Soundview Consultants LLC
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Technical Memorandum

To:	**Bjorn Brynestad, Panattoni Development Company, Inc.**	**File Number: 1144.0025**
From:	**Ben Wright, Soundview Consultants LLC**	**Date: July 27, 2020**
Re:	**Non-Wetland and Fish and Wildlife Habitat Assessment – International Place North adjacent to 3250 International Place North, Dupont, Washington 98327**	

Dear Mr. Brynestad,

Soundview Consultants LLC (SVC) conducted a wetland and fish and wildlife habitat assessment of an approximately 5.34-acre site located north-adjacent to 3250 International Place North in the City of Dupont, Washington (Figure 1). The site consists of one parcel located in the Southwest ¼ of Section 24, Township 19 North, Range 01 East, W.M. (Pierce County Tax Parcel Number 3000390282). This assessment was conducted to support proposed commercial development of the subject property. SVC investigated the site to evaluate if any potentially-regulated wetlands, streams, or other fish and wildlife habitat are located on or adjacent to the subject property. This Technical Memorandum has been prepared to document the results of this assessment.

Figure 1. Subject Property Location.

Background Data

Prior to the site investigation, staff conducted background research using Pierce County Geographic Information System (GIS) data, Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) and SalmonScape mapping tools, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), Washington Department of Natural Resources (DNR) water typing system, and Natural Resource Conservation Service (NRCS) soil survey (Attachment B). All determinations were made using observable vegetation, hydrology, and soils in conjunction with data from the U.S. Geological Survey (USGS) topographic maps, USFWS, local precipitation data, and various orthophotographic resources.

The Pierce County Stream and Wetland Inventory map (Attachment B1) and the USFWS NWI map (Attachment B2) identify a potential stream and associated wetlands approximately 100 feet north and east of the subject property. The DNR Stream Typing map (Attachment B3) identifies this potential stream as a Type F (fish-bearing) water, and the WDFW SalmonScape map (Attachment B4) and PHS map (Attachment B5) identify the documented presence of resident coastal cutthroat trout (*Oncorhynchus clarkia*) and the presumed presence of Coho salmon (*Oncorhynchus kisutch*) within this stream. The WDFW PHS map also identifies the presence of potential breeding areas for big brown bat (*Eptesicus fuscus*), little brown bat (*Myotis lucifugus*), and Yuma myotis (*Myotis yumanensis*) within the township but not necessarily on the subject property. In addition, the DNR Rare Plant and Wetland Inventory (Attachment B6) identifies the potential occurrence of Thompson's chaenactis (*Chaenactis thompsonii*), a state-listed sensitive plant species, approximately 295 feet offsite to the north of the subject property.

The NRCS soil survey map (Attachment B7) identifies one soil series on the subject property: Spanaway gravelly sandy loam (41A), which is considered a non-hydric soil. No other wetlands, streams, or priority habitats or species are documented within 300 feet of the subject property.

Precipitation

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) weather station at the Olympia Regional Airport Station in order to acquire percent of normal precipitation during and preceding the June 11, 2020 site investigation. A summary of data collected is provided in Table 1 below.

Table 1. Precipitation Summary[1].

Site Visit Date	Day Of	Day Before	1 Week Prior	2 Weeks Prior	30 Days Prior (Observed/Normal)	Year to Date (Observed/Normal)[2]	Percent of Normal[3]
6/11/2020	0.14	0.05	1.24	1.47	3.10/2.22	27.81/25.05	140/111

1. Precipitation levels provided in inches. Data obtained from NOAA (http://w2.weather.gov/climate/xmacis.php?wfo=sew) for Olympia Airport.
2. Year-to-date precipitation is for the calendar year from January 1 to the onsite date.
3. Percent of normal is shown for the last 30 days and calendar year to date.

Precipitation levels during the June 2020 site investigation were slightly above the statistical normal for the prior 30 days (140 percent of normal) and within normal range for the 2020 calendar year (111 percent of normal). This data suggests that hydrologic conditions encountered during the site investigation were relatively normal. However, 1.24 inches of precipitation (221 percent of normal) was recorded in the week leading up to the site investigation, which may have caused temporarily

wetter than normal hydrologic conditions. Such conditions were considered in making professional wetland determinations.

Methods

A site investigation was performed during June of 2020 by qualified SVC staff. The investigation consisted of walk-through survey of the subject property and accessible areas within 300 feet of the subject property for potentially-regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority habitat species as specified in Dupont Municipal Code (DMC) Chapter 25.105 – Critical Areas.

Wetlands, streams, and select fish and wildlife habitats and species are regulated features per DMC Chapter 25.105.050 and subject to restricted uses/activities under the same title. Wetland absence was determined in accordance with DMC 25.105.050(1)(i) and as outlined in the U.S. Army Corps of Engineers' (USACE) *Wetlands Delineation Manual* (Environmental Laboratory, 1987) and modified according to the guidelines established in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, Version 2.0* (USACE, 2010) and *Field Indicators of Hydric Soils in the United States* (NRCS, 2018). Test pits were excavated at the most likely locations (i.e. topographic depressions and hydrophytic plant communities) throughout the subject property to confirm wetland absence. To mark the points where data was collected (DP-1 through DP-3), pink surveyor's flagging was alpha-numerically labeled and tied to 3-foot lath or vegetation at the sample location (Attachment A). The ordinary high water mark (OHW) of the offsite stream was estimated using publicly available LiDAR maps and offsite field observations made from the right-of-way.

