

INTRODUCTION AND PROJECT HISTORY

The City of Bellingham Parks and Recreation Department is proposing to demolish and remove an existing abandoned railroad trestle in Whatcom Falls Park, located over Whatcom Creek just upstream of the Derby Pond and west of Electric Avenue. The trestle, built in 1916, has been abandoned for many years and has become a landmark in Whatcom Falls Park. The trestle consists of deteriorated steel railroad rails, and treated wood pilings, cross beams and railroad ties. In 2020 a cross bracing came loose prompting inspection of the trestle, followed by a decision to remove the trestle for the safety of trail users and to improve water quality in Whatcom Creek.

1.1. Project Location and Site Description

The project site is located in Whatcom Falls Park, north of Derby Pond and west of Electric Avenue, in Bellingham, Washington. The site lies in the NE quarter of Section 28, Township 38 North, Range 3 East, Willamette Meridian (WM), within commercial and residential zoned areas. The site is within Water Resource Inventory Area (WRIA) 01 (Nooksack) and within Hydrologic Unit Code (HUC) 1711004 (Nooksack). The project is located within a city owned park in a suburban residential area. Whatcom Creek flows southeast under the trestle through the project site and discharges to the Whatcom Creek/Bellingham Bay estuary at the base of a waterfall, approximately 3.75 miles downstream of the project.

The banks of Whatcom Creek within the project area vary from steep and slightly undercut to gradually sloping with accessible floodplain habitat. Stream substrate within the project reach generally consists of clean gravel with sand, cobble, and occasional boulders. Occasional pieces of large woody material are present in the stream adjacent to the project area. Creeping buttercup, reed canary grass, red alder, spirea and salmonberry dominate the banks of Whatcom Creek and provide substantial overhanging cover. Three riverine wetlands (Wetlands B, C, and J) and one slope depressional wetland (Wetland H) were identified and delineated within the immediate project vicinity.

2.0 PROJECT DESCRIPTION

The proposed demolition of the Whatcom Falls Park Railroad Trestle Demolition Project (project) will include:

- Install and implement temporary erosion and sediment control (TESC) Best Management Practices (BMP)s
- Vegetation trimming in the potential impact area (i.e., trestle fall area)
- In-water work area isolation and fish exclusion and removal: install fish exclusion nets, de-fish, install coffer dams and flow bypass, de-water work area
- Pushing the trestle with heavy machinery to cause it to fall
- Removal of debris from the trestle fall area
- Removal/excavation of wood piles
- Restoration of the stream channel in-water work area

Project Narrative - Whatcom Falls Park Trestle Demolition Project

- Gradual re-watering of the in-water work area, removal of coffer dams and removal of fish exclusion netting
- Restoration of temporary disturbance areas above the OHWM (stabilization and seeding)
- Removal of TESC BMPs
- Installation of trees and shrubs in riparian areas above the OHWM during the first dormant season after trestle demolition

2.1. Work Area

The potential impact area includes an area of approximately 20,000 square feet roughly centered about the existing railroad trestle structure over Whatcom Creek. The potential area of disturbance from machinery access is approximately 10,000 square feet. Temporary access impacts to pedestrians are expected in the project vicinity; however, detours will be established, and signage posted. Equipment will access the work area primarily from the east side of Whatcom Creek, using the old railroad accessed from Electric Avenue, with a secondary access route coming in from the west off Iowa Drive (JARPA Drawings, Sheet 3 of 5 – Access Route).

2.2. Project Description

The project will demolish the existing Whatcom Falls Park Railroad Trestle that crosses Whatcom Creek. The trestle is approximately 150 feet long and 40 feet tall. The isolated in-stream work area will extend from approximately 100 feet upstream to 100 downstream of the trestle. The potential impact area from the trestle fall extends 40 feet upstream (north) to 40 feet downstream (south) of the trestle. The trestle may fall in either direction depending on location, as the western two thirds of the trestle leans to the north, while the eastern third leans south. Machinery access will occur within 17 feet upstream and downstream of the trestle. Before trestle demolition shrubs in the potential impact area surrounding the trestle will be trimmed to within 18 inches of the ground to make trestle debris cleanup more complete. The trestle fall potential impact area will be isolated and dewatered to the greatest extent possible to clear a “crash/fall zone” for the trestle when it is pushed over for the initial stage of demolition. The primary dewatering will occur during installation of the coffer dams, relying on gravity to dewater the work area after installation of the upstream coffer dam. The final work area isolation, bypass and fish exclusion/removal will be compliance with all permits obtained for the project. Following the trestle being pushed over, a smaller work area may be isolated and dewatered for the removal/excavation of the wood piles. The removal of the bridge will result in water quality and habitat improvements in Whatcom Creek.

