

## ACTIVITIES INCLUDED IN STREAMLINED PERMIT PROCESS FOR NOOKSACK RIVER LEVEE MAINTENANCE AND MINOR REPAIRS

General Activities	Specific Activities, Equipment and Timing	BMPs	Mitigation	Required Permits
<b>Annual Levee Maintenance</b>	<p><b>A. Mowing/brushing/pruning of the Maintenance zone according to Vegetation Management Plan (VMP) schematics.</b> Includes mainly mowing grass with some weeds, selective pruning of branches overhanging the top of the levee crest and selectively cutting overgrown brush that is encroaching the Maintenance zone (all native vegetation to be preserved)</p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Rubber tired 4x4 tractor with a 5 to 8 foot rear rotary mowing deck and 4 foot rotary side arm mount, typical hand pruning/cutting equipment and potentially a chain saw to cut large branches overhanging the levee crest</li> <li>• <b>Timing of activity:</b> Between May 15th and June 30th, weather dependent, mowing the levees in the Subzones usually takes approximately 2-weeks</li> </ul>	<p>Perform work in the dry</p> <p>Limit pruning to achieve equipment access</p> <p>Dispose of limbs riverward of levee</p> <p>Follow County noxious weed control guidelines to minimize potential for spread of noxious weeds</p>	<p><u>SMP</u> Pruning: No mitigation required Mowing: No mitigation required</p> <p><u>WDFW</u> No mitigation required</p>	<p><u>SMP</u> Shoreline Statement of Exemption; could be included in 5-year permit</p> <p><u>WDFW</u> No permit required; could include in 5-year permit</p>
	<p><b>B. Spraying invasive weeds within the Maintenance zone according to VMP schematics.</b> Target species include Himalayan blackberry (<i>Rubus armeniacus</i>), Knotweeds (<i>Polygonum</i> sp), and Common Tansy (<i>Tanacetum vulgare</i>) avoiding all native (non-noxious) vegetation</p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Tanker truck (300-500 gallon) with hose (300-600') and sprayer mount</li> <li>• <b>Chemicals used:</b> Refer to herbicide application guidelines for specific target species on Whatcom County Noxious Weed Board website: <a href="http://www.whatcomcounty.us/publicworks/weeds/factsheets.jsp">http://www.whatcomcounty.us/publicworks/weeds/factsheets.jsp</a></li> <li>• <b>Timing of activity:</b> Between September 15th and October 15th, weather dependent (no rain and no wind drift), spraying weeds in the Subzones usually takes approximately 2-weeks</li> </ul>	<p>Utilize licensed applicator with aquatic endorsement</p> <p>Re-seed or hydroseed bare areas as soon as possible</p> <p>Follow County noxious weed control guidelines</p>	<p><u>SMP and WDFW</u> No mitigation required</p>	<p><u>SMP</u> Shoreline Statement of Exemption; could be included in 5-year permit</p> <p><u>WDFW</u> No permit required; could include in 5-year permit</p> <p><u>DOE</u> Aquatic noxious weed general permit as required when working near water</p>
	<p><b>C. Hydro seeding of the Maintenance zone according to VMP schematics – reseeding bare areas after mowing/spraying</b></p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Tanker truck (300-500 gallon) with hose and applicator</li> <li>• <b>Timing of activity:</b> Sometime between Spring and September, hydro seeding bare areas within the Subzones typically takes a few days</li> </ul>	<p>Keep hydroseed overspray out of water; hand seed if needed</p> <p>Hydro seeding should not be fertilizer based if it has potential to leach into river (vegetated buffer between site and river can act as filter)</p> <p>Use grass mixes suitable to site, setting and flow characteristics</p>	<p><u>SMP and WDFW</u> No mitigation required</p>	<p><u>SMP</u> Shoreline Statement of Exemption; could be included in 5-year permit</p> <p><u>WDFW</u> No permit required; could include in 5-year permit</p>

