HABITAT TECHNOLOGIES

BIOLOGICAL EVALUATION, ESSENTIAL FISH HABITAT ASSESSMENT, ENVIRONMENTALLY CRITICAL AREAS, AND FLOODPLAIN HABITAT IMPACT ASSESSMENT

PARCEL 5505202702, 921 – 9TH STREET SW
CITY OF PUYALLUP, PIERCE COUNTY, WASHINGTON

Undertaken in Accordance with the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act as amended by the Sustainable Fisheries Act of 1996, and the City of Auburn Flood Hazard Area Regulations adopted within Chapter 15.68.

prepared for

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July 21, 2025

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INTRODUCTION

This document details the culmination of activities and onsite evaluations undertaken to complete a *BIOLOGICAL EVALUATION, ESSENTIAL FISH HABITAT ASSESSMENT, ENVIRONMENTALLY CRITICAL AREAS, AND FLOODPLAIN HABITAT IMPACT ASSESSMENT* associated with the planning and future proposed development actions within **Parcel 5505202702 (project site)** located at 921 – 9th Street SW within the City of Puyallup, Pierce County, Washington (Figure 1). The presently proposed development action focuses on the establishment of a new single-family homesite within this presently vacant parcel. The project site is located within a well-established residential community that is well served with public roadways, public and private utilities, and emergency services.

Effective May 24, 1999, the Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*) was listed by the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) as a "threatened species" pursuant to the Endangered Species Act (ESA). In addition, Puget Sound coho salmon (*Oncorhynchus kisutch*) was listed as a "species of concern" is 2004 and Puget Sound steelhead (*Oncorhynchus mykiss*) was listed as a "threatened species" in 2007. An additional salmonid species - native char/bull trout (*Salvelinus confluentus*) – was listed as a "threatened species" pursuant to the ESA by the U.S. Fish and Wildlife Service (USFWS) in 1998. Rearing and migratory juveniles, sub-adults, and adults of all of these listed salmonid species - as well as a variety of other salmonid species - are documented to occur within the Puyallup River Watershed.

SPECIES NAME ***SCIENTIFIC NAME***	**FEDERAL STATUS**	**STATE STATUS**
Puget Sound Chinook salmon - *Oncorhynchus tshawytscha*	Threatened	Game
Puget Sound Steelhead - *Oncorhynchus mykiss*	Threatened	Candidate Game
Native char (bull trout) - *Salvelinus confluentus*	Threatened	Candidate Game
Coho salmon - *Oncorhynchus kisutch*	Concern	Game
Bald eagle - *Haliaeetus leucocephalus*	Concern	-

A number of species are listed pursuant to Essential Fish Habitat (EFH) program as defined within the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267). EFH means those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. Many of the species listed within the MSA are defined as "*Groundfish species*" or "*Coastal Pelagic Species*" and utilize the marine environments of Puget Sound. However, three listed species (all anadromous salmonids) are also documented to occur within the Puyallup River Watershed.

Pacific Salmon Species

Chinook salmon *Oncorhynchus tshawytscha*	Coho salmon *Oncorhynchus kisutch*	Puget Sound pink salmon *Oncorhynchus gorbuscha*

Compliance with Section 7 the ESA requires all federal agencies to consult with the NMFS and the USFWS where any federally funded, federally authorized, or federally conducted action may affect a listed species or designated critical habitat. The purpose of a *Biological Evaluation* (BE) is to determine if a project, or authorized action, would have an effect on a listed species and whether either informal or formal consultation is required.

Based on the assessment of the proposed potential related impacts for development of the development of a new single-family homesite within the project site, the project team has concluded that this project would not affect Essential Fish Habitats. As such, formal consultation would not appear required the U.S. Fish and Wildlife Service and the National Marine Fisheries Service pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267).

PURPOSE OF THE BIOLOGICAL EVALUATION PROGRAM

The overall purpose of the *Biological Evaluation* (BE) program is to provide a detailed analysis of the project related impacts and proposed species/critical habitat that are likely to be found in the project area. Based on this analysis the BE further provides an "effect determination" for the proposed action. The "effect determination" is composed of four primary elements (NMFS 1996, NMFS 1999) and is initially presented within a *Biological Evaluation* (BE) document.

- If the project has **"no effect"** on a listed species/critical habitat and the project is not a major construction activity, there is no requirement to consult with the NMFS. However, the "no effect" determination is only appropriate if the proposal would literally have no effect whatsoever. Actions which result in a "very, very small" effect or a "beneficial effect" do not qualify as a no effect determination.

- A determination of **"may affect, not likely to adversely affect"** is appropriate when the effects of the project on species or critical habitat are expected to be beneficial, discountable, or insignificant. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or critical habitats. Insignificant effects are defined by the size of the impact and should never reach the point where a "take" occurs. Discountable effects are those extremely unlikely to occur. Based on best professional judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects; or expect discountable effects to occur. A "take" includes to harass, harm, pursue, hunt, shoot, wound, trap, capture, collect, or attempt to

engage is any such conduct. The USFWS further defines “harm” as a significant habitat modification or degradation that results in death or injury to a listed species by significantly impairing behavioral patterns which include, but are not limited to breeding, feeding, or sheltering. “Take” applies to the individual organism such that actions that have more than a negligible potential to effect individual eggs or individual fish are “likely to adversely effect.”

- A determination of **“may affect, likely to adversely affect”** is appropriate when any adverse effect to listed species or critical habitat may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions. When the overall effect of the proposed action is beneficial to the listed species or critical habitat, but is also likely to cause some adverse effects, the proposed action is “likely to adversely affect” the listed species or critical habitat. A “likely to adversely affect” determination requires formal consultation with the appropriate agencies.

- A determination of **“likely to jeopardize proposed species or adversely modify proposed critical habitat”** is appropriate when the proposed action is likely to jeopardize proposed species or adversely modify proposed critical habitat. With this determination, a conference with the appropriate agencies is required.

With particular emphasis on anadromous salmonids a number of federal agencies have defined adverse effect to include “ short or long-term, direct or indirect management-related impacts of an individual or cumulative nature such as mortality, reduced growth or other adverse physiological changes, harassment of fish, physical disturbance of redds, reduced reproductive success, delay or premature migration, or other adverse behavioral changes to listed anadromous salmonids or any life stage. Adverse effects to designated critical habitat include effects to any of the essential features of critical habitat that would diminish the value of the habitat for the survival and recovery of listed anadromous salmonids” (NMFS 1996).

ESSENTIAL FISH HABITAT PROGRAM

The objective of the Essential Fish Habitat (EFH) consultation program is to determine whether or not a proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse impacts to EFH resulting from the proposed action. The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267) requires the inclusion of EFH description in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with the National Marine Fisheries Service (NMFS) on activities that may adversely affect EFH.

EFH means those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purpose of interpreting the definition of essential fish habitat:

- **'waters'** include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate.

- **'substrate'** includes sediment, hard bottom, structures underlying the waters, and associated biological communities.

- **'necessary'** means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem.

- **'spawning, breeding, feeding, or growth to maturity'** covers a species' full life cycle.

The Pacific Fisheries Management Council (PFMC) has designated EFH for federally managed fisheries within the waters of Washington, Oregon, and California. The designated EFH for groundfish and coastal pelagic species encompasses all waters from the mean high water line, and upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon, and California, seaward to the boundary of the U.S. exclusive economic zone (PFMC 1998). In estuarine and marine areas, designated salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent of the exclusive economic zone offshore of Washington, Oregon, and California north of Point Conception to the Canadian border.

Detailed descriptions and identifications of EFH for the groundfish species are found in the *Final Environmental Assessment/Regulatory Impact Review* for Amendment 11 to *The Pacific Coast Groundfish Management Plan* (PFMC 1998) and *NMFS Essential Fish Habitat for West Coast Groundfish Appendix* (Casillas et al. 1998). Detailed descriptions and identifications of EFH for the coastal pelagic species are found in Amendment 8 to the *Coastal Pelagic Species Fisheries Management Plan* (PFMC 1998). Detailed descriptions and identifications of EFH for salmon and found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). The assessment of the impacts to these species' EFH from a proposed action is based on this information.

PRIMARY CONSTITUENT ELEMENTS

Within the ESA listings the involved federal agencies have provided guidance on the statutory interpretation of the phrase "physical or biological features essential to the conservation of the species." These features include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, or other

nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species. The statutory interpretation further defines that the "focus on the principle biological or physical constituent elements that are essential to the conservation of the species."

The involved federal agencies further developed a list of "primary constituent elements" specific to listed salmonids relevant to determining whether occupied stream reaches within a watershed meet the ESA section (3)(5)(A) definition of "critical habitats." The primary constituent elements include the following:

- Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development.
- Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and nature cover.
- Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover.
- Estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between freshwater and saltwater; natural cover; and juvenile and adult forage.
- Nearshore marine areas free of obstruction with water quality and quantity conditions and forage; and natural cover.
- Offshore marine areas with water quality conditions and forage supporting growth and maturation.

CITY OF PUYALLUP – FLOOD AREAS

As noted above, the existing parcel is located within an "A0 Flood Zone" as defined in the FEMA Flood Insurance Rate Mapping. Pursuant to City of Puyallup regulations an assessment shall be prepared in accordance with the Regional Guidance for Floodplain Habitat Assessment and Mitigation, FEMA Region X, 2013. The assessment shall determine if the project would adversely affect:

- The primary constituent elements identified when a species is listed as threatened or endangered;
- Essential fish habitat designated by the National Marine Fisheries Service;
- Fish and wildlife conservation areas;
- Vegetation communities and habitat structures;
- Water quality;
- Water quantity, including flood and low flow depths, volumes and velocities;
- The channel's natural planform pattern and migration processes;

- Spawning substrate, if applicable; and/or
- Floodplain refugia, if applicable.

CITY OF PUYALLUP – ENVIRONMENTALLY CRITICAL AREAS

The project site is located within a well urbanized portion of the City of Puyallup and is well served by existing public roadways, public services, and public/ private utilities. The project site was generally flat, presently vacant, and dominated by managed lawn plant community. The project site was previously dominated by a single-family homesite with a scattering of outbuildings, lawns, a small garden and orchard, and landscaping. The parcel directly to the north was also incorporated into this homesite area and was similarly managed. The homesite and associated outbuildings were removed during the fall of 2005 and the spring of 2006. Following homesite removal, the project site - along with the associated parcel to the north - was cleared and leveled. Since the summer of 2006 both parcels have been dominated by a managed lawn plant community. The project site was bound by existing homesites, by 9th Street SW along the western boundary, by 10th Avenue SW along the southern boundary, and by the Meeker Ditch to the south of 10th Avenue SW.

