

HABITAT TECHNOLOGIES

CRITICAL AREAS ASSESSMENT - Surface Water Drainages and Fish and Wildlife Habitat Conservation Areas -

EAST TOWN CROSSING

**PARCELS 0420351026, 0420351029, 0420351030,
0420264021, 0420264053, 0420264054, and 0420351066**

**CITY OF PUYALLUP #P-21-0034
2902 East Pioneer
City of Puyallup, Pierce County, Washington**

*This document has been revised to incorporate comments
provided by City of Puyallup review*

prepared for

**Mr. Greg Hellie
@ East Town Crossing
1001 Shaw Road
Puyallup, Washington 98371**

prepared by

**HABITAT TECHNOLOGIES
P.O. Box 1088
Puyallup, Washington 98371-1088
253-845-5119**

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**wetlands, streams, fisheries, wildlife – mitigation and permitting solutions
P.O. Box 1088, Puyallup, Washington 98371
253-845-5119 contact@habitattechnologies.net**

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INTRODUCTION

This document details the culmination of activities and onsite evaluations undertaken to complete an assessment and characterization of specific critical areas (drainage corridors/natural waters, critical fish and wildlife habitat areas) as an element of the planning for future proposed onsite development actions and the required repair of an existing stormwater detention pond facility located within the southeastern corner associated with the proposed **East Town Crossing Multi-Family Residential Community** (City of Puyallup #P-21-0034). The assessment and characterization of wetlands - along with a *Biological Assessment* - have been completed and documented by John Comis Associates (JCA 2020 and 2021). The project site consisted of seven (7) existing parcels of record (Parcels 0420351026, 0420351029, 0420351030, 0420264021, 0420264053, 0420264054, and 0420351066) located at the southeastern corner of the intersection of Pioneer Way East and Shaw Road East within the City of Puyallup, Pierce County, Washington (Figure 1). The goal of this assessment and characterization approach is to ensure that planned site development does not result in adverse environmental impacts to these specific critical areas or their associated protective buffers.

The assessment and characterization of specific critical areas (drainage corridors/natural waters, critical fish and wildlife habitat areas) within and immediately adjacent to the project site followed the methods and procedures defined in the *Stream Visual Assessment Manual* (USFWS), the *Stream Visual Assessment Protocol Version 2* (USDA 2009), the Washington State *Shoreline Management Act* (SMA), guidance provided by the Washington Department of Fish and Wildlife for fish assessment protocols, the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030), and City of Puyallup – *Chapter 21.06*. This document does not provide an assessment of potential onsite or adjacent wetlands, potential steep slopes, potential erosion hazard areas, potential geotechnical issues, potential septic suitability, potential flood hazard areas, or potential aquifer recharge.

The development of this new multi-family residential community would be consistent with the City of Puyallup Comprehensive Plan, local zoning, the character of the neighborhood, and the provisions of the City of Puyallup Chapter 21.06. To ensure consistency with applicable local, state, and potentially federal aquatic resource regulations a separate compensatory mitigation program document would be prepared for review and verification following the acceptance of the findings of this *Surface Water Drainages and Fish and Wildlife Habitat Conservation Areas* document along with the documents (*Wetlands Delineations* and *Biological Assessment*) prepared by John Comis Associates.

PROJECT SITE DESCRIPTION

The project site was approximately 11-acres in size and irregular in shape. The project site had undergone prior permitted land use actions generally associated with future proposed site development actions. These prior permitted land use actions included the development of a stormwater detention pond, the removal of existing old homesites and outbuildings, clearing and grading, and the placement of imported fill materials to facilitate future proposed site development actions.

The project site was located within a quickly, more intensely developing area along the Shaw Road and Pioneer Way Corridors which is generally changing from prior single-family homesites on moderately sized parcels into commercial developments to meet the growing needs of the City of Puyallup and other local communities.

Directions to Project Site: From the City of Puyallup City Hall turn north onto 2nd Street SE and continue to East Pioneer. Turn east onto East Pioneer and continue generally easterly to Shaw Road East. The project site is located at the southeastern corner of the intersection of Pioneer Way East and Shaw Road East.

BACKGROUND INFORMATION

NATIONAL WETLAND INVENTORY

The *National Wetland Inventory (NWI) Mapping* completed by the U.S. Fish and Wildlife Service was reviewed as a part of this assessment (Figure 2). This mapping resource did not identify any wetlands or surface water drainages within or immediately adjacent to the project site.

STATE OF WASHINGTON PRIORITY HABITATS AND SPECIES

The State of Washington *Priority Habitats and Species (PHS) Mapping* was reviewed as a part of this assessment (Figure 3). This mapping resource did not identify any priority habitats or species within the project site. This mapping resource did identify a wetland and biodiversity area/corridor offsite to the southeast of the project site. This biodiversity area/corridor was generally associated with the forested hillside.

STATE OF WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

The State of Washington Department of Fish and Wildlife (WDFW) *SalmonScape Mapping* was reviewed as a part of this assessment (Figure 4). This mapping resource did not identify any wetlands or surface water drainages within or immediately adjacent to the project site.

STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

The State of Washington Department of Natural Resources (WDNR) *Water Type Mapping* was reviewed as a part of this assessment (Figure 5). This mapping resource did not identify any surface water drainages or wetlands within or immediately adjacent to the project site. This mapping resource did identify a surface water drainage and a wetland area well offsite to the southwest of the project site. downslope to the north of the eastern boundary of the project site.

CITY OF PUYALLUP MAPPING

The City of Puyallup *Mapping Inventory* was reviewed as a part of this assessment (Figure 6). This mapping resource identified two (2) verified and one (1) unverified wetlands within the project site. This mapping resource also identified a stream entering a stormwater pond facility at the very southeastern corner of the project site.

SOILS MAPPING

The *Soil Mapping Inventory* completed by the Natural Resource Conservation Service was reviewed as a part of this assessment (Figure 7). This mapping resource identified the soils throughout the northern portion of the project site as Briscot loam (6A). This soil series is defined as poorly drained, as formed in alluvium, and as “hydric” in character.

This mapping resource identified the soil within the southern portion of the project site as Puyallup fine sandy loam (31A). This soil series is defined as well drained, as formed in sandy mixed alluvium, and as not “hydric” in character.

PRIOR ASSESSMENTS

A series of wetland assessments have been completed and documented by John Comis Associates, Inc. for this project site. These assessments identified that the entire project site exhibited upland characteristics and did not contain areas that met all three of the established wetland criteria. The findings outlined in these delineation reports (JCA 2020 and 2021) along with and *Biological Assessment* (JCA 2021) have been submitted to the City of Puyallup for review and verification.

Electroshock fish assessments pursuant to USFWS protocols were completed for isolated segments (block nets) of Deer Creek west and south of the intersection of East Pioneer Way and 25th Street SE by the Puyallup Tribe during the spring of 1983. These fish assessments documented the presence of juvenile coho salmon (*Oncorhynchus kisutch*), juvenile rainbow/steelhead trout (*Oncorhynchus mykiss*), juvenile cutthroat trout (*Oncorhynchus clarkii*), sculpin (*Cottus* spp.), Western brook lamprey (*Lampetra richardsoni*), and threespine stickleback (*Gasterosteus aculeatus*) within Deer Creek

west and south of the intersection of East Pioneer Way and 25th Street SE. These fish assessments did not identify fish utilization of the ditch along East Pioneer Way east of 25th Street SE (Puyallup Tribal Fisheries Management Division, 1983 Annual Report, unpublished).

ONSITE ANALYSIS

CRITERIA FOR CRITICAL AREAS IDENTIFICATION

This assessment focuses on specific critical areas (surface water drainage corridors, and fish and wildlife habitats) which may be located within or immediately adjacent to the project site. This document does not provide an assessment of potential steep slopes, potential erosion hazard areas, potential geotechnical issues, potential septic suitability, potential flood hazard areas, or potential aquifer recharge. The assessment and characterization of potential wetlands - along with a *Biological Assessment* – within or immediately adjacent to the project site has been completed and documented by John Comis Associates (JCA 2020 and 2021).

STREAMS: A “stream” is defined by the City of Puyallup as a feature where surface waters produce a defined channel or bed. A defined channel or bed is an area that demonstrates clear evidence of the passage of water and includes, but is not limited to, bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round. This definition is not intended to include artificially created irrigation ditches, canals, storm or surface water devices, or other entirely artificial watercourses, unless they are used by salmonids or created for the purposes of stream mitigation.

CRITICAL FISH AND WILDLIFE HABITAT AREAS: The City of Puyallup defines “fish and wildlife habitat conservation areas” as those areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term.

- (a) These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors, and areas with high relative population density or species richness. These areas also include locally important habitats and species as determined by the city.
- (b) “Habitats of local importance” designated as fish and wildlife habitat conservation areas include those areas found to be locally important by the city.
- (c) These areas do not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by a port district

or an irrigation district, unless these features are documented as being used by salmonids for habitat.

