WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) Form[1,2]

USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.

US Army Corps of Engineers ®
Seattle District

AGENCY USE ONLY

Date received:

Agency reference #: _____

Tax Parcel #(s): _____

_____

_____

Part 1–Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [help]
Coulter Creek Culvert Replacement

Part 2–Applicant

The person and/or organization responsible for the project. [help]

2a. Name (Last, First, Middle)			
Kaputa, Mike			
2b. Organization (If applicable)			
Chelan County Natural Resources Department			
2c. Mailing Address (Street or PO Box)			
316 Washington Street, Suite 401			
2d. City, State, Zip			
Wenatchee, WA 98801			
2e. Phone (office)	**2f.** Phone (cell)	**2g.** Fax	**2h.** E-mail
(509) 667-6584	(509) 670-6935	(509) 667-6527	Mike.kaputa@co.chelan.wa.us

[1] Additional forms may be required for the following permits:

- If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.
- If your project might affect species listed under the Endangered Species Act, you will need to fill out a Specific Project Information Form (SPIF) or prepare a Biological Evaluation. Forms can be found at http://www.nws.usace.army.mil/Missions/CivilWorks/Regulatory/PermitGuidebook/EndangeredSpecies.aspx.
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

[2] To access an online JARPA form with [help] screens, go to http://www.epermitting.wa.gov/site/alias__resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx.

For other help, contact the Governor's Office of Regulatory Assistance at 1-800-917-0043 or help@ora.wa.gov.

Part 3–Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b of this application.) [help]

3a. Name (Last, First, Middle)			
Kane, Mike			
3b. Organization (If applicable)			
Chelan County Natural Resources Department			
3c. Mailing Address (Street or PO Box)			
316 Washington Street, Suite 401			
3d. City, State, Zip			
Wenatchee, WA 98801			
3e. Phone (office)	**3f.** Phone (cell)	**3g.** Fax	**3h.** E-mail
(509) 667-6467	(509) 885-2126	(509) 667-6527	Mike.kane@co.chelan.wa.us

Part 4–Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. Consider both **upland and aquatic** ownership because the upland owners may not own the adjacent aquatic land. [help]

☐ Same as applicant. (Skip to Part 5.)

☐ Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)

☐ There are multiple upland property owners. Complete the section below and fill out JARPA Attachment A for each additional property owner.

☐ Your project is on Department of Natural Resources (DNR)-managed aquatic lands. If you don't know, contact the DNR at (360) 902-1100 to determine aquatic land ownership. If yes, complete JARPA Attachment E to apply for the Aquatic Use Authorization.

4a. Name (Last, First, Middle)			
Ralph Byther			
4b. Organization (If applicable)			
4c. Mailing Address (Street or PO Box)			
PO Box 923			
4d. City, State, Zip			
Graham, WA 98338			
4e. Phone	**4f.** Phone	**4g.** Fax	**4h.** E-mail
( )			

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [help]

☐ There are multiple project locations (e.g. linear projects). Complete the section below and use JARPA Attachment B for each additional project location.

5a. Indicate the type of ownership of the property. (Check all that apply.) [help]

☒ Private
☐ Federal
☐ Publicly owned (state, county, city, special districts like schools, ports, etc.)
☐ Tribal
☐ Department of Natural Resources (DNR) – managed aquatic lands (Complete JARPA Attachment E)

5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [help]

W. Dardenelles Rd

5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]

Merritt, WA 98826

5d. County [help]

Chelan County

5e. Provide the section, township, and range for the project location. [help]

¼ Section	Section	Township	Range
SE	11	26	16

5f. Provide the latitude and longitude of the project location. [help]

- Example: 47.03922 N lat. / -122.89142 W long. (Use decimal degrees - NAD 83)

47.765733 North latitude / -120.802189 West longitude

5g. List the tax parcel number(s) for the project location. [help]

- The local county assessor's office can provide this information.

26 North 16 East Section 11 Tax lot #410100

5h. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [help]

Name	Mailing Address	Tax Parcel # (if known)
Troy Carlson	1439 Olympia View Dr, Edmonds, WA 98020	261611410050
Yakama Nation	PO Box 151, Toppenish, WA 98948	261611100050
Schwager living Trust C/O Robert G and Lisa M Schwager	19619 99th Ave SE Snohomish, WA 98296	261611440025

5i. List all wetlands on or adjacent to the project location. [help]

There are no wetlands adjacent to Coulter Creek near the project site. The stream banks are well-drained, sloped towards the creek, and dominated by upland riparian vegetation.

5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [help]

Coulter Creek is a perennial tributary that flows into the Nason Creek, near RM 9.6, near Merritt, WA.

5k. Is any part of the project area within a 100-year floodplain? [help]

☒ Yes ☐ No ☐ Don't know

5l. Briefly describe the vegetation and habitat conditions on the property. [help]

Dardenelles road is a gravel road providing access from Hwy 2 to several small cabins. The travel surface is approximately 12' wide and it's approximately 20' wide from toe of slope to toe of slope. The stream bank vegetation north and south of the road crossing is dominated by Douglas fir, black cottonwood, and vine maple, with trillium and other understory species typical for upland riparian forested areas.

5m. Describe how the property is currently used. [help]

Dardenelles road crosses through the middle of the Byther parcel. The remainder of the site is currently undeveloped although it is zoned for rural residential 5 (one dwelling per 5 acres) land use.

5n. Describe how the adjacent properties are currently used. [help]

The site to the north and east consist of undeveloped land. The parcel to the south and southwest each contain one residence.

5o. Describe the structures (above and below ground) on the property, including their purpose(s) and current condition. [help]

With the exception of Dardenelles road, there are no structures on the subject parcel.

5p. Provide driving directions from the closest highway to the project location, and attach a map. [help]

From Leavenworth, WA take HWY 2 West towards Seattle. From the intersection of HWY 2 and SR 207 drive 3.3 miles west on Hwy 2 and turn left onto Dardanells Rd. Cross over the railroad tracks. The project site is .1 mile from the tracks.

Part 6–Project Description

6a. Briefly summarize the overall project. You can provide more detail in 6b. [help]

Currently, Coulter Creek flows under Dardenelles road through two existing 20 foot long 24" diameter metal culverts with a 10" slope. These culverts are currently a fish passage barrier due to the slope and high outfall drop. These culverts will be removed and replaced with one 40' long arch pipe culvert with dimensions 13'5" by 8'5". The reason for a longer replacement culvert is that the road bed will need to be raised 2' higher to accommodate the larger diameter culvert and this will increase the width of the road fill slope in the vicinity of the replacement culvert. The bankfull width of Coulter Creek is current ~6' wide and the new culvert will provide a 9.5' span of Coulter Creek. The revised slope in the replacement culvert will be approximately 3.5%. The culvert has been sized to accommodate the 100 year event flow. Once the existing culverts have been removed, the exposed banks will stabilized by lining the 1½ :1 slopes with a 2' deep layer of gravel backfill. Erosion control fabric and seeding will also help stabilize the road fill slopes. Native plants will be used to re-vegetate all disturbed soils and the planting plan is further described in Section 8C of this application.