BACKGROUND INFORMATION

A review of the *Nation Wetland Inventory* prepared by the U.S. Fish and Wildlife Service did not identify any wetlands or surface water drainages within or immediately adjacent to the project site (Figure 2). This mapping resource identified Meeker Ditch to the south of the project site, immediately south of 10th Avenue SW. Meeker Ditch was defined as riverine, intermittent, streambed, seasonally flooded (R4SBC).

A review of the *Priority Habitats and Species Mapping* prepared by the Washington Department of Fish and Wildlife did not identify any wetlands or surface water drainages within or immediately adjacent to the project site (Figure 3). This mapping resource identified Meeker Ditch to the south of the project site, immediately south of 10th Avenue SW.

A review of the *Stream Inventory Mapping* and *SalmonScape* prepared by the Washington Department of Fish and Wildlife did not identify any streams within the project site (Figure 4). However, this mapping resource identified Meeker Ditch offsite to the south, south of 10th Avenue SW. Meeker Ditch is a tributary to Clarks Creek and the Lower Puyallup River and has been identified to provide gradient accessible habitats for fall Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), fall chum salmon (*Oncorhynchus keta*), winter steelhead (*Oncorhynchus mykiss*), and pink salmon (*Oncorhynchus gorbuscha*).

A review of the *Water Type Mapping* prepared by the Washington Department of Natural Resources did not identify any streams within or adjacent to the project site (Figure 5). This mapping resource identified Meeker Ditch to the south of the project

site, immediately south of 10th Avenue SW. This mapping identified Meeker Ditch as a Type U Water (unidentified).

A review of the *Critical Areas Mapping* prepared by the City of Puyallup did not identify any wetlands or streams within or immediately adjacent to the project site (Figure 6). This mapping resource identified Meeker Ditch offsite to the south and that the project site was located within a "A-1 Zone" – a 1.0% annual chance flood (Figure 6).

A review of the *Soil Mapping* prepared by the Soil Conservation Service identified the soil throughout the project site as Puyallup sandy loam (31A) (Figure 7). The Puyallup soil series is defined as well drained, as formed in alluvium, and as not listed as a "hydric" soil.

ONSITE ASSESSMENT OF CRITICAL AREAS

During the spring and early summer of 2025, Habitat Technologies completed an assessment, delineation, and characterization of critical areas within and adjacent to the project site in accordance with criteria and procedures established in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the Washington State *Wetland Rating System for Western Washington:* 2014 Update (version 2). Publication #23-06-029 (Hruby, T. & Yahnke, A. 2023); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and the City of Puyallup – *Chapter 21.06*.

EXISTING ONSITE PLANT COMMUNITIES

ONSITE: The project site has been managed and manipulated previously in association with a single-family homesite and more recently as managed lawn. The project site was generally flat and dominated by a mixture of grasses and herbs typically defined as either facultative species (plants equally likely to occur in wetlands or nonwetlands) or as non-facultative species (plants usually occurring in nonwetlands). Observed species included rye grass (*Lolium* spp.), bluegrass (*Poa* spp.), bentgrass (*Agrostis tenuis*), wheat grass (*Agropyron* spp.), orchard grass (*Dactylis glomerata*), quack grass (*Agropyron repens*), fescue (*Festuca* spp.), sweet vernal grass (*Anthoxanthum odoratum*), velvet grass (*Holcus lanatus*), barnyard grass (*Echinochloa crus-galli*), bracken fern (*Pteridium aquilium*), thistle (*Cirsium vulgare* and *Cirsium arvensis*), plantain (*Plantago major*), field mint (*Mentha arvensis*), aster (*Aster* spp.), meadow buttercup (*Ranunculus acris*), cats ear (*Hypochaeris lanatum*), dandelion (*Taraxacum officinale*), daisy (*Bellis* spp.), geranium (*Geranium* spp.), and mint (*Mentha arvensis*). This plant community was somewhat regularly managed through mowing.

OFFSITE: The project site is located within a well urbanized portion of the City of Puyallup that was dominated by existing single-family homesites with managed lawns, managed gardens, and managed landscaping. The parcel directly to the north of the project site was at one time associated with the residential utilization of the project site. However, following the removal of the onsite homesite during the fall of 2005 and the spring of 2006, this adjacent parcel has been managed as lawn similar to the activities within the project site.

The Meeker Ditch Corridor was present to the south of 10th Avenue SW immediately to the south of the project site. The vegetation along this corridor was dominated by reed canarygrass (*Phalaris arundinacea*) and a scattering of blackberry (*Rubus* spp.) thickets. The plant community along this stream corridor is regularly mowed to maintain channel capacity.

ONSITE SOIL CHARACTERISTICS

The surface and near sub-surface soils throughout the project site had been modified by prior land use actions. These prior actions appeared to have included initial clearing and grading, tilling and leveling, the establishment and subsequent removal of prior outbuildings and a potential small homesite, and present management as lawn.

The soil throughout the project site exhibited a surface soil profile from five (5) to fifteen (15) inches in depth dominated by typically very dark grayish brown (10YR 3/2) or dark brown (10YR 3/3) coloration and a sandy loam to loamy texture. The surface soil also exhibited an often high predominance of grass roots. The subsoil to a depth of 24 inches exhibited a dark grayish brown (10YR 3/2), dark brown (10YR 3/3), to brown (10YR 4/3) coloration and a sandy loam texture. The soil throughout the project site did <u>not</u> exhibit prominent field indicators of “hydric” soil characteristics. Redoximorphic features were absent to extremely faint.

DIRECTION OF SURFACE WATER MOVEMENT

Seasonal stormwater water within the project site appeared to infiltrate. Seasonal surface water that did not infiltrate onsite appeared to move to the west towards the 9th Street SE Corridor or to the south towards the 10th Avenue Corridor). An area-wide City stormwater management system appeared associated with the 9th Street SE Corridor and appeared to eventually release seasonal surface water runoff into Meeker Ditch to the south of the project site.

As observed onsite, there were no areas the exhibited the concentrated movement of seasonal surface water onsite and there were no areas of shallow seasonal surface water ponding onsite. The soil appeared to drain moderately well and did not exhibit prominent field characteristics typically associated with seasonal wetland hydrology patterns.

FISH AND WILDLIFE SPECIES AND HABITATS

ONSITE: As noted above, the project site was located within a well urbanized, residential area of the City of Puyallup. The project site was vacant, and the adjacent parcels were generally dominated by existing homesites, outbuildings, managed lawns, managed gardens, and managed landscaping. It is unlikely based upon the existing site conditions, coupled with adjacent land uses, that species which require large areas of undisturbed habitat would exist onsite.

Based on the existing plant communities, direct observations, and observations within adjacent parcels wildlife species that were observed or that would be expected within the project site included American crow (*Corvus brachynchos*), rock dove (*Columbia livia*), mourning dove (*Zenaida macroura*), violet green swallow (*Tachycineta thallassina*), song sparrow (*Melospiza melodia*), American robin (*Turdus migratorius*), dark eyed junco (*Junco hyemalis*), Steller's jay (*Cyanocitta stelleri*), starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), purple finch (*Carpodacus purpureus*), rufous hummingbird (*Selasphorus rufus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), deer mouse (*Peromyscus maniculatus*), vole (*Microtus* spp.), mole (*Scapanus* spp.), bats (*Myotis* spp.), Norway rat (*Rattus norvegicus*), and common garter snake (*Thamnophis sirtalis*). The project site does <u>not</u> provide any onsite habitats suitable for the spawning or rearing of juvenile amphibians and does not provide any direct habitats for fish species. The project site has also physically separated as a result of a public roadway (10th Avenue SE) and a presently vacant parcel from downstream aquatic habitats.

OFFSITE: Meeker Ditch was located offsite to the south – south of 10th Avenue SE. Meeker Ditch is a tributary to Clarks Creek located well offsite to the west. Meeker Ditch has been previously documented to provide habitats for coho salmon, steelhead, chum salmon, and cutthroat trout. Meeker Ditch has also been identified to provide habitats for a variety of wildlife species - to include waterfowl, shorebirds, and raptors.

Meeker Ditch is presently defined as a City of Puyallup Type F Stream because it is documented to provide habitats for anadromous and resident fish species. The standard City of Puyallup protective buffer for a Type F Stream is 100 feet in width as measured perpendicular from the ordinary high water mark (Figure 8).

- **State Priority Species**

A very limited number of species identified by the State of Washington as "Priority Species" were observed onsite or potentially may utilize the project site. 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: Species identified by the State of Washington as "game species" are regulated by the State of Washington through recreational hunting bag limits, harvest seasons, and harvest area restrictions. A single "game species" - mourning dove – may use the habitats provided by the project site.

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 use the habitats provided by the project site.

State Monitored: State Monitored species are native to Washington but require habitat that has limited availability, are indicators of environmental quality, require further assessment, have unresolved taxonomy, may be competing with other species of concern, or have significant popular appeal. No State Monitoring species were observed or have been documented to use the habitats provided by the project site.

State Sensitive: State Sensitive species are native to Washington and are vulnerable to declining and are 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 as a part of this assessment. No State Sensitive species were observed or have been documented to use the habitats provided by 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. The project site did not appear to provide and has not been documented to provide direct critical habitats for State Threatened species.

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. The project site did not appear to provide and has not been documented to provide direct critical habitats for State Endangered species.

- **Federally Listed Species**

The project site was not observed and has not been documented to provide critical habitats for federally listed species. A single "species of concern" – bald eagle (*Haliaeetus leucocephalus*) – has been documented as feeding and nesting along the

Clarks Creek Corridor. As such, this species may occasional overfly the area of the project site.

The Clarks Creek Corridor was located well offsite to the west and was separated from the project site by existing urbanization (existing homesites, existing religious facilities, existing public and private roadways). The Clarks Creek Corridor has been documented to provide critical habitats for species listed pursuant to the ESA or EFH. These listed species include Puget Sound Chinook salmon (listed federally threatened), Puget Sound steelhead (listed federally threatened), coho salmon (federally listed species of concern), and pink salmon. Meeker Ditch a tributary to Clarks Creek and located offsite to the south of the project site – south of 10th Avenue SW - has also been documented by WDFW to provide "modeled presence" for fall Chinook salmon, coho salmon, fall chum salmon, winter steelhead, and pink salmon. In addition, prior assessments completed by Habitat Technologies have documented the presence of coho salmon, steelhead, chum salmon, and cutthroat trout within Meeker Ditch.

