

<b>SKANSKA</b>	Washington State Department of Transportation  I-405, Brickyard to SR 527 Improvement Project Contract No. 009727	Doc Type: SUB
		REV#: 0
		SPEC SECTION: 2.8.5.4
		DATE: 01/05/2026
		CRE #: BY-CRE-02512

<b>To:</b> Washington State Dept. of Transportation 18911 N Creek Pkwy S Suite 150 Bothell, WA 98011	<b>From:</b> Skanska USA Civil West 1995 Agua Mansa Road Riverside, CA 92509
Submittal: BY-CRE-02512_009727_SUB_20.11.01_Sensitive Area Verification Letter - Juanita Creek Wetland and UNT to Sammamish_FINAL	

**SKA REFERENCE DOCUMENTS**

Subcontractor/Supplier: Atlas
SKA Title and Description: Sensitive Area Verification Letter - Juanita Creek Wetland and UNT to Sammamish_FINAL
Due Date:

**ADDITIONAL REMARKS**

This is a delineation report that describes the new wetland found at Juanita Creek and the small daylight portion of the UNT to the Sammamish River.

Approved by  \_\_\_\_\_  
Patrick Prendergast, Vice President - Operations



**I-405, Brickyard to SR 527 – Improvement Project**

**MP 21.40 – MP 27.06**

**WSDOT Contract No. 009727**

**Sensitive Area Verification Letter Addendum**

**RFP Section 2.8.5.4**

**June 19, 2025**

**Prepared by:**



Atlas Technical Consultants  
17619 NE 67<sup>th</sup> Ct, Suite 100  
Redmond, WA 98052

**Prepared for:**



Skanska USA Civil West California District Inc.  
6100 219th St SW, Suite 300  
Mountlake Terrace, WA 98043

## Sensitive Area Verification Letter

### Revision History

Revision Number	Revision Date	Description of Changes
00	5/5/25	Initial Submittal
01	6/19/25	Response to comments

# Sensitive Area Verification Letter Addendum

## CONTENTS

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>2.0</b>	<b>METHODS .....</b>	<b>1</b>
<b>3.0</b>	<b>FINDINGS .....</b>	<b>3</b>
<b>4.0</b>	<b>REGULATORY FRAMEWORK.....</b>	<b>7</b>
<b>5.0</b>	<b>DISCUSSION .....</b>	<b>7</b>
<b>6.0</b>	<b>CONCLUSION.....</b>	<b>7</b>
<b>7.0</b>	<b>REFERENCES.....</b>	<b>8</b>

## Tables

Table 1. New Wetlands.....	3
Table 2. Lower Juanita Wetland Summary .....	5
Table 3. New Streams.....	6
Table 4. UNT to Sammamish River Summary .....	6

## Appendices

Appendix A Precipitation Data Table.....	11
Appendix B Wetland Determination Data Forms.....	12
Appendix C Wetland Rating Forms.....	13
Appendix D New Sensitive Areas Map .....	14

## ACRONYMS

Area 1W	Area 1W – Juanita Creek West Portal
Atlas	Atlas Technical Consultants
BMC	Bothell Municipal Code
DNR	Department of Natural Resources
Ecology	Washington Department of Ecology
ETL	Express Toll Lane
IAL	Impact Area Line
HGM	Hydrogeomorphic Classification System
I	Interstate
KCC	King County Code
KZC	Kirkland Zoning Code
OHWM	Ordinary High Water Mark
Project	Interstate 405, Brickyard to State Route 527 Improvement Project
RFP	Request for Proposal
ROW	Right-of-Way
SAVL	Sensitive Area Verification Letter
SR	State Route
UNT	Unnamed Tributary
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WSAR	Wetland and Stream Assessment Report
WSDOT	Washington State Department of Transportation

## 1.0 INTRODUCTION

This Addendum to the Sensitive Area Verification Letter (SAVL) was prepared on behalf of Skanska in support of the Washington State Department of Transportation (WSDOT) Interstate 405 (I-405), Brickyard to State Route 527 (SR 527) Improvement Project (Project). The Addendum provides a report of sensitive areas newly identified within the Area 5 Site and the Area 1W – Juanita Creek West Portal (Area 1W) Site, as required under Chapter 2.8.5.4, *Sensitive Areas*, of the Request for Proposal (RFP).

A pre-proposal wetland and stream study was conducted by WSDOT in 2019 and 2020. The Project area was divided into two Wetland and Stream Assessment Report (WSAR) submittals: The I-405, SR 522 to SR 527 Express Toll Lanes (ETL) Improvement Project and the I-405, Brickyard Inline Transit Station Project (WSDOT 2020; 2021). The two submittals included the maximum extent of the proposed Project footprint, and the delineation boundaries identified in the WSDOT WSARs. These boundaries were used for environmental permitting for the Project. The 1a Package Clearing Limits SAVL was submitted to WSDOT November 21, 2023, and it described sensitive areas within and immediately around the SR 522 Priority Area of the Project. The SAVL addressing all other areas outside of the 1a Package Clearing Limits and within the Project area was submitted March 11, 2024.

The Project requirements state that wetland and stream boundaries will be verified by the Design Builder and any deviations from the original boundaries will be surveyed and reported to WSDOT. During routine site walks of the Area 5 Site in December 2024 and of the Area 1W Site in April 2025, one new stream and one new wetland were found and subsequently delineated. This Addendum addresses wetland delineation boundaries, characterizations, ratings, and functional assessments, as well as an assessment of all streams within the Area 5 Site and the Area 1W Site.

## 2.0 METHODS

Publicly available records and the contract documents were reviewed in advance of the fieldwork. Atlas conducted a desktop literature review to gather information on precipitation, topography, drainage patterns, soils, vegetation, and potential or known wetlands and streams in the Project area. Sources of information included the following:

- Washington Department of Natural Resources (DNR) Natural Heritage Program Data Explorer (DNR 2025b)
- DNR Washington Light Detection and Ranging (LIDAR) Portal (DNR 2025c)
- Aerial imagery of the study area via Google Earth (Google Earth 2025)

- 1 • Natural Resource Conservation Service (NRCS) Agricultural Applied Climate Information System climate
- 2 data and reports (NRCS 2025a)
- 3 • NRCS Web Soil Survey maps (NRCS 2025b)
- 4 • NRCS Hydric Soil list (NRCS 2025c)
- 5 • United States Army Corps of Engineers (USACE) National Wetland Plant List (USACE 2020)
- 6 • United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (USFWS 2025)
- 7 • Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species Program (WDFW
- 8 2025a)
- 9 • WDFW Statewide Washington Integrated Fish Distribution map (WDFW 2025b)
- 10 • WSDOT WSAR I-405, SR 522 Vicinity to SR 527 Express Toll Lanes Improvements (WSDOT 2020a)
- 11 • WSDOT Jurisdictional Ditch Assessment (WSDOT 2020b)
- 12 • WSDOT Wetland Mitigation Report (WSDOT 2020c)
- 13 • WSDOT WSAR I-405, Brickyard In-line Transit Station (WSDOT 2021)
- 14 • WSDOT Jurisdictional Ditch Assessment for I-405, SR 522 Vicinity to SR 527 ETL Improvement Project
- 15 (WSDOT 2020b)

16 Wetland and stream delineation was performed within the study area in accordance with:

- 17 • USACE Wetlands Delineation Manual (Environmental Laboratory 1987)
- 18 • USACE Regional Supplement: Western Mountains, Valleys, and Coast Region (USACE 2010)
- 19 • USACE Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the
- 20 Western Mountains, Valleys, and Coast Region of the United States (Mersel and Lichvar 2014)
- 21 • Washington Department of Ecology (Ecology) Determining the Ordinary High Water Mark for Shoreline
- 22 Management Act Compliance in Washington State (Anderson et al. 2016)

23 Wetland and OHWM boundaries extending outside of the study area were approximated using off-site methods,  
 24 and with only reconnaissance-level accuracy. Such boundaries were estimated based on aerial photographs and  
 25 on what could be seen from within the study area.

26 Wetlands were classified using the USFWS classification system (Cowardin et al. 1979; FGDC 2013) and the  
 27 hydrogeomorphic classification system (HGM) (Brinson 1993). Local jurisdictional codes were followed to  
 28 determine wetland rating and buffer widths. In accordance with Kirkland Zoning Code (KZC) Chapter 90 – Critical  
 29 Areas, wetland ratings and wetland buffer widths were determined using Washington State Wetland Rating  
 30 System for Western Washington 2014 Update (Version 2.0) (City of Kirkland 2024; Hruby and Yahnke 2023).

1 Local jurisdictional codes were followed to determine stream types and buffer widths. Stream types and buffer  
 2 widths were determined in accordance with Bothell Municipal Code (BMC) Chapter 14.04 – Critical Area  
 3 Regulations (City of Bothell 2025) and King County Code (KCC) Title 21A – Critical Areas (King County 2025), which  
 4 corresponds to the interim stream typing system under Washington Administrative Code 222-16-031 (DNR  
 5 2025a). The stream types described in this report are based on the stream reaches within the study area; stream  
 6 types may be different in downstream reaches.

7 Wetland, stream, and aquatic resource field assessment of Area 5 was completed December 6, 2024, by Atlas  
 8 Technical Consultant (Atlas) Environmental Scientist James Watson, and field assessment of the Area 1W Site was  
 9 completed April 4, 2025, by Atlas Wetland Ecologist Abi Schuetze with supervision from the Project Environmental  
 10 Compliance Manager Mike Foster, PWS. Wetland and stream boundaries presented in this document were  
 11 estimated using aerial imagery (Google Earth 2025).

### 12 3.0 FINDINGS

13 The Project is generally limited to the WSDOT right-of-way (ROW) and does not include parcels or residential  
 14 properties which were demolished or otherwise altered for the Project that could lead to shifts in vegetation,  
 15 hydrology, and soils. Land use within the Project vicinity has generally remained consistent with the conditions  
 16 reported in the WSARs and the SAVLs, with no observable differences in the amount or extent of impervious  
 17 surfaces or land use intensity (WSDOT 2020a; 2021; 2023; 2024). Overall, vegetation, soil, and hydrologic  
 18 conditions within the Project area are similar to the conditions present in 2019, 2020, 2023, and 2024.

19 The three-month period prior to the April fieldwork exhibited drier than normal precipitation conditions compared  
 20 to the 30-year average, and the daily precipitation preceding the April fieldwork was considered normal (Appendix  
 21 A) (NRCS 2025a).

22 During April 4, 2025, fieldwork, one (1) wetland was identified (Table 1).

23 **Table 1. New Wetlands**

Wetland ID	Wetland Classification				Total Area (acres) <sup>d</sup>	Buffer Width (feet) <sup>e</sup>
	Cowardin <sup>a</sup>	HGM Class <sup>b</sup>	Ecology <sup>c</sup>	Habitat Score		
Lower Juanita	PFO, PSS, PEM	Riverine/Slope	II	6	~0.32	110

<sup>a</sup> USFWS Class based on vegetation: PFO = palustrine forested, PSS = palustrine scrub-shrub, PEM = palustrine emergent (Cowardin et al. 1979).

<sup>b</sup> Brinson 1993.

<sup>c</sup> Ecology rating (Hruby and Yahnke 2023).

<sup>d</sup> Wetland size is estimated from aerial imagery (Google Earth 2025).

<sup>e</sup> KZC wetland buffer width based on wetland category and habitat score (City of Kirkland 2024).

1 The Lower Juanita Wetland is delineated within the Area 1W study area (Table 1). The Lower Juanita Wetland is a riverine  
2 and slope wetland. Portions of the wetland lie within the OWHM of Juanita Creek and experience overbank flooding. It  
3 contains palustrine forested, palustrine scrub-shrub, and palustrine emergent plant communities (Brinson 1993; Cowardin et  
4 al. 1979), and it is approximately 14,176 square feet or 0.33 acres in size (Google Earth 2025). The Lower Juanita Wetland is  
5 a Category II wetland with 6 points for Habitat Function and requires a standard buffer width of 110 feet (City of Kirkland  
6 2024; Hruby and Yahnke 2023). The boundaries of the Lower Juanita Wetland extend outside of the study area and are  
7 evaluated on a reconnaissance level. The investigating biologist completed wetland determination data sheets (Appendix B)  
8 and a wetland rating form (Appendix C) for the wetland. A complete summary of the Lower Juanita Wetland is shown in Table  
9 2.

