City of Tacoma
Planning and Development Services Department
747 Market St, Room 345
Tacoma, WA 98402

PUBLIC NOTICE

Date of Notification: 3/5/2013
Application Received: 2/14/2013
Application Complete: 2/14/2013

Applicant: Puget Creek Restoration Society, 702 Broadway, Suite 101, Tacoma, WA 98402, 253-779-8890

Location: 3111 N. Proctor Street, Parcel numbers 6705004311 & 2805021160

Application No: WET2013-40000196419

Proposal:

Wetland/Stream Development Permit to allow the construction of a boardwalk along with associated stream crossings, signs and other amenities within a Category I wetland, Type F Stream and their associated buffers. The subject site is located within a "R-2" Single-Family Dwelling District.

Comments Due: 4/3/2013

For further information: Log onto the website at http://govme.org and select "Permit Information" then "Land Use Notices". The case file may be viewed in Planning and Development Services, 747 Market Street, Room 345.

Documents to Evaluate the Proposal:

JARPA, SEPA DNS, Site Plans, Tacoma Municipal Code, and Comprehensive Plan

Studies Requested:

Environmental Report, Mitigation Plan

Other Required Permits:

Building Permits

Applicable Regulations of the Tacoma Municipal Code:

13.05 land Use Permit Procedures & 13.11 Critical Areas Preservation Ordinance

Public Meeting: A public meeting may be requested by the area neighborhood council, a qualified neighborhood group, or by written request of the owners of five or more properties who receive this notice.

A final decision on the proposal will be made following the comment period. A summary of the final decision will be sent to those parties who receive this notice. A complete copy of the final decision will be mailed to those parties who request a copy or to those who have commented on the project. Appeal provisions will be included with both the summary and the complete copy of the final decision.

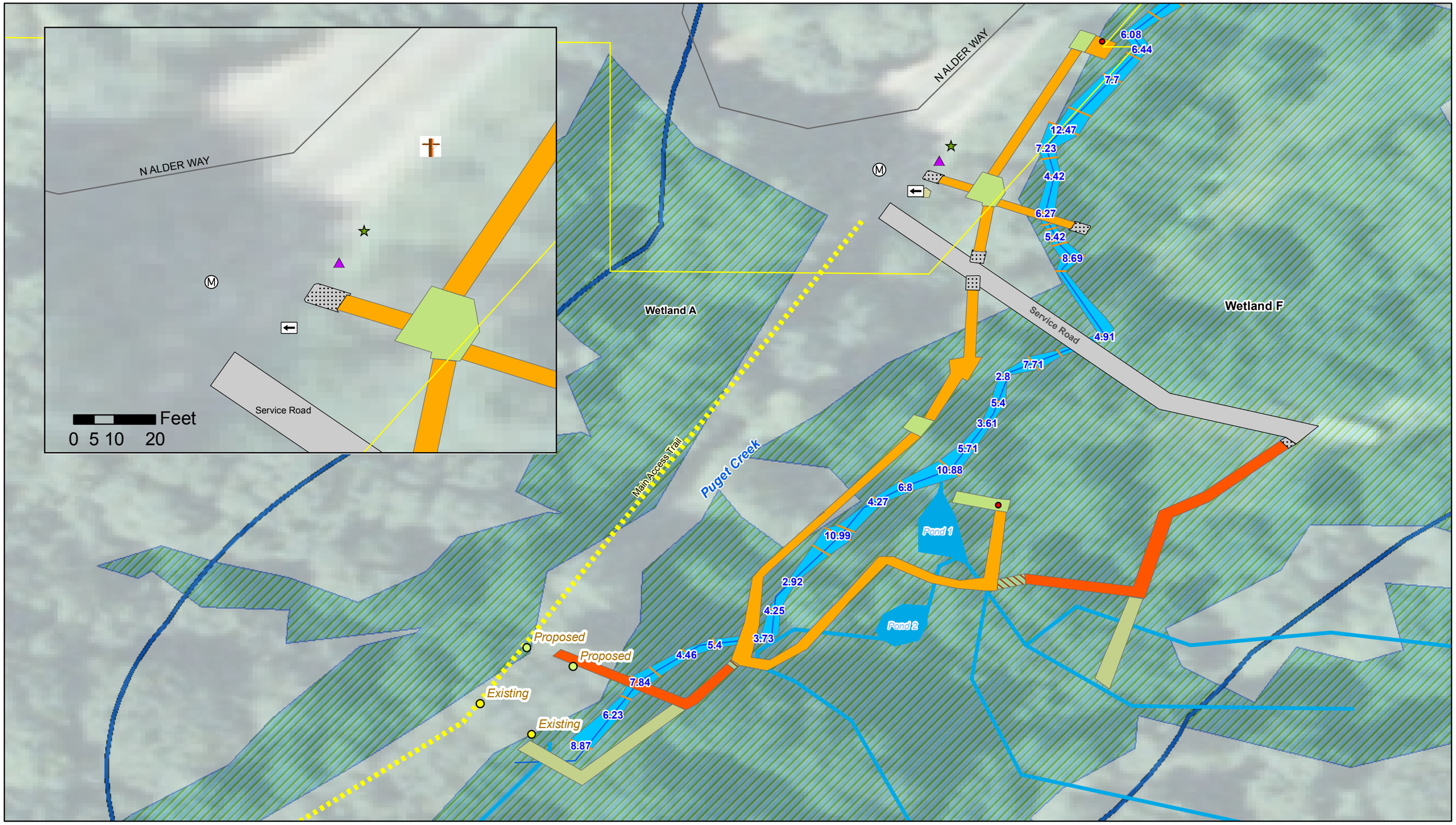
Staff Contact: Misty Blair, Environmental Specialist, 747 Market St, Room 345, (253) 591-5482, mblair@cityoftacoma.org

Environmental Review: Per SEPA, WAC 197-11-340, the Lead Agency has issued an environmental determination for the project. For further information regarding SEPA, please contact the project applicant.

To request this information in an alternative format or a reasonable accommodation, please call 253-591-5030 (voice). TTY or STS users please dial 711 to connect to Washington Relay Services.

City of Tacoma
Planning and Development Services Department
747 Market St, Room 345
Tacoma, WA 98402

NOTICE OF LAND USE APPLICATION



Estimated Boardwalk Lenght = 842ft

Boardwalk Facilities
- Proposed Boardwalk
- Proposed Planting Area
- Phase II
- Platform
- Concrete Ramp
- Gravel
- Ramp

- Bench
- BikeRack
- Kiosk
- Statue
- Cross Sections (Ft)
- Streams
- Right of Way

- Street Sign Arrow (missing
- Storm Drain Cover
- Telephone Pole (N. Alder)
- Split Rail Fence
- Existing
- Proposed

Puget Creek Salmon Status Map

September 5, 2012

Tacoma, Washington

Feet
0 20 40 80 120 160

N

2009 NAIP Aerial (orthophotos)

Puget Creek Restoration Society
702 Broadway
Suite 101
Tacoma, WA 98402
Phone: 253-779-8890
Fax: 253-593-8890
www.pugetcreek.org

WA Stateplane South NAD 81/93

Z:\My Documents\GIS\Map Projects\Permit\Salmon_Statue_Permit_Puget_Creek_2012_09_05.mxd

2010
WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) Form[1]

USE BLACK OR BLUE INK TO ENTER ANSWERS IN WHITE SPACES BELOW.

US Army Corps of Engineers ®
Seattle District

AGENCY USE ONLY

Date received:

Agency reference #: _____

Tax Parcel #(s): _____

Part 1–Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [help][2]
Puget Creek Boardwalk

Part 2–Applicant

The person or organization responsible for the project. [help]

2a. Name (Last, First, Middle) and Organization (if applicable)			
Puget Creek Restoration Society			
2b. Mailing Address (Street or PO Box)			
702 Broadway, Suite 101			
2c. City, State, Zip			
Tacoma, WA 98402			
2d. Phone (1)	**2e.** Phone (2)	**2f.** Fax	**2g.** E-mail
(253) 779-8890	( )	( )	pugetcreek@yahoo.com

Part 3–Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b. of this application.) [help]

3a. Name (Last, First, Middle) and Organization (if applicable)			
Theresa Dusek			
3b. Mailing Address (Street or PO Box)			
2215 North 30th Street, Suite 300			
3c. City, State, Zip			
Tacoma, WA 98403			
3d. Phone (1)	**3e.** Phone (2)	**3f.** Fax	**3g.** E-mail
(253) 383-2422	(253) 861-3355	( )	tdusek@ahbl.com

Part 4–Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. [help]

☐ Same as applicant. (Skip to Part 5.)

☐ Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)

☒ There are multiple property owners. Complete the section below and fill out JARPA Attachment A for each additional property owner.

4a. Name (Last, First, Middle) and Organization (if applicable)	
Doug Fraser, Metro Parks Tacoma	City of Tacoma Public Works/Real Property Services
4b. Mailing Address (Street or PO Box)	
4702 South 19th Street	747 Market Street
4c. City, State, Zip	
Tacoma, WA 98405	Tacoma, WA 9840

4d. Phone Parks	**4e.** Phone Tacoma	**4f.** E-mail Parks	**4g.** E-mail Tacoma
(253) 305-1019	(253) 591-5249	dfraser@tacomaparks.com	mary.williams@cityoftacoma.org

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [help]

☐ There are multiple project locations (e.g., linear projects). Complete the section below and use JARPA Attachment B for each additional project location.

5a. Indicate the type of ownership of the property. (Check all that apply.) [help]

☐ State Owned Aquatic Land (If yes or maybe, contact the Department of Natural Resources (DNR) at (360) 902-1100)
☐ Federal
☒ Other publicly owned (state, county, city, special districts like schools, ports, etc.)
☐ Tribal
☐ Private

5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [help]

3111 North Proctor Street

5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]

Tacoma, WA 98406

5d. County [help]

Pierce

5e. Provide the section, township, and range for the project location. [help]

¼ Section	Section	Township	Range
NW 1/4	30	21N	3E

5f. Provide the latitude and longitude of the project location. [help]

- Example: 47.03922 N lat. / -122.89142 W long. (NAD 83)

47.28 N. Latitude – 122.475 W. Longitude

5g. List the tax parcel number(s) for the project location. [help]

- The local county assessor's office can provide this information.

6705004311 and 2805021160

5h. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [help]

Name	Mailing Address	Tax Parcel # (if known)
City provides names for mailing		

5i. List all wetlands on or adjacent to the project location. [help]

Wetland F is within the project area and Wetland A west of the project area.

5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [help]

Puget Creek and associated tributaries

5k. Is any part of the project area within a 100-year flood plain? [help]

☐ Yes ☒ No ☐ Don't know

5l. Briefly describe the vegetation and habitat conditions on the property. [help]

Forested wetland and buffer with understory of shrubs and herbaceous vegetation. Boardwalk is proposed on existing Puget Garden cobble lined trails that have minimal vegetation with one new section not on the cobble lined trail to allow safe connection to the main trail. Puget Creek is a salmon spawning stream with footbridges that cross the stream and associated tributaries and a forested riparian corridor.

5m. Describe how the property is currently used. [help]

Passive recreation (trails and picnic area) natural area with ongoing restoration, education and research projects.

5n. Describe how the adjacent properties are currently used. [help]

Passive recreation, utility corridors and residential.

5o. Describe the structures (above and below ground) on the property, including their purpose(s). [help]

No below ground structures in the proposed project area. Above ground structures include three wooden footbridges, three small wooden crossings which are used to cross Puget Creek and associated tributaries in the existing Puget Gardens trail area, picnic tables, salmon statue, and signage.

5p. Provide driving directions from the closest highway to the project location, and attach a map. [help]

From I-5 take the Tacoma City Center exit and follow the signs to Ruston Way. Stay on Ruston Way until you see C.I. Shenanigans Restaurant (on right side) then take the next left after the restaurant onto North Alder Way. Go about 1.5 blocks and as the road starts to curve to the right Puget Creek Natural Area is on the left.

Part 6–Project Description

6a. Summarize the overall project. You can provide more detail in 6d. [help]

The project includes construction of a 842 linear foot, approximately four foot wide, TREX boardwalk which includes curbing along both sides, handrails in standing water areas and observation and turning radius platforms. The boardwalk is intended for passive recreational and educational purposes, will be constructed on pier blocks in uplands and diamond pin pile footings in the Category 1 wetland located at the Puget Creek Natural Area. The trail will be ADA accessible (review by Metro Parks ADA Coordinator Roxanne Miles has occurred) but a portion, to meet grade and create a loop trail as required by Metro Parks Tacoma, will have a 7% slope ramp and handrails to meet ADA standards. In addition, ramps to create a smooth transition between the existing grade and boardwalk will be constructed of pervious asphalt or pervious concrete in five locations that are currently gravel areas. In addition to the boardwalk the project will also consider placing way finding signage, kiosk, art feature, benches at the viewing platforms and a bike rack. Mitigation includes closing and planting two social trails, and placement of three habitat brush piles. In addition, the City of Tacoma approved in-stream placement of woody debris under permit WET2010-40000145361 that was designated as being allowed as advance mitigation for the boardwalk installation. Best management practices and requirements outlined in the approved HPA issued by the WDFW will be used to hand remove the existing foot bridge over the streams and construct the boardwalk outside the fish window to offset any potential impacts. The boardwalk project will also control public access to Puget Creek and through the wetland.

6b. Indicate the project category. (Check all that apply) [help]

☐ Commercial ☐ Residential ☐ Institutional ☐ Transportation ☒ Recreational
☐ Maintenance ☐ Environmental Enhancement

6c. Indicate the major elements of your project. (Check all that apply) [help]

☐ Aquaculture	☐ Culvert	☐ Float	☐ Road
☐ Bank Stabilization	☐ Dam / Weir	☐ Geotechnical Survey	☐ Scientific Measurement Device
☐ Boat House	☐ Dike / Levee / Jetty	☐ Land Clearing	☐ Stairs
☐ Boat Launch	☐ Ditch	☐ Marina / Moorage	☐ Stormwater facility
☐ Boat Lift	☐ Dock / Pier	☐ Mining	☐ Swimming Pool
☐ Bridge	☐ Dredging	☐ Outfall Structure	☐ Utility Line
☐ Bulkhead	☐ Fence	☐ Piling	
☐ Buoy	☐ Ferry Terminal	☐ Retaining Wall (upland)	
☐ Channel Modification	☐ Fishway		

☒ Other: boardwalk and recreational amenities.

6d. Describe how you plan to construct each project element checked in 6c. Include specific construction methods and equipment to be used. [help]

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year flood plain.

There is no 100 year floodplain mapped on the site.

Construction will begin at the north end of the site and continue south. Removal of the existing wood structures over the streams will occur by hand prior to construction of the boardwalk in each area during the fish window between July 16 and September 30. All requirements of the HPA issued for the project on February 11, 2011 will be met. The precast concrete head of the pin foundation (Diamond Pier) is installed at the ground surface, and steel bearing pins are driven through the head and into the ground using simple hand-held tools such as an automatic driving hammer and sliding post driver. The Diamond Pier detail has been included as an attachment to this form. The boardwalk will be constructed by hand on the pin foundations. The pin pile foundation design is proposed to create minimal impact to wetland. Pier blocks will be used in areas outside of the wetland. Transition ramps will be constructed by hand as each boardwalk section associated with the ramp is completed.

6e. What are the start and end dates for project construction? (month/year) [help]

- If the project will be constructed in phases or stages, use JARPA Attachment D to list the start and end dates of each phase or stage.

Construction is dependent on funding and is anticipated to be fully constructed in 5 years.

Start date: Spring 2013 End date: Summer 2014 if fully funded ☐ See JARPA Attachment D

6f. Describe the purpose of the project and why you want or need to perform it. [help]

The purpose of the project is to implement the Puget Creek Natural Area Master Plan. PCRS received a National Fish and Wildlife Foundation grant, Washington State Department of Fish and Wildlife grant, two City of Tacoma grants and many private funds and grants to fund to implement the boardwalk project. The proposed boardwalk project connects people with nature in a controlled manner and immerses them into the natural environment associated with the stream and wetlands which provide additional passive recreational and educational opportunities within the natural area.

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [help]

$510,000

6h. Will any portion of the project receive federal funding? [help]

- **If yes**, list each agency providing funds.

☒ Yes ☐ No ☐ Don't know

National Fish and Wildlife Foundation grant

Part 7–Wetlands: Impacts and Mitigation

☒ Check here if there are wetlands or wetland buffers on or adjacent to the project area.
(If there are none, skip to Part 8.) [help]

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [help]

☐ Not applicable

The boardwalk is being constructed on pin piles and pier blocks to avoid filling the wetland and the majority of the boardwalk will be constructed on the existing Puget Gardens trail system which is lined with cobbles. Transition ramps are proposed to be constructed of pervious material and the boardwalk itself is considered a pervious system. Pin piles and pier blocks are being used and will not be placed below the OHWM of the streams to eliminate impacts to hydrology associated with the wetlands and streams. The boardwalk itself will provide controlled access to and through the wetland system which minimizes uncontrolled access and the public mucking through the wetland. The footprint of the boardwalk has been reduced to avoid impacts to forested sections of the wetland and buffer. The boardwalk is proposed at a four foot width to match the minimum width of the existing Puget Garden trails. Stream crossings, viewing platforms and the location and length of the boardwalk have been reduced compared to past designs. Platforms are being placed in areas

where the trail is wider than 4 feet or already has designated viewing areas (i.e. the platform near the pond is a designated viewing area with existing dedication signage for Puget Gardens).

7b. Will the project impact wetlands? [help]

☒ Yes ☐ No ☐ Don't know

7c. Will the project impact wetland buffers? [help]

☒ Yes ☐ No ☐ Don't know

7d. Has a wetland delineation report been prepared? [help]

- **If yes**, submit the report, including data sheets, with the JARPA package.

☒ Yes ☐ No

7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [help]

- **If yes**, submit the wetland rating forms and figures with the JARPA package.

☒ Yes ☐ No ☐ Don't know

7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [help]

- **If yes**, submit the plan with the JARPA package and answer 7g.
- **If No, or Not applicable,** explain below why a mitigation plan should not be required.

☒ Yes ☐ No ☐ Not applicable

7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [help]

The mitigation plan is meant to accomplish the following.

- Control access into and through the wetland.
- Close and plant two uncontrolled social trails.
- Provide a safe loop trail system that is handicap accessible with minimal impacts to the wetland and streams.
- Protect the wetland and streams using BMPs designated in the HPA issued by WDFW.
- Planting native tree and shrub vegetation, placement of habitat brush piles and woody debris.
- Avoid impacts to the wetland and stream hydrologic conditions.
- Provide in-stream placement of woody debris for fish habitat and to control erosion as already approved by the City under permit WET2010-40000145361 as advance mitigation for the boardwalk project.

A watershed plan was prepared for the Puget Creek watershed and the boardwalk project. Habitat enhancement and restoration of Puget Gulch were a part of the watershed plan.

7h. Use the table below to list the type and rating of each wetland impacted; the extent and duration of the impact; and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan. [help]

Not applicable

Activity (fill, drain, excavate, flood, etc.)	Wetland Name[1]	Wetland type and rating category[2]	Impact area	Duration of impact[3]	Proposed mitigation type[4]	Wetland mitigation area
Boadwalk construction	Wetland F	Depressional, Slope, Riverine, Category 1	582 lf in wetland	permanent	Rehab and enhancement	In stream rehab, social trail restoration, habitat brush piles, and controlled access

						to wetland.

[1] If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report.
[2] Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.
[3] Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.
[4] Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)

Page number(s) for similar information in the mitigation plan, if available: _____

7i. For all filling activities identified in 7h., describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [help]

Not applicable. Pin piles not considered fill.

7j. For all excavating activities identified in 7h., describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [help]

Not applicable.

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, "waterbodies" refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [help]

☐ Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [help]

☐ Not applicable

Pin piles and pier block will not be placed below the ordinary high water mark of the streams. Boardwalk and ramps are constructed of pervious materials. Best management practices and requirements outlined in the approved HPA issued by the WDFW will be used to hand remove the existing foot bridge over the streams and construct the boardwalk outside the fish window. Project has been designed to minimize impacts in comparison to past designs.

8b. Will your project impact a waterbody or the area around a waterbody? [help]

☒ Yes ☐ No

8c. Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [help]

- **If yes**, submit the plan with the JARPA package and answer 8d.
- **If No, or Not applicable,** explain below why a mitigation plan should not be required.

☒ Yes ☐ No ☐ Not applicable

Best management practices and requirements outlined in the approved HPA issued by the WDFW will be used to hand remove the existing foot bridge over the streams and construct the boardwalk outside the fish window to offset any potential impacts. In addition, the City of Tacoma approved in-stream placement of woody debris under permit WET2010-40000145361 that was denoted as being allowed as advance mitigation for the boardwalk installation.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g., you do not need to restate your answer here. [help]

The mitigation plan is meant to accomplish the following.

- Control access into and through the wetland.
- Close two uncontrolled social trails.
- Provide a safe loop trail system that is handicap accessible with minimal impacts to the wetland and

streams.

- Protect the wetland and streams using BMPs designated in the HPA issued by WDFW.
- Planting native tree and shrub vegetation, placement of habitat brush piles and woody debris.
- Avoid impacts to the wetland and stream hydrologic conditions.
- Provide in-stream placement of woody debris for fish habitat and to control erosion as already approved by the City under permit WET2010-40000145361 as advance mitigation for the boardwalk project.

A watershed plan was prepared for the Puget Creek watershed and the boardwalk project. Habitat enhancement and restoration of Puget Gulch were a part of the watershed plan.

8e. Summarize impact(s) to each waterbody in the table below. [help]

Not applicable

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name[1]	Impact location[2]	Duration of impact[3]	Amount of material to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
No direct impacts. Construction over waterbodies	Puget Creek and associated tributaries	Adjacent, above ohwm	Work to be completed outside fish window	none	NA

[1] If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.
[2] Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.
[3] Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

8f. For all activities identified in 8e., describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [help]

Not applicable.

8g. For all excavating or dredging activities identified in 8e., describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [help]

Not applicable.