SEASONAL SURFACE WATER RUNOFF PROTECTION

Short-term: To protect the quality of the seasonal surface water runoff which may exit the project site immediately prior to and during proposed construction activities the project team shall implement Best Management Practices (BMPs) to ensure the protection of the local surface water runoff. Such BMPs include, but are not limited to, limiting the area of soil disturbance to only that necessary to complete development actions, the preservation of existing lawn areas as much as reasonable possible during development actions, and limiting soil disturbance during periods of heavy seasonal rainfall.

Long-term: The project site was located within a "AE Zone" (1% annual chance flood – 100-year flood). As such, the preparation of a *Storm Plan* to accompany future homesite development permitting would ensure that post-development stormwater would continue to follow its natural drainage patterns without significant adverse change.

PROPOSED SELECTED DEVELOPMENT ACTION

The *Selected Development Action* for the project site would develop a new single-family homesite consistent with the City of Puyallup *Comprehensive Plan*, local zoning, the character of the neighborhood, and the associated City of Puyallup adopted critical areas and stormwater protections. The new single family homesite would be designed to meet the Washington Department of Ecology *Stormwater Management Manual for Western Washington* – as presently adopted by the City of Puyallup.

Development Impacts

The *Selected Development Action* avoids direct and indirect adverse impacts to identified Waters of the U.S., Waters of the State, or critical habitats identified for listed species. In addition, the onsite stormwater collection, infiltration system, and conveyance system avoids potential project related impacts to local water quality and water quantity consistent with provisions adopted by the City of Puyallup.

Site Development Preparation

The *Selected Development Action* focuses on an area previously modified and manipulated by prior land use actions, and which continue to be managed. The development of the new homesite would require the removal of existing managed lawn. All cleared materials would be removed from the site and properly disposed of at an approved location.

Equipment to be used for initial clearing includes a small excavator and a dump truck typical of the work being accomplished. All equipment would be properly maintained to ensure protection against spills of petroleum fluids. No heavy maintenance of equipment would be conducted onsite. All activities would be completed onsite and there would be no secondary offsite construction areas. Erosion and sedimentation controls to be implemented during construction include:

- Stabilization of the construction entrance/exit.
- The development and maintenance of perimeter runoff controls (where required).
- Retained and created cover practices of exposed soils (if required).
- Construction sequencing.

Erosion and sedimentation controls to be implemented after construction include:

- Stabilization of all exposed surfaces.
- Ensure proper operation of the stormwater collection and infiltration system (if required).

the City of Puyallup has identified that the existing parcel is located within a “AE Zone” and the *Storm Plan* to be prepared for homesite development would identify that stormwater leaving the existing parcel would not be changed by the proposed actions.

Project Phases and Timing

Site development actions shall start as soon as all appropriate permits and approvals are obtained.

ACTION AREA

The Action Area includes the existing parcel that composes the project site (approximately 0.25-acres) and those areas within 300 feet immediately adjacent to the project site (Figure 8). The Action Area is defined as those areas that may be directly impacted by the proposed onsite development, as well as those offsite areas that may be potentially impacted in some manner by the proposed onsite development. These potential impacts include such items as the potential disruption of migratory corridors, the modification of freshwater habitats, water quality, stormwater runoff, and flood elevations.

The project site was dominated by existing managed lawn that had been established following the removal of outbuildings prior to the summer of 2006. The project site was bound by existing residential developments and public roadways. Presently, seasonal surface water from the project site either infiltrates or is directed onto a City of Puyallup stormwater facility associated with 9th Street SE to eventually enter Meeker Ditch to the south of the project site. Meeker Ditch has been documented to provide direct habitats and gradient accessible habitats for a number of species of anadromous and resident salmonids (genus *Oncorhynchus*). These species include Puget Sound steelhead trout, cutthroat trout, coho salmon, pink salmon, chum salmon, and Puget Sound Chinook salmon.

LISTED SPECIES AND CRITICAL HABITATS

As defined by the NMFS and the USFWS, four listed salmonids are documented to occur within the Puyallup River System. The identified fish species and their federal ESA status are:

- Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*) – threatened
- Puget Sound steelhead trout (*Oncorhynchus mykiss*) - threatened
- Bull trout - native char (*Salvelinus confluentus*) – threatened
- Coho salmon (*Oncorhynchus kisutch*) - concern

No federally of Washington State listed endangered or threatened species are documented to utilize the habitats provided within the project site (WDFW 2008) and the project site is not documented to provide critical habitats for these listed species. Bald eagle (*Haliaeetus leucocephalus*) a federal listed species of concern is documented to

occur along the Lower Puyallup River Valley. However, as a result of onsite and adjacent urbanization the project site does not provide critical habitats for this, or any other, listed species.

RELEVANT SPECIES

The Puyallup River System has been documented to support seven (7) salmonid fish species of the genus *Oncorhynchus*. Included within the Puyallup River System are distinct stocks of Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), chum salmon (*Oncorhynchus keta*), pink salmon (*Oncorhynchus gorbuscha*), sockeye salmon (*Oncorhynchus nerka*), rainbow/steelhead trout (*Oncorhynchus mykiss*), and cutthroat trout (*Oncorhynchus clarkii*) (WDOE 2008). A few other salmonid species of the genus *Salvelinus* (i.e. native char/bull trout – *Salvelinus confluentus*) and *Prosopium* (whitefish) are also present within these freshwater habitats. Anadromous and resident salmonids - both wild and hatchery stocks - support locally and regionally important commercial and recreational fisheries. Salmonids are also a significant factor in the cultural, religious, and economic base of Native American communities associated with Puget Sound.

LIMITING FACTORS

Limiting factors are generally defined as those conditions with natural environments – either natural or man-induced - that lead to a complete loss or reduction in the ability of the natural environment to support identified species. Industrial and urban developments within the Puyallup River System are identified as the most significant factors affecting the fishery resources of the watershed (Williams et al. 1976). Additional identified limiting factors include:

- **Stream Flow Patterns**. Seasonal flooding along the Puyallup River Watershed often shifts streambed materials and destroys salmonid spawning areas. Additional elements include the modification of instream flow patters through the once active diversion of the White River and the Puyallup River for hydroelectric production, the control of instream flows for flood protection, the diversion of surface water for domestic use, and limited late summer seasonal flow patterns within tributaries primarily within the lower watershed area. Limited flow within the lower watershed can reduce the ability of adults to migrate upstream into spawn areas, can reduce juvenile rearing areas, and can adversely impact water quality through elevated water temperatures and decrease the ability of the water to exhibit suitable dissolved oxygen levels.

- **Physical Barriers**. Physical barriers – both natural and man-induced – can isolate suitable habitats. For example, Mud Mountain Dam on the White River has modified the upstream and downstream migration of salmonids and other fish species into the upper reaches of the White River Watershed. Improperly placed roadway culverts and channelized stream channels are also identified as

isolated suitable habitats. Natural barriers such as beaver dams and debris jams can also isolate suitable habitats especially during the low flow periods.

- **Water Quality**. Poor water quality conditions are well documented especially within the Lower Puyallup River Watershed and Commencement Bay. These conditions are a combination of permitted and non-permitted industrial and domestic waste discharges, non-point source pollution associated with seasonal stormwater runoff, adverse erosion, stream channelization, the removal/management of streamside vegetation, and water withdrawal.

- **Urbanization**. Much of the Puyallup River Watershed has been altered by a variety of prior and ongoing land use actions. These actions include – but are not limited to - forest harvest, land conversions for urban uses, surface water withdrawals, stream channelization and re-direction, stream flow diversion, changes in seasonal instream flow patterns, increased inputs of non-source pollution, industrial development, an increase in impervious surfaces, and the discharge of urban wastes. These actions can adversely impact suitable freshwater spawning habitats, can adversely impact suitable freshwater and estuarine juvenile and sub-adult rearing habitats, and can adversely impact suitable migration corridors.

LISTED SPECIES

Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*)

The Puyallup River Watershed provides a wide diversity of habitats for Puget Sound Chinook salmon ranging from freshwater spawning and incubation areas to migratory routes and riverine/estuarine rearing areas. In general, Chinook salmon typically spawn within mainstem rivers and larger tributaries (Healey 1991). Within the Puyallup River Basin spawning has been documented within the Puyallup River, the Carbon River, the White River, Huckleberry Creek, the West Fork White River, the Greenwater River, the Clearwater River, Voight Creek, South Prairie Creek, and Kapowsin Creek (Puyallup Tribe unpublished). A very limited number of spawning Chinook salmon have been documented within Hylebos Creek, an independent tributary to Commencement Bay. Spawning observations within Hylebos Creek, however, coincided with prior Puyallup Tribal Hatchery outplanting programs (Puyallup Tribe unpublished).

Within the Puyallup River Basin, Chinook salmon exhibit two basic variations (races) in life history. These variations (races) are identified as “spring” and “fall” and are centered primarily on upstream migration patterns and timing, freshwater rearing patterns of juveniles, and the choice of spawning areas exhibited by mature adults (Williams et al. 1975). The residency period and habitat utilization within the lower riverine/estuarine areas differ between these two races depending upon such factors as time of entry, size of the individual fish at time of entry, and the availability of habitats. In addition, out-migrating juvenile Chinook salmon also exhibit two generalized

variations in timing, residency patterns, and riverine/estuarine habitat utilization (Puyallup Tribe unpublished).

Juvenile Chinook salmon that migrate into the estuarine/marine environment during their first year of life are identified as the 0+ age class and are generally identified by fork-length measurements. Healey (1991) noted these juveniles that typically migrate within a few days to a few months after emerging as fry from their freshwater incubation areas as the *"ocean-type"* life history. The residency period of individual 0+ age class Chinook salmon within the lower riverine and estuarine environments ranges from 6 to 189 days (Simenstad et al. 1982). Simenstad et al. (1982) and Healey (1982) found that juvenile Chinook salmon within the estuarine environments initially utilize the nearshore areas and move into deeper shoreline and openwater habitats once they reach a fork-length of approximately 65 to 75 mm.

Juvenile Chinook salmon that spend at least a full year rearing within the freshwater habitats prior to migrating into the estuarine/marine environment are considered the 1+ age class. Healey (1991) identified this 1+ age class as exhibiting the *"stream-type"* life history. Juvenile 1+ age class Chinook salmon typically migrate into the estuarine environments as yearling smolts and move directly into the neritic habitats (shallow marine surface water zones) without extended utilization of salt marsh or other near shore habitats (Simenstad et al. 1982).

