Yahnke 2023) per AMC 20.93.800, Washington State Department of Natural Resources (DNR) water typing system per AMC 20.93.730.

The table below summarizes the proposed wetland and stream buffer averaging.

Critical Area	Buffer Decrease	Buffer Increase	Net Gain in Buffer Area
Wetland A Buffer	4,313 SF	4,323 SF	10 SF
Stream 1 Buffer	1,482 SF	1,487 SF	5 SF

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Chapter 1. Introduction

Soundview Consultants LLC (SVC) is assisting Quarterra (Applicant) with a Wetland and Fish and Wildlife Habitat Assessment and Buffer Averaging Plan for the proposed residential and commercial development of a 9.60-acre site located at 21117 59th Avenue Northeast in the City of Arlington, Washington. The subject property consists of one parcel situated in the Southeast ¼, of Section 10, Township 31 North, Range 5 East, W.M (Snohomish County Tax Parcel Number 31051000402700).

The purpose of this Wetland Delineation and Fish and Wildlife Habitat Assessment and Buffer Averaging Plan is to identify the presence of potentially regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species on or near the subject property, assess the proposed project in-relation to nearby critical areas and/or species, and document measures to avoid and minimize impact to critical areas and associated buffers onsite.

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
- Site plan with locations of and description of the project
- Documentation of wetland stream buffer modifications
- Supplemental information necessary for local, state, and federal regulatory review;

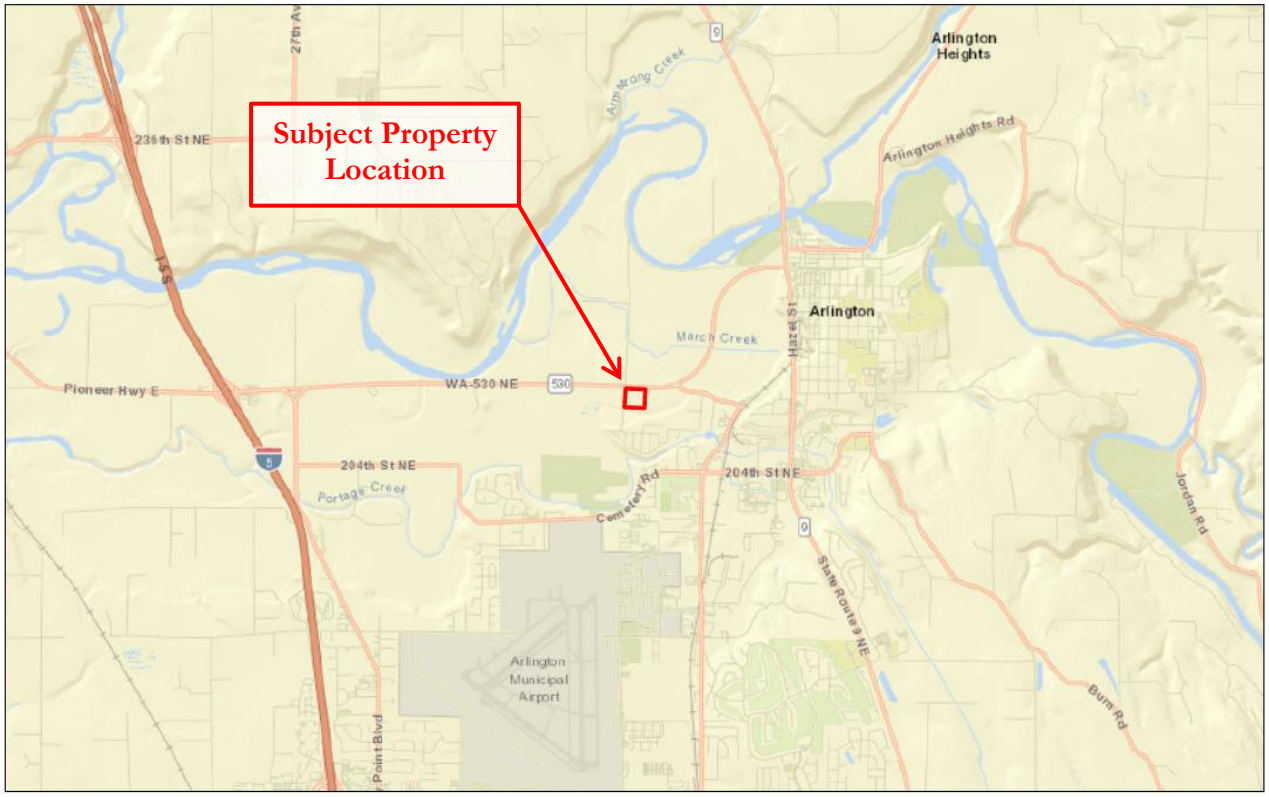
Chapter 2. Proposed Project Location

2.1 Location

The subject property is located at 21117 59th Avenue Northeast in the City of Arlington, Washington (Figure 1). The subject property consists of one parcel situated in the Southeast ¼, of Section 10, Township 31 North, Range 5 East, W.M (Snohomish County Tax Parcel Number 31051000402700).

To access the subject property from I-5 North take Exit 208 and continue east on Highway 530 for 2.4 miles. Take a right onto 59th Ave NE/ Kraetz Road where the subject property will be on the left, on the corner of Highway 530 and 59th Ave NE/ Kraetz Road.

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 August of 2021, May of 2022, September of 2022, June of 2024 and January of 2025. All determinations were made using observable vegetation, hydrology, and soils in conjunction with data from the U.S. Geological Survey (USGS) topographic maps, 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) and Northwest Indian Fisheries Commission (NWIFC) Statewide Integrated Fish Distribution (SWIFD) mapping tools and WDFW Priority Habitat and Species (PHS) 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 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 the boundaries of the onsite wetland 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 (DP-1 to DP-3). Additional tests pits were excavated at regular intervals inside and outside of the wetland boundary to further confirm the delineation.

Ordinary high water (OHW) mark determinations were made using WSDOE's method 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). Streams and surface water features were classified using the DNR Water Typing System as described in WAC 222.16 per AMC 20.93.700.

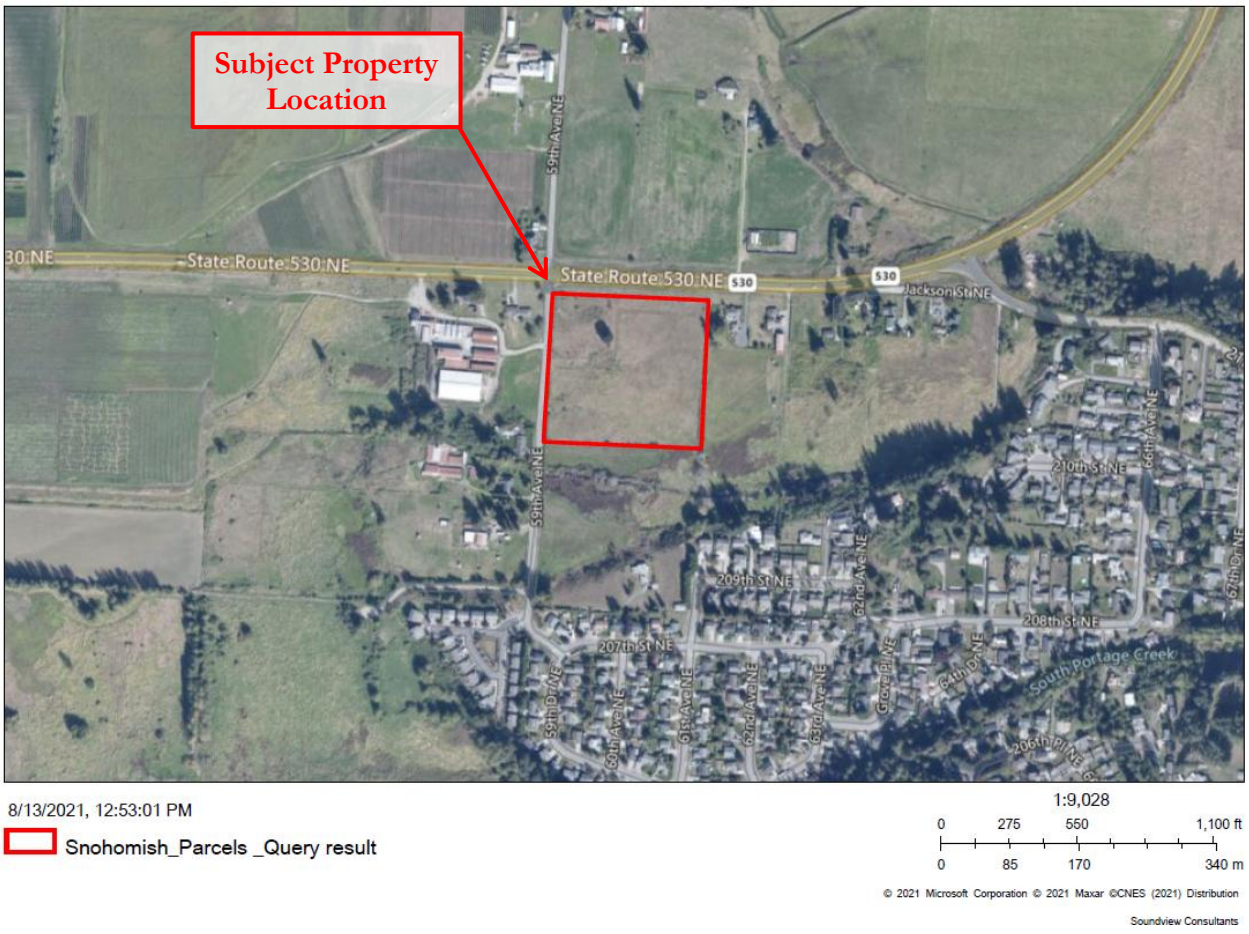
The fish and wildlife habitat assessment were conducted during the same site visits by qualified fish and wildlife biologists. The experienced biologists made visual and auditory observations using stationary and walking survey methods for both aquatic and upland habitats noting any special habitat features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

Chapter 4. Background

4.1 Landscape Setting

The subject property is located in the City of Arlington in a mixed-use rural/ residential setting and consists entirely of undeveloped unmaintained pastureland (Figure 2). The subject property abuts Highway 530 to the north; a single-family home and open lawns to the east; an undeveloped riparian area to the south, and 59th Avenue Northeast to the west with single-family residences. Topography onsite is relatively flat, generally sloping north to south, with elevations ranging from approximately 60 feet above mean sea level (amsl) to approximately 65 feet amsl. A Snohomish County contours map is provided in Appendix B1. The study area is within the Stillaguamish River Watershed (Water Resources Inventory Area 5).

Figure 2. Aerial Image of the Subject Property.



4.2 Mapped Soils

The NRCS soil survey identifies two soil series on the subject property: Lynnwood loamy sand, 0 to 3 percent slopes (30), and Terric Medisaprists, nearly level slopes (69). An NRCS soil survey map is provided in Appendix B2. A description of the soil profiles is below.

Lynnwood loamy sand, 0 to 3 percent slopes (30)
According to the NRCS survey, Lynnwood loamy sand, 0 to 3 percent slopes, is a very deep, somewhat excessively drained soil that is located on terraces and outwash plains. Permeability is rapid and water capacity is low. In a typical soil profile, the surface layer is about 1 inch thick and consists of a grayish brown loamy sand. The upper part of the subsoil is a dark brown loamy sand about 14 inches thick, and the lower part of the subsoil is a dark yellowish brown loamy sand about 14 inches thick. The bottom layer to a depth of 60 inches consists of a grayish brown sand. Sandy loam has also been identified in the surface layer and subsoil of the soil profile. Lynnwood loamy sand, 0 to 3 percent slopes, is primarily a non-hydric soil, but as much as 5 percent contains hydric inclusions of Custer soils in depressions (NRCS, N.d.).

Terric Medisaprists, nearly level slopes (69)
According to the NRCS survey, Terric Medisaprists, nearly level slopes, is a very deep, very poorly drained soil formed in organic material and alluvium in depressional areas on till plains. In a typical profile, the surface layer is approximately 28 inches thick and is black and dark brown organic material. From 28 to 60 inches, the subsoil is dark brown and very dark gray very gravelly loamy sand. The substratum varies widely in texture, ranging from clay to loamy sand within short distances. Terric Medisaprists, nearly level slopes, is listed as 100 percent hydric on the NRCS Hydric Soils List (NRCS, N.d.) with hydric components of drained and undrained Terric Medisaprists, undrained Snohomish, Orcas and undrained Mukilteo, located in depressions, floodplains, till plains, and nulls.

4.3 Critical Area Inventories

No wetlands, streams, or priority habitats or species are documented onsite. However, the USFWS NWI map (Appendix B3) and WDFW PHS map (Appendix B4) identify one wetland approximately 70 feet southwest of the subject property. The Snohomish County Critical Areas map (Appendix B5), DNR Stream Typing Map (Appendix B6), and WDFW and NWIFS-SWIFD map (Appendix B7) identify one Type F stream approximately 160-feet south of the subject property, traversing east/west. The stream transitions to a Type N stream approximately 300 feet east of 59th Avenue Northeast. No other wetlands, streams, or priority habitats or species are documented within 300 feet of the subject property.

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.

4.4 Precipitation

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

Table 1. Precipitation Summary[1].

Date	Day Of	Day Before	1 Week Prior	2 Weeks Prior	Last 30 days (Observed/Normal)	Year-to-Date[2] (Observed/Normal)	Percent of Normal (month/year)
8/26/2021	0.01	0.00	0.01	0.01	0.09/0.86	20.19/21.59	10/94
5/4/2022	0.00	0.00	0.90	1.36	2.80/3.10	38.88/33.11	90/117
9/21/2022	0.00	0.00	0.15	0.15	0.22 /1.41	25.35/22.81	16/111
6/18/2024	0.00	0.04	0.05	0.06	2.16/1.63	33.46/35.67	133/94
1/15/2025	0.00	0.00	0.19	1.01	5.01/5.62	14.40/18.80	89/76

Notes:

1. Precipitation level provided in inches. Data obtained from the NOAA (http://w2.weather.gov/climate/xmacis.php?wfo=sew) for Seattle Tacoma airport.
2. Year-to-date precipitation is the total for the water year from October 1st to the onsite date for the May 2022, June 2024 and January 2025 site visit. Year-to-date precipitation is the total for the water year from January 1st to the onsite dates for the August 2021 and September 2022 site visits.
3. Percent of normal is shown for the last 30 days and water year or calendar year to date.

Precipitation levels during the August 2021 site visit were below the statistical normal range (70 to 130 percent of normal) for the prior 30 days (10 percent of normal) and were within the statistical normal range for the 2021 water year (94 percent of normal). This suggests that hydrologic conditions encountered at the time of the site investigation in August 2021 were likely drier than normal.