STUDY METHODS

Habitat Technologies completed a series of onsite assessments from March through mid-July 2021. In addition, Habitat Technologies has completed similar assessments for adjacent parcels over the past few decades, and Thomas Deming of Habitat Technologies was the lead Environmental/Habitat Biologist with the Puyallup Tribal Fisheries Management Division during the prior 1908's Tribal assessments of the Deer Creek System. As noted above, the assessment of potential onsite wetlands along with a *Biological Assessment* have been completed by John Comis Associates (JCA 2020, 2021). As such, the overall objective of the March through mid-July 2021 assessments was to define and characterize those potential "stream" and "fish and wildlife habitat conservation areas" that may be present within or immediately adjacent to the proposed East Town Center Multi-Family Residential Community. Onsite activities were completed in accordance with methods and procedures defined in the *Stream Visual Assessment Manual* (USFWS), the *Stream Visual Assessment Protocol Version 2* (USDA 2009), the Washington State *Shoreline Management Act* (SMA), guidance provided by the Washington Department of Fish and Wildlife for fish assessment protocols, the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030), USFWS elector shocker fish assessments protocols (USFWS unpublished), and City of Puyallup – *Chapter 21.06*.

FIELD OBSERVATION

The project site was accessed via an existing driveway connection to Shaw Road East along the western boundary of the project site and by an existing driveway connection to Pioneer Way East along the northern boundary of the project site. The entire project site has been previously graded and leveled for proposed future site development planning. As a part of prior City of Puyallup permitted actions a stormwater detention pond had been created in the southeastern corner of the project site. This stormwater detention pond presently services the developed areas to the south-southwest and the outlet for this stormwater detention pond is confined within a buried pipe to outlet into a previously created ditch system associated with Pioneer Way East.

- **Soils and Hydrology**

ONSITE: The soil characteristics and hydrology patterns throughout the project site had been altered by prior permitted land use actions. These permitted actions were completed consistent with City of Puyallup permitting approval. As presently defined within the wetland delineation reports prepared by John Comis Associates (JCA 2020,2021) no portion of the project site was identified to exhibit prominent field characteristics typically associated with hydric soils or wetland hydrology patterns.

OFFSITE: The project site was bound on the north and west by existing public roadways and on the south by existing developed parcels. The parcels to the east had been managed for the production of agricultural crops for several decades and had included the development of an existing single-family homesites along with the development and management of a buried utility corridor (Northwest Pipeline – Williams Company) was also present offsite from southwest to northeast at the very southeastern corner of the project site. However, more recently the annual agricultural crop production for the property to the east had been limited and the much of the area has become dominated by reed canarygrass (*Phalaris arundinacea*).

Prior land use actions within the property to the east was primarily associated with agricultural management/production and had created an excavated ditch generally from the toe of slope of the hillside offsite to the southeast toward the southern quarter of the eastern boundary of the project site (Ditch 1). At the eastern boundary of the project site this excavated ditch turned northward and followed the eastern project boundary to enter an excavated ditch associated with the Pioneer Way East Corridor. This excavated ditch was observed to exhibit an active channel width (distance between the ordinary high water marks along each side of the channel) of less than 24-inches during the very early spring of 2021 (Figure 9). However, since the majority of seasonal surface water within this ditch was directed into the onsite stormwater pond the actual presence and movement of seasonal surface water within Ditch 1 was very limited and generally absent after early April 2021. Ditch 1 was dominated by silts and dense roots from reed canarygrass. Surface flow patterns within Ditch 1 appeared best defined as seasonal based on this assessment and prior assessments within the area. This excavated ditch was not identified as meeting the criteria for designation as a “stream” within the John Comis Associates, Inc. Wetland Reports (JCA 2020, 2021).

Another excavated ditch was present near the southeastern corner and extended southward of the project site (Ditch 2). As part of the management of the buried utility corridor that segment of this excavated ditch associated with this utility corridor adjacent to the southwestern portion of the project site was placed within an 8-inch pipe to convey seasonal runoff to the north to meet with Ditch 1 and to continue northward along the eastern boundary of the project site. As noted in early July 2021 surface water continued to flow out of the northern end of the buried 8-inch pipe associated with Ditch 2 and then to enter the onsite stormwater detention pond.

More recently, a seasonal clog of alluvial materials at the confluence of the excavated ditch across the parcel to the east (Ditch 1) and the piped ditch drainage from the south (Ditch 2) resulted in the erosion of the berm associated with the onsite stormwater detention pond within the southeastern corner of the project site. As a result of this erosion and berm failure the surface water within Ditch 1 and Ditch 2 entered the northern cell of the created onsite stormwater detention pond rather than continuing northward along the eastern boundary of the project site. Surface water from this stormwater detention pond entered a control outlet and was conveyed via a buried pipe

system to outlet into the roadside ditch system associated with Pioneer Way East along the northern boundary of the project site (Figure 9).

A managed roadside ditch system associated with southern side of the Pioneer Way East right of way was present along the northern boundary of the project site. This roadside ditch system conveyed stormwater runoff from the road corridor and adjacent developed and agriculturally managed properties to eventually enter Deer Creek, a tributary to the Lower Puyallup River, to the west of the project site near the intersection of 25th Street SE and Pioneer Way East. As noted above, Deer Creek has been documented to provide habitats for salmonid fish species (genus *Oncorhynchus*). However, based on prior assessments the roadside ditch associated with Pioneer Way East to the east of the intersection of 25th Street SE and Pioneer Way East has not been documented to provide habitats for salmonid fish species even though there are no documented complete passage barriers between Deer Creek and the project site.

- **Ordinary High Water Mark**

The ordinary high water mark for both Ditch 1 and Ditch 2 were defined consistent with the provisions of the Washington State *Shoreline Management Act* (SMA), guidance provided by the Washington Department of Fish and Wildlife for stream assessment protocols, and the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030). As noted in the SMA the ordinary high water mark is defined as:

“ That mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland.”

The ordinary high water mark for Ditch 1 was determined at three (3) locations east of the project site and at four (4) locations along the eastern boundary of the project site north of the intersection of Ditch 1 and Ditch 2. The ordinary high water mark for Ditch 2 was unable to be determined adjacent to the project site since this segment had been placed within an eight (8) foot buried stormwater pipe. The defined locations along Ditch 1 were randomly selected at an approximately 20 to 25 foot interval as measured from the confluence of Ditch 1 and Ditch 2 (Figure 9). Since the Ditch 1 channel was dominated by dense reed canarygrass the movement of surface water within these ditches did not form a well-defined mark. As such, the ordinary high water mark was identified based on changes in the marks upon the vegetation.

- Ditch 1 southeast of the intersection of Ditch 1 and Ditch 2

DISTANCE FROM INTERSECTION	CHANNEL WIDTH AT OHWM	NOTES
SE approx. 20 feet	23 in.	Dense reed canarygrass
SE approx. 40 feet	21 in.	Dense reed canarygrass
SE approx. 65 feet	22 in.	Dense reed canarygrass - pipeline

Ditch 1 north of the intersection of Ditch 1 and Ditch 2

DISTANCE FROM INTERSECTION	CHANNEL WIDTH AT OHWM	NOTES
SE approx. 20ft	22 in.	Dense reed canarygrass
SE approx. 50 feet	24 in.	Dense reed canarygrass
SE approx. 75 feet	25 in.	Dense reed canarygrass
SE approx. 95 feet	24 in.	Dense reed canarygrass

The ordinary high water mark for Ditch 3 along Pioneer Way East was identified at the approximate mid-slope along the channel. This channel has been somewhat routinely managed as a part of Pioneer Way East and exhibited somewhat vertical slope and was dominated by dense vegetation.

- **Vegetation**

The plant community throughout the project site has been altered by prior permitted land use actions. Observed species included sapling red alder (*Alnus rubra*), sapling black cottonwood (*Populus trichocarpa*), evergreen blackberry (*Rubus laciniatus*), Himalayan blackberry (*Rubus armeniacus*), trailing blackberry (*Rubus ursinus*), Scots broom (*Cytisus scoparius*), rose (*Rosa* spp.), snowberry (*Symphoricarpos albus*), rye (*Lolium* spp.), bluegrass (*Poa* spp.), bentgrass (*Agrostis tenuis*), orchardgrass (*Dactylis glomerata*), quackgrass (*Agropyron repens*), fescue (*Festuca* spp.), sweet vernal grass (*Anthoxanthum odoratum*), velvet grass (*Holcus lanatus*), reed canarygrass (*Phalaris arundinacea*), bracken fern (*Pteridium aquilium*), buttercup (*Ranunculus repens*), cat-ear (*Hypochaeris radicata* and *Hypochaeris lanatum*), clover (*Trifolium* spp.), daisy (*Bellis* spp.), mustard (*Brassica campestris*), plantain (*Plantago major*), Queen Annes lace (*Daucus carota*), sheep sorrel (*Rumex acetosella*), and dandelion (*Taraxacum officinale*).

The plant community associated with the created stormwater detention pond within the southeastern corner of the project site was dominated by young deciduous trees and shrubs. Observed species included black cottonwood, red alder, Pacific willow (*Salix lasiandra*), Sitka willow (*Salix sitchensis*), Douglas spiraea (*Spiraea douglasii*), blackberries, and reed canarygrass.