2.3. Construction Sequence

- Install Best Management Practices (BMPs)
- Exclude and remove fish and isolate and dewater the in-water work area to the extend practicable
- Trim shrubs within the “crash/fall zone”
- Push the trestle over
- Pickup and clear trestle debris in the “crash/fall zone”
- Attempt to pull out piles using a vibratory hammer and/or chains
- Potential option - Isolate smaller in-water work area for pile stub removal

Project Narrative - Whatcom Falls Park Trestle Demolition Project

- Excavate broken pile stub areas 2-3 feet below the surrounding sediment grade, or per permit conditions if deeper. Cut pile stubs and cover with clean sand and streambed sediment.
- Place streambed sediment within machinery access areas and in areas of disturbed streambed within the “crash/fall zone”
- Clear out any remaining debris
- Rewater in-stream work area
- Remove work area isolation
- Stabilize and seed upland areas
- Remove upland BMP measures once site is fully stabilized

2.4. Construction Details

- Site preparation
 - Arrive on site
 - Block work area from public park access. Block trails temporarily as needed to access work area and complete work safely. Use flaggers for traffic control to and from the work area.
 - Installation of BMPs
 - Temporary Erosion and Sedimentation Control (TESC) and Spill Prevention BMP Installation: TESC BMPs that may be implemented for the project include, but are not limited to those listed below:
 - Construction and clearing limits will be kept to a minimum and marked in the field before starting any construction.
 - Stabilized construction entrances will be established and used throughout the construction
 - Erosion control BMP measures include silt fence, jute mat, or similar slope protection matting, straw mulch, or wattles.
 - Filter fence barriers will be installed along the toe-of-slopes, staging areas, and stockpile areas.
 - All construction equipment hoses and fittings will be inspected and replaced as necessary before equipment usage.
 - All fueling areas will be located outside the construction area and will be identified and equipped with spill prevention and control devices.
 - TESC materials will be kept on-site to respond to unanticipated weather conditions or accidental releases of materials, including sediment, concrete, or fuel.
 - To the extent practicable, machinery will be operated from both ends of the trestle above the banks of Whatcom Creek. All machinery performing work in the stream channel will use biodegradable fluids.
 - In-water construction is planned for the summer months when the stream will have lower flows. A TESC Plan developed by the Contractor will identify specific BMPs to be implemented when working in or adjacent to Whatcom Creek.

Project Narrative - Whatcom Falls Park Trestle Demolition Project

- Based on 2020-2022 gauge data from Derby Pond downstream of the project site, flows in July and August range from 0.2 to 19.7 cubic feet per second (cfs) with average flows of 0.6 to 8.5 cfs.
- Based on 2020-2022 gauge data from Derby Pond downstream of the project site, flows in the second half of June and September range from 0.3 to 319.5 cfs with average flows of 1 to 42 cfs.
- Trim shrubs within the “crash/fall zone” to within 18 inches of the ground surface to simplify the debris pickup process. The shrubs will resprout. Trees will not be cut.
- Install fish exclusion nets across Whatcom Creek approximately 120 feet upstream and downstream of the railroad trestle to exclude fish from entering the work area. De-fish the work area using seine nets and dip nets. Slowly dewater the work area, de-fish isolated pools, rewater and dewater, as necessary until all fish in the work area have been removed.
- Install coffer dams in Whatcom Creek approximately 100 feet upstream and downstream of the railroad trestle to isolate the work area to the maximum possible extent. The isolated work area should be large enough to accommodate the potentially large area that will be impacted by debris from the trestle falling over.
- Dewater the isolated work area to the maximum possible extent using a pump.
- The contractor may be asked to develop a work area isolation/fish exclusion plan.
- Stage 1 of trestle demolition
 - Push the trestle over using a feller-buncher and other heavy equipment.
 - To the extent practicable, guide the trestle’s fall to avoid crashing into large trees.
 - Remove material from the creek and riparian areas using the feller-buncher, excavators, and hand crews.
 - Debris consisting of creosote treated wood material will be loaded into dump trucks lined containment basins (e.g., durable plastic sheeting with support structure to contain all sediment and creosote)
 - Containment basin shall be removed and disposed in accordance with the following procedures or in another manner complying with applicable federal and state regulations:
 - Piles shall be cut into lengths as required by the disposal company
 - Cut up piling, sediments, construction residue and plastic sheeting from containment basin shall be packed into container. For disposal, ship to an approved Subtitle D Landfill.
 - Creosote-treated materials shall not be re-used.
- Stage 2 of trestle demolition
 - Optional - Install coffer dams to isolate a smaller work area for pile removal.
 - Dewater the smaller isolated work area to the maximum possible extent using pumps.
 - Rewater the larger isolated work area.
 - Attempt to remove the wood pile stubs with a vibratory hammer or with an excavator and chain.
 - If the piles break during attempted removal, excavate 2-3 feet below the channel surface to remove the piles.
 - Cover pile excavation area with 6 inches of clean sand and then streambed sediment to meet surrounding grades.