Spring Chinook salmon were historically abundant within the Puyallup River Basin and typically spawned in the upper tributaries of the White River and perhaps the upper tributaries of the Puyallup River and the Carbon River (Williams et al. 1975). While very depressed in total population size by the mid-1970's cooperative efforts between the Washington Department of Fish and Wildlife, the Muckleshoot Tribe, the Puyallup Tribe, federal agencies, and various local community groups have proven effective in reestablishing the population of spring Chinook salmon within the Puyallup River Basin Puyallup Tribe per.comm.).

Mature spring Chinook salmon enter the river system beginning in late March and continue through late July. Spawning typically occurs between late July and the first of October with the peak spawning activities occurring from late August through early September. Williams et al. (1975) noted that juvenile spring Chinook salmon within the Puyallup River Basin characteristically remain in the freshwater rearing areas for more than one year and migrate into the marine environment during the second year of life. Dunstan (1955) documented that juvenile spring Chinook salmon within the White River exhibit both "stream-type" and "ocean-type" components and that approximately 20 percent of the juvenile spring Chinook salmon within the White River spent one year in freshwater prior to outmigration into the marine environments. The Muckleshoot Tribe (1996) has documented that the majority of the juvenile spring Chinook salmon out-migrate from their freshwater rearing habitats during their first year of life at a body size typically larger than 75 mm. Thus the majority of juvenile spring Chinook salmon exhibit the "ocean-type" life history and would be expected to utilize the offshore marine

habitats of Commencement Bay rather than the shallow, near shore habitats of Commencement Bay.

Fall Chinook salmon spawning occurs generally through the Puyallup River Basin, however, the areas utilized by fall Chinook salmon are typically lower in the watershed than spring Chinook salmon (Williams et al. 1975, Puyallup Tribe unpublished). Mature fall Chinook salmon enter the river system during late June through September. Peak spawning occurs during the last few days of September through the first few days of October (Puyallup Tribe unpublished).

Juvenile fall Chinook salmon within the Puyallup River Basin exhibit the "ocean-type" life history and typically migrate within a few days to a few months after emerging as fry from their freshwater incubation areas. Juvenile 0+ age class Chinook salmon are noted as the most dependent salmonid species on the availability of estuarine rearing habitat (Healey 1980).

Juvenile Chinook salmon are opportunistic feeders and are capable of exploiting a wide variety of prey organisms within the estuarine environments (Healey 1982). Levy and Northcote (1981) identified that the quality of estuarine residency (in terms of prey availability and prey abundance) was a determinant of subsequent marine survival. Preferred prey organisms typically include adult and larval stages of copepods, amphipods, decapods, mysids, aquatic and terrestrial insects, and fish (Simenstad 1982).

Occurrence within the Action Area: The Action Area – outside of the Meeker Ditch Corridor - is well urbanized and does not provide habitats for Puget Sound Chinook salmon. As such, the Action Area outside of the Meeker Ditch Corridor has <u>not</u> been identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species. Meeker Ditch within the Action Area is defined by WDFW as providing gradient accessible habitats for Chinook salmon and has the potential to provide Designated Critical Habitats or associated Primary Constituent Elements for this listed species.

Native char - bull trout/Dolly Varden (*Salvelinus confluentus*)

Native char (bull trout - *Salvelinus confluentus* and Dolly Varden - *Salvelinus malma*) are adapted to cold water and they are typically associated with the coldest stream reaches within a watershed (Lee et al. 1997, USFWS 1998). Bull trout were distinguished from Dolly Varden and identified as a separate species in 1978 (Cavender 1978). However, genetic studies of these two species suggest that all Puget Sound native char are bull trout (Cavender 1999, McPhail and Baxter 1996).

Within the Puget Sound Basin, native char exhibit two general life history forms (resident and migratory) with each form being dependent upon migratory barriers. The resident form is associated with cold, headwater streams typically above migrational

barriers. The migratory form moves from the headwater spawning and early rearing areas into rearing areas located within lower riverine reaches (fluvial), into lakes and reservoirs (adfluvial), or into the estuarine and marine habitats (ocean or anadromous form) (USFWS 1998).

The anadromous form generally moves downstream into the lower riverine and estuarine areas in the early spring as 2+ and 3+ age class juveniles. Those individuals that select to migrate into the marine environment typically do so during May at a fork-length between 150 mm and 170 mm. The anadromous form generally does not venture further than 30 miles from the mouth of the river and would return as a sub-adult to the lower riverine and estuarine areas during the fall to over winter (Kraemer per. comm. 1995).

Within the freshwater environments native char are opportunistic feeders and feed on a variety of larval and adult insects, snails, leeches, amphibians, salmon eggs, and fish (Wydoski and Whitney 1979). Within the estuarine and marine environments anadromous native char continue to be opportunistic and feed primarily on surf smelt (*Hypomesus pretious*), Pacific herring (*Clupea harengus*), Pacific sand lance (*Ammodytes hexapterus*), juvenile salmon, and invertebrates.

Occurrence within the Action Area: The Action Area – to include Meeker Ditch - is well urbanized and does not provide habitats for native char. As such, the Action Area has not been identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species.

Puget Sound Steelhead (*Oncorhynchus mykiss*)

Naturally spawning and hatchery production of steelhead are present throughout the majority of freshwater systems associated with Puyallup River Watershed and other systems within Southern Puget Sound. Within the Puyallup River System juvenile steelhead typically migrate from their freshwater incubation and rearing areas into the estuarine environments as yearling smolts and move directly into the neritic habitats (shallow marine surface water zones) without extended utilization of salt marsh or other near shore habitats (Simenstad et al. 1982). Beach seine and wing-seine studies completed by the Puyallup Tribe have documented yearling smolt steelhead primarily within deeper water habitats and within open areas adjacent existing pier structures. These studies rarely captured yearling smolt steelhead within the intertidal habitats (Puyallup Tribe unpublished).

Occurrence within the Action Area: The Action Area – outside of the Meeker Ditch Corridor - is well urbanized and does not provide habitats for Puget Sound steelhead. As such, the Action Area outside of the Meeker Ditch Corridor has not been identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species. Meeker Ditch within the Action Area is defined by WDFW as providing gradient accessible habitats for steelhead and has the potential to

provide Designated Critical Habitats or associated Primary Constituent Elements for this listed species. The lower reaches of Meeker Ditch, outside of the action area, have also been documented as utilized by steelhead.

Coho salmon (*Oncorhynchus kisutch*)

Naturally spawning and hatchery production of coho salmon are present throughout the majority of freshwater systems associated with the Puyallup River System and other systems within Southern Puget Sound. In addition, coho salmon have been the subject of several restoration programs and net-pen production operations. Within the Puyallup River System juvenile coho salmon typically migrate from their freshwater incubation and rearing areas into the estuarine environments as yearling smolts and move directly into the neritic habitats (shallow marine surface water zones) without extended utilization of salt marsh or other near shore habitats (Puyallup Tribe unpublished). Beach seine and wing-seine studies completed by the Puyallup Tribe have documented yearling smolt coho salmon primarily within deeper water habitats and within open areas adjacent existing pier structures. These studies rarely captured yearling smolt coho salmon within the intertidal habitats (Puyallup Tribe unpublished).

Occurrence within the Action Area: The Action Area – outside of the Meeker Ditch Corridor - is well urbanized and does not provide habitats for coho salmon. As such, the Action Area outside of the Meeker Ditch Corridor has <u>not</u> been identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species. Meeker Ditch within the Action Area is defined by WDFW as providing gradient accessible habitats for coho salmon and has the potential to provide Designated Critical Habitats or associated Primary Constituent Elements for this listed species. The lower reaches of Meeker Ditch, outside of the action area, have also been documented as utilized by coho salmon.

Pink Salmon (*Oncorhynchus gorbuscha*)

Pink salmon are present within a number of systems associated with Puget Sound – to include the Puyallup River System. Spawning typically occurs from September through November. Eggs hatch the following spring, and juveniles begin to move downstream into the estuarine/marine environments short after emergence from the gravel. All pink salmon return to spawn in their natal freshwater streams and rivers at two (2) years of age. Within the Puget Sound spawning pink salmon are only present on odd-numbered years. Productive freshwater spawning and rearing streams exhibit a good mixture of riffles and pools with overhanging vegetation. Pink salmon generally spawn in the lower reaches of larger coastal rivers and stream areas immediately adjacent to larger coastal rivers. Pink salmon eat insect larvae (aquatic and terrestrial), copepods, crustacean larvae, other aquatic and terrestrial invertebrates, and zooplankton (Groot et al. 1995).

Occurrence within the Action Area: The Action Area – outside of the Meeker Ditch Corridor - is well urbanized and does not provide habitats for pink salmon. As such, the Action Area outside of the Meeker Ditch Corridor has not been identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species. Meeker Ditch within the Action Area is defined by WDFW as providing gradient accessible habitats for pink salmon and has the potential to provide Designated Critical Habitats or associated Primary Constituent Elements for this listed species. The lower reaches of Meeker Ditch, outside of the action area, have also been documented as utilized by pink salmon.

Bald eagle (*Haliaeetus leucocephalus*)

In Western Washington, bald eagles typically select large Douglas fir (*Pseudotsuga menziesii*) or Sitka spruce (*Picea sitchensis*) as nesting sites. The height of the nest above ground is typically 30 to 60 feet (Ehrlich et al. 1988). The following general preference criteria are typically used to define existing or potential nest tree or roost tree habitat: clear lines of sight from the roost, a favorable microclimate, stout perches high off the ground, and freedom from human activity, (Stalmaster et al. In *Proceedings of the Washington Bald Eagle Symposium*, 1980).

Bald eagles are opportunistic feeders and prey on dead or dying salmon, small mammals, waterfowl, seabirds, and carrion (Ehrlich et al. 1988). Bald eagles along the shoreline of Puget Sound tend to feed on gulls (*Larus* spp) and on a variety of carrion (Stephan Kalinowski, Habitat Biologist, WDFW, per.comm.). Bald eagles have been shown to be extremely sensitive to activities in their feeding areas, and it is the morning hours which are the most crucial for human activities to be restricted as this is when the most intensive feeding occurs (Stalmaster 1980).

Occurrence within the Action Area: Both resident and winter migrant bald eagles are a common occurrence within the Puget Sound Region. Bald eagle nesting locations have been mapped along the Clarks Creek Corridor and the Lower Puyallup River System, along the shoreline of Puget Sound, and associated with several larger lakes within Pierce County and South King County (WDFW 1998). These nesting sites and their associated nesting territories are not located within or in the immediate vicinity of the Action Area.

The Action Area is not identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species.