Comment 1

Comment 4

1 **Table 2. Lower Juanita Wetland Summary**

LOWER JUANITA WETLAND – INFORMATION SUMMARY		
<b>Location:</b>	West of Southbound I-405, east of Juanita Creek, Area W1	
	<b>Local Jurisdiction</b>	City of Kirkland
	<b>Ecology Rating (2014)</b>	II
	<b>Local Rating</b>	II
	<b>Local Buffer Width</b>	110 feet
	<b>Wetland Size</b>	~0.33 acre <sup>a</sup>
	<b>Cowardin Class</b>	PFO, PSS, PEM
	<b>HGM Class</b>	Riverine/Slope
	<b>Wetland Data Sheet(s)</b>	Appendix B; Sampling Point Lower Juanita Wetland-SP1
<b>Upland Data Sheet(s)</b>	Appendix B; Sampling Point Lower Juanita Wetland-SP2	
Wetland Delineation		
<b>Dominant Vegetation</b>	Trees – western redcedar ( <i>Thuja plicata</i> , FAC) Shrubs – salmonberry ( <i>Rubus spectabilis</i> , FAC), Himalayan blackberry ( <i>Rubus armeniacus</i> , FAC) Herbaceous – western skunk cabbage ( <i>Lysichiton americanus</i> , OBL), ladyfern ( <i>Athyrium cyclosorum</i> , FACW), giant horsetail ( <i>Equisetum telmateia</i> , FACW), soft rush ( <i>Juncus effusus</i> , FACW), reedcanary grass ( <i>Phalaris arundinacea</i> , FACW), creeping buttercup ( <i>Ranunculus repens</i> , FAC) Woody Vine – English ivy ( <i>Hedera helix</i> , FACU), bittersweet nightshade ( <i>Solanum dulcamara</i> , FAC)	
<b>Soils</b>	Lower Juanita Wetland-SP1 consists of one soil layer. The layer (0-16 inches) is a grayish brown (10YR 5/2) sandy loam with 10 percent dark yellowish brown (10YR 3/6) redoximorphic concentrations in the matrix. The hydric soil field indicator Depleted Matrix (F3) was met.	
<b>Hydrology</b>	Lower Juanita Wetland-SP1 soils exhibited saturation to the surface and a water table to the surface. It receives hydrology from seasonal high water tables, precipitation, runoff from I-405, and overbank flooding from Juanita Creek. Primary hydrologic indicators High Water Table (A2) and Saturation (A3) were met.	
<b>Rationale for Delineation</b>	The boundaries of Lower Juanita Wetland were flagged where indicators of wetland vegetation, hydric soils, and wetland hydrology were present.	
Wetland Rating		
<b>Rationale for Local Rating</b>	The KZC classifies wetlands based on the 2014 Washington State Wetland Rating System (City of Kirkland 2024).	
Wetland Functions		
<b>Functions</b>	Lower Juanita Wetland rates high for water quality, and it rates moderate for hydrologic and habitat functionality.	

<sup>a</sup> Reconnaissance-level portion of the Lower Juanita Wetland is included in the overall size.

2 During December 2024 fieldwork, one (1) stream was identified (Table 3). The OHWM of Unnamed Tributary (UNT)  
 3 to Sammamish River (WDFW ID 607319) was delineated north of Northeast Woodinville Drive and south of the  
 4 Sammamish River main stem. UNT to Sammamish River is a perennial, non-fish bearing stream that originates  
 5 south and outside of the study area. It is a type Np stream in the City of Bothell, and it is a type N stream in  
 6 unincorporated King County (City of Bothell 2025; DNR 2025a; King County 2025). It flows north for about 120  
 7 feet through the study area to its connection with the Sammamish River (City of Kirkland 2024; DNR 2025a). A  
 8 complete summary of UNT to Sammamish River is shown in Table 4.


1 Table 3. New Streams

Stream Name	DNR Water Type <sup>a</sup>	Local Buffer Width (feet) <sup>b</sup>
UNT to Sammamish River	Np/N	75/65

<sup>a</sup> City of Bothell / King County water types; Np = all segments of natural waters within the banks of defined channels that are perennial non-fish habitat streams (City of Bothell 2025; DNR 2025a), N = all segments of aquatic areas that are not type S or F waters and that are physically connected to type S or F waters by an above-ground channel system, stream or wetland (King County 2025).

<sup>b</sup> BMC buffers (City of Bothell 2025)/KCC buffers (King County 2025).

2 Table 4. UNT to Sammamish River Summary

UNT to Sammamish - INFORMATION SUMMARY		
	Stream Name	UNT to Sammamish River
	WRIA Name	WRIA 8
	WDFW Site ID	607319 <span style="color: red;">← Comment 2</span>
	Local Jurisdiction	City of Bothell/King County
	DNR Water Type	Not Mapped
	Local Stream Rating	Np/N <sup>a</sup>
	Buffer Width	75 feet/65 feet <sup>b</sup>
	Documented Fish Use <sup>b</sup>	None
Location of Stream Relative to Project	UNT to Sammamish River flows south to north and connects with the Sammamish River north of NE Woodinville Drive.	
Connectivity	UNT to Sammamish River originates in the City of Bothell. Upstream and south of the study area, the contributing basin consists of forested uplands and residential development. Upon entering the study area north of NE Woodinville Drive, the stream briefly daylights for about 20 feet. It then enters another culvert flowing north for about 90 feet until it daylights again to its connection with the Sammamish River.	
Fish Habitat	UNT to Sammamish River is not documented as supporting fish. It does connect with a fish-bearing body of water, indicating the possible presence of fish. In the study area, the stream is wide and deep, however it is steeply sloped, which would likely prevent fish from travelling upstream. North of the study area, it travels through a culvert, then discharges onto a steep, rip-rapped hillslope before discharging into the Sammamish River.	
Riparian/Buffer Condition	In the study area, the buffer is truncated by NE Woodinville Drive and dominated by Himalayan blackberry. It is poorly functioning.	

<sup>a</sup> City of Bothell / King County water types. ← Comment 3

<sup>b</sup> BMC buffers (City of Bothell 2025)/KCC buffers (King County 2025)

<sup>c</sup> Documented fish species based on available data sources (WDFW 2025b).

#### 4.0 REGULATORY FRAMEWORK

The Lower Juanita Wetland resides within the City of Kirkland, and rating and buffer determination follow the KZC Chapter 90. Subsequently, the Lower Juanita Wetland is a Category II riverine/slope wetland with a Habitat Function score of 6, requiring a buffer of 110 feet (City of Kirkland 2024; Hruby and Yahnke 2023).

UNT to Sammamish resides within the City of Bothell and unincorporated King County, and stream type and buffer determinations follow the BMC Chapter 14.04 and the KCC Title 21A.24. Subsequently, UNT to Sammamish is a type Np stream that requires a buffer width of 75 feet (City of Bothell 2025; DNR 2025a) and a type N stream that requires a buffer width of 65 feet (King County 2025).

#### 5.0 DISCUSSION

Project-related activities are not anticipated to directly impact UNT to Sammamish. The Project will impact most of the on-site portion of the Lower Juanita Wetland. Due to this, a new Joint Aquatic Resources Permit Application will be submitted ahead of construction in the area.

#### 6.0 CONCLUSION

This Addendum documents the investigation, best professional judgment, and conclusions of Atlas based on the site conditions encountered at the time of this study. The assessment was performed in compliance with accepted standards for professional wetland biologists and applicable federal, state, and local laws and ordinances, as well as WSDOT policies and guidance. The information contained in this report is correct and complete to the best of our knowledge. The findings should be considered a preliminary jurisdictional determination of wetlands and other waters until it is reviewed and approved in writing by the appropriate jurisdictional authorities. The final determination of the wetland boundary, classification, and required setback and buffer will be made by local, state, and federal jurisdictions.

## 7.0 REFERENCES

- 1  
2 Anderson PS, Meyer S, Olson P, and Stockdale E. 2016. Determining the Ordinary High Water Mark for Shoreline  
3 Management Act Compliance in Washington State. Ecology. Publication no. 16-06-029. Available at:  
4 <https://apps.ecology.wa.gov/publications/documents/1606029.pdf>
- 5 Brinson MM. 1993. A hydrogeomorphic classification for wetlands. Vicksburg (MS): US Army Engineer  
6 Waterways Experiment Station. Technical Report WRP-DE-4.
- 7 City of Bothell. 2025. Bothell Municipal Code Chapter 14.04 – Critical Area Regulations. Available from:  
8 <https://bothell.municipal.codes/BMC/14.04>
- 9 City of Kirkland. 2024. Kirkland Zoning Code Chapter 90 – Critical Areas: Wetlands, Streams, Minor Lakes, Fish  
10 and Wildlife Habitat Conservation Areas, and Frequently Flooded Areas. Available from:  
11 <https://www.codepublishing.com/WA/Kirkland/>
- 12 Cowardin LM, Carter V, Golet FC, LaRoe ET. 1979. Classification of wetlands and deepwater habitats of the  
13 United States. Washington (DC): US Fish and Wildlife Service. FWS/OBS-79/31.
- 14 [DNR] Washington Department of Natural Resources. 2025a. Forest Practices Water Typing. [Accessed March  
15 2025]. Available from: <https://www.dnr.wa.gov/forest-practices-water-typing>
- 16 [DNR] Washington State Department of Natural Resources. 2025b. Washington Lidar Portal. Division of Geology  
17 and Erath Sciences. [Accessed April 2025]. Available at: [https://lidarportal.dnr.wa.gov/#47.75744:-  
18 122.18100:17](https://lidarportal.dnr.wa.gov/#47.75744:-122.18100:17)
- 19 [DNR] Washington State Department of Natural Resources. 2025c. Washington Natural Heritage Program Data  
20 Explorer. [Accessed April 2025]. Available from:  
21 [https://experience.arcgis.com/experience/174566100f2a47bebe56db3f0f78b5d9/page/Rare-Plant-and-  
22 Ecosystem-Locations/](https://experience.arcgis.com/experience/174566100f2a47bebe56db3f0f78b5d9/page/Rare-Plant-and-Ecosystem-Locations/)
- 23 Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Vicksburg (MS): US Army  
24 Engineer Waterways Experiment Station. Technical Report Y-87-1. Available from:  
25 <https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4532/>
- 26 [FGDC] Federal Geographic Data Committee. 2013. Classification of Wetlands and Deepwater Habitats of the  
27 United States. Adapted from Cowardin, Carter, Golet, and LaRoe (1979). August 2013.
- 28 Hruby T, and Yahnke A. 2023. Washington State Wetland Rating System for Western Washington: 2014 Update  
29 Version 2.0. Publication No. 23-06-009. October 2014 (Updated July 2023). Shorelands and  
30 Environmental Assistance Program, Washington State Department of Ecology. Olympia, WA. Available  
31 from: <https://apps.ecology.wa.gov/publications/documents/2306009.pdf>.
- 32 King County. 2025. King County Code 21A.24 – Critical Areas (Formerly Environmentally Sensitive Areas).  
33 Available from: [https://aqua.kingcounty.gov/council/clerk/code/24-30\\_Title\\_21A.htm#\\_Toc122352145](https://aqua.kingcounty.gov/council/clerk/code/24-30_Title_21A.htm#_Toc122352145)
- 34 Mersel MK, and Lichvar RW. 2014. A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial  
35 Streams in the Western Mountains, Valleys, and Coast Region of the United States (Publication No. TR-