- **Fish and Wildlife Observations**

Species observed onsite, species that would be expected to utilize the habitats provided by the project site, and species that may potentially utilize the habitats provided by the project site included American crow (*Corvus brachynchos*), American robin (*Turdus migratorius*), house sparrow (*Passer domesticus*), red tailed hawk (*Buteo jamaicensis*), starling (*Sturnus vulgaris*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), song sparrow (*Melospiza melodia*), purple finch (*Carpodacus purpureus*), common bushtit (*Psaltriparus minimus*), house finch (*Carpodacus mexicanus*), black capped chickadee (*Parus atricapillus*), American goldfinch (*Carduelis tristis*), tree

swallow (*Tachycineta bicolor*), violet green swallow (*Tachycineta thalassina*), dark eyed junco (*Junco hyemalis*), Anna's hummingbird (*Calypte anna*), rufous hummingbird (*Selasphorus rufus*), common mallard (*Anas platyrhynchos*), Canada geese (*Branta canadensis*), great blue heron (*Ardea herodias*), black tailed deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), eastern cottontail (*Sylvilagus floridanus*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), deer mouse (*Peromyscus maniculatus*), voles (*Microtus* spp.), moles (*Scapanus* spp.), Norway rat (*Rattus norvegicus*), shrew (*Sorex* spp.), bats (*Myotis* spp.), Pacific tree frog (*Hyla regilla*), and common garter snake (*Thamnophis sirtalis*).

An assessment of potential fish species utilization of the ditches adjacent to the eastern and northern boundaries of the project site, along with the created stormwater pond within the southeastern corner of the project site, was completed on April 15, 2021. This assessment established isolated stream segments using 1/8-inch mesh block nets – one secured at the downstream end of the segment and one secured at the upstream end of the segment. Upon securing the block nets the sample team used fine-mesh dip nets to assess potential fish presence following the single-pass capture/release method. Any captured fish were placed within a bucket of fresh stream water for identification at the end of the single pass. Three segments were established – one approximately 75 feet in length within Ditch 1 southeast of the project site, one within the onsite storm pond starting at the eastern project site boundary and continuing to the outlet of the storm pond, and one approximately 100 feet in length within the ditch along Pioneer Way East starting at the outlet of the onsite storm pond and going westerly (downstream).

The April 15, 2021, assessment of potential fish species utilization within or adjacent to the project site failed to capture any fish species within any of the three sample segments. This assessment did identify a variety of aquatic invertebrates and several Pacific tree frogs, especially within the storm pond facility. Channel substrate was dominated by soft alluvial silts intertwined with grass. No area within or adjacent to the project site exhibited suitable gravel for salmonid fish species.

Surface flow within the assessment area of Ditch 1 southeast of the project site was minimal. The majority of the surface flow through the onsite stormwater detention pond was dominated by water released from the buried 8-inch pipe associated with the outlet of Ditch 2. Surface flow within the ditch along Pioneer Way East generally to the east of the outlet for the onsite stormwater detention pond was also minimal.

MOVEMENT CORRIDORS

The project site was located within a well urbanizing portion of the City of Puyallup and generally dominated by existing developments and public roadway corridors. As identified by onsite wildlife trials, small and medium mammals appeared to be moving throughout the project site – generally along the eastern boundary of the project site. The project site was within the seasonal migratory pathway for passerine birds and waterfowl.

STATE PRIORITY SPECIES

A few species identified by the State of Washington as “Priority Species” were observed onsite or potentially may utilize the project site and surrounding habitats. Priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance.

Game Species: “Game species” are regulated by the State of Washington through recreational hunting bag limits, harvest seasons, and harvest area restrictions. Game species observed to use the project site included black-tailed deer, common mallard, Canada goose, and mourning dove.

State Candidate: State Candidate species are presently under review by the State of Washington Department of Fish and Wildlife (WDFW) for possible listing as endangered, threatened, or sensitive. No State Candidate species were observed or have been documented to utilize the habitats provided within the project site.

State Sensitive: State Sensitive species are native to Washington and is vulnerable to declining and is likely to become endangered or threatened throughout a significant portion of its range without cooperative management or removal of threats. No State Sensitive species were observed or have been documented to utilize the habitats provided within the project site.

State Threatened: State Threatened species means any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats. No State Threatened species were observed or have been documented to utilize the habitats provided within the project site.

State Endangered: State endangered species means any species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state. No State Endangered species were observed or have been documented to utilize the habitats provided within the project site.

FEDERALLY LISTED SPECIES

The project site did not provide and has not been documented to provide critical habitats for federally listed endangered, threatened, or sensitive species. A single, federally listed “species of concern” – bald eagle – has been documented to utilize the habitats associated with the Puyallup River Corridor and a variety of the larger streams and ponds within the general City of Puyallup area. As such, this species may occasionally overfly the area of the project site.

Deer Creek to the west of the project site has been documented to provide habitats for coho salmon – a federally listed species of concern, and steelhead trout – a federally listed threatened species. However, the drainages associated with the project site, or the roadside ditch along Pioneer Way East – east of the intersection of this roadside ditch and Deer Creek - were not observed and has not been documented to provide critical habitats for these species.

CRITICAL AREAS DETERMINATION

WETLANDS

A series of assessments and evaluations of potential wetlands within or immediately adjacent to the project site was completed by John Comis Associates (JCA 2020, 2021). The wetland findings documented within these assessments have been submitted to the City of Puyallup for review and verification. These findings also concluded that the excavated ditch within the agricultural property to the east of the project site (noted as Ditch 1 within this report) would be best defined as an “agricultural drainage ditch” and exempt from regulation by the City of Puyallup.

STREAMS

As defined by onsite observations completed between March 2021 and mid-July 2021, along with prior assessments within the general vicinity of the project site dating back to 1983 of adjacent properties, seasonal surface water from the hillside area to the southeast of the project site forms within a shallow depression near the toe of slope. As defined within historical aerial photos, prior land use actions primarily associated with agricultural activities and the development of a pipeline corridor had created an excavated ditches to convey seasonal surface water generally to the northeast and then to the north to enter the ditch system associated with the Pioneer Way East Corridor. A pattern of excavated ditched continued generally westerly along the Pioneer Way East Corridor to enter the ditch Deer Creek System and then to continue generally northwesterly to eventually enter the Lower Puyallup River. The Deer Creek System has been documented by Habitat Technologies and by the Puyallup Tribe to provide habitats for a number of fish species to include coho salmon, steelhead/rainbow trout, cutthroat trout, threespine stickleback, bullhead, sculpin, and Western brook lamprey. However, these same assessments (particularly the 1983 assessment completed by the Puyallup Tribe) did not document fish utilization within the ditch system associated with the Pioneer Way East Corridor east of the confluence with Deer Creek.

Even though the drainage corridors offsite to the east and southeast of the project site have been modified by prior and ongoing land use actions generally associated with the management of agricultural ditches, these drainage corridors convey naturally occurring

surface water from an offsite wetland area (noted as Wetland A in the John Comis Associates wetland delineation assessments - JCA 2020, 2021) and eventually enter the Deer Creek System. As such, these offsite drainage corridors appear best defined as a City of Puyallup “streams” consistent with the provisions of the City of Puyallup *Chapter 21.06*. Both of these offsite ditches do not exceed a width of 24-inches and appear to exhibit seasonal surface flow patterns. These two drainage ditches also appear best defined as City of Puyallup Type IV Streams. The standard City of Puyallup buffer for a Type IV Stream is 35 feet in width as measured perpendicular from the ordinary high water mark (Figure 8).

- Type IV streams are those intermittent or ephemeral streams with channel width less than two feet taken at the ordinary high water mark, that are not used by anadromous fish or resident fish.

These offsite agricultural ditches eventually lead to the north and enter the ditch system associated with the Pioneer Way East Corridor. As such, the ditch system associated with the Pioneer Way East Corridor would also appear best defined as a City of Puyallup “streams” consistent with the provisions of the City of Puyallup *Chapter 21.06*. The ditch associated with the Pioneer Way East Corridor exhibits a width greater than 24-inches and seasonal surface flow patterns. This roadside drainage ditch also appear best defined as City of Puyallup Type III Streams. The standard City of Puyallup buffer for a Type III Stream is 50 feet in width as measured perpendicular from the ordinary high water mark.

- Type III streams are those streams with perennial or intermittent flow and are not used by anadromous fish.

- **WDFW ANALYSIS**

As a part of this assessment Habitat Technologies contacted Ms. Elizabeth Bockstiegel, WDFW Regional Biologist. Ms. Bockstiegel noted that she was familiar with the local area and the character of the drainage ditch to the southeast of the project site. Ms. Bockstiegel considers this drainage ditch to be a stream. As such, any work within the ordinary high water mark of this drainage – such as the repair of the stormwater pond – will require obtaining a HPA (hydrologic project approval) from the WDFW (Bockstiegel, per.comm 2021).