6b. Describe the purpose of the project and why you want or need to perform it. [help]

In the Wenatchee watershed, Nason Creek has been identified as the top priority for habitat restoration actions. In Nason Creek, the largest impact on fish has been from human activities occurring outside of the main channel. The construction of roads, highways, and railroads has resulted in the reduction in natural habitat-forming processes, the disconnection of off-channel habitats and floodplains, and an increase in instream sedimentation. Specifically, the construction of highways and roads with elevated embankments has disconnected about 29% (132.7 acres of 100-year floodplain) of historical channel paths and floodplain area in Lower Nason Creek. Nason Creek has a high potential to increase salmonid abundance and productivity; therefore, the restoration of ecosystem function through the reconnection of off-channel habitats and floodplain is a high priority.

The purpose of this project is to remove two culverts that are currently fish passage barriers due to the slope and outfall drop and replace the stream crossing with a fish passable arch pipe culvert. This project will increase access to rearing habitat for ESA listed steelhead in Nason Creek by providing access to 1.6 miles of potential spawning habitat; the first 0.3 miles is low gradient rearing habitat.

6c. Indicate the project category. (Check all that apply) [help]

☐ Commercial ☐ Residential ☐ Institutional ☐ Transportation ☐ Recreational
☐ Maintenance ☒ Environmental Enhancement

6d. Indicate the major elements of your project. (Check all that apply) [help]

☐ Aquaculture	☒ Culvert	☐ Float	☐ Retaining Wall (upland)
☐ Bank Stabilization	☐ Dam / Weir	☐ Floating Home	☐ Road
☐ Boat House	☐ Dike / Levee / Jetty	☐ Geotechnical Survey	☐ Scientific Measurement Device
☐ Boat Launch	☐ Ditch	☐ Land Clearing	☐ Stairs
☐ Boat Lift	☐ Dock / Pier	☐ Marina / Moorage	☐ Stormwater facility
☐ Bridge	☐ Dredging	☐ Mining	☐ Swimming Pool
☐ Bulkhead	☐ Fence	☐ Outfall Structure	☐ Utility Line
☐ Buoy	☐ Ferry Terminal	☐ Piling/Dolphin	
☐ Channel Modification	☐ Fishway	☐ Raft	

6e. Describe how you plan to construct each project element checked in 6d. Include specific construction methods and equipment to be used. [help]

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year floodplain.

The following section describes the construction methods and work access. The project includes five separate construction elements:

1. **Installation of temporary cofferdam system, de-fishing, and installation of de-watering system.** Once block nets are installed and the area has been de-fished, the cofferdam will be installed upstream of the existing crossing and one will be installed at the downstream end of the project area to isolate the work area. Cofferdams will consist of gravel bags filled with clean rounded 3" minus material. Plastic sheeting (10 ml thickness) will be placed through the cofferdam to block stream flows through the structure. The top height of the cofferdams will extend over 2 feet above the elevation of stream flows. See the cofferdam detail on Sheet 3. During construction work, clean water will be pumped from Coulter Creek above the upstream cofferdam and released downstream of the work area. During non-work hours, the pump will be turned off and flows will enter a pipe in the bottom of the cofferdam structure. Clean stream water will gravity flow through the pipe and be released downstream of the project area. Any groundwater seepage that enters the work area will be de-watered using a pump near the downstream limits of the project area. This water will be pumped through a pipe into a silt sock to remove any fine sediment material prior to release to upland areas east of the project area for infiltration. Fish salvage block nets will remain in place above the upper and below the lower cofferdams to keep fish out of the isolated work area.
2. **Placement of the new culvert.** Once the diversion and care of stream system is in place, then excavation for the placement of the new structure will begin. The installation of the replacement arch pipe and construction of the new stream channel will be accessed from banks on both sides within the dewatered zone. Delivery of the arch pipe will be scheduled so that it can be directly transferred from the delivery truck to the prepared stream bed channel. The Coulter Creek approaches will require road widening for the installation of the replacement culvert. Slope stability will be provided with gravel backfill as depicted in the site plans. Once construction of the Coulter Creek sub-grade approaches are completed, Dardenelles Rd will be surfaced with 6" of Crushed Surfacing Top Course.
3. **Removal of the existing culvert.** Once the cofferdam structure has been placed and Coulter Creek routed around the project area, the existing gravel road and associated fill material will be removed. All fill will be disposed off-site in an approved upland disposal area. The culvert will be removed and disposed off-site.
4. **Site restoration** All exposed soils will be stabilized using seeding with native grass seed mix, and native shrubs will be installed. Erosion control fabric will be installed on the road fill slopes. See more information about the re-vegetation plan in Section 8c. All construction equipment will be removed from the site and utilities will be re-connected.

It will take about four days to remove the existing culvert and place the new culvert. During this time, the road will be temporarily closed during the day for 8 hour periods. Landowners have requested that the temporary road closure be limited to mid-week construction during September. There will be provisions on site for emergency access during the day, if needed.

Project work will be completed with a tracked excavator (~40,000 lb class). Dump trucks, power and hand held tools will be used to deliver material and construct the features. Principal components of the work include mobilization/demobilization, water control and diversion, clearing and grubbing, site grading, earthwork, placement of culvert superstructure, slope restoration and reseeding. Associated equipment may include, but is not limited to, a track hoe, pumping equipment, and hand tools.

Fish salvage will be done by CCNRD personnel in accordance with BMP's as outlined in WA State Scientific

Collection Permit #12-178 and NOAA Permit #1119 (currently under renewal). A block net will be installed at the upstream end and fish will be pushed downstream using a very low-voltage setting on the electrofisher. A block net will then be installed at the downstream end and the area between the two block nets will be defished until zero individuals remain. Personnel will also be on-hand to net any individuals that may have been missed when the old culvert is being removed.

6f. What are the anticipated start and end dates for project construction? (Month/Year) [help]

- If the project will be constructed in phases or stages, use JARPA Attachment D to list the start and end dates of each phase or stage.

Start date: August 15, 2014 End date: October 31, 2014

All In-water work will be completed September 1, 2014 – September 30, 2014

Construction will commence in August with staging for bridge construction, vegetation clearing, staking work areas, and delivery of materials to the site. In-water work will start in early September and be completed by the end of the month. Site restoration, including re-vegetation, will occur in October.

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [help]

$160,000

6h. Will any portion of the project receive federal funding? [help]

- **If yes**, list each agency providing funds.

☒ Yes ☐ No ☐ Don't know

Project design has been provided by US Bureau of Reclamation engineers. The remainder of construction funds are provided by the State Salmon Recovery Funding Board of the Washington State Department of Recreation and Conservation, however, those funds are largely federal dollars allocated to the State from the Federal Pacific Coastal Salmon Recovery Fund.

Part 7–Wetlands: Impacts and Mitigation

☐ Check here if there are wetlands or wetland buffers on or adjacent to the project area.
(If there are none, skip to Part 8.) [help]

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [help]

☒ Not applicable

7b. Will the project impact wetlands? [help]

☐ Yes ☒ No ☐ Don't know

7c. Will the project impact wetland buffers? [help]

☐ Yes ☒ No ☐ Don't know

7d. Has a wetland delineation report been prepared? [help]

- **If Yes**, submit the report, including data sheets, with the JARPA package.