The fish and wildlife habitat assessment was conducted during the same site visit by a qualified fish and wildlife biologist. The experienced biologist made visual observations using stationary and walking survey methods for both aquatic and upland habitats noting any special habitat features or signs of fish and wildlife activity.

Results

The 5.34-acre property is located in an urban industrial setting and consists of a mostly vacant gravel lot with sparse vegetation due to prior clearing and grading activities. The site is bounded by industrial development to the northwest; International Place road to the west with industrial development beyond; industrial development to the south and east; and a vacant lot and undeveloped forested area to the northeast with Dupont-Steilacoom Road beyond. Vegetation on the subject property consists of Douglas fir (*Pseudotsuga menziesii*) saplings, black cottonwood (*Populus balsamifera*) saplings, non-native invasive Scotch broom (*Cytisus scoparius*), non-native invasive butterfly bush (*Buddleja davidii*), common St. Johnswort (*Hypericum perforatum*), foxglove (*Digitalis purpurea*), and common sheep sorrel (*Rumex acetosella*). Topography on the site slopes down gently approximately 10 feet from north to south with elevations ranging from approximately 220 to 230 feet above mean sea level (Attachment B8).

No potentially-regulated wetlands and/or fish and wildlife habitat were identified on the subject property; however, one stream was identified approximately 95 feet offsite to the northeast. Three formal data plots, DP-1 through DP-3 (shown in Attachment A), and additional test pits confirm wetland absence on the subject property. Photographs at the data plot locations and general site conditions are included in Attachment C and copies of the completed data forms are provided in Attachment D.

Lack of Onsite Wetlands

Three formal data plots (DP-1 through DP-3) were collected at representative locations throughout the subject property which confirm non-wetland conditions onsite due to the lack of all three wetland criteria (predominance of hydrophytic vegetation, hydric soils, and wetland hydrology) according to current wetland delineation methodology. None of the data plots met hydrophytic vegetation or wetland hydrology criteria. Lack of hydrophytic vegetation and wetland hydrology at a time when precipitation levels were relatively normal (with temporarily wetter hydrologic conditions due to the 1.24 inches of precipitation observed the week leading up to the site visit) indicate that the area does not hold water long enough during the growing season to support wetland conditions. Data plots DP-1 and DP-2 did meet technical hydric soil criteria through indicator S5 (Sandy Redox). However, the entire subject property was observed to be highly disturbed, and review of historical aerial photographs confirm that the property was likely cleared and graded in 2007. This prior clearing and grading activity resulted in the placement of fill material which can typically contain unnatural redoximorphic concentrations or depleted matrices. As not all three required wetland criteria were observed, no wetlands were identified on the subject property.

Offsite Type F Stream

One stream was identified approximately 95 feet offsite to the northeast of the subject property. This stream contained a well-defined channel and sorting of substrate. The stream is a perennial stream with adequate structure and hydrology to support multiple salmonid species. The offsite stream is recognized by DNR as a Type F (fish-bearing) stream, and WDFW documents the presence of cutthroat trout as well as modeled presence of coho salmon in the stream. Per DMC 25.105.050(2)(g)(i), all streams require a standard buffer width of 100 feet. Per DMC 25.105.050(2)(g)(v), an additional 15-foot building setback is required from the edge of all critical area buffers. The associated stream buffer and associated building setback minimally projects onto the northeast portion of the subject property.

Proposed Project

The proposed project consists of a parking lot associated with the large industrial warehouse development to the south (Pierce County Tax Parcel Number 3000390011). The previously mentioned 15-foot building setback line associated with the offsite stream projects minimally onsite as required under DMC 25.105.050(2)(g)(v), a small portion of the proposed impervious surface area will be located within the required 15 foot building setback, which this development per DMC 25.10.020.065 does not meet the definition of a building, *"Building" means any structure used or intended for supporting or sheltering any use or occupancy.* Thus, this development of impervious surface within the building setback is expected to be allowed. All other proposed development will remain entirely outside of the 100-foot stream buffer and associated building setback.

Conclusions

No potentially-regulated wetlands, fish and wildlife habitat, or other regulated critical areas were identified on the subject property during the site investigation; however, one stream was identified approximately 95 feet offsite to the northeast. The 100-foot protective buffer and 15-foot building setback associated with this offsite Type F stream only project slightly onto the subject property. A small portion of the proposed impervious surface area will be located within the 15-foot building setback line associated with the offsite stream as allowed per Dupont Municipal Code. All other

proposed development will remain entirely outside of the 100-foot stream buffer and associated building setback.