- 1 14-13). US Army Corps of Engineer Research and Development Center. Available from:  
 2 [https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg\\_supp/](https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg_supp/)
- 3 [NRCS] Natural Resources Conservation Service. 2025a. Agricultural Applied Climate Information System. US  
 4 Department of Agriculture. Field Office Technical Guide. [Accessed April 2025]. Available at:  
 5 <http://agacis.rcc-acis.org/>
- 6 [NRCS] Natural Resource Conservation Service. 2025b. Web Soil Survey. US Department of Agriculture.  
 7 [Accessed April 2025]. Available at: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- 8 [NRCS] Natural Resources Conservation Service. 2025c. Hydric Soils List. [Accessed April 2025]. Available from:  
 9 [https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcseprd1316619.html](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316619.html)
- 10 [USACE] US Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation  
 11 Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. Wakeley JS, Lichvar RW, Noble  
 12 CV, editors. US Army Corps of Engineer Research and Development Center, Environmental Laboratory,  
 13 Vicksburg, MS. ERDC/EL TR-10-3. Available at: [https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg\\_supp/](https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg_supp/)
- 14
- 15 [USACE] US Army Corps of Engineers. 2020. National Wetland Plant List, version 3.5. US Army Corps of  
 16 Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering  
 17 Laboratory, Hanover, NH. Available at: [https://cwbi-](https://cwbi-app.sec.usace.army.mil/nwpl_static/v34/home/home.html)  
 18 [app.sec.usace.army.mil/nwpl\\_static/v34/home/home.html](https://cwbi-app.sec.usace.army.mil/nwpl_static/v34/home/home.html)
- 19 [USFWS] US Fish and Wildlife Service. 2025. National Wetland Inventory (NWI). US Department of the Interior.  
 20 [Accessed April 2025]. Available at: <https://www.fws.gov/wetlands/>
- 21 [WDFW] Washington State Department of Fish and Wildlife. 2025a. Priority Habitats and Species Program.  
 22 [Accessed April 2025]. Available at: <https://wdfw.wa.gov/species-habitats/at-risk/phs/list>
- 23 [WDFW] Washington State Department of Fish and Wildlife. 2025b. Statewide Washington Integrated Fish  
 24 Distribution. Northwest Indian Fisheries Commission. [Accessed April 2025]. Available at:  
 25 <https://geo.nwifc.org/swifd/>
- 26 [WSDOT] Washington Department of Transportation. 2020a. Wetland and Stream Assessment Report. I-405, SR  
 27 522 Vicinity to SR 527 Express Toll Lanes Improvement Project. I-405/SR 167 Megaprogram.
- 28 [WSDOT] Washington Department of Transportation. 2020b. Jurisdictional Ditch Assessment. I-405, SR 522  
 29 Vicinity to SR 527 Express Toll Lanes Improvement Project. I-405/SR 167 Megaprogram.
- 30 [WSDOT] Washington Department of Transportation. 2020c. Wetland and Stream Mitigation Report. I-405, SR  
 31 522 Vicinity to SR 527 ETL Improvement Project. I-405/SR 167 Megaprogram.
- 32 [WSDOT] Washington Department of Transportation. 2021. Wetland and Stream Assessment Report. I-405,  
 33 Brickyard Inline Transit Station Project. I-405/SR 167 Megaprogram.
- 34 [WSDOT] Washington Department of Transportation. 2022. Joint Aquatic Resources Permit Application. SR 522  
 35 to SR 527 ETL Project. I-405, Brickyard to SR 527 Improvement Project.

- 1 [WSDOT] Washington Department of Transportation. 2023. I-405, Brickyard to SR 527 – Improvement Project
- 2 Sensitive Area Verification Letter SR 522 Priority Area. Atlas Technical Consultants.
  
- 3 [WSDOT] Washington Department of Transportation. 2024. I-405, Brickyard to SR 527 – Improvement Project
- 4 Sensitive Area Verification. Atlas Technical Consultants.

## **Appendix A Precipitation Data Table**



## Appendix A: Comparison of Observed and Normal Precipitation

The Regional Delineation Supplement Version 2.0 (USACE 2010) recommends using methods described in Chapter 19 in Engineering Field Handbook (NRCS 2021) to determine if precipitation occurring in the three full months prior to the site visit was normal, drier than normal, or wetter than normal. Actual rainfall is compared to the normal range of the 30-year average. The following table shows this information.

### Monthly precipitation data for the April 2025 field visit in Kirkland, King County, Washington.

Time Line	Month	Long-term rainfall records <sup>b</sup>			Rain fall <sup>b</sup>	Condition dry, wet, normal <sup>c</sup>	Condition Value	Month weight value	Product of previous two columns
		3 yrs. in 10 less than <sup>a</sup>	Average	3 yrs. in 10 more than					
1 <sup>st</sup> prior month	MAR	2.84	3.82	4.47	3.87	N	2	3	6
2 <sup>nd</sup> prior month	FEB	2.59	3.48	4.08	3.88	D	1	2	2
3 <sup>rd</sup> prior month	JAN	4.17	5.35	6.18	2.15	D	1	1	1
<b>Sum</b>									<b>9</b>

<sup>a</sup> All units are in inches.

<sup>b</sup> Climate data from WETS Station Seattle Sand Point WFO, WA.

<sup>c</sup> Conditions are considered normal if they fall within the low and high range around the average.

<b>Note:</b>	<u>If sum is</u>	<u>Condition value:</u>
	6 – 9 then prior period has been drier than normal	Dry (D) = 1
	10 – 14 then period has been normal	Normal (N) = 2
	15 – 18 then period has been wetter than normal	Wet (W) = 3

**Conclusions:** Drier than normal precipitation conditions were present in the three months prior to the April 2025 site visit.



## Daily Precipitation for 10 Days Preceding Fieldwork

To determine if light, moderate, or heavy precipitation occurred in the 10 days prior to field work, the 10-day total is compared to 1/3 of the monthly average precipitation for the month evaluated (NRCS 2024a).

### Daily precipitation data preceding the April 4, 2025, visit in Kirkland, King County, Washington.

Date (2025)	Daily Precipitation (inches) <sup>a</sup>
April 3	0.00
April 2	0.23
April 1	M <sup>b</sup>
March 31	M <sup>b</sup>
March 30	0.08
March 29	T <sup>c</sup>
March 28	0.32
March 27	0.11
March 26	0.27
March 25	0.00
<b>Sum</b>	<b>1.01</b>

<sup>a</sup> Climate data from WETS Station Seattle Sand Point WFO.

<sup>b</sup> "M" denotes "missing".

<sup>c</sup> "T" denotes "trace".

**Conclusions:** The sum of precipitation for the 10 days prior to fieldwork was multiplied by 3 (1.01 inches x 3 = 3.03 inches) and compared to the normal range of precipitation for the month of April, which is between 1.97 inches and 3.26 inches. Because 3.03 inches is within the normal range of precipitation for the month of April, we concluded that precipitation was "moderate" for the 10 days preceding fieldwork.

## **Appendix B**

### **Wetland Determination Data Forms**

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

Project/Site: I-405, Brickyard to SR 527 Improvement Project City/County: Kirkland/King Sampling Date: 4/4/2025  
 Applicant/Owner: Washington State Department of Transportation State: WA Sampling Point: Lower Juanita Wetland-SP1  
 Investigator(s): Abigail Schuetze Section, Township, Range: S20, T26N, R5E  
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Convex Slope (%): 1  
 Subregion (LRR): A Lat: 47.732633 N Long: -122.189164 W Datum: WGS84  
 Soil Map Unit Name: Ragnar-Indianola association, sloping 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 <input checked="" type="checkbox"/>	No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____	
Remarks: Drier than normal precipitation in the three months preceding field visit. In pit located on slope about 30' east of stream.			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)</b>				
1. <u>Rubus armeniacus</u>	10	YES	FAC	
2. <u>Rubus spectabilis</u>	5	YES	FAC	
3. <u>Ilex aquifolium</u>	5	YES	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
20 = Total Cover				
<b>Herb Stratum (Plot size: <u>5-ft radius</u>)</b>				
1. <u>Lysichiton americanus</u>	5	YES	OBL	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is 50 % ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Athyrium cyclosorum</u>	5	YES	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
10 = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>5-ft radius</u>)</b>				
1. <u>Hedera helix</u>	60	YES	FACU	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. <u>Solanum dulcamara</u>	10	NO	FAC	
70 = Total Cover				
% Bare Ground in Herb Stratum <u>20</u>				
Remarks:				

**SOIL**

Sampling Point: Lower Juanita Wetland 

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 5/2	90	10YR 3/6	10	C	M	Sandy loam	Prominent redox, rocks throughout, 1" with duff

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No _____
--	--

Remarks:  
Sand presence less than 60%.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> )	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> )
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )	<input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): <u>To surface</u>	
Saturation Present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): <u>To surface</u>	
(includes capillary fringe)	

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

Remarks:

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

Project/Site: I-405, Brickyard to SR 527 Improvement Project/ City/County: Kirkland/King Sampling Date: 4/4/2025  
 Applicant/Owner: Washington State Department of Transportation State: WA Sampling Point: Lower Juanita Wetland-SP2  
 Investigator(s): Abigail Schuetze Section, Township, Range: S20, T26N, R5E  
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Convex Slope (%): 2  
 Subregion (LRR): A Lat: 47.732578 N Long: -122.189064 W Datum: WGS84  
 Soil Map Unit Name: Ragnar-Indianola association, sloping 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 <input checked="" type="checkbox"/>	No _____	<b>Is the Sampled Area within a Wetland?</b>		
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>		Yes _____	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: Drier than normal precipitation in the three months preceding field visit. Out pit located on slope about 20' southeast of in pit.					

## VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b>	<u>30-ft radius</u>				
1. <u>Thuja plicata</u>		<u>90</u>	<u>YES</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. <u>Ilex aquifolium</u>		<u>5</u>	<u>NO</u>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____					Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
4. _____					
		<u>95</u>	<u>= Total Cover</u>		
<b>Sapling/Shrub Stratum</b>	<u>15-ft radius</u>				
1. <u>Rubus armeniacus</u>		<u>30</u>	<u>YES</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> 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 = _____
2. <u>Ilex aquifolium</u>		<u>5</u>	<u>NO</u>	<u>FACU</u>	
3. _____					
4. _____					
5. _____					
		<u>35</u>	<u>= Total Cover</u>		
<b>Herb Stratum</b>	<u>5-ft radius</u>				
1. <u>Athyrium filix-femina</u>		<u>5</u>	<u>YES</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> ____ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is 50 % ____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ____ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ____ 5 - Wetland Non-Vascular Plants <sup>1</sup> ____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		<u>5</u>	<u>= Total Cover</u>		
<b>Woody Vine Stratum</b>	<u>5-ft radius</u>				
1. <u>Hedera helix</u>		<u>90</u>	<u>YES</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____					
		<u>90</u>	<u>= Total Cover</u>		
% Bare Ground in Herb Stratum <u>95</u>					
Remarks:					

**SOIL**

Sampling Point: Lower Juanita Wetland 

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 2/2	100					Loam	Many roots

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>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<sup>3</sup>:**

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Large roots  
 Depth (inches): 10"

Hydric Soil Present? Yes  No

Remarks:

Many upland soil pits attempted - roots impenetrable.

**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): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

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

Remarks:

## **Appendix C Wetland Rating Forms**

Wetland name or number: Lower Juanita Wetland

# RATING SUMMARY - Western Washington

**Name of wetland (or ID#):** Lower Juanita Wetland      **Date of site visit:** 04/04/2025  
**Rated By:** Abigail Schuetze      **Trained by Ecology? Yes [X] No [ ]**      **Date of Training:** 11/07/2024  
**HGM Class used for rating:** Riverine  
**Wetland has multiple HGM classes? Yes [X] No [ ]**

**NOTE: Form is not complete without the figures requested** (*figures can be combined*).  
**Source of base aerial photo/map:** Bing Imagery 2025 (WATOR Tool)

**OVERALL WETLAND CATEGORY:** [Category II] (based on functions [X] 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

**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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	<b>M</b>	<b>M</b>	<b>M</b>	
Landscape Potential	<b>H</b>	<b>M</b>	<b>L</b>	
Value	<b>M</b>	<b>H</b>	<b>H</b>	<b>Total</b>
<b>Score Based on Ratings</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>20</b>

**2. Category based on SPECIAL CHARACTERISTICS of wetland**

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	<b>Not Applicable</b>

**Wetland name or number:** Lower Juanita Wetland

**Maps and figures required to answer questions correctly for Western Washington**

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	2
Hydroperiods	H 1.2	3
Ponded depressions	R 1.1	3
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	4
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	5
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	6
Map of the contributing basin	R 2.2, R 2.3, R 5.2	7
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	8
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	9
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	10

## 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 sheet flow, 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).

Wetland name or number Lower Juanita Wetland

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.

**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: Lower Juanita Wetland

## RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

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

**R 1.0 Does the site have the potential to improve water quality?**

**R 1.1** What is the total area of surface depressions within the Riverine wetland that can trap sediments during a flooding event?