Part 9–Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [help]

Agency Name	Contact Name	Phone	Most Recent Date of Contact
WDFW	Gina Piazza	(360) 895-3965	February 2011
Tacoma	Misty Blair	(253) 591-5482	September 2012

9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 on the Washington Department of Ecology's 303(d) List? [help]

- **If yes,** list the parameter(s) below.
- If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: http://www.ecy.wa.gov/programs/wq/303d/.

☐ Yes ☒ No

9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [help]

- Go to http://cfpub.epa.gov/surf/locate/index.cfm to help identify the HUC.

17110019

9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [help]

- Go to http://www.ecy.wa.gov/services/gis/maps/wria/wria.htm to find the WRIA #.

WRIA 12

9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [help]

- Go to http://www.ecy.wa.gov/programs/wq/swqs/criteria.html for the standards.

☒ Yes ☐ No ☐ Not applicable

9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [help]

- If you don't know, contact the local planning department.
- For more information, go to: http://www.ecy.wa.gov/programs/sea/sma/laws_rules/173-26/211_designations.html.

Not applicable

☐ Rural ☐ Urban ☐ Natural ☐ Aquatic ☐ Conservancy ☐ Other _____

9g. What is the Washington Department of Natural Resources Water Type? [help]

- Go to http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_watertyping.aspx for the Forest Practices Water Typing System.

☐ Shoreline ☒ Fish ☐ Non-Fish Perennial ☐ Non-Fish Seasonal

9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [help]

- **If no**, provide the name of the manual your project is designed to meet.

☒ Yes ☐ No

Name of manual: City of Tacoma Manual

9i. If you know what the property was used for in the past, describe below. [help]

Residential property as Puget Garden and then Puget Creek Park and Natural Area.

9j. Has a cultural resource (archaeological) survey been performed on the project area? [help]

- **If yes**, attach it to your JARPA package.

☐ Yes ☒ No

9k. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [help]

None known or mapped in the project or surrounding area.

9l. Name each species or habitat on the Washington Department of Fish and Wildlife's Priority Habitats and Species List that might be affected by the proposed work. [help]

Coho salmon and coastal resident cutthroat.

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at http://apps.ecy.wa.gov/opas/.
- Governor's Office of Regulatory Assistance at (800) 917-0043 or help@ora.wa.gov.
- For a list of agency addresses to send your application, click on the "where to send your completed JARPA" at http://www.epermitting.wa.gov.

10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [help]

- For more information about SEPA, go to www.ecy.wa.gov/programs/sea/sepa/e-review.html.

☒ A copy of the SEPA determination or letter of exemption is included with this application.

☐ A SEPA determination is pending with _____ (lead agency). The expected decision date is _____.

☐ I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [help]

☐ This project is exempt (choose type of exemption below).

☐ Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?

_____

☐ Other: _____

☐ SEPA is pre-empted by federal law.

10b. Indicate the permits you are applying for. (Check all that apply.) [help]

LOCAL GOVERNMENT

Local Government Shoreline permits:

☐ Substantial Development ☐ Conditional Use ☐ Variance

☐ Shoreline Exemption Type (explain): _____

Other city/county permits:

☐ Floodplain Development Permit ☒ Critical Areas Ordinance

STATE GOVERNMENT

Washington Department of Fish and Wildlife:

☐ Hydraulic Project Approval (HPA) ☐ Fish Habitat Enhancement Exemption

Washington Department of Ecology:

☐ Section 401 Water Quality Certification

Washington Department of Natural Resources:

☐ Aquatic Resources Use Authorization

FEDERAL GOVERNMENT

United States Department of the Army permits (U.S. Army Corps of Engineers):

☐ Section 404 (discharges into waters of the U.S.) ☐ Section 10 (work in navigable waters)

United States Coast Guard permits:

☐ General Bridge Act Permit ☐ Private Aids to Navigation (for non-bridge projects)

Part 11–Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [help]

11a. Applicant Signature (required) [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application to act on my behalf in matters related to this application. _____ (initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. _____ (initial)

Applicant Printed Name	Applicant Signature	Date

11b. Authorized Agent Signature [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Authorized Agent Printed Name	Authorized Agent Signature	Date
Theresa Dusek	Theresa R Dusek	February 6, 2013

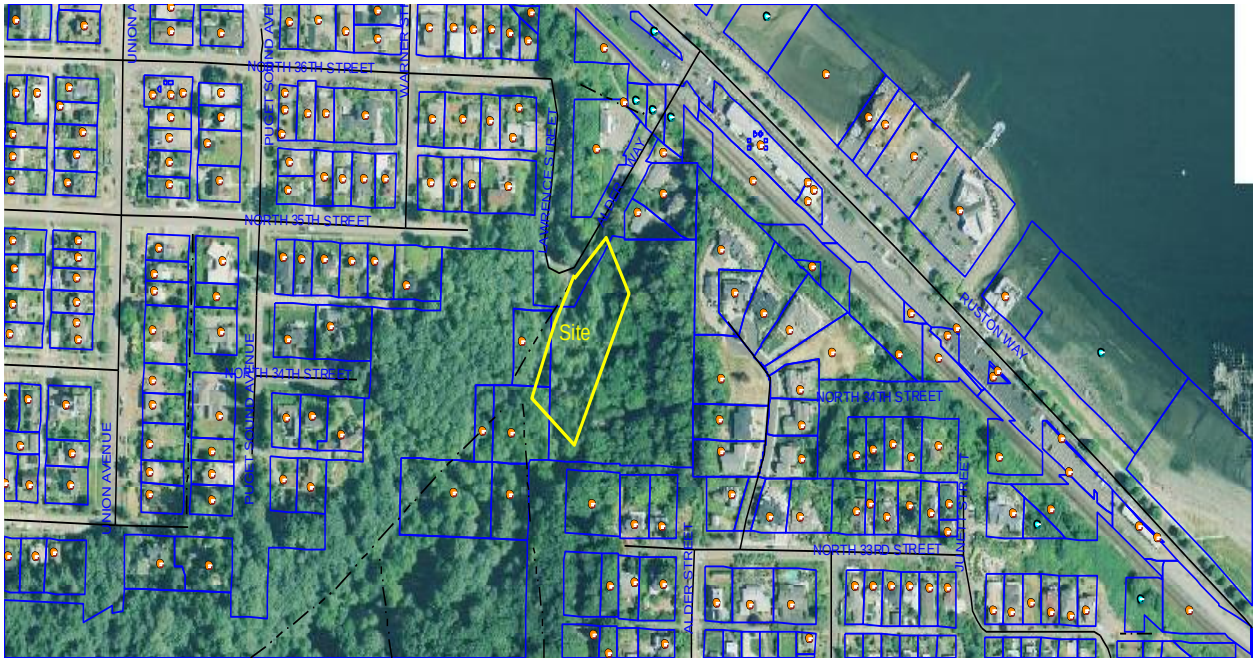
11c. Property Owner Signature (if not applicant). [help]
Not required if project is on existing rights-of-way or easements.

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

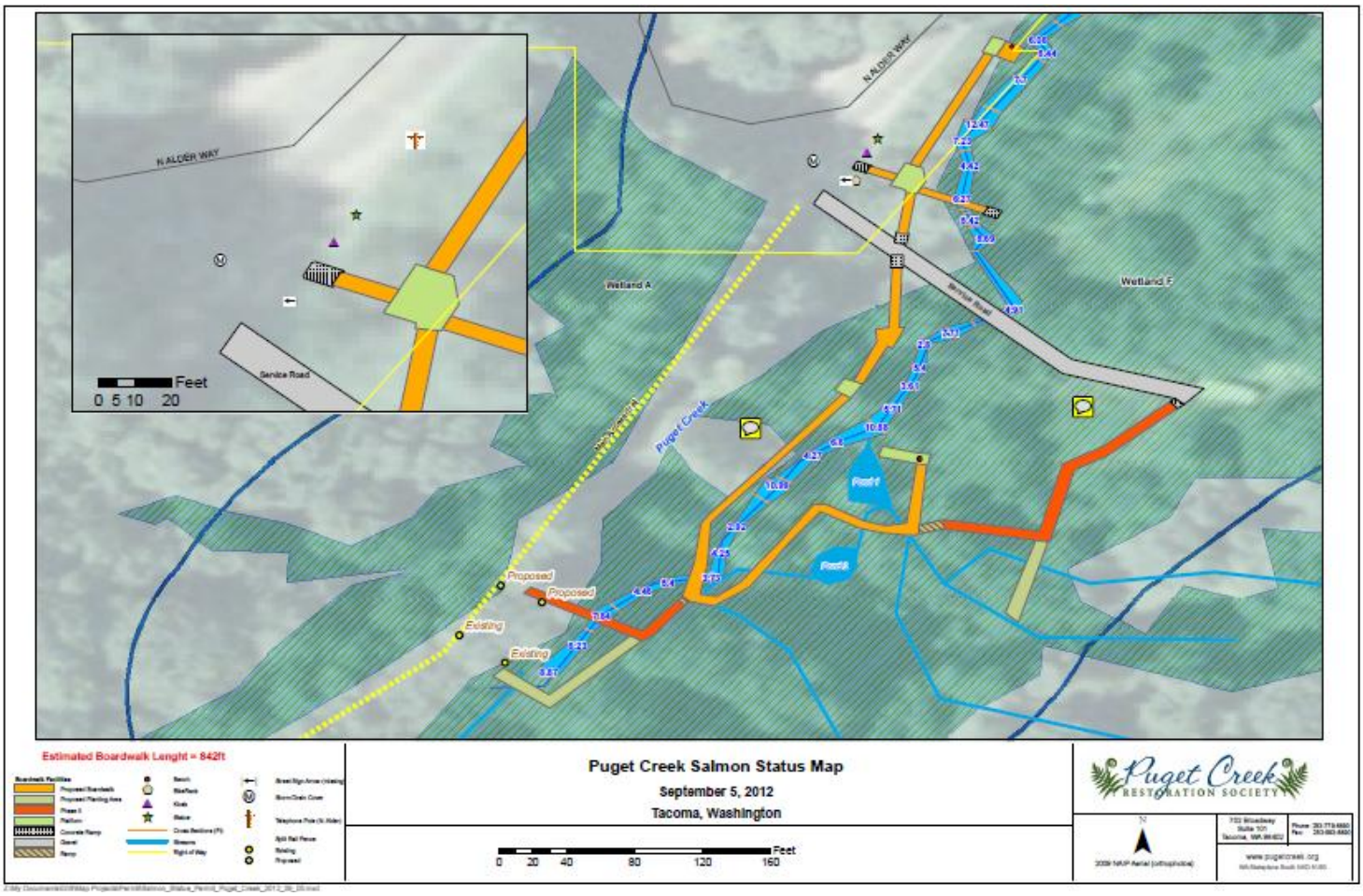
Property Owner Printed Name	Property Owner Signature	Date

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact The Governor's Office of Regulatory Assistance (ORA). People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341.
ORA publication number: ENV-019-09



Vicinity Map


N ALDER WAY
Service Road
Feet
0 5 10 20
Wetland A
Wetland F
Puget Creek
Pond
Proposed
Existing
Estimated Boardwalk Lenght = 842ft
Puget Creek Salmon Status Map
September 5, 2012
Tacoma, Washington
Feet
0 20 40 80 120 160
Puget Creek
RESTORATION SOCIETY

Part 11–Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [help]

11a. Applicant Signature (required) [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application. SM H. (initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. SM H. (initial)

Applicant Printed Name	Applicant Signature	Date
Scott M. Hansen	Scott M. Hansen Project Manager - Puget Creek Restoration Society	2-7-13

11b. Authorized Agent Signature [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Authorized Agent Printed Name	Authorized Agent Signature	Date
Theresa Dusek	Theresa R Dusek	February 6, 2013

11c. Property Owner Signature (if not applicant). [help]
Not required if project is on existing rights-of-way or easements.

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

Property Owner Printed Name	Property Owner Signature	Date
Douglas S. Fraser Chief Planning Manager		2/6/13

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THERESA DUSEK CONSULTING
Management and Regulatory Permitting

Puget Creek Boardwalk Development Permit Technical Report and Plans

PREPARED FOR:

Puget Creek Restoration Society
702 Broadway, Suite 101
Tacoma, WA 98402

Metro Parks Tacoma
4702 South 19th Street
Tacoma, WA 98405

PROJECT:

Puget Creek Natural Area Boardwalk
Tacoma, WA

PREPARED BY:

Theresa R. Dusek
Natural Resources Ecologist

January 2013

3910 North Defiance Street Tacoma Washington 98407 **theresadusekconsulting@hotmail.com**

Executive Summary

The findings and conclusions presented in this report are based on an interpretation of information currently available. This summary is for introductory purposes and should be used only in conjunction with the full text of this report.

This technical report was developed to assist in site planning related to construction of a boardwalk within the Puget Creek Natural Area where a majority of the trial will be located on the existing cobble lined Puget Garden trails that are located within a Category 1 wetland of local significance, and wetland and stream buffers. The boardwalk will replace three stream crossings and three small footbridges and create one new stream crossing of a Type F1 stream. Wetlands were delineated and habitat was assessed by Grette and Associates in October 2009. Since the wetlands were delineated the City of Tacoma has updated the Critical Areas Preservation Ordinance (TMC 13.11) and all Puget Creek wetlands are consider wetlands of local significance requiring 300 foot buffers. The boardwalk project has received approvals from the City of Tacoma including a SEPA Determination of Non-significance (SEPA2009-40000131331) and Conditional Use Permit (CUP2010-40000145366), and the Washington State Department of Fish and Wildlife Hydraulic Project Approval dated February 11, 2011.

Metro Parks Tacoma completed a Management Plan for the Puget Creek Natural Area between February and April of 2012 and received public input regarding the management plan at several Metro Parks Nature and Environment Advisory Council meetings and two public meetings. The public showed support for construction of the boardwalk on the existing Puget Garden Trails through the wetland. The project meets the Public Interest Test as described in the body of this report.

The project includes construction of a 842 linear foot, approximately four foot wide, wood boardwalk (582 linear feet in wetland and 260 linear feet in buffer), for passive recreational and educational purposes, on pier blocks and diamond pin pile footings in a Category 1 wetland located at the Puget Creek Natural Area. In a telephone conversation with the U.S. Army Corps of Engineers, they have determined that boardwalks through wetlands on pin piles do not modify water flow through wetlands, is not considered fill and do not require a Section 404 Clean Water Act permits unless significant vegetation is being removed or grading is occurring. According to Roxanne Miles (the ADA coordinator for Metro Parks Tacoma) the trail will be ADA accessible but a portion, to meet grade and create a loop trail as required by Metro Parks Tacoma, will have a 7% slope ramp. In addition, ramps to create a smooth transition between the existing grade and boardwalk will be constructed of pervious asphalt or pervious concrete in five areas that are currently gravel surface. In addition to the boardwalk the project will also consider way finding signage, a kiosk, a salmon statue, and salmon arch, benches at the viewing platforms, and a bike rack.

The table below describes each element of the project, its impacts and mitigation.

Puget Creek Natural Area Boardwalk Impact Review			
Element	**Proposal**	**System Impacted**	**Impact and Proposed Mitigation**
Boardwalk	Construction of an 842 linear foot (582 linear feet in wetland and 260 linear feet in buffer), approximately four foot wide, wood boardwalk on existing cobble lined trails which were part of the historic Puget Garden Trail system.	Shading none	Area is already significantly shaded by forest.
		Vegetation Mitigation to abandon and plant social trails and provide brush piles for habitat	Remove 2 nonnative cherry trees. Scatter wood as woody debris where trees are felled.
			Move 103 native plants from new trail location to south of proposed boardwalk location onto existing social trails.
			Trim branches within 1 foot of boardwalk edge and overhead for a height of 8 feet for safety. Place trimmings in designated habitat brush piles.
			Plant 103 native trees and shrubs on existing social trails to abandon the trails.
		Hydrology none.	Boardwalk construction will not alter hydrologic conditions of wetlands, streams or increase impervious surfaces. Boardwalk and transition ramps are pervious material.
Footings	Pin pile footings through wetland.	None	Pin piles will not alter water flow and are not considered fill.
	Pier blocks not in wetland areas.	None	Pier blocks will be placed on existing grade in gravel buffer areas.
Stream Crossings	Replace 3 existing wood bridge stream crossings and 3 small wood footbridges.	None	BMPs used to remove bridges and construct boardwalk with no footings below the ordinary high water mark of the streams. Construction during the fish window as allowed by the HPA.
	Construct one new stream crossing with boardwalk.	One new crossing of stream mitigated with in-stream placement of woody debris.	Construct boardwalk with no footings below the ordinary high water mark of the stream. Vegetation, hydrologic condition and shading will not be altered. Provide in-stream placement of woody debris for fish habitat and to control erosion as already approved by the City under permit WET2010-40000145361 as advance mitigation for the boardwalk project.
Fill	None in wetland	None	Pin piles are not considered fill.
	Ramps to create a smooth transition between the existing grade and	None	Boardwalk ramps will be constructed of pervious asphalt or pervious concrete in five areas that are currently graveled.
Amenities	Kiosk, art feature, benches and bike rack	None	Proposed to be placed in existing graveled areas of the wetland buffer.
Fencing	Move existing wood fence near double log crossing and trail to be abandoned and planted	None	Move existing fence near double log crossing and place at new southern connection to main trail to assist in managing public access to the creek.

The mitigation plan is meant to accomplish the following:

- Control access into and through the wetland.
- Close and plant two uncontrolled social trails to equal new trail construction areas not total trail resurfacing.
- Move existing fence near double log crossing and place at new southern connection to main trail.
- Provide a safe loop trail system that is handicap accessible with minimal impacts to the wetland and streams.
- Protect the wetland and streams using BMPs designated in the HPA issued by WDFW.
- Planting native tree and shrub vegetation, placement of habitat brush piles and woody debris.
- Avoid impacts to the wetland and stream hydrologic conditions.
- Provide in-stream placement of woody debris for fish habitat and to control erosion as already approved by the City under permit WET2010-40000145361 as advance mitigation for the boardwalk project.

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Appendices

1.0 INTRODUCTION

This technical report was developed to assist in site planning related to construction of a boardwalk within the Puget Creek Natural Area that will be located on the existing cobble lined Puget Garden trails that are located within a Category 1 wetland of local significance, and wetland and stream buffers. The project includes construction of an 842 linear foot, four foot wide, wood boardwalk, for passive recreational and educational purposes, on pier blocks and diamond pin pile footings in a Category 1 wetland located at the Puget Creek Natural Area. The boardwalk will replace three stream crossings, three small footbridges and create one new stream crossing of a Type F1 stream. According to Roxanne Miles the ADA coordinator for Metro Parks Tacoma the trail will be ADA accessible but a portion, to meet grade and create a loop trail as required by Metro Parks Tacoma (Parks), will have a 7% slope ramp. In addition, ramps to create a smooth transition between the existing grade and boardwalk will be constructed of pervious asphalt or pervious concrete in five areas that are currently gravel surfaces. In addition to the boardwalk the project will also place way finding signage, a kiosk, a salmon statue, salmon arch, benches at the viewing platforms, and a bike rack. Impacts to the wetland and buffer are proposed to be mitigated and accomplish the following.

- Control access into and through the wetland.
- Close and plant two uncontrolled social trails to equal new trail construction areas not total trail resurfacing.
- Move existing fence near double log crossing and place at new southern connection to main trail.
- Provide a safe loop trail system that is handicap accessible with minimal impacts to the wetland and streams.
- Protect the wetland and streams using BMPs designated in the HPA issued by WDFW.
- Planting native tree and shrub vegetation, placement of habitat brush piles and woody debris.
- Avoid impacts to the wetland and stream hydrologic conditions.
- Provide in-stream placement of woody debris for fish habitat and to control erosion as already approved by the City under permit WET2010-40000145361 as advance mitigation for the boardwalk project.

Prior to issuance of this document several reports and onsite visits were completed. Wetlands were delineated and habitat was assessed by Grette and Associates in October 2009 (included with the permit submittal). Since the wetlands were delineated the City of Tacoma (Tacoma) has updated the Critical Areas Preservation Ordinance (TMC 13.11) and all Puget Creek wetlands are consider wetlands of local significance requiring 300 foot buffers. The onsite streams including Puget Creek and associated tributaries in the project area were determined to be Type F1 streams that contain Coho salmon.

The boardwalk project has received approvals from Washington State Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA) dated February 11, 2011 (Appendix B), and several approvals from the Tacoma including a SEPA Determination of Non-significance (SEPA2009-40000131331) and Conditional Use Permit (CUP2010-40000145366). The original development permit for the boardwalk was denied by Tacoma in 2011. Significant changes to the boardwalk footprint and the overall project have been made to assist in approval of this new permit application. In addition, Metro Parks Tacoma completed a Management Plan for the Puget Creek Natural Area between February and April of 2012 and received public input regarding the management plan at Metro Parks Nature and Environment Advisory Council meetings and two public meetings. The public showed support for construction of the boardwalk on the existing Puget Garden Trails through the wetland.

1.1 Site Location and Description

The proposed project site is comprised of two parcel (6705004311 and 2805021160) located near North Alder Way (Section 30, Township 21 North, Range 03 East, W.M.). The main parcel is owned by Metro Parks Tacoma and the project is located in the northeast portion of the parcel.

The second parcel is owned by Tacoma Public Works and the existing double footbridge crossing two streams is proposed to be replaced with boardwalk on the northeast portion of the parcel. See Figure 2 for the parcel ownership map. In addition, a portion of the project (bike rack, signage and the kiosk) is located in the North Alder Way right-of-way. The project site is located in the Chambers/Clover Creek Basin of Water Resource Inventory Area 12.

The overall project area is forested wetland, wetland buffer and stream buffer with understory of shrubs and herbaceous vegetation. Descriptions of the wetlands, streams, and fish and wildlife habitat areas located on and adjacent to the site are located in the Grette Associates Wetland Delineation Report dated October 2009. Since the wetlands were delineated Tacoma has updated the Critical Areas Preservation Ordinance (TMC 13.11) and all Puget Creek wetlands are consider wetlands of local significance requiring 300 foot buffers.

Historically the site contained a residence and what was known as Puget Gardens. Most of the boardwalk is proposed on existing Puget Garden cobble lined trails (the edges of the trails are lined not the entire trail surface) that have minimal vegetation. Puget Creek and associated tributaries are salmon spawning streams with footbridges that cross the streams and have forested riparian corridors. No below ground structures or utilities are located in the immediate project areas. Above ground amenities include three wooden footbridges, the existing Puget Garden trails, picnic tables, a salmon statue and signage. Much of the Puget Garden trails are muddy and difficult to use during wet weather.