ANALYSIS OF PROJECT EFFECTS

The *Selected Development Action* for the project site focuses on the construction of a new single-family homesite consistent with the City of Puyallup *Comprehensive Plan*, local zoning, the character of the neighborhood, and the City of Puyallup *Critical Areas*

and *Flood Zone Ordinances*. The project site was located within a well urbanized area of the City of Puyallup and was well served by public roadways, public services, and utilities. The new single family homesite would be designed to meet the Washington Department of Ecology Stormwater Management Manual for Western Washington – as adopted by the City of Puyallup.

The purpose of this biological assessment is to identify the direct effects, the indirect effects, the interrelated effects, the interdependent effects, and the cumulative effective of the proposed project. These effects are defined using a set of pathways and indicators to examine the existing baseline conditions and the effects of the proposed project actions (NMFS 1996, USFWS 1998).

SUMMARY OF EFFECTS

Direct and Indirect Effects

The *Selected Development Action* would not require any adverse impacts to environmentally critical areas (wetlands, streams, critical habitats) regulated by the City of Puyallup, the Washington Dept of Ecology, the Washington Dept of Fish and Wildlife, the Seattle District Corps of Engineers, or local Tribes. In addition, a stormwater system would be created onsite to address the collection, infiltration, and conveyance of stormwater from the new onsite impervious surfaces.

As presently proposed the *Selected Development Action* would be completed using Best Management Practices to ensure protection of local water quality. Because of the limited scope and location of the proposed new homesite development, along with the proposed environmental protections the *Selected Development Action* would not be expected to result in direct or indirect adverse impacts to listed species or their critical habitats.

The successful completion of the *Selected Development Action* would **not** reasonably result in a “take” of listed species or critical habitats for listed species.

Interrelated Effects

Following the development of the new single-family homesite no further actions are presently proposed within the project site. Best Management Practices shall be implemented during and following development activities to ensure protection of local water quality and downstream aquatic habitats. No interrelated effects have been identified.

Interdependent Effects

The project site has been managed for several decades. The proposed action would establish a new single-family homesite. As such, the proposed development project would not cause a measurable adverse impact to existing habitats within or adjacent to the project site. In addition, onsite stormwater management would also be utilized to ensure protection of stormwater and infiltrate seasonal stormwater from new onsite impervious surfaces such that the selected development does not adversely impact local water quality or velocities within the eventual receiving waters.

Cumulative Effects

The project site is located within an existing, well urbanized portion of the City of Puyallup. The proposed homesite establishment would be expected to increase to a very limited extent associated traffic, light, and noise within the project site, adjacent public roadways, and existing adjacent residential areas. This development would not be expected to adversely impact downstream water quality as a result of onsite infiltration of stormwater from new impervious surfaces, or any critical habitats within the Clarks Creek Corridor/Lower Puyallup River Watershed.

BIOLOGICAL EVALUATION CONCLUSIONS AND EFFECTS DETERMINATION

The completion of the *Selected Development Action* as presently proposed would not adversely impact onsite or immediately adjacent habitats or adversely impact downstream water quality of within the Clarks Creek Corridor/Lower Puyallup River Watershed. The overall project would also implement protective stormwater protections following Best Management Practices. **The *Selected Development Action* would not result in a "take" of listed species or associated critical habitats for listed species.**

SPECIES	STATUS IN ACTION AREA	PROJECT EFFECTS
Chinook salmon (*Oncorhynchus tshawytscha*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species.	**"no effect"** This species or critical habitat for this species would not be adversely impacted by this project.
Steelhead trout (*Oncorhynchus mykiss*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species.	**"no effect"** This species or critical habitat for this species would not be

		adversely impacted by this project.
Native char - Bull trout (*Salvelinus confluentus*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species.	**"no effect"** This species or critical habitat for this species would not be adversely impacted by this project.
Coho salmon - (*Oncorhynchus kisutch*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species.	**"no effect"** This species or critical habitat for this species would not be adversely impacted by this project.
Bald eagle (*Haliaeetus leucocephalus*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species.	**"no effect"** This species or critical habitat for this species would not be adversely impacted by this project.

ANALYSIS OF EFH EFFECTS AND CONSERVATION MEASURES

The completion of the *Selected Development Action* as presently proposed would not adversely affect **Essential Fish Habitats** within the adjacent Clarks Creek Corridor/ Lower Puyallup River Watershed. As presently proposed, the development actions shall be completed using Best Management Practices to ensure protection of local water quality. Because of the scope and location of the development actions along with the proposed environmental protections (i.e. the infiltration of seasonal surface water generated from new impervious surfaces and the use of BMPs during construction) the proposed project is not expected to result in direct or indirect adverse impacts to listed EFH. As such, no additional specific conservation measures appear required.

EFH EFFECTS DETERMINATION

Based on the assessment of the proposed project related impacts Habitat Technologies has concluded that this proposed project would have no adverse affect on EFH. As such, formal consultation does not appear required pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267).

SALMONID EFH EFFECTS	**No Adverse Affects**

FLOODPLAIN HABITAT EFFECTS DETERMINATION

Pursuant to City of Puyallup, one of the primary motivations in the overall review of a proposed action is whether or not the proposed action would adversely affect floodplain habitats as outlined in the Regional Guidance for Floodplain Habitat Assessment and Mitigation, FEMA Region X, 2013. The following table identifies that the proposed action would not adversely affect floodplain habitats.

FACTOR	EFFECTS DISCUSSION	EFFECTS DETERMINATION
The project's potential to impact the primary constituent elements for a listed species.	The proposed action would not adversely impact any of the primary constituent elements associated with defined critical habitats for listed species. These primary constituent elements include freshwater spawning areas, freshwater rearing areas, and freshwater migration corridors present within Clarks Creek/Lower Puyallup River located offsite and estuarine areas, nearshore marine areas, and offshore marine areas located well downstream at the confluence of the Lower Puyallup River with Puget Sound. The proposed action would not alter existing freshwater habitats associated with the Lower Puyallup River and seasonal surface water from the proposed action would be captured and infiltrated onsite thus not adversely impacting water quality within the Lower Puyallup River.	No adverse effects.
Essential fish habitat	As noted above, the proposed action is not expected to result in direct or indirect adverse impacts to listed EFH.	No adverse effects.
Fish and wildlife conservation areas	The Clarks Creek/Lower Puyallup River identified offsite is separated from the project site by existing urban developments and are identified as City of Puyallup Class I Streams (shoreline of the state). The Clarks Creek/Lower Puyallup River is also identified to provide habitats for salmonid species listed pursuant to the ESA and EFH. As noted above, the proposed action would not alter existing riverine habitats associated with the Clarks Creek/Lower Puyallup River.	No adverse effects.
Vegetation communities and habitat structures	The project site is dominated by an existing single family homesite, managed lawn, managed gardens, managed landscaping, and an existing gravel parking area. The proposed action would not alter the vegetation along the banks of the Clarks Creek/Lower Puyallup River.	No adverse effects.

Water quality	All seasonal surface water runoff from the proposed new eastern homesite shall be captured and infiltrated onsite. This homesite action would not allow for the movement of potential pollutants from the newly developed areas into the City stormwater system leading eventually into Clarks Creek/Lower Puyallup River. Seasonal surface water runoff from the required roadway improvements shall be directed into the City stormwater system.	No adverse effects.
Water quantity, including flood and low flow depths, volumes and velocities	All seasonal surface water runoff from the proposed new eastern homesite shall be captured and infiltrated onsite. This action would not allow for the movement of seasonal surface water from the newly developed areas into the City stormwater system leading eventually into Clarks Creek/Lower Puyallup River. Seasonal surface water runoff from the required roadway improvements shall be directed into the City stormwater system.	No adverse effects.
The channel's natural planform pattern and migration processes.	The project site is surrounded by existing residential and associated urban development and does not exhibit a direct physical connection to the channel of Clarks Creek/Lower Puyallup River. The proposed action would not the channel or potentially change the migration processes.	No adverse effects.
Spawning substrate.	The project site is surrounded by existing residential and associated urban development and does not exhibit a direct physical connection to the channel of Clarks Creek/Lower Puyallup River. The proposed action would not alter potential spawning substrates associated with Clarks Creek/Lower Puyallup River.	No adverse effects.
Floodplain refugia.	The project site is surrounded by existing residential and associated urban development and does not exhibit a direct physical connection to Clarks Creek/Lower Puyallup River. The proposed action would not alter potential floodplain refugia associated with Clarks Creek/Lower Puyallup River.	No adverse effects.

CITY OF PUYALLUP CRITICAL AREAS ORDINANCE

The City of Puyallup has enacted *Chapter 21.06 – Critical Areas* for the purpose of designating and classifying environmentally critical areas and to protect these areas and their functions and values, while also allowing for economically beneficial or productive use of land on private property. The identified objectives associated with the enactment of this Chapter include:

(a) Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides, steep slope failures, erosion, seismic events, volcanic eruptions, or flooding;
(b) Protect citizens and the unique, fragile, and valuable elements of the environment, including ground and surface waters, wetlands, anadromous fish species, and other fish and wildlife and their habitats;
(c) Prevent adverse and cumulative environmental impacts to critical areas, direct activities not dependent on critical area resources to less ecologically sensitive sites, and mitigate unavoidable impacts to critical areas by regulating alterations in and adjacent to critical areas;
(d) Protect species listed as threatened or endangered under the Federal Endangered Species Act of 1973 (16 USC 1531 through 1534) and their habitats by prohibiting activities that kill, harass, harm, trap, collect, wound, hunt, or pursue such species/habitats;
(e) Comply with the Federal Clean Water Act and Washington State water pollution control laws.

The City of Puyallup has further defined that all actions and developments shall be designed and constructed to avoid and minimize all adverse impacts to critical areas. Applicants are required to demonstrate an inability to avoid or minimize impacts before restoration and compensation of impacts will be allowed. In addition, the City has identified that a protective buffer shall be established landward of the ordinary high water mark of a stream, landward of the outer boundary of a wetland, and adjacent to critical habitats. The purpose of such buffers is to protect the integrity, functions, and values of the identified critical area. The established buffer is to consist of an undisturbed area of native vegetation, shall reflect the sensitivity of the critical area, and shall reflect the type and intensity of the adjacent human use or activity.

As identified above, the onsite assessment completed in accordance with criteria and procedures established in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the Washington State *Wetland Rating System for Western Washington:* 2014 Update (version 2). Publication #23-06-029 (Hruby, T. & Yahnke, A. 2023); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and the City of Puyallup – *Chapter 21.06* did **not** identify any critical areas within the project site.