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

Sincerely,

July 27, 2020

Ben Wright
Environmental Planner / Fisheries Biologist

Date

References

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Natural Resources Conservation Service. 2018. *Field Indicators of Hydric Soils in the United States, Version 8.2*. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

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Attachment A – Existing Conditions and Proposed Plan Exhibits

INTERNATIONAL PLACE - EXISTING CONDITIONS

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INTERNATIONAL PLACE

ADJACENT TO:
3250 INTERNATIONAL PL N
DUPONT, WA 98327

PIERCE COUNTY PARCEL NUMBERS:
3000390282

DATE:	6/30/2020
JOB:	1144.0025
BY:	DLS
SCALE:	1 " = 75 '
FIGURE NO.	1

INTERNATIONAL PLACE - PRELIMINARY PROPOSED SITE PLAN

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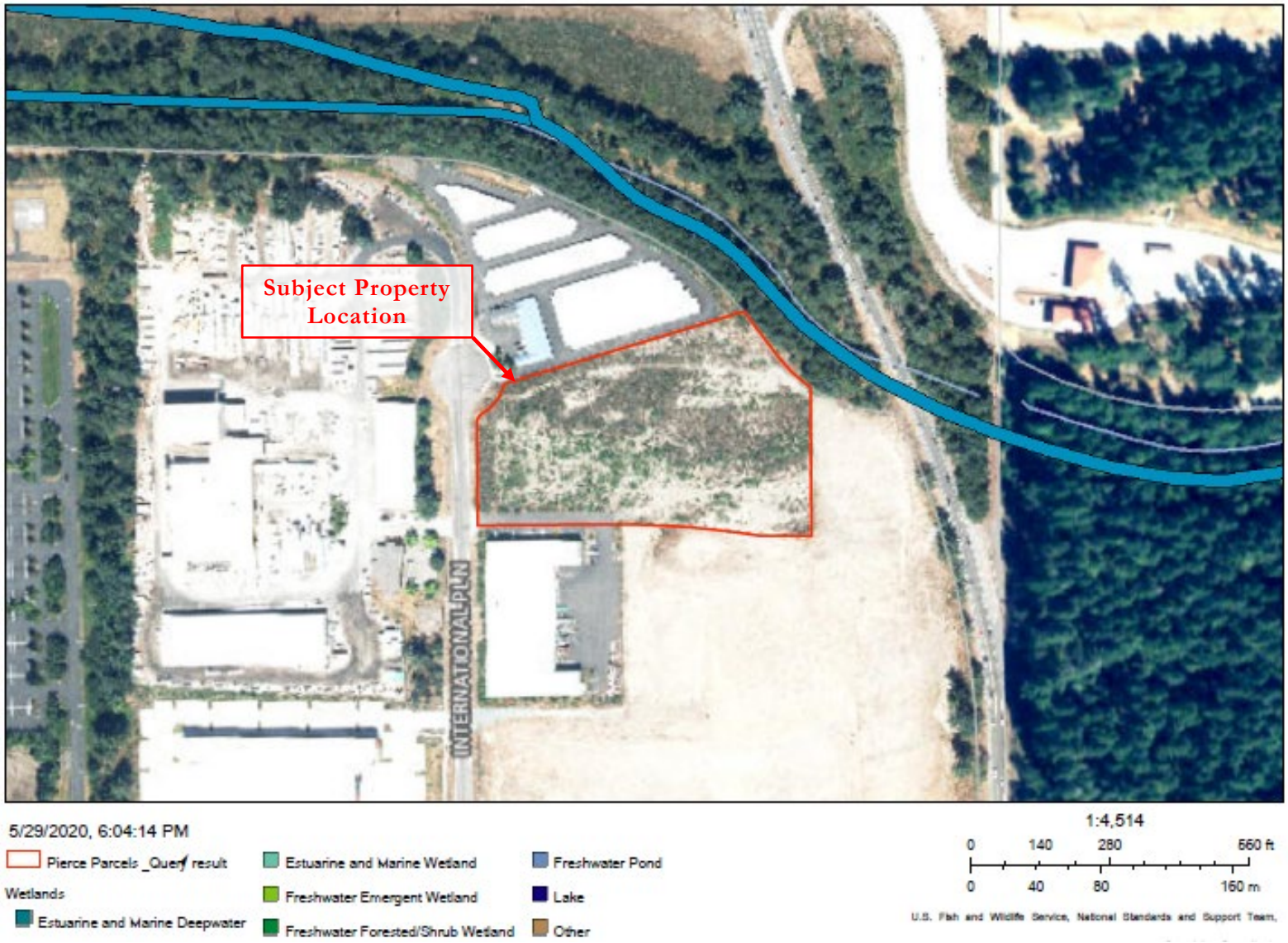
JOB:	1144.0025
BY:	DLS
SCALE:	1 " = 75 '
FIGURE NO.	2