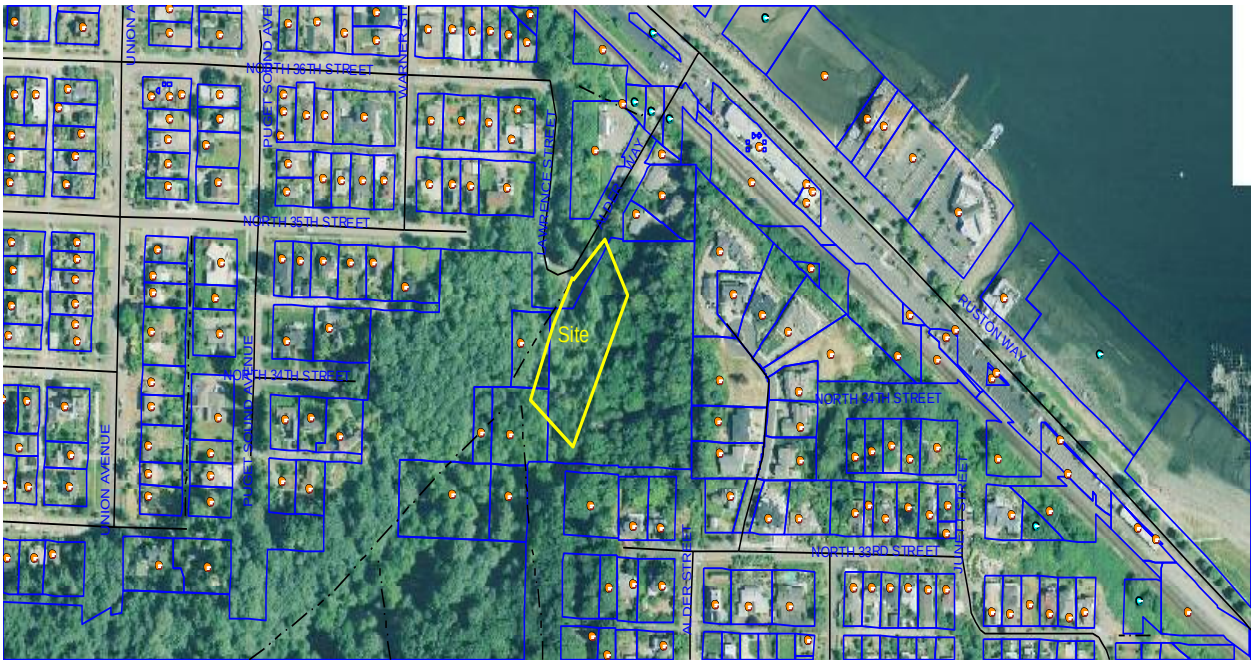

Figure 1: Vicinity Map

Figure 2: Parcel Ownership. Blue=Metro Parks Tacoma, Green= City of Tacoma, and yellow outline is the site area.

1.2 Project Proposal

The general location and footprint of the boardwalk is provided for land use permit acquisition and full structural design documents will be provided at the building permit stage of the project. The northern portion of the boardwalk will be constructed first with the remainder being constructed as funding is secured for building permit design. The boardwalk will be constructed by Puget Creek Restoration Society and volunteers including a licensed general contractor to oversee the Bates carpentry program, carpenters union interns and community journeyman carpenters working on the project. Parks will also have staff overseeing construction of the boardwalk. Signs will be placed by Parks staff. The boardwalk, ramp, stairs, kiosk and salmon arch will require building permit review and approval before beginning work. The boardwalk will begin construction with the north section and move south as funding is available. Work over the streams to remove wood foot bridges and construct the boardwalk will occur during the fish window between July 16, and September 30.

1.2.1 Boardwalk and Transition Ramps

The existing condition of the proposed boardwalk areas is a dirt trail with a minimum width of 4 feet and a maximum with of 8 to 9 feet in isolated areas. Most of the dirt trail is lined on each side with cobble stones. Two nonnative cherry trees have trunks that extend into the trail footprint and they are proposed to be removed with the trees and root wads placed south of the proposed trail system. The edges of the trail outside of the cobble line edge are forested with shrub and herbaceous understory. The area where the transition ramps are proposed is gravel surfaces with the exception of the pervious concrete ramp that will enter the picnic area which is mowed grass. The proposed 7% boardwalk ramp location contains 15 native shrubs (14 salmonberry and one Indian plum) which will be dug up and moved to close social trails south of the proposed boardwalk. In addition, the trail connection to the main trail, required by Metro Parks Tacoma, contains 88 native shrubs (63 salmonberry, 14 snowberry, 5 sword fern, 1 lady fern, 1 four-foot tall cedar and 1 four foot tall Douglas fir) which will be dug up and planted along social trails south of the proposed boardwalk near the existing double log crossing. The stream banks where the boardwalk is proposed to

cross are stable approximately 2:1 slopes, with a height of approximately 1 to 3 feet from top of bank to bed of the stream. Three of the stream crossings have existing wood footbridges that are proposed to be removed and replaced with boardwalk. Three smaller wood footbridge approximately 2 to 3 feet long cross tributaries to Puget Creek and are proposed to be replaced with the boardwalk.

Construction of a 842 linear foot, four foot wide, TREX boardwalk with wood curbing along both sides, handrails in deep water areas, four viewing platforms, five transition ramps and a 7% slope ramp. Approximately 582 linear feet (2,328 square feet) of the project is over wetland and 260 linear feet (1,044 square feet) is over wetland buffer. Removal of the existing wood structures over the streams will occur by hand prior to construction of the boardwalk in each area during the fish window between July 16 and September 30. Removal of the structures and construction over the streams will follow requirements outlined in the HPA issued by the WDFW. The HPA is located in Appendix B.

The boardwalk will be constructed on precast concrete diamond pin foundations (diamond pier) in the wetland and pier blocks outside of the wetlands. The precast diamond piers are installed at the ground surface and steel bearing pins are driven through the head into the ground using simple hand held tools such as an automatic driving hammer and slide post driver. The diamond pier detail is an attachment to the JARPA form. The boardwalk will be constructed by hand on the piers. The pin pile foundation design is proposed to create minimal impacts to wetland. In a telephone conversation with the U.S. Army Corps of Engineers, they have determined that boardwalks through wetlands on pin piles do not modify water flow through wetlands, is not considered fill and do not require a Section 404 Clean Water Act permits unless significant vegetation is being removed or grading is occurring.

The boardwalk will be of TREX construction. Any pretreated wood will meet the requirements of the HPA. The boardwalk will be constructed with hand held tools and within the prism of the existing trail system. The existing cobbles will be left in place. Soil disturbance will be no more than what occurs now with foot traffic walking on the trails. If erosion is noted, compost socks can be staked along the area of erosion and between construction and the stream. For safety, Parks is requiring vegetation within 1 foot of the boardwalk and 8 feet above the tread of the boardwalk to be trimmed prior to opening the boardwalk to the public. Trimmed vegetation will be placed in a brush pile for habitat.

The boardwalk will be ADA accessible but a portion, to meet grade and create a loop trail as required by Metro Parks Tacoma, will have a 7% slope ramp. This ramp will be provided with handrails as required to meet ADA standards.

The transition ramps between the boardwalk and the ground surface is proposed in five areas as shown on Exhibit WL-3. The transition ramps will be constructed of pervious asphalt or concrete and will be the width of the boardwalk.

1.2.2 Kiosk and Signage

A kiosk, way finding signs and educational signs are proposed at the entrance to the boardwalk near North Alder Way and along the boardwalk. The signs and kiosk will be designed by Metro Parks Tacoma and the general locations are shown on Exhibit WL-3. The signs and kiosk are expected to be wood posts buried in the ground and/or mounted to the boardwalk.

1.2.3 Benches, Bike Rack, and Art

Benches are proposed at the viewing platforms with a maximum of two benches anticipated. Benches will be secured to the boardwalk. Benches will be dependent on donations and funding received. Benches will be of the same style and type and approved by Parks before acquiring and being placed.

For the sake of this permit an art piece is proposed for the park as a permanent feature. Design of the art installation is being submitted with the boardwalk application but will be reviewed for approval by Metro Parks and Tacoma during the building permit stage of the project.

1.2.4 Fence

The existing split rail fence that directs users from the main trail to a double log crossing of Puget Creek. The split rail fence will be removed and placed near the main trail where the new trail connection is proposed.

2.0 IMPACT ANALYSIS

Impacts to the wetland and buffer are minimal and proposed to be mitigated per the Critical Areas Preservation ordinance. The table below describes each element of the project, its impacts and notes.

Puget Creek Natural Area Boardwalk Impact Review			
Element	**Proposal**	**System Impacted**	**Impact and Proposed Mitigation**
Boardwalk	Construction of an 842 linear foot (582 linear feet in wetland and 260 linear feet in buffer), approximately four foot wide, wood boardwalk on existing cobble lined trails which were part of the historic Puget Garden Trail system.	Shading none	Area is already significantly shaded by forest.
		Vegetation. Mitigation to abandon and plant social trails and provide brush piles for habitat	Remove 2 nonnative cherry trees. Scatter wood as woody debris where trees are felled.
			Move 103 native plants from new trail location to south of proposed boardwalk location onto existing social trails.
			Trim branches within 1 foot of boardwalk edge and overhead for a height of 8 feet for safety. Place trimmings in designated habitat brush piles.
			Plant 103 native trees and shrubs on existing social trails to abandon the trails.
		Hydrology none.	Boardwalk construction will not alter hydrologic conditions of wetlands, streams or increase impervious surfaces. Boardwalk and transition ramps are pervious material.
Footings	Pin pile footings through wetland.	None	Pin piles will not alter water flow and are not considered fill.
	Pier blocks not in wetland areas.	None	Pier blocks will be placed on existing grade in gravel buffer areas.
Stream Crossings	Replace 3 existing wood bridge stream crossings	None	BMPs used to remove bridges and construct boardwalk with no footings below the ordinary

	and 3 small wood footbridges.		high water mark of the streams. Construction during the fish window as allowed by the HPA.
	Construct one new stream crossing with boardwalk.	One new crossing of stream mitigated with in-stream placement of woody debris.	Construct boardwalk with no footings below the ordinary high water mark of the stream. Vegetation, hydrologic condition and shading will not be altered. Provide in-stream placement of woody debris for fish habitat and to control erosion as already approved by the City under permit WET2010-40000145361 as advance mitigation for the boardwalk project.
Fill	None in wetland	None	Pin piles are not considered fill.
	Ramps to create a smooth transition between the existing grade and	None	Boardwalk ramps will be constructed of pervious asphalt or pervious concrete in five areas that are currently graveled.
Amenities	Kiosk, art feature, benches and bike rack	None	Proposed to be placed in existing graveled areas of the wetland buffer.
Fencing	Move existing wood fence near double log crossing and trail to be abandoned and planted	None	Move existing fence near double log crossing and place at new southern connection to main trail to assist in managing public access to the creek.

3.0 CITY OF TACOMA REGULATIONS

Tacoma regulates impacts to wetland, streams, fish and wildlife habitat conservation areas (FWHCA) and associated buffers in Tacoma Municipal Code (TMC) 13.11. In accordance with TMC 13.11.140 the project requires a development permit since it includes clearing two trees, construction of a structure (boardwalk, kiosk, etc.), and altering vegetation through shading, pruning or planting that would alter the character of the site. The project does not meet TMC 13.11.210 Activities Allowed with Staff Review since the trail crosses a regulated water of the state, Puget Creek and wetland.

TMC 13.11.230.B Application Submittal Requirements requires the following for permit review and approval, where applicable depending on the project and permit type, and as determined by City staff.

1. JARPA form and vicinity map.

   Provided as the application for this proposed project.

2. A surveyed site plan.

   Maps provided in this report include north arrows, scales, property ownership, parcel lines, surveyed wetland boundaries, GPS location of the OHWM of Puget Creek as defined by the author of this report, buffers, City contours, utilities and the proposed project locations.

3. Critical Areas Report.

The Grette and Associates Wetland Delineation report contains information regarding the wetland delineation. The wetland buffer has been modified since release of the Grette and Associates report and is 300 feet as required by TMC 13.11. This Development Permit Technical Report identifies requirements for construction of the project including those identified in the HPA issued by the WDFW.

4. Compensatory Mitigation Plan

   Mitigation includes brush piles, leaving large woody debris (two cherry trees proposed to be removed) in the wetland/buffer, Plant 103 native trees and shrubs (removed from new trail areas) on two existing social trails to abandon the trails and provide in-stream placement of woody debris for fish habitat and to control erosion as already approved by the City under permit WET2010-40000145361 as advance mitigation for the boardwalk project.

5. Programmatic Development Permit

   Not proposed for this project.

TMC 13.11.250 General Standards require the following.

1. Mitigation sequencing.

   Avoiding impacts for this project are not possible as the boardwalk is proposed to bring the public into the wetland and stream environment for controlled recreation and educational activities. The project has minimized impacts by selecting the boardwalk to be constructed on the existing Puget Garden trails. The size and scope of the project have been reduced with fewer crossing of the streams, and less footprint for the boardwalk. For safety the project is a loop system. Impacts have been reduced to remove two nonnative trees, relocate 103 native shrubs along two social trails to be abandoned, and trim vegetation near the boardwalk for safety. Removed trees will be used as woody debris habitat and vegetation trimmings will be used as brush habitat piles (WL-3). The benches, kiosk, signage, salmon arch and bike rack will be located in existing graveled areas within the buffer or attached to the boardwalk. Removal of existing foot bridges and construction of boardwalk over the streams will meet WDFW HPA requirements and be completed in the required fish window. Mitigation includes brush piles, leaving large woody debris (two cherry trees proposed to be removed) in the wetland/buffer, Plant 103 native trees and shrubs (removed from new trail areas) on two existing social trails to abandon the trails and provide in-stream placement of woody debris for fish habitat and to control erosion as already approved by the City under permit WET2010-40000145361 as advance mitigation for the boardwalk project.

2. The result of the proposed activity is no new loss of wetland and stream function.

   Wetland and stream functions will not be impacted with the BMPs, mitigation and oversight proposed for this project.

3. The existence of plant and wildlife species appearing on the federal or state endangered or threatened species list will not be jeopardized.

   Threatened or endangered plant and wildlife species are not located in or near the project site; therefore, will not be jeopardized.

4. The proposal will not lead to significant degradation of groundwater or surface water quality.

The proposal will not impact groundwater quality and with the BMPs required by WDFW and oversight will not impact surface water quality.

5. The proposal complies with the remaining standards of TMC 13.11 pertaining to wetland compensation and bonds.

   The project is in association with a public agency (Metro Parks Tacoma); therefore, critical area bonds are not required.

TMC 13.11.250.E Trail Use and Construction indicates the following.

1. Trails shall be located on or near the outer quarter of the buffer edge, where possible, with the exception of limited viewing and crossing platforms.

   It is not possible to locate the boardwalk trail in the outer quarter of the buffer edge as the boardwalk is proposed to being the public into the wetland and stream environment for controlled recreation and educational activities.

2. Where possible, trails and associated viewing platforms shall not be made of continuous impervious materials. Natural trails with pervious surfaces such as, but not limited to, bark chip are encouraged.

   The boardwalk is not an impervious surface nor are the ramps leading up to the boardwalk which will be constructed of pervious concrete or asphalt.

Public Interest Test.

1. The extent of the public need and benefit.

   The public uses the existing historic, cobble stone lined, four foot wide trail system, including the three wooden bridges that cross Puget Creek to access the picnic area, view the creek and wildlife, and to immerse themselves in the natural environment off of the road wide main trail within the park. Portions of the existing trail system are through wetlands and are muddy and difficult to traverse without water proof boots. The boardwalk is needed to allow ease and control of public access with less environmental impact. It will benefit the public to construct a boardwalk over the wetland portions of the existing trail system.

   In addition, Metro Parks Tacoma completed a Management Plan for the Puget Creek Natural Area between February and April of 2012 and received public input regarding the management plan at several Metro Parks Nature and Environment Advisory Council meetings and two public meetings. The public showed support for construction of the boardwalk on the existing Puget Garden Trails through the wetland.

2. The extent and permanence of the beneficial or detrimental effects of the use or activity.

   The boardwalk will be a permanent structure within Puget Creek Park. Walking on the boardwalk will be a benefit to the public and the wetland system since water proof boots will not be required to walk on the existing trails. In addition the trail surface will no longer be walked on directly benefiting the environment by allowing the soil surface to restore its stability and lessening the potential for muddy water to enter Puget Creek. The board walk will not have permanent detrimental effects.

3. The quality and quantity of the wetland or stream or FWHCA that may be affected.

   The existing wetland is a Category 1 system and Puget Creek if a Type F stream that are of high quality. The wetland is 4.1 acres in size and the boardwalk will be constructed on 0.05 acres of the wetland mostly within the existing footprint of the existing trails. The boardwalk will cross Puget Creek at three locations where there are currently wooden foot bridges that will be replaced with the boardwalk and one new location as required by Metro Parks to connect the proposed boardwalk to the main trail.

4. The economic or other value of the use or activity to the general area and public.

   The boardwalk project has over 15 grants and funding provided by school fundraisers, the Puyallup Tribe, the City of Tacoma, and foundations. The boardwalk will be used by the local and regional public and Puget Creek Restoration Society for general wildlife and habitat viewing, education, and passive recreation.

5. The ecological value of the wetland or stream or FWHCA.

   The ecological values of the wetland and stream are high and construction of the boardwalk as proposed will not impact the overall ecological value of the wetland, stream or FWHCA.

6. Probable impact on public health and safety, fish, plants, and wildlife.

   There will be no impact on public health and safety, fish, and wildlife during construction of or after construction of the boardwalk project as designed. Temporary impacts to plants along the trail include moving plants, trimming of vegetation along the boardwalk for safety and removal of one non-native cherry tree.

7. The policies of the Comprehensive Plan.

   The project as proposed meets the following policies of the comprehensive plan.

   E-FW-22 Public Access
   Encourage public access provisions in all habitat improvement projects where such access will complement, not disrupt, the habitat improvement action.

   E-FW-24 Private Conservation Efforts
   Encourage community based or nonprofit local and regional trusts and private conservation efforts.

   OS-R-1 Develop and Improve Recreation Opportunities
   Acquire, improve and maintain land and facilities valuable for recreation purposes that support the goals of the OSHRP, other elements of the Comprehensive Plan and Metro Parks Tacoma's Strategic Parks and Program Services Plan.

   OS-R-4 Design and Development
   Promote design and development of recreation and open space facilities that provide for play that will enhance Tacoma's natural setting and that complement the ecology and unique features of the site or area.

   OS-T-3 Trail Design

Design specific trails according to the purposes served and the location. Trails developed primarily for low-impact access to or through habitat areas should be developed to minimize their impact to the environment through location choices, narrower width, and use of pervious surfaces. Pervious pavement and low impact development techniques are preferred, especially within habitat areas. Trails developed as non-motorized transportation corridors should be wide enough for the projected use and developed with a durable hard surface.

4.0 MITIGATION IMPLEMENTATION AND PERFORMANCE STANDARDS

The following describes the restoration plan for the Puget Creek Boardwalk project, as required by TMC 13.11.

4.1 Mitigation Goals and Objectives

The overall objective for the mitigation project is to protect existing onsite wetland, stream, and associated buffers, and to restore the native plant community where two social trails are located. To implement the overall objectives for the site, the following goals were established.

1. To use City of Tacoma and WDFW HPA requirements and BMPs during removal of existing foot bridges and construction of boardwalk over the streams, wetland and buffers.

2. To construct over and adjacent to the streams in accordance with the fish window between July 16, and September 30.

3. Plant the two social trails with native trees and shrubs removed from the footprint of the project site.

4. To monitor the planted native vegetation to meet project performance standards and success criteria.

4.2 Mitigation Planting Plan

The plant species selected for the buffer restoration areas are native to the Puget Sound Region and will be removed from (a) the boardwalk ramp location to include 14 salmonberry and one Indian plum and (b) the main trail connection including 63 salmonberry, 14 snowberry, 5 sword fern, 1 lady fern, 1 four-foot tall cedar and 1 four foot tall Douglas fir. These trees and shrubs have been already been flagged for removal. The removed plants will be dug up by hand and immediately planted on the two social trails proposed to be abandoned on sheet WE-3. Shrubs will be planted between 3 to 5 feet apart and trees no closer than 15 feet apart.

The two cherry trees located near the south end of the boardwalk project have already been flagged to identify their removal. The trees will be fell by a professional or Metro Parks Tacoma staff and remain in place. The base of the trees that may land in the trail footprint may be cut and moved to the side of the trail.

4.3 Implementation Procedures

The project is anticipated to begin in 2013. The boardwalk will be constructed by Puget Creek Restoration Society and volunteers including a licensed general contractor to oversee the Bates carpentry program, carpenters union interns and community journeyman carpenters woring on the project. Plant material will be moved by volunteers with direction by PCRS. Parks will also have staff overseeing construction of the boardwalk. Signs will be placed by Parks staff. The boardwalk, ramp, stairs, kiosk and salmon arch will require building permit review and approval before beginning work. The boardwalk will begin construction with the north section and move south as funding is available. Work over the streams to remove wood foot bridges and construct the boardwalk will occur during the fish window between July 16, and September 30.

After the boardwalk project has been completed (if phased for funding a report regarding work completed shall be provided annually) and vegetation has been established, PCRS will provide an as-built/baseline monitoring report to the City of Tacoma for approval.

PCRS will document the following implementation criteria in the as-built/baseline monitoring report:

- Construction practices and portions of the project that remain to be completed with a projected time line to completion.

- A planting plan showing the location and number of planting by species.

- After planting of the restoration area is completed, maintenance by PCRS will include regular visits for the purpose of weeding, and other items necessary to maintain planted areas in a healthy condition. Weeding is to be performed quarterly throughout the restoration area to discourage aggressive, non-native plant introductions. No pruning will occur. The initial maintenance period will be for a period of one year from the date of written acceptance of the plantings. Additional maintenance will occur annually until project monitoring is complete.