☐ Yes ☒ No

7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [help]

- **If Yes**, submit the wetland rating forms and figures with the JARPA package.

☐ Yes ☒ No

7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [help]

- **If Yes**, submit the plan with the JARPA package and answer 7g.

- **If No, or Not applicable**, explain below why a mitigation plan should not be required.

Not Applicable

7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [help]

N/A

7h. Use the table below to list the type and rating of each wetland impacted, the extent and duration of the impact, and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan. [help]

Activity (fill, drain, excavate, flood, etc.)	Wetland Name[1]	Wetland type and rating category[2]	Impact area (sq. ft. or Acres)	Duration of impact[3]	Proposed mitigation type[4]	Wetland mitigation area (sq. ft. or acres)

7i. For all filling activities identified in 7h, describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [help]

7j. For all excavating activities identified in 7h, describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [help]

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, "waterbodies" refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [help]

☒ Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [help]

☐ Not applicable

All project elements have been designed to avoid and minimize adverse impacts to Coulter Creek and the adjacent riparian areas. Construction activities will be accomplished during low flow periods to reduce the potential impacts to juvenile fish. On-site sediment mitigation measures will include silt fencing where necessary, isolating and/or diverting the stream around the work site. Riparian vegetation removal will be limited to the minimum amount necessary for construction.

The following best management practices will be implemented on site to avoid and minimize adverse impacts to the aquatic environment:

a. Riparian vegetation impacts have been minimized as much as possible by limiting the construction work area and by installing work limits fencing on site
b. A supply of sediment control materials will be on site.
c. An oil absorbing floating boom will be available whenever surface water is present.
d. Project operations will cease in the event high flow conditions.
e. Spill prevention and cleanup kits will be on site when heavy equipment is within 25-feet of Coulter Creek.
f. All work and sediment laden water will contained within a WDFW approved cofferdam system. Water pumped out of the cofferdam area shall be routed to upland area with sufficient filtering so as to remove fine sediments or other contaminants prior to being allowed to re-enter Coulter Creek.
g. Cofferdams shall consist of woven polyethylene gravel bags with a polyfilm sheet wrapped

around them to minimize conveyance of water from the work site into the active flow of Coulter Creek.

h. The construction contract will include a bid item for Erosion and Water Pollution Control which will include labor and materials for an Erosion and Spill Control Lead.
i. Cofferdams will be used to isolate the work area.
j. The excavator used will be required to use vegetable oil in the hydraulic system.
k. De-watering and fish salvage will follow the protocols outlined in the programmatic consultation with NOAA Fisheries.

8b. Will your project impact a waterbody or the area around a waterbody? [help]

☒ Yes ☐ No

There will be temporary earthwork in Coulter Creek to remove the two existing culverts and replace it with one large culvert.

8c. Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [help]

- **If Yes**, submit the plan with the JARPA package and answer 8d.
- **If No, or Not applicable,** explain below why a mitigation plan should not be required.

There will be earthwork below OHW of Coulter Creek associated with culvert removal and re-placement. The project itself is mitigation because it improves fish passage in Coulter Creek and restores natural hydrologic function. All vegetation removed will be re-planted with native species at a density of 4-5' on center. Approximately 1300 sq. feet of riparian area will be re-planted with the following native trees and shrubs:

Species	**Number**
Black cottonwood (*Populus balsamifera*)	6
Doug Fir (*Pseudotsuga menziesii*)	6
Red osier dogwood (*Cornus sericea*)	6
Willow (mix of *Salix lasiandra* and *S. sitchensis*)	8
Pacific ninebark (*Physocarpus capitatus*)	6
Spirea (*Spirea douglassii*)	6
Snowberry (*Symphoricarpus albus*)	8
Service berry (*Amalanchier alnifolia*)	8
Wood's rose (*Rosa woodsii*)	8
Ocean spray (*Holodiscus discolor*)	7
Oregon grape (*Berberis aquifolium*)	7
Total	80

Planting 80 plants in ~1300 square feet is approximately 4' on center density. In addition to the native shrubs proposed for installation listed in the table above, all areas with disturbed vegetation will be seeded with native herbaceous species to stabilize soils and minimize erosion.

The impact sheet inserted behind the plan sheets shows the approximate locations for riparian vegetation removal which is the same location as the proposed site restoration plantings. A more detailed planting plan will be prepared with the final design plans. This planting plan will provide plant installation details and it will depict the planting zones for the native trees and shrubs. In addition, the planting plan will specify the number of pounds of seed per species, however, it will be consistent with the table specified above.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g you do not need to restate your answer here. [help]

N/A

8e. Summarize impact(s) to each waterbody in the table below. [help]

Activity (clear, dredge, fill, pile drive, etc.)	**Waterbody name**[1]	**Impact location**[2]	**Duration of impact**[3]	**Amount of material (cubic yards) to be placed in or**	**Area (sq. ft. or linear ft.) of waterbody directly affected**

				removed from waterbody	
Removal	CoulterCreek	See Plan Set	Permanent	250 cubic yards	672 square feet
Fill (culvert bedding, gravel under the culvert, stream bed material, and boulders)	Coulter Creek		Permanent	294 cubic yards	672 square feet

[1] If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.
[2] Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.
[3] Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

8f. For all activities identified in 8e, describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [help]

The excavation below OHW will primarily consist of culvert and associated fill removal and re-grading the stream bed to match adjacent contours.

Fill below OHW will consist of the following materials:

Culvert bedding placed below the culvert ~58 cubic yards

Class A gravel outside and udner the culvert ~166 cubic yards

Stream bed material placed inside the culvert and in the stream bed ~ 60 cubic yards

Boulders 10 cubic yards

8g. For all excavating or dredging activities identified in 8e, describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [help]

Excavation will be completed using a 40,000 pound class excavator. Access for removing material from the existing road prism will be from the existing road bed and the banks of Coulter Creek on both sides. Equipment will operate within areas designated by the cut-fill limits on the drawings. All excavated material will be hauled off site and disposed in an approved upland location.

Part 9–Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [help]

Agency Name	Contact Name	Phone	Most Recent Date of Contact
WDFW	Gina McCoy	(509) 996-8248	March 19, 2014
WDFW	Amanda Barg	(509) 888-8004	March 19, 2014

9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 of this JARPA on the Washington Department of Ecology's 303(d) List? [help]

- **If Yes,** list the parameter(s) below.
- If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: http://www.ecy.wa.gov/programs/wq/303d/.

☐ Yes ☒ No

9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [help]

- Go to http://cfpub.epa.gov/surf/locate/index.cfm to help identify the HUC.

Upper Wenatchee River

9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [help]

- Go to http://www.ecy.wa.gov/services/gis/maps/wria/wria.htm to find the WRIA #.

Coulter Creek is a tributary to Nason Creek (WRIA 45).

9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [help]

- Go to http://www.ecy.wa.gov/programs/wq/swqs/criteria.html for the standards.