Attachment B – Background Information

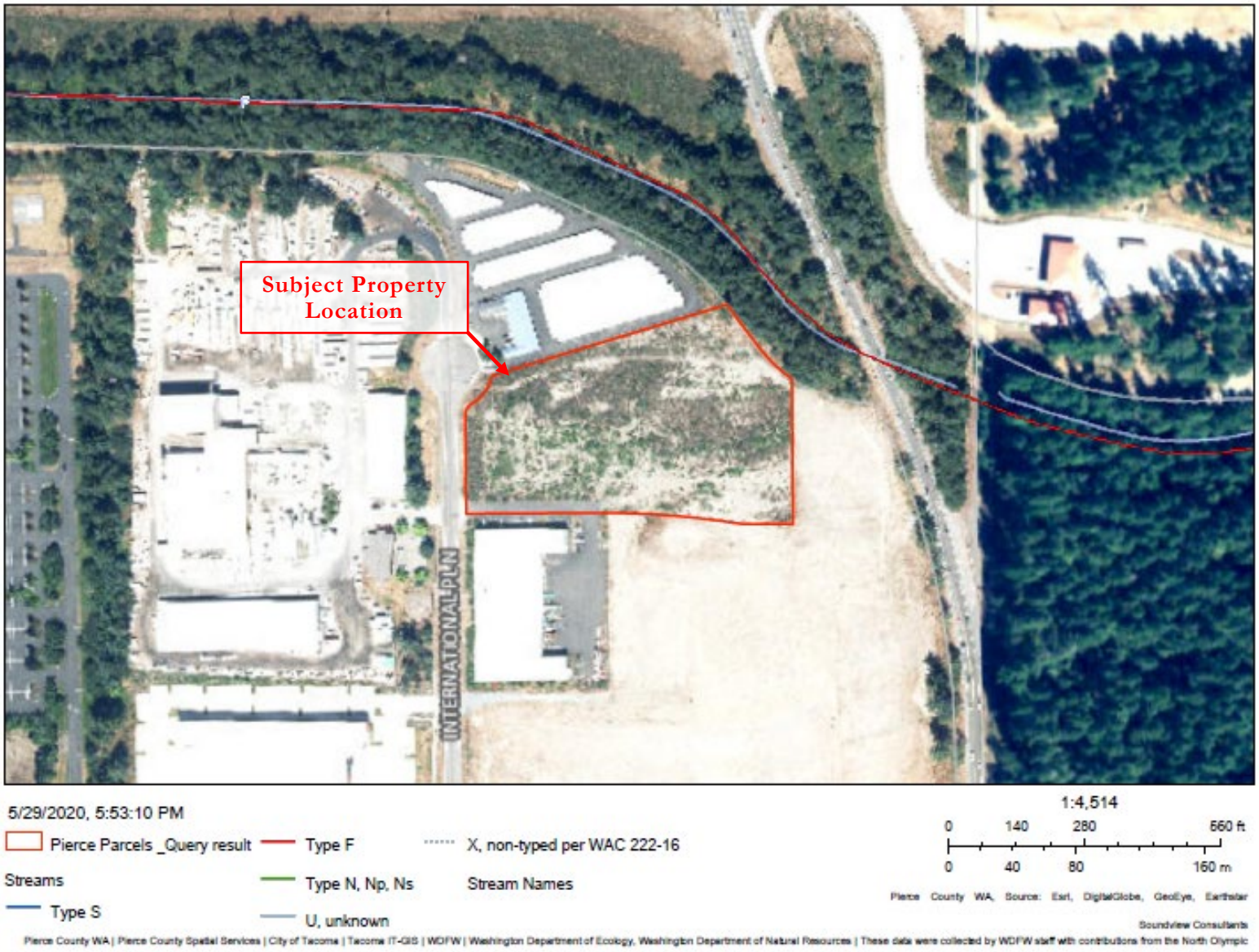
This attachment includes a Pierce County Stream and Wetland Inventory (B1); USFWS NWI map (B2); DNR Stream Typing map (B3); WDFW SalmonScape map (B4); WDFW PHS map (B5); DNR Rare Plant and Wetland Inventory (B6); NRCS Soil Survey map (B7); and USGS Contours map (B8).