This assessment identified Meeker Ditch within a defined and manage channel to the south of the project site – south of 10th Avenue SW. Meeker Ditch has been identified to provide direct and indirect habitats for salmonid fish species and is a tributary to Clarks Creek, which is a tributary to the Puyallup River. Meeker Ditch is also best defined as a City of Puyallup Type F Stream and the standard City of Puyallup protective buffer for a Type F Stream is 100 feet in width as measured perpendicular from the ordinary high water mark.

STREAM BUFFER ESTABLISHMENT

The City of Puyallup has identified that a protective buffer is defined as a "designated area contiguous or adjacent to a wetland that is required for the continued maintenance, function, and structural stability of the critical area." However, the project site is separated from the offsite Meeker Ditch Corridor by 10th Avenue SW – a paved public roadway – which is located along the southern boundary of the project site.

- **Interrupted Stream Buffer – Functionally Disconnected**

The Washington Department of Ecology (WDOE) has identified that buffers and buffer areas are "vegetated areas adjacent to wetlands or other aquatic resources that can reduce impacts from adjacent land uses through various physical, chemical, and/or biological processes." However, the WDOE has also identified that in some locations the standard buffer may be interrupted or functionally disconnected from the defined critical area by existing physical characteristics (*Wetland Guidance for Critical Areas Ordinance (CAO) Updated, Western and Eastern Washington*. 2022. Washington State Department of Ecology. Olympia, WA. Publication #22-06-014).

Functionally disconnected buffer areas occur where "existing, legally established development blocks the protective measures that a buffer provides and increasing the buffer on the far side of the development would add no protective benefit." Furthermore, the interruption or disconnection refers to a critical area buffer area that is "partially or fully disrupted by existing structures, roads, or other development, rather than being a continuous, vegetated area surrounding an identified critical area." Such interruptions or disconnections typically impact or greatly diminish the buffer's ability to perform its intended functions, such as filtering pollutants, regulating water flow, and providing habitat. Significant existing developments that create a complete barrier to the functions of a critical area buffer area include built public infrastructure such as paved roads and railroads, and private developments such as houses or commercial structures.

As noted above, 10th Avenue SW – a paved public roadway – which is located along the southern boundary of the project site – between the project site to the north and Meeker Ditch to the south (Figure 8). 10th Avenue SW provides a daily access corridor for several single-family homesites and includes existing public utilities. The southern edge of 10th Avenue SW – adjacent to Meeker Ditch - is routinely mowed by the City of Puyallup to manage the establishment of vegetation and ensure channel capacity along the roadway shoulder and along the slope of Meeker Ditch slope.

Stream Buffer Conclusion: Based on existing site characteristics, the project site appears best defined as "functionally disconnected from the Meeker Ditch Corridor" such that the standard 100-foot buffer for Meeker Ditch would not encroach onto the project site.

CONCLUSION

As outlined above the proposed *Site Development Action* has defined the following conclusions:

ASSESSMENT METHOD	CONCLUSION
Biological Evaluation consistent with the provisions of the Endangered Species Act	No adverse impacts to critical habitats onsite or within the immediately adjacent habitats. No adverse impacts to critical habitats or downstream water quality within the Clarks Creek Corridor/Lower Puyallup River Watershed.
Essential Fish Habitats assessment consistent with the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996.	No adverse impacts to essential fish habitats onsite or within the immediately adjacent habitats associated with the Clarks Creek Corridor/Lower Puyallup River Watershed.
Floodplain habitats assessment consistent with the Regional Guidance for Floodplain Habitat Assessment and Mitigation, FEMA Region X, 2013	No adverse impacts to floodplain habitats onsite or within the immediately adjacent habitats associated with the Clarks Creek Corridor/Lower Puyallup River Watershed.
Environmentally Critical Areas (wetlands, streams, critical fish and wildlife habitats)	No adverse impacts to environmentally critical areas onsite or within the immediately adjacent habitats associated with the Clarks Creek Corridor/Lower Puyallup River Watershed. The project site appears best defined as “functionally disconnected” from the Meeker Ditch Corridor.

Thank you for allowing Habitat Technologies the opportunity to assist with your proposed project. Please contact us with any questions.

Sincerely,

Bryan W. Peck

Bryan W. Peck
Senior Wetland Biologist

Thomas D. Deming

Thomas D. Deming, SPWS
Habitat Technologies

FIGURES

Figure 1 Site Vicinity

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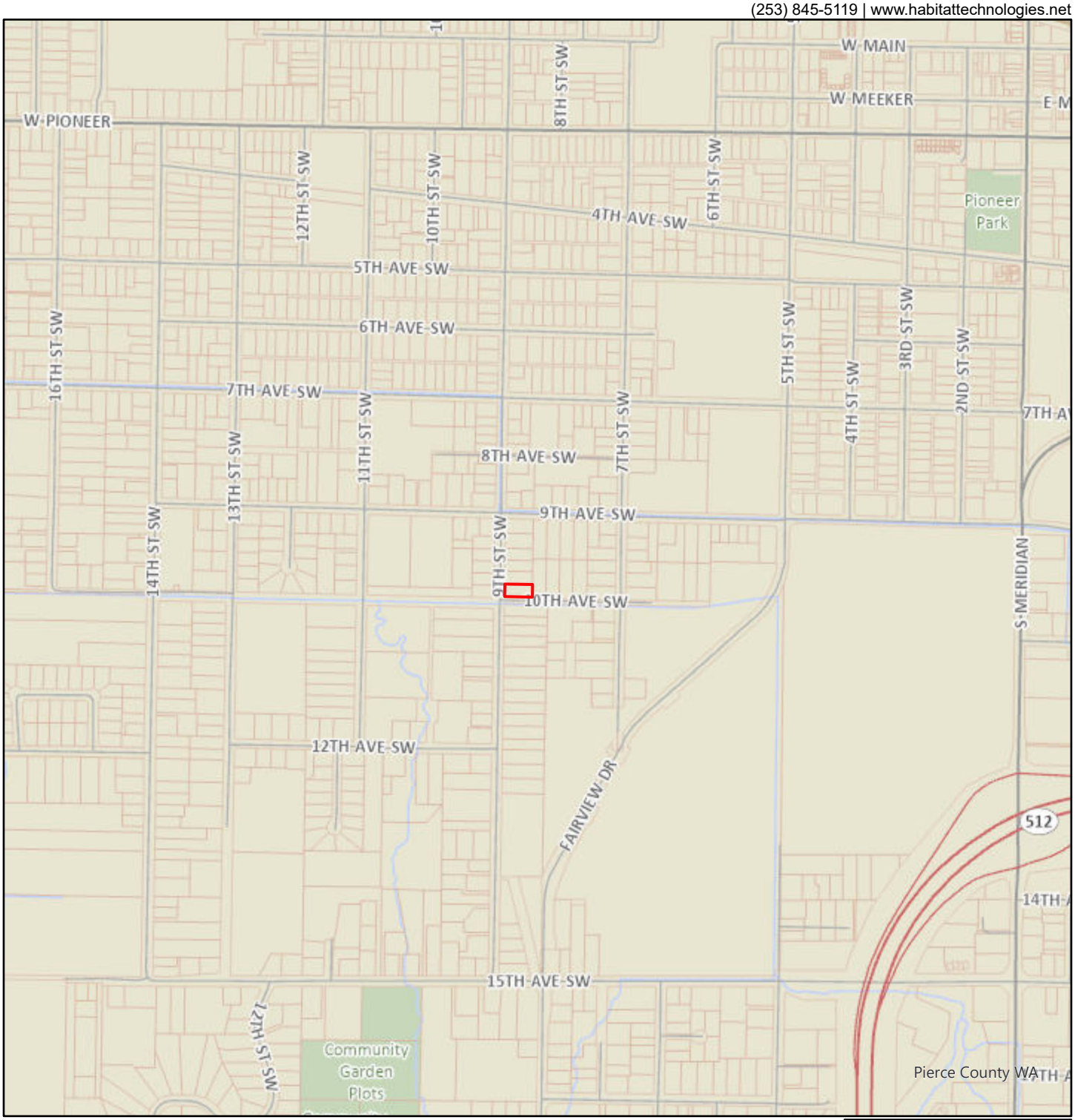
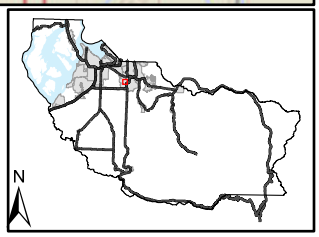