☒ Yes ☐ No ☐ Not applicable

9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [help]

- If you don't know, contact the local planning department.
- For more information, go to: http://www.ecy.wa.gov/programs/sea/sma/laws_rules/173-26/211_designations.html.

☐ Rural ☐ Urban ☐ Natural ☐ Aquatic ☐ Conservancy ☐ Other _____

Coulter Creek is not within the jurisdiction of the Shorelines Management Act

9g. What is the Washington Department of Natural Resources Water Type? [help]

- Go to http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_watertyping.aspx for the Forest Practices Water Typing System.

☐ Shoreline ☒ Fish ☐ Non-Fish Perennial ☐ Non-Fish Seasonal

9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [help]

- **If No**, provide the name of the manual your project is designed to meet.

☒ Yes ☐ No

Name of manual: Stormwater Management in Eastern Washington 2004

9i. Does the project site have known contaminated sediment? [help]

- **If Yes**, please describe below.

☐ Yes ☒ No

9j. If you know what the property was used for in the past, describe below. [help]

Undeveloped land

9k. Has a cultural resource (archaeological) survey been performed on the project area? [help]

- **If Yes**, attach it to your JARPA package.

☐ Yes ☒ No

The Corps NWP 27 will be the federal nexus for cultural resources consultation on this project. An Area of Potential Effect Map has been prepared and is included with the Corps JARPA.

9l. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [help]

The project area contains the following species listed under the federal Endangered Species Act:

- Upper Columbia River Spring Chinook (*Oncorhynchus tshawytscha*) (Endangered)
- Upper Columbia River steelhead (*Oncorhynchus mykiss*) (Threatened)
- Bull trout (*Salvelinus confluentus*) (Threatened)

9m. Name each species or habitat on the Washington Department of Fish and Wildlife's Priority Habitats and Species List that might be affected by the proposed work. [help]

In addition to the species listed above, the following Priority Species are present near the site:

- Mule deer (*Odocoileus hemionus hemionus*) breeding occurrence and breeding area
- Rainbow trout (*Oncorhynchus mykiss*) occurrence/migration
- Northern spotted owl (*Strix occidentalis*) Management buffer
- Gray wolf (*Canis lupis*) Biotic detection/occurrence within ¼ mile

The WDFW PHS web site is the source for the information listed above.

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at http://apps.ecy.wa.gov/opas/.
- Governor's Office of Regulatory Assistance at (800) 917-0043 or help@ora.wa.gov.
- For a list of addresses to send your JARPA to, click on agency addresses for completed JARPA.

10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [help]

- For more information about SEPA, go to www.ecy.wa.gov/programs/sea/sepa/e-review.html.

☐ A copy of the SEPA determination or letter of exemption is included with this application.

☐ A SEPA determination is pending with _____ (lead agency). The expected decision date is _____.

☒ I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [help]

☐ This project is exempt (choose type of exemption below).

- ☐ Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt? _____
- ☐ Other: _____

☐ SEPA is pre-empted by federal law.

10b. Indicate the permits you are applying for. (Check all that apply.) [help]

LOCAL GOVERNMENT

Local Government Shoreline permits:

☐ Substantial Development ☐ Conditional Use ☐ Variance

☒ Shoreline Exemption Type (explain): Coulter Creek is not covered under Shorelines jurisdiction

Other city/county permits:

☐ Floodplain Development Permit ☐ Critical Areas Ordinance – the project will likely meet the fish habitat restoration exemption 16 of Chapter 11 of the County code

STATE GOVERNMENT

Washington Department of Fish and Wildlife:

☒ Hydraulic Project Approval (HPA) ☒ Fish Habitat Enhancement Exemption – Attach Exemption Form

Effective July 10, 2012, you must submit a check for $150 to Washington Department of Fish and Wildlife, unless your project qualifies for an exemption or alternative payment method below. **Do not send cash.**

Check the appropriate boxes:

☐ $150 check enclosed. (Check #_____)
Attach check made payable to Washington Department of Fish and Wildlife.

☐ Charge to billing account under agreement with WDFW. (Agreement #_____)

☐ My project is exempt from the application fee. (Check appropriate exemption)
- ☐ HPA processing is conducted by applicant-funded WDFW staff. (Agreement #_____)
- ☐ Mineral prospecting and mining.
- ☐ Project occurs on farm and agricultural land. (Attach a copy of current land use classification recorded with the county auditor, or other proof of current land use.)
- ☐ Project is a modification of an existing HPA originally applied for, prior to July 10, 2012. (HPA #_____)

Washington Department of Natural Resources:

☐ Aquatic Use Authorization

Complete JARPA Attachment E and submit a check for $25 payable to the Washington Department of Natural Resources. **Do not send cash.**

DNR has not previously taken jurisdiction in Nason Creek

Washington Department of Ecology:

☐ Section 401 Water Quality Certification

This project will be covered under the Statewide programmatic between DOE and the Corps for a Nationwide 27 permit

FEDERAL GOVERNMENT

United States Department of the Army permits (U.S. Army Corps of Engineers):

☒ Section 404 (discharges into waters of the U.S.) ☐ Section 10 (work in navigable waters)

United States Coast Guard permits:

☐ General Bridge Act Permit ☐ Private Aids to Navigation (for non-bridge projects)

Part 11–Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [help]

11a. Applicant Signature (required) [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application to act on my behalf in matters related to this application. _____ (initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. _____ (initial)

Applicant Printed Name	Applicant Signature	Date
		7/30/14

11b. Authorized Agent Signature [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Authorized Agent Printed Name	Authorized Agent Signature	Date
Michael T. Kane		7/30/14

11c. Property Owner Signature (if not applicant). [help]
Not required if project is on existing rights-of-way or easements.

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

Property Owner Printed Name	Property Owner Signature	Date

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact the Governor's Office of Regulatory Assistance (ORA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341.
ORA publication number: ENV-019-09 rev. 06-12

Application for Streamlined Processing of
FISH HABITAT ENHANCEMENT PROJECTS
Addition to the Joint Aquatic Resources Permit Application (JARPA)

Under RCW 77.55.181 you may qualify for a streamlined permit process with no local government fees if your project is designed to enhance fish habitat. If your project meets the requirements below, you are entitled to the streamlined Hydraulic Project Approval (HPA) process, exemption from the State Environmental Policy Act (SEPA), and exemption from all local government permits and fees. To apply for the exemption process, you must provide, on the same day, a complete application package to: the Department of Fish and Wildlife (WDFW) and all applicable local government planning and permitting departments. Local governments have 15 days to provide comments to WDFW to aid it in deciding whether your project qualifies (see below for details).

To QUALIFY for the fish habitat enhancement exemption you must check at least one each from A and B and provide a letter of approval from one of the agencies listed in B. It is highly recommended you discuss your proposal with the local Habitat Biologist prior to submitting your application.