- Placement of the open rail fence to be moved where the southern connection of the boardwalk with the main trail is located.

4.4 Monitoring Plan

The primary purpose of the monitoring program is to document the degree of success or failure in achieving the performance objectives and to identify remedial action. The planed portion of the project will be monitored (a) within 30 days after planting and (b) annually at the end of the growing season (August to mid-September) for five years. As required by TMC 13.11, annual monitoring reports will be provided to the City of Tacoma until the planting project has been in place for at least five years and the success standards have been met. The following will be monitored annually for five years:

- Survival of planted trees and shrubs in the two planting area as defined on Sheet WE-3.

- Invasion of the site by non-native, invasive plant species. No more than ten percent cover of nonnative or other invasives, e.g., Himalayan blackberry, Japanese knotweed, evergreen blackberry, Scot's broom, English ivy, morning glory, etc., is permissible in the overall mitigation area in any monitoring year.

The monitoring will be completed with the following methodology

1. Counting of trees and shrubs in the planting areas. Plant material may be flagged to assist with this requirement. Trees and shrubs will be tallied by species and number.

2. Establish photograph stations within the planting areas to collect a sequence of photographs. These photographs will be used to evaluate vegetation community response over time.

3. Monitoring reports will be submitted to the City of Tacoma within 30 days of planting and by December annually for five years.

4.5 Performance Standards

Performance standards provide measurements to gauge the progress of the planting areas periodically and to identify remedial actions necessary to meet the final success criteria. For this project, it is proposes to use the health of the vegetation to gauge the progress of the project. The planted species will be monitored for vigor and survival. The overall target survival will be 100 percent the first year, and 80 percent per year of the planted tree and shrub species, as measured in representative planted buffer plots, for years two through five.

If it is determined that planted tree and shrub species are being replaced or out-competed by native shrubs or trees that grow voluntarily, the success criteria will be met only if the number of volunteer and planted shrub and tree species in the restoration area meet or exceed the number of shrub and trees required in the area for that year.

If these performance standards are not met, the cause of the failure to meet the performance standard will be evaluated and action will be taken to rectify the problem until the objectives are achieved.

4.6 Success Criteria

The buffer restoration area should ultimately have 80% cover of native trees and shrubs at the end of the five year monitoring program. This vegetation in the monitoring areas shall be self-sustaining, noninvasive, native vegetation at the end of five years. If the performance standards are met each monitoring year, and the success criteria are met at the end of five years, the project should be released from regulatory purview by the City of Tacoma. If the success criteria are not met, the monitoring program could be reviewed and extended by the permitting agency.

4.7 Contingency Plan

The following events could affect the success of the mitigation project. Prior to implementing any of the contingency plans, the City of Tacoma will be contacted for approval. The three events and the contingency for the each event follow:

Event: Mortality of planted vegetation in accordance with performance standards.

Contingency: PCRS must conduct quarterly monitoring of the health of all the newly introduced plant material for one year after the date of planting. Replace planted material as necessary during the appropriate planting seasons. After the first year, plant survival will be monitored annually, and if plant mortality exceeds the required performance standard, the causes for observed plant mortality will then be evaluated. If performance standards have not been met, replacement plant material will be prescribed based on this evaluation. PCRS will be responsible for replacing plant material.

Event: Non-availability of specified native plant materials.

Contingency: Plant species my die or multiply between the time plants were flagged and counted and movement of the plants. If this occurs it shall be noted in the as-built/baseline monitoring report.

5.0 MAINTENANCE PLAN

Upon construction of the boardwalk maintenance will be required over time including replacement of wood structure and hardware over time, trimming of vegetation within one foot of the boardwalk and eight feet above the tread of the boardwalk, normal maintenance of the kiosk, signs, bike rack, and benches. Responsibility for maintenance will reside with Metro Parks Tacoma and will be implemented by the Puget Creek Restoration Society as part of their agreement with Metro Parks Tacoma.

6.0 LIMITATIONS

The findings and conclusions documented in this report have been prepared for specific application to this site. They have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. Our work was also performed in accordance with the terms and conditions set forth in our proposal. The conclusions and recommendations presented in this report are professional opinions based on an interpretation of information currently available to us, and are made within the operation scope, budget, and schedule of this project. No warranty, expressed or implied, is made. Changes in government codes, regulations, or laws may occur. Because of such changes, our observations and conclusions applicable to this site may need to be revised wholly or in part.

Theresa Dusek Consulting

Theresa R. Dusek
Natural Resources Ecologist

7.0 REFERENCES

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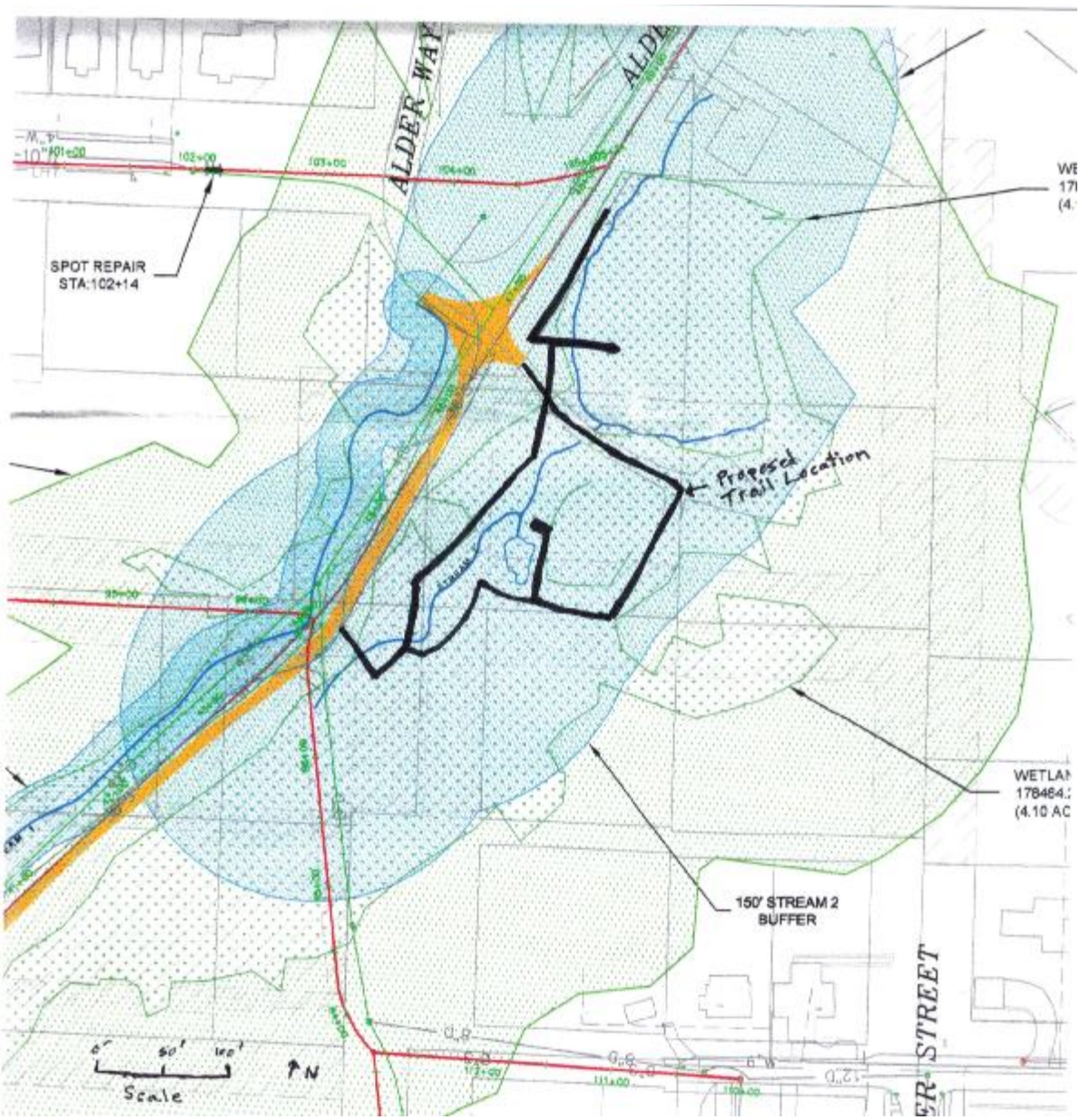
Washington Department of Fish and Wildlife. 2011. Hydraulic Project Approval. February 11.

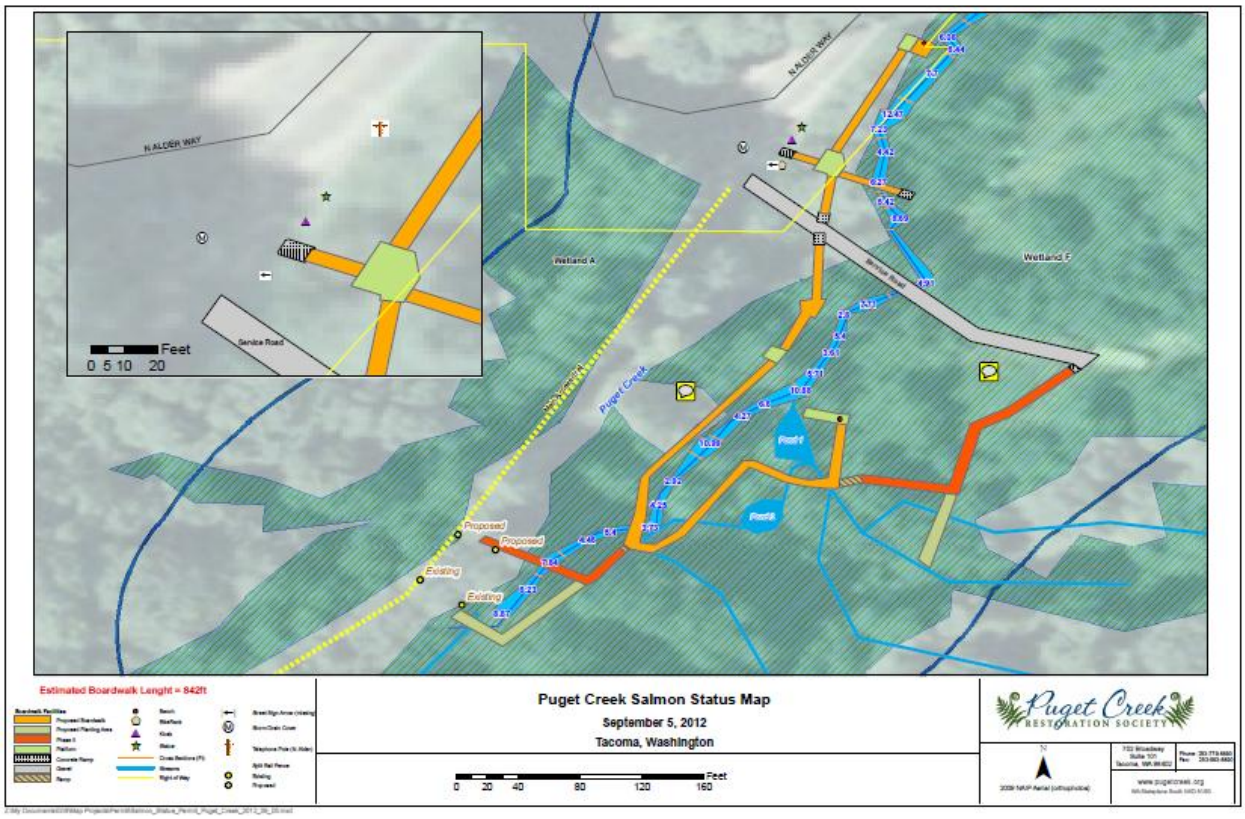
Appendix A

Exhibit



WL-1: Existing Conditions Map.

Reference: Adapted from City of Tacoma Puget Gulch Project Area Map.



WL-2: Puget Creek Boardwalk Map.

Appendix B

Hydraulic Project Approval

Washington
Department of
FISH and
WILDLIFE

HYDRAULIC PROJECT APPROVAL

RCW 77.55.021 - See appeal process at end of HPA

Coastal
48 Devonshire Road
Montesano, WA 98563
(360) 249-4628

Issue Date: February 11, 2011
Project Expiration Date: September 30, 2014

Control Number: 115218-1
FPA/Public Notice #: N/A

PERMITTEE	AUTHORIZED AGENT OR CONTRACTOR
Puget Creek Restoration Society ATTENTION: Scott Hansen 702 Broadway Ste 101 Tacoma, WA 98402 253-779-8890 Fax: 253-593-8890	

Project Name: Puget Creek Bridge Crossings

Project Description: This permit is for removal of three bridges and installation of 5 bridges associated with the new boardwalk. All work will be conducted by hand.

PROVISIONS

1. Work below the ordinary high water line shall only occur between July 16 and September 30 of calendar years 2011 through 2014.

2. Work shall be accomplished per plans and specifications approved by the Washington Department of Fish and Wildlife entitled "New Accessible Path and Boardwalk for: Puget Creek Park" and dated April 22, 2009, except as modified by this Hydraulic Project Approval. A copy of these plans shall be available on site during construction.

3. NOTIFICATION REQUIREMENT: The Area Habitat Biologist listed below shall receive written notification (FAX or mail) from the person to whom this Hydraulic Project Approval (HPA) is issued (permittee) or the agent/contractor within seven days of completion of work to arrange for a compliance inspection. The notification shall include the permittee's name, project location, starting date for work or completion date of work, and the control number for this HPA.

BRIDGE PROVISIONS:

4. The bridge deck shall be cleaned of aggregate or earth materials prior to bridge removal. This material shall be disposed of so it will not enter the stream.

5. Removal of the existing structure shall be accomplished so the structure and associated material does not enter the stream. Material shall be disposed of so it will not re-enter the stream. A tarp or similar system that will capture debris and slurries shall be placed beneath the bridge during removal. Material collected within this debris capture system shall be disposed of at an approved upland location so it will not re-enter waters of the state.

6. Removal shall be accomplished by mechanical means. This Hydraulic Project Approval does not authorize blasting.

7. Excavation for and placement of the foundation and superstructure for the new bridge shall be outside the ordinary high water line.

8. The bridge structure shall be placed in a manner to minimize damage to the streambed and banks.

9. The bridge shall be constructed to pass the 100-year peak flow with consideration of debris likely to be encountered.

10. Abutments, piers, piling, sills, approach fills, etc., shall not constrict the flow and cause any appreciable increase (not to exceed 0.2 feet) in backwater elevation (calculated at the 100-year flood) or channel-wide scour, and shall be aligned to cause the least effect on the hydraulics of the stream.

11. Structures containing concrete shall be sufficiently cured prior to contact with water to avoid leaching. Fresh concrete shall not be allowed to come into contact with state waters.

12. Approach material shall be structurally stable and shall be composed of material that if eroded into the water shall not be detrimental to fish life.

13. Under no circumstances shall a blockage to stream flow or fish passage be created.

EQUIPMENT PROVISIONS:

14. The use of equipment below the ordinary high water line shall be limited to hand held tools only.

15. Equipment used for this project shall be free of external petroleum-based products while working around the stream. Equipment shall be checked daily for leaks and any necessary repairs shall be completed prior to commencing work activities along the stream.

WATER QUALITY PROVISIONS:

16. All treated wood shall be professionally treated and completely cured prior to installation to minimize leaching into the water or substrate. The use of wood treated with creosote or pentachlorophenol is not authorized.

17. All lumber to be used for the project shall meet or exceed the standards established in 'Best Management Practices For the Use of Treated Wood in Aquatic and Other Sensitive Environments' developed by the Western Wood Preservers Institute, Wood Preservation Canada, Southern Pressure Treaters' Association, and Timber Piling Council, dated August 1, 2006, and any current amendments or addenda to it.

18. If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), immediately stop work except

for efforts to control leaks or spills or prevent toxic substances from entering the water and notify the Washington Military Department's Emergency Management Division at 1-800-258-5990, and to the Area Habitat Biologist listed below. Work shall not restart on the project until approved by the Area Habitat Biologist.

19. Erosion control methods shall be used to prevent silt-laden water from entering the stream. These may include, but are not limited to, straw bales, filter fabric, temporary sediment ponds, check dams of pea gravel-filled burlap bags or other material, and/or immediate mulching of exposed areas.

20. All waste material such as construction debris, silt, excess dirt or overburden resulting from this project shall be deposited above the limits of flood water in an approved upland disposal site.

21. If high flow conditions that may cause siltation are encountered during this project, work shall stop until the flow subsides.

22. Extreme care shall be taken to ensure that no petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into the stream.

23. Alteration or disturbance of the bank and bank vegetation shall be limited to that necessary to construct the project. Within seven calendar days of project completion, all disturbed areas shall be protected from erosion using vegetation or other means. Within one year of project completion, the banks, shall be revegetated with native or other approved woody species. Vegetative cuttings shall be planted at a maximum interval of three feet (on center) and maintained as necessary for three years to ensure 80 percent survival.

PROJECT LOCATIONS

Location #1

WORK START: February 11, 2011					WORK END: September 30, 2014	
WRIA:	Waterbody:				Tributary to:	
12.0000	Various				Various	
1/4 SEC:	Section:	Township:	Range:	Latitude:	Longitude:	County:
NW 1/4	30	21 N	03 E	N	W	Pierce

Location #1 Driving Directions

WA-16 E, Take exit #3/RUSTON (WA-163 N)/PEARL ST, Turn Right on S PEARL ST, Bear Right on N PEARL ST(WA-163 N), Turn Right on N 30TH ST, Turn Left on N PROCTOR ST, Turn Right on N 36TH ST, Bear Right on N LAWRENCE ST, Turn Left on N ALDER ST, Arrive at site on the Right.

Issue Date: February 11, 2011 | Control Number: 115218-1

Project Expiration Date: September 30, 2014 | FPA/Public Notice #: N/A

APPLY TO ALL HYDRAULIC PROJECT APPROVALS

This Hydraulic Project Approval pertains only to those requirements of the Washington State Hydraulic Code, specifically Chapter 77.55 RCW (formerly RCW 77.20). Additional authorization from other public agencies may be necessary for this project. The person(s) to whom this Hydraulic Project Approval is issued is responsible for applying for and obtaining any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

This Hydraulic Project Approval shall be available on the job site at all times and all its provisions followed by the person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work.

This Hydraulic Project Approval does not authorize trespass.

The person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work may be held liable for any loss or damage to fish life or fish habitat that results from failure to comply with the provisions of this Hydraulic Project Approval.

Failure to comply with the provisions of this Hydraulic Project Approval could result in a civil penalty of up to one hundred dollars per day and/or a gross misdemeanor charge, possibly punishable by fine and/or imprisonment.

All Hydraulic Project Approvals issued under RCW 77.55.021 are subject to additional restrictions, conditions, or revocation if the Department of Fish and Wildlife determines that changed conditions require such action. The person(s) to whom this Hydraulic Project Approval is issued has the right to appeal those decisions. Procedures for filing appeals are listed below.

Requests for any change to an unexpired HPA must be made in writing. Requests for new HPAs must be made by submitting a new complete application. Send your requests to the department by: mail to the Washington Department of Fish and Wildlife, Habitat Program, 600 Capitol Way North, Olympia, Washington 98501-1091; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor.

APPEALS INFORMATION

If you wish to appeal the issuance, denial, conditioning, or modification of a Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife (WDFW) recommends that you first contact the department employee who issued or denied the HPA to discuss your concerns. Such a discussion may resolve your concerns without the need for further appeal action. If you proceed with an appeal, you may request an informal or formal appeal. WDFW encourages you to take advantage of the informal appeal process before initiating a formal appeal. The informal appeal process includes a review by department management of the HPA or denial and often resolves issues faster and with less legal complexity than the formal appeal process. If the informal appeal process does not resolve your concerns, you may advance your appeal to the formal process. You may contact the HPA Appeals Coordinator at (360) 902-2260 for more information.

A. INFORMAL APPEALS: WAC 220-110-340 is the rule describing how to request an informal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete informal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request an informal appeal of that action. You must send your request to WDFW by mail to the Washington Department of Fish and Wildlife HPA Appeals Coordinator, 600 Capitol Way North, Olympia, Washington 98501-1091; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. WDFW must receive your request within 30 days from the date you

Issue Date: February 11, 2011 | Control Number: 115218-1

Project Expiration Date: September 30, 2014 | FPA/Public Notice #: N/A

If you agree, and you applied for the HPA, resolution of the appeal may be facilitated through an informal conference with the WDFW employee responsible for the decision and a supervisor. If a resolution is not reached through the informal conference, or you are not the person who applied for the HPA, the HPA Appeals Coordinator or designee will conduct an informal hearing and recommend a decision to the Director or designee. If you are not satisfied with the results of the informal appeal, you may file a request for a formal appeal.

B. FORMAL APPEALS: WAC 220-110-350 is the rule describing how to request a formal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete formal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request a formal appeal of that action. You must send your request for a formal appeal to the clerk of the Pollution Control Hearings Boards and serve a copy on WDFW within 30 days from the date you receive notice of the decision. You may serve WDFW by mail to the Washington Department of Fish and Wildlife HPA Appeals Coordinator, 600 Capitol Way North, Olympia, Washington 98501-1091; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, you may request a formal appeal within 30 days from the date you receive the Director's or designee's written decision in response to the informal appeal.

C. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS: If there is no timely request for an appeal, the WDFW action shall be final and unappealable.

ENFORCEMENT: Sergeant Jackson (29) P3

Habitat Biologist Gina Piazza	360-895-3965		for Director WDFW

CC: Russ Ladley, Puyallup Tribe
Hans Hunger, Pierce County

Puget Creek Natural Area

Management Plan

April 2012

METROPARKS TACOMA

P R O J E C T V I S I O N

The Puget Creek Management Plan reflects the community's vision of the Puget Creek Natural Area as a greenspace that protects the creek and the forests at the site, while supporting outdoor programs and activities such as environmental education and interpretation.

This vision blends a desire for recreation and public access to nature with a need to steward and protect the wildlife habitat and resources found in the natural area. The plan includes both management objectives and strategies to address the protection of Puget Creek for future generations.