Precipitation levels during the May 2022 site visit were within the statistical normal range for the prior 30 days (90 percent of normal) and were within the statistical normal range for the 2020/2021 water year (117 percent of normal). This suggests that hydrologic conditions encountered at the time of the site investigation in May 2022 were normal.

Precipitation levels during the September 2022 site visit were below the statistical normal range for the prior 30 days (16 percent of normal) and were within the statistical normal range for the 2022 water year (111 percent of normal). It should be noted that dry conditions are expected during the late summer and early fall months, and secondary hydrology indicators are employed in order to account for these drier conditions. Such conditions were considered in making professional wetland determinations.

Precipitation levels during the June 2024 site visit were above the statistical normal range for the prior 30 days (133 percent of normal) and were within the statistical normal range for the 2023/2024 water year (94 percent of normal). This suggests that hydrologic conditions encountered at the time of the site investigation in June 2024 were normal.

Precipitation levels during the January 2025 site visit were within the statistical normal range for the prior 30 days (89 percent of normal) and were within the statistical normal range for the 2024/2025 water year (76 percent of normal). This suggests that hydrologic conditions encountered at the time of the site investigation in January 2025 were normal.

Chapter 5. Results

The site investigations identified one potentially-regulated wetland (Wetland A) on the subject property. In addition, one stream (Stream 1) was identified offsite within 300 feet of the subject property. No other potentially-regulated wetlands, waterbodies, fish and wildlife habitat, or priority species were identified in the vicinity of the subject property.

5.1 Upland Characterization

The entire site is undeveloped and consists of unmaintained pasture that is primarily upland habitat dominated by herbaceous plant species with some small pockets of shrubs and trees along the eastern and southern perimeter of the site. Vegetation onsite is dominated by common velvetgrass (*Holcus lanatus*), colonial bentgrass (*Agrostis capillaris*), red clover (*Trifolium pratense*), prickly lettuce (*Latuca seriola*) non-native invasive Himalayan blackberry (*Rubus armeniacus*), and non-native- invasive Canada thistle (*Cirsium arvense*). Vegetation within forested upland areas is dominated by red alder (*Alnus rubra*), paper birch (*Betula papyrifera*), and non-native invasive Himalayan blackberry.

5.2 Wetlands

The identified wetlands contained indicators of hydric soils, wetland hydrology, and a predominance of hydrophytic vegetation according to current wetland delineation methodology. Wetland data forms are provided in Appendix D; wetland rating forms are provided in Appendix E; and wetland rating maps are provided in Appendix F. Table 2 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]	WSDOE[3]	City of Arlington [4]	
A	PSS/EMBCH	Depressional	II	II	3,693

Notes:

1. Cowardin et al. (1979), Federal Geographic Data Committee (2013), or NWI Class based on vegetation: PSS= Palustrine Scrub Scrub, PEM= Palustrine Emergent; Modifiers for Water Regime: B= Seasonally Saturated, C = Seasonally Flooded, H= Permanently Flooded.
2. Brinson, M. M. (1993).
3. Current WSDOE rating (Hruby and Yahnke 2024).
4. AMC 20.93.800 wetland classification Arlington rating according to Washington State Wetland Rating System for Western Washington (Hruby and Yahnke 2024).
5. AMC 20.93.830 Table 20.93-4 standard buffer widths.

Wetland A

Wetland A is approximately 3,693 square feet (0.08 acre) in size onsite and is located on the southeast corner of the subject property, extending offsite to the south. Hydrology for Wetland A is provided by a seasonally-high water table, direct precipitation, and overbank flooding from Stream 1 that traverses east/west south of the subject property. A beaver dam was identified at the culvert crossing on 59th Avenue Northeast within offsite portions of Wetland A. Wetland vegetation is dominated by cattail species (*Typha spp.*), slough sedge (*Carex obnupta),* creeping buttercup (*Ranunculus repens*), common rush (*Juncus effusus*), and non-native invasive reed canarygrass (*Phalaris arundinacea).* Due to overbank flooding from Stream 1, Wetland A is a riverine/depressional wetland and defaults to a depressional wetland for rating purposes. Per AMC 20.93.800(b), Wetland A is a Palustrine Shrub

Scrub, Emergent, Seasonally Saturated, Seasonally Flooded, and Permanently flooded wetland (PSS/EMBCH).

Table 3. Wetland A Summary

WETLAND A		
	**Local Jurisdiction**	City of Arlington
	City of Arlington Rating	II
	Wetland Size (Onsite)	3,693 SF
	Cowardin Classification	PSS/EMBCH
	HGM Classification	Depressional
	Wetland Data Sheet(s)	DP-1
	Upland Data Sheet(s)	DP-2
Wetland Functions Summary		
Water Quality (Scores 7 out of 9 points)	• Moderate site potential to trap sediments and pollutants and remove nitrogen due to a highly constricted permanently flowing outlet, greater than 50% cover of persistent ungrazed vegetation and greater than 25% of the wetland being seasonally ponded. • Moderate landscape potential to receive sediment and pollutants due to surrounding agricultural land uses and stormwater runoff. • High societal value for water quality functions due to direct discharge into degraded waters and degraded waters within the sub-basin and watershed.	
Hydrologic (Scores 7 out of 9 points)	• Moderate site potential to reduce flooding and erosion due to the moderate storage depth during wet periods, contribution to storage within the watershed, and a highly constricted permanently flowing outlet. • Moderate landscape potential to provide flood protection due to stormwater discharge and the adjacent agricultural land uses and high intensity land uses within the contributing basin. • High societal value for hydrologic functions due to flooding that occurs down-gradient of the unit.	
Habitat (Scores 6 out of 9 points)	• Moderate site potential to provide diverse and complex habitat as the wetland consists entirely of emergent vegetation. • Low landscape potential to support habitat use due to the surrounding agricultural and high-density residential land uses • High societal value for habitat functions due to the presence of instream and riparian WDFW Priority Habitats within the wetland.	

5.2 Offsite Stream 1

The site investigation identified one potentially regulated stream (Stream 1) located offsite approximately 110 feet south of the subject property, flowing through Wetland A. Stream 1 originates approximately 0.25-miles to the east of the subject property. Using LiDAR and aerial imagery, the stream is approximately 10 feet wide. A beaver dam was identified at the culvert crossing on 59th Avenue Northeast within offsite portions of Wetland A, creating overbank flooding of Stream 1. Stream 1 is considered a Type F stream on the DNR stream typing map that transitions from a Type N stream southeast of the property; however, WDFW Fish Passage map does not identify any fish natural fish barriers and no fish barriers were identified during the site visit. Additionally, the nearest documented presence of ESA-listed species (chinook and steelhead) is located approximately 1.59 mile southwest of the subject property on Portage Creek. WDFW and NWIFC-SWIFD maps Stream 1 as gradient accessible for chinook, coho, chum, pink salmon, and steelhead and the WDFW Fish Passage map does not identify any fish barriers downstream of the subject property between Stream 1 and Portage Creek. As such, Stream 1 would likely be considered a Type F-ESA stream and is subject to a standard 150-foot buffer.

5.3 Artificially Excavated Drainage Ditch

One ditch was identified on the eastern property boundary, flowing north to south. The ditch appears to be artificially and intentionally created out of upland conditions for the purpose of stormwater conveyance. Review of historical aerials and historic USGS topographic maps dating back to 1911 of this parcel indicate no evidence of a relic stream channel. The ditch is linear, approximately 2 – 3 feet wide, with vertical banks. The banks are lined with red alder, creeping buttercup, field horsetail, and non-native invasive reed canarygrass. No defined bed and bank are present, therefore the ditch does not meet the stream criteria under WAC 222-16-030. Furthermore, 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". After an additional site investigation in January of 2025, SVC observed that there is an upland area located between the terminus of the ditch and Wetland A that precludes hydrology within the ditch from having an above ground surface water connection to Wetland A and Stream 1. Additionally, during the January 2025 site investigation by SVC under normal precipitation conditions, SVC did not observe and seasonal ponding within the onsite portion of Wetland A. Thus, the onsite portion of Wetland A is all seasonally saturated and there is not above ground surface water connection from the onsite ditch and Wetland A. As such, the ditch is not anticipated to be regulated as a stream, and no buffer is required.

5.4 Fish and Wildlife Habitat Conservation Area Assessment

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.

North American wolverines commonly occur in boreal forests and tundra ecosystems and in Washington they occupy alpine and subalpine forests within the North Cascades National Park and the wilderness areas of the Okanogan-Wenatchee National Forest where heavy snowpack persists well into the spring months (WDFW, n.d.). Marbled murrelet 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 percent or more conifer cover with minimum 15-inch diameter at breast height (DBH). 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). 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 Bull trout require colder water temperatures, clean stream substrates, complex streams, and connectivity to river, lakes, and ocean habitats.

The subject property contains large, open grassy fields that are seasonally mowed. No suitable breeding or foraging habitat for north American wolverine, yellow-billed cuckoo, marbled murrelet, or northwestern pond turtle occur within 300 feet of the subject property. Additionally, no suitable habitat for bull trout is found on or within 300 feet of the subject property, as Stream 1 has low channel complexity, and water temperatures that are not suitable for bull trout.

Chapter 6. Regulatory Considerations

The site investigations in Summer of 2021, Spring of 2022, Fall of 2022, Spring of 2024 and Winter of 2025 identified and delineated one potentially-regulated wetland (Wetland A) on the subject property. In addition, one stream (Stream 1) was identified offsite within 300 feet of the subject property. No other potentially-regulated wetlands, waterbodies, fish and wildlife habitat, or priority species were identified on or adjacent to the subject property during the site investigations.

6.1 Local Considerations

6.1.1 Buffer Standards

AMC 20.93.800(a) has adopted the current wetland rating system for western Washington (Hruby and Yahnke, 2023). Category III wetlands are wetlands with a moderate level of functions, as characterized by a score ranging from 16 to 19 points. Generally, these wetlands have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands. Category II wetlands are wetlands that perform functions well, as characterized by a score of 20 to 22 points. Category II wetlands are difficult, though not impossible, to replace and provide high levels of some functions.

Per Arlington Municipal Code (AMC) 20.93.800(b) Wetland A is considered a Category II wetland with a moderate habitat score (6 points). Category II wetlands with a moderate habitat score are subject to a standard 110-foot buffer per AMC 20.93.830 Table 20.93-4, provided that minimization measures identified in AMC 20.93.830 Table 20.93-5 are implemented as shown in Table 5 below.

Per AMC 20.93.730 (Table 20.93-3) Stream 1 is classified as a Type F-ESA waterbody and is subject to a standard 150-foot buffer. An additional 15-foot building and structure setback is required from the edge of all critical area buffers per AMC 20.93.340.

A wetland and stream buffer summary is provided below in Table 6.

Table 5. Examples of Required Measures to Minimize Impacts

Disturbance	Measures to Minimize Impacts
Lights	• Direct lights away from wetland
Noise	• Locate activity that generates noise away from the wetland • If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source • • For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10 feet heavily vegetated buffer strip immediately adjacent to the outer wetland buffer
Toxic runoff	• Route all new untreated runoff away from wetland • Establish covenants limiting use of pesticides within 150 feet of wetland • Apply integrated pest management program
Stormwater Runoff	• Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized flow from lawns that directly enters the buffer

Disturbance	Measures to Minimize Impacts
	• Use low intensity development techniques (for more information refer to the drainage ordinance and manual)
Change in water regime	• Infiltrate or treat, detain and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	• Use privacy fencing or 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	• Use best management practices to control dust

Table 6. Wetland and Stream Buffer Summary.

Wetland/ Stream	Category/ Type	Habitat Score	Proposed/Potential Future Land Use Intensity	Standard Buffer Width[1, 2]
Wetland A	II	6	High	110
Stream 1	F-ESA	N/A	High	150

1. AMC 20.93.830 Table 20.93-4 – Wetland Buffer Requirements for Western Washington if Table 20.93-5 is Implemented.
2. AMC 20.93.730 Table 20.93-3 – Stream Buffer Widths.

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.

Wetland A is likely regulated under section 404 of the CWA through item (a4) above as the wetland is associated with Stream 1 and has a direct hydrological connection to Stream 1. Stream 1 flows west and outlets into Portage Creek and Portage Creek outlets directly into the Stillaguamish River which is a WOTUS. In addition, Wetland A is regulated by the WSDOE through the Revised Code of Washington (RCW) 90.48.

Chapter 7. Conceptual Buffer Averaging Plan

7.1 Project Description

The Applicant proposes to develop a mixed use residential and commercial development on the subject property that will include residential and commercial buildings, access roads, wet and dry utilities, open space and stormwater infrastructure. The project was carefully designed to fully utilize the developable upland area onsite, and all permanent impacts are avoided. However, in order to provide enough space for development infrastructure, the project will require minor buffer averaging associated with the onsite buffers of Wetland A and Stream 1, as allowed per AMC 20.93.320. The project proposes reducing the Stream 1 buffer by 1,482-square feet along the northwestern area of the Stream 1 buffer and increasing the Stream 1 buffer by 1,487-sqaure feet along the northeast area of the Stream 1 buffer, resulting in a net gain of 5-square feet of Stream 1 buffer onsite. Additionally, the project proposes reducing the Wetland A buffer by 4,313-square feet along the northeastern area of the Wetland A buffer and increasing the Wetland A buffer by 4,323-sqaure feet along the northwestern area of the Wetland A buffer, resulting in a net gain of 10-square feet of Wetland A buffer onsite. The proposed buffer averaging plan will result in 5,795-square feet of buffer decrease along the northeastern and northwestern portions of the Wetland A and Stream 1 buffers onsite and will result in 5,810-square feet of buffer increase along the central portion of the Wetland A and Stream 1 buffer, to ensure not net loss in functional buffer area and provide an increase of 15-square feet. Additionally, the entire onsite Wetland A and Stream 1 buffer area will be fully enhanced through installing native trees and shrubs and controlling non-native invasive species for a period of 5 years.

Dense shrub and or tree vegetation is proposed to be installed along the southern edge of the access road from 59th Avenue Northeast and the parking area to the north of the Wetland A buffer in order to reduce light penetration and noise from cars into the buffer areas. The boundaries of the wetland and stream buffers will be protected with split rail fencing and critical area signs to prevent humans and pets from entering the buffer enhancement areas. Overall, the project will result in no net loss in ecological functions within the Wetland A and Stream 1 buffer, and the buffer enhancement will provide a net lift in ecological function compared to the current existing degraded vegetative conditions within the onsite buffer areas.

7.2 Site Planning

7.2.1 Buffer Averaging Plan

The project was carefully designed to fully utilize the developable upland areas onsite; however, the standard buffer associated with Wetland A and Stream 1 encumbers the southern portion of the site, where a portion of the development is proposed. As such, the project will require buffer averaging of the Wetland A and Stream 1 buffers to avoid impacts to the buffers of Wetland A and Stream 1 in order to complete the proposed development. Buffer Averaging is permitted per AMC 20.93.320 when it will improve the protection of wetland and stream functions, or if it is the only way to allow for use of the parcel. In no instance shall the buffer width be reduced by more than twenty-five percent of the standard buffer.