Attachment B1 – Pierce County Stream and Wetland Inventory

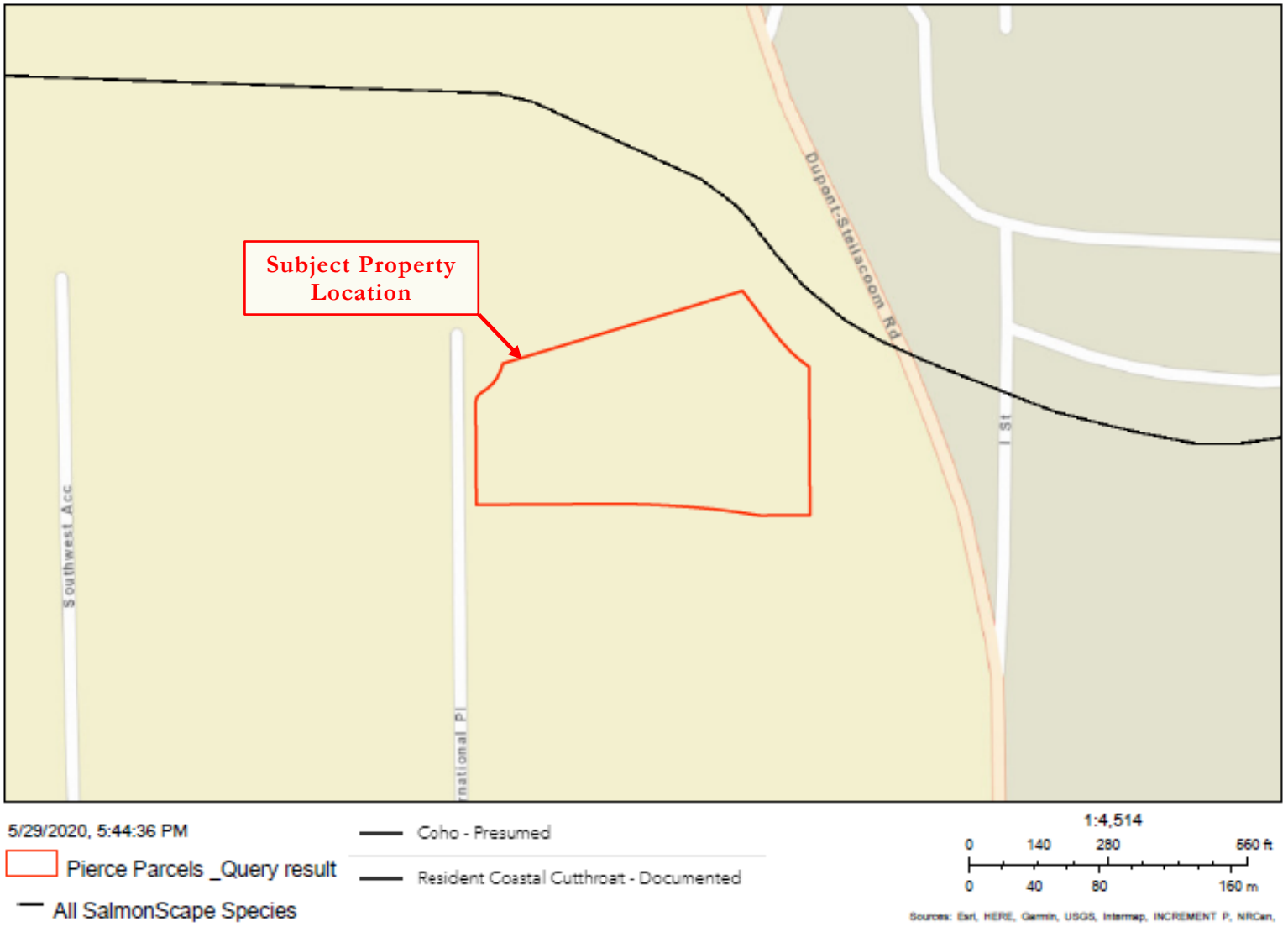
Attachment B2 – USFWS NWI Map



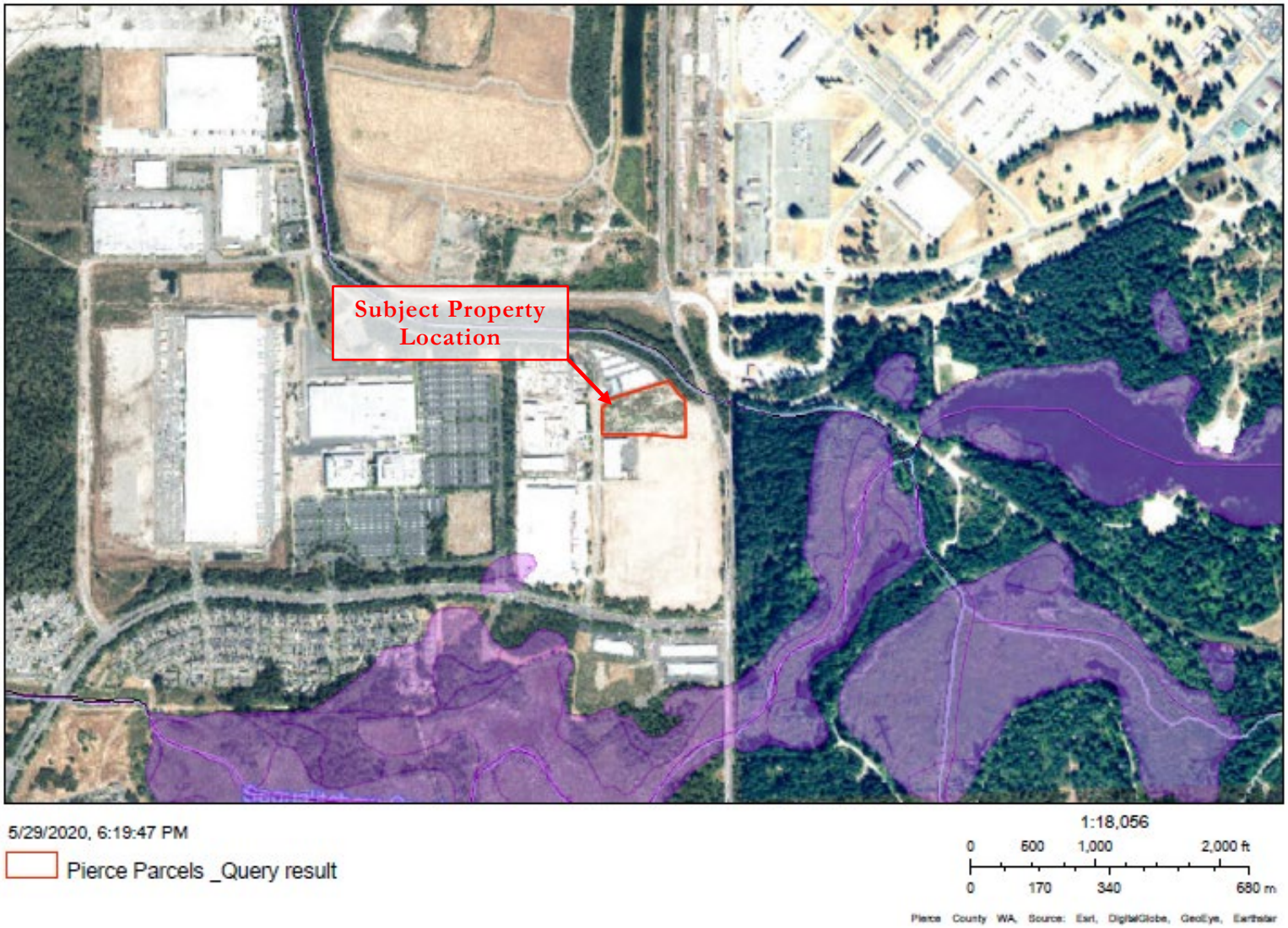
Attachment B3 – DNR Stream Typing Map



Attachment B4 – WDFW SalmonScape Map



Attachment B5 – WDFW PHS Map



Priority Habitats and Species on the Web

Report Date: 07/24/2020

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Generalized Location
Resident Coastal Cutthroat	N/A	N/A	No
Coho	N/A	N/A	No
Big brown bat	N/A	N/A	Yes
Little Brown Bat	N/A	N/A	Yes
Yuma myotis	N/A	N/A	Yes

PHS Species/Habitats Details:

Resident Coastal Cutthroat	
Scientific Name	*Oncorhynchus clarki*
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1226157471128, Fish Name: Cutthroat Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	48769
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