Metro Parks Nature and Environment Advisory Council

Terry Larson, Chair
Jeff Barney
Ryan Dicks
Su Dowie
Chelsea Garrow
Ryen Godwin
Scott Hansen
Joey Henderson
Mike Marchetti
David Shingeck
Theresa Turpin

Metro Parks

Joe Brady
Steve Knauer

City of Tacoma

Elliott Barnett

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3. 2009 Grette Associates "Puget Gulch Wetland Delineation Report"

B. Public Outreach / Comment Summaries

1. Strategy Voting Results – Public Meeting #1, March 13, 2012

A. EXECUTIVE SUMMARY

Metro Parks Tacoma and the City of Tacoma own approximately 52 acres in the Puget Creek Watershed in North Tacoma. A sub-watershed of the Chambers-Clover Creek Watershed, Puget Creek is located in a highly urbanized, single-family residential setting. Puget Creek is one of several gulches in Tacoma that collectively create a unique network of urban forests. In addition, Puget Creek is one of the few watersheds in Tacoma with a perennial creek capable of sustaining valuable salmon and steelhead populations.

Since 1987, volunteers have been working to restore these populations and improve the Puget Creek Natural Area. In 2000, the non-profit organization, Puget Creek Restoration Society (PCRS), was formed to help restore and raise awareness about the creek. As a continuation of their efforts, this Management Plan is being established to help Metro Parks Tacoma guide the PCRS and other public and private interests and agencies in efforts to restore the Puget Creek Natural Area and raise awareness about the surrounding watershed.

B. PLAN OBJECTIVES

The Metropolitan Park District of Tacoma (MPT) will continue to work with the City of Tacoma (COT) in order to use this management plan as a tool to achieve the goals and establish guidelines for coordinated management and maintenance efforts. This Management Plan will also recommend parameters for the future of the natural area for education and recreational purposes.

The Plan seeks to work toward an environmentally and economically healthy watershed that benefits all stakeholders with the following broad goals:

1. **Restore and maintain healthy ecosystems throughout the Puget Creek Natural Area that can sustain populations of salmonids.**
2. **Promote and provide educational interpretation opportunities for the natural resources and systems within the Puget Creek Natural Area while providing a safe and clean place for Tacoma's citizens to visit and enjoy.**
3. **Provide a valuable and sustainable non-motorized transportation corridor that serves to connect the Ruston Way promenade with the Proctor District and surrounding neighborhoods.**

4. **Support restoration and maintenance efforts into the wider Puget Creek Watershed to enhance and protect the natural area's fish and wildlife habitat.**

5. **Coordinate management and maintenance efforts between the City of Tacoma and Metro Parks Tacoma to maintain appropriate access for utilities and ensure long term success of this Plan.**

C. Stakeholders

The following section lists the participating landowners, agencies, organization and public/private stakeholders who have interests in the Puget Creek Natural Area and its ongoing restoration efforts. The following individuals/groups along with any others who express an interest were invited to participate in public sessions on March 13th and April 24th 2012. Summaries of comments received and voting results are located in Appendix B.1.

1. Participating Landowners:

   Metropolitan Park District of Tacoma, City of Tacoma

2. Agencies:

   City of Tacoma, Metropolitan Park District of Tacoma, Washington State Department of Ecology, Pierce County, Puyallup Tribe, Tacoma Pierce County Health Department, Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Puget Sound Partnership and United States Fish and Wildlife, and the U.S. Army Corps of Engineers.

3. Organizations:

   Puget Creek Restoration Society, Forterra, Citizens for a Healthy Bay, North End Neighborhood Council, Pierce Conservation District, Tahoma Audubon Society, and the South Puget Sound Salmon Enhancement Group.

4. Established Agreements:

   The Puget Creek Restoration Society (PCRS) has adopted the Puget Creek Natural Area through an annually renewed Park Sponsorship Agreement with Metro Parks Tacoma. Utilizing public outreach and volunteer coordination techniques, the PCRS is responsible for trail maintenance, habitat restoration / study and tour coordination. In addition, The PCRS has permission to access City properties and

will continue to coordinate with all agencies concerned to receive necessary approvals for activities.

Metro Parks has a Land Use Agreement with Tacoma Public Utilities substation property located 3520 North Alder Way which allows for the placement of a storage container for the Puget Creek Restoration Society.

D. Existing Conditions

The Puget Creek Natural Area provides a unique ecosystem in predominately urban surroundings. The publicly owned portion (Metro Parks/City of Tacoma) of the Puget Creek Watershed provides approximately 52 acres of urban forest, steep slopes, wildlife habitat and salmon habitat. Puget Creek is considered healthy creek for the following reasons: the creek's water quality meets the Washington Department of Ecology's (DOE) standards, plant species and quantity is adequate for salmon habitat, the creek's gravel meets the correct size for salmon spawning, and there is a presence of macro-invertebrates (such as stoneflies, mayflies, and caddis flies). Continued management would further ensure the overall creek habitat remains viable into the future.

1. Ecological Characteristics

   a. Landforms

   The Puget Creek Natural Area is located along the east side of the peninsula of North Tacoma. Steep slopes surround most of the city and rise sharply from the narrow strip of lowlands onto flat or gentle rolling uplands which rise to over 300 feet. The steep slopes are periodically notched with gulches and ravines, which provide scenic greenbelts and natural wildlife corridors. Puget Creek Natural Area is one of several gulches that cut into the relatively steep slopes surrounding most of Tacoma. The watershed is near sea-level at the lowest point and over 280 feet above sea level near the top.

   Puget Creek starts as a spring and runs 1650 feet through the watershed and provides habitat for a multitude of wildlife species. Puget Creek Natural Area is vegetated with emerging Douglas fir and second growth hardwood. Invasive vegetation is spreading in sections of the Natural Area. Large stumps are present, indicating a historic forest condition. Douglas fir and other conifers native to Tacoma should be protected and promoted. Left to natural forces, the influx of non-native species would preclude native tree establishment, which in turn would allow invasive vegetation to continue to spread. The main sources of these

invasives tend to be from adjacent private property, dumping and seeds being spread from birds and other animals.

b. Hydrology

The Chambers Clover Creek Watershed Council has classified Puget Creek in Creek Water Resource Inventory Area 12 (WRIA 12). Puget Creek empties into Commencement Bay after flowing under Ruston Way at the waterfront. Puget Creek receives the majority of its flow from several perennial springs. The creek flows at 2.9 cubic feet per second (cfs) (An average found after a five year study by the Pierce County Stream Team). Most of the historical flow in Puget Creek has been incorporated into a storm drainage system which runs the length of the Puget watershed. (See Map 2: Storm Drain, Sanitary Sewer and Puget Creek Relationship.)

The overall water quality for Puget Creek is generally good. Research conducted by the Pierce County Stream Team (PCST) from 1995 to 2003 provides a recent average record of quality. Water quality samples taken from Puget Creek measured dissolved oxygen (DO) and water temperature. The water temperature readings ranged from 7.6 C to 11.1 C and were all within WAC 173-201(2007) standards for a Class A creek. However, the 1994 dissolved oxygen readings ranged from 5.6mg/L to 9.2 mg/L and the WAC requires at least 8 mg/L. Of 15 samples, 9 were below WAC standards. Samples taken in the upper reaches of the creek were much more likely to have low dissolved oxygen levels. To combat this problem, log weirs were installed in 1995 and the dissolved oxygen content has been increased substantially.

As shown in Figure 1 below, the PCST has been documenting the discharge flow from Puget Creek from 1995 to 2003. Their findings indicate that there is a significant year round creek flow capable of sustaining Chum, Coho salmon and Cutthroat trout runs.

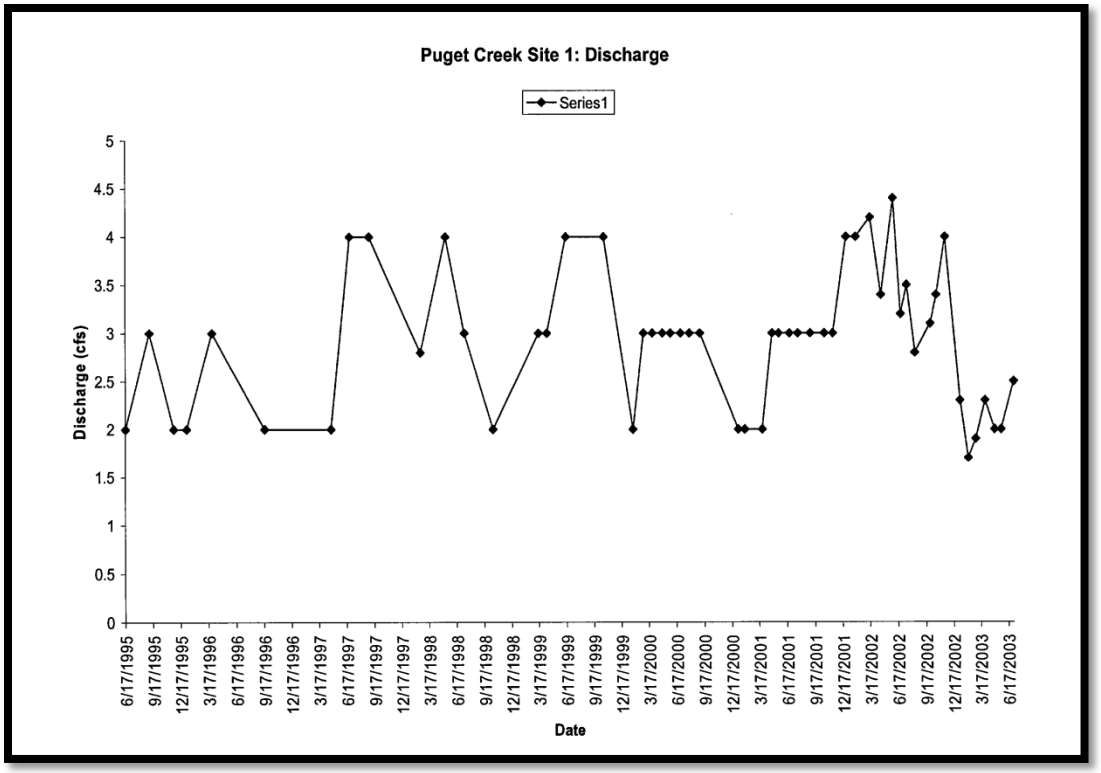


Figure 1

c. Surface and Ground Water

Although Tacoma receives a mean (average) of 39.46" of rain per year, little runoff from the original drainage area reaches the Puget Creek Natural Area- instead several springs provide the constant flow in the creek. In the upper half of the watershed, the original channel of Puget Creek appears to be significantly disturbed- in some locations it appears that the original sewer line was placed directly into the creek alignment. The creek in the middle portion of the gulch meanders in shallow channels before flowing into a complex collection of wetlands. These wetlands have a water table that is close to the surface and one can see surfacing springs and additional side channels in several locations. The creek thence flows into a manmade conveyance system that moves the water toward Commencement Bay. It is important to note that this system is a conglomeration of ditches and culverts, and contains a fish ladder and fish way.

Most current storm drain structures are buried and not significantly apparent to the occasional visitor. Most of the utility development in the watershed is underground with manholes visible at various intervals. Lateral lines (both storm and sanitary sewer) join main lines at various points, usually where an existing road easement or Right-Of-Way connects to the roadways above. *(For additional*

information, see Appendix A, Map 2: "Puget Gulch Wastewater Sewer Rehabilitation and Replacement Project".)

d. Soils

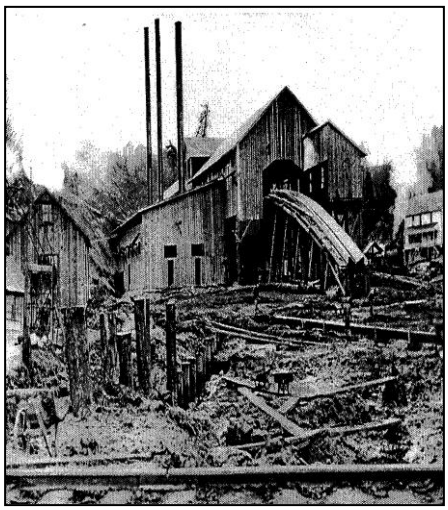
Tacoma and adjacent areas are located in what is commonly known as the Puget Lowland. Soils in this region consist predominately of unconsolidated rock, gravel, sand, clay and silt. Tacoma (like most of the Puget Sound area) was impacted by the glacial advances approximately 10,000- 15,000 years ago. As the glacier moved southward, it deposited thick layers of advance outwash. As the glacier advanced, outwash material was covered by the glacier, which then deposited till on top of the outwash. This till was severely compacted by the weight of the overlaying glacier, which resulted in the formation of a dense layer of cemented soil that does not drain well. As the glacier receded, additional recessional outwash material was deposited and the area became a fresh water lake from the accumulated melt-water. The lake eventually drained through the Chehalis River channel. What was left of this glacial action was a peninsula overlooking Commencement Bay and Puget Sound.

The majority of the upland soils of Puget Creek Natural Area are of the Alderwood-Everett association, which consists of nearly level to rolling uplands and long, steep or very steep slopes breaking abruptly along the edge of these uplands into drainage channels or directly to the valley floor. Alderwood soils are moderately well drained and somewhat excessively drained that formed in glacial till and glacial outwash. The substratum is weakly cemented and very slowly permeable, beginning at a depth of about 3 feet.

In 2006, a landslide occurred in an area immediately upslope of the main wetland in Puget Creek Natural Area. This landslide was caused by excessive stormwater adjacent to and upslope of the site, and the area failed during one of the heavy storms in 2006. As a result of the landslide, excessive sediment loading occurred within the hillside seeps, ponds, wetlands, and Puget Creek, including two ponds and a pool/tributary. The ponds and pool/tributary are fed by the seeps, slow and capture flows prior to conveyance to Puget Creek. During and shortly after the landslide, the ponds and pool/tributary slowed water velocities enough to allow the sediment to settle out of suspension, adding sediment to the ponds and covering the salmon habitat.

2. Land Use

   a. Historic Land Use



According to historic reports, Puget Creek once carried three times the volume of water that it does now and was a natural habitat for Chum and Coho salmon. Due to its location less than ½ mile from historic Old Town and beautiful upland views, the neighboring areas around the gulch developed early, some parts prior to the turn of the 20th century. According to reports, the lower portion of the Puget Creek Natural Area once held an estuary that was filled by a sawmill development on the site. Subsequently, fill was deposited on the shoreline for the railroad, and the mill expanded and along with adjacent development that has significantly impacted the estuary and stream.

   b. Current Land Use

The watershed surrounding Puget Creek has been fairly intensively developed with predominately single-family residential development and small commercial facilities. There are several Cities owned Rights-of-way that cross the gulch- most of which are not used. One major exception is the Proctor Street Bridge, which crosses the gulch near the head of the gulch. Puget Creek Natural Area is located in the "R-2 VSD" One Family Dwelling District with a View Sensitive Overlay and as such uses such as parks and recreation require approval of a Conditional Use Permit (CUP).

3. Land Cover Types and Data

   a. Land Cover

The land cover classification of the Tacoma West Sub watershed in the Chambers-Clover Creek Watershed Action Plan defines the Puget Creek Natural Area as Forest Land, immediately surrounded by other natural cover. The surrounding area is built-up and predominately single-family residential with two small neighborhood commercial areas in close proximity.

b. Slope

The watershed has steep sides and 150 foot bluffs. The average side slope in the Natural Area is 40% or greater.

4. Wetland Classifications

Please refer to Appendix A to view the 2009 Grette Associates Wetland Delineation Report in Appendix A.3. In addition, the pending (2012) changes to the City of Tacoma Critical Areas Preservation Ordinance (CAPO) will increase the buffers provided to the wetlands within Puget Creek Natural Area to 300 feet by characterizing them as "Wetlands of Local Significance." This will allow them the highest level of protection provided by the CAPO.

5. Flora

The Puget Creek Natural Area encompasses multiple habitat types with various vegetation characteristics, and they have been grouped below as prescribed by the Washington Department of Fish and Wildlife:

a. Forested – Primary conifer species typically consist of Douglas fir, Western red cedar and Western hemlock, primary deciduous species typically include red alder, black cottonwood, big leaf maple, Oregon ash or Oregon white oak.

b. Riparian forest - dense stands of trees and/or shrubs provide hiding, escape and thermal cover, shade, foraging and nesting sites, perches, and water sources. Often these highly productive communities contain both plant and wildlife species that are endangered or threatened. Common overstory trees in riparian zones include big leaf maple or black cottonwood, while the understory vegetation is composed of many hydrophytic shrub species such as alder or willow.

c. Riparian shrub wetland – shrubs or small trees growing in soil which is seasonally or permanently flooded. Vegetation may consist of cascara, crabapple, willow, red alder, and Douglas spirea.

d. Marsh wetland – adjacent to riparian wetlands and characterized, typically, by permanent water depths of between 1-3 feet, vegetation may consist of cattails, sedges, rushes, reed canary grass, Douglas spirea, and willow.

e. Forested wetland – many layers of plant growth where the upper layers consists of deciduous, evergreen or mixed tree types and the lower layers consist of

shrubs and herbaceous plants, the upper canopy may consist of red alder, black cottonwood, Oregon ash, Sitka spruce, western red cedar, Douglas fir and big leaf maple, the shrub layer below canopy may consist of vine maple, devil's club, cascara, salmonberry, snowberry, red elderberry and crabapple, and the herbaceous plants may include lady fern, skunk cabbage, and water parsley.

It is important to note that the Puget Creek Restoration Society's efforts to restore and maintain these habitat types have resulted in the installation of multiple thousands of native plants and trees. These efforts will continue, and special emphasis should be made on planting a diverse grouping of plants that are appropriately selected based on site conditions and management objectives.

6. Fish and Wildlife Resources

The heavily vegetated sections of the Puget Creek Natural Area provide good habitat for fish and wildlife, and is listed as a "Biodiversity Corridor" on the Washington Department of Fish and Wildlife's Priority Habitat System report. (See Map 4). A rarity in an urban environment, Puget Creek Natural Area is home to a multitude of animals and fish. Numerous studies have been conducted by Puyallup Tribe Fisheries Department, University of Washington Tacoma campus and University of Puget Sound professors and students, Tahoma Audubon Society, and the Puget Creek Restoration Society. A brief list of the fish and wildlife found in Puget Creek Natural Area include: Chum and Coho salmon, Cutthroat, trout, muskrat, Cooper's hawk, red fox, eastern gray squirrel, mountain beaver, and numerous songbirds.

Historically, the creek and its small estuary supported a productive Chum/Coho salmon run. The estuary was filled for the construction of sawmill in the late nineteenth century. Later, the construction of a culvert with a 12 foot drop barred salmon passage at the creek's mouth on Commencement Bay. Historically, the bottom 400 feet (towards the mouth of the creek) has poor habitat due to its channelization along the edge of Alder Way. With the support of the Commencement Bay Clean-up Action Committee, Simpson Tacoma Kraft, City and Port of Tacoma, a fish ladder was installed in 1997. This ladder provided access to Puget Creek for salmonids on high tides from October 15th to Jan 15th when they return to the creek.

Considering that the fish ladder is such an important feature for returning fish to gain

access to the open portions of the creek upstream, a new study should be commissioned to study how the ladder is functioning and if any modifications are warranted that will improve fish access.

7. Critical Habitat, Sensitive Species

a. Salmonid Use

Puget Creek currently provides habitat for Chum and Coho salmon and Cutthroat trout. Over the years, several groups have worked to improve fish access and vegetative cover. Efforts to return salmon to the creek began in 1994 when salmon fry were released. To further encourage salmon to return, in-creek habitat has been (and continues to be) restored. In addition, The Puget Creek Restoration Society has had a salmon egg incubator installation since 2007.

In the late summer/early fall of 2012, Metro Parks Tacoma will be working to restore additional salmonid habitat by removing sediment within the historical ponds in one of the main wetlands in the Natural Area. The area where this project will occur was impacted by the landslide in 2006, and will focus on removing the sediments deposited into historical ponds by the landslide. These ponds, which provided excellent rearing habitat for juvenile salmon prior to the landslide, have filled to the point where sediment is no longer settling within the ponds; instead, sediments are being carried and deposited within Puget Creek, thus compromising the stream's salmon habitat potential. Metro Parks, with the help of volunteers, will to reduce sediment levels in the lower pond and the lower pool/tributary area by hand dredging and disposing of the sediment off-site.

b. Salmon Carrying Capacity and Goals

A 1994 Puyallup Tribe report states that the carrying capacity of Puget Creek could sustain adult Chum salmon populations of 70-300 fish and 30 adult Coho salmon. Since many restoration activities have been underway since th 1994 carrying capacity study, a new study should be conducted to establish the potential salmon carrying capacity of the creek under existing conditions. The fish ladder should also be re-assessed for passage issues to ensure this is not a partial barrier to fish passage.

c. Water Quality

Point source pollution originates from the discharge of pollutants from a single,

readily identifiable source such as an industrial or sewage discharge pipe". In the case of Puget Creek, the City of Tacoma maintains a network of sanitary and storm sewers throughout the gulch that serve the surrounding neighborhoods. It is important to note that in no instance do these systems directly discharge into Puget Creek or its associated wetlands. Since 2000, four sanitary and storm sewer line breaks have been documented in the watershed. These were repaired expeditiously by the City of Tacoma once they were informed, but the threat of pollution from untreated sewage discharge is still present in Puget Creek. In January 2012, the City finished a major upgrade of the entire system, which included installing brand new sewer lines in the upper reaches of the Natural Area and inserting a PVC liner inside the larger diameter trunk lines in the valley bottom from the Proctor Bridge to Ruston Way.

d. Non-Point Pollution

Activities that cause non-point pollution (especially in urban areas) are greatly dispersed, making them difficult or even impossible to trace. The 1994 Puyallup Tribe Assessment stated, "Landscaping practices of the homeowner and the Parks Department have reduced the natural character of the creek. However, it is obvious that past logging, filling and mill operations have had a dramatic impact upon historic conditions. Simple landscape changes could greatly benefit productivity."

e. Erosion

The process of erosion and sediment control has been a problem within the Puget Creek Natural Area. Since 1999, the PCRS has been working towards decreasing erosion on hillsides. Volunteers have replanted hillsides, removed fine sediment from the creek, and replaced with gravels, placed brush on side trails and open areas to decrease surface water flows, and created diversion ditches along the trail to prevent further erosion.