A) My project (check all that apply):

- [X] Removes a **human-made or caused** fish passage barrier.
- [ ] Restores an eroded or unstable stream bank using **bioengineering techniques.**
- [ ] Places woody debris or other in-stream structures that **benefit naturally reproducing fish stocks.**

B) My project is approved by (check all that apply):

- [ ] WDFW's Salmon Enhancement, or Volunteer Cooperative Fish and Wildlife Enhancement Programs.
- [X] The sponsor of a watershed restoration plan as provided in chapter 89.08RCW.
- [ ] WDFW, as a department-sponsored fish enhancement or restoration project.
- [ ] Conservation District, where the project complies with design standards established by the Conservation Commission through interagency agreement with the United States Fish and Wildlife Service and the Natural Resource Conservation Service.
- [X] A formal grant program established by the legislature or the Department of Fish and Wildlife for fish habitat enhancement or restoration. RCO grant funded project
- [ ] The Washington State Department of Transportation's environmental retrofit program as a stand-alone fish passage barrier correction project.
- [ ] A local, state, or federally approved fish barrier removal grant program designed to assist local governments in implementing stand-alone fish passage barrier corrections.
- [ ] A city or county for a stand-alone fish passage barrier correction project funded by the city or county.

To APPLY for the Exemption, submit a complete application package consisting of the following documents to the local government planning department and WDFW. Indicate below which local government agency you are sending your application to and when you are sending it.

Required application materials:

- This addition to the JARPA.
- A completed JARPA (use the most recent version of JARPA).
- Payment of HPA application fee of $150 (submit ONLY to Washington Department of Fish and Wildlife).
- Plan drawings (no larger than 11 x 17 format).
- Letter of approval of your specific project from one of the agencies listed in B, above.

I am sending my application to the following local government planning department: Chelan County Community Development *on:* 7-31-14 *(Date)* *xx/xx/20xx*

Continued on back of page

Application for Streamlined Processing of
FISH HABITAT ENHANCEMENT PROJECTS
Addition to the Joint Aquatic Resources Permit Application (JARPA)

PLEASE NOTE:

- In addition to applying for this streamlined processing, you need to apply for all other applicable Federal and State permits identified in the JARPA.
- If WDFW determines that your project meets the fish habitat enhancement exemption criteria, SEPA and all local government permits and fees are waived. WDFW will process your HPA within 45 days of receiving your complete application.
- If significant concerns are raised during the 15-day comment period regarding adverse impacts from your project that cannot be addressed through HPA conditions, WDFW may determine that the project does not qualify for the exemption process. If WDFW makes that decision, you may re-apply to WDFW, the applicable local government, and any other applicable permitting agency for approval under the full permitting process. If WDFW determines that your project does NOT qualify for the exemption, or if your application is incomplete, you and the local government planning department will be notified.

Applicant Name: Chelan County Natural Resources Dept.

US Army Corps of Engineers ®
Seattle District

BIOLOGICAL EVALUATION
FOR INFORMAL ESA CONSULTATION
For: _____ (Corps Reference Number)
Version: May 2012

***** This form is for projects that have insignificant or discountable impacts on listed species. It contains all the information required for a biological evaluation, but in abbreviated form and with minimal instructions on how to fill it out. For more detailed instructions, a format for development of a biological assessment or biological evaluation can be found on the Seattle District Corps website (www.nws.usace.army.mil – click on regulatory and then on endangered species, BA Template). You may also contact the Corps at 206-764-3495 for further information.***

Drawings and Photographs - ***Drawings and photographs must be submitted***. Photographs must be submitted showing local area, shoreline conditions, existing overwater structures, and location of the proposed project. Drawings must include a vicinity map; plan, profile, and cross-section drawings of the proposed structures; and over- and in-water structures on adjacent properties. (For assistance with the preparation of the drawings, please refer to our *Drawing Checklist* located on our website at www.nws.usace.army.mil Select Regulatory – Regulatory/Permits – Forms.) Submit the information to: U.S. Army Corps of Engineers, Regulatory Branch, P.O. Box 3755, Seattle, Washington 98124-3755.

Date: July 28, 2014

SECTION A - General Information			
1. **Applicant name**: Mike Kaputa, Chelan County Natural Resources Department			
Mailing address: 316 Washington Street, Suite 401			
Work phone: (509) 667-6584	Home phone:	Email: Mike.kaputa @co.chelan.wa.us	Fax:
2. **Joint-use applicant name (if applicable)**:			
Mailing address:			
Work phone:	Home phone:	Email:	Fax:
3. **Authorized agent name**: Mike Kane			
Mailing address: 316 Washington Street, Suite 401			
Work phone: (509)667-6467	Home phone:	Email: Mike.kane@co.chelan.wa.us	Fax:
4. **Location where proposed work will occur** Address (street address, city, county): West Dardenelles Road approximately 0.1 mile from the railroad track crossing, Chelan County Location of joint-use property (street address, city, county): Waterbody: Coulter Creek tributary to Nason Creek			
¼ Section:	Section: 11	Township: 26 North	Range: 16 East
Latitude: 47.765733 North		Longitude: -120.802189 West	

5. Description of Work:

Include project drawings and site photographs.

Describe the proposed project in detail. Please describe any mitigation that is being proposed for impacts from your project. Attach a mitigation plan as an appendix, if appropriate.

Coulter Creek is a perennial tributary that flows into the Nason Creek, near RM 9.6, near Merritt, WA in Chelan County. Currently, Coulter Creek flows under Dardenelles road through two existing 20 foot long 24" diameter metal culverts with a 10" slope. These culverts are currently a fish passage barrier due to the slope and high outfall drop. These culverts will be removed and replaced with one 40' long arch pipe culvert with dimensions 13'5" by 8'5". The reason for a longer replacement culvert is that the road bed will need to be raised 2' higher to accommodate the larger diameter culvert and this will increase the width of the road fill slope in the vicinity of the replacement culvert. The bankfull width of Coulter Creek is current ~6' wide and the new culvert will provide a 9.5' span of Coulter Creek. The revised slope in the replacement culvert will be approximately 3.5%. The culvert has been sized to accommodate the 100 year event flow. Once the existing culverts have been removed, the exposed banks will stabilized by lining the 1½ :1 slopes with a 2' deep layer of gravel backfill.

Engineering plan Sheets 1-5 have been provided with the JARPA to depict the proposed work. One additional sheet depicts the proposed work limits.

The following section describes the construction methods and work access. The project includes five separate construction elements:

1. **Installation of temporary cofferdam system, de-fishing, and installation of de-watering system.**

   Once block nets are installed and the area has been de-fished, the cofferdam will be installed upstream of the existing crossing and one will be installed at the downstream end of the project area to isolate the work area. Cofferdams will consist of gravel bags filled with clean rounded 3" minus material. Plastic sheeting (10 ml thickness) will be placed through the cofferdam to block stream flows through the structure. The top height of the cofferdams will extend over 2 feet above the elevation of stream flows. See the cofferdam detail on Sheet 3. During construction work, clean water will be pumped from Coulter Creek above the upstream cofferdam and released downstream of the work area. During non-work hours, the pump will be turned off and flows will enter a pipe in the bottom of the cofferdam structure. Clean stream water will gravity flow through the pipe and be released downstream of the project area. Any groundwater seepage that enters the work area will be de-watered using a pump near the downstream limits of the project area. This water will be pumped through a pipe into a silt sock to remove any fine sediment material prior to release to upland areas east of the project area for infiltration. Fish salvage block nets will remain in place above the upper and below the lower cofferdams to keep fish out of the isolated work area.