- **RECENT PUYALLUP TRIBAL ANALYSIS**

As a part of this assessment Habitat Technologies contacted Mr. Russ Ladley, Director, Puyallup Tribal Fisheries. Mr. Ladley noted that he was familiar with the local area and the character of the drainage ditches along Pioneer Way East. Mr. Ladley also noted, that along with staff from WDOE, the Puyallup Tribe has somewhat recently assessed fish utilization of the ditch system along Pioneer Way East and the Deer Creek System in the general area west and south of the intersection of 25th Street SE and Pioneer Way East. This assessment identified utilization by cutthroat trout of ditch along

Pioneer Way East at the intersection of 25th Street SE and Pioneer Way East. This assessment did not assess potential fish utilization of the ditch along Pioneer Way East to the east of this intersection (R. Ladley, per. comm 2021).

Unfortunately the recent Tribal assessment of the ditch system along Pioneer Way East did not continue to the east of the intersection of 25th Street SE and Pioneer Way East. While unknown, the decision to limit the recent Tribal assessments to exclude ditch along Pioneer Way East east of 25th Street SE may be based upon time limitations, or upon prior tribal assessments or the lack of suitable habitats at the time of the recent Tribal assessment.

FISH AND WILDLIFE HABITAT CONSERVATION AREAS

This assessment identified that the project site and adjacent properties had been manipulated and modified by a variety of prior and ongoing land uses. The project site was not identified to exhibit City of Puyallup “fish and wildlife habitat conservation areas.” The project site did not provide habitats of rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; areas with high relative population density or species richness; or City of Puyallup habitats of local importance.

SELECTED DEVELOPMENT ACTION

The *Selected Development Action* for the project site (Parcels 0420351026, 0420351029, 0420351030, 0420264021, 0420264053, 0420264054, and 0420351066) focuses on the development of a new multi-family residential community within the western portion of the project site. The development of this new multi-family residential community would be consistent with the City of Puyallup Comprehensive Plan, local zoning, the character of the neighborhood, and the provisions of the City of Puyallup Chapter 21.06.

To ensure consistency with applicable local, state, and potentially federal aquatic resource regulations a separate *Compensatory Mitigation Program Document* (if required) would be prepared for review and verification following the acceptance of the findings of this *Surface Water Drainages and Fish and Wildlife Habitat Conservation Areas* document and the *Wetlands Delineations and Biological Assessment* prepared by John Comis Associates (JCA 2020, 2021).

Presently Required Actions: Prior to the development of the proposed new multi-family residential community the existing stormwater detention pond within the southeastern corner of the project site require immediate repair. Recent flow patterns within the ditch system adjacent to the eastern project site boundary (Ditch 1 and Ditch 2) have caused a failure of the eastern berm of the stormwater detention pond such that seasonal surface water presently enters the stormwater detention pond rather than

being conveyed as designed and maintained northward within the adjacent excavated ditch. As such, seasonal surface water from these offsite ditches is presently mixing with surface water runoff from the adjacent developed properties within the existing stormwater detention pond and then entering the ditch system associated with the Pioneer Way East Corridor without adequate treatment or detention. Following coordination with the City of Puyallup, the Puyallup Tribe, and the WDFW this required repair action would be completed during the late summer of 2021 to ensure the protection of local water quality prior to the start of the fall/winter rainy season.

Upon the approval of the East Town Crossing project by the City of Puyallup the existing onsite stormwater detention and treatment system would be replaced with an underground perk pipe system. However, the stormwater inlet and outlet for this replacement system would not change from the existing locations.

STANDARD OF CARE

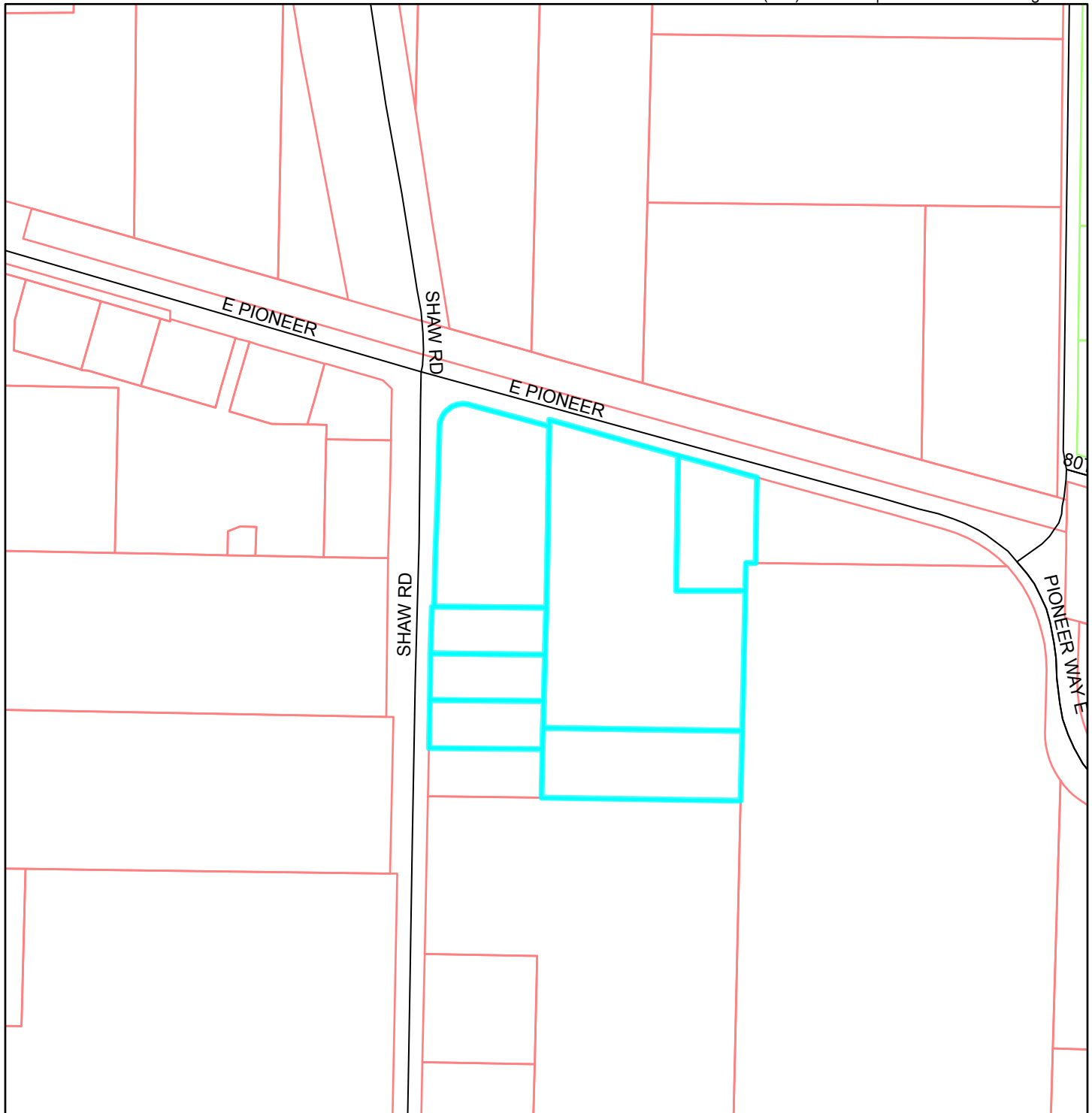
This report has been completed by Habitat Technologies for the use by **Mr. Greg Hellie**. Prior to extensive site planning the findings documented in this report should be reviewed, verified, and approved by City of Puyallup and potentially other resource and permitting agency(s) staff. Habitat Technologies has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. Habitat Technologies is not responsible for design costs incurred before this document is approved by the appropriate resource and permitting agencies.

Bryan W. Peck
Bryan W. Peck
Senior Wetland Biologist

Thomas D. Deming
Thomas D. Deming, SPWS
Habitat Technologies
(Appendix A)

