

INSTREAM PROJECT DESIGN CHECKLIST

For Design and Construction of Flood and Erosion Protection Facilities and Habitat Restoration Projects that May Include Large Wood Placement or Natural Wood Recruitment

Project Name Paradise Valley LWD, Judd Creek Habitat Enhancement Small Habitat Restoration Project (SHRP)

Project Manager Paul Adler

River/River Mile/Bank Judd Creek – RM 1.7 both banks Date 3/19/2020

Check one or both:

X Project includes placement of large wood elements

Project may influence the recruitment, mobility and accumulation of natural large wood.

Note: If the project is comprised of emergency work, then fill out and file this form within 30 days of completion of emergency work.

I. Project Background and Preliminary Design (30-40 Percent) Information

(Provide general information at a conceptual level)

1. Describe the overall river management context, strategy and objectives for the river reach. Refer to pertinent plans, policies or documents pertaining to flood hazards, salmon recovery, etc.

This reach of Judd Creek is managed for open space and habitat values. Judd Creek is a wadable stream that does not have enough flow to be boatable. The project is located in the middle reaches of the Judd Creek Watershed, the largest watershed on Vashon Island and the largest single source of fresh water into Quartermaster Harbor and the Maury Island Aquatic Reserve. Judd Creek is identified as priority area for conservation and enhancement in:

- King County Vashon Island Greenprint Analysis
- 2002 Vashon Park District's Park, Recreation & Open Space Plan
- 1996 Vashon-Maury Island Groundwater Management Plan
- 1986 Vashon Community Plan and Area Zoning
- Vashon Land Trust 2010 Judd Creek Conservation Plan

2. Describe the goals and objectives of the project and its relative importance to the success of DNRP program goals and mandates. Identify funding source(s) and describe any applicable requirements or constraints.

The purpose of the project is to conserve and restore natural processes by the placement of woody debris that was naturally and historically more common on Puget Sound streams. The project objectives are:

- Restore natural habitat forming processes by placing large and small woody debris into Judd creek
- Promote long-term stewardship of Judd Creek and by coordinating with stakeholders including WRIA 9; the Vashon Maury Island Land Trust; adjacent property owners and the Vashon Nature Center.
- Avoid and minimize impacts to cultural resources.

The project is funded by Small Habitat Restoration Program (SWM) funds.

3. Describe the existing (and historic, if relevant) site and reach conditions, including structural features, channel form, and the presence of naturally-deposited large wood. Describe known utilization by salmonids and any important or unique biological or ecological attributes.

Judd Creek is one of two major salmon-bearing creeks on Vashon Island, and is used by coho and chum salmon, cutthroat trout and rainbow trout. It flows southward from headwaters in Island Center Forest towards Quartermaster Harbor. Within the project stream reach, the creek averages 12' wide and has summer stream flows of < 10 CFS.

The property is owned and managed by the Vashon Maury Island Land trust for Open Space. King County holds a conservation easement on the property.

4. Describe what is known about adjacent land uses and the type, frequency, and seasonality of recreational uses in the project area. Are there nearby trail corridors, schools or parks? What is the source(s) of your information?

The adjacent land use is rural residential properties and open space parcels. There are trails and passive recreation on the property. Recreational use of the stream reach is limited to by the size of the creek. Judd Creek is a wadable stream that does not have enough flow to be boatable. Information was gathered from background research, technical studies, site surveys, and interviews with neighbors.

5. If the project includes wood placement, describe the conceptual design of large wood elements of the project, including, if known at this stage in the design, the amount, size, location, orientation, elevation, anchoring techniques, and type of interaction with the river and stream at a range of flows.

Approximately 35 logs with root balls will be placed in about 700 feet of channel. The typical log is 8-18 inches diameter (diameter at breast height) and 20 feet long.

Logs and logs with root balls and small wood, including tree top and branches will be placed individually or in clusters to create log complexes. The logs will be placed without mechanical anchors. The majority of logs will be placed in complex of 2 to 4 logs with logs stacked so that logs place in the channel below logs placed with the root balls in the creek and the stem on the banks. The logs in these clusters may be tied together, or to live trees on the banks with natural fiber rope. The logs in the stream reach will interact with the stream at all flows. Logs will be placed with an excavator or spider-hoe working on the stream banks.

6. If the project includes wood placement, what is the intended structural, ecological or hydraulic function of the placed wood? What role does the placed wood have in meeting the project's goals and objectives? Is the project intended to recruit or trap additional large wood that may be floating in the river?

The purpose of the project is to conserve and restore natural processes by the placement of woody debris that was naturally and historically more common on Puget Sound shores and streams. The wood placements are designed to minimize construction impacts and to mimic existing wood found on the site and in reference reaches in Judd Creek. Woody debris provides structure, cover and hydraulic complexity in streams and creates changes in the stream channel, such as deep pools, that improves fish habitat. .

7. Is the project likely to affect the recruitment, mobility or accumulation of natural large wood, e.g., by encouraging wood deposition on or near the site or promoting bank erosion that may cause tree toppling? Describe expected site evolution and its potential effects on natural wood dynamics.

While the project may recruit a small amount of natural large wood, it is unlikely to recruit a significant quantity of additional wood. Judd Creek is a small creek that does not have the ability to move large pieces of wood and any wood that is mobile in the channel is limited by the sinuosity of the channel.

8. Describe how public safety considerations have been incorporated into the preliminary project design. For placed wood, address each of the considerations:
 - a. Type, frequency, and seasonality of recreational use;
 - b. Wood location, positioning, and anchoring techniques;
 - c. Maximizing achievement of project goals and objectives while minimizing potential public safety risks;
 - d. Use of established and recognized engineering, geological, and ecological expertise.

This reach of Judd Creek is managed for open space and habitat values. Judd Creek is a wadable stream that does not have enough flow to be boatable. The project does not pose hazards to the existing or potential recreational use of the project area. Boating and floating is not possible because of the creek size. The project design team includes an ecologist and engineer with experience in wood placement, wood mobility, habitat benefits and public safety concerns.

9. Has the project been reviewed and approved by a Licensed Professional Civil Engineer? Please list other licensed technical staff who have reviewed and provided input on the design (e.g., Licensed Geologist and Licensed Engineering Geologist). Specify the Engineer of Record for the design and any other Licensed Professionals who have sealed their portion of the design plans. Were all reviews and approvals completed?

Will Mansfield, Professional Engineer, is the Engineer of Record for this project. He reviewed all project design elements and will stamp the project plans.

10. Has the project been reviewed and approved by a King County Professional Ecologist (e.g., person with an advanced degree in aquatic and/or biological sciences from an accredited university or equivalent level of experience) if ecological benefits are an intended project objective, to evaluate the consistency of the design with project goals, existing environmental policies and regulations, and expected or known permit conditions? Specify the Reviewing Ecologist for the project. Was this review and approval completed?

The project manager is a KC design ecologist with over 20 years' experience designing and building habitat restoration projects that incorporate LWD. The project design has been reviewed and approved by KC Senior Ecologist Mason Bowles.

11. What is the anticipated schedule for completing project milestones (30-40% design, final design, major construction/earthmoving) and for soliciting public input)?

The project design review included evaluation and input for stakeholders including, the Vashon-Maury Island Land Trust, The KC basin steward, the WRIA technical team, KC Historic Preservation Program Staff and local tribes. Phase one of the project was also presented to the public at the 2018 Projects Involving Large Wood Placement public meetings and will be included in this year's Projects Involving Large Wood Placement public meetings. Project Construction is anticipated during the summer of 2020.

Project Manager

Date

Supervising Engineer, Project Supervisor or Unit Manager

Date