Project Narrative - Whatcom Falls Park Trestle Demolition Project

- Creosote treated wood piles and excavated sediment shall be loaded into dump trucks and disposed of as described for debris in Stage 1.
- Site cleanup
 - Remove all remaining debris from the work area.
 - Seed and stabilize temporary impact areas
 - Rewater the isolated work area.
 - Uninstall coffer dams, BMPs, and TESC Plan measures
 - De-mobilize equipment from the site

2.5. Timing

Construction is planned to start during the summer of 2023 and will require approximately 2 to 3 weeks to complete. In water work timing is anticipated to include 1 to 2 days to remove the trestle debris and then 2 to 3 days to remove the piles for a total of 3-5 days of in-water work. As noted in agency permit conditions, all work below the OHWM will be performed during the approved in-water work window. Site mobilization, preparation, and specific construction activities that do not require in-water work may be performed outside the in-water work window. The work window for Whatcom Creek at this location is June 15 to September 30 but will be determined by final permit conditions.

2.6. Equipment Used

The following equipment is anticipated for use during project construction. Still, it may be amended by the Contractor based on equipment and material availability and other unforeseen events that may occur during construction.

- Feller buncher (to push trestle and remove debris)
- Vibratory hammer
- Excavators (to remove debris and extract piles)
- Cranes (to remove debris and extract piles)
- Pumps (stream bypass and turbid water de-watering)
- Dump trucks
- Pickup trucks
- Various hand tools

2.7. Impact and Minimization Measures

Minimization measures and BMPs will be used during work activities to avoid impacts to listed species and their habitat located downstream of the project work area. Conservation measures will focus on minimizing construction noise and the possibility of spills, preventing soil erosion, and minimizing impacts to riparian vegetation. Special measures will be taken to ensure that all waste materials will be disposed of offsite and in accordance with applicable regulations, adequate materials and procedures are readily available on the site to respond to unanticipated weather conditions or accidental releases of materials. A protocol for contacting WDFW will be readily available in the unlikely event that activities are observed to result in fish kills, fish in distress or other water quality problems, in accordance with the HPA for the project.

Removal of creosote-treated wooden pilings and the use of fuels for equipment and construction vehicles will require BMPs to be developed in accordance with the City, WDFW and Ecology's regulations/guidelines. Treated wood piles will be extracted via an excavator-mounted or crane-mounted vibratory hammer or by excavator/crane using chains. The piles shall be extracted within an isolated work area, inside a coffer dam and fish exclusion net. A containment basin shall be constructed to receive the piles, pile stubs, water, sawdust and any potentially contaminated sediment. To minimize the likelihood of breakage as well as disturbance to adjacent sediments and turbidity, piles shall be removed slowly. If a pile breaks off at or near the mudline, the pile shall be excavated no more than 3 feet. If after excavation extraction of the pile is not successful, the pile shall be cut off at the bottom of the surface of the excavation using a chainsaw. Following cut-off, the pile shall be covered with 6 inches of clean sand followed by streambed sediment (per permit conditions). The extracted creosote-treated piles will be transported and disposed of properly at a Subtitle D landfill, or in another manner complying with applicable federal and state regulations. During pile removal, the Contractor will be required to ensure that pieces of treated wood from splintering and damage are collected and disposed of properly.

2.7.1. General Conservation Measures

- Work shall comply with all local, state, and federal regulations and restrictions.
- All excavation and equipment used within the channel/below the OHWM will be situated within the isolated work limits. Excavation will be limited to only those areas necessary for access to work areas and construction activities. The construction limits will be marked in the field, and equipment will not be allowed outside the work area. Work areas will be dewatered to the extent possible.
- The Contractor will implement and maintain a Temporary Erosion, and Sediment Control Plan (TESC). Construction techniques will utilize BMPs described in the adopted version of Washington State Department of Transportation's (WSDOT) *Standards and Specifications for Road, Bridge, and Municipal Construction* and Washington State Department of Ecology's (Ecology) *Stormwater Management Manual for Western Washington*. Erosion control measures will be installed at appropriate locations and maintained and updated as necessary throughout the project's life.
- Site preparation and construction activities below the OHWM will be conducted during periods of drier weather to the extent possible.
- A temporary stream bypass plan will be implemented for work within the stream channel.
- Other than initial dewatering via gravity during cofferdam installation, dewatering of the isolated work area is not anticipated. However, water levels may be reduced, or turbid water removed from the work area by pumping to filter bags at an upland location to drain off-site and infiltrate. Water pumped to adjacent uplands will not re-enter the river as surface water.
- Adequate erosion control materials will be stored on-site to modify the construction plan to accommodate unanticipated events. Inspections of the erosion control measures will be conducted daily, even during non-working days, during construction to ensure the measures' effectiveness and identify the need for maintenance or additional control measures.
- Site disturbance will be limited to the smallest area feasible for each project stage and the element under construction within the construction limits as identified on the site plans.
- Ground protection mats shall be placed in areas of anticipated machinery access above and below the OHWM.