It is important to note that many of the actions stated above were accomplished without the appropriate permits or review by local and/or state agencies, which resulted in official regulatory action from the City of Tacoma in 2010. After thorough review, consultation and completion of appropriate measures to alleviate/mitigate for the infractions, Metro Parks has instituted significant changes in its agreement with the Puget Creek Restoration Society as a precaution against future violations.

8. Regulatory Jurisdiction/Agency Stakeholders

The following is a listing of local government units that share jurisdiction or have significant interest in the Puget Creek Puget Creek Natural Area: Unites States Army Corps of Engineers, National Marine Fisheries Service, National Oceanographic and Atmospheric Administration, United States Fish And Wildlife, Puyallup Tribe, Metropolitan Park District of Tacoma, City of Tacoma, Washington State Department of Fish and Wildlife, Washington State Department of Ecology, Washington State Department of Natural Resources, National Resource Damage Assessment Trustees, and Tacoma Pierce County Health Department.

E. Management Goals & Strategies

1. *Protect and restore the natural resources and unique habitats existing in the Puget Creek Natural Area.*

1.1. Create a baseline inventory of the Natural Area's current conditions as a first step in the prioritization of all future restoration efforts.

1.2. Enhance native plant diversity. Future plant enhancements must take into account the size of the plant at maturity and their proximity to road and trail alignments.

1.2.1. Control invasive exotics and, as possible, rid the Natural Area of invasive plant species.

1.2.2. Plant native plants that are beneficial to wildlife and soil stabilization.

1.2.3. Work with neighboring property owners to reduce landslide potential, invasive plant invasion and other negative impacts to the Natural Area.

1.2.4. Utilize surveillance equipment in areas where successful restoration is threatened by vandalism. Coordinate with appropriate law enforcement when applicable.

1.2.5. Install a system of monitoring plots, coupled with a rigorous monitoring program to ensure all restoration efforts are successful.

1.3. Within regulatory constraints, restore the creek/wetland corridor to increase the amount of habitat available to salmon and trout.

1.3.1. Initiate a study to reevaluate the carrying capacity of the creek in its current condition, including an assessment of the fish ladder.

1.3.2. Evaluate the importation of spawning gravel to the creek as appropriate.

1.3.3. Continue the Puget Creek Restoration Society's salmon egg incubator project, within regulatory constraints.

1.3.4. Work to improve creek flow. Periodically review to evaluate the improvements.

1.3.5. Support continued evaluation and monitoring of the creek and seek grants and other funding for necessary salmon habitat improvements, such as carcass and egg placement.

1.3.6. Reincorporate lost creek flow back into main stem, if and whenever possible.

1.3.7. Partner with other local, state and federal experts and/or organizations to evaluate the health of the stream system and formulate management/restoration strategies.

1.3.8. Ensure proper permitting is in place prior to engaging in any management activities.

2. Provide for Public Access for the Citizens of Tacoma.

2.1. Work to provide safe and appropriate access from Puget Park and the surrounding North End neighborhoods to the Ruston Way Promenade.

2.1.1. Restrict trails to one main system with one trailhead at Puget Park, a second where the maintenance road leaves Alder Way, and a third minor trailhead for neighborhood access west of the Proctor Street Bridge near Monroe Street.

2.1.2. Discourage pedestrian use of side trails no identified as part of the main trail system through discontinued maintenance, closures, signage, and planting.

2.1.3. Provide a way-finding system and associated signage for easy use.

2.1.4. Install appropriate signage to encourage safe access for those citizens with accessibility needs, in compliance with the Americans with Disabilities Act (ADA).

2.2. Continue to prohibit all recreational motorized use.

2.3. Limit bicycle use to the maintenance road. Discourage bicycle use of the secondary steep side slope trails.

3. *Integrate Community Involvement Wherever Possible.*

3.1. Continue to support the Puget Creek Restoration Society's efforts in the Natural Area and throughout the community.

3.1.1. Enforce the provisions of Puget Creek Restoration Society's Park Sponsorship Agreement with Metro Parks Tacoma.

3.2. Develop a regular schedule of park clean-ups.

3.2.1. Involve local businesses in clean-up efforts as opportunities arise.

3.3. Provide sustained leadership for the stewardship of the Puget Creek Natural Area.

4. *Provide a Safe Environment for the Citizens of Tacoma.*

4.1. Provide garbage cans at both the Puget Park and Alder Way trailheads, and establish maintenance responsibilities to ensure proper disposal.

4.2. Work with the Tacoma Police Department to begin regular police patrols.

4.3. Maintain the primary valley floor trail width to 12 feet to accommodate emergency vehicles, police patrols, and City of Tacoma maintenance equipment.

4.3.1. Leave fallen trees except for trail and roadway clearance purposes.

4.3.2. Regularly assess the Natural Area for hazardous and diseased trees and

manage them according to the underlying agency's policy and direction.

4.4. Provide access for police to quickly respond to criminal activity complaints.

4.5. Evict transients who attempt to reside in the Natural Area by utilizing the City of Tacoma's Homeless Encampment Hotline (253-830-6500).

4.6. Conduct regular inspections of the watershed, including off-trail areas, to ensure no illegal dumping or development is occurring. Report offenders and post "No Dumping" signs as appropriate.

5. *Provide Public Education and Interpretation Opportunities for Continued Learning.*

5.1. Provide for public education and enjoyment of the Puget Creek Natural Area in a manner that will not damage the ecosystems.

5.1.1. Expand Metro Parks' nature based programming to regularly include opportunities for both children and adults in the Puget Creek Natural Area.

5.1.2. Provide a map showing the designated trail system.

5.1.3. Inform the public about the history of Puget Watershed.

5.1.4. Incorporate Puget Watershed into formal school programs including field trips.

5.1.5. Inform the public about Puget Creek Natural Area, its unique resources, and the restoration efforts concern citizens and groups have accomplished.

5.2. Install and maintain appropriate interpretive and regulatory signage that conforms to the standards set forth in the Metro Parks Tacoma Trail Management Plan.

5.2.1. Discourage trash and lawn debris dumping by posting "No Dumping" signs, coupled with direct neighborhood outreach.

5.2.2. Introduce educational and interpretive signage as appropriate as

operational and maintenance budgets allow.

6. *Plan for Future Puget Creek Natural Area Infrastructure Improvements*

6.1.1. Protection of the Puget Creek watershed shall be of primary consideration when planning any future redevelopment or modifications to Puget Creek Natural Area.

6.1.2. Provide ADA accessible amenities wherever appropriate and reasonable.

6.1.3. Coordinate planning efforts to ensure compliance with the City Of Tacoma's Comprehensive Plan.

6.1.4. Coordinate with the City of Tacoma to improve the sidewalk connection between Ruston Way and the Puget Creek Natural Area.

6.1.5. Construct a raised boardwalk in the wetland areas in the lower portion of Puget Creek Natural Area that will be an integral part of the trail system and serve as a platform for education information about wetland functions and their importance.

6.1.6. Continue to maintain and improve the trail access from Puget Park. Install handrails and trail tread improvements as necessary.

6.1.7. Provide appropriate trail furniture (such as benches and trash cans) at strategic locations throughout the Puget Creek Natural Area that conform to the standards set forth in the Metro Parks Tacoma Trail Management Plan.

7. *Maintain the Utilities and Maintenance Access Way*

7.1. Provide sufficient access for utility and bridge maintenance. Protection of the delicate ecosystem and habitat of the Puget Creek Natural Area shall be considered when planning maintenance activities.

7.2. Coordinate with the various Departments and Divisions at the City of Tacoma.

7.2.1. Provide routine inspection of the storm and sanitary systems to reduce the likelihood of system failure in the watershed.

7.2.2. Perform system improvements and upgrades as necessary to reduce the likelihood of system failure and subsequent damage to the watershed and its resources.

7.2.3. Consider cost effectiveness of relocating main lines when major replacement work is needed.

7.2.4. Secure the underside of the Proctor Bridge to eliminate climbing, rope swings, and graffiti.

7.2.5. Consider improving lighting on the bridge to increase safety and aesthetics.

7.2.6. Post "No Dumping" signs on the bridge.

7.3. Maintenance Vehicle Access Road

7.3.1. Maintain the compacted gravel surface road that provides access for maintenance vehicles, police patrols, and emergency vehicles and also serves as a pedestrian trail and bike path limited to the floor of the watershed.

7.3.2. Monitor surface water drainage on the road to avoid sediment delivery to any stream or wetland.

7.3.3. Construct and maintain culverts in necessary locations to prevent erosion of roadway surface and pollution of Puget Creek.

Appendix A: Maps and Reports

Map 1: Puget Creek Natural Area Management Plan- Scope and Ownership

Map 2: City of Tacoma "Puget Gulch Wastewater Sewer Rehabilitation and Replacement Project"

Map 3.1 through 3.4: 2009 Grette Associates Wetland Delineation

Report A.1: 2009 Grette Associates Wetland Delineation Report

Appendix B: Public Outreach

Report B.1: Strategy Voting Results – Public Meeting #1, March 13, 2012

PUGET GULCH

TACOMA, WA
WETLAND DELINEATION REPORT

PREPARED FOR:

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OCTOBER 2009

Grette Associates[LLC]
ENVIRONMENTAL CONSULTANTS

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1. INTRODUCTION

The City of Tacoma Public Works Department has contracted with Grette Associates[LLC] to conduct a wetland and stream delineation at 80 parcels located within or near Puget Gulch, Tacoma. These parcels are recorded as Pierce County Tax Parcels in Attachment C. The parcels are within the SE ¼ of Section 25, Township 21 North, Range 3 East, and the NW and SW ¼ of Section 30, Township 21 North, Range 3 East, W.M. within the City of Tacoma, Washington.

Grette Associates staff biologist, Matt Heddin, visited the study area site on November 12th, 18th, and 19th, 2008. An assessment of both the parcels and accessible areas within a 300-ft vicinity was performed. Six wetlands and two streams were identified and delineated on subject parcels within the study area. Field datasheets are attached for reference in Appendix A and wetland categorization sheets are attached in Appendix B. A detailed aerial photograph of the study area is presented in Figure 1 below.

Figure 1. Aerial Photograph of Study Area.

2. STREAM SUMMARY

The subject properties and 300 ft vicinity were assessed. Two distinct streams: a Type "Ns2" stream (Stream 1) and a Type "F1" stream (Stream 2) were identified within the study area. Figure 3 represents the approximate location of Streams 1 and 2, and their corresponding buffers.

Stream 1 is a seasonally flowing stream, approximately 3,200 ft in length that flows from west to northeast parallel to the access road flowing into a culvert under North Alder Way into Commencement Bay. Stream 1 is a non-fish bearing stream and is classified by the Washington State Water Typing System as Type "Ns2" water. Stream 1 is not physically connected by any above ground channel system to Stream 2. Type "Ns2" waters are subject to a 25 ft buffer width requirement (TMC 13.11.420).

Stream 2 is a permanent flowing stream that is approximately 1,620 ft in length and flows northeast into Commencement Bay. Stream 2 consists of Puget Creek Proper and is a salmonid bearing stream. It is classified by the Washington State Water Typing System as a Type "F1" water. Type "F1" waters are subject to 150 ft buffer (TMC 13.11.420). Puget Creek is also classified as a "stream of local significance" (TMC 13.11.420).

Table 1. Puget Gulch stream summary.

Stream	Length (Approximate)	Stream Type	Buffer Width (Ft)
1	3,200 SF	Type Ns2 (not connected to S, F, or NP)	25
2	1,620 SF	Type F1 (Salmonids) Puget Creek Proper[1]	150

[1]Puget Creek is classified as a "stream of local significance" (TMC 13.11.420). Streams of local significance are subject to a 150 ft buffer.

3. WETLAND SUMMARY

The subject properties and 300 ft vicinity were assessed for the presence of jurisdictional wetlands in fall of 2008. Six jurisdictional wetlands were found within the study area. The site assessment and wetland delineation resulted in the delineation of six wetlands (Wetlands A, B, C, D, E, and F) that contained indicators of wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation which satisfied the criteria set forth in the 1997 Washington State Department of Ecology's (Ecology's) *Washington State Wetlands Identification and Delineation Manual* (Ecology 1997), the 1987 U.S. Army Corps of Engineers' (Corps) *Wetlands Delineation Manual* (Corps 1987) and associated regional guidance. Table 2 summarizes the wetlands delineated on the subject properties. Figure 2 provides an approximate sketch of Wetlands A, B, C, D, E, and F, and Figure 1 illustrates the investigation area.

Wetland A is 67,979 SF (1.60 acre) in size and is located within the northeast section of the study area. Wetland A is classified as a Palustrine Forested Seasonal Flooded/Saturated Wetland. Hydrogeomorphically, Wetland A is a riverine wetland. Wetland A is rated Category II and requires a 150, 110, or 75 ft protected buffer under

Tacoma Municipal Code (TMC) 13.11.320, depending on the impact "intensity" of land use.

Wetland B is approximately 1,830 square feet (0.04 acre) in size and is located within the southwest section of the study area near Puget Park. Wetland B is classified as a Palustrine Forested Seasonal Flooded/Saturated Wetland. Hydrogeomorphically, Wetland B is a riverine wetland. Wetland B is rated Category II and requires a 150, 110, or 75 ft protected buffer under Tacoma Municipal Code (TMC) 13.11.320, depending on the impact "intensity" of land use.

Wetland C is approximately 220 square feet (0.01 acre) in size and is located within the southwest section of the study area just north of the North 31st Street and North Washington Street intersection. Wetland C is classified as a Palustrine Scrub-shrub Seasonal Saturated Wetland. Hydrogeomorphically, Wetland C is a slope wetland. Wetland C is a Category IV wetland less than 1,000 sq ft in size, and is therefore exempt from regulation by the City of Tacoma (13.11.140 TMC).

Wetland D is approximately 6,203 square feet (0.14 acre) in size and is located within the northeast section of the study area adjacent to North Alder Way. Wetland D is classified as a Palustrine Forested Seasonal Flooded/Saturated Wetland. Hydrogeomorphically, Wetland D is a riverine wetland. Wetland D is rated Category III and requires a 150, 110, or 75 ft protected buffer under Tacoma Municipal Code (TMC) 13.11.320, depending on the impact "intensity" of land use.

Wetland E is approximately 4,754 square feet (0.14 acre) in size and is located within the southern section of the study area south of the North 33rd St and North Union Avenue intersection. Wetland E is classified as a Palustrine Forested Seasonal Flooded/Saturated Wetland. Hydrogeomorphically, Wetland E is a riverine wetland. Wetland E is rated Category II and requires a 150, 110, or 75 ft protected buffer under Tacoma Municipal Code (TMC) 13.11.320, depending on the impact "intensity" of land use.

Wetland F is approximately 178,464 square feet (4.10 acre) in size and is located along the southeastern slope of the gulch. Wetland F is classified as a Palustrine Forested Seasonal Flooded/Saturated Wetland. Hydrogeomorphically, Wetland F is a riverine wetland. Wetland F is rated Category I and requires a 300, 225, or 150 ft protected buffer under Tacoma Municipal Code (TMC) 13.11.320, depending on the impact "intensity" of land use.

Wetland delineation maps are provided in Figures 2 and 3.

Table 2. Puget Gulch Wetland Delineation Summary.

Wetland	Size (Approximate)	Category	Within Habitat Zone	Jurisdictional	Buffer Width (Ft)
A	1.60 Acre	II	Yes	Yes	150, 110, 75
B	0.04 Acre	II	Yes	Yes	150, 110, 75
C	0.01 Acre	IV	Yes	No	-
D	0.14 Acre	III	Yes	Yes	150, 110, 75
E	0.14 Acre	II	Yes	Yes	150, 110, 75
F	4.10 Acre	I	Yes	Yes	300, 225, 150

□ *The wetland buffer varies depending on the level of impact "intensity" occurring to the wetland. These levels are defined in TMC 13.11.320 as high, moderate, or low.*

Figure 2. Wetland Delineation Map Part 1

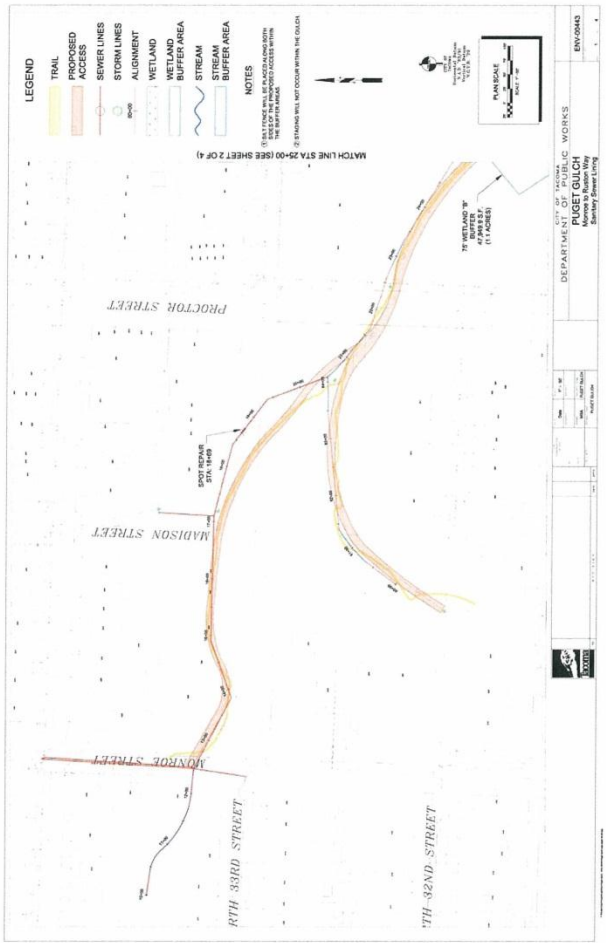


Figure 3. Wetland Delineation Map Part 2

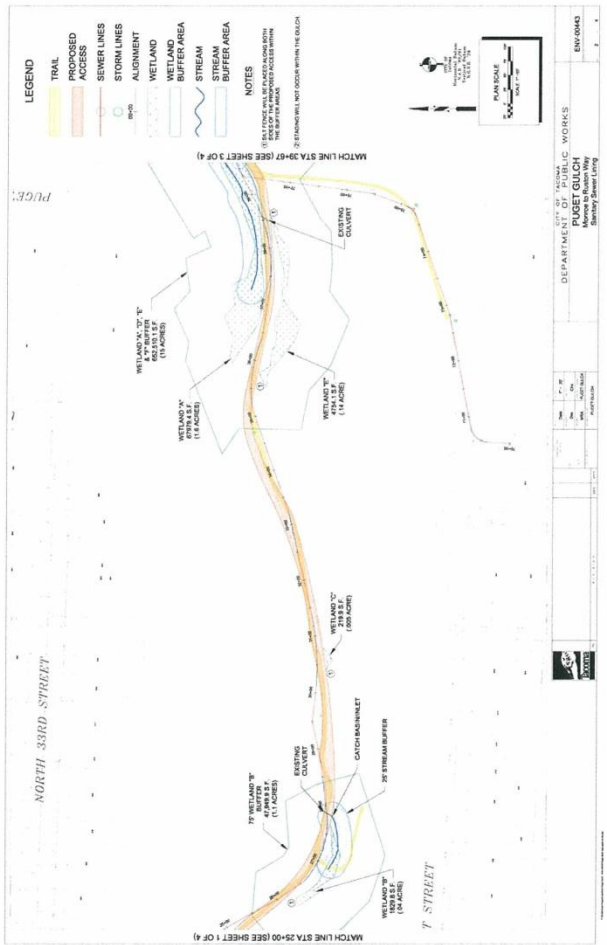


Figure 4. Wetland Delineation Map Part 3

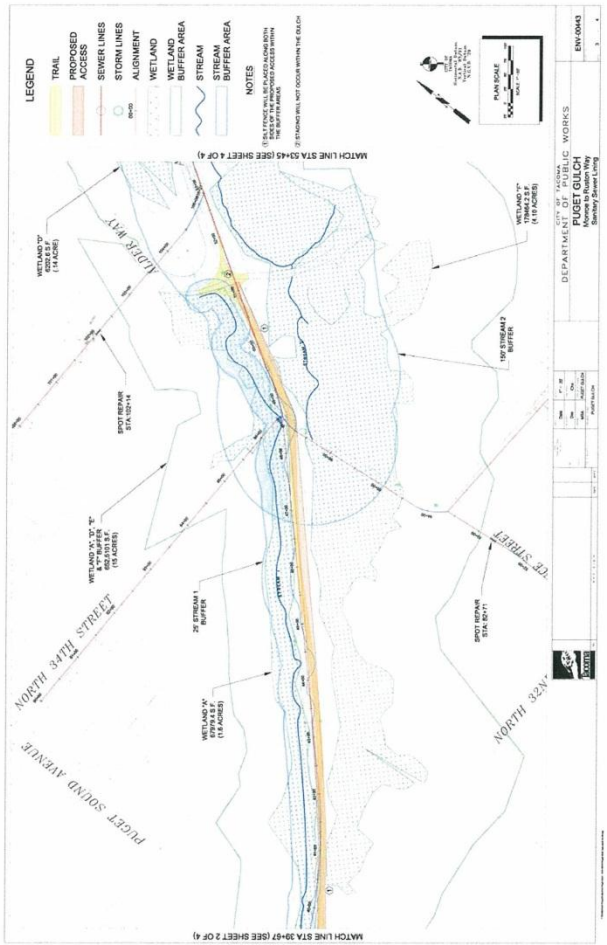
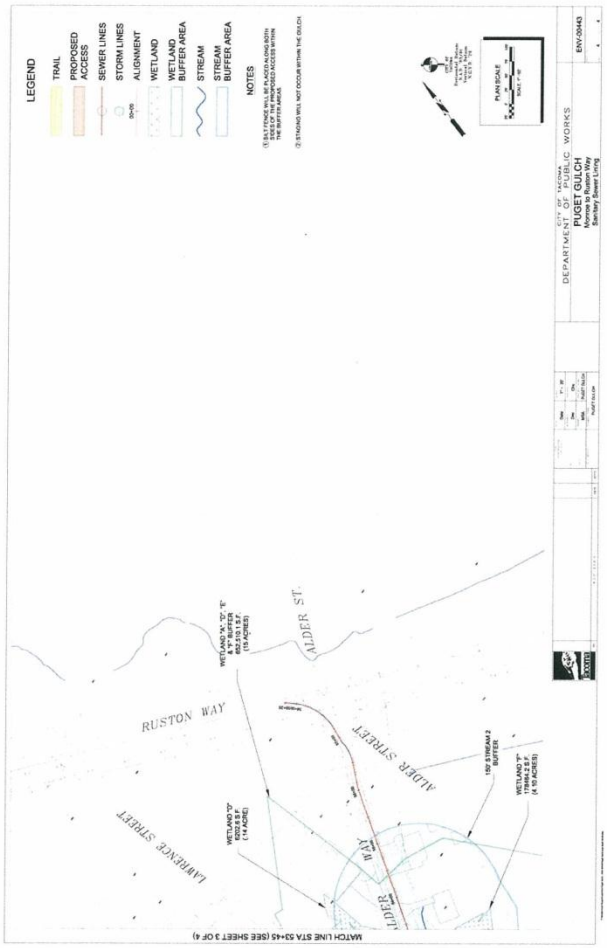


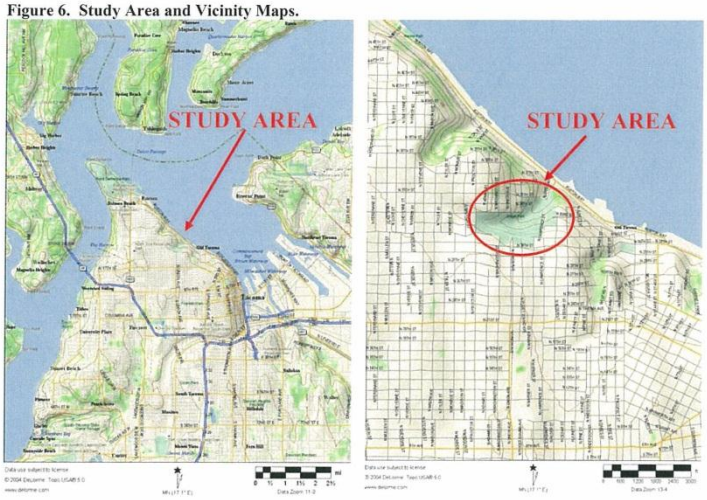
Figure 5. Wetland Delineation Map Part 4



4. BACKGROUND INFORMATION

The study area comprises approximately 1.8 million square feet (43.4 AC) and consists of multiple parcels and access points. To access the property from Interstate 5 South, take Interstate 705 N via Exit 133 towards City Center. Take the Schuster Parkway exit, and merge onto Pacific Avenue. Pacific Avenue becomes Schuster Parkway. Stay left to go onto Ruston Way. Turn Left onto North Alder Way. The project site is located on the west side of North Alder Way, just before North Lawrence Street (Figure 4).