Averaging to improve wetland protection may be permitted when all of the following conditions are met:

1. *That averaging is necessary to avoid an extraordinary hardship to the applicant caused by circumstances peculiar to the property or that there would be a benefit to the environmentally critical area;*

   The proposed project has been carefully designed to utilize all available upland areas on site; however, in order to provide adequate road access building requirements and parking lot infrastructure, the buffers associated with Wetland A and Stream 1 are proposed to be modified through buffer averaging. The current existing conditions with the onsite areas of the Wetland A and Stream 1 buffers are dominated by herbaceous grass species and are degraded by non-native invasive reed canarygrass and Himalayan blackberry and largely lack native tree and shrub cover.

   The Applicant proposes reducing the Stream 1 buffer along the southwestern area of the subject property in order to accommodate site access from 59th Avenue Northeast. The Applicant proposes reducing the Wetland A buffer along the southeastern area of the subject property in order to accommodate fluid onsite road access between 59th Avenue Northeast and State Route 530 along with fluid fire access and required parking associated with the proposed residential development. The areas proposed for buffer decrease are degraded by the presence of non-native invasive species, the dominance of herbaceous species, and lack of native tree and shrub cover. The area proposed for buffer increase is located to the south of a multifamily housing unit and pedestrian pathway in the southcentral area of the subject property. By increasing the buffer at the narrowest point and maintaining a contiguous buffer along the south portion of the site and enhancing the entire onsite wetland and stream buffer area with native trees and shrubs and non-native invasive plant control, the onsite wetland and stream buffer functions will experience a net lift in ecological function as well as maintain protection to the identified critical areas from the proposed development.

2. *That the least impactive aspects of the proposed land use would be located adjacent to areas where the buffer width is reduced;*

   The areas proposed for buffer decrease are located in the northwest and northeast portion of the stream and wetland buffer area onsite. The area proposed for buffer increases is located in the central portion of the buffer where the buffer is the narrowest onsite. The location where buffer increase is proposed was selected to increase the overall buffer width at the narrowest point and to maintain a contiguous buffer across the south portion of the site to improve buffer functions to Wetland A and Stream 1.

   Additionally, dense shrub and or tree vegetation is proposed to be installed along the southern edge of the access road from 59th Avenue Northeast and the parking area to the north of the Wetland A buffer in order to reduce light and noise penetration from cars into the buffer areas. The boundaries of the wetland and stream buffers will be protected with split rail fencing and critical area signs to prevent humans and pets from entering the buffer enhancement areas.

3. *That width averaging will not adversely impact the environmentally critical area functional values; and*

   The proposed stream and wetland buffer width averaging will not decrease the functional values of the buffer areas associated with Wetland A and Stream 1. The area proposed for buffer increases will be located in the central portion of the site and is in contiguous with the existing buffer area proposed for decrease. The onsite portion of the Wetland A and Stream

1 buffer areas is degraded due to lack of mature vegetation, dominance of herbaceous species, regular maintenance, and presence of non-native and invasive species such as Himalayan blackberry and reed canary grass. The areas proposed for buffer increase and decrease act similar to the existing buffer conditions and will have no impact to identified critical areas. Additionally, the proposed buffer enhancement through installing native trees and shrubs and control of non-native invasive species within the onsite stream and wetland buffer areas with provide a net lift in ecological functions within the onsite wetland and stream buffer areas and associated offsite Stream 1. Native trees and shrubs will be installed throughout the onsite buffer areas, which will increase shading and input of organic matter within the riparian zone associated with Stream 1 and will help to reduce stream temperatures within Stream 1 and will provide an overall net lift in habitat conditions within the riparian habitat zone of Stream 1 and Wetland A.

4. *That the total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging.*

   The project proposes reducing the Stream 1 buffer by 1,482-square feet along the northwestern area of the Stream 1 buffer and increasing the Stream 1 buffer by 1,487-sqaure feet along the northeast area of the Stream 1 buffer, resulting in a net gain of 5-square feet of Stream 1 buffer onsite. Additionally, the project proposes reducing the Wetland A buffer by 4,313-square feet along the northeastern area of the Wetland A buffer and increasing the Wetland A buffer by 4,323-sqaure feet along the northwestern area of the Wetland A buffer, resulting in a net gain of 10-square feet of Wetland A buffer onsite. The proposed buffer averaging plan will result in 5,795-square feet of buffer decrease along the northeastern and northwestern portions of the Wetland A and Stream 1 buffers onsite and will result in 5,810-square feet of buffer increase along the central portion of the Wetland A and Stream 1 buffer, to ensure not net loss in functional buffer area and provide a net increase of 15-square feet of contiguous buffer area onsite.

7.3 Mitigation Strategy

7.3.1 Buffer Enhancement Mitigation Strategy

The onsite averaged wetland and stream buffer areas that are currently degraded due to mowing and the encroachment of non-native invasive species, will be fully enhanced through installing native trees and shrubs and controlling non-native invasive species throughout the onsite wetland and stream buffer areas for a period of 5 years. Throughout both the wetland and stream buffer enhancement areas, non-native invasive species and other degradations (trash, debris, etc.) will be removed, and the entire onsite buffer area will be densely planted with an assortment of native trees and shrubs. The wetland and stream buffer enhancement areas are depicted in Appendix B.

Providing native plantings within the onsite averaged wetland and stream buffer areas 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 Wetland A, Stream 1, and the 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 onsite wetland and stream buffers.

7.3.2 Mitigation Recommendations

The wetland and stream buffer enhancement proposed will include, but may not be limited to, the following recommendations:

- Pre-treat invasive plants within the wetland and stream buffer areas with a Washington Department of Agriculture approved aquatic 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;
- Removal of all trash, refuse, and debris within the buffer enhancement areas;
- Plant all buffer enhancement 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;
- 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

7.4 Approach and Best Management Practices

The proposed onsite buffer wetland and stream buffer enhancement actions will provide increased wetland and stream functions and wetland and stream protections by the improvement of 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 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.

7.5 Goals, Objectives, and Performance Standards

The goals and objectives for the onsite wetland and stream buffer enhancement actions are based on improving onsite wetland and stream buffer functions 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 of the buffer enhancement plan 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 – Enhance 40,982 square feet of onsite wetland and stream buffer to improve onsite buffer functions by creating native woody plant communities.

Objective 1.1 – Establish 40,982 square feet of wetland and stream buffer enhancement areas that are vegetated with native woody plant cover to create diverse horizontal and vertical vegetation structure and wildlife habitat.

Performance Standard 1.1.1 – 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 1.1.2 – Native woody plant species will provide at least 25 percent cover at the end of Year 3, at least 50 percent cover at the end of Year 5.

Performance Standard 1.1.3 – In all monitoring years, the buffer enhancement areas will have at least 2 native tree species and 4 native shrubs species.

Objective 1.2 – Effectively control and/or eliminate non-native invasive species in the wetland and stream buffer enhancement areas.

Performance Standard 1.2.1 – 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.

Performance Standard 1.2.2 – All state-listed, Class-A noxious weeds, including 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.

7.6 Plant Materials and Installation

Plant Materials

All plant materials to be used for wetland and stream buffer enhancement 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.

7.7 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 five 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, and 5. Closeout monitoring will also occur in Year 5.

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.

7.8 Reporting

Following construction, an as-built report will be submitted to the City of Arlington. Additionally, a brief monitoring report detailing the current ecological status of the wetland and stream buffer enhancement actions, measurement of performance standards, and management recommendations will be prepared and submitted to the City of Arlington within 90 days of each monitoring event to ensure full compliance with the buffer enhancement mitigation plan.

7.9 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.

7.10 Critical Area Protective Measures

Long-term protection of the buffer enhancement 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.

7.11 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 8. Closure

The findings and conclusions documented in this report have been prepared for specific application to this 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.

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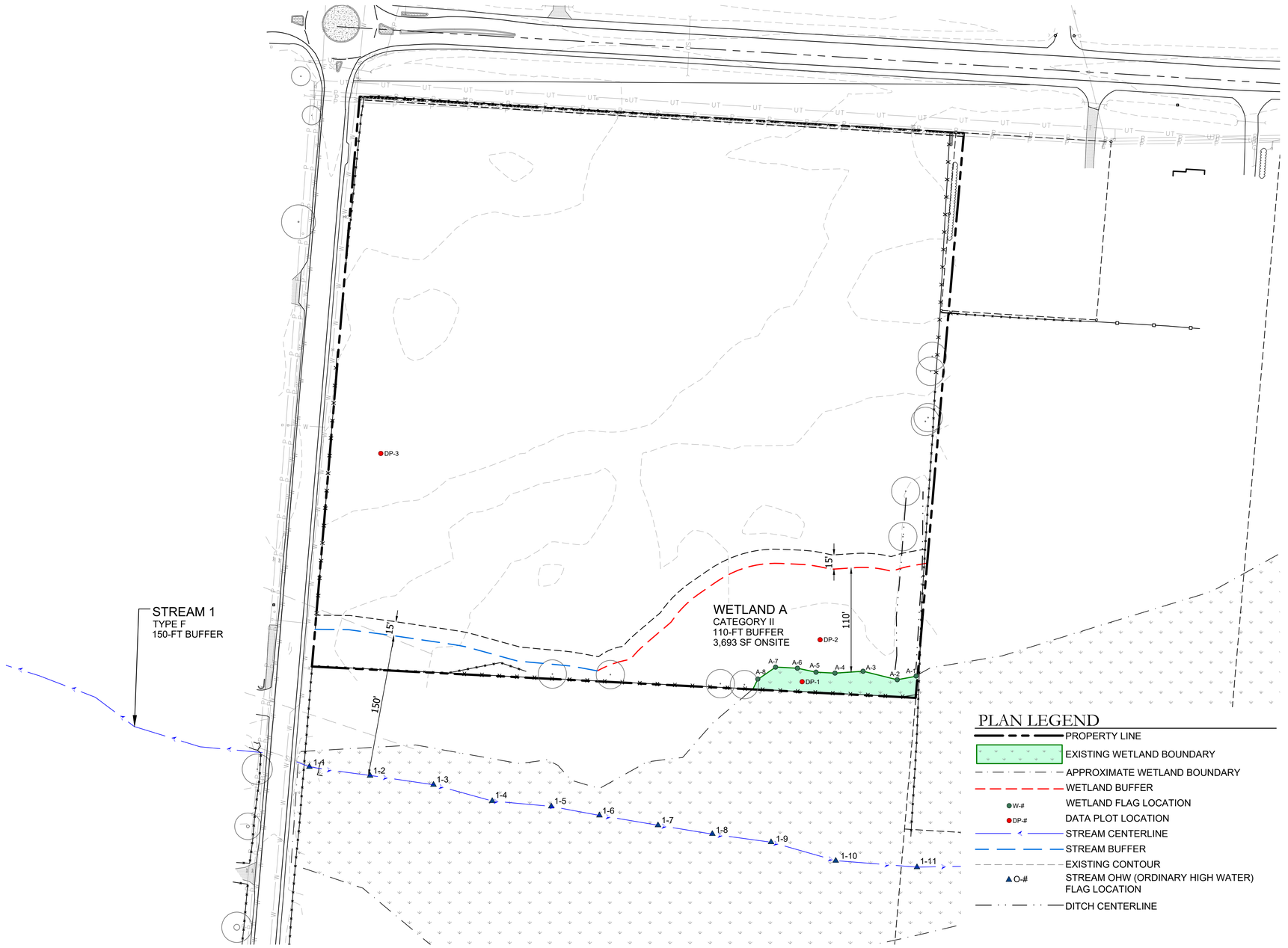
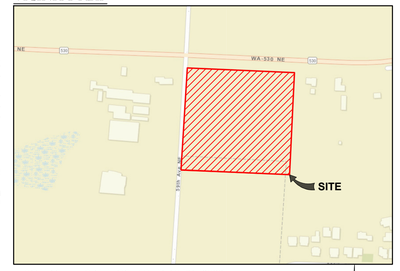
Appendix A — Existing Conditions Exhibit



VICINITY MAP



SOURCE: ESRI (ACCESSED 10/31/2022)

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND BOUNDARY
- APPROXIMATE WETLAND BOUNDARY
- WETLAND BUFFER
- W-# WETLAND FLAG LOCATION
- DP-# DATA PLOT LOCATION
- STREAM CENTERLINE
- STREAM BUFFER
- EXISTING CONTOUR
- O-# STREAM OHW (ORDINARY HIGH WATER) FLAG LOCATION
- DITCH CENTERLINE

LOCATION

THE SE ¼ OF SECTION 10,

TOWNSHIP 31N, RANGE 5E, WM

APPLICANT/OWNER

NAME: QUARTERRA
ADDRESS: 1325 4TH AVENUE, SUITE 1300
SEATTLE, WA 98101
CONTACT: BRAD MACHAT
PHONE: (206)-708-2294
E-MAIL: BRAD.MACHAT@QUARTERRA.COM

ENVIRONMENTAL CONSULTANT

SOUNDVIEW CONSULTANTS LLC
2907 HARBORVIEW DRIVE
GIG HARBOR, WA 98355
(253) 514-8952

SOURCE:

WEDEN ENGINEERING, LLC
Civil Engineering • Planning • Project Management
2636 Nubgaard Rd, Ferndale, WA 98248
(360) 380-1363 (360) 384-3615 Fx
email: info@wedenengineering.com

