

# PROJECT DESCRIPTION FOR NOOKSACK RIVER SIDE CHANNEL ENHANCEMENT PROJECT ADJACENT TO THE TWIN VIEW LEVEE

The Nooksack River overtops its east (right) bank at Everson in large flood events, and that flow moves north through the cities of Everson, Nooksack, and Sumas and adjacent agricultural areas, posing significant risks to people, infrastructure, and land uses. The effects of these overflow events are compounded in the Sumas area by drainage from Johnson Creek and the Sumas River and its tributaries. An interdisciplinary planning and design charette focused on this “flow split” was held in April 2022 as an initial step to identify both short-term and long-term multi-benefit solutions for reducing flood impacts in the overflow corridor. One short-term solution that emerged is to encourage a greater amount of flow into a small side channel that runs parallel to the Twin View Levee along the left (west) bank of the Nooksack River immediately upstream of the Everson Road (State Route 544) Bridge. This side channel was perennially active a decade ago, but now has reduced year-round flow conveyance. Preliminary analysis suggests that increased flow down this side channel could lead to a modest increase in localized river flow conveyance and an associated reduction in the volume and rate of flow that overtops the river’s right bank during large flood events, thus potentially reducing the severity of flooding in the Everson overflow corridor. Such a short-term action is one method of making progress towards near-term flood risk reduction until longer-term and broader-scale solutions can be developed and constructed. Increased flow down the side channel could also potentially provide increased off-channel rearing, refugia, and possibly spawning habitat area for salmonids.

Whatcom County’s River & Flood Division, in consultation with the cities of Everson, Nooksack, and Sumas, the Nooksack Indian Tribe, Lummi Nation, and the agricultural community, will be the primary proponent of the side channel enhancement project. Project elements include:

1. Clearing vegetation (but no trees) in an access corridor between the top of Twin View Levee and the side channel work area, including invasive knotweed removal and/or permissible herbicide treatment
2. Removal of shrubby vegetation (primarily willows) from an approximate 30-foot-wide by 30-foot-long area on the gravel bar at the upstream inlet to the side channel
3. Excavation of alluvium from the cleared area, averaging approximately 3 feet deep for a channel length of approximately 150 feet, totaling 310 cubic yards, and onsite placement of excavated alluvium adjacent to the side channel on both sides of it, in between and around existing vegetation
4. Spill prevention, control, and countermeasures to prevent water quality impacts in the river during construction.

5. Planting willow stakes in the cleared access corridor between the levee and the side channel
6. Collection of topographic survey information before and after project construction and following the flood season to provide a baseline dataset for use in evaluating project performance.

It is anticipated that this work will be completed using a single excavator for no more than 3 days, with oversight to “field fit” the excavation work to avoid removal of trees. All work will occur above the ordinary high water level in the river, “in the dry” on the bar during low flow conditions. If necessary, straw wattles or other sediment containment measures will be installed between the work area and river bank to prevent disturbed sediment from entering the river during construction.

The side channel thalweg and adjacent topography has been mapped with a combination of LiDAR and on-the-ground survey data collection. After a full wet season, the channel will be re-surveyed to assess the extent to which the river flow has (or has not) expanded the side channel’s flow conveyance capacity, by comparing the post-project survey to the 2022 pre-project survey. Information gained may inform planning for possible future projects should this project prove effective.