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<b>Native Vegetation Removal within the Maintenance Zone</b>	<p><b>Selective cutting trees and shrubs according to VMP schematics.</b> Cut trees will be fallen water ward of the levee prism, stumps will either be removed or close cut to the ground surface, disturbed areas will be planted in grass, all trees outside the Maintenance zone that are not determined to be a hazard per the Hazard Tree Rating Matrix will be retained</p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Chainsaw, excavator, winch and various log handling equipment</li> <li>• <b>Timing of activity:</b> Varies</li> </ul>	<p>Trees: fall toward water and leave or place in floodplain; leave logs as long as possible</p> <p>Snags: leave snags if not detrimental to levee</p> <p>Shrubs: leave twigs as mulch on site</p> <p>Re-seed or hydroseed bare areas as soon as possible</p> <p>Trees should be planted if trees are removed as long as site conditions support them; conifers are preferred.</p>	<p><u>SMP and WDFW</u></p> <p><b>Trees ≥ 10</b> inches in diameter cut on the <i>crest or waterward side</i> of levee: Replant 4:1 and leave or place cut material riverward of the levee</p> <p><b>Trees ≥ 10</b> inches in diameter cut on <i>levee backslope</i>: Replant 1:1 and place cut material riverward of the levee</p> <p><b>Trees 3-10</b> inches in diameter cut on the <i>crest or waterward side</i> of levee: Replant 1:1 and leave or place cut material riverward of the levee</p> <p><b>Trees 3-10</b> inches in diameter cut on <i>levee back slope</i>: place cut material riverward of the levee</p>	<p><u>SMP</u> Shoreline Statement of Exemption; could be included in 5-year permit</p> <p><u>WDFW</u> HPA required; could be included in 5-year permit.</p>
<b>Hazard Tree Removal</b>	<p><b>Selectively cutting trees on the levee prism that have been determined to be a hazard using the Hazard Tree Rating Matrix, stumps or habitat posts will remain</b></p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Chainsaw, excavator, winch and various log handling equipment</li> <li>• <b>Timing of activity:</b> Varies</li> </ul>	<p>Same as: <b>Native Vegetation Removal within the Maintenance Zone</b></p>	<p>Same as: <b>Native Vegetation Removal within the Maintenance Zone</b></p>	<p>Same as: <b>Native Vegetation Removal within the Maintenance Zone</b></p>
<b>Land Clearing in the Maintenance Zone</b>	<p><b>Non-selective removal of dense vegetation including native species to convert maintenance zone to grass</b></p>	<p>Specified in individual permit conditions</p>	<p><u>SMP and WDFW</u> Site-specific mitigation required based on project impacts</p>	<p><u>SMP</u> Shoreline permit required</p> <p><u>WDFW</u> HPA may be required</p> <p><u>SEPA</u> Review required</p> <p><u>DNR</u> Forest Practices conversion permit may be required</p>

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<b>Rip Rap Repair above Ordinary High Water Mark</b>	<p><b>Replacing existing rock riprap on riverward slope to restore original geometry.</b></p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Excavator, dump truck and potentially a loader or other various earthwork equipment</li> <li>• <b>Timing of activity:</b> Within fish window</li> </ul>	<p>Place rocks individually with an excavator</p> <p>Incorporate willow stakes or root wads if possible</p> <p>Review sites at annual meeting and perform work within the fish window (otherwise permit individually using emergency/ expedited permitting process)</p>	<p><u>SMP</u> Defer to WDFW for mitigation for rock replacement; if vegetation is removed, refer to appropriate maintenance activity for additional mitigation</p> <p><u>WDFW</u> Planting with the vegetation zone; site-specific determination needed based on project scope</p>	<p><u>SMP</u> Shoreline Statement of Exemption; could be included in 5-year permit</p> <p><u>WDFW</u> HPA required; could be included in 5-year permit, depending on project scope, or may require individual permit</p>
<b>Earthen Slump and Backslope Repairs (Minor Earthwork)</b>	<p><b>Adding fill material (typically 50 cy or less, no rock work or armoring) to the levee prism within the maintenance zone to maintain the geometry of the levee – well graded fill material and/or top soil used, area to be re-seeded into grass and construction Best Management Practices (BMP's) such as silt fence will be used to reduce or eliminate any construction related impacts. Type of equipment used depends on size of repair.</b></p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Excavator, back hoe, dump truck, farm truck/tractor, wagon, wheel barrow, shovels and rakes, etc.</li> <li>• <b>Timing of activity:</b> Varies but typically during the dry season so as not to disturb the levee prism</li> </ul> <p><b>If vegetation removal is necessary for access or repair, see BMPS, mitigation and permitting requirements for appropriate vegetation removal category.</b></p>	<p>Use temporary erosion and sedimentation BMPs as appropriate to prevent sediment release into water (See County Development Standards Section 208)</p> <p>Unless emergency – should be done in dry season</p> <p>Equipment should be free of external petroleum-based products while near stream, and checked daily for leaks and repaired</p> <p>Have a spill kit on site</p> <p>Refueling must be done on landward side of the levee</p>	<p><u>SMP and WDFW</u> No mitigation needed if no vegetation is removed. Planting required if vegetation is removed (see requirements for appropriate vegetation removal activity)</p>	<p><u>SMP:</u> Shoreline Statement of Exemption; could be included in 5-year permit. Emergency repair - contact only; Non-emergency repair – standard maintenance and repair exemption</p> <p><u>WDFW:</u> HPA required; could be an expedited permit or included in 5-year permit. Requires plans (drawing)</p>
<b>Ruts, Potholes, and Burrows Repair</b>	<p><b>Adding small amounts of fill material (typically 10 cy or less) to the levee prism within the Maintenance zone to maintain geometry of the levee - well graded fill material and /or top soil used, area to be re-seeded into grass; no tree or native shrub removal</b></p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Farm truck/tractor, wagon, wheel barrow, shovels &amp; rakes, etc.</li> <li>• <b>Timing of activity:</b> Varies but typically during the dry season so as not to disturb the levee prism</li> </ul>	<p>Use BMPs as appropriate to prevent sediment release into water</p>	<p><u>SMP and WDFW</u> No mitigation needed</p>	<p><u>SMP</u> Shoreline Statement of Exemption; could be included in 5-year permit</p> <p><u>WDFW</u> No permit required; could include in 5-year permit</p>