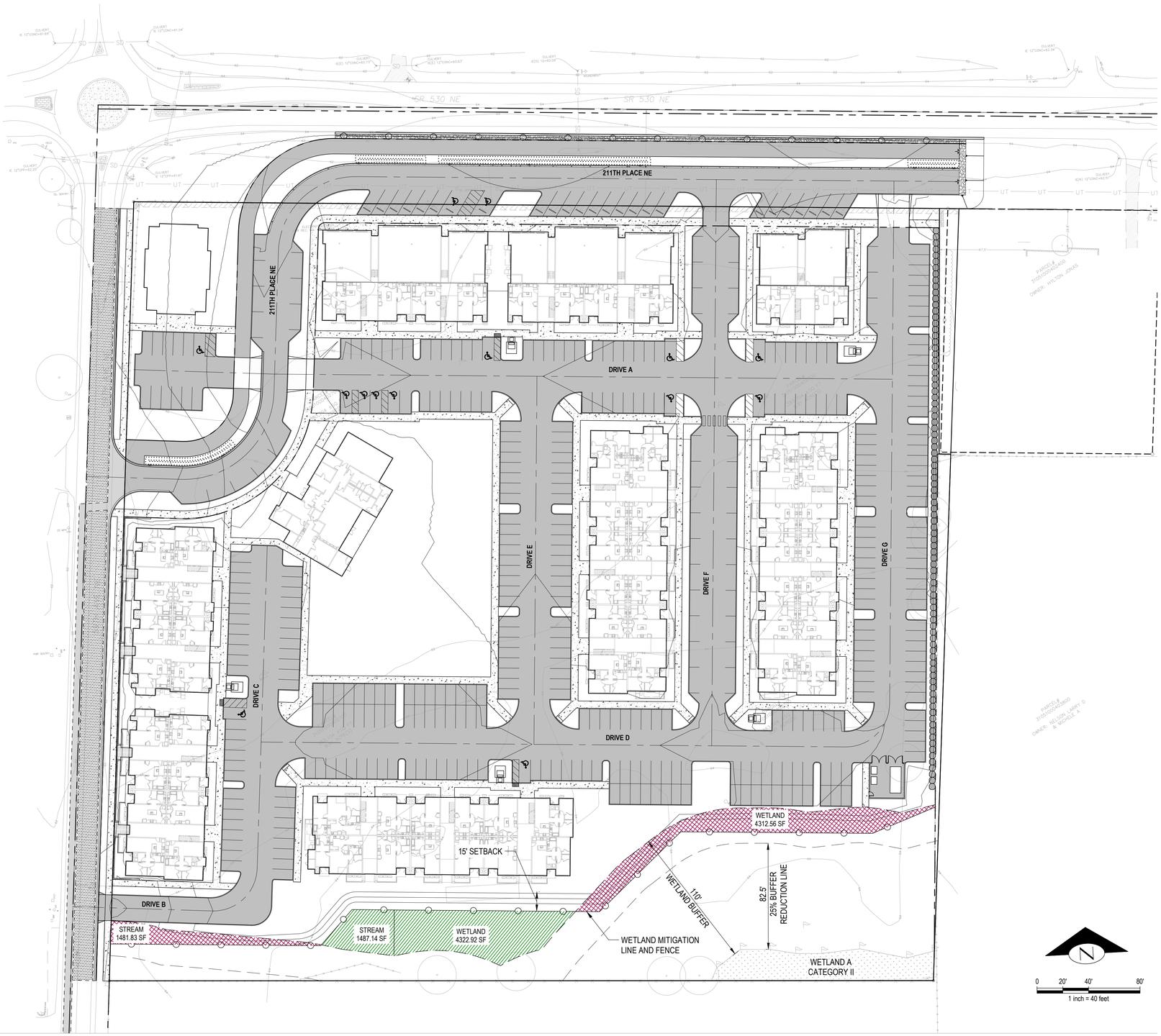
Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 HARBORVIEW DRIVE P. 253.514.8952
GIG HARBOR, WASHINGTON 98335 F. 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

STATE ROUTE 530
21117 59TH AVE NE,
ARLINGTON, WA 98223

SNOHOMISH COUNTY
PARCEL NUMBER(S):
31051000402700

DATE: 5/23/2025
JOB: 2783.0001
BY: GZ
SCALE: AS SHOWN
SHEET: 1

Appendix B — Conceptual Buffer Averaging Plan



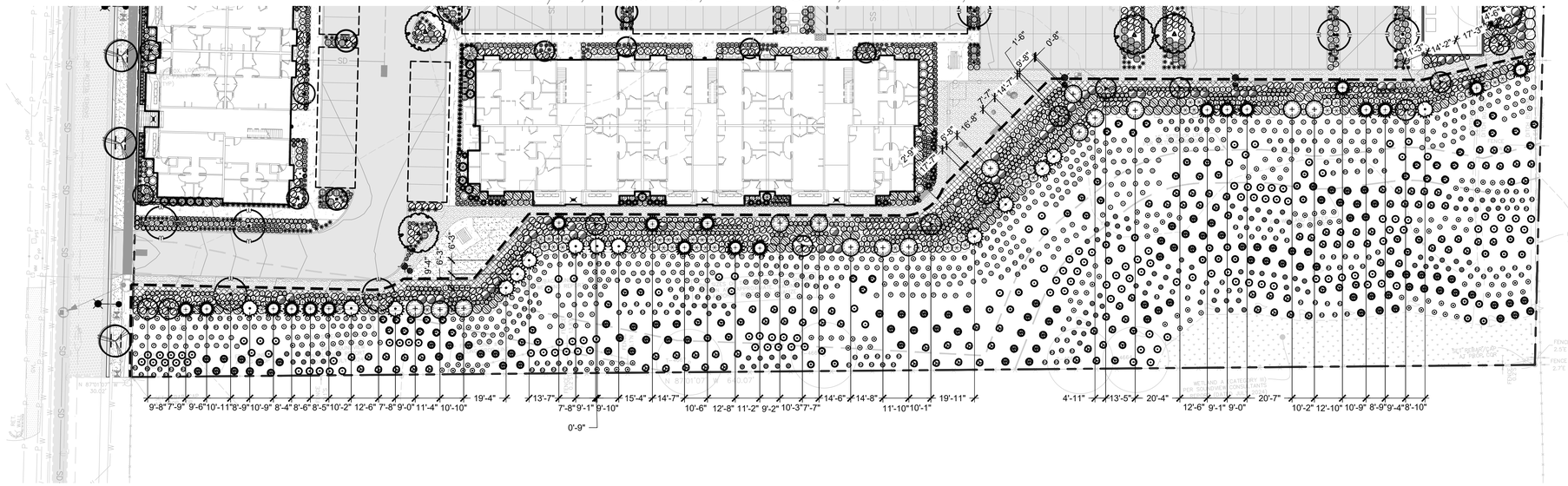
BUFFER MITIGATION TABLE		
	STREAM REDUCTION AREA	1,481.82 SF
	STREAM ADDITION AREA	1,487.14 SF
NET 5.32 SF ADDITIONAL STREAM BUFFER		
	WETLAND REDUCTION AREA	4,312.56 SF
	WETLAND ADDITION AREA	4,322.92 SF
NET 10.36 SF ADDITIONAL WETLAND BUFFER		

kpff
1601 5th Avenue, Suite 1600
Seattle, WA 98101
206.622.5822
www.kpff.com

ARLINGTON APARTMENTS

WETLAND BUFFER MITIGATION EXHIBIT

NW 1/4, SEC 10, TWP 31N, RGE 5E, W.M.



PLANT SCHEDULE SOUTH BUFFER & WETLAND BUFFER ENHANCEMENT

SYMBOL	QTY	BOTANICAL / COMMON NAME	SIZE	CONDITION / REMARKS
DECIDUOUS TREES				
	2	GINKGO BILOBA `AUTUMN GOLD` MAIDENHAIR TREE	MIN. 2" CAL., 10`-12` MIN. HT.	MATCHED, B&B., WELL BRANCHED ABOVE 6`HT.
EVERGREEN TREES				
	20	PINUS CONTORTA SHORE PINE	MIN. 8`-10` HT.	FULL AND BUSHY TO BASE, B&B OR CONT.
	15	PSEUDOTSUGA MENZIESII DOUGLAS FIR	MIN. 8`-10` HT.	FULL AND BUSHY TO BASE, B&B OR CONT.
	14	THUJA PLICATA WESTERN RED CEDAR	MIN. 8`-10` HT.	FULL AND BUSHY TO BASE, B&B OR CONT.
SMALL ACCENT TREES				
	11	AMELANCHIER X GRANDIFLORA `AUTUMN BRILLIANCE` `AUTUMN BRILLIANCE` SERVICEBERRY	(3) 1" CAL. TRUNKS, MIN. 8`-10` HT	MATCHED, B&B., WELL BRANCHED
WETLAND BUFFER RESTORATION				
	106	ACER CIRCINATUM VINE MAPLE	MIN. 1 GAL.	NOTE: REFER TO WETLAND REPORT FOR ADDITIONAL INFORMATION IN THIS AREA.
	106	ALNUS RUBRA RED ALDER	MIN. 1 GAL.	
	30	FRANGULA PURSHIANA CASCARA BUCKTHORN	MIN. 1 GAL.	
	27	PICEA SITCHENSIS SITKA SPRUCE	MIN. 2 GAL.	
	30	PSEUDOTSUGA MENZIESII DOUGLAS FIR	MIN. 2 GAL.	
	107	SALIX SCOULERIANA SCOULER'S WILLOW	LIVE STAKE	
	30	THUJA PLICATA WESTERN RED CEDAR	MIN. 2 GAL.	

SYMBOL	QTY	BOTANICAL / COMMON NAME	SIZE	CONDITION/REMARKS
SHRUBS				
	358	CORNUS STOLONIFERA `KELSEYI` KELSEY DOGWOOD	MIN. 12"-15" HT./SPD.	FULL & BUSHY, SPACING AS SHOWN ON PLAN
	[illegible]	MAHONIA AQUIFOLIUM OREGON GRAPE	MIN. 24"-30" HT./SPD.	FULL & BUSHY, SPACING AS SHOWN ON PLAN
	226	MAHONIA AQUIFOLIUM `COMPACTA` COMPACT OREGON GRAPE	MIN. 18"-24" HT./SPD.	FULL & BUSHY, SPACING AS SHOWN ON PLAN
	51	PHILADELPHUS LEWISII WILD MOCKORANGE	MIN. 30"-36" HT./SPD.	FULL & BUSHY, SPACING AS SHOWN ON PLAN
	42	RIBES SANGUINEUM RED FLOWERING CURRANT	MIN. 30"-36" HT./SPD.	FULL & BUSHY, SPACING AS SHOWN ON PLAN
	2[illegible]7	SYMPHORICARPOS ALBUS COMMON WHITE SNOWBERRY	MIN. 18"-24" HT./SPD.	FULL & BUSHY, SPACING AS SHOWN ON PLAN
WETLAND BUFFER RESTORATION				
	119	HOLODISCUS DISCOLOR OCEANSPRAY	MIN. 1 GAL. CONTAINER	NOTE: REFER TO WETLAND REPORT FOR ADDITIONAL INFORMATION IN THIS AREA.
	106	LONICERA INVOLUCRATA TWINBERRY	MIN. 1 GAL. CONTAINER	
	118	OEMLARIA CERASIFORMIS INDIAN PLUM	MIN. 1 GAL. CONTAINER	
	119	POLYSTICHUM MUNITUM WESTERN SWORD FERN	MIN. 1 GAL. CONTAINER	
	119	ROSA GYMNOCARPA WOOD ROSE	MIN. 1 GAL. CONTAINER	
	107	ROSA NUTKANA NOOTKA ROSE	MIN. 1 GAL. CONTAINER	
	107	RUBUS SPECTABILIS SALMONBERRY	MIN. 1 GAL. CONTAINER	
	119	SYMPHORICARPOS ALBUS COMMON SNOWBERRY	MIN. 1 GAL. CONTAINER	
GROUND COVERS				
	1,332 SF	GROUND COVER NATIVE MIX		
	308	GAULTHERIA SHALLON SALAL	MIN. 1 GAL. CONTAINER	18" O.C. TRIANG. SPAC., START FIRST ROW 12" FROM EDGE, FULL & BUSHY
	153	MAHONIA NERVOSA LOW OREGON GRAPE	MIN. 1 GAL. CONTAINER	18" O.C. TRIANG. SPAC., START FIRST ROW 12" FROM EDGE, FULL & BUSHY
	153	POLYSTICHUM MUNITUM WESTERN SWORD FERN	MIN. 1 GAL. CONTAINER	18" O.C. TRIANG. SPAC., START FIRST ROW 12" FROM EDGE, FULL & BUSHY

NO.	DATE	BY	CHD.	APPR.	REVISION
3	9/25/2025	KC	TC	PN	CUP CYCLE 3 RESUBMITTAL
2	6/4/2025	KC	TC	PN	CUP / BSP CYCLE 2 RESUBMITTAL
1	1/31/2025	KC	TC	PN	CUP / BSP CYCLE 1 RESUBMITTAL
0	10/11/2024	KC	TC	PN	CUP / BSP SUBMITTAL

DRAWN BY: KC | DESIGNED BY: KC
CHECKED BY: TC | APPROVED BY: PN
DATE: 9/25/2025
J O B No. : 2400346
S C A L E: AS NOTED

CALL TWO BUSINESS DAYS BEFORE YOU DIG 1-800-424-5555

fora
Fora Landscape Architects
1430 NE 65th Street
Seattle, WA 98115
t: 206-322-1732 w: fora.land