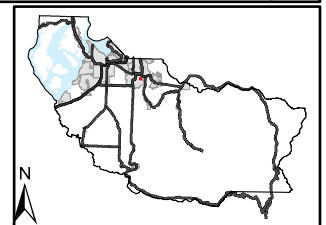
FIGURES

Figure 1 Site Vicinity



Legend

- Roads
- Condominium
- Tax Parcels
- Other
- Base Parcel



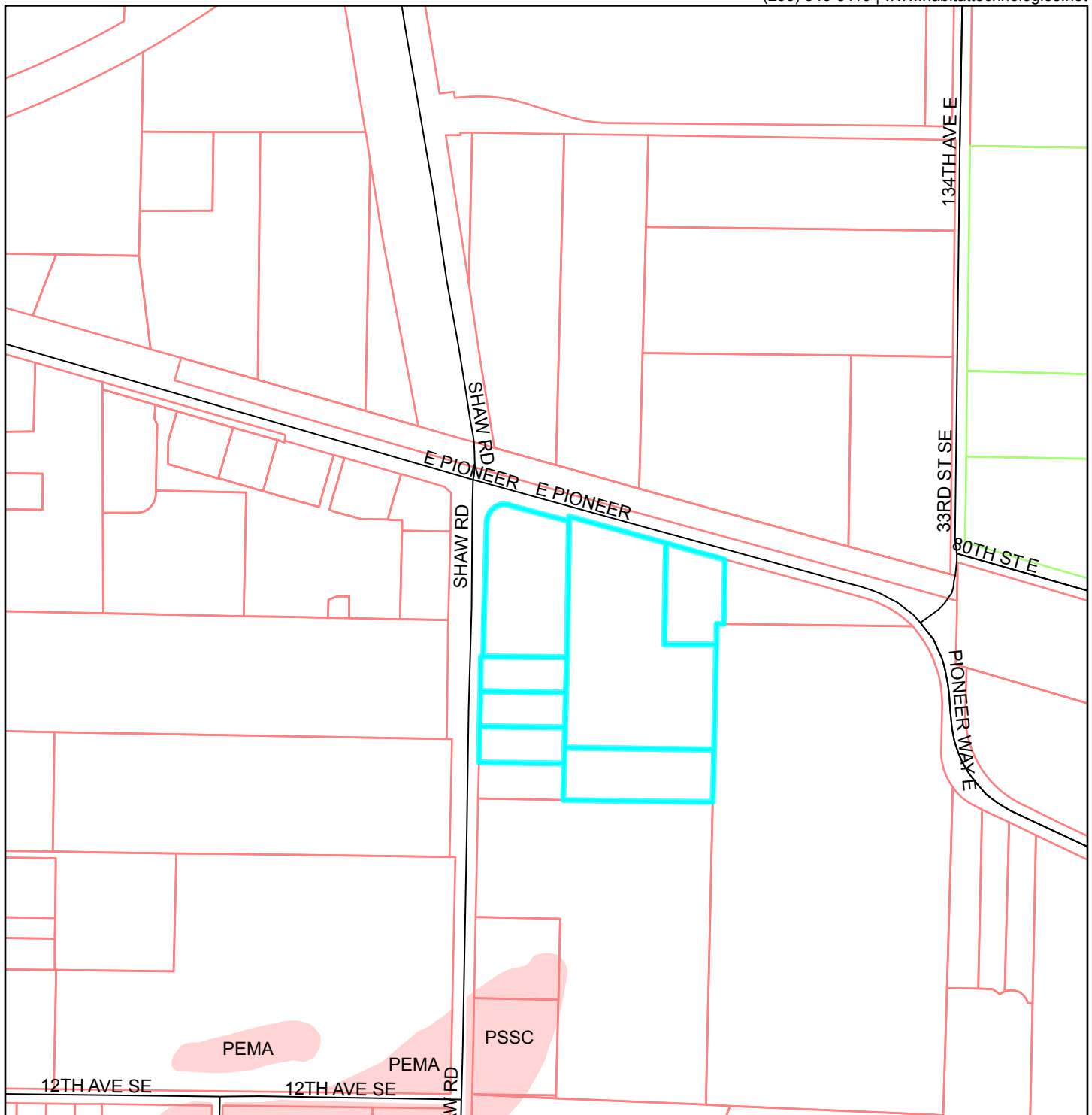
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0 80 160 320 Feet

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

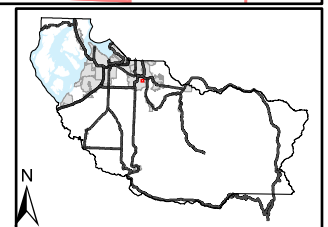
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Figure 2 NWI Mapping

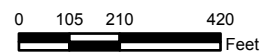


Legend

- Roads
- Tax Parcels
- Base Parcel
- Condominium
- Other
- National Wetlands Inventory



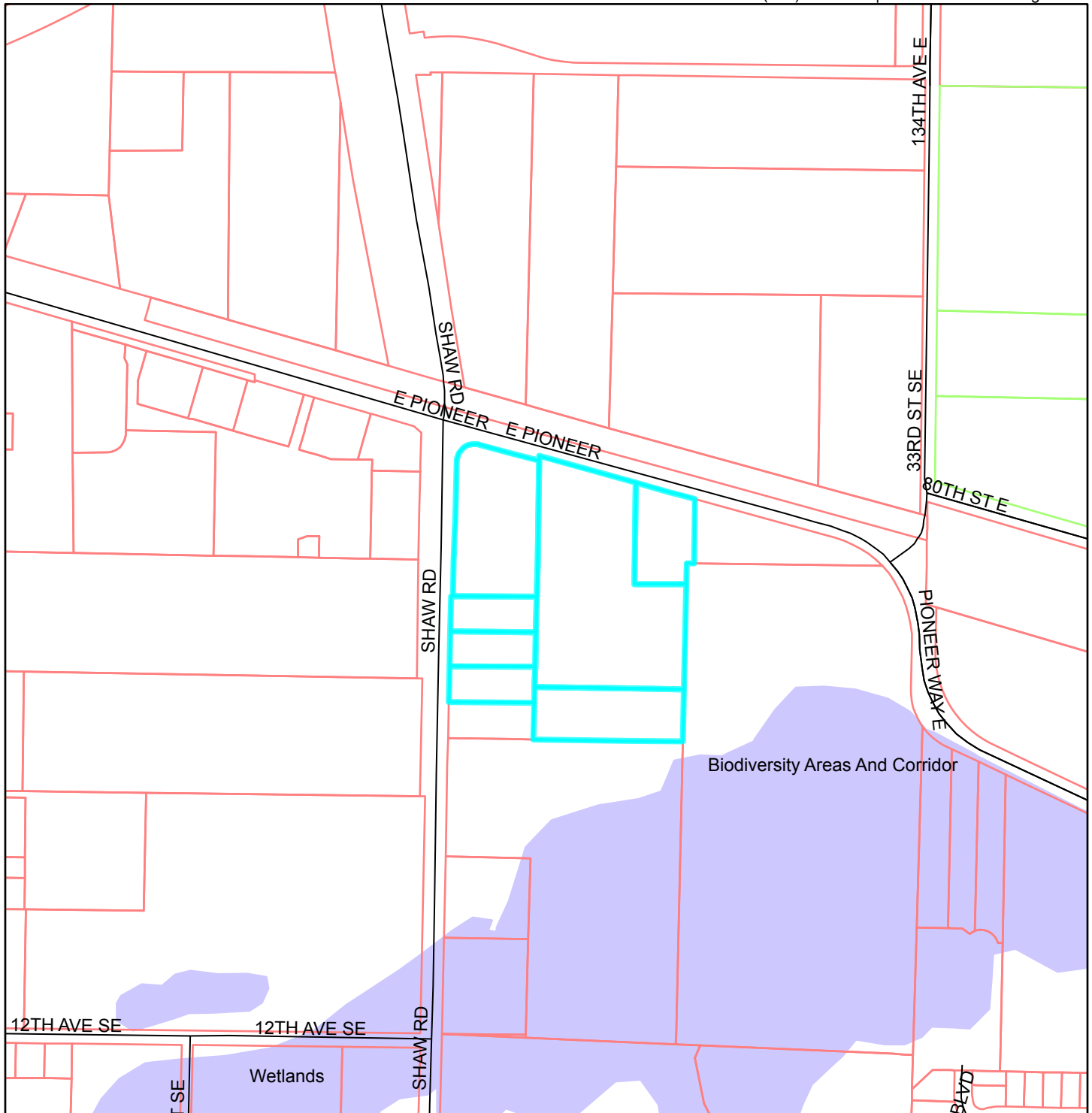
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The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

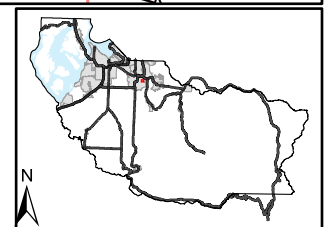
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Figure 3 PHS Mapping

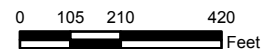


Legend

- Roads
- Tax Parcels
 - Base Parcel
 - Condominium
- Other
- Priority Habitat and Species



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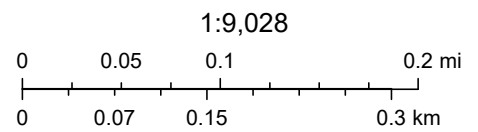
The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