Depressions cover >75% area of wetland	points = 8	
Depressions cover >50% area of wetland	points = 4	
Depressions present but cover <50% area of wetland	points = 2	
No depressions present	points = 0	<b>Score: 0</b>

**R 1.2** What is the structure of plants in the wetland?

Trees or shrubs cover >66% area of the wetland	points = 8	
Trees or shrubs cover 33% - 66% of the area of the wetland	points = 6	
Ungrazed, herbaceous plants cover (>6in high) >66% area of the wetland	points = 6	
Ungrazed, herbaceous plants cover (>6in high) 33%-66% of the area of the wetland	points = 3	
Trees, shrubs, and ungrazed herbaceous plants cover <33% area of the wetland	points = 0	<b>Score: 6</b>

**Total for R 1:** 6

**Rating of Site Potential**

[ ] 12-16 = H [X] 6-11 = M [ ] 0-5 = L

*Record the rating on the first page*

**R 2.0 Does the landscape have the potential to support the water quality function of the site?**

**R 2.1** Is the wetland within an incorporated city or within its UGA?

Yes	points = 2	
No	points = 0	<b>Score: 2</b>

**R 2.2** Does the contributing basin to the wetland include a UGA or incorporated area?

Yes	points = 1	
No	points = 0	<b>Score: 1</b>

Comment 5

**R 2.3** Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?

Yes	points = 1	
No	points = 0	<b>Score: 0</b>

**R 2.4** Is >10% of the area within 150ft of the wetland in land uses that generate pollutants?

Yes	points = 1	
No	points = 0	<b>Score: 1</b>

**R 2.5** Are there other sources of pollutants coming into the wetland that are not listed in question R 2.1-R 2.4?

Yes	points = 1	
No	points = 0	<b>Score: 0</b>

**R 2.6** What are the other sources of pollutants coming into the wetland?

**Total for R 2:** 4

**Rating of Landscape Potential**

[X] 3-4 = H [ ] 1-2 = M [ ] 0 = L

*Record the rating on the first page*

**Wetland name or number:** Lower Juanita Wetland

<b>R 3.0 Is the water quality improvement provided by the site valuable to society?</b>		
<b>R 3.1 Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?</b>		
Yes	points = 1	
No	points = 0	<b>Score: 1</b>
<b>R 3.2 Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathogens?</b>		
Yes	points = 1	<b>Comment 6</b>
No	points = 0	
<b>R 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?</b>		
Yes	points = 2	
No	points = 0	<b>Score: 0</b>
<b>Total for R 3:</b>		<b>1</b>

**Rating of Value**

2-4 = H  1 = M  0 = L

Record the rating on the first page

<b><u>RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS</u></b>		
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and stream degradation		
<b>R 4.0 Does the site have the potential to reduce flooding and erosion?</b>		
<b>R 4.1 What are the characteristics of the overbank storage the wetland provides?</b>		
If the ratio is more than 20	points = 9	
If the ratio is 10-20	points = 6	
If the ratio is 5-<10	points = 4	
If the ratio is 1-<5	points = 2	
If the ratio is < 1	points = 1	<b>Score: 2</b>
<b>R 4.2 What are the characteristics of plants that slow down water velocities during floods?</b>		
Forest or shrubs cover >33% of the wetland area OR emergent plants cover >66% of the wetland area	points = 7	
Forest or shrubs cover >10% of the wetland area OR emergent plants cover >33% of the wetland area	points = 4	
Plants do not meet the above criteria	points = 0	<b>Score: 7</b>
<b>Total for R 4:</b>		<b>9</b>

**Rating of Site Potential**

12-16 = H  6-11 = M  0-5 = L

Record the rating on the first page

**Wetland name or number:** Lower Juanita Wetland

<b>R 5.0 Does the landscape have the potential to support the hydrologic functions of the site?</b>		
<b>R 5.1</b> <u>Is the stream or river adjacent to the wetland downcut?</u>		
Yes	points = 0	<b>Score: 0</b>
No	points = 1	
<b>R 5.2</b> <u>Does the up-gradient watershed include a UGA or incorporated area?</u>		
Yes	points = 1	<b>Score: 1</b>
No	points = 0	
<b>R 5.3</b> <u>Is the up-gradient stream or river controlled by dams?</u>		
Yes	points = 0	<b>Score: 1</b>
No	points = 1	
<b>Total for R 5:</b>		<b>2</b>

**Rating of Landscape Potential**

3 = H  1-2 = M  0 = L

*Record the rating on the first page*

<b>R 6.0 Are the hydrologic functions provided by the site valuable to society?</b>		
<b>R 6.1</b> <u>What is the distance to the nearest areas downstream that have flooding problems?</u>		
The sub-basin immediately down-gradient of the wetland has flooding problems	points = 2	<b>Score: 2</b>
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
<b>R 6.2</b> <u>Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</u>		
Yes	points = 2	<b>Score: 0</b>
No	points = 0	
<b>Total for R 6:</b>		<b>2</b>

**Rating of Value**

2-4 = H  1 = M  0 = L

*Record the rating on the first page*

Wetland name or number: Lower Juanita Wetland

**HABITAT FUNCTIONS**

**These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat**

**H 1.0 Does the wetland have the potential to provide habitat for many species?****H 1.1 What is the structure of the plant community?**

- Aquatic Bed
- Emergent
- Scrub-shrub
- Forested
- Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)

4 structures or more	points = 4	
3 structures	points = 2	
2 structures	points = 1	
1 structure	points = 0	
No structures present	points = 0	<b>Score: 2</b>

**H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?**

- Permanently flooded or inundated
- Seasonally flooded or inundated
- Occasionally flooded or inundated
- Saturated only
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland
- Freshwater Tidal wetland

4 or more types present	points = 3	
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	
2 types present	points = 1	
1 type present	points = 0	
None present	points = 0	<b>Score: 1</b>

**H 1.3 What is the richness of the plant species in the wetland?**

>19 species	points = 2	
5-19 species	points = 1	
<5 species	points = 0	<b>Score: 1</b>

**Wetland name or number:** Lower Juanita Wetland

<b>H 1.4 What is the interspersions of habitats?</b>			
High		points = 3	
Moderate		points = 2	
Low		points = 1	
None		points = 0	<b>Score: 3</b>
<b>H 1.5 What are the special habitat features in the wetland?</b>			
<input checked="" type="checkbox"/>	Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
<input checked="" type="checkbox"/>	Standing snags (dbh >4in) within the wetland		
<input checked="" type="checkbox"/>	Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)		
<input type="checkbox"/>	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)		
<input type="checkbox"/>	At least 0.25ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)		
<input type="checkbox"/>	Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)		
6 habitats selected		points = 6	
5 habitats selected	Comment 7	points = 5	
4 habitats selected		points = 4	
3 habitats selected		points = 3	
2 habitats selected		points = 2	
1 habitat selected		points = 1	
No habitats selected		points = 0	<b>Score: 3</b>
<b>Total for H 1:</b>			<b>10</b>

**Rating of Site Potential**

[ ] 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 habitat functions of the site?**

<b>H 2.1 What is the percentage of accessible habitat within 1km of the wetland?</b>			
>33% of 1km Polygon		points = 3	
20-33% of 1km Polygon		points = 2	
10-19% of 1km Polygon		points = 1	
<10% of 1km Polygon		points = 0	<b>Score: 0</b>
<b>H 2.2 What is the percentage of total habitat in a 1km polygon around the wetland?</b>			
Total habitat is >50% of the Polygon		points = 3	
Total habitat is 10-50% of the Polygon and in 1-3 patches		points = 2	
Total habitat is 10-50% of the Polygon and in >3 patches		points = 1	
Total habitat is <10% of the Polygon		points = 0	<b>Score: 1</b>

**Wetland name or number:** Lower Juanita Wetland

<b>H 2.3 What is the land use intensity in the 1km polygon?</b>		
50% of the Polygon is high intensity land use	points = -2	
<50% of the Polygon is high intensity land use	points = 0	<b>Score: -2</b>
<b>Total for H 2:</b>		<b>-1</b>

**Rating of Landscape Potential**

[ ] 4-6 = H [ ] 1-3 = M [X] 0 = L

*Record the rating on the first page*

**H 3.0 Is the habitat provided by the site valuable to society?**

<b>H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?</b>		
<input type="checkbox"/> Aspen Stands		
<input checked="" type="checkbox"/> Biodiversity Areas and Corridors		
<input type="checkbox"/> Herbaceous Balds		
<input type="checkbox"/> Old-growth/Mature Forests		
<input type="checkbox"/> Oregon White Oak		
<input checked="" type="checkbox"/> Riparian		
<input type="checkbox"/> Westside Prairie		
<input type="checkbox"/> Fresh Deepwater		
<input checked="" type="checkbox"/> Instream		
<input type="checkbox"/> Nearshore (Coastal, Open Coast, Puget Sound)		
<input type="checkbox"/> Caves		
<input type="checkbox"/> Cliffs		
<input type="checkbox"/> Snags and Logs		
<input type="checkbox"/> Talus		
<b>The following criteria automatically score 2 points:</b>		
<input type="checkbox"/> The wetland provides habitat for Threatened or Endangered species		
<input type="checkbox"/> The wetland is mapped as a location for an individual WDFW priority species		
<input type="checkbox"/> The wetland is a Wetland of High Conservation Value		
<input type="checkbox"/> The wetland has been categorized as an important habitat site in a local plan		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	<b>Score: 2</b>
<b>Total for H 3:</b>		<b>2</b>

**Rating of Value**

[X] 2 = H [ ] 1 = M [ ] 0 = L

*Record the rating on the first page*

Wetland name or number: Lower Juanita Wetland

## CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

### SC 1.0 Estuarine Wetlands

**SC 1.1** Does the wetland meet all of the following criteria for Estuarine wetlands?

- The dominant water regime is tidal
- The wetland is vegetated
- The water salinity is greater than 0.5 ppt

Yes - Go to SC 1.2

**No - Not an Estuarine Wetland**

**Result: Not an  
Estuarine Wetland**

**SC 1.2** 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 Estuarine Wetland

No - Go to SC 1.3

**Result:**

**SC 1.3** Is the wetland unit at least 1ac 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.
- At least 75% of the landward edge of the wetland has a 100ft 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 Estuarine Wetland

No - Category II Estuarine Wetland

**Result:**

### SC 2.0 Wetlands of High Conservation Value

**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?

Yes - Category I Wetland of High Conservation Value

**No - Go to SC 2.2**

**Result: Go to SC 2.2**

**SC 2.2** Does the wetland have a rare plant species, rare plant community, or high-quality common plant community that may qualify the site as a WHCV?

Yes - Category I Wetland of High Conservation Value

**No - Not a Wetland of High Conservation Value**

**Result: Not a Wetland  
of High Conservation  
Value**

**Wetland name or number:** Lower Juanita Wetland

### SC 3.0 Bogs

**SC 3.1** Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?

Yes - Go to SC 3.3

No - Go to SC 3.2

**Result: 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 - Not a Bog Wetland

**Result: Not a Bog Wetland**

**SC 3.3** Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least 30% cover of plant species listed in the table provided in the instructions?

Yes - Category I Bog Wetland

No - Go to SC 3.4

**Result:**

**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 combinations of species) listed in the table found in the instructions provide more than 30% of the cover under the canopy?