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<b>Invasive Weed Control Below the Maintenance Zone</b>	<p><b>Selective cutting and spraying of invasive weeds (see link for current Whatcom County noxious weed list: <a href="http://www.whatcomcounty.us/publicworks/weeds/weedlist.jsp">http://www.whatcomcounty.us/publicworks/weeds/weedlist.jsp</a> )</b></p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Typically hand equipment (weed whackers, tank sprayers, etc. using Alternative Correction Crews) but may use 4x4 tractor with brusher mount and ATV or tanker truck sprayer for larger jobs</li> <li>• <b>Chemicals used:</b> Refer to herbicide application guidelines for specific target species on Whatcom County Noxious Weed Board website: <a href="http://www.whatcomcounty.us/publicworks/weeds/factsheets.jsp">http://www.whatcomcounty.us/publicworks/weeds/factsheets.jsp</a></li> <li>• <b>Timing of activity:</b> Cutting will typically occur in the spring and spraying between September 15<sup>th</sup> and October 15<sup>th</sup>, weather dependent (no rain and no wind drift)</li> </ul>	<p>Utilize licensed applicator with aquatic endorsement</p> <p>Use backpack sprayer or handheld equipment or manually remove in accordance with WDFW pamphlet HPA permit; tractor may be used for larger areas, as long as overspray does not reach adjacent native species or water</p> <p>Plant bare areas as soon as possible as required for mitigation</p> <p>Follow County noxious weed control guidelines</p>	<p><u>SMP and WDFW</u> Mitigation not needed for small areas where existing vegetation will spread or reseed to fill in bare areas. Replanting with native species may be required for larger or linear areas where existing vegetation will not likely fill in bare areas</p>	<p><u>SMP</u> Shoreline Statement of Exemption; could be included in 5-year permit</p> <p><u>WDFW</u> No permit required; could include in 5-year permit</p> <p><u>DOE</u> Aquatic noxious weed general permit as required to ensure overspray doesn't enter water</p>
<b>Debris Removal in Maintenance Zone</b>	<p><b>Removal of debris including garbage, concrete chunks, barrels, old appliances, sofas, etc. from levee top, riverward and waterward sides; does not include in-water work.</b></p> <ul style="list-style-type: none"> <li>• <b>Type of equipment used:</b> Excavator, back hoe, dump truck, farm truck/tractor, wagon, wheel barrow, shovels and rakes, etc.</li> <li>• <b>Timing of activity:</b> Varies but typically during the dry season so as not to disturb the levee prism</li> </ul>	<p>Work in the dry</p> <p>Use erosion control BMPs as needed to prevent release of sediment into water</p> <p>Replant bare areas with grass or native vegetation</p> <p>Keep equipment on levee crest and drag debris upslope if necessary due to limited reach</p> <p>Leave natural wood and root wads on waterward side, if beneficial to habitat</p> <p>Dispose of debris at appropriate disposal facility</p> <p>Equipment shall be free of external petroleum-based products while near stream, and checked daily for leaks and repaired</p> <p>Have a spill kit on site</p> <p>Refueling must be done on landward side of the levee</p>	<p><u>SMP and WDFW</u> No mitigation required</p>	<p><u>SMP</u> Shoreline Statement of Exemption; could be included in 5-year permit</p> <p><u>WDFW</u> HPA required if soil on the riverward face will be disturbed; could include in 5-year permit</p>

NOTES:

The activities in this table so for include any in-water work or work below the Ordinary High Water Mark.

Alternative mitigation that meets or exceeds the habitat value of the mitigation measures above can be proposed.