STATE OF WASHINGTON · PETER J NELSON · No 1389 EXP. 01/27/2027 · LANDSCAPE ARCHITECT

ARLINGTON GARDEN APARTMENTS
ARLINGTON, WASHINGTON

SOUTH BUFFER PLANTING

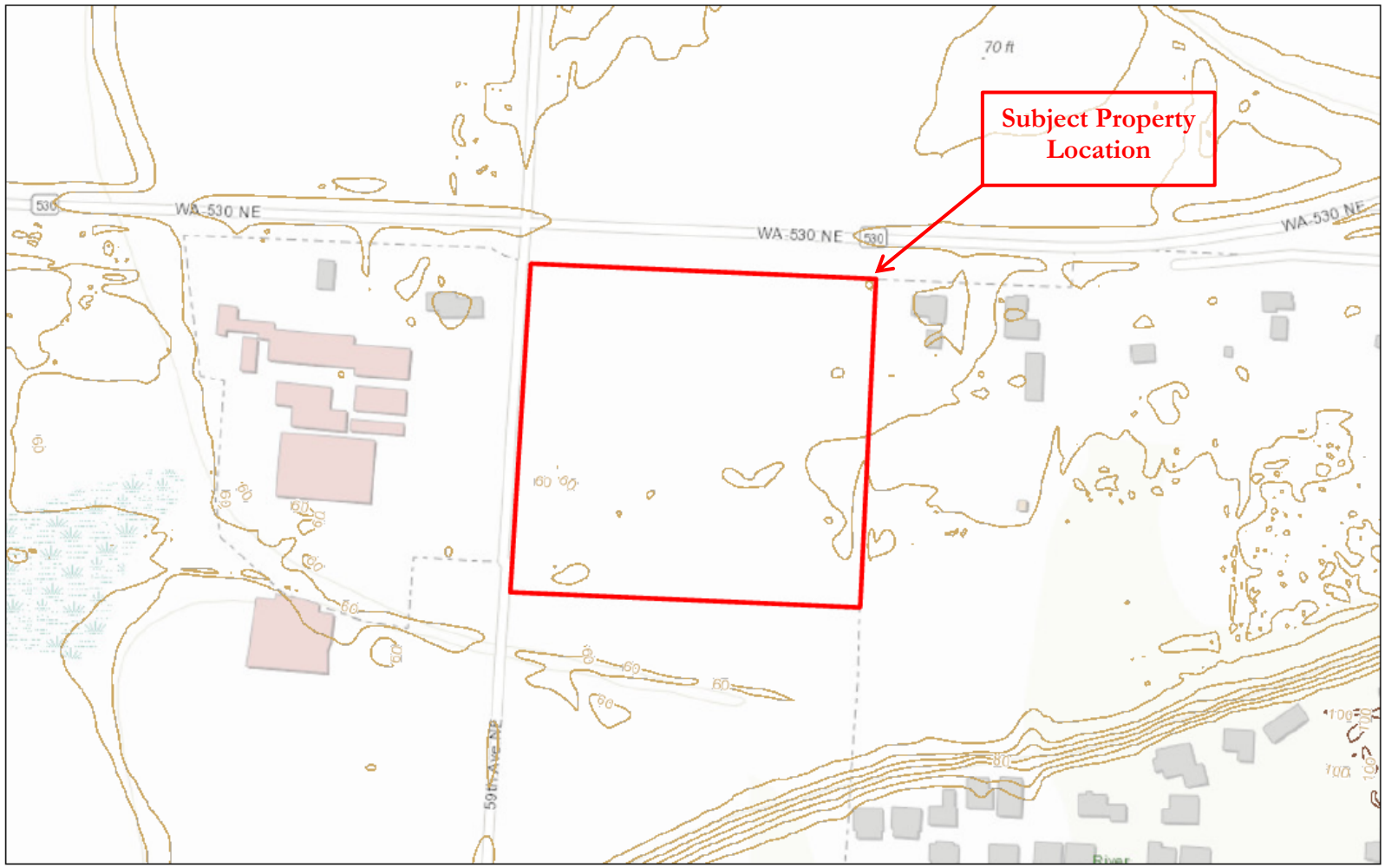
SHEET
L2.05

Sep 24, 2025 - 3:01pm Kaylin P:\Quarterra Arlington\CAD\Q ARL_L2-PLNT.dwg

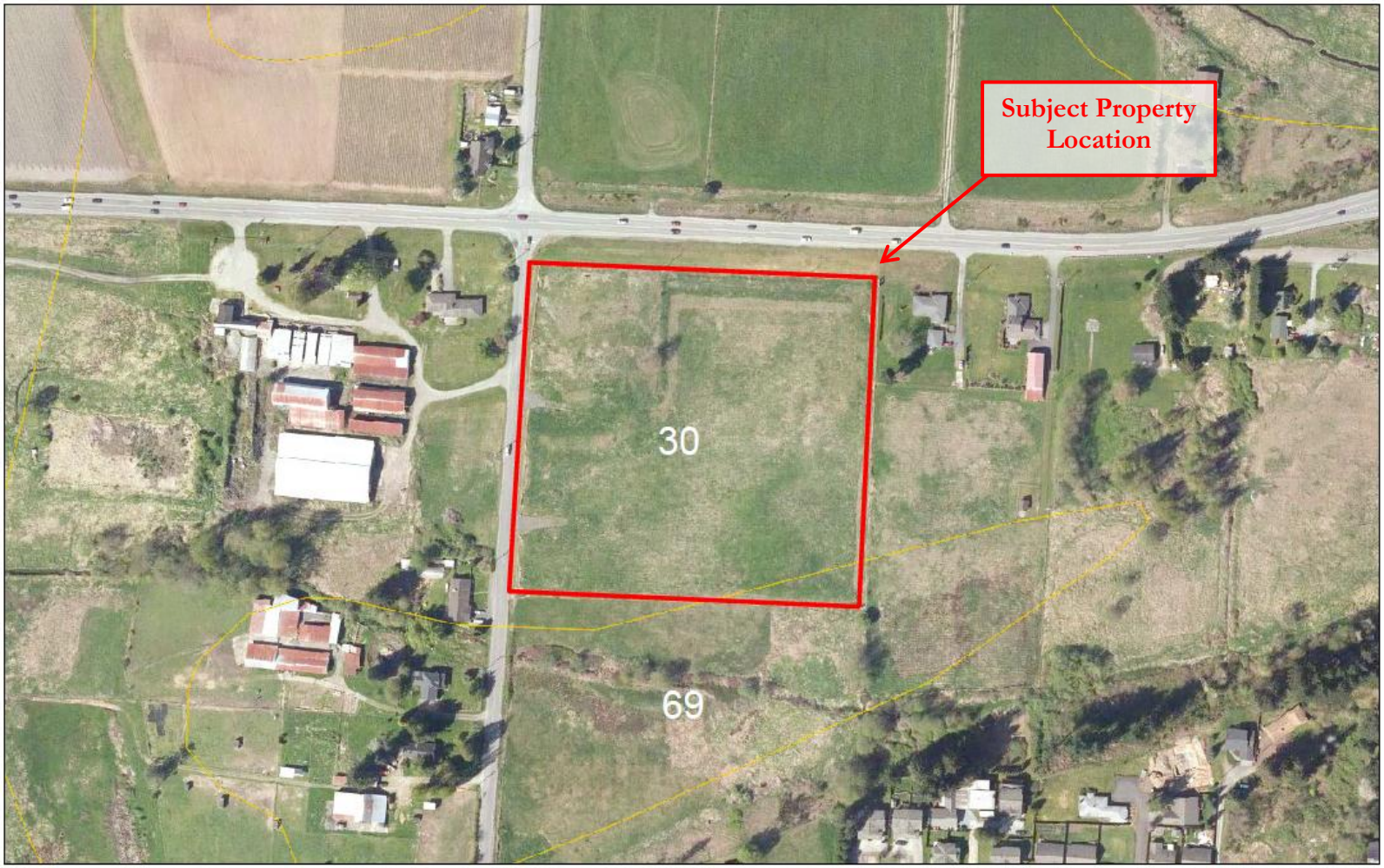
Appendix C — Background Information

This appendix includes a USGS Topographic Map (B1); NRCS soil survey map (B2); USFWS NWI map (B3); WDFW PHS map (B4); Snohomish County critical areas inventory (B5); DNR stream typing map (B6); and WDFW and NWIFC-SWIFD map (B7).