Yes - Category I Bog Wetland

No - Not a Bog Wetland

**Result:**

### SC 4.0 Forested Wetlands

**SC 4.1** Does the wetland have at least 1 contiguous acre of forest that meets one of the following criteria?

Old-growth forests

Mature forests

Yes - Category I Forested Wetland

No - Not a Forested Wetland

**Result: Not a Forested Wetland**

**Wetland name or number:** Lower Juanita Wetland

### SC 5.0 Wetlands in Coastal Lagoons

**SC 5.1** 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 rocks
- The depression 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 open water area (measured near the bottom)
- The lagoon retains some of its surface water at low tide during spring tides

Yes - Go to SC 5.2

**No - Not a Coastal Lagoon Wetland**

**Result: Not a Coastal Lagoon Wetland**

**SC 5.2** 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).
- At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or ungrazed or un-mowed grassland.
- the wetland is larger than 0.10ac (4350 sqft)

Yes - Category I Coastal Lagoon

No - Category II Coastal Lagoon

**Result:**

### SC 6.0 Interdunal Wetlands

**SC 6.1** Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership WBUO)?

Yes - Go to SC 6.2

**No - Not an Interdunal Wetland**

**Result: Not an Interdunal Wetland**

**SC 6.2** Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?

Wetland is larger than 1ac in size - Go to SC 6.3

Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland

No - Go to SC 6.4

**Result:**

**SC 6.3** Does the wetland score 8 or 9 points for the habitat functions?

Yes - Category I Interdunal Wetland

No - Category II Interdunal Wetland

**Result:**

**SC 6.4** Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac and 1ac in size?

Yes - Category III Interdunal Wetland

No - Category IV Interdunal Wetland

**Result:**

**Wetland name or number:** Lower Juanita Wetland

<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p> <p style="text-align: right;"><b>Final Category: Not Applicable</b></p>
--





17619 NE 67th Ct #100  
Redmond, WA 98052



Phone: (425) 429-7800  
Web: oneatlas.com

**BRICKYARD: LOWER JUANITA WETLAND (RIVERINE)**

**WETLAND OVERVIEW**

PROJECT # 3181_Brickyard to SR527	DESIGNED BY: NB
DATE: 04/25/2025	CHECKED BY: AS

**Legend**

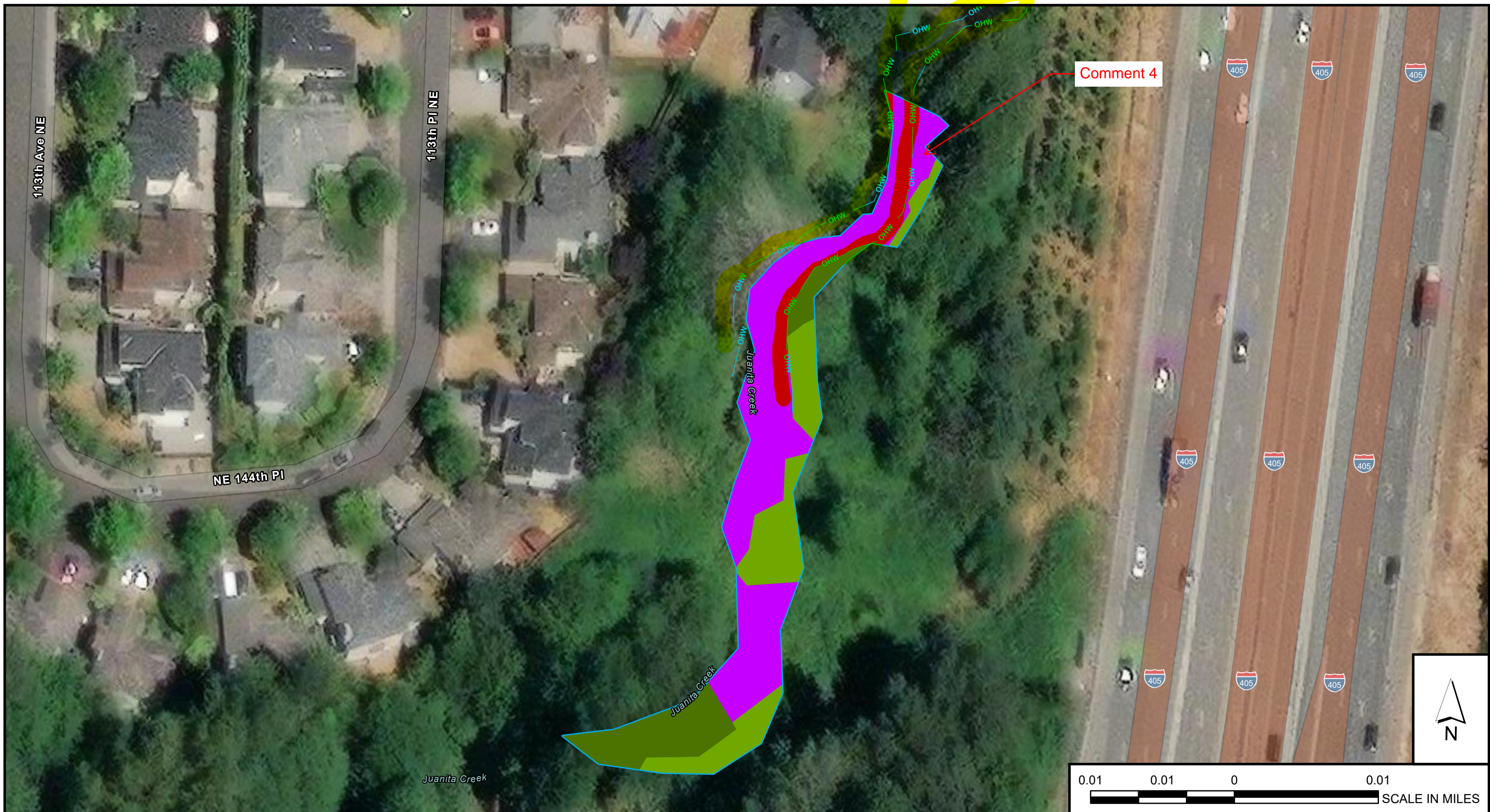
-  Wetland
-  Stream / River (perennial)

**DATA SOURCES:**

Wetland Boundary: Atlas Technical Consultants  
Basemap: ESRI, Google

**FIGURE #**

**1**



**WSDOT**

**ATLAS**

17619 NE 67th Ct #100  
Redmond, WA 98052

Phone: (425) 429-7800  
Web: oneatlas.com

**BRICKYARD: LOWER JUANITA WETLAND (RIVERINE)**

**COWARDIN PLANT CLASSES**

PROJECT # 3181\_Brickyard to SR527      DESIGNED BY: NB

DATE: 06/19/2025      CHECKED BY: AS

**Legend**

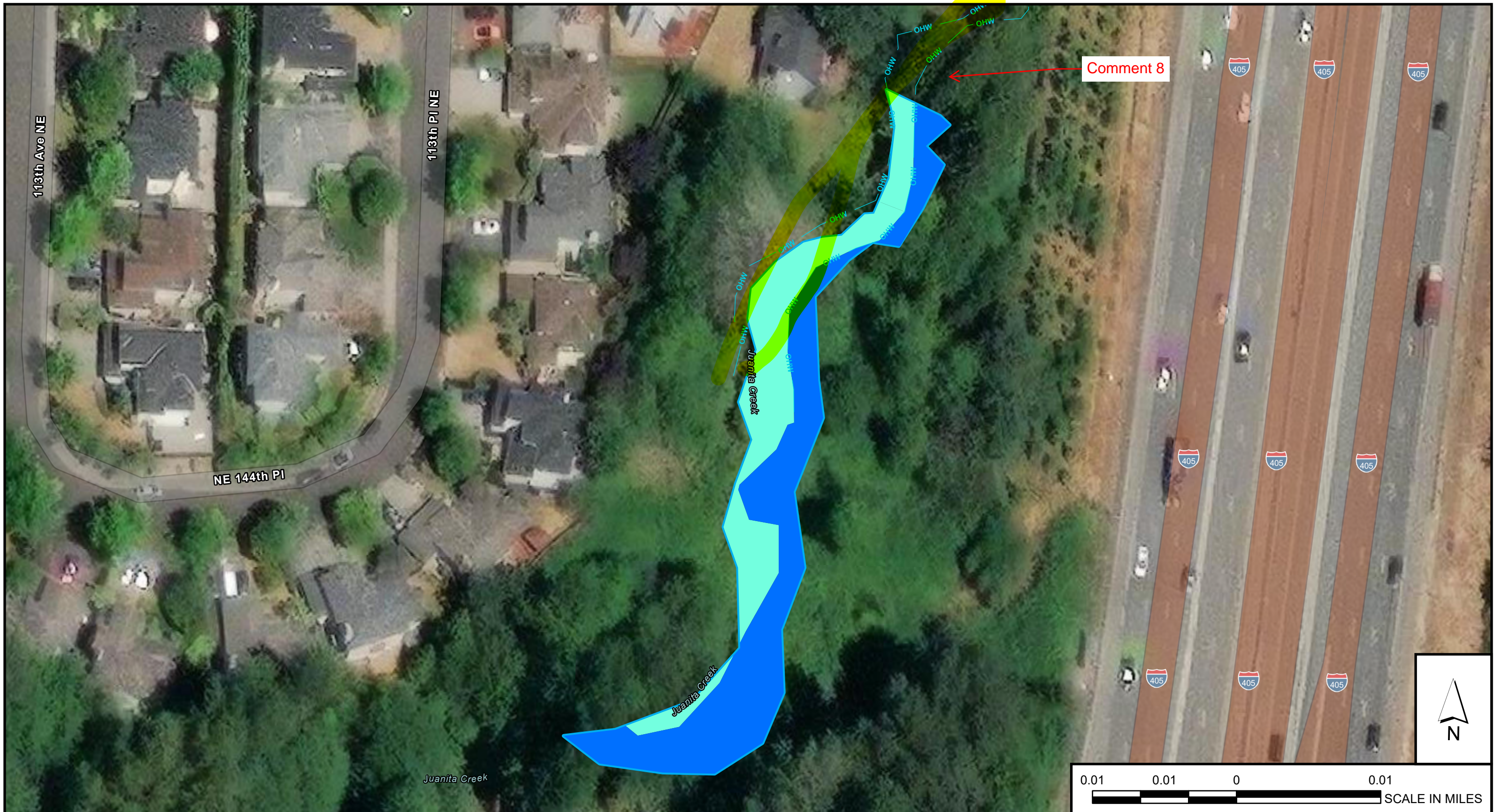
<b>CowardinClassName</b>	ScrubShrub
Emergent	Wetland
Forested	Delineated OHW

**DATA SOURCES:**

Wetland Boundary: Atlas Technical Consultants  
Basemap: ESRI, Google






**FIGURE #**

**2**



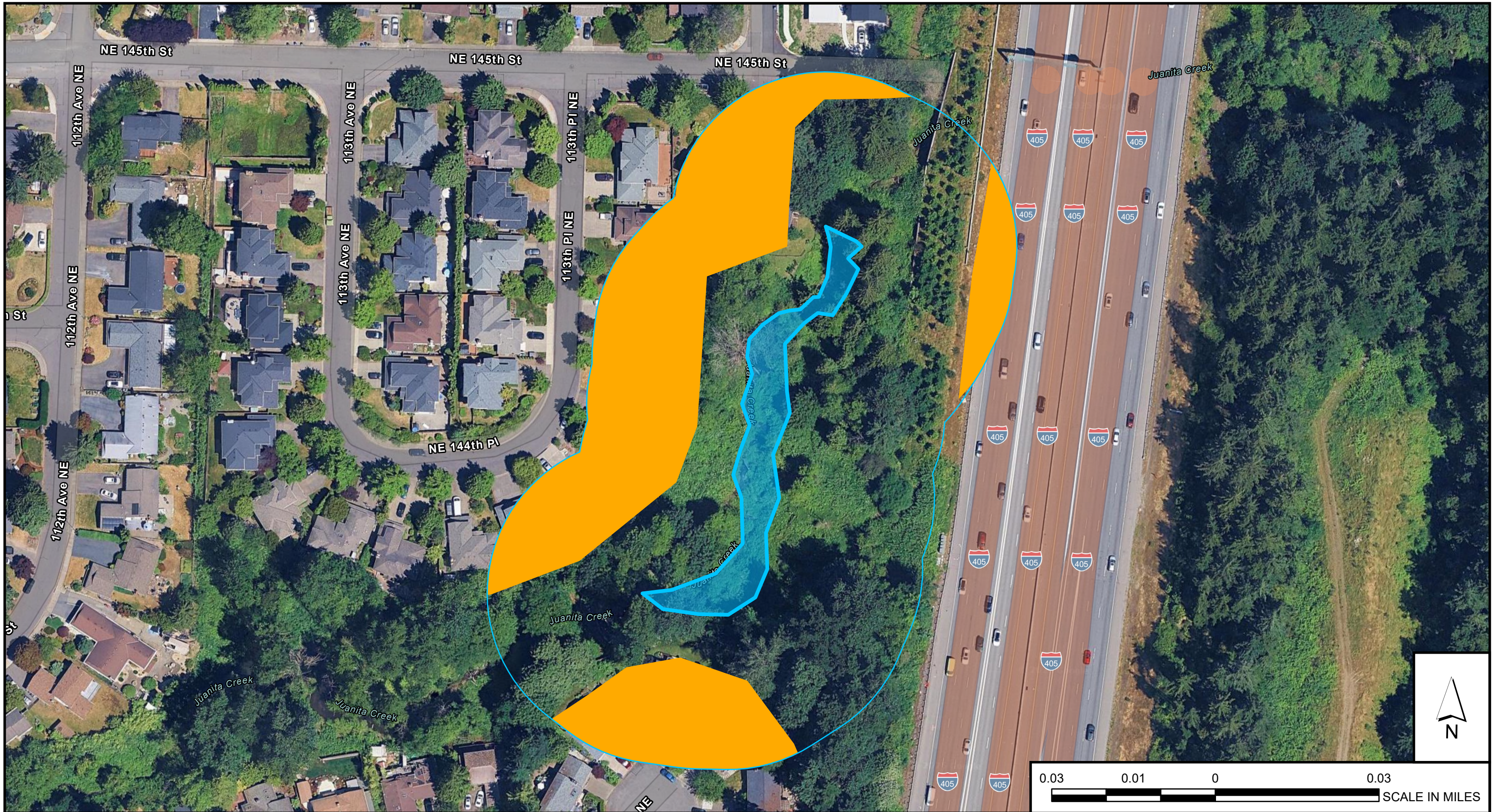
  
  
 17619 NE 67th Ct #100  
 Redmond, WA 98052  
 Phone: (425) 429-7800  
 Web: oneatlas.com

**BRICKYARD: LOWER JUANITA WETLAND (RIVERINE)**  
**HYDROPERIODS & PONDED DEPRESSIONS**  
 PROJECT # 3181\_Brickyard to SR527  
 DESIGNED BY: NB  
 DATE: 06/19/2025  
 CHECKED BY: AS