2. **Placement of the new culvert.**

   Once the diversion and care of stream system is in place, then excavation for the placement of the new structure will begin. The installation of the replacement arch pipe and construction of the new stream channel will be accessed from banks on

both sides within the dewatered zone. Delivery of the arch pipe will be scheduled so that it can be directly transferred from the delivery truck to the prepared stream bed channel. The Coulter Creek approaches will require road widening for the installation of the replacement culvert. Slope stability will be provided with gravel backfill as depicted in the site plans. Once construction of the Coulter Creek sub-grade approaches are completed, Dardenelles Rd will be surfaced with 6" of Crushed Surfacing Top Course.

3. **Removal of the existing culvert.**
   Once the cofferdam structure has been placed and Coulter Creek routed around the project area, the existing gravel road and associated fill material will be removed. All fill will be disposed off-site in an approved upland disposal area. The culvert will be removed and disposed off-site.
4. **Site restoration**
   All exposed soils will be stabilized using seeding with native grass seed mix, and native shrubs will be installed. See more information about the re-vegetation plan described below. All construction equipment will be removed from the site and utilities (phone and power) will be re-connected.

Fish salvage will be done by CCNRD personnel in accordance with BMP's as outlined in WA State Scientific Collection Permit #12-178 and NOAA Permit #1119 (currently under renewal). A block net will be installed at the upstream end and fish will be pushed downstream using a very low-voltage setting on the electrofisher. A block net will then be installed at the downstream end and the area between the two block nets will be defished until zero individuals remain. Personnel will also be on-hand to net any individuals that may have been missed when the old culvert is being removed.

All project elements have been designed to avoid and minimize adverse impacts to Coulter Creek and the adjacent riparian areas. Construction activities will be accomplished during low flow periods to reduce the potential impacts to juvenile fish. On-site sediment mitigation measures will include silt fencing where necessary, isolating and/or diverting the stream around the work site. Riparian vegetation removal will be limited to the minimum amount necessary for construction.

The following best management practices will be implemented on site to avoid and minimize adverse impacts to the aquatic environment:

a. Riparian vegetation impacts have been minimized as much as possible by limiting the construction work area and by installing work limits fencing on site
b. A supply of sediment control materials will be on site.
c. An oil absorbing floating boom will be available whenever surface water is present.
d. Project operations will cease in the event high flow conditions.
e. Spill prevention and cleanup kits will be on site when heavy equipment is within 25-feet of Coulter Creek.
f. All work and sediment laden water will contained within a WDFW approved cofferdam system. Water pumped out of the cofferdam area shall be routed to

upland area with sufficient filtering so as to remove fine sediments or other contaminants prior to being allowed to re-enter Coulter Creek.

g. Cofferdams shall consist of woven polyethylene gravel bags with a polyfilm sheet wrapped around them to minimize conveyance of water from the work site into the active flow of Coulter Creek.
h. The construction contract will include a bid item for Erosion and Water Pollution Control which will include labor and materials for an Erosion and Spill Control Lead.
i. Cofferdams will be used to isolate the work area.
j. The excavator used will be required to use vegetable oil in the hydraulic system.

De-watering and fish salvage will also follow all protocols outlined in the Corps programmatic ESA consultation.

There will be earthwork below OHW of Coulter Creek associated with culvert removal and re-placement. Temporary construction impacts will be mitigated by providing long term enhanced fish passage in Coulter Creek. The project itself is mitigation because it improves fish passage in Coulter Creek and restores natural hydrologic function. All temporary work areas disturbed will be re-vegetated with native plants installed at a density of 4-5' on center. Approximately 1300 sq. feet of riparian area will be re-planted with the following native trees and shrubs:

Species	**Number**
Black cottonwood (*Populus balsamifera*)	6
Doug Fir (*Pseudotsuga menziesii*)	6
Red osier dogwood (*Cornus sericea*)	6
Willow (mix of *Salix lasiandra* and *S. sitchensis*)	8
Pacific ninebark (*Physocarpus capitatus*)	6
Spirea (*Spirea douglassii*)	6
Snowberry (*Symphoricarpus albus*)	8
Service berry (*Amalanchier alnifolia*)	8
Wood's rose (*Rosa woodsii*)	8
Ocean spray (*Holodiscus discolor*)	7
Oregon grape (*Berberis aquifolium*)	7
Total	80

In addition to the native shrubs proposed for installation listed in the table above, all areas with disturbed vegetation will be seeded with native herbaceous species to stabilize soils and minimize erosion.

The impact sheet inserted behind the plan sheets shows the approximate locations for riparian vegetation removal which is the same location as the proposed site restoration plantings. A more detailed planting plan will be prepared with the final design plans. This planting plan will provide plant installation details and it will depict the planting zones for the native trees and shrubs. In addition, the planting plan will specify the number of pounds of seed per species, however, it will be consistent with the table specified above.

For projects that include pile driving

If steel or concrete piles are being installed with an impact hammer pile driver, marbled murrelets may be adversely impacted. For installation of any type of pile with a vibratory pile driver, marine

mammals may be adversely impacted. A monitoring plan may be required to ensure protection of these species.

This project will not involve pile driving, therefore, the following table is not applicable.

Please fill out the following: (obtain information from contractor)	
5.1 Number of piles being replaced:	N/A
5.2 Replacement pile type: (e.g.: ACZA-treated wood, steel, coating used on steel piles)	N/A
5.3 Replacement pile size: (e.g. 12-inch)	N/A
5.4 Installation method: (e.g.: vibratory, impact hammer)	N/A **Note:** Vibratory or impact installation of wood, concrete, plastic, or other non-metal piles of any size is allowed. Impact installation of steel piles in marine waters is not covered under the programmatic and, in freshwater, is only covered programmatically for steel piles up to 10 inches.
5.5 Anticipated dates, number of minutes and number of days vibratory pile driving	__ N/A _____ minutes per day ____ N/A _____ number of days Anticipated dates: N/A
5.6 For vibratory installation, will proofing be required? If so, how many pile strikes per pile?	Yes _____ Number of pile strikes per pile _____ No _____
5.7 For impact hammer installation, estimate the number of pile strikes required per pile:	N/A
5.8 For impact hammer installation or proofing, estimated number of pile strikes per day:	Minutes per day N/A Number of days N/A _____ Anticipated dates: N/A
5.9 For impact hammer pile driving or proofing, sound attenuation measures:	N/A
5.10 Anticipated dates, number of minutes and number of days of impact hammer pile driving or proofing:	N/A
5.11 Describe substrate into which piling will be driven:	N/A

6. Construction Techniques:

Describe methods and timing of construction to be employed in building the project and any associated features. Identify actions that could affect listed / proposed species or designated / proposed critical habitat and describe in sufficient detail to allow an assessment of potential impacts. Consider actions such as vegetation removal, temporary or permanent elevations in noise level, channel modifications, hydrological or hydraulic alterations, access roads, power lines etc. Also discuss construction techniques associated with any interdependent or interrelated projects.