Figure 4 WDFW Salmonscape Mapping



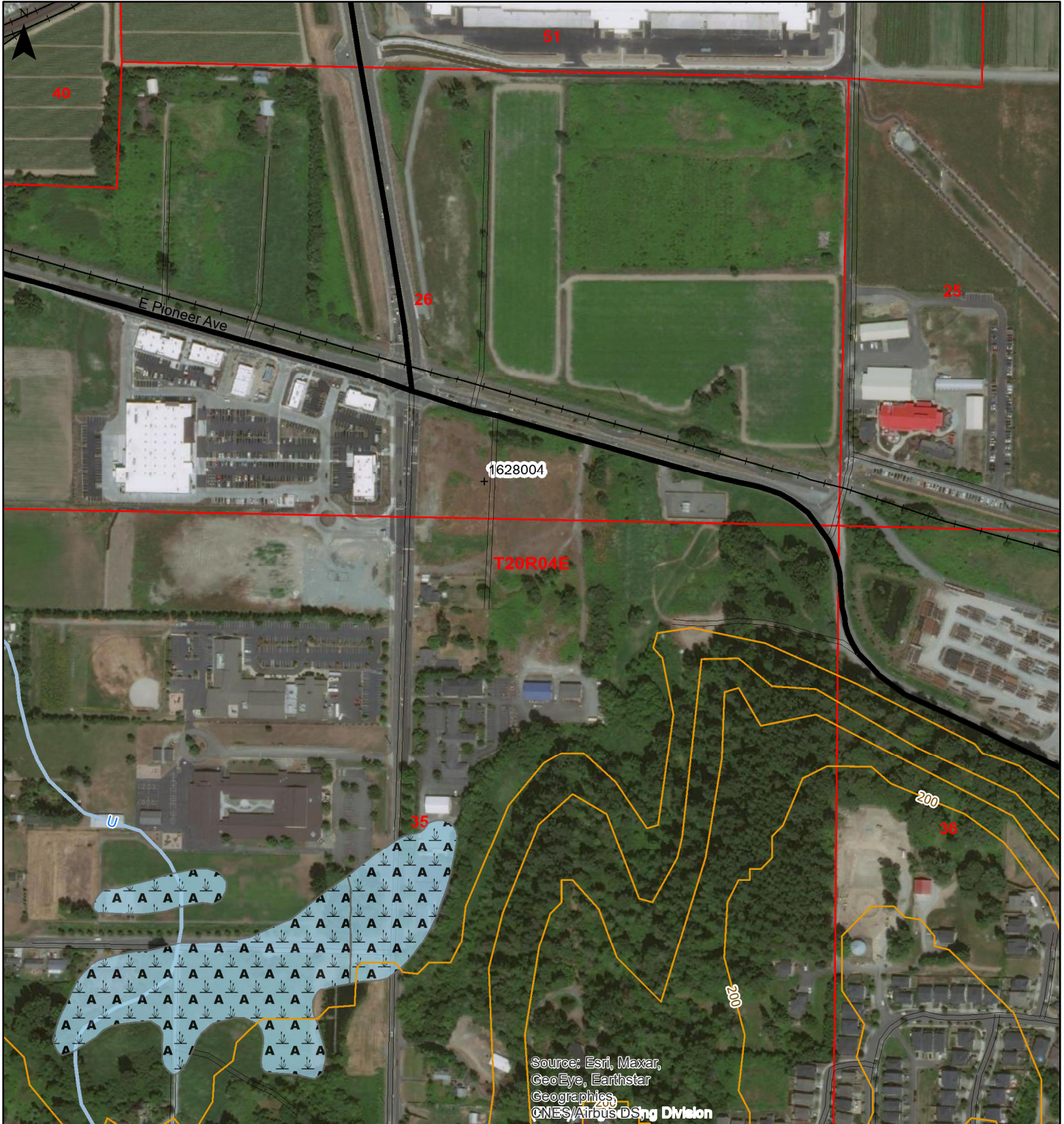
June 7, 2021

— All SalmonScape Species



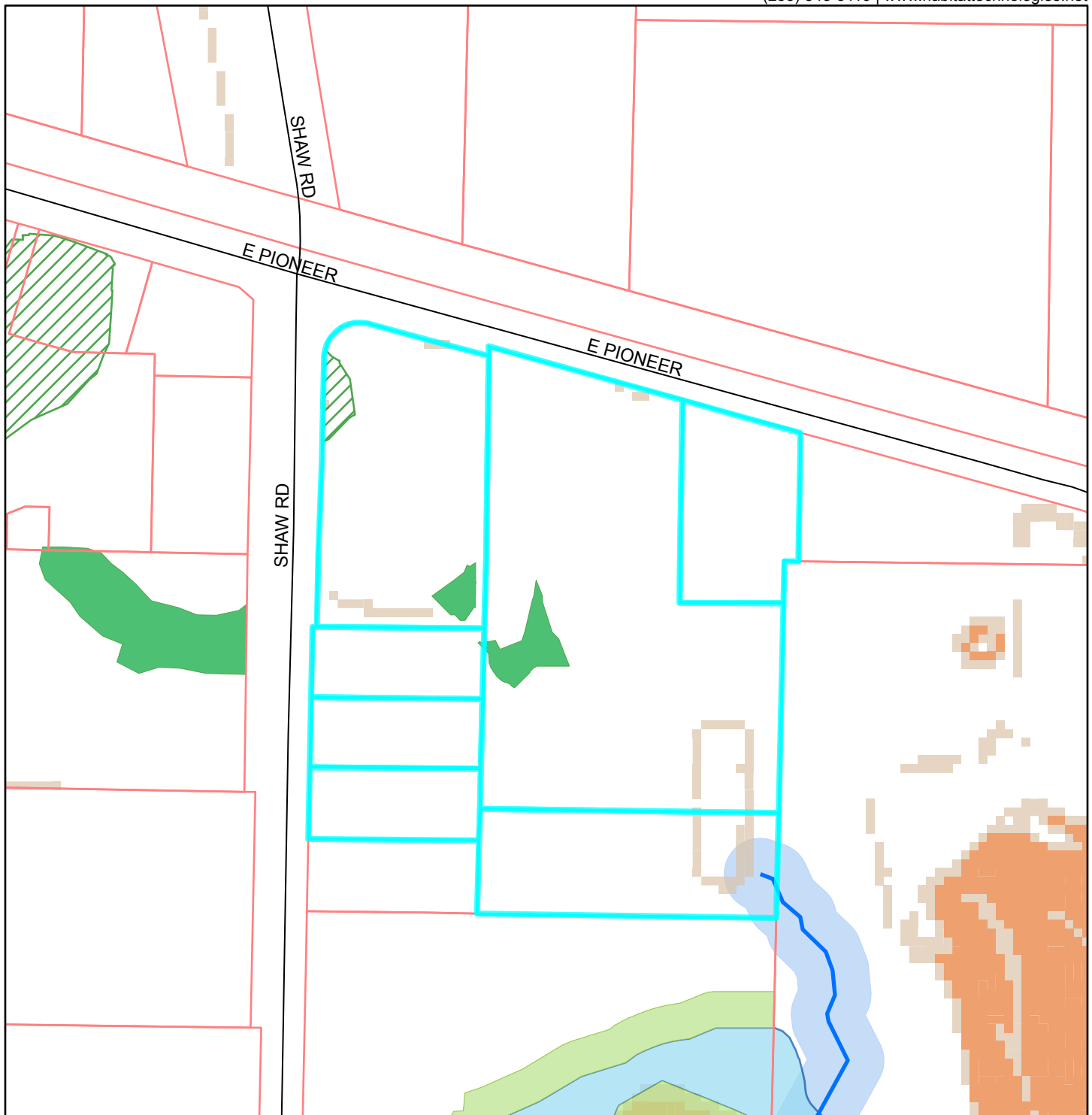
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, USGS/NHD, Dale Gombert (WDFW), WDFW

Forest Practices Water Type Map



Map Symbols	Additional Information	Legal Description
New Stream Proposed Water Type Stream Removal Break between water types	Start and End Point of Surveyed Reach Natural Fish Barrier Manmade Barrier End of Fish or Last Fish	S35 T20.0N R04.0E, S51 T20.0N R04.0E S26 T20.0N R04.0E, S36 T20.0N R04.0E S40 T20.0N R04.0E, S25 T20.0N R04.0E
	<p>Extreme care was used during the compilation of this map to ensure its accuracy. However, due to changes in data and the need to rely on outside information, the Department of Natural Resources cannot accept responsibility for errors or omissions, and therefore, there are no warranties that accompany this material.</p>	 Date: 6/7/2021 Time: 12:55:04 PM

Figure 6 Puyallup Mapping



Streams - Puyallup

— Roads

Tax Parcels

- Base Parcel
- Condominium
- Other

Wetlands - Puyallup

- Field-verified Delineated
- Field-verified
- Unverified
- Buffer
- Mitigation Site