**Legend**  
 Wetland  
 PermanentStream  
 SaturatedOnly  
 Ponded Depressions  
 Delineated OHW

**DATA SOURCES:**  
 Wetland Boundary: Atlas Technical Consultants  
 NHD Dataset: WADOE  
 Basemap: ESRI, Google

**FIGURE #**  
**3**



**BRICKYARD: LOWER JUANITA WETLAND  
(RIVERINE)**



**LANDUSE WITHIN 150 FT OF WETLAND**

PROJECT # 3181\_Brickyard to SR527

DESIGNED BY: NB

17619 NE 67th Ct #100  
Redmond, WA 98052

Phone: (425) 429-7800  
Web: oneatlas.com

DATE: 04/25/2025

CHECKED BY: AS

**Legend**

Land Use

Generates excessive runoff and pollutants

Upland within 150' wetland buffer

Wetland

**DATA SOURCES:**

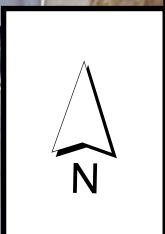
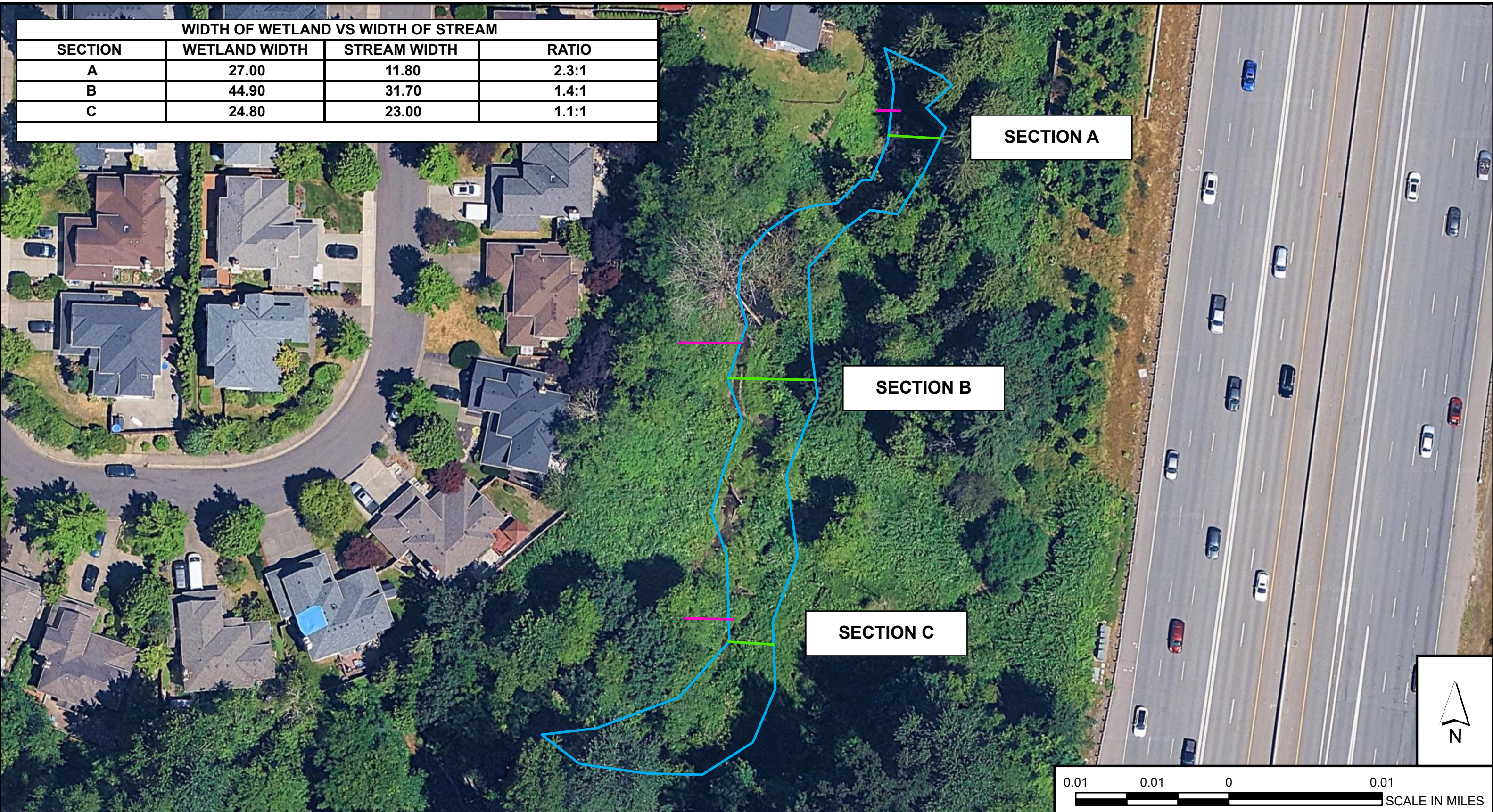
Wetland Boundary: Atlas Technical Consultants  
Basemap: ESRI, Google

**FIGURE #**

**4**



WIDTH OF WETLAND VS WIDTH OF STREAM			
SECTION	WETLAND WIDTH	STREAM WIDTH	RATIO
A	27.00	11.80	2.3:1
B	44.90	31.70	1.4:1
C	24.80	23.00	1.1:1





17619 NE 67th Ct #100  
Redmond, WA 98052

Phone: (425) 429-7800  
Web: oneatlas.com

**BRICKYARD: LOWER JUANITA WETLAND (RIVERINE)**

**WIDTH OF UNIT VS WIDTH OF STREAM**

PROJECT # 3181\_Brickyard to SR527      DESIGNED BY: NB

DATE: 04/16/2025      CHECKED BY: AS

**Legend**

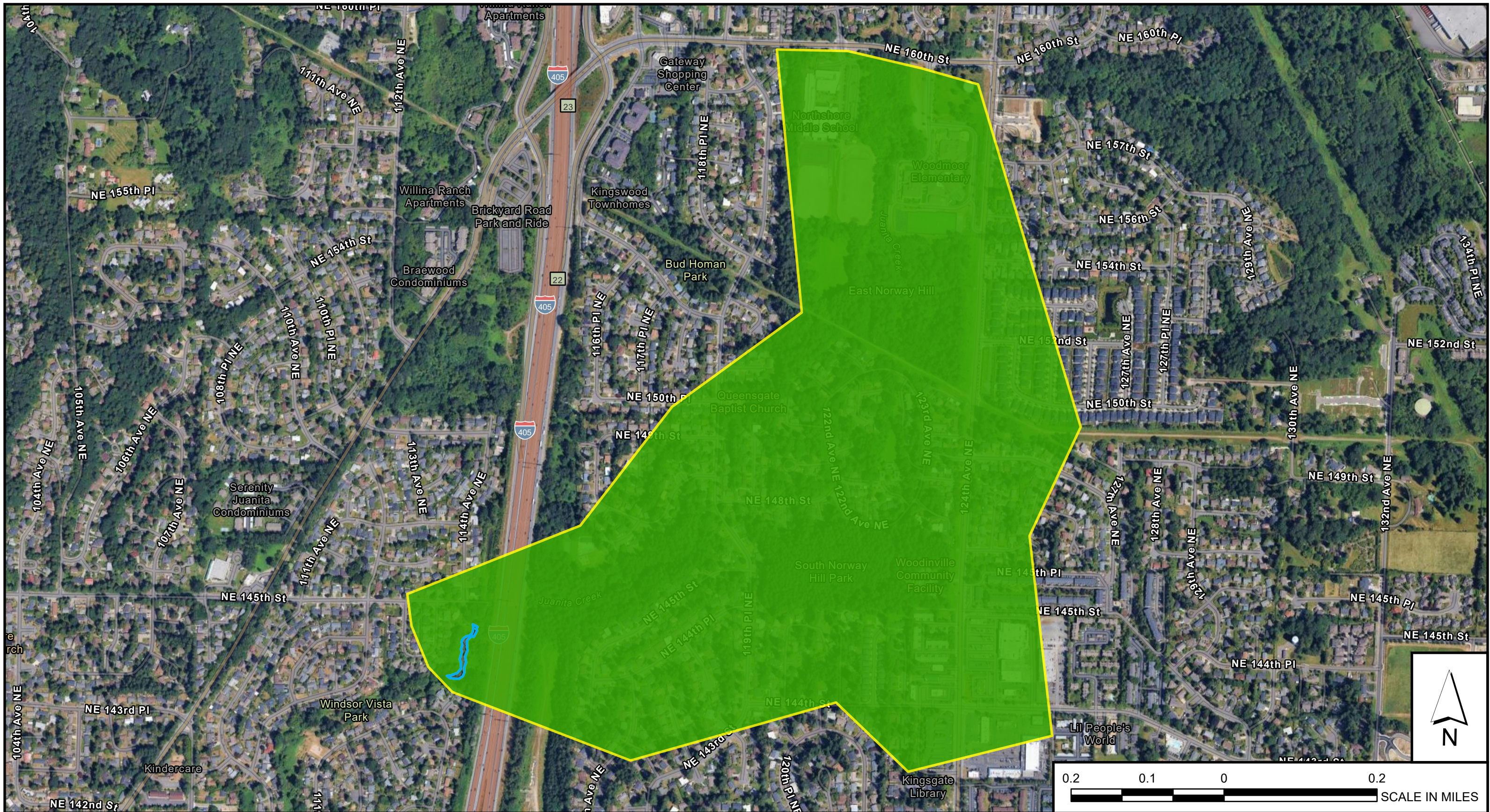
- Wetland
- stream
- wetland

**DATA SOURCES:**

Wetland Boundary: Atlas Technical Consultants  
Basemap: ESRI, Google  
LIDAR Imagery: WA DNR

**FIGURE #**

6



**WSDOT**

**ATLAS**

17619 NE 67th Ct #100  
Redmond, WA 98052

Phone: (425) 429-7800  
Web: oneatlas.com

<b>BRICKYARD: LOWER JUANITA WETLAND (RIVERINE)</b>	
<b>CONTRIBUTING BASIN</b>	
PROJECT # 3181_Brickyard to SR527	DESIGNED BY: NB
DATE: 04/25/2025	CHECKED BY: AS