Address the following:

A. Construction sequencing and timing of each stage (duration and dates):

Work Start date: August 15, 2014 End date: October 31, 2014

All In-water work will be completed September 1, 2014 – September 30, 2014

Construction will commence in August with staging for bridge construction, vegetation clearing, staking work areas, and delivery of materials to the site. In-water work will start in early September and be completed by the end of the month. Site restoration, including re-vegetation, will occur in October.

The WDFW designated in-water work window for Nason Creek (and tributaries) is July 1-31. However, during July, flows in Nason Creek and tributaries are still on the receding level of the spring high water hydrograph. Therefore, in-stream work is proposed during low water levels to minimize impacts to aquatic resources. All in-water work will occur in September and it will occur in isolation (behind cofferdams with Coulter Creek flows routed around the project area). Section 8 below describes fish life stages in the nearby area during September and any potential impacts resulting from project construction during September.

B. Site preparation:

Site preparation work will include flagging the proposed work areas including access and staging areas. Once those limits have been flagged, vegetation will be cleared as needed. Wherever possible, shrubs will be cut at the base to facilitate re-sprouting following construction. Equipment and materials will be mobilized to the site and staged in the staging areas. The next step will be to install the work isolation cofferdams and de-fish the work area. Once all of this site preparation work has been completed, site grading will commence as described below.

C. Equipment to be used:

Project work will be completed with a tracked excavator (~40,000 lb class). Dump trucks, power and hand held tools will be used to deliver material and construct the features. Principal components of the work include mobilization/demobilization, water control and diversion, clearing and grubbing, site grading, earthwork, placement of culvert superstructure, slope restoration and reseeding. Associated equipment may include, but is not limited to, a track hoe, pumping equipment, and hand tools.

D. Construction materials to be used:

See Plan sheet 2 for a materials list and quantities. The proposed culvert will consist of a 40’ long arch pipe culvert with dimensions 13’5” by 8’5”

Fill below OHW will consist of the following materials:

- Culvert bedding placed below the culvert ~58 cubic yards
- Class A gravel outside and udner the culvert ~166 cubic yards
- Stream bed material placed inside the culvert and in the stream bed ~ 60 cubic yards
- Boulders 10 cubic yards

E. Work corridor:

The work limits will extend approximately 30’ north and south of the end of the existing culvert. The work corridor is approximately 30’ wide to allow for equipment access for the culvert replacement. Work limits are depicted on a sheet at the back of the plan set.

F. Staging areas and equipment wash outs:
The staging area is depicted on the plans. It is located approximately 200' from Coulter Creek (towards the BNSF railroad tracks). An existing turn-out may also be used for parking vehicles.

G. Stockpiling areas:
Staging and stockpiling will be located in the staging area depicted on the plans.

H. Running of equipment during construction:
Operating noise of equipment should not exceed noise levels on the nearby BNSF railroad or Hwy 2. Once the cofferdam is in place, flows in Coulter Creek will be routed around the work area until construction is completed. However, pumps for de-watering will likely only operate during construction hours.

I. Soil stabilization needs / techniques:
An erosion control blanket will be installed on the road fill slopes to provide temporary soil stabilization. In addition, all exposed soils will be stabilized using seeding with native grass seed mix and native shrubs will be installed. See more information about the re-vegetation plan described above.

J. Clean-up and re-vegetation:
All exposed soils will be stabilized using seeding with native grass seed mix, and native shrubs will be installed. See more information about soil stabilization methods and the re-vegetation plan described above.

K. Storm water controls / management:
Turbidity (water clarity) will be measured and recorded (in NTU's) using a turbidimeter during in-water work. The turbidimeter will be calibrated once a week and samples will be taken at least twice a day. Samples will be collected 100' upstream and 300' downstream of each work area to document that any sediment released from the site does not increase stream turbidity levels. Readings will be consistent with the following DOE water quality standards:

During salmon spawning, rearing and migration (August 1 – August 10) turbidity shall not exceed:

- 5 NTU over background when the background is 50 NTU or less; or
- A 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

During salmon rearing and migration (July 15 – July 31) turbidity shall not exceed:

- 10 NTU over background when the background is 50 NTU or less; or
- A 20 percent increase in turbidity when the background turbidity is more than 50 NTU.

L. Source location of any fill used:
Engineered stream bed material will be obtained from an existing stockpile located near the Leavenworth fish hatchery.

M. Location of any spoil disposal:
Spoils will be disposed off-site in an approved upland location.

7. Action Area

Please describe the action area. The action area means all areas to be affected directly (e.g., earth moving, vegetation removal, construction noise, placement of fill, release of environmental contaminants) and indirectly by the proposed action. (Example: as a direct effect, the action area for pile driving would include the area out to where the noise from the pile driving falls below the level of harm or disturbance for listed species. For vibratory hammer pile driving impacts to killer whales, this level is 120 dB. Action area will include any area where the underwater noise level may exceed 120 dB).

Existing site conditions

Currently, Coulter Creek flows under Dardenelles road through two existing 20 foot long 24" diameter metal culverts with a 10" slope. The bankfull width of Coulter Creek is currently ~6' wide. Dardenelles road is a gravel road providing access from Hwy 2 to several small cabins. The travel surface is approximately 12' wide and it's approximately 20' wide from toe of slope to toe of slope. There are no wetlands adjacent to Coulter Creek near the project site. The stream banks are well-drained, sloped towards the creek, and dominated by upland riparian vegetation. The stream bank vegetation north and south of the road crossing is dominated by Douglas fir, black cottonwood, and vine maple, with trillium and other understory species typical for upland riparian forested areas.

Direct Impacts

Attached to the plan set is a map that depicts the work area limits or action area that will be affected directly. There will be approximately 672 square feet of earthwork (fill and removal) within the ordinary high water of Coulter Creek. Removal of the existing culvert and road bed will involve ~250 cubic yards of excavation. Approximately 294 cubic yards of material will be placed below OHW for culvert bedding, gravel under the culvert, stream bed material, and boulders. More detailed information about the fill material and individual quantities is provided in Section 6D above and on Sheet 2 of the plan set. Direct impacts to aquatic species may occur as a result of installation of cofferdams and/or de-fishing the work area. Direct impacts will be minimized to the extent possible by following best management practices and conservation measures outlined in this programmatic consultation.

Indirect impacts

Indirect impacts to aquatic species may occur during and/or following project construction. Indirect impacts may include temporary, short term increases in stream turbidity downstream of the project area.

Access to the work area will involve vegetation clearing and grading in an additional ~1,300 square feet. As described above, this area will be re-vegetated following project completion. Indirect impacts may also include short term, localized impacts to aquatic species resulting in ~1,300 square feet of riparian vegetation removal. Riparian vegetation removal will increase the amount of sunlight reaching approximately 60 linear feet of stream due to vegetation removal. Riparian vegetation removal will also result in temporary, short term losses in cover for fish migrating through the project area. Indirect impacts resulting from vegetation removal have been reduced to the smallest footprint possible by limiting equipment and personnel access to the most immediate work area needed for culvert replacement. In addition, species proposed for revegetation have been selected to include some species that grow quickly, such as willows and cottonwood, to restore stream bank cover to the project area within a few years. The disturbance area is fairly limited and adjacent trees to remain are anticipated to continue to

provide sufficient shade that overall stream water temperatures are not anticipated to increase as a result of this project.