Coho	
Scientific Name	*Oncorhynchus kisutch*
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1226157471128, Fish Name: Coho Salmon, Run Time: Unknown or not Applicable, Life History: Anadromous
Source Record	48770
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

Big brown bat	
Scientific Name	*Eptesicus fuscus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	N
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

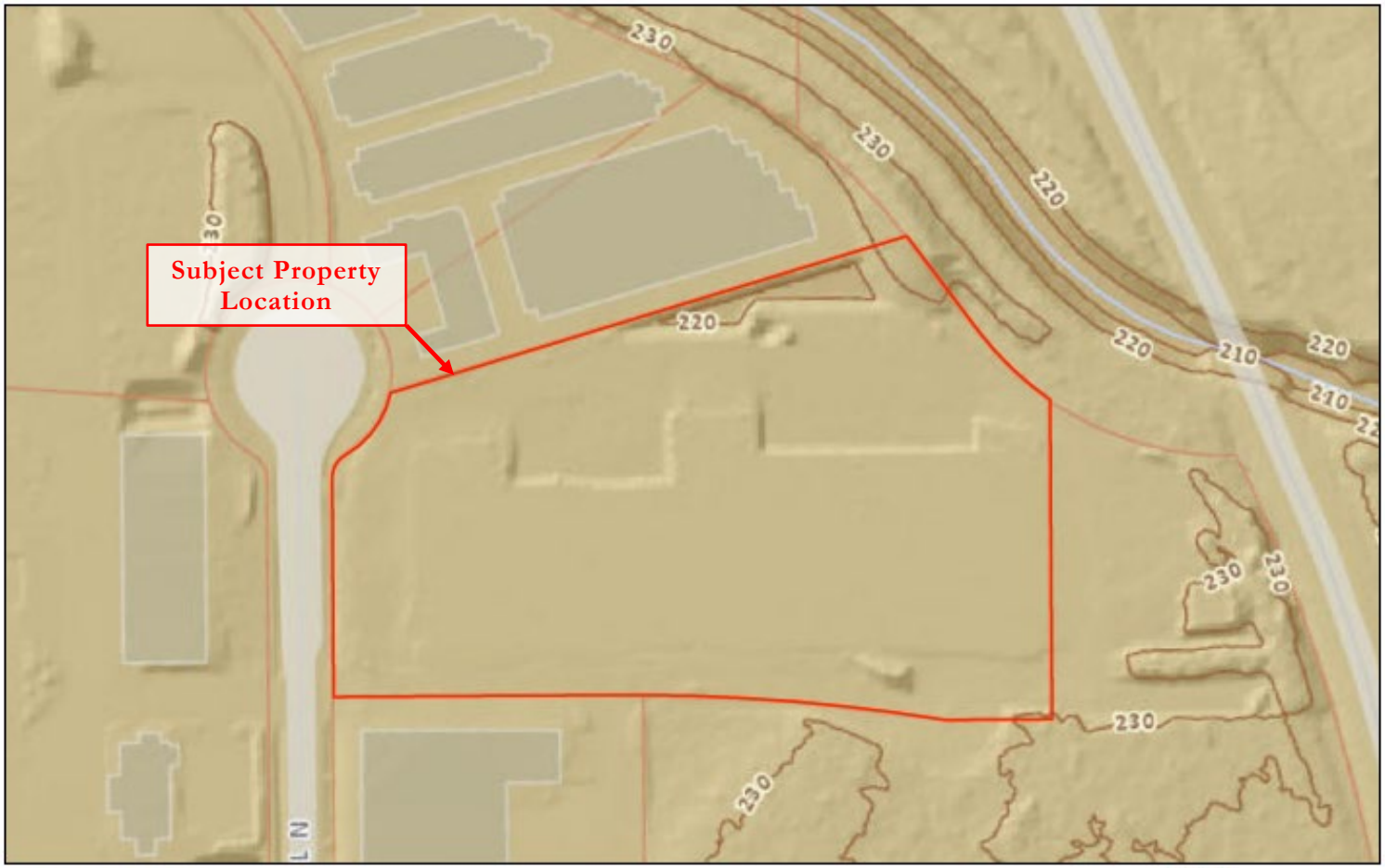
Little Brown Bat	
Scientific Name	*Myotis lucifugus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	N
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Yuma myotis	
Scientific Name	*Myotis yumanensis*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	N
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Attachment B6 – DNR Rare Plant and Wetland Inventory