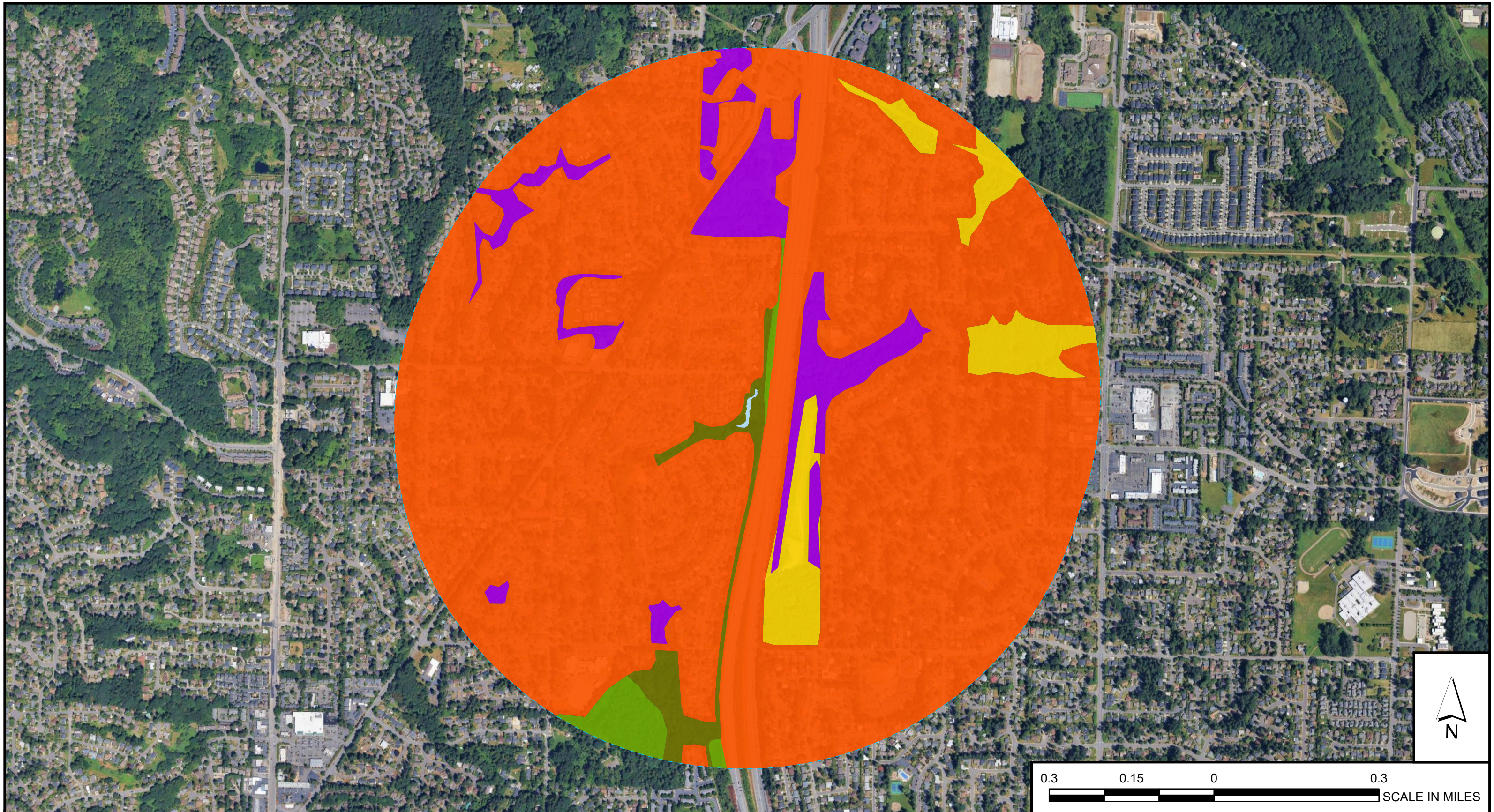
<b>Legend</b>
<span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black;"></span> ContributingBasin
<span style="display: inline-block; width: 15px; height: 10px; background-color: #ADD8E6; border: 1px solid black;"></span> Wetland



**DATA SOURCES:**

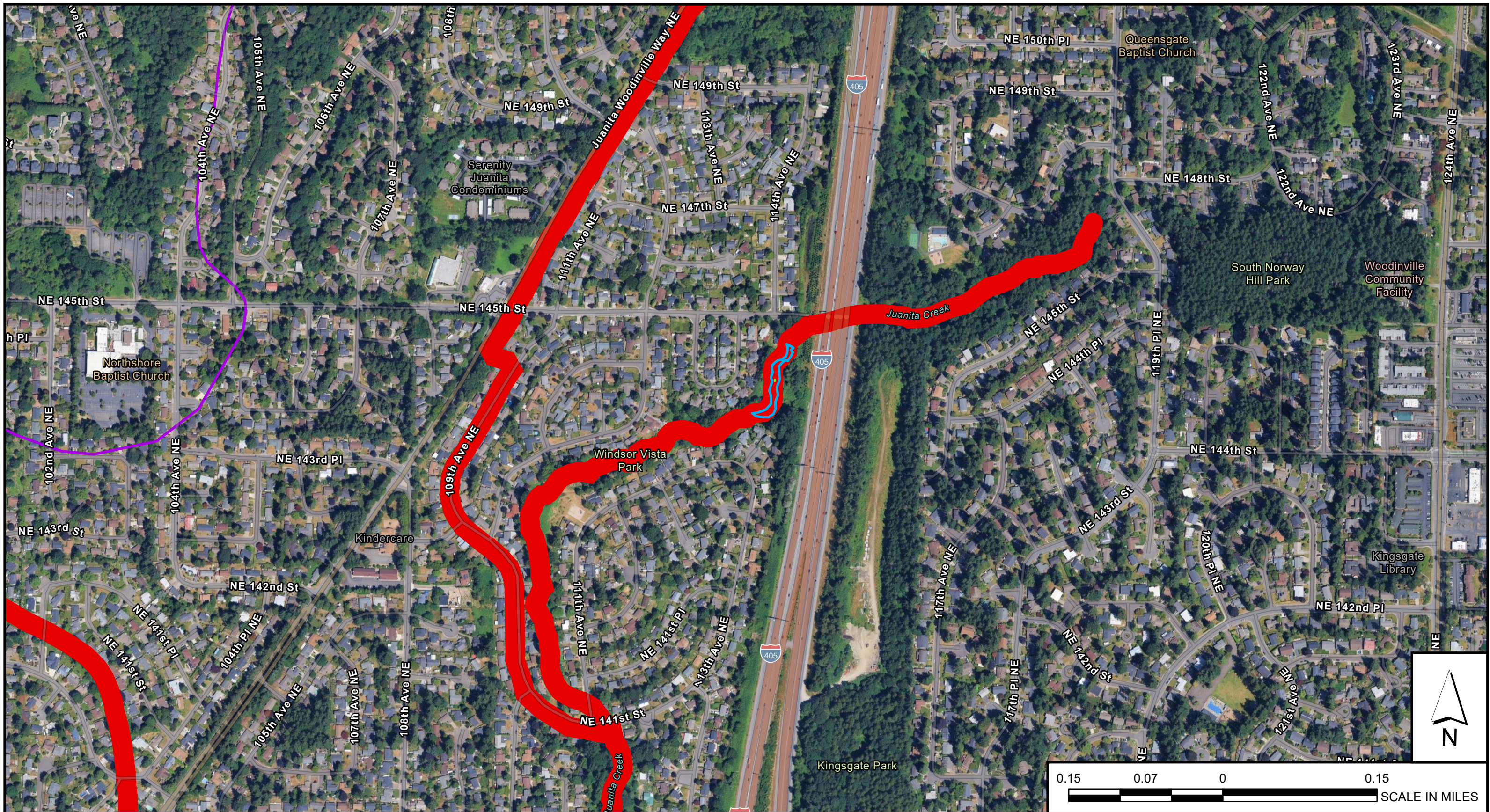
Wetland Boundary: Atlas Technical Consultants  
Basemap: ESRI, Google

**FIGURE #**

**7**



 	<b>BRICKYARD: LOWER JUANITA WETLAND (RIVERINE)</b>		<b>Legend</b>			<b>DATA SOURCES:</b> Wetland Boundary: Atlas Technical Consultants Basemap: ESRI, Google	<b>FIGURE #</b> <h1>8</h1>
	<b>HABITAT ACCESSIBILITY</b>		Unmapped - - - Wetland Buffer (1 km)	Low/Moderate intensity - Accessible Relatively Relatively undisturbed - Accessible	Low/Moderate intensity - Not accessible High Intensity Wetland		
17619 NE 67th Ct #100 Redmond, WA 98052 Phone: (425) 429-7800 Web: oneatlas.com							





17619 NE 67th Ct #100  
Redmond, WA 98052

Phone: (425) 429-7800  
Web: oneatlas.com





**BRICKYARD: LOWER JUANITA WETLAND (RIVERINE)**

**Listed Waters - 303(d)**

PROJECT # 3181\_Brickyard to SR527      DESIGNED BY: NB

DATE: 04/25/2025      CHECKED BY: AS

**Legend**

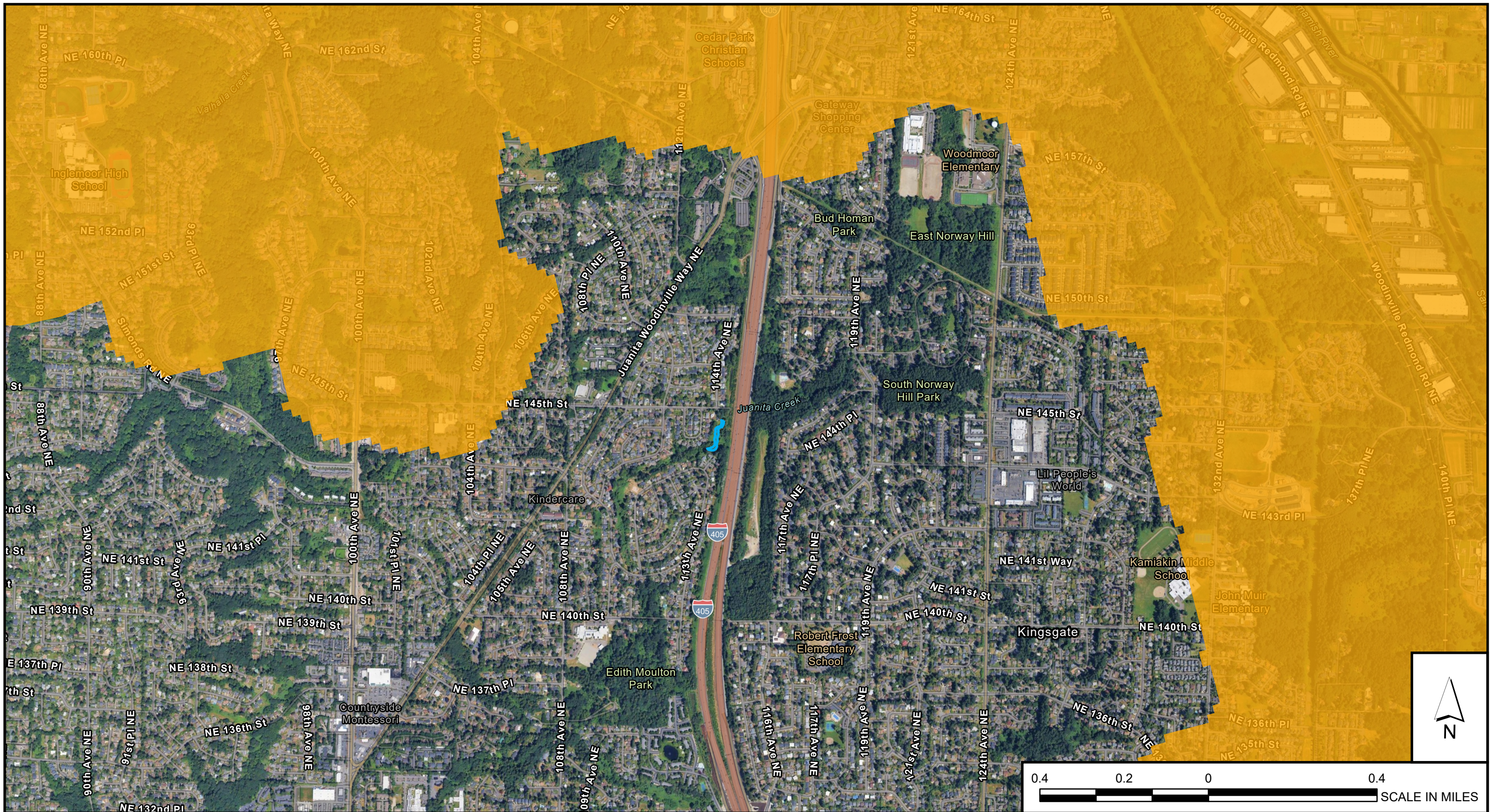
-  HUC Boundary
-  Category 5 Water
-  Distance: Wetland to Nearest 303(d) listing
-  Wetland