Project Narrative - Whatcom Falls Park Trestle Demolition Project

- Below the OHWM, areas of disturbance from machinery access will be treated with 6 inches of streambed sediment as part of the site restoration.
- Disturbed riparian areas will be revegetated with native shrubs and trees following construction.
- The Contractor will prepare a Spill Prevention and Emergency Cleanup Plan (SPECP) for this project. Adequate materials and procedures to respond to unanticipated weather conditions or accidental releases of materials (including sediment, petroleum hydrocarbons, etc.) will be available on-site. Any spills will be handled and disposed of in a manner that does not contaminate the surrounding area. The SPECP also will ensure the proper management of oil, gasoline, and solvents used in operation and maintenance of construction equipment and that equipment remains free of external petroleum-based products before entering the work area and during the work, and for making any necessary repairs before returning the equipment to operate in the work area.
- An emergency spill containment kit must be located on-site and a Pollution Prevention Plan detailing planned fueling, materials storage, and equipment storage. Waste storage areas must be prepared to address the prevention and cleanup of accidental spills.
- All construction-related debris will be disposed of or safely stockpiled. Proper conservation measures will ensure that debris will not contaminate the stream waters or surrounding area.
- Waste materials will be transported off-site for disposal following applicable regulations.
- Fueling areas will be distinctly identified and established outside of the construction site's delineated sensitive areas. These areas will be equipped with spill prevention and control devices.
- There are no known environmental health hazards that will result from this project other than the removal of creosote-treated wood and the use of fuels for equipment and construction vehicles. BMPs will be utilized as needed and developed according to the City and the Dept of Ecology regulations/guidelines.
- As described above treated wood piles below the OHWM will be extracted or cut off at mudline 3 feet below existing grades. The piles shall be extracted inside a cofferdam and fish exclusion net within an isolated work area. A containment basin shall be constructed to receive the treated wood debris, piles, pile stubs, water, sawdust, and any potentially contaminated sediment. Piles shall be removed slowly to minimize the likelihood of breakage and disturbance to adjacent sediments and turbidity. If during removal via vibratory hammer, a pile breaks off at or above the mudline, the pile shall be excavated no more than 3 feet below the surrounding ground surface/mudline and then cut off at the bottom of the excavation surface using a chainsaw. Following cut-off, the pile shall be covered with 6 inches of clean sand, followed by streambed sediment (or per permit conditions if more stringent measures are required). Above the OHWM, if piles break during removal, the pile shall be excavated no more than 1 foot below the surrounding ground surface and then cut off at the bottom of the excavation surface using a chainsaw. Following cut-off, the pile shall be covered with 6 inches of clean sand, followed by topsoil (or according to permit conditions if more stringent measures are required). The treated wood debris, piles, pile stubs, water, sawdust, and any potentially contaminated sediment/soil will be transported and disposed of properly at a Subtitle D landfill or in another manner complying with applicable federal and state regulations. During pile removal, the Contractor will be required to ensure that pieces of treated wood from splintering and damage are collected and disposed of properly.

Project Narrative - Whatcom Falls Park Trestle Demolition Project

- Contractor shall have oil absorbent booms ready at the project site, to absorb any free creosote that escapes from the treated wood into water within the work area.

2.7.2. Measures to Reduce Impacts on Species and Habitats

- The project will obtain and comply with conditions outlined in the HPA permit to be issued for the project by WDFW. All work below the OHWM of the stream channel will be conducted during the approved work window for fish species that may be found downstream of the project area unless an extension is otherwise approved by WDFW and the USACE.
- All debris resulting from construction shall be prevented from entering the stream and removed from the project area.
- Construction procedures have been designed to minimize the opportunity for erosion to occur or sediment-laden water from entering downstream areas.
- Outfall protection around the temporary bypass pipe discharge will be provided as needed to prevent erosion/scour or water quality impacts.
- Depending on slope and weather conditions, filter fences will be installed along the perimeter of the work areas to help confine sediment and runoff. Straw bales will be added if concentrated surface water flow is observed.

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), immediate notification shall be made to Ecology at 1.800.258.5990 and the WDFW Area Biologist listed in the HPA.