Figure 6. Study Area and Vicinity Maps.



4.1 Site Characteristics

The study area covers a vast area of the Puget Gulch and its surrounding residential and commercial areas. The majority of the gulch east of the Proctor Bridge has been developed into an open space area with walking trails and two parks. One park, Puget Park, is located at the intersection of North Proctor Street and North 31st Street. The other park, Puget Creek Park is located at 2429 N Alder Way. A gravel access road at the base of the gulch, splits the gulch into northern and southern sections. The access road and two switchback trails connect the two parks. The access road and trails are used by the surrounding residents as walking paths to and from Ruston Way, for bird watching, and other open space activities. The two parks are maintained by the Tacoma Metro Parks. Currently the Puget Creek Restoration Society, under local permits, is restoring native vegetation to the wetland, stream and upland slopes of the gulch. The majority of the gulch to the west of the Proctor Bridge is undeveloped and overgrown with vegetation. Currently, local residents are using this portion of the gulch as an improvised bike trail and refuge dumping area.

A majority of the Puget Gulch and surrounding areas are densely vegetated with predominantly native forested plant communities of Oregon ash, Western red-cedar, and red alder. The plant species observed within the study area are summarized in Table 3 below. Topographically, the northern and southern slopes of the gulch are very steep. Approximately 75 percent of the slopes within the gulch are greater than 40 percent and 15 percent of the slopes are at least 25 to 40 percent. The basin of the gulch slopes down to the east and is at grade with North Alder Way. Residential single family homes encircle the gulch on all four sides.

Table 3. Plant Species Identified on or Adjacent to the Project site.

Species Name[1]	Common Name	Indicator Status[1]	Native Species
Acer macrophyllum	big-leaf maple	FACU	YES
Acer circinatum	vine maple	FAC-	YES
Alnus rubra	red alder	FAC	YES
Athyrium filix- femina	lady fern	FAC	YES
Buddeja davidii	butterfly bush	NL	NO
Cornus stolonifera	red-osier dogwood	FACW	YES
Corylus cornuta	beaked hazelnut	FACU	YES
Crataegus monogyna	one seed hawthorn	FACU+	NO
Equisetum arvense	field horse tail	FAC	YES
Equisetum telmateia	giant horsetail	FACW	YES
Ilex aquifolium	English Holly	NL	NO
Polystichum munitum	sword fern	FACU	YES
Lysichiton americanum	skunk cabbage	OBL	YES
Fraxinus latifolia	Oregon ash	FACW	YES
Phalaris arundinacaea	reed canary grass	FACW	NO
Polygonum convolvulus	bindweed	FACU-	NO
Polygonum cuspidatum	Japanese Knotweed	FACU	NO
Polystichum munitum	sword fern	FACU	YES
Prunus laurocerasus	English laurel	NL	NO
Ranunculus repens	creeping buttercup	FACW	NO
Rubus discolor	Himalayan blackberry	FACU	NO
Rubus lacineatus	cut-leaf blackberry	FACU+	NO
Rubus ursinus	trailing blackberry	FACU	YES
Thuja plicata	Western red-cedar	FAC	YES

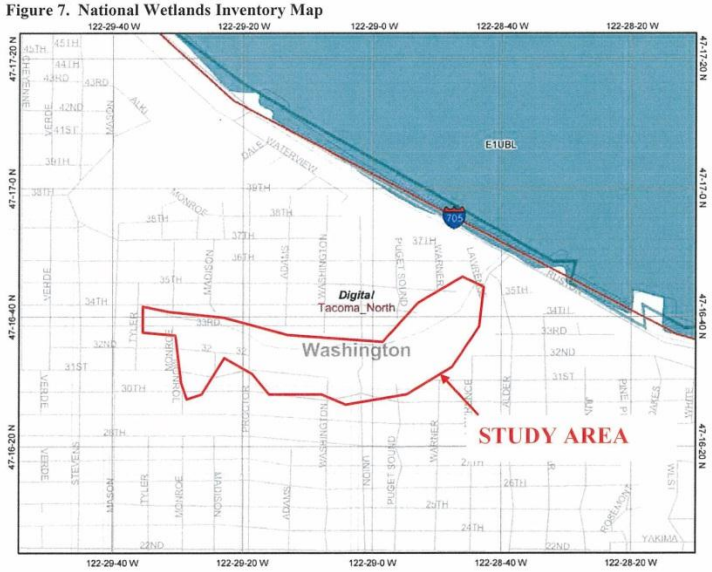
Salix lucida spp lasiandra	Pacific willow	FACW+	YES
Solanum dulcamara	creeping nightshade	FAC+	NO

[1] Scientific names and wetland indicator status taken from National list of Vascular Plant Species that Occur in Wetlands (USFWS, 1988) and Supplement to List of Plant Species that Occur in Wetlands: Northwest (Region 9) (USFWS, 1993).

4.2 National Wetlands Inventory

The U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) was queried to determine if previously identified wetlands are present on the project site (USGS 2006). According to the NWI Interactive Online Mapper, no wetlands are present on or in the vicinity of the project site (Figure 5).

Figure 7. National Wetlands Inventory Map

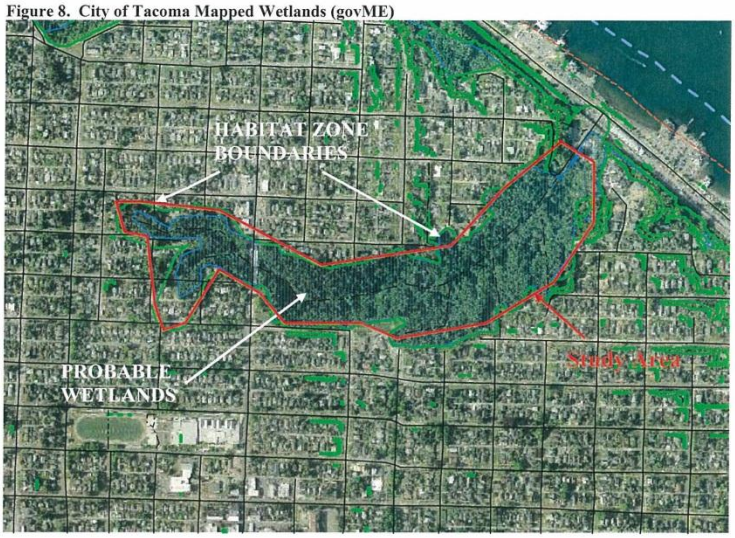


4.3 City of Tacoma Wetlands Inventory

The City of Tacoma's govME database was reviewed to determine if probable wetlands or previously-identified (known) wetlands are present on or near the Study Area. According to the govME database, one "probable wetland" area is identified within the

Study Area, an off site portion of which is identified "known wetland". This probable wetland" area approximately coincides with the topography of the gulch. The area is also located within an identified Habitat Zone. Additional "probable wetland" areas are identified outside the 300 ft study area to the north of the project site (Figure 6).

Figure 8. City of Tacoma Mapped Wetlands (govME)



4.4 Sensitive Wildlife and Plants

The Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and Species (PHS) database was queried to determine if state or federally listed fish or wildlife species occur on or near the study area. According to the PHS database, Puget Creek (LLID #1224761472810), has priority fish presence in the form of resident Cutthroat (*Oncorhynchus clarki*) and Coho salmon (*Oncorhynchus kisutch*) in the lower half of the stream.

The Washington Department of Natural Resources' (WDNR) Natural Heritage Information System was queried to determine if the study area occurs in a location reported to contain high quality natural heritage wetland occurrences or occurrences of natural heritage features commonly associated with wetlands. According to WDNR data dated January 02, 2008 there are no records of rare plants or high quality native ecosystems occurring in the vicinity of the study area currently. The data does list an historical occurrence of Swamp Sandwort (*Arenaria Paludicola*). However, this plant registers as "likely extinct."

The WDNR Forest Practices database was consulted to determine if water bodies occur on or in the vicinity of the project site that are previously mapped and classified under the water typing system detailed in WAC 222-16-030 and -031. According to the Water Type Map, a Type F Stream approximately 1,620 ft in length traverses the study area from west to northeast. This Type F Stream is shown to have two Type N and one Type U supporting tributary streams. The water type map also identifies the Puget Sound, a Type S waterbody east of the site. A WDNR Forest Practices Water Type Map of the study area and vicinity is provided below (Figure 7).

Figure 9. WDNR Water Type Map

4.5 Soils

Soils are not mapped within the study area by the NRCS Soil Survey of Pierce County. Soils within the eastern (upland) portion of the project site appear to be several generations of legal fill over native soils. Soils within Wetlands A, B, D, E, and F appear to be native sandy muck soils over glacial till. Soils within Wetland C appear to be muck soils over sand over glacial till.

5. METHODS

The public parcels were traversed until a critical area was observed, and then data was collected to confirm the critical area boundary. Private parcels where permission to access the parcel was not given, were observed from nearby public parcels. The ordinary high water mark (OHWM) of on-site stream corridors and wetland boundaries were flagged and later surveyed. Numerous data plots and soil test pits were excavated to evaluate wetland conditions.

Streams were typed and wetlands rated according to the TMC (Chapter 13.11). On November 18th and 19th 2008 water was observed flowing within both stream corridors.

Wetland boundaries were established based on changes in vegetation, water levels at or below 10 inches, topographic changes, and best professional judgment. Data plots were established in and adjacent to each wetland. The location of the wetland boundaries were defined by placement of florescent white/black stripped flagging tape. The wetland boundary flagging was numbered alpha-numerically (i.e. A-2), where the letter designated the wetland and the number was the specific flag angle point.

Photographs were taken to document wetland and abutting upland vegetative cover. Plants were determined to be more or less associated with wetlands based on their wetland indicator (FAC) status. The percent dominance for each plant strata was determined using the 50-20 Rule. The area within 300 ft of each parcel boundary was inspected either visually or through aerial photograph interpretation to determine if other critical areas are within the study area.

5.1 Hydrophytic Vegetation

The USFWS and the NWI have established a rating system that has been applied to commonly occurring plant species on the basis of their frequency of occurrence in wetlands (Table 4). Species indicator status expresses the range in which plants may occur in wetlands and non-wetlands (uplands). Under this system, vegetation is considered hydrophytic when there is an indicator status of facultative (FAC), facultative wetland (FACW) or obligate wetland (OBL) (Table 4). Modifiers are used with the indicator categories to more specifically define the frequency of occurrence. A positive (+) sign indicates plants are more frequently found in wetlands than the category indicates, whereas a negative (-) sign indicates that plants are less frequently found in wetlands than the indicator signifies. The hydrophytic vegetation criterion for wetland determination is met when ***more than*** 50 percent of the dominant species in the plant community are FAC or wetter. The USFWS's *National List of Plant Species that Occur in Wetlands* (Reed 1988), as well as the supplement to that list (Reed et al. 1993), are used to determine vegetation indicator status.

Table 4. Definitions for USFWS plant indicator status

Plant Indicator Status Category	Indicator Status Abbreviation	Definition (Estimated Probability of Occurrence)
Obligate Upland	UPL	Occur rarely (<1 percent) in wetlands, and almost always (>99 percent) in uplands
Facultative Upland	FACU	Occur sometimes (1 percent to <33 percent) in wetlands, but occur more often (>67 percent to 99 percent) in uplands
Facultative	FAC	Similar likelihood (33 percent to 67 percent) of occurring in both wetlands and uplands
Facultative Wetland	FACW	Occur usually in wetlands (>67 percent to 99 percent), but also occur in uplands (1 percent to 33 percent)
Obligate Wetland	OBL	Occur almost always (>99 percent) in wetlands, but rarely occur in uplands (<1 percent)
Not Listed	NL	Not listed due to insufficient information to determine status

5.2 Wetland Hydrology

Evidence of permanent or periodic inundation (water marks, drift lines, drainage patterns), or soil saturation to the surface for 12 consecutive days or more during the growing season (soil temperatures above 41°F at 19.7 inches below the surface) meets the hydrology criterion. Oxidized root channels in the top 12 inches, water-stained leaves, and local soil survey data are secondary indicators of wetland hydrology.

5.3 Hydric Soils

Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper soil horizons are considered hydric soils. Field indicators include histosols, the presence of a histic epipedon, a sulfidic odor, low soil chroma (Munsell® matrix chroma of 2 with mottles or less than 2 without mottles [Munsell® 2000], and gleying (in sandy soils).

6. RESULTS

The site assessment identified two streams (Stream 1 and 2) and six on-site wetlands (Wetlands A, B, C, D, E, and F) within the study area. Wetland C is hydrogeomorphically classified as a slope wetland, and is associated with seepage along the side of the Puget Gulch. Wetlands A, B, D, and E are located within the Puget Gulch and are hydrogeomorphically classified as riverine wetlands and are associated with Stream 1. Wetland F is classified as a riverine wetland and is associated with Stream 2. Indicators of wetland hydrology, hydric soil characteristics, and dominant hydrophytic vegetation observed at the wetland is summarized in Table 5 below.

Table 5. Wetland Indicator Summary

Wetland ID	Hydric Soil Indicators	Wetland Hydrology Indicators	Hydrophytic Vegetation	Dominant Plant Community
A	Low Chroma Value (=1), hydrogen sulfide odor	high groundwater table, water-stained leaves, water marks, inundation, saturation to the surface, FAC Neutral	red alder (FAC) Western red-cedar (FAC) salmonberry (FAC+) vine maple (FAC-) lady fern (FACW) giant horsetail (FACW) skunk-cabbage (OBL)	Forested
B	Low Chroma Value (=1)	water-stained leaves, inundation, saturation to the surface, FAC Neutral	red alder (FAC) Western red-cedar (FAC) salmonberry (FAC+) red-osier dogwood (FACW) lady fern (FACW) giant horsetail (FACW)	Forested
C	Low Chroma Value (=1), hydrogen sulfide odor	water-stained leaves, inundation, sediment deposits, saturation to the surface, FAC Neutral	salmonberry (FAC+) lady fern (FACW) giant horsetail (FACW)	Scrub-shrub
D	Low Chroma Value (=1), hydrogen sulfide odor	water-stained leaves, inundation, saturation to the surface, FAC Neutral	red alder (FAC) salmonberry (FAC+) lady fern (FACW) Oregon ash (FACW)	Forested
E	Low Chroma Value (=1), hydrogen sulfide odor	high groundwater table, water-stained leaves, inundation, saturation to the surface, FAC Neutral	red alder (FAC) salmonberry (FAC+) lady fern (FACW) giant horsetail (FACW) Oregon ash (FACW)	Forested
F	Low Chroma Value (=1), hydrogen sulfide odor	water-stained leaves, water marks, inundation, saturation to the surface, FAC Neutral	red alder (FAC) Western red-cedar (FAC) salmonberry (FAC+) vine maple (FAC-) lady fern (FACW) Oregon ash (FACW) giant horsetail (FACW) red-osier dogwood (FACW) skunk-cabbage (OBL)	Forested

6.1 Wetland A

Wetland A is a Palustrine Forested Seasonally Flooded/Saturated Wetland 67,979 square feet in size. Wetland A is hydrogeomorphically classified as a riverine wetland and is associated with Stream 1. It is located on the northeastern slope of the Puget Gulch ravine.

6.1.1 Vegetation

Forested vegetation within Wetland A is dominated by a community of red alder, Western red-cedar, and Oregon ash, over an understory of salmonberry, vine maple, lady fern, skunk cabbage, giant horsetail, and English ivy.

6.1.2 Hydrology

Hydrologic support for Wetland A is provided primarily by overbank flooding, high groundwater, stormwater runoff from the adjacent hillside, and direct precipitation. Indicators of wetland hydrology observed within Wetland A include inundation, high ground water table, saturation to the surface, drainage patterns, water-stained leaves, watermarks, and passing of the FAC Neutral Test.

6.1.3 Hydric Soils

Soils within Wetland A are not mapped within the study area by the NRCS Soil Survey of Pierce County. Soil test pits were examined to depths up to 16 inches. In a typical profile, the surface layer (0 to 7 inches) is composed of black (10YR2/1) mucky clay, and the subsoil (7 to 16+ inches) is composed of a black (10YR2/1) sandy clay. Indicators of hydric soils observed within the wetland include low-chroma soil matrix colors and a hydrogen sulfide odor.

6.2 Wetland B

Wetland B is a Palustrine Forested Seasonally Flooded/Saturated Wetland 1,830 square feet in size. Wetland B is hydrogeomorphically classified as a riverine wetland and is associated with Stream 1. It is located on the southwestern slope of the Puget Gulch ravine.

6.2.1 Vegetation

Forested vegetation within Wetland B is dominated by a community of red alder and Oregon ash, over an understory of salmonberry, red-osier dogwood, lady fern, and giant horsetail.

6.2.2 Hydrology

Hydrologic support for Wetland B is provided primarily by a hillside freshwater seep and surface stormwater runoff from the adjacent hillside, and direct precipitation. Indicators of wetland hydrology observed within Wetland B include, inundation, saturation to the surface, water-stained leaves, and passing of the FAC Neutral Test.

6.2.3 Hydric Soils

Soils within Wetland B are not mapped within the study area by the NRCS Soil Survey of Pierce County. Soil test pits were examined to depths up to 12 inches. In a typical profile, the surface and subsoil layers (0 to 12 inches) are composed of black (10YR2/1) sandy muck. Indicators of hydric soils observed within the wetland include low-chroma soil matrix colors.

6.3 Wetland C

Wetland C is a small Palustrine Scrub-shrub Seasonally Saturated wetland. Wetland C is hydrogeomorphically classified as a slope wetland. Wetland C is a small slope wetland 220 square feet in size, south of the main access road.

6.3.1 Vegetation

Wetland C contains a scrub-shrub plant community, dominated by salmonberry, lady fern, and giant horsetail.

6.3.2 Hydrology

Hydrologic support for Wetland C is provided primarily by a hillside seep and direct precipitation. Indicators of wetland hydrology observed within Wetland C include saturation to the surface, surface water, sediment deposits, hydrogen sulfide odor, and passing of the FAC Neutral Test.

6.3.3 Hydric Soils

Soils within Wetland C are not mapped within the study area by the NRCS Soil Survey of Pierce County. Soil test pits were examined to depths up to 10 inches, where a restrictive layer of rock was met. In a typical profile, the surface layer (0 to 4 inches) is composed of black (10YR2/1) sandy muck, and the subsoil (4 to 10+ inches) is composed of a gray (10YR5/1) sand. Indicators of hydric soils observed within the wetland include low-chroma soil matrix colors and a hydrogen sulfide odor.

6.4 Wetland D

Wetland D is a Palustrine Forested Seasonally Flooded/Saturated Wetland 6,203 square feet in size. Wetland D is hydrogeomorphically classified as a depressional wetland. It is located north of Alder Way near the power substation.

6.4.1 Vegetation

Forested vegetation within Wetland D is dominated by a community of red alder and Oregon ash, over an understory of salmonberry, trailing blackberry, giant horsetail, and English ivy.

6.4.2 Hydrology

Hydrologic support for Wetland D is provided primarily by a hillside freshwater seep and surface stormwater runoff from the adjacent hillside, and direct precipitation. Indicators of wetland hydrology observed within Wetland D include, inundation, saturation to the surface, and passing of the FAC Neutral Test.