Legend

Project Site Boundary



1:9,600

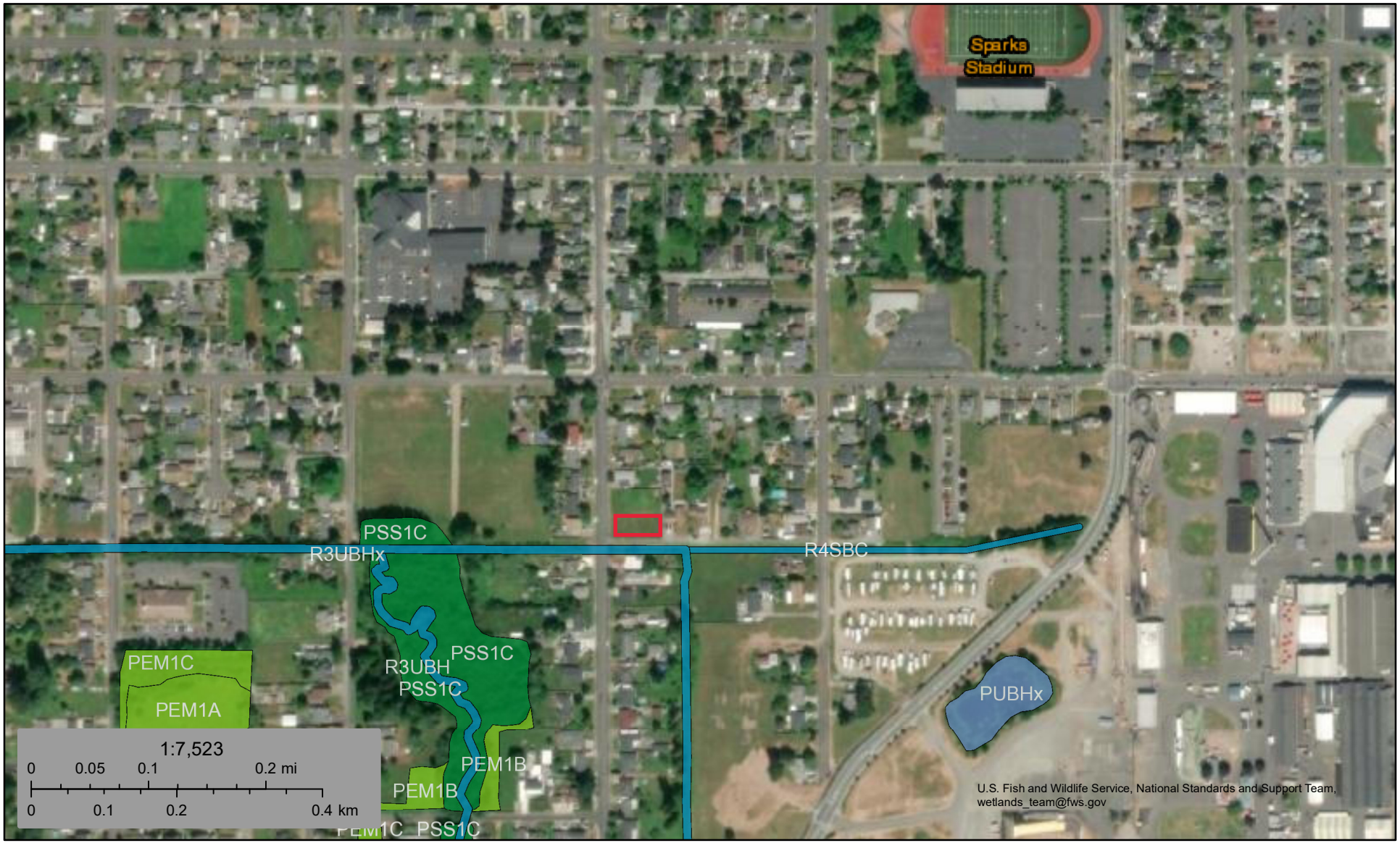
0 212.5 425 850 Feet

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.

Date: 7/24/2025 11:47 AM

U.S. Fish and Wildlife Service
National Wetlands Inventory

Figure 2 NWI Mapping



July 24, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Figure 3

Priority Habitats and Species on the Web

Report Date: 07/24/2025, Parcel ID: 5505202702

The Priority Habitats and Species (PHS) datasets do not contain information for your project area. This does not mean that species and habitats do not occur in your project area. PHS data, points, lines and polygons are mapped only when occurrences of these species or habitats have been observed in the field. Unfortunately, we have not been able to comprehensively survey all sections in the state and therefore, it is important to note that priority species and habitats may occur in areas not currently known to the Department.

Figure 4 WDFW Salmonscape Mapping

July 24, 2025

All SalmonScape Species

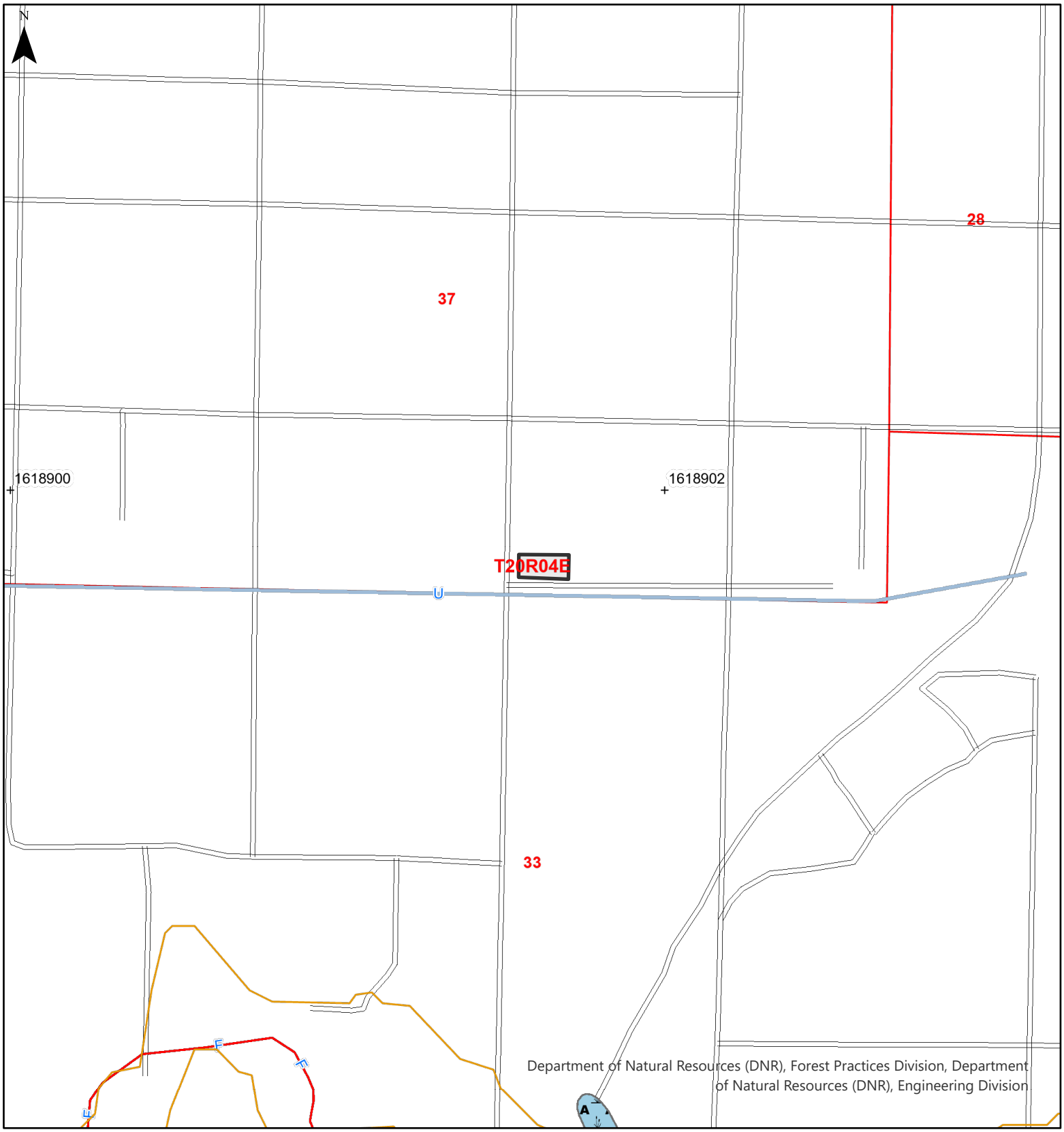
1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

USGS/NHD, Dale Gombert (WDFW), Esri, HERE, Garmin, iPC, WDFW, Maxar

Figure 5 Forest Practices Water Type Map



Map Symbols

- 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

Additional Information

Legal Description

S37 T20.0N R04.0E, S33 T20.0N R04.0E, S28 T20.0N R04.0E

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

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.

Approximate Scale : 1:4,800

0 200 400 800 Feet

Date: 7/24/2025 Time: 11:56 AM

Figure 6 City of Puyallup Mapping

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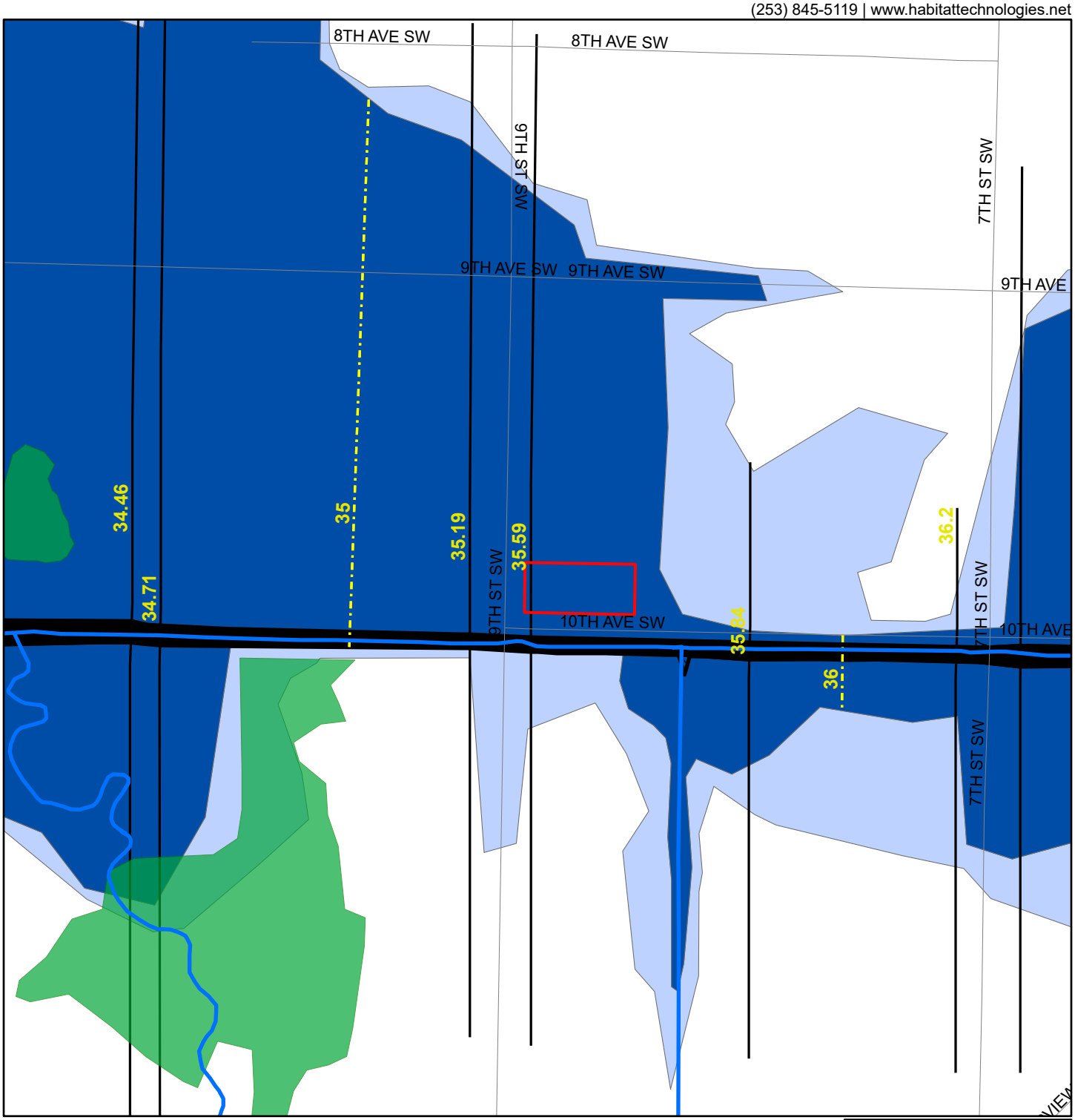