**DATA SOURCES:**

Wetland Boundary: Atlas Technical Consultants  
 HUC Boundary: WA State Geospatial Open Data Portal  
 303(d) List: WA Department of Ecology  
 Basemap: ESRI, Google

**FIGURE #**

**9**








17619 NE 67th Ct #100  
Redmond, WA 98052

Phone: (425) 429-7800  
Web: oneatlas.com

<b>BRICKYARD: LOWER JUANITA WETLAND</b>	
<b>COWARDIN PLANT CLASSES</b>	
PROJECT # 3181_Brickyard to SR527	DESIGNED BY: NB
DATE: 04/25/2025	CHECKED BY: AS

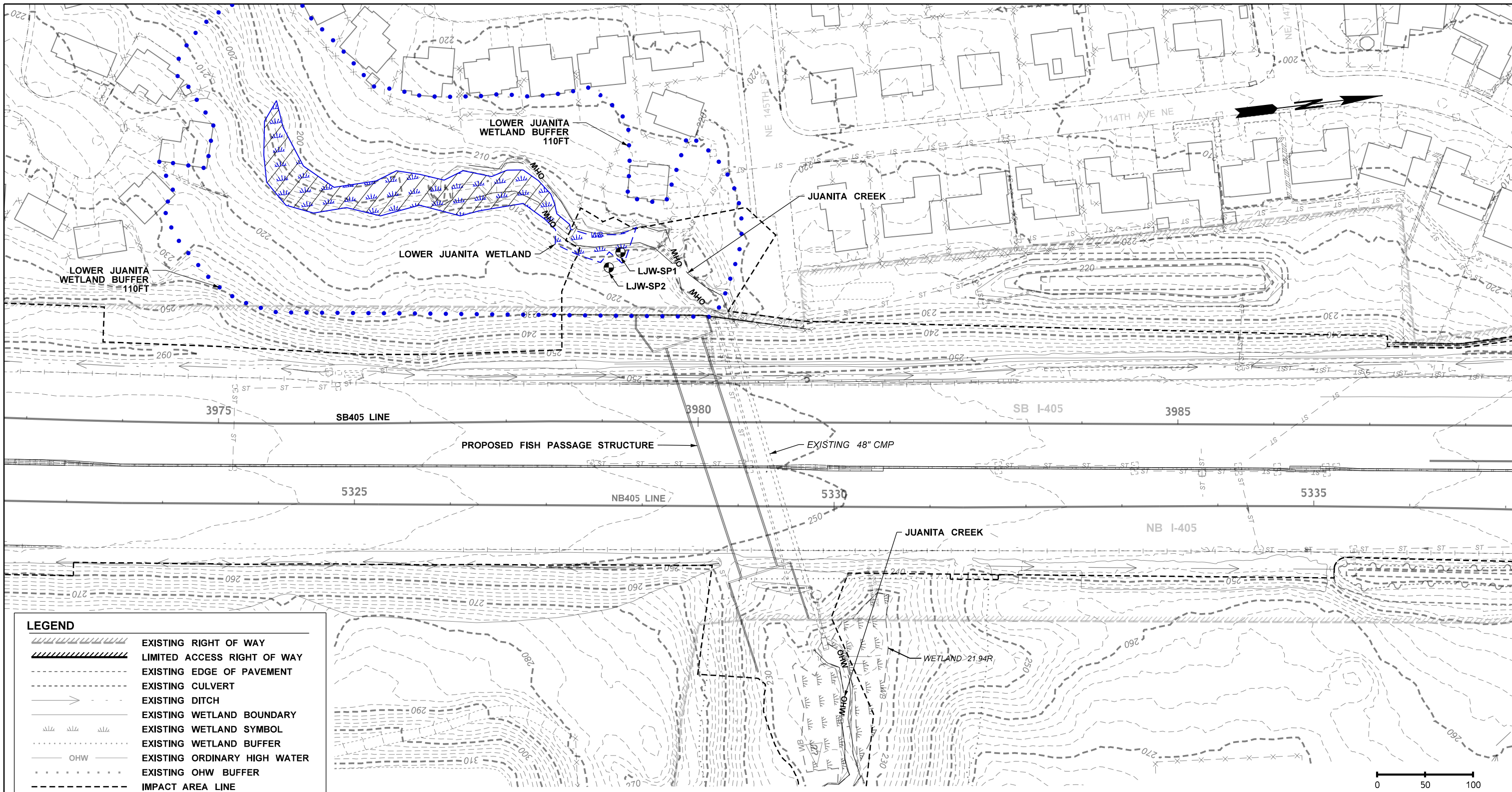
Legend	
 In Development	 Wetland
 Approved	

**DATA SOURCES:**  
 Wetland Boundary: Atlas Technical Consultants  
 WQ Imp. Proj.: WA Department of Ecology  
 Basemap: ESRI, Google

**FIGURE #**  
10

## **Appendix D**

### **New Sensitive Areas Map**



**LEGEND**

	EXISTING RIGHT OF WAY
	LIMITED ACCESS RIGHT OF WAY
	EXISTING EDGE OF PAVEMENT
	EXISTING CULVERT
	EXISTING DITCH
	EXISTING WETLAND BOUNDARY
	EXISTING WETLAND SYMBOL
	EXISTING WETLAND BUFFER
	EXISTING ORDINARY HIGH WATER
	EXISTING OHW BUFFER
	IMPACT AREA LINE
	APPROX. SOIL PIT LOCATION
	DELINEATED WETLAND BOUNDARY
	WETLAND SYMBOL
	WETLAND BUFFER
	ESTIMATED WETLAND

**WETLANDS AND STREAM BUFFERS**

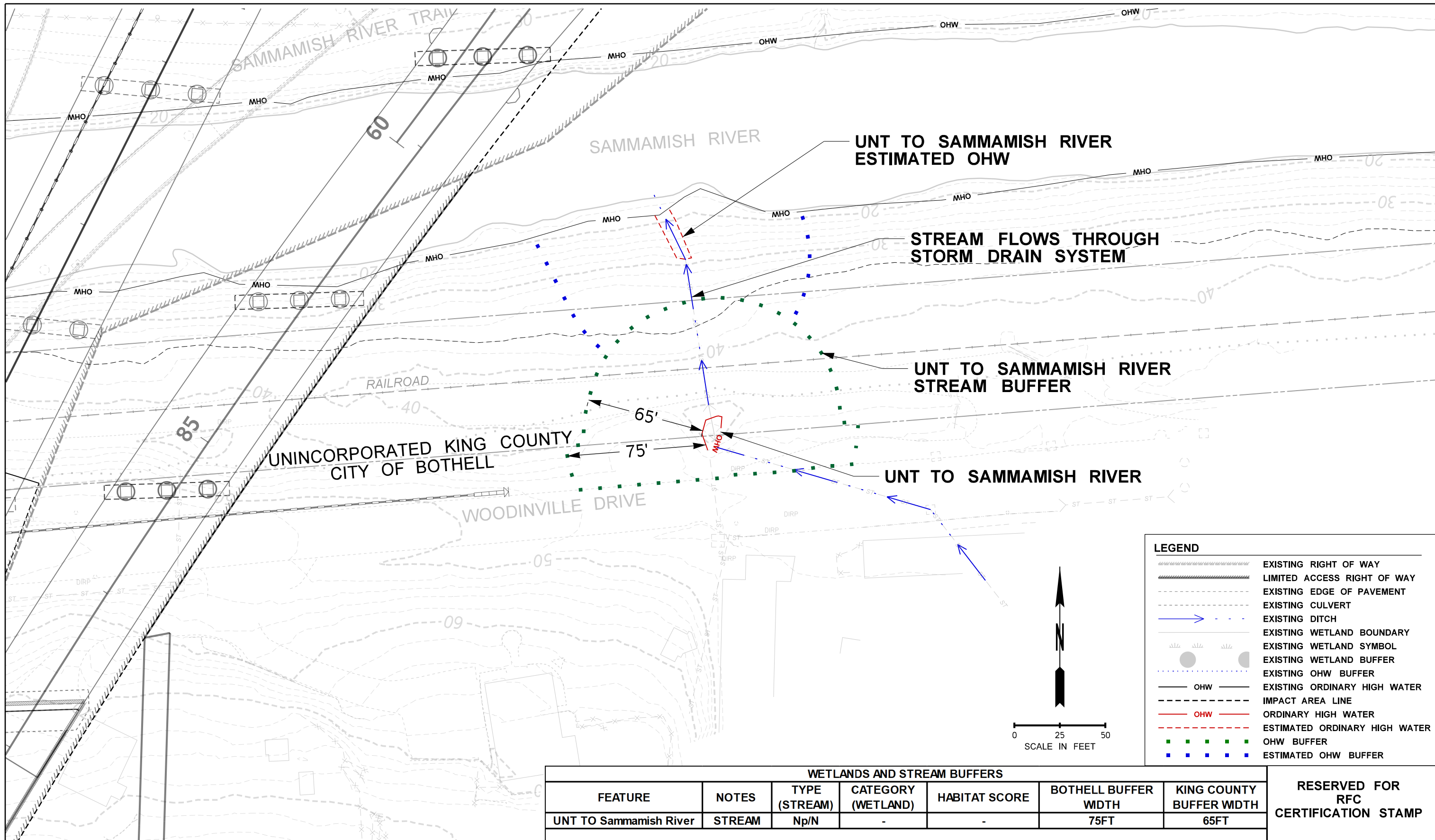
FEATURE	NOTES	TYPE (STREAM)	CATEGORY (WETLAND)	HABITAT SCORE	BOTHELL BUFFER WIDTH	KIRKLAND BUFFER WIDTH
LOWER JUANITA WETLAND	RIVERINE / SLOPE	-	II	6	-	110FT

\* WETLAND BUFFER BASED ON HABITAT SCORE

0 50 100  
SCALE IN FEET

**RESERVED FOR  
RFC  
CERTIFICATION STAMP**

FILE NAME c:\pwworking\uswaldms08235\JuanitaCreek_WSAR.dgn	TIME 11:25:33 AM	DATE 4/23/2025	PLOTTED BY Nicholas.Baker	DESIGNED BY N. BAKER	ENTERED BY N. BAKER	CHECKED BY M. MIYAMOTO	PROJ. ENGR. J SLAVICEK	REGIONAL ADM. L HODGSON	REGION NO. 10	STATE WASH	FED.AID PROJ.NO.	JOB NUMBER 22AB17	CONTRACT NO. 9727	LOCATION NO. XL5446	DATE	  O'Neill Services Group AN ATLAS COMPANY	 <b>SKANSKA</b>	<b>I-405 BRICKYARD TO SR527 IMPROVEMENT PROJECT</b>  <b>WSAR - LOWER JUANITA WETLAND</b>	PLAN REF NO <b>WSAR1</b>  SHEET OF SHEETS
---	---------------------	-------------------	------------------------------	-------------------------	------------------------	---------------------------	---------------------------	----------------------------	------------------	---------------	------------------	----------------------	----------------------	------------------------	------	--	--------------------	--	--



WETLANDS AND STREAM BUFFERS							RESERVED FOR RFC CERTIFICATION STAMP
FEATURE	NOTES	TYPE (STREAM)	CATEGORY (WETLAND)	HABITAT SCORE	BOTHELL BUFFER WIDTH	KING COUNTY BUFFER WIDTH	
UNT TO Sammamish River		STREAM	Np/N	-	75FT	65FT	

FILE NAME	c:\pwworking\uswaldms08235\UNT_TO_SAMM_RIVER_WSAR.dgn		
TIME	3:17:48 PM		
DATE	6/19/2025		
PLOTTED BY	Nicholas.Baker		
DESIGNED BY	N. BAKER		
ENTERED BY	N. BAKER		
CHECKED BY	M. MIYAMOTO		
PROJ. ENGR.	J SLAVICEK	REV 0 - LOWER JUANITA WETLAND	04/22/25
REGIONAL ADM.	L HODGSON	REVISION	DATE
REGION NO.	10	STATE	WASH
JOB NUMBER	22AB17		
CONTRACT NO.	9727		
FED.AID PROJ.NO.			
LOCATION NO.	XL5446		



I-405  
BRICKYARD TO SR527  
IMPROVEMENT PROJECT

WSAR - UNT TO SAMMAMISH RIVER

PLAN REF NO  
WSAR1

SHEET  
OF  
SHEETS