6.4.3 Hydric Soils

Soils within Wetland D are not mapped within the study area by the NRCS Soil Survey of Pierce County. Soil test pits were examined to depths up to 16 inches. In a typical profile, the surface layer (0 to 16 inches) is composed of black (10YR2/1) sandy muck. Indicators of hydric soils observed within the wetland include low-chroma soil matrix colors and hydrogen sulfide odor.

6.5 Wetland E

Wetland E is a Palustrine Forested Seasonally Flooded/Saturated Wetland 4,754 square feet in size. Wetland E is hydrogeomorphically classified as a riverine wetland and is associated with Stream 1. It is located adjacent to the southeastern slope of the Puget Gulch ravine.

6.5.1 Vegetation

Forested vegetation within Wetland E is dominated by a community of red alder and Oregon ash, over an understory of salmonberry, lady fern, giant horsetail, and English ivy.

6.5.2 Hydrology

Hydrologic support for Wetland E is provided primarily by a hillside freshwater seep and surface stormwater runoff from the adjacent hillside, and direct precipitation. Indicators of wetland hydrology observed within Wetland E include, high water table, saturation to the surface, water-stained leaves, and passing of the FAC Neutral Test.

6.5.3 Hydric Soils

Soils within Wetland E are not mapped within the study area by the NRCS Soil Survey of Pierce County. Soil test pits were examined to depths up to 12 inches, where a layer of hardpan was met. In a typical profile, the surface layer (0 to 12 inches) is composed of black (10YR2/1) sandy clay. Indicators of hydric soils observed within the wetland include low-chroma soil matrix colors and a hydrogen sulfide odor.

6.6 Wetland F

Wetland F is a Palustrine Forested Seasonally Flooded/Saturated Wetland 178,464 square feet in size. Wetland F is hydrogeomorphically classified as a riverine wetland and is associated with Stream 2 (Puget Creek Proper). It is located adjacent to the southeastern slope of the Puget Gulch ravine.

6.6.1 Vegetation

Forested vegetation within Wetland F is dominated by a community of red alder, Western red-cedar, and Oregon ash, over an understory of salmonberry, vine maple, red-osier dogwood, lady fern, giant horsetail, and English ivy.

6.6.2 Hydrology

Hydrologic support for Wetland F is provided primarily by a hillside freshwater seep and surface stormwater runoff from the adjacent hillside, overbank flooding, and direct precipitation. Indicators of wetland hydrology observed within Wetland F include, saturation to the surface, water-stained leaves, water marks, and passing of the FAC Neutral Test.

6.6.3 Hydric Soils

Soils within Wetland F are not mapped within the study area by the NRCS Soil Survey of Pierce County. Soil test pits were examined to depths up to 16 inches. In a typical profile, the surface layer (0 to 2 inches) is composed of black (10YR2/1) muck, the subsoil (2 to 16+ inches) is composed of a black (10YR2/1) sandy muck. Indicators of hydric soils observed within the wetland include low-chroma soil matrix colors and a hydrogen sulfide odor.

6.7 Stream 1

Stream 1 is a non-fish bearing Type "Ns2" water that is seasonal and is approximately 3,200 ft in length and begins near a walking trailhead on the south side of the gravel access road approximately 150 ft east of Puget Park and continues easterly parallel to the gravel walkway that divides the gulch into two northern and southern halves. The stream crosses under the walkway through a small culvert and continues northeast along the north side of the walkway where it empties into a culvert conveyed under Alder St, reemerging for approximately 140 ft where it empties into a large grated culvert. From there, the stream joins Stream 2 inside a large culvert under North Alder Way, which then flows under Ruston Way into Commencement Bay. Stream 1 is not physically connected by an above ground channel system to Stream 2.

6.8 Stream 2

Stream 2 is a salmonid bearing Type "F1" water that is permanent flowing and is approximately 1,620 feet in length and flows northwest into Commencement Bay. Stream 2 begins from a hillside seep that is approximately 400 ft northwest of the North 31st Street and North Warner Street intersection. The stream varies in width from approximately 6 ft to 3 ft. The stream flows from the hillside seep north along the slope of the gulch and then flows northeast, flowing parallel to the adjacent access road. The stream enters a fishway that is constructed through private property then into a culvert where it joins Stream 1 under North Alder Way. The Stream flows approximately 300 ft inside the culvert before emptying into Commencement Bay. This section of the stream is tidally influenced. Stream 2 is not physically connected by an above ground channel system to Stream 1.

6.9 Wetland Determination

At the time of the site assessment, the areas identified as wetlands exhibited sufficient indicators of the required parameters for the presence of wetland conditions. These parameters include a predominance of hydrophytic vegetation, presence of wetland hydrology, and indicators of hydric soils. Prior to any formal site planning, this document should be reviewed and the wetland boundaries verified by the appropriate regulatory agencies.

7. DISCUSSION

7.1 Stream Typing and Buffers

Stream 1 is a Type "Ns2" water. Type "Ns2" streams are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of the year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water and may not be physically connected by an above ground channel system to Type F, or Np Waters (TMC 13.11.410). According to a January 13, 2009 conversation with Scott Hansen of the Puget Creek Restoration Society salmonids are likely prevented from accessing the stream due to obstruction caused by the culvert located adjacent to Alder Street. This culvert is grated preventing passage of adult salmonids. The culvert is also only accessible during extremely high tide events. Type "Ns2" waters require a 25 ft buffer width (TMC 13.11420).

Stream 2 is a Type "F1" water. Type "F1" waters are segments of natural waters containing salmonid fishes other than Type S waters, which are within the bankfull widths of defined channels and periodically inundate areas of their associated wetlands. The may be associated with lakes, ponds, or impoundments having a surface area of 0.5 acre or greater at seasonal low water and which in any case contain fish habitat. Stream 2 encompasses Puget Creek proper. Puget Creek is classified by the City of Tacoma as a "stream of local significance" (TMC 13.11.420) and has a 150 ft buffer width requirement.

7.3 Wetland Categorization and Buffers

To determine the categorizations of the wetlands within Study area based on function, the wetland classification guidelines in Title 13 Sections 11.310 and 11.320 of the Tacoma Municipal Code and Ecology's revised wetland rating system (Hruby 2004) were used. Based on this guidance, each wetland was given a score for each of three functions: Water Quality, Hydrology, and Habitat (Table 6). For the rating forms used to score each wetland, please refer to Attachment B.

Table 6. Wetland rating and categorization summary.

Wetland	Size (AC)	Cowardin Class	HGM Class	Water Quality	Hydrology	Habitat	Total	Category
A	2.29	PFO	Riverine	24	18	23	65	II
B	0.03	PFO	Riverine	16	16	20	52	II
C[1]	0.00	PSS	Slope	1	3	16	20	IV
D	0.11	PFO	Depressional	18	10	20	48	III
E	0.33	PFO	Riverine	20	16	22	58	II
F	4.14	PFO	Riverine	32	18	28	78	I

[1] Wetland C is a Category IV wetland less than 1,000 square feet in size, and is therefore exempt from regulation by the City of Tacoma (13.11.140 TMC).

To determine the buffer requirements of the wetlands within the study area the wetland buffer classification guidelines in Title 13 Sections 11.320 of the Tacoma Municipal Code were used. These guidelines assess the level of habitat function, wetland category, habitat zone, and land use impact "intensity". Based on this guidance each wetland was given a buffer requirement for each of the three levels of land use "intensity"; high, moderate, and low (Table 7).

Table 7. Wetland buffer summary.

Wetland ID	Size (Acre)	Wetland Category	Level of Habitat Function	Within Habitat Zone	Buffer Requirement[1]		
					High Impact Intensity	Moderate Impact Intensity	Low Impact Intensity
A	67,979 SF (1.60 AC)	II	Moderate	Yes	150	110	75
B	1,830 SF (0.04 AC)	II	Moderate	Yes	150	110	75
C	220 SF (0.01 AC)	not regulated[2]	Low	Yes	-	-	-
D	6,203 SF (0.14 AC)	III	Moderate	Yes	150	110	75
E	4,754 SF (0.14 AC)	II	Moderate	Yes	150	110	75
F	178,464 SF (4.10 AC)	I	Moderate	Yes	300	225	150

[1]The buffer width requirements vary depending on the land use impact "intensity" based on development types (13.11.310 TMC).
[2]Wetland C is a Category IV wetland less than 1,000 square feet in size, and is therefore exempt from regulation by the City of Tacoma (13.11.140 TMC).

7.4 Functions and Values

The primary wetland functions identified in Ecology's rating system include Water Quality, Hydrology, and Habitat (Hruby 2004). Relative values are assigned based on the numeric level reached for each identified function (Table 7). Values assigned are based on the maximum points for each function with the upper 1/3's as being high, the lower 1/3 as being low, and the remainder as being moderate (Table 8).

Table 8. Wetland relative functional value range matrix.

Function	High	Moderate	Low
Water Quality	24-32	11-23	1-10
Hydrologic	24-32	11-23	1-10
Habitat	24-36	13-23	1-12

Wetlands A, B, D, E, and F may provide several functions, such as limited stormwater retention, water quality enhancement, and wildlife habitat. These wetlands may filter out sediments from stormwater runoff, preventing them from entering the City of Tacoma's stormwater system, as well as retain stormwater and overland flow during heavy precipitation events. Wetland C provides sediment and pollutant filtration and groundwater infiltration functions. Fish and wildlife functions include large and small mammal foraging and cover, passerine, waterfowl, and raptor foraging and nesting, and amphibian foraging, breeding, and refuge. Social values include recreation, aesthetic, and ecological characteristics.

Stream 1 and 2 provide several functions, such as transport of sediment and organic debris, macroinvertebrate habitat, and some limited stormwater retention. Stream 2 also provides breeding and foraging salmonid habitat for Cutthroat and Coho salmon. Fish and wildlife functions also include large and small mammal foraging, waterfowl, and raptor foraging, and amphibian foraging, breeding, and refuge. Social values include recreation, aesthetic, and ecological characteristics.

The adjacent buffer areas provide screening of the wetlands and streams from outside disturbances. It also may provide water quality enhancement by filtering out sediment and toxins from limited stormwater runoff before entering the wetlands and/or streams. The buffer areas are adjacent to urban areas and have been altered by human activities. The buffers have substantial infestations of invasive species such as English holly, English laurel, Japanese knotwood, Himalayan blackberry, bamboo, and English ivy.

8. BIOLOGIST QUALIFICATIONS

Matt Heddin

Matt Heddin is a Biologist with professional training and experience in wetland ecology as well as fisheries and wildlife ecology, habitat restoration, wetland, stream, and benthic delineations and assessments, stream assessments, monitoring programs, and mitigation planning and design.

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10. GLOSSARY

Buffer Zone: *An area required that is contiguous to and protects a critical area which is required for the continued maintenance, functioning, and/or structural stability of a critical area.*

Caliper: *The American Nursery and Landscape Association definition of "caliper" has been determined to be not relevant to natural areas. A "caliper" is a specific instrument used in the forestry industry to measure the diameter of trees, which is typically done at breast height. As used in the TMC, "Caliper" is also taken to mean the diameter at breast height measurement using forestry measuring devices.*

Critical Area: *Include areas with a critical recharging effect on aquifers used for drinking water, fish and wildlife habitat conservation areas, frequently flooded areas, geological hazardous areas, wetlands, and streams.*

Diameter at Breast Height (dbh): *Tree d.b.h. is outside bark diameter at breast height. Breast height is defined as 4.5 feet (1.37m) above the forest floor on the uphill side of the tree.*

Natural Waters: Flowing water within a physical system that has developed without human intervention, in which natural processes continue to take place. www.deq.state.va.us/tmdl/glossary.html.

Np Water: *All segments of natural waters within the bankfull width of defined channels that are perennial nonfish habitat streams.*

Ns2 Water: *All segments of natural waters within the bankfull width of the defined channels that are not Type S, F, or Np Water. These are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns2 Waters may not be physically connected by an above ground channel system to Type F or Np waters.*

Ordinary High Water Mark: *On all lakes, streams, and tidal water is that mark which 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, in respect to vegetation, as that condition existed on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by the City or the Department of Ecology; provided, that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide, and the ordinary high water mark adjoining fresh water shall be the line of mean high water.*

Perennial Streams: Stream segments of Natural *Waters that do not go dry any time of a year of normal rainfall or as further described within WAC 222-16-031.*

Priority Habitat: *Priority Oregon (Garry) white oak woodlands consist of stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is ≥25%; or where total canopy coverage of the stand is <25%, but oak accounts for at least 50% of the canopy coverage present. In urbanizing area, single oaks, or stands of oaks <1acre, may also be considered a priority when found to be particularly valuable to fish and wildlife (i.e., they contain many cavities, have a large diameter at breast height, are used by priority species, or have a large canopy. (Larsen 1998)*

Stream: *A naturally occurring body of periodic or continuously flowing water there the water is contained within a channel.*

Stream Corridor: *Perennial, intermittent or ephemeral waters included within a channel of land and its adjacent riparian zones which serves as buffer between aquatic and terrestrial upland ecosystems.*

Wetland: *Areas that are inundated or saturated by surface water or groundwater at the frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.*

Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificially wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands.

Wetland Classification:

Category I: Wetlands that 1) represent a unique or rare wetland type; or 2) are more sensitive to disturbance that most wetlands; or 3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or 4) provide a high level of functions.

Category II: Wetlands that are difficult to replace, and provide high levels of some functions. These wetlands occur more commonly than Category I wetlands, but still need a relatively high level of protection.

Category III: Wetlands that perform functions moderately well and score between 30-50 points, and interdunal wetlands between 0.1 and 1 acre in size. These wetlands have generally been disturbed in some way and are often less divers or more isolated from other natural resources in the landscape than Category II.

Category IV: Wetlands that have the lowest levels of functions (less than 30 points) and are often heavily disturbed. These are wetlands that may be replaced, and in some cases may be improved.

Special Wetlands: Wetlands that required special protection and are not included in the general rating system shall be rated according to the guidelines for the specific characteristic being evaluated. The special characteristics that should be taken into consideration are as follows:

a. *The wetland has been documented as a habitat for any federally listed Threatened or Endangered plant or animal species. In this case, "documented" means the wetland is on the appropriate state or federal data base.*
b. *The wetland has been documented as a habitat for State listed Threatened or Endangered plant or animal species. In this case, "documented" means the wetland is on the appropriate state or federal data base.*
c. *The wetland contains individuals of Priority Species listed by the WDFW for the State.*

The wetland has been identified as a Wetland of Local Significance

WETLAND DELINEATION METHODOLOGY

The triple parameter approach of the Washington State Wetland Identification and Delineation Manual (1997) and the U.S. Army Corps of Engineers Wetland Delineation Manual (1987) was used to delineate the extent of wetlands on the site. Under this methodology, vegetation, soils, and hydrology are each evaluated to determine the presence or absence of wetlands. Based on the use of this method, an area is considered to be a wetland if each of the following is met: (1) dominant hydrophytic vegetation is present in the area, (2) the soils in the area are hydric, and (3) the necessary hydrologic conditions within the area are met. The Routine On-Site Determination Method was used for the evaluation of triple parameter criteria for this project. This methodology was selected because differences in vegetation types were easily observed, aiding in the identification of areas likely to meet the hydrology and soils criteria of this approach. Wetland boundaries were determined by conducting a walking inspection of the property. As part of this inspection, species of vegetation, soil conditions, and hydrologic conditions were noted at several data plots to more accurately determine the boundaries of on-site wetlands.

Wetland Vegetation

Hydrophytic plants are plants specially adapted for saturated and/or anaerobic conditions. The U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service have assigned an indicator status to many plant species that is based upon the estimated probability of the species existing under wetland conditions. Plants are categorized as Obligate (OBL), Facultative Wetland (FACW), Facultative (FAC), Facultative Upland (FACU), and Upland (UPL). Species with an indicator status of OBL, FACW, or FAC are considered to be adapted to saturated and/or anaerobic (i.e., wetland) conditions and are referred to as hydrophytic vegetation (Appendix B).

Trees and shrubs within a 30-ft-radius and herbs within a 5-ft-radius of each data point were identified and noted. The approximate percentage of cover for each of the different plant species occurring within the tree, shrub, and herb strata was determined. Dominant plant species are considered to be those that, when cumulatively totaled in descending order of abundance, exceed 50 percent of the area cover for each vegetative stratum. Any additional species individually representing 20 percent or greater of the total areal cover for each vegetative stratum are also considered dominant.

The indicator status of the dominant plant species within each of the vegetative strata is used to determine the presence of hydrophytic vegetation near each data plot. A data plot was considered to have hydrophytic vegetation if greater than 50 percent of the dominant plant species within the area had an indicator status of OBL, FACW, or FAC.

Hydric Soils

Hydric soils are defined as those soils which are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. As a result of anaerobic conditions, hydric soils exhibit characteristics directly observable in the field, including high organic matter

content, greenish or bluish gray color (gley formation), accumulation of sulfidic material, spots of orange or yellow color (mottling), and dark soil colors (low chromas).

Throughout a large portion of the area delineated as wetland, identification of hydric soils was aided through observation of surface hydrologic characteristics and indicators of wetland hydrology (i.e., drainage patterns). The areal extent of hydric soils was defined through direct soil observation within several data plots placed both inside and outside the wetland. Soil observations were completed within soil data plots dug with a shovel to a depth of at least 16 inches below the existing ground surface. Soil samples were examined for the presence of hydric indicators. Soil organic content was estimated visually and textually. The presence of sulfidic material was determined by the presence of sulfide gases (i.e., a "rotten egg" odor). Soil colors were recorded after being determined through use of the three aspects of color in the Munsell Soil Color Chart: hue, value, and chroma (e.g., a soil designated as 10YR 6/2 has a hue of 10YR, a value of 6, a chroma of 2, and a soil color name of light brownish gray). A soil chroma of two in combination with soil mottling or a soil chroma of one without soil mottling typically indicates a hydric soil.

Wetland Hydrology

Hydrologic conditions identifying wetland characteristics occur during those periods when the soils are inundated permanently or periodically, or the soil is continuously saturated to the surface for sufficient duration to develop hydric soils and support vegetation typically adapted for life in periodically anaerobic conditions. Research has indicated that the duration of soil saturation and inundation during the growing season is more influential on the plant community than the frequency of soil saturation and inundation during the growing season. For the purposes of this wetland delineation, the wetland hydrology criterion was considered to be satisfied if it appeared that wetland hydrology was present for at least 5 to 12 percent (12 to 29 days) of the growing season. The growing season begins when the soil reaches a temperature of 41 degrees Fahrenheit in the zone of root penetration.

The hydrology was evaluated by direct visual observation of surface inundation or soil saturation within 16 inches below the existing ground surface in data plots. According to the 1987 Manual, "for soil saturation to impact vegetation, it must occur within a major portion of the root zone (usually within 12 inches of the surface) of the prevalent vegetation." Therefore, if saturated soils or indicators were observed within 12 inches of the surface, positive indicators of wetland hydrology were noted.

The area near each data plot was also examined for indicators of wetland hydrology. These indicators include dried watermarks, drift lines, sediment deposits, oxidized rhizospheres, local soil survey data, and drainage patterns. It was not possible to observe conditions during the entire growing season. Areas where several positive indicators of hydrology were observed, and other indicators of wetland conditions were observed, it is assumed that wetland hydrology occurs for a sufficient period of the growing season to meet the wetland criteria, as described by Ecology (1997).

Puget Creek Natural Area Management Plan
Public Meeting #1 March 13. 2012

Strategy Voting Results

Objective # 1 Restore and maintain healthy ecosystems throughout the Puget Creek Natural Area that can sustain populations of salmon and trout.

# Votes	Strategy
27	**Protect habitat throughout the natural area.**
9	**Continue with the salmon egg incubator project.**
4	Support salmon carcass placement efforts to aid in nutrient cycling.
4	Monitor and control sediment delivery to the creek and wetlands.
3	Work with the City of Tacoma to remove the stormwater confluence pipe configuration underneath Ruston/Alder Way.
3	Continue fish surveying and monitoring efforts.
3	Maintain the riparian corridor in a manner condusive to salmon habitat.
1	Partner with other agencies for technical and financial assistance.
54	

Objective # 2 Promote and provide educational interpretation opportunities while providing a safe and clean place for Tacoma's citizen's to visit and enjoy.

# Votes	Strategy
16	**Build a boardwalk through the wetland complex at the lower end of the Natural Area.**
10	**Install a map and way-finding signage system.**
8	**Install interpretive signage to educate about various attributes of the Puget Creek Natural Area (salmon, storm water, wetlands, forests, etc)**
6	Install an educational kiosk at the Alder Way Trailhead to Puget Creek Natural Area.
4	Expand MPT's nature based programming to regularly include Puget Creek Natural Area for both children and adults.
4	Partner with local schools & other organizations to provide educational opportunities.
3	Create/enhance the picnic area to include an outdoor classroom.
1	Educate volunteers who work in the natural area.
52	

Objective # 3 Provide a valuable and sustainable non-motorized transportation corridor that serves to connect the Ruston Way promenade with the Proctor District and surrounding neighborhoods.

# Votes	Strategy
9	**Create inviting trailheads (Improve trailhead at Noth 34th St and Monroe Street)**
8	**Construct a sidewalk connection to Ruston Way from the lower Puget Creek Natural Area trailhead.**
5	Identify opportunities to increase funding.
3	Limit bikes to main valley floor trail & provide bike racks.
2	Begin measuring the number of users who use Puget Creek Natural Area's trails.
27	

Objective # 4 Support restoration and maintenance efforts into the wider Puget Creek Watershed to enhance and protect the natural area's fish and wildlife habitat.

# Votes	Strategy
8	**Continue relationship with Puget Creek Restoration Society**
7	Prioritize restoration sites within the Natural Area
5	Provide education for surrounding neighborhoods to assist (COT Programs like Envirochallenger, etc.)
2	Remove Ivy in the Natural Area
22	

Objective # 5 Coordinate management and maintenance efforts between the City of Tacoma and Metro Parks Tacoma to ensure long term success of this Plan.

# Votes	Strategy
14	**Develop an implementation schedule that identifies both costs and responsiblities for executing the strategies found in the Puget Creek Natural Area Management Plan.**
6	Create a wide ranging baseline of scientific baseline of data (soils, plants, habitats, wildlife, etc.)
5	Investigate potential to transfer all public ownership to a single agency.
25	