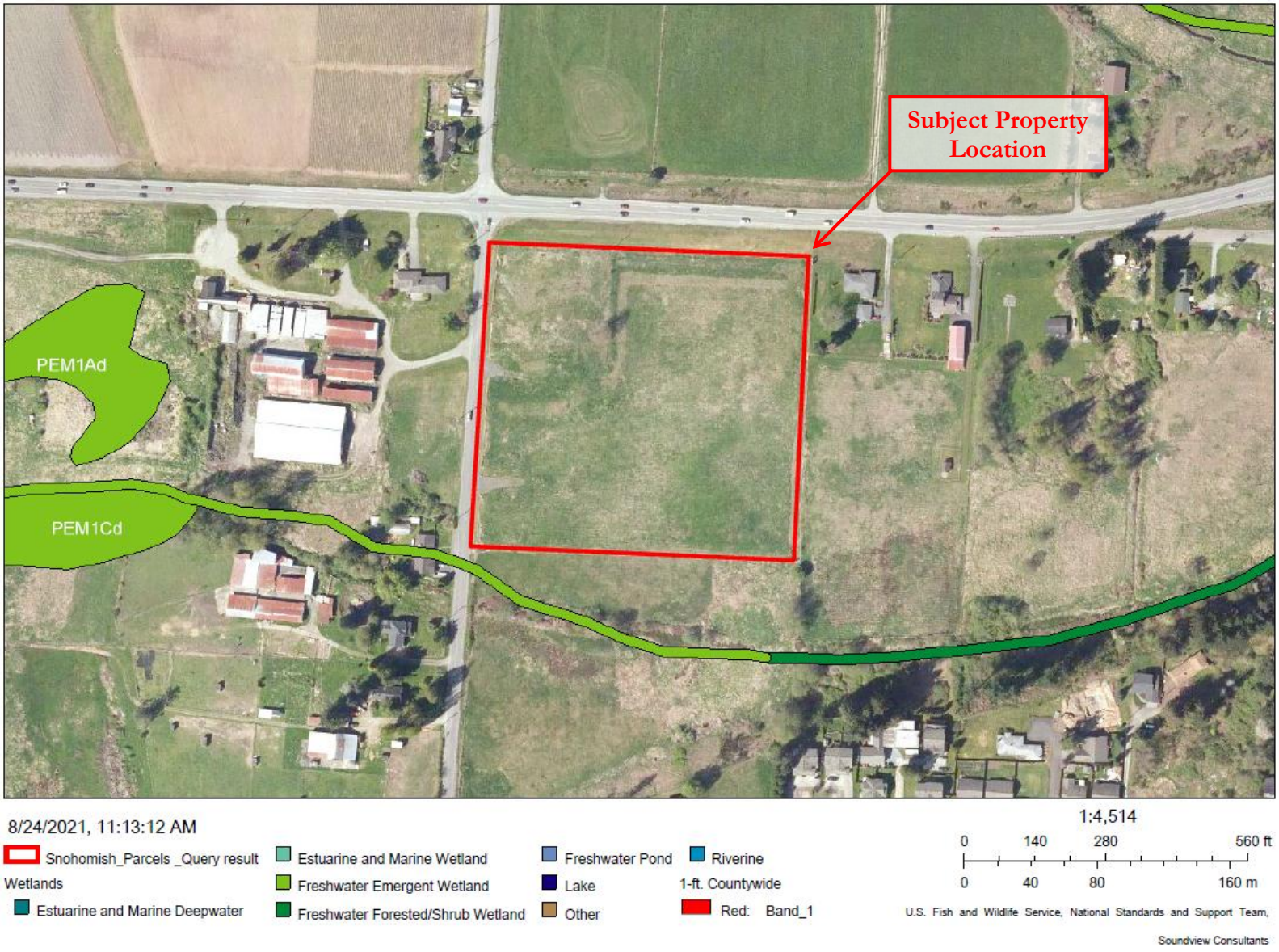
Appendix B1 – USGS Topographic Map



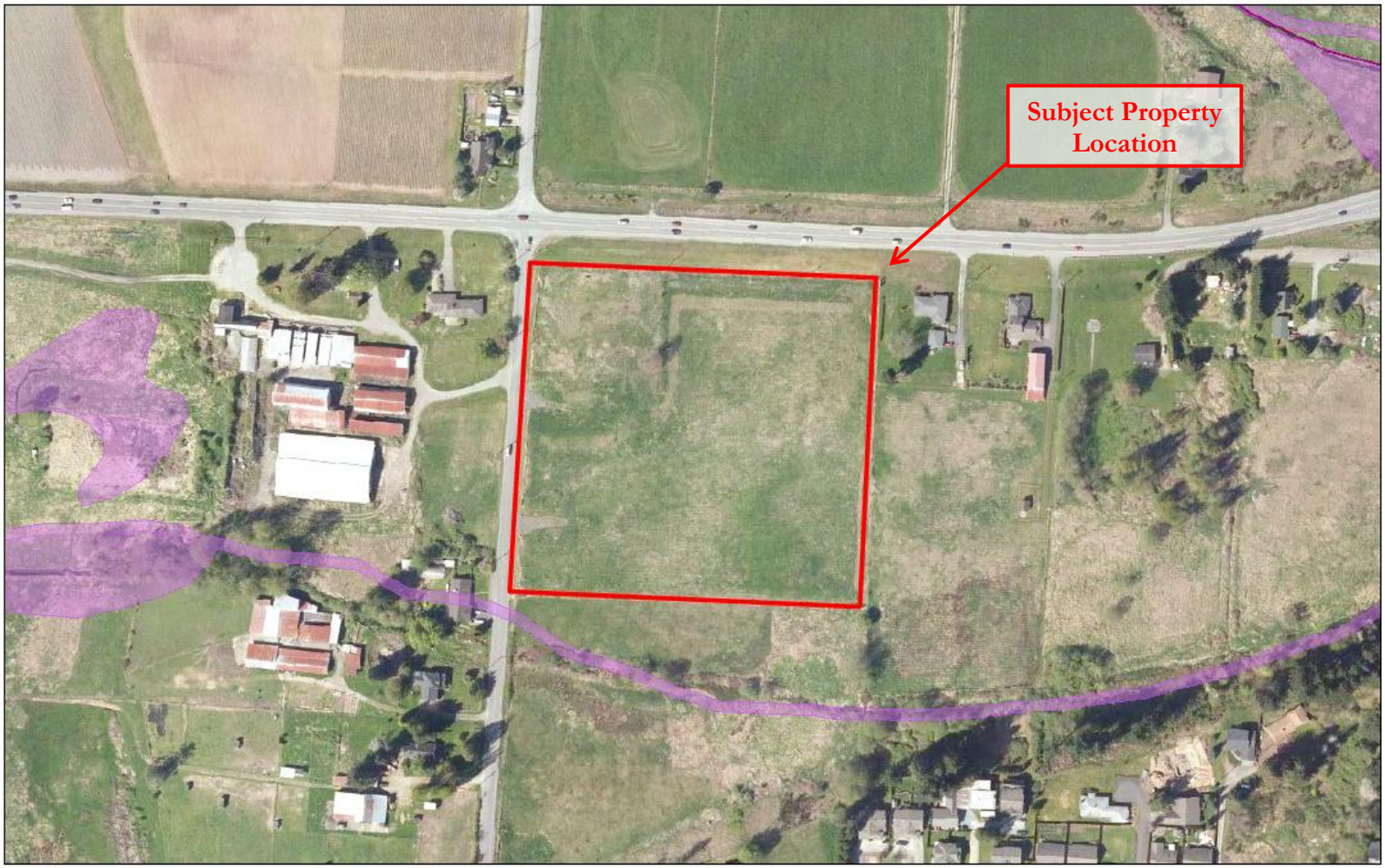
Appendix B2 – NRCS Soil Survey Map



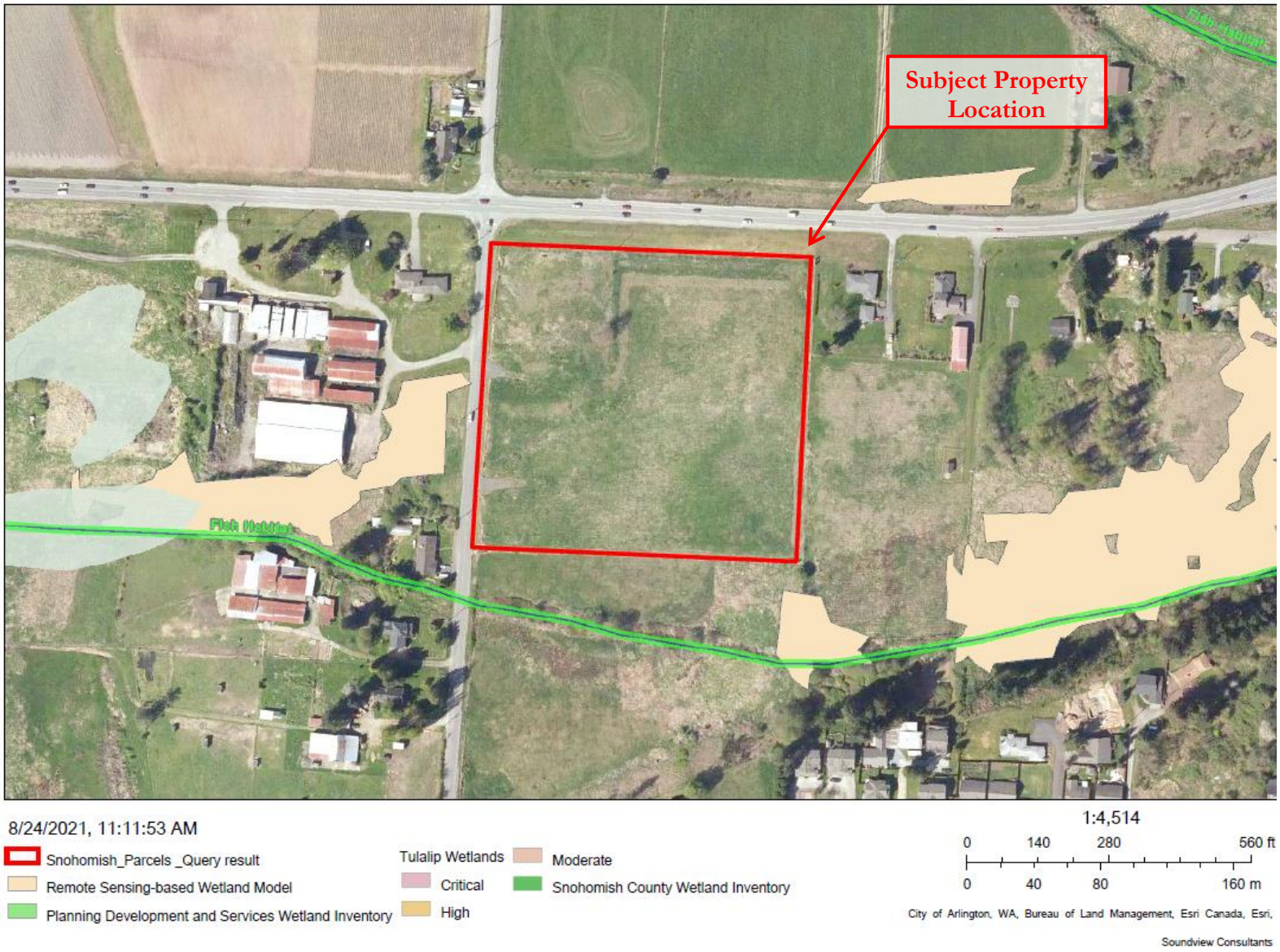
Appendix B3 – USFWS NWI Map



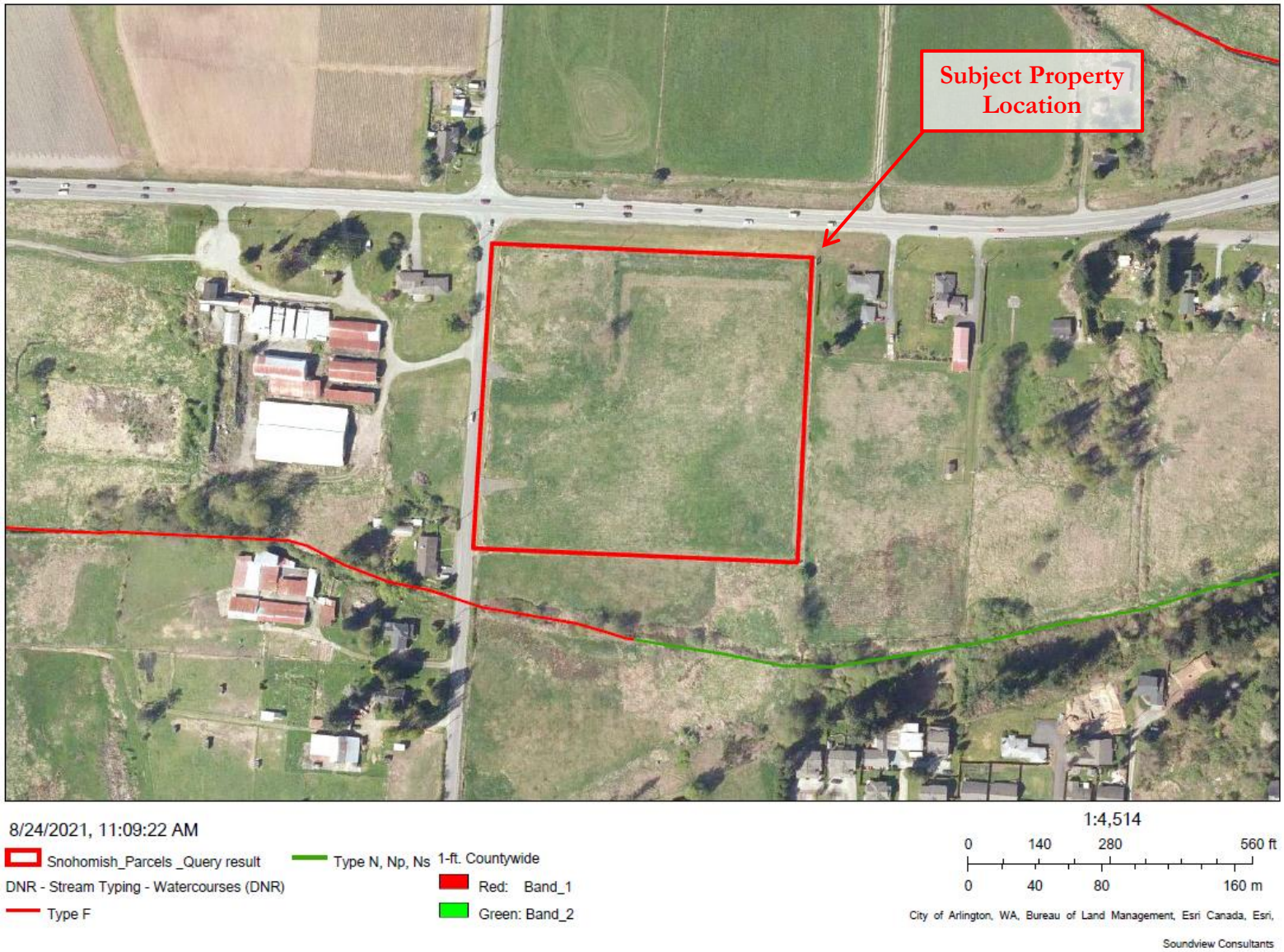
Appendix B4 – WDFW PHS Map



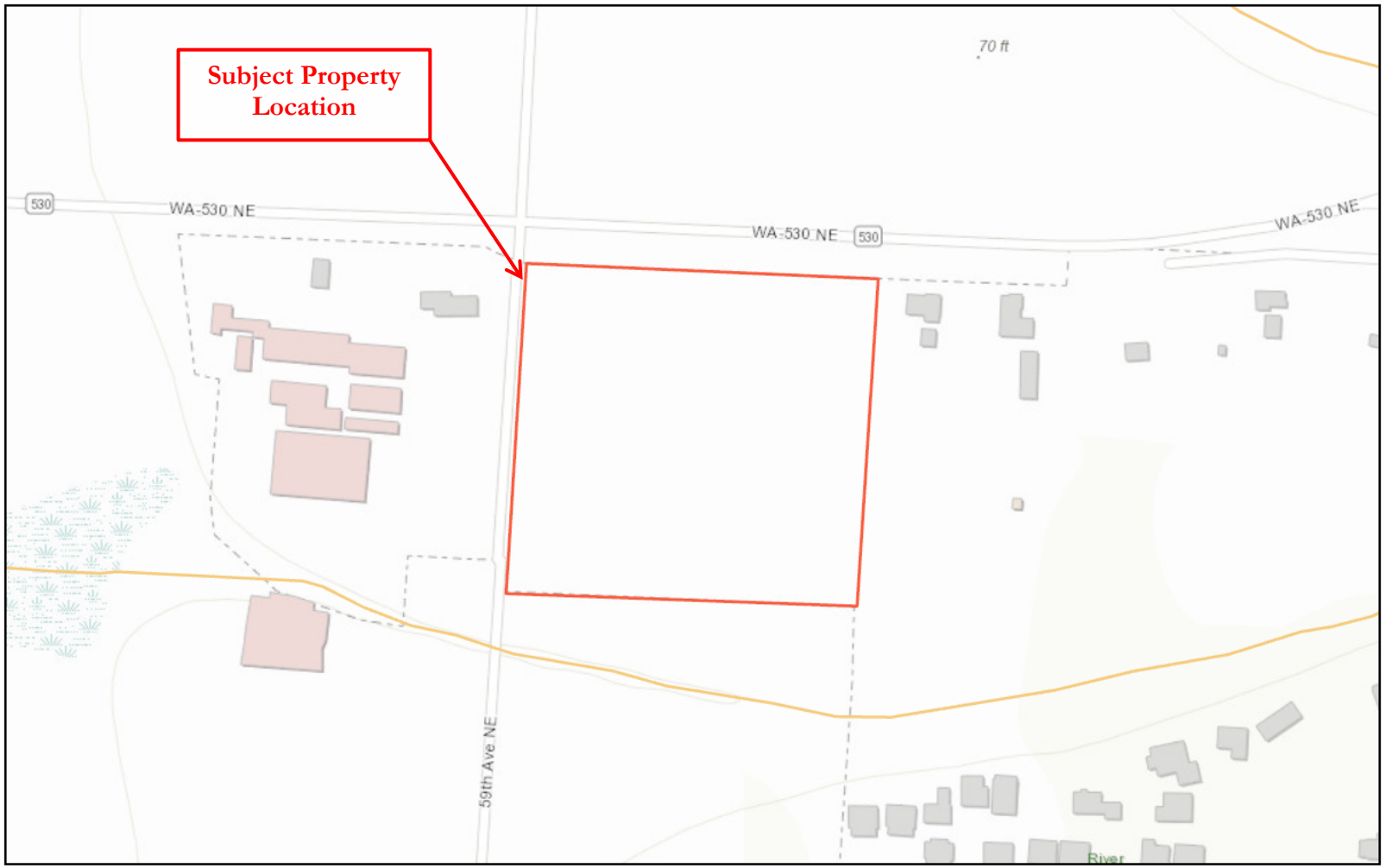
Appendix B5 – Snohomish County Wetland Inventory



Appendix B6 – DNR Steam Typing Map



Appendix B7 – WDFW and NWIFC-SWIFD Map



7/2/2024, 4:38:10 PM

Statewide Parcels _Query result

All SalmonScape Species

Pink Salmon (Odd Year) Streams

Gradient Accessible

Winter Steelhead Streams

Gradient Accessible

Coho Streams

Gradient Accessible

Fall Chum Streams

Gradient Accessible

Fall Chinook Streams

Gradient Accessible

1:4,514

0 140 280 560 ft

0 40 80 160 m

City of Arlington, WA, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, WDFW

Soundview Consultants

Appendix D — Data Forms

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

Project/Site: 2783.0001 State Route 530 City/County: Arlington, Snohomish Sampling Date: 9/21/22

Applicant/Owner: Quarterra State: WA Sampling Point: DP-1

Investigator(s): Kramer Canup, Section, Township, Range: 10/31N/5E

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

Subregion (LRR): A2 Lat: 48.186482 Long: -122.14862389 Datum: WGS 84

Soil Map Unit Name: Terric Medisaprists, nearly level NWI classification: None

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

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

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

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

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

Remarks:
All three wetland criteria met. Data collected in Wetland A.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Betula sp.*	20	Yes	FAC
2. Salix sitchensis	10	Yes	FACW
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Spiraea douglasii	20	Yes	FACW
2. Rubus armeniacus	7	Yes	FAC
3. Rubus laciniatus	5	No	FACU
4.			
5.			
	32	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Ranunculus repens	70	Yes	FAC
2. Juncus effusus	35	Yes	FACW
3. Poa pratensis	10	No	FAC
4. Agrostis capillaris	10	No	FAC
5. Epilobium ciliatum	5	No	FACW
6. Cirsium arvense	3	No	FAC
7. Rumex sp.*	3	No	FAC
8.			
9.			
10.			
11.			
	136	= 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: 6 (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:
Hydrophytic vegetation criteria met through the Dominance Test. * Betula and rumex sp. assumed FAC for scoring purposes.

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 3/1	100	-	-	-	-	SiClLo	Silty clay loam
8 - 12	10YR 3/1	98	7.5YR 3/4	2	C	M	SiClLo	Silty clay loam
12+	10YR 4/2	47	10YR 3/6	8	C	M	SiClLo	Silty clay loam; mixed matrix
12+	10YR 4/1	40	10YR 3/6	5	C	M	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: None

Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicators A11 and F6.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Wetland hydrology criteria met indirectly through secondary indicators D2 and D5.

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

Project/Site: 2783.0001 State Route 530 City/County: Arlington, Snohomish Sampling Date: 9/21/22

Applicant/Owner: Quarterra State: WA Sampling Point: DP-2

Investigator(s): Kramer Canup, Section, Township, Range: 10/31N/5E

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

Subregion (LRR): A2 Lat: 48.186601 Long: -122.14855392 Datum: WGS 84

Soil Map Unit Name: Terric Medisaprists, nearly level 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; lack of wetland hydrology. Upland plot for 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	15	Yes	FAC
2. Cytisus scoparius	3	No	FACU
3. Rubus laciniatus	2	No	FACU
4. Spiraea douglasii	1	No	FACW
5.			
	21	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Ranunculus repens	50	Yes	FAC
2. Holcus lanatus	30	Yes	FAC
3. Agrostis capillaris	10	No	FAC
4. Epilobium ciliatum	5	No	FACW
5. Trifolium pratense	5	No	FACU
6. Rumex sp. *	3	No	FAC
7.			
8.			
9.			
10.			
11.			
	103	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:
Hydrophytic vegetation criteria met through the Dominance Test. * Rumex sp. assumed FAC for scoring purposes.

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 - 7	10YR 3/2	100	-	-	-	-	SiClLo	Silty clay loam
7 - 15	10YR 4/1	65	2.5YR 4/6	10	C	M	SiClLo	Silty clay loam; mixed matrix
7 - 15	-	-	10YR 4/4	10	C	M	SiClLo	Silty clay loam
7 - 15	10YR 3/2	15	-	-	-	-	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: None

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): 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. Additionally, during the 5/4/22 site visit, no hydrology was observed to 15 inches.