8. Species Information:

Identify each listed or proposed species, including terrestrial species, as well as designated or proposed critical habitat in the action area. Please include information on which listed species use are expected to be found in the action area and the potential for them to be there during project activities..

To determine what listed or proposed species may occur in the action area, contact NOAA Fisheries at the address listed below and obtain a county list of federally listed/ designated and proposed species and critical habitat from the:

U.S Fish and Wildlife Service at: http://westernwashington.fws.gov/se/SE_List/endangered_Species.asp

National Marine Fisheries Service at:
510 Desmond Dr., SE # 103
Lacey, WA 98503
(360) 753-9530
http://www.nwr.noaa.gov

The following species are listed as of August 11, 2011:

USFWS SPECIES
BIRDS
Marbled murrelet
Northern spotted owl
Short-tailed albatross
Western snowy plover

MAMMALS
Canada lynx
Columbia white-tailed deer
Gray wolf (western WA)
Gray wolf (eastern WA)
Grizzly bear
Woodland caribou
Pygmy rabbit (Columbia Basin DPS)

INSECTS
Oregon silverspot butterfly

PLANTS
Bradshaw's desert parsley
Marsh sandwort
Showy stickseed
Wenatchee Mtns. Checker-mallow
Golden paintbrush
Kincaid's lupine
Nelson's checker-mallow
Water howellia
Spalding's catchfly
Ute ladies'-tresses

FISH
Bull trout, Columbia River
Bull trout, coastal-Puget Sound
Dolly varden, coastal-Puget Sound

NMFS SPECIES
FISH
Chum, Columbia River
Chum, Hood Canal summer
Chinook, lower Columbia River
Chinook, upper Columbia River spring
Chinook, Puget Sound
Chinook, Snake River fall
Chinook, Snake River spring-summer
Chinook, upper Willamette River
Coho, lower Columbia River
Sockeye, Ozette Lake
Sockeye, Snake River
Steelhead, upper Columbia River
Steelhead, middle Columbia River
Steelhead, lower Columbia River
Steelhead, Snake River
Steelhead, upper Willamette River
Steelhead, Puget Sound
Sturgeon, Green (southern DPS)
Eulachon, Pacific (southern DPS)
Bocaccio (Georgia Basin DPS)
Rockfish, canary (Georgia Basin DPS)
Rockfish, yelloweye (Georgia Basin DPS)

MARINE MAMMALS
Humpback whale
Blue whale
Fin whale
Sei whale
Sperm whale
Southern resident killer whale
Steller sea lion

REPTILES-AMPHIBIANS
Leatherback sea turtle
Loggerhead sea turtle
Green sea turtle
Olive Ridley sea turtle

The following ESA listed aquatic species are known to be present in the Nason Creek watershed and may utilize Coulter Creek.

- Upper Columbia River Spring Chinook (*Oncorhynchus tshawytscha*) (Endangered)
- Upper Columbia River steelhead (*Oncorhynchus mykiss*) (Threatened)
- Bull trout (*Salvelinus confluentus*) (Threatened)

The WDFW designated in-water work window for Nason Creek (and tributaries) is July 1-31. However, during July, flows in Nason Creek and tributaries are still on the receding level of the spring high water hydrograph. Therefore, in-stream work is proposed during low water levels to minimize impacts to aquatic resources. All in-water work will occur in September and it will occur in isolation (behind cofferdams with Coulter Creek flows routed around the project area). The following text describes life stage use in the watershed during the proposed construction season:

Spring Chinook
During September, spring Chinook redds will be present in mainstem Nason Creek, however, there is no spring Chinook spawning known to occur in Coulter Creek. In addition, Coulter Creek flows through a large wetland complex before entering Nason Creek. This wetland complex has low flow velocity and several beaver dams that would cause sediment to drop out of the water column if there was an unanticipated turbidity release from the site. Therefore, isolated construction during the month of September is not anticipated to effect spring Chinook.

Steelhead
Steelhead in-migration to the Nason Creek watershed starts in the fall with the fall rains and corresponding rises in the hydrograph. So some early returning adults may be nearby. Juvenile steelhead rearing occurs in the Nason Creek watershed year round. So de-fishing efforts may result in removal of some steelhead adults or juveniles. There are no known steelhead redd surveys in Coulter Creek, however, redd surveys will be completed in the project area prior to commencement of construction to ensure that no active redds are present. Steelhead spawning and incubation is typically completed by the end of August so direct and/ or indirect impacts to steelhead redds are not anticipated.

Bull Trout
Bull trout surveys have not been completed for Coulter Creek, however, they are known to be present in Nason Creek in limited numbers and they may utilize Coulter Creek. Bull trout spawning typically occurs from August – November and ~15 redds per year have been documented in the upper reaches of Nason Creek (above RM 15).

In addition to the aquatic species listed above, the following species are present near the site:

- Northern spotted owl (*Strix occidentalis*) Management buffer
- Gray wolf (*Canis lupis*) Biotic detection/occurrence within ¼ mile

The WDFW PHS web site is the source for the information listed above.

9. Existing Environmental Conditions:
Describe existing environmental conditions for the following:

A. Shoreline riparian vegetation and habitat features
The stream bank vegetation north and south of the road crossing is dominated by Douglas fir, black cottonwood, and vine maple, with trillium and other understory species typical for upland riparian forested areas.

B. Aquatic substrate and vegetation (include information on the amount and type of eelgrass or macroalgae present at the site)
Aquatic (submerged) vegetation is not present within this section of Coulter Creek. The stream bed consists of cobble.

C. Surrounding land/water uses
The site to the north is owned by Yakama Nation and it is undeveloped. The parcel to the east consists of undeveloped land. The parcel to the south and southwest each contain one residence.

D. Level of development
Dardenelles road crosses through the project area. Most of the surrounding area is undeveloped forest land. The parcel to the south and southwest contain one residence each.

E. Water quality
There is no existing water quality data for Coulter Creek, however, Nason Creek is 303D listed for water temperature.

F. Describe use of the action area by listed salmonid fish species.
See section 8 above.

G. Is the project located within designated / proposed bull trout or Pacific salmon critical habitat? If so, please address the proposed projects' potential direct and indirect effect to primary constituent elements (Critical habitat templates can be found on the Corps website at: http://www.nws.usace.army.mil/Missions/CivilWorks/Regulatory/PermitGuidebook/EndangeredSpecies.aspx, select Forms, Tools and References; Forms and Templates; Critical Habitat Assessment Forms.
Lower Coulter Creek, including the project area, is listed as Pacific salmon critical habitat for Upper Columbia spring Chinook and steelhead.
Nason Creek is listed as critical habitat for bull trout. However, tributaries, such as Coulter Creek, are not mapped as critical habitat