



King County **INSTREAM PROJECT CHECKLIST**

For Construction and Maintenance of Flood and Erosion Protection Facilities and Habitat Restoration Projects that may include large wood elements

Project Name McElhoe Pearson Restoration Project 2012 Project Manager Fauna Nopp
River/River Mile/Bank Snoqualmie/RM 22.5/Right Bank Date 4/10/12

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

(Provide general information at a conceptual level)

- 1. Describe the goals and objectives of the project and its relative importance to the success of DNRP program goals and mandates. (Note: If the project is comprised of emergency work, then fill out and file this form within 30 days of completion of emergency work.)**

The McElhoe Pearson Restoration Project is intended to create important off-channel habitat through enhancement of an existing wetland, breaching of the McElhoe Pearson Levee, and construction of a backwater channel to improve the connection between the wetland and the river. These actions will provide critical rearing and refuge habitat that will support numerous salmonid species, including threatened Chinook salmon. These benefits occur within the reach of highest priority for Chinook recovery in the Snohomish River Basin Salmon Conservation Plan, and leverage considerable investments in habitat at other sites within the reach including the Chinook Bend, Lower Tolt, and Camp Gilead floodplain restoration projects that were implemented over the last several years.

- 2. Describe the existing (and historic, if relevant) site and reach conditions, including structural features, channel form, and the presence of naturally-deposited large wood.**

The project site is located east of the river in an area formerly occupied by the channel. It was separated from the river by the construction of the McElhoe Pearson levee in 1961. Since that time, the area landward of the levee has developed into a scrub shrub wetland, and the straightened and dredged river channel has gradually begun to migrate and aggrade. A significant point bar has formed along the downstream portion of the levee (where the proposed levee breach is located). This feature is dissected by a series of small floodplain channels that coalesce into a persistent low flow backwater habitat area that rejoins the channel at the downstream end of the project site. The point bar supports up to twenty inch DBH cottonwood trees, with larger trees growing on and behind the levee. Very little large wood is trapped on the site due to the smooth, rock armored face of the levee and the shadowing effect of the levee geometry on the forested bar downstream.

- 3. 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?**

Based on review of aerial photography and zoning maps, the project site is located downstream of the town of Carnation in an area dominated by agriculture. Single family residential development is concentrated within the town of Carnation with limited residential development, primarily associated with farms, in the surrounding area. Camp Gilead, a relatively large children's camp, operates immediately downstream of the project area on the opposite bank of the river. Discussions with the camp management for the Camp Gilead restoration project indicate that campers use the reach immediately below the project site for casual floating activities during the summer months. The site includes a small parking area and is crisscrossed with trails indicating relatively frequent use by recreational fishermen, birders or other informal recreational users. Existing improved boater access is located upstream near Tolt MacDonald Park and informal access is available downstream at Carnation Farm Road. Anecdotal information and direct observations suggest moderate boating and swimming use by people with wide ranging skill levels.

- 4. 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.**

Three in-water habitat structures are proposed. They each consist of three logs with rootwads, three vertical piles and approximately ten cubic yards of smaller woody debris. Structures will be embedded in the bed and bank for stability and will employ boulders for additional ballast. The structures will rest on the bed and extend a maximum of ten feet into the summer low flow channel. At low flow, the structures will be in a backwatered area with no significant flow velocity. Above approximately 15,000 CFS (at or near ordinary high water), flow enters the upstream end of the floodplain channels and the structures will begin to interact with flowing water.

An additional 12 pieces of large wood and related branches and other woody debris will be placed among the trees on the point bar outside the ordinary high water mark, but adjacent to the main channel. These pieces will be stabilized by existing trees and will only interact with flows that exceed approximately 15,000 CFS.

Some remaining wood generated during construction will be placed within the off-channel wetland area. It will be placed in low energy areas and be racked on existing vegetation for stability.

5. What is the intended 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 woody debris that may be floating in the river?

The proposed habitat structures are intended to provide cover and structure in an important salmonid rearing and refuge area. They will restore some of the functions lost when the river was dredged and the banks were armored, and they are also necessary to provide compensatory mitigation for off-site impacts related to a Washington State Department of Transportation (WSDOT) infrastructure project. WSDOT's project removed several large pieces of wood from Tokul Creek so the wood incorporated into McElhoe is compensating for those impacts. The location and design of the proposed structures make it very unlikely that they will recruit or trap additional woody debris.

Wood placed on the point bar is intended to provide a local increase in hydraulic roughness on the point bar during moderate to high flows (above 15000 CFS). The increased roughness is expected to help concentrate flows in the newly enhanced side channel area, and help maintain persistent surface water connections to the off-channel wetland.

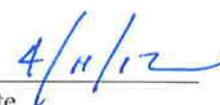
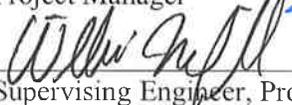
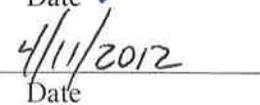
Wood placed in the wetland will provide cover and structure as part of the larger wetland and off-channel fish habitat enhancement plan.

6. Describe how public safety considerations have been incorporated into the project design [see section 1.B.2 of Ordinance 16581] and include a description of how the six (6) key steps provided in Public Rule LUD 12-1, Appendix A. (Rule) Section V.2.A. i)-vi) have been addressed.

Given the intended function of the wood in this project, the design does not require high risk placements. Specifically, all wood that will be placed within the ordinary high water mark of the river is located in backwatered areas located off the main channel. No wood will be exposed to any significant water velocity until flows exceed 15,000 CFS, at which point recreational use is limited. No significant wood is expected to be recruited to the site as a result of project actions, and no geomorphic changes are expected in the main river channel. Geomorphic changes in the side channel and backwater areas are expected to be relatively minor and are not anticipated to recruit significant trees or impact recreational use. Finally, all placed wood greater than 6 inches in diameter and 20 feet in length will be anchored by ballast, pilings or live trees to minimize the potential for on-site wood to be mobilized downstream.

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

The project is moving toward construction in August 2012. Thirty percent plans were recently completed, and will be followed by 60 percent plans in May and final plans in July. Public input will continue to be solicited through 60 percent design and through the State Environmental Policy Act determination process.

 Project Manager	 Date
 Supervising Engineer, Project Supervisor or Unit Manager	 Date