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

Project/Site: 2783.0001 State Route 530 City/County: Arlington, Snohomish Sampling Date: 9/21/22

Applicant/Owner: Quarterra State: WA Sampling Point: DP-3

Investigator(s): Kramer Canup Section, Township, Range: 10/31N/5E

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

Subregion (LRR): A2 Lat: 48.187185 Long: -122.15047907 Datum: WGS 84

Soil Map Unit Name: Lynnwood loamy sand, 0 to 3 percent slopes NWI classification: None

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

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

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

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

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

Remarks:
Not all three wetland criteria met; only hydrophytic vegetation present. Collected on the west-central portion 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. Populus balsamifera	5	Yes	FAC
2. Rubus armeniacus	1	No	FAC
3.			
4.			
5.			
	6	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Holcus lanatus	40	Yes	FAC
2. Agrostis capillaris	20	Yes	FAC
3. Trifolium pratense	15	No	FACU
4. Ranunculus repens	10	No	FAC
5. Epilobium ciliatum	7	No	FACW
6. Rumex sp. *	5	No	FAC
7. Cirsium arvense	5	No	FAC
8.			
9.			
10.			
11.			
	102	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:
Hydrophytic vegetation criteria met through the Dominance Test. * Rumex sp. assumed FAC for scoring purposes.

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 - 10	10YR 3/3	100	-	-	-	-	SiLo	Silt loam
10 - 12	10YR 3/3	98	10YR 3/6	2	C	M	SiLo	Silt loam
12 - 15	10YR 3/3	75	10YR 3/6	20	C	M	SiLo	Silt loam
12 - 15	-	-	10YR 3/2	5	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: None

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.

Appendix E — Wetland Rating Forms

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): A Date of site visit: 1/15/2025

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 II (based on functions ✔ or special characteristics___)

1. Category of wetland based on FUNCTIONS

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

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

_____**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	M	M	L	
Value	H	H	H	TOTAL
Score Based on Ratings	7	7	6	20

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

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	3
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	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 A

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	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 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	5
Total for D 4 Add the points in the boxes above	8

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

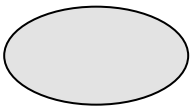
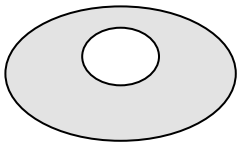
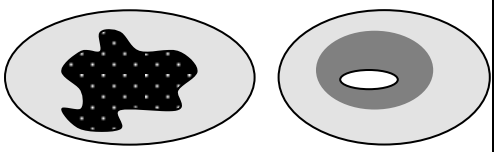
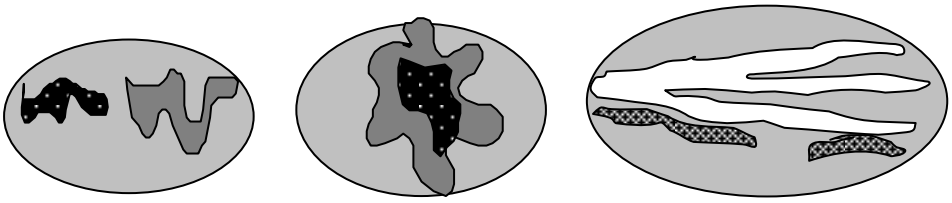
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% 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	1
Total for D 5 Add the points in the boxes above	2

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	2
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	2

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

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	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 __×__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**	3
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 	2

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.* __x__ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). __x__ Standing snags (dbh > 4 in) within the wetland __x__ 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) __x__ 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)* __x__ 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)*	5
Total for H 1 Add the points in the boxes above	12

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:* [0.0] % relatively undisturbed habitat + [(% moderate and low intensity land uses) [3.08] /2] = 1.54 % 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	0
H 2.2. Total habitat in 1 km Polygon around the wetland. *Calculate:* [16.26] % relatively undisturbed habitat + [(% moderate and low intensity land uses) [9.94] /2] = 21.23 % 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	2
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	-2
Total for H 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is: ___ **4-6 = H** ___ **1-3 = M** __X__ **< 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 __x__ 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	2

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

Wetland name or number A

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.

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 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 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 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)*
- 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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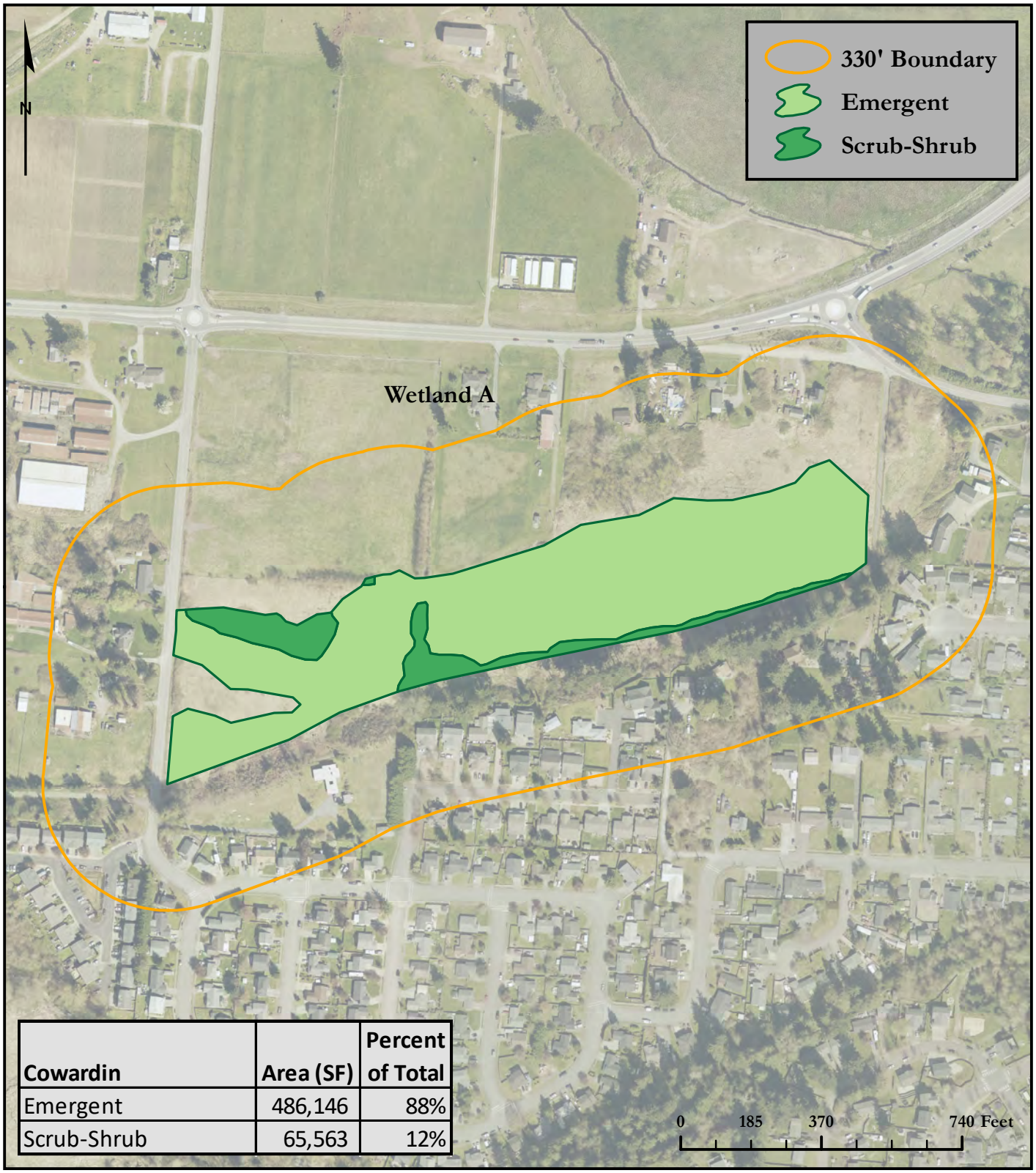
Appendix F — Wetland Rating Maps

COWARDIN MAP



Cowardin	Area (SF)	Percent of Total
Emergent	486,146	88%
Scrub-Shrub	65,563	12%

Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

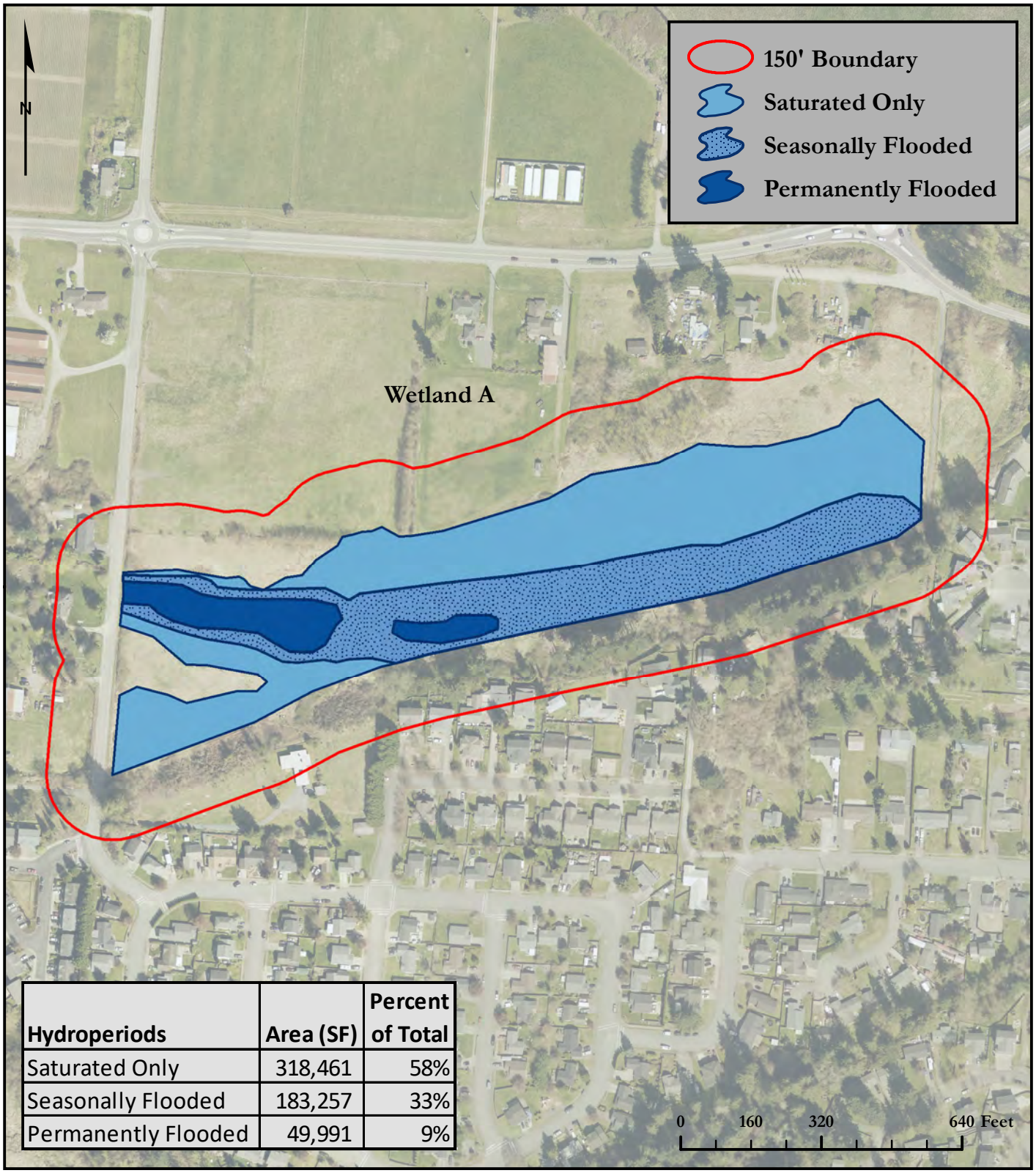
STATE ROUTE 530

21117 59TH AVE NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBER:
31051000402700

DATE: 4/11/2025
JOB: 2783.0001
BY: DS
SCALE: 1 " = 370 '
FIGURE NO. 1 of 5

HYDROPERIOD MAP



Hydroperiods	Area (SF)	Percent of Total
Saturated Only	318,461	58%
Seasonally Flooded	183,257	33%
Permanently Flooded	49,991	9%

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Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

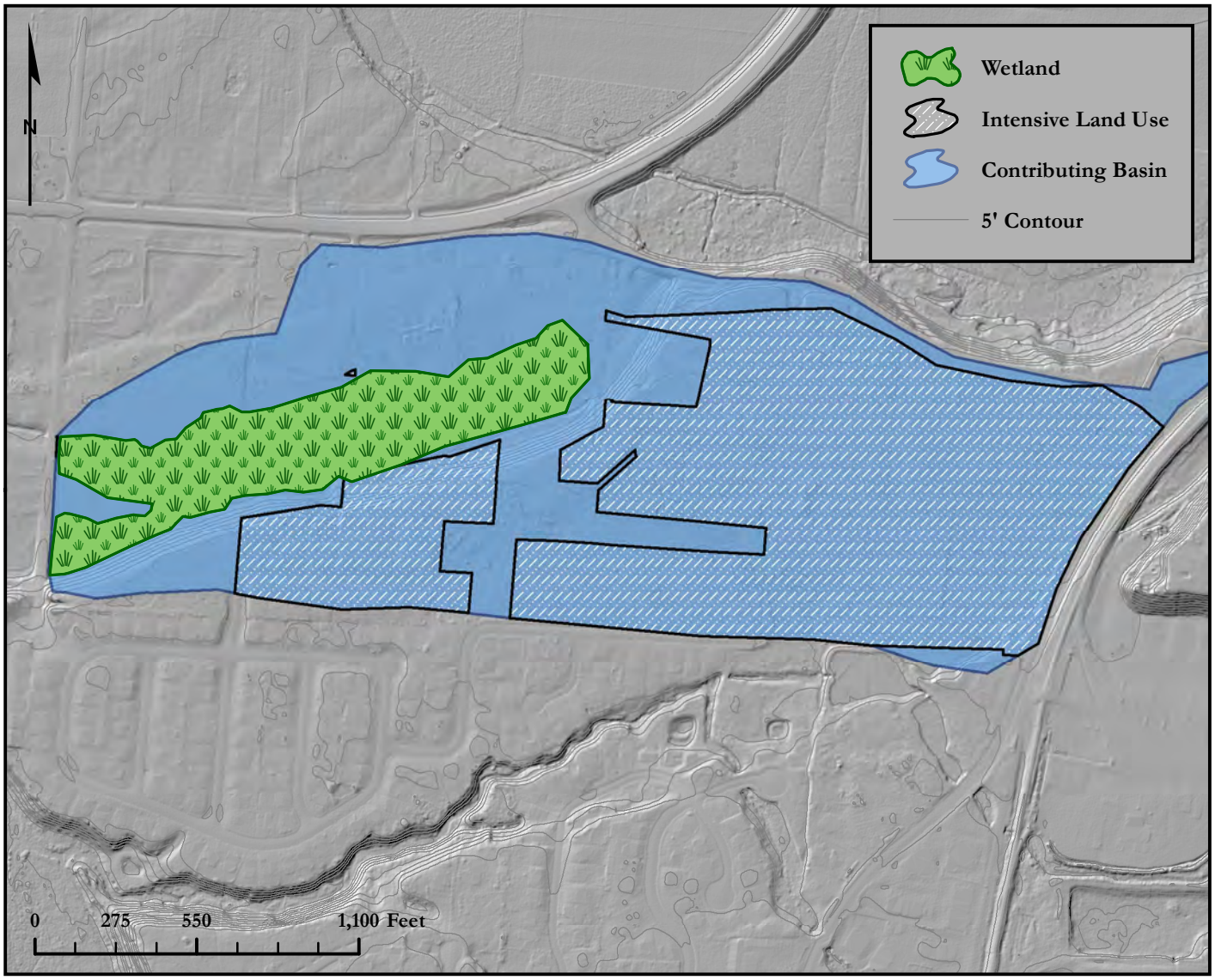
LANE HIGHWAY 530

21117 59TH AVE NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBER:
31051000402700