Attachment B7 – NRCS Soil Survey Map

Attachment B8 – USGS Contours Map



Attachment C – Site Photographs

Typical Upland Conditions on the Subject Property

Typical Upland Conditions on the Subject Property

Offsite Type F Stream

Offsite Type F Stream

Data Plot DP-1 Soil Profile

Data Plot DP-1 Soil Pit

Data Plot DP-1 Surrounding Area

Data Plot DP-2 Soil Profile

Data Plot DP-2 Soil Pit

Data Plot DP-2 Surrounding Area

Data Plot DP-3 Soil Profile

Data Plot DP-3 Soil Pit

Data Plot DP-3 Surrounding Area

Attachment D – Non-Wetland Data Forms

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

Project/Site: International Place City/County: Dupont/Pierce Sampling Date: 6/11/2020

Applicant/Owner: Panattoni Development Company, Inc. State: WA Sampling Point: DP-1

Investigator(s): Jacob Layman, Ben Wright Section, Township, Range: 24 / 19N / 1E

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

Subregion (LRR): A2 Lat: 47.113444 Long: -122.62519992 Datum: WGS 84

Soil Map Unit Name: Spanaway gravelly sandy loam NWI classification: N/A

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

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

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

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

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

Remarks:
Not all three wetland criteria met; only hydric soil present due to the prior placement of fill material. Data collected in detention pond on the northern portion of the subject property.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	15	Yes	FACU
2. Populus balsamifera	1	No	FAC
3.			
4.			
	16	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Cytisus scoparius	30	Yes	UPL
2. Spiraea douglasii	1	No	FACW
3.			
4.			
5.			
	31	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Hypericum perforatum	15	Yes	FACU
2. Rumex acetosella	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 80

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (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:
No hydrophytic vegetation indicators met.
Prevalence Index test not warranted due to lack of wetland hydrology.

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 - 4	5Y 4/1	100	-	-	-	-	Sand	Sand
4 - 10	5Y 3/1	90	2.5Y 6/6	10	C	M	Sand	Sand with gravel

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: None

Depth (inches): ---

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator S5 (Sandy Redox). However, prior clearing and grading activities likely resulted in the placement of fill material which can typically contain unnatural redoximorphic features or depleted matrices.

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 indicators observed.

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

Project/Site: International Place City/County: Dupont/Pierce Sampling Date: 6/11/2020

Applicant/Owner: Panattoni Development Company, Inc. State: WA Sampling Point: DP-2

Investigator(s): Jacob Layman, Ben Wright Section, Township, Range: 24 / 19N / 1E

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

Subregion (LRR): A2 Lat: 47.112760 Long: -122.62487635 Datum: WGS 84

Soil Map Unit Name: Spanaway gravelly sandy loam NWI classification: N/A

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

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

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

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

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

Remarks:
Not all three wetland criteria met; only hydric soil present due to the prior placement of fill material. Data collected on the eastern portion of the subject property.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	40	Yes	FAC
2. Pseudotsuga menziesii	5	No	FACU
3. Arbutus mensiesii	1	No	UPL
4.			
	46	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Buddleja davidii	15	Yes	FACU
2. Cytisus scoparius	5	Yes	UPL
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1. Arctostaphylos uva-ursi	50	Yes	FACU
2. Hypericum perforatum	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 45

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (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:
No hydrophytic vegetation indicators met.
Prevalence Index test not warranted due to lack of wetland hydrology.

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 - 15	10YR 3/1	98	10YR 5/6	2	C	M	Sand	Sand

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: None

Depth (inches): ---

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator S5 (Sandy Redox). However, prior clearing and grading activities likely resulted in the placement of fill material which can typically contain unnatural redoximorphic features or depleted matrices.

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 indicators observed.

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

Project/Site: International Place City/County: Dupont/Pierce Sampling Date: 6/11/2020

Applicant/Owner: Panattoni Development Company, Inc. State: WA Sampling Point: DP-3

Investigator(s): Jacob Layman, Ben Wright Section, Township, Range: 24 / 19N / 1E

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

Subregion (LRR): A2 Lat: 47.112791 Long: -122.62601533 Datum: WGS 84

Soil Map Unit Name: Spanaway gravelly sandy loam 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:
No wetland criteria met. Data collected on the western portion of the subject property.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	20	Yes	FACU
2. Populus balsamifera	15	Yes	FAC
3. Arbutus mensiesii	15	Yes	UPL
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. Buddleja davidii	25	Yes	FACU
2. Cytisus scoparius	10	Yes	UPL
3.			
4.			
5.			
	35	= Total Cover	
Herb Stratum (Plot size: 10 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (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:
No hydrophytic vegetation indicators met.
Prevalence Index test not warranted due to lack of wetland hydrology.

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 - 3	10YR 3/2	100	-	-	-	-	SaLo	Sandy loam with gravel
3 - 11	10YR 3/4	100	-	-	-	-	SaLo	Sandy loam with gravel

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: None

Depth (inches): ---

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators observed.