Legend

- Streams - Puyallup
- Project Site Boundary

Roads

- Interstate Highway
- Highway Ramp
- Limited Access State Highway
- Other State Highway
- Major Road
- Arterial
- Residential
- Unknown

Wetlands - Puyallup

- Field-verified Delineated
- Field-verified
- Unverified
- Unverified
- Unverified

- Buffer
- Mitigation Site
- Cross Sections
- Floodplain BFE
- Seclusion Areas

DFF Floodway

- Unverified
- Verified

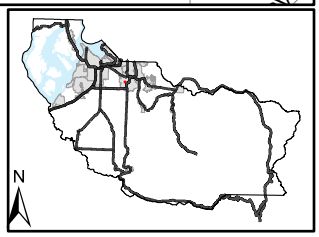
- Floodway
- CMZ Floodway
- FIRM Panels

Regulated Floodplain 2017

- 1% Annual Chance Flood

- 1% Annual Chance Flood
- 1% Annual Chance Flood
- 1% Annual Chance Flood
- X BEHIND LEVEE
- 0.2 PCT
- X (SHADED)

- Coastal High Hazard Areas
- Coastal High Hazard Areas
- See King County FIRM



1:2,400

0 50 100 200 Feet

Date: 7/24/2025 12:38 PM

Figure 7 Soils Mapping

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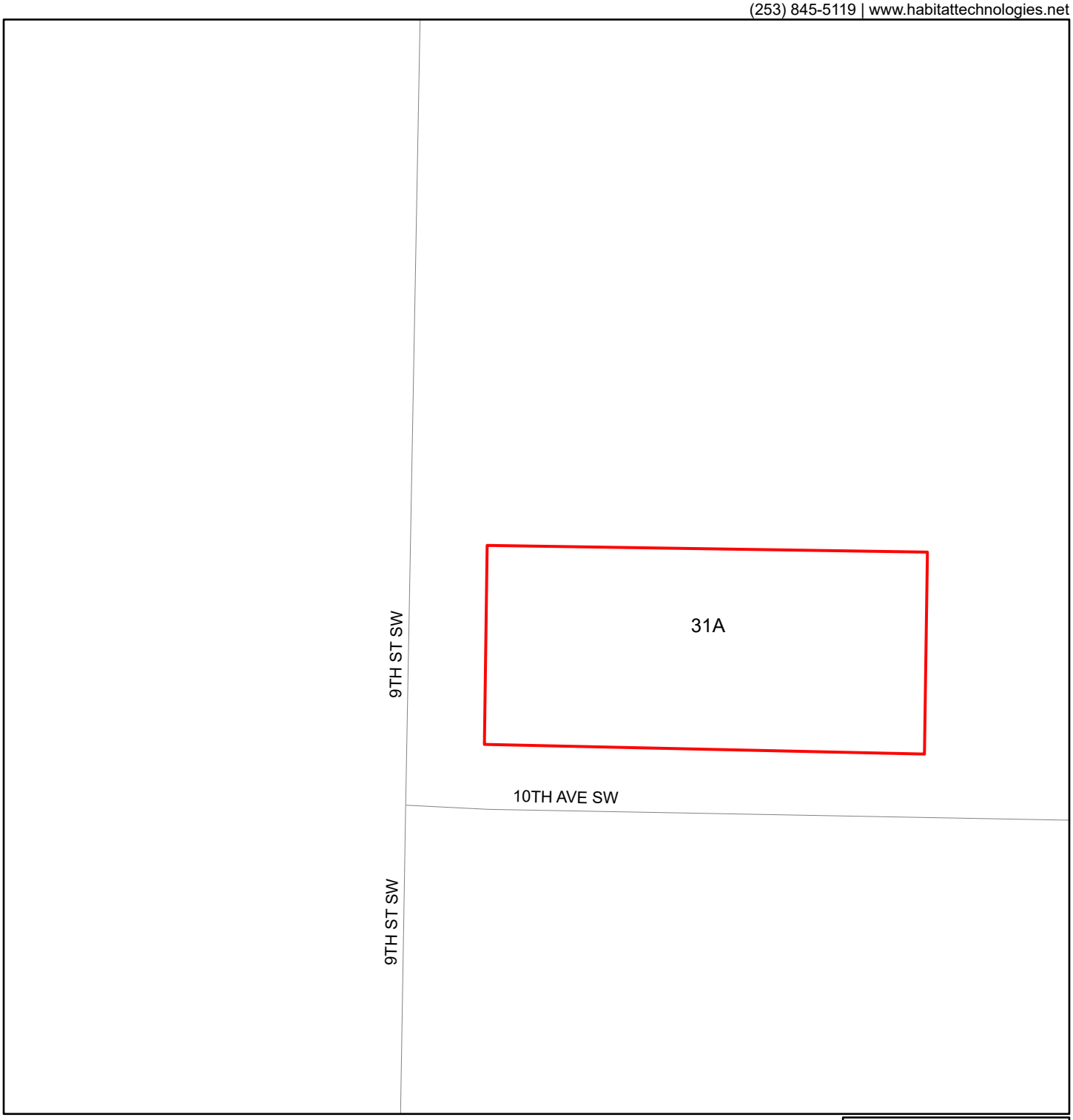


Legend

Project Site Boundary

Roads

Interstate Highway

Highway Ramp

Limited Access State Highway

Other State Highway

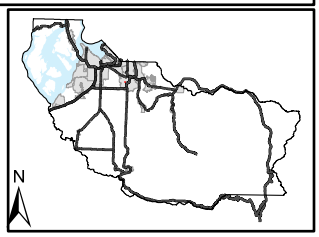
Major Road

Arterial

Residential

Unknown

Soils



1:600

0 12.5 25 50 Feet

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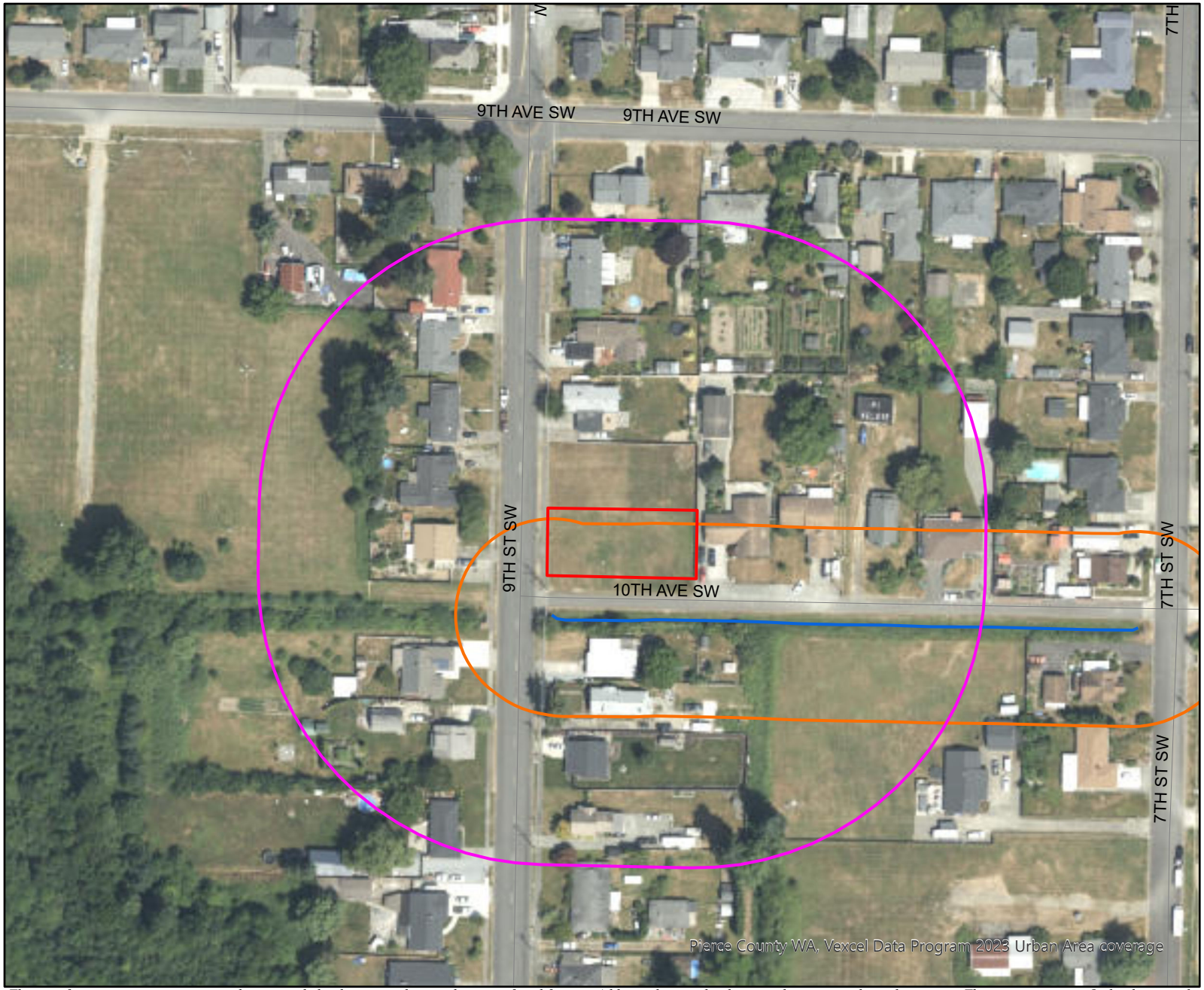
Figure 8 Site Graphic



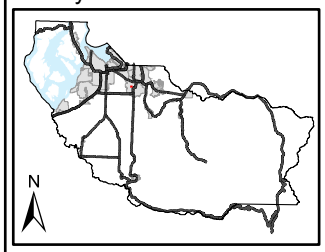
Legend

- 300 Feet Action Area
- Project Site Boundary
- Meeker Ditch 100 Feet Buffer
- Meeker Ditch

Roads

- Interstate Highway
- Highway Ramp
- Limited Access State Highway
- Other State Highway
- Major Road
- Arterial
- Residential
- Unknown

County - 2023 Ortho



0 35 70 140
Feet

1:1,800

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Date: 7/24/2025 11:45 AM

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PHOTOS

View of Meeker Ditch (right), 10 Avenue SW, and project site (Left).

View of project site to the north of 10 Avenue SW.