DATE: 4/11/2025
JOB: 2329.0001
BY: DS
SCALE: 1 " = 320 '
FIGURE NO. 2 of 5

CONTRIBUTING BASIN MAP



D.4		
D.4.3		
	Area of Contributing Basin (SF)	3,895,571
	Area of Wetland A (SF)	551,709
	Percent of Wetland A within Contributing Basin	**14.162%**
D.5.0		
D.5.3		
	Area of Contributing Basin	3,895,571
	Area of Intensive Human Land Uses	2,278,537
	Percent of Intensive Human Land Use within Contributing Basin	**58%**

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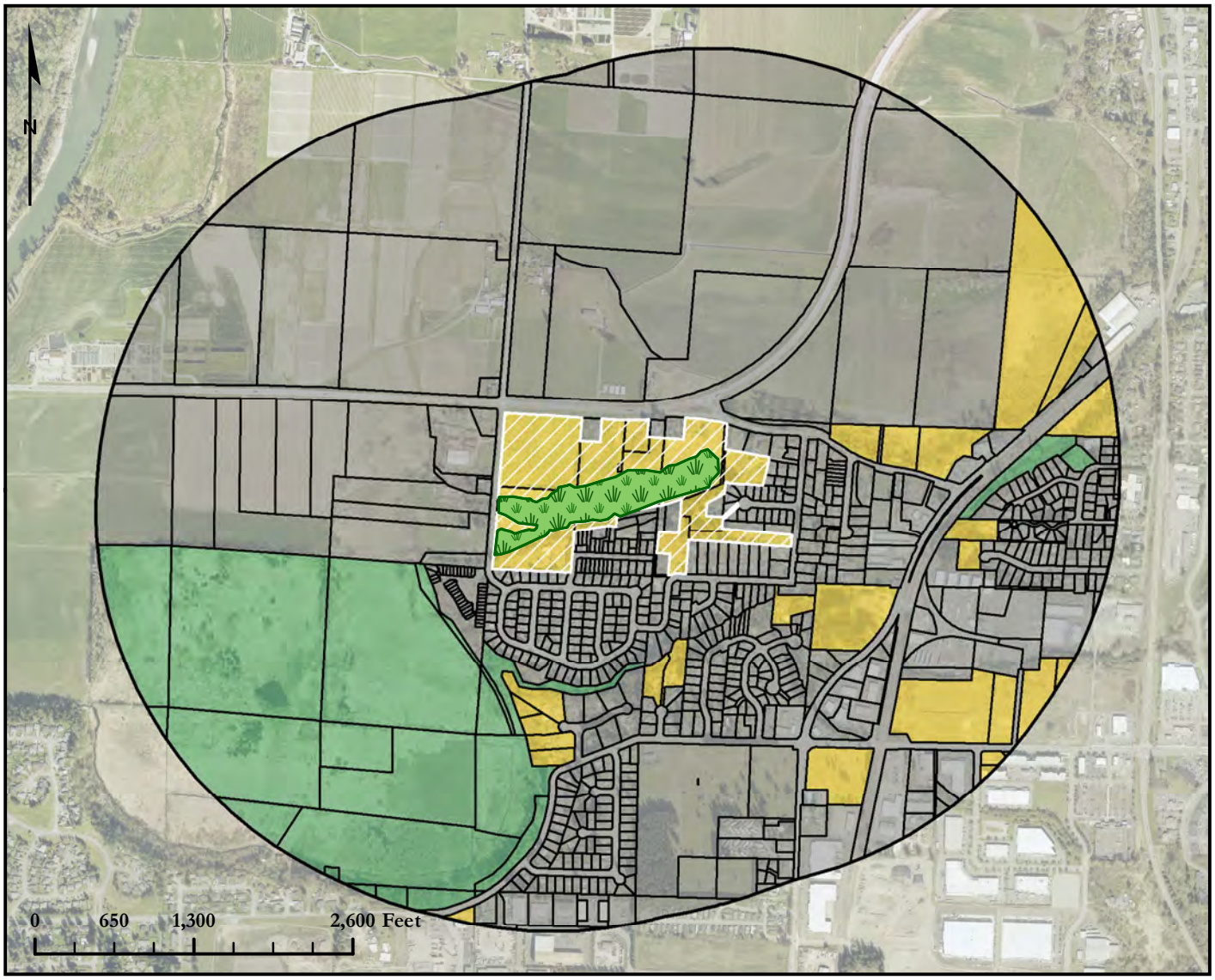
STATE ROUTE 530

21117 59TH AVE NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBER:
31051000402700

DATE: 4/11/2025
JOB: 2783.0001
BY: DS
SCALE: 1 " = 560 '
FIGURE NO. 3 of 5

HABITAT MAP



H.2.0 Wetland A		
H.2.1		
	Abutting Undisturbed Habitat	0.00%
	Abutting Moderate & Low Intensity Land Uses	3.08%
	Accessible Habitat	**1.54%**
H.2.2		
	Undisturbed Habitat	16.26%
	Moderate & Low Intensity Land Uses	9.94%
	Undisturbed Habitat in 1 KM Polygon	**21.23%**
H.2.3		
	High Intensity Land Use in 1 KM Polygon	**73.80%**

- **1 KM Polygon**
- **Wetland**
- **Accessible Habitat**
- **Moderate & Low Intensity**
- **Relatively Undisturbed**
- **High Intensity**

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www.soundviewconsultants.com

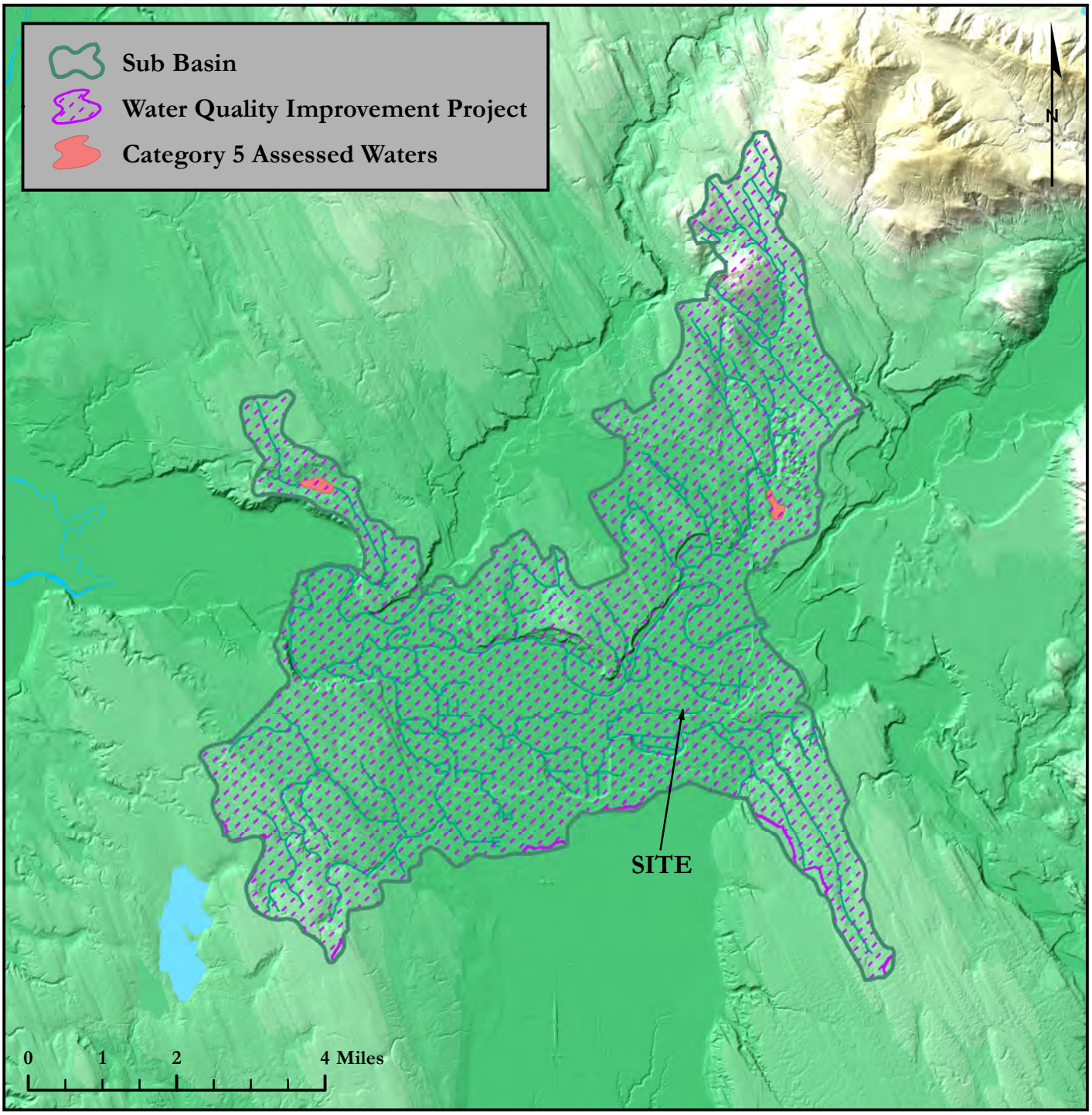
STATE ROUTE 530

21117 59TH AVE NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBER:
31051000402700

DATE: 4/11/2025
JOB: 2783.0001
BY: DS
SCALE: 1 " = 1,350 '
FIGURE NO. 4 of 5

303(D) MAP



Name	Pollutants	TMDL ID	WRIA	Year Approved
Stillaguamish River Watershed Temperature TMDL	Temperature	73	5	2006
Stillaguamish River Watershed Multiparameter TMDL	Bacteria, Dissolved Oxygen, pH, Mercury, Arsenic	75	5	2006

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STATE ROUTE 530

21117 59TH AVE NE
ARLINGTON, WA 98223

SNOHOMISH COUNTY PARCEL NUMBER:
31051000402700

DATE: 4/11/2025
JOB: 2783.0001
BY: DS
SCALE: 1 " = 2 mi
FIGURE NO. 5 of 5

Appendix G- Site Photos

General upland conditions, facing northeast

Western boundary of ditch, facing south.

General wetland conditions (left) and soil profile (right) at DP-1.

General upland conditions (left) and soil profile (right) at DP-2.

General upland conditions (left) and soil profile (right) at DP-3.

Appendix H — Qualifications

All field inspections, wetland boundary determinations, habitat assessments, and supporting documentation, including this ***Wetland and Fish and Wildlife Habitat Assessment and Conceptual Buffer Averaging Report*** prepared for the ***Arlington Apartments*** 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 and Shaun Sweeney. Report preparation was completed by Kramer Canup, Rachael Hyland and Shaun Sweeney.

Jon Pickett is a Principal with 15 years of professional experience. Jon has a background in environmental and shoreline compliance and permitting, wetland and stream ecology, fish and wildlife biology, mitigation compliance and design, and environmental planning and land use due diligence. Jon oversees a wide range of large-scale industrial, commercial, and multi-family residential projects throughout Western Washington, providing environmental permitting and regulatory compliance assistance for land use entitlement projects from feasibility through mitigation compliance. Jon performs wetland, stream, and shoreline delineations and fish & wildlife habitat assessments; conducts code and regulation analysis and review; prepares reports and permit applications and documents; provides environmental compliance recommendation; and provides restoration and mitigation design.

Education: Bachelor of Science degree in Natural Resource Sciences from Washington State University and Bachelor of Science and Minor in Forestry from Washington State University. *Professional Trainings:* 40-hour wetland delineation training (Western Mountains, Valleys, & Coast and Arid West Regional Supplements); and trainings from Washington State Department of Ecology (WSDOE) Using the Revised Washington State Wetland Rating System (2014) in Western Washington How to Determine the Ordinary High-Water Mark (Freshwater and Marine), Using Field Indicators for Hydric Soils, and the Using the Credit-Debit Method for Estimating Mitigation Needs. *Qualified Author and Scientist Lists:* Whatcom County Qualified Wetland Specialist and Wildlife Biologist and is a Pierce County Qualified Wetland Specialist.

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.

Rachael Hyland is a Senior Environmental Scientist with 11 years of professional experience, and is a Professional Wetland Scientist (PWS #3480) through the Society of Wetland Scientists as well as a Certified Ecologist through the Ecological Society of America. Rachael has a background in wetland and ecological habitat assessments in various states, most notably Washington, Connecticut, Massachusetts, Rhode Island, and Ohio. She currently performs wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; coordinates with regulatory parties, and provides quality assurance on 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 delineation of large scale sites and associated mitigation work including wetland creation and stream relocation, and delineation of highly complex, disturbed, and problematic sites requiring extensive background research and understanding of soils and hydrology. Additionally, she also has extensive knowledge of bats and their associated habitats and white nose syndrome (*Pseudogymnoascus destructans*), a fungal disease affecting bats which was recently documented in Washington.

Education: Bachelor of Science degree in Ecology and Evolutionary Biology from University of Connecticut. *Professional Trainings:* 40-hour wetland delineation training for Western Mountains, Valleys, & Coast and Arid West Regional Supplement through Terrascience and Northcentral and Northeast supplement through Institute for Wetland and Environmental Education and Research; Using the Revised 2014 Wetland Rating System for Western Washington, How to Determine the Ordinary High Water Mark, Navigating SEPA, Selecting Wetland Mitigation Sites Using a Watershed Approach, Wetland Classification, and Using the Credit-Debit Method for Estimating Mitigation Needs from Washington State Department of Ecology; Biological Assessment for Transportation Projects from Washington State Department of Transportation *Qualified Author and Scientist Lists:* Washington State Department of Transportation Biological Assessment Junior Author; Pierce County Qualified Wetland and Wildlife Specialist; Kitsap County Qualified Wetland, Habitat, and Shoreline Consultant.

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

Education: Bachelor of Arts in Environmental Studies with a minor in Geography from Western Washington University. *Professional Trainings:* Basic Wetland Delineator Training with the Wetland Training Institute 40-hour USACE wetland delineation training. Shaun has been formally trained

through the Washington State Department of Ecology, Coastal Training Program, How to Determine the Ordinary High Water Mark, Using the Washington State Wetland Rating System (2014), and forage fish survey.