Potential Landslide Hazard Areas - Puyallup

- 16% - 39%
- 16% - 39%
- 16% - 39%
- 16% - 39%
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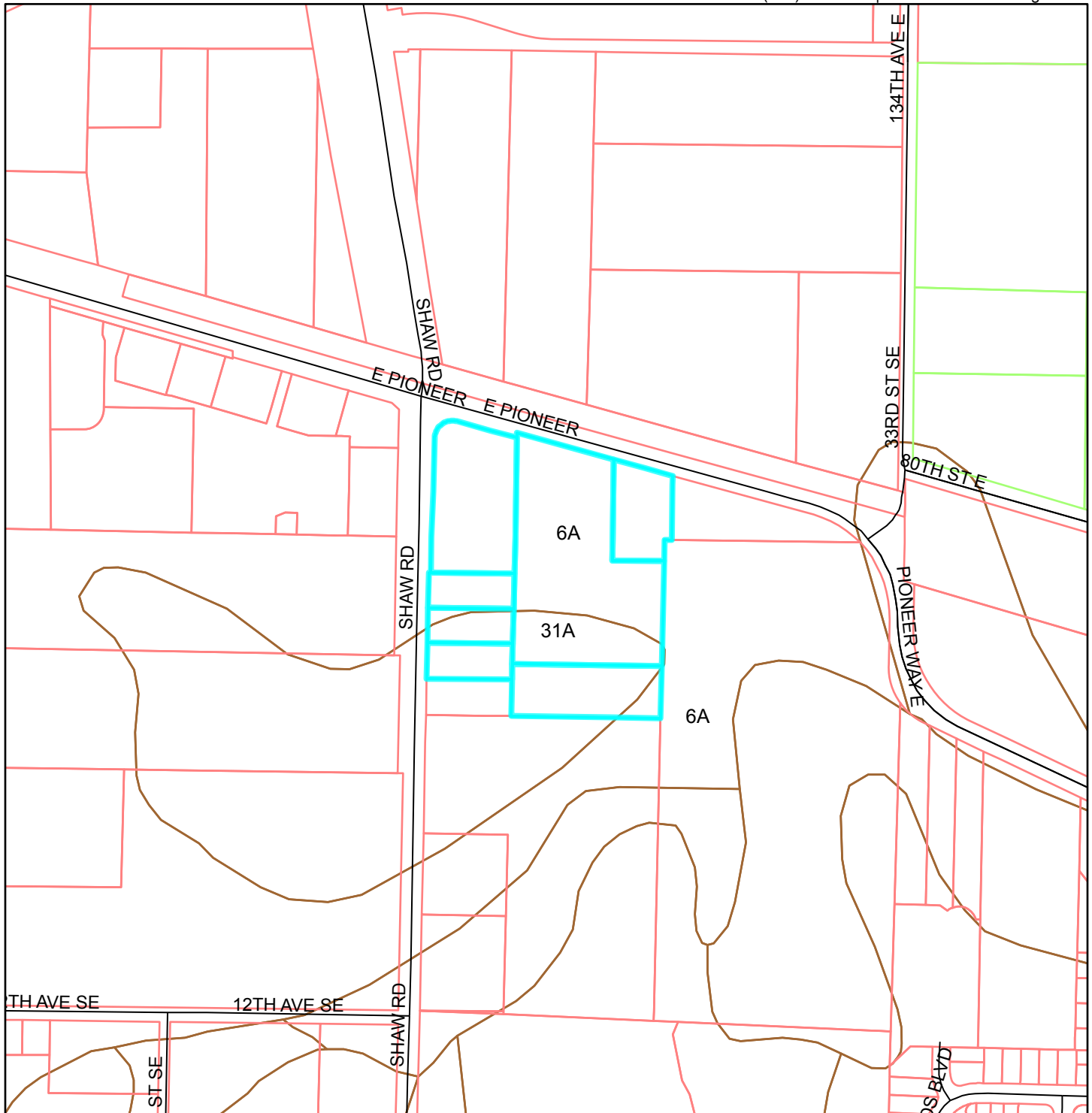
- 40% and Greater
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0 50 100 200 Feet

1:2,400

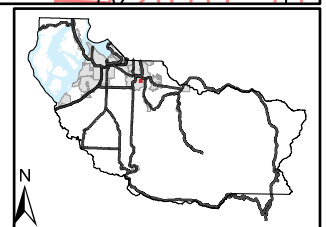
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Figure 7 Soils Mapping

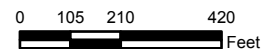


Legend

- Roads
- Tax Parcels
 - Base Parcel
 - Condominium
- Other
- Soils

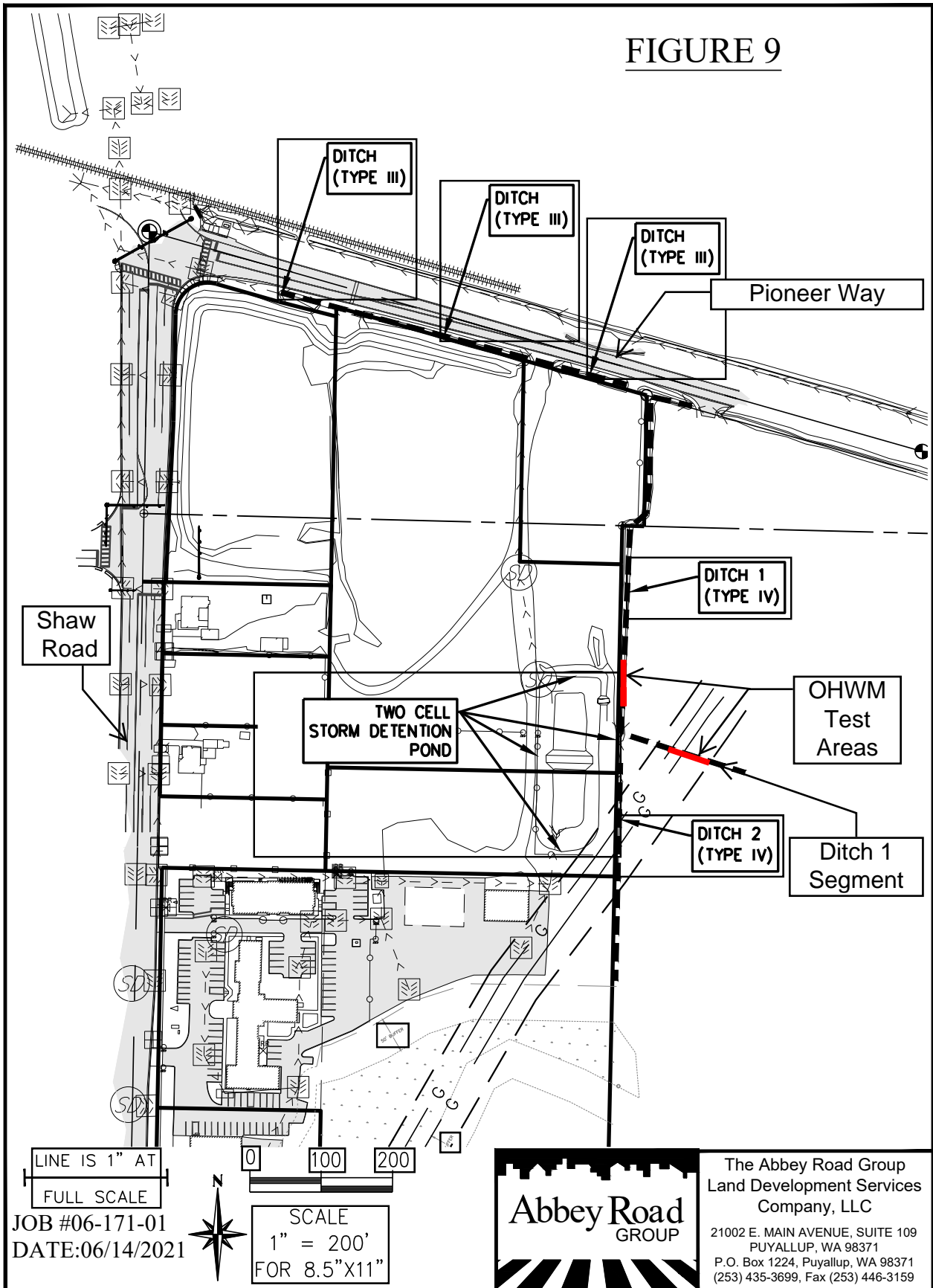


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The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

FIGURE 9

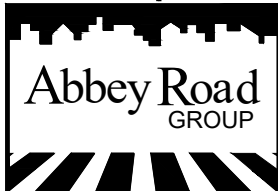


LINE IS 1" AT
FULL SCALE

JOB #06-171-01
DATE:06/14/2021



SCALE
1" = 200'
FOR 8.5"X11"



The Abbey Road Group
Land Development Services
Company, LLC
21002 E. MAIN AVENUE, SUITE 109
PUYALLUP, WA 98371
P.O. Box 1224, Puyallup, WA 98371
(253) 435-3699, Fax (253) 446-3159

REFERENCE AND BACKGROUND LIST

Adamus, P.R., E.J. Clairain Jr., R.D. Smith, and R.E. Young. 1987. Wetland Evaluation Technique (WET); Volume II: Methodology, Operational Draft Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

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Washington State Department of Natural Resources FPARS Mapping System, 2016 (for stream typing): <http://fortess.wa.gov/dnr/app1/fpars/viewer.htm>

APPENDIX A – Habitat Technologies Key Staff

HABITAT TECHNOLOGIES

THOMAS D. DEMING

Senior Professional Wetland Scientist - Certificate #447

EDUCATION:

University of Puget Sound, School of Law - <i>Juris Doctor</i>	Tacoma, WA	1987
Oregon State University	Corvallis, OR	
<i>Bachelor of Science - Wildlife Science</i>		1978
<i>Bachelor of Science - Fisheries Science</i>		1978

EXPERIENCE:

Freshwater and Estuarine Wetlands and Streams

- Evaluation and delineation of freshwater and estuarine wetland areas using federal and state guidelines (1987 Manual with 2010 Supplement, Washington State Wetland Rating System) and the U.S. Fish and Wildlife Service classification systems.
- Conducting wetland and stream function and value analysis evaluations.
- Development of workable wetland and stream impact mitigation programs and habitat restoration and enhancement plans. Included within these programs and plans is the development and implementation of post-mitigation monitoring programs.
- Completion of onsite technical support and project team coordination during the implementation of mitigation site construction and vegetation planting.
- Coordination of wetland project activities and permitting processes to obtain appropriate and timely permits and project completion within defined timelines.
- Identification and evaluation of plant communities within wetland, stream, buffer areas.