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 indicators observed.

Attachment E – Qualifications

All field inspections, jurisdictional wetland determinations, habitat assessments, and supporting documentation, including this ***Non-Wetland and Fish and Wildlife Habitat Assessment Technical Memorandum*** prepared for the ***International Place*** project site, were prepared by, or under the direction of, Ben Wright of SVC. The site inspections were performed by Jake Layman and Ben Wright, and report preparation was completed by Kyla Caddey and Kelly Kramer.

Ben Wright

Environmental Planner/Fisheries Biologist
Professional Experience: 18 years

Ben Wright is an Environmental Scientist with a varied background in lake ecology, stream ecology, fisheries biology, water quality and climate science. Ben has 13 years of experience at the federal level providing technical assistance for both the development of infrastructure projects and management of aquatic resources. He has experience developing biological assessments, water quality monitoring plans, and fisheries management plans. Ben has an additional 10 years of experience working on long-term ecological monitoring programs related to lakes, streams, water quality and climate.

Ben earned a Bachelor of Science degree in Genetics and Cell Biology with an emphasis in aquatic ecology from Washington State University and has a graduate certificate in Fisheries Management from Oregon State University. Ben's expertise includes endangered species monitoring, assessments and permitting, and NEPA documentation across disciplines gained during his work on federal highway projects. Ben also has experience in fish population assessments, utilizing genetic analysis, spawning escapement and movement studies. Ben has received formal training from the Washington State Department of Ecology in the Using the Revised 2014 Wetland Rating System for Western Washington, How to Determine the Ordinary High Water Mark, Navigating SEPA, How to Conduct a Forage Fish Survey and Puget Sound Costal Processes, Shoreline Modifications and Beach Restoration.

Jake Layman

Environmental Scientist
Professional Experience: 10+ years

Jake Layman is an Environmental Scientist with a varied background in fisheries, wildlife, and aquatic invertebrate biology and stream and lake ecology. Jakes's expertise includes endangered species monitoring, lake limnology assessments, water chemistry profiles, off-channel habitat characterization, laboratory management, and terrestrial and aquatic amphibian identification with associated habitat assessments. Jake also has experience in fish population assessments, stream typing, spawning escapement, environmental disaster recovery, and amphibian toxicology research. Jake has over 10 years of experience at the federal and state level conducting ecological monitoring surveys throughout eastern and western Washington. He worked with the National Park Service to conduct environmental compliance monitoring on park construction projects, infrastructure maintenance projects, and federal highways projects. This position also included environmental spill response, fish exclusion surveys in support of construction, and effectiveness monitoring on Engineered Log Jam (ELJ) projects. Jake has worked with the Washington State Department of Fish and Wildlife (WDFW) to assess and inventory fish passage barriers and monitor culvert removal projects throughout Western Washington. While working for WDFW, Jake managed the daily operation for the intensive habitat study, on off-channel wetlands, for the Chehalis Aquatic Resources Protection Plan (ASRP).

Jake earned Bachelor's degrees in both Biology, with an Ecology specialization, and Geography, with a Natural Resource Management specialization, from Central Washington University. In addition, Jake also has a Minor in Environmental Studies and a Certificate in Geographic Information Systems (GIS) and Cartography form Central Washington University. Jake has received 40-hour wetland delineation training (Western Mtns, Valleys, & Coast and Arid West Regional Supplement), Jake has received training from the Washington State Department of Ecology in Environmental Negotiations; Navigating SEPA; Conducting Forage Fish Surveys; Puget Sound Coastal Processes, Shoreline Modifications, and Beach Restoration; Using the Marine Shoreline Design Guidelines for Marine Shoreline Stabilization; How to Determine the Ordinary High Water Mark; and Using the Revised Washington State Wetland Rating System (2014) in Western Washington.

Kyla Caddey

Environmental Scientist & Certified Ecologist
Professional Experience: 6 years

Kyla Caddey is an Environmental Scientist with a diverse background in riparian habitat restoration, stream and wetland ecology, wildlife ecology and conservation, and wildlife and natural resource assessments and monitoring. Kyla has advanced expertise in report preparation, grant writing, environmental education, data compilation and statistical analysis. Kyla has field experience performing in-depth studies in both the Pacific Northwest and Central American ecosystems. She currently performs wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects.

Kyla earned a Bachelor of Science degree in Environmental Science and Resource Management from the University of Washington, Seattle with a focus in Wildlife Conservation and a minor in Quantitative Science. Ms. Caddey is a Certified Ecologist through the Ecological Society of America. She has received 40-hour wetland delineation training (Western Mtns, Valleys, & Coast and Arid West Regional Supplement), is a Pierce County Qualified Wetland Specialist and Wildlife Biologist, and is a USFWS-approved Mazama pocket gopher survey biologist. Kyla has been formally trained through the Washington State Department of Ecology, Coastal Training Program, and the Washington Native Plant Society in winter twig and grass, sedge, and rush identification for Western WA; Using the Credit-Debit Method in Estimating Wetland Mitigation Needs; How to Determine the Ordinary High Water Mark; Using Field Indicators for Hydric Soils; How to Administer Development Permits in Washington Shorelines; Puget Sound Coastal Processes; and Forage Fish Survey Techniques. Additionally, she has received formal training in preparing WSDOT Biological Assessments.