Wildlife and Fisheries

- Completion of Biological Evaluations (BE) for Threatened and Endangered Species following USFWS and NMFS guidelines.
- Completion of wildlife and fisheries habitat assessments to determine limiting factors of population dynamics and habitat utilization (both existing and potential).
- Completion of threatened and endangered species and habitat assessments for plants, fish, and wildlife to determine potential project impacts and restoration/enhancement.
- Development, implementation, and monitoring of restoration and enhancement projects within freshwater, estuarine, and upland habitats designed to improve wildlife and fisheries utilization and migration corridors.
- Preparation of wildlife and fisheries management prescriptions for both project-specific areas and basin-level planning processes.
- Development and implementation of hatchery components and operations for Chinook salmon, coho salmon, chum salmon, and steelhead trout culture.
- Coordination of wildlife and fisheries project activities and permitting processes to obtain appropriate and timely permits.

EMPLOYMENT HISTORY:

Habitat Technologies (sole proprietorship)	1997 to present
Watershed Dynamics, Inc. (equal owner)	1990 to 1997
Habitat Technologies (sole proprietorship)	1987 to 1990
Puyallup Tribal Fisheries Division (habitat biologist)	1979 to 1989

PROFESSIONAL AFFILIATIONS:

Washington State Bar Association (retired) - Society of Wetland Scientists

wetlands, streams, fisheries, wildlife – mitigation and permitting solutions
P.O. Box 1088, Puyallup, Washington 98371
253-845-5119 tom@habitattechnologies.net

HABITAT TECHNOLOGIES

In a nutshell, Habitat Technologies provides an expanded scope of environmental services for a diverse realm of clients over a wide range of project types. Our clients included private citizens, private companies (large and small), public and Tribal agencies, and local citizen groups. Our projects range from the single-family homeowner, through modest to very large commercial/industrial and residential developments, into public utilities installation and public port/industrial commission economic developments. Also included within this list of projects are local parks and environmental restoration actions undertaken by volunteer citizens, and programs undertaken by community groups.

Habitat Technologies provides estuarine, wetland, and stream identification and delineation; populations and physical habitat assessments; wetland functional value analysis; limiting factor evaluations; impact mitigation, restoration, and monitoring; water quality and hydrology analysis; analysis of threatened and endangered plants and animals; environmental permitting/resource agency interactions; and expert testimony critique/presentation. Habitat Technologies has actively planned, designed, and monitored the restoration, creation, and relocation of estuarine and freshwater wetlands, and stream/riparian corridors. These projects have involved the sampling and analysis of resource information, onsite evaluation and delineation, documentation of present fish and wildlife populations, and projection of future fish and wildlife habitat benefits. Such onsite work leads to the development of project elements which ensures the avoidance, minimization, and compensation of environmental impacts.

Other projects completed target the onsite evaluation of aquatic and terrestrial species utilization and available habitats. These projects involved formal and informal fish, bird, reptile, amphibian, and mammal surveys, with special emphasis given to raptors and threatened and endangered plants, fish, and wildlife.

An essential primary component of each project is the coordination of proposed project activities with local, state, and federal permitting and resource agencies, Indian tribes, and local private interests. Habitat Technologies targets permitting activities early in the project planning process to assure that the time required to obtain required environmental permits and costs associated with potential project design modifications are held to a minimum. We continue our coordination of these permitting activities through the entire process should public hearings or further actions be required.

Habitat Technologies has initiated several wetland mitigation projects which entail the creation of freshwater and estuarine wetlands from non-wetlands or degraded wetland areas. These creation activities target the enhancement of fish and wildlife habitats, as well as, the creation of plant communities native to the local area. One of the beneficial elements of such wetland creations is the establishment of a relatively low maintenance wetland area which provides essential habitats for native plant, fish, and wildlife species. Such creations can also become a very valuable amenity to the overall project.

HABITAT TECHNOLOGIES

Office Location: Habitat Technologies, 606 East Main, Suite C2, Puyallup, WA 98372

Mailing Address: Habitat Technologies, P.O. Box 1088, Puyallup, WA 98371

Contact Persons: **Thomas D. Deming and Bryan W. Peck**

Voice 253-845-5119

E-mail tom@habitattechnologies.net / bryan@habitattechnologies.net

Key Staff: **Thomas D. Deming** obtained a Bachelor of Science Degree in Fisheries Science in 1978, a Bachelor of Science Degree in Wildlife Science from Oregon State University in 1978, and a Juris Doctor Degree from the University of Puget Sound School of Law in 1987. Mr. Deming is a Certified Professional Wetland Scientist through the Society of Wetland Scientists since the inception of the certification program in 1995. Mr. Deming is also listed as an approved “wetland specialist,” approved “wildlife biologist,” and approved “fishery biologist” kept by Pierce County and a number of other local permitting jurisdictions.

Mr. Deming routinely provides site-specific assessments of wetlands, streams, fish/wildlife habitats and species presence, and endangered/threatened species to address proposed project related impacts within the federal, state, tribal, and local permitting processes. These assessments include a review of impact avoidance and impact mitigation associated with proposed actions and habitat restoration.

These assessments have included formal wetland boundary delineation using the *Corps of Engineers Wetland Delineation Manual* (1987 Manual); the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (2010 Supplement); the *Washington State Wetlands Rating System* (2004, 2008, 2014 versions); and local critical areas ordinances. These assessments have included onsite and offsite wetland and habitat evaluations, the review of existing reports, the preparation of associated mapping, the documentation of field observations and field assessment data within appropriate data forms, and the preparation of wetland rating worksheets following the criteria established within the Washington Department of Ecology Wetland Rating System for Western Washington. Mr. Deming has also completed an analysis of pre- and post-hydrology patterns associated with project related impacts, an analysis of existing and proposed plant community characteristics, an analysis of soil characteristics, and a wide variety of seasonal hydrology monitoring programs within existing wetlands and in created mitigation wetlands.

Mr. Deming has prepared permit application submittal materials (i.e. local critical areas ordinances, SEPA, NEPA, JARPA) to meet specific projects and has prepared compensatory mitigation plans and implementation/monitoring programs to address permitting requirements at the local, state, tribal, and federal levels. Mr. Deming has also been active in the development of administrative programs and is often called upon to provide expert witness testimony within court proceedings and public hearings.

Mr. Deming has both received and provided instruction in a wide variety of training in the use of the various federal and state manuals to accurately identify, define, and evaluate wetland, stream, wildlife, and estuarine/marine resources. Prior to starting Habitat Technologies Mr. Deming spent more than 10 years as an environmental biologist with the Puyallup Indian Tribe, as well as a number of prior short-term positions with the U.S. Fish and Wildlife Service, the U.S. Forest Service, the U.S. National Marine Fisheries Service, the Oregon Department of Fish and Wildlife, and as a commercial fisherman.

Mr. Deming has prepared and implemented restoration and enhancement programs to address wetlands, streams, and wildlife mitigation programs. These restoration and enhancement programs utilize native plants and natural habitat features to ensure project success and suitability to the project area. Mr. Deming has also undertaken a number of projects which focus on the development of local jurisdiction resource protection and stormwater management issues.

Key Staff: **Bryan W. Peck** obtained his work experience through on-the-job assessments and professional training since 1999. Mr. Peck is identified as an approved “wetland specialist” by Pierce County along with a number of other local jurisdictions, and has completed numerous site-specific assessments of wetland, stream, wildlife, and endangered/threatened species issues associated with a wide variety of proposed site development actions and habitat restoration projects. These assessments also addressed project related impact avoidance and unavoidable impact mitigation within the federal, state, and local permitting processes.

Mr. Peck has completed a variety of formal wetland boundary delineations using the *Corps of Engineers Wetland Delineation Manual* (1987 Manual); the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (2010 Supplement); the *Washington State Wetlands Rating System* (2004, 2008, 2014 versions); and local critical areas ordinances. These assessments have included onsite and offsite evaluations, the review of existing resource mapping data, the preparation of associated mapping, the documentation of field observations and field assessment data within appropriate data forms, and the preparation of wetland rating worksheets following the criteria established within the Washington Department of Ecology Wetland Rating System for Western Washington. Mr. Peck also provides an analysis of pre- and post-hydrology patterns associated with project related impacts, provides an analysis of existing and proposed plant community characteristics along with soil characteristics.

Along with the onsite defining of wetland boundaries and field data plot locations Mr. Peck has also undertaken seasonal hydrology monitoring programs to define wetland boundaries and characteristics, and completed soil monitoring to define soil profiles especially within areas of review soil modification. Mr. Peck has identified the ordinary high water mark associated with seasonal wetlands, permanently flowing and intermittent streams, and intertidal areas.

Mr. Peck has prepared permit application submittal materials to meet specific projects and has prepared compensatory mitigation plans and implementation/monitoring programs to address permitting requirements at the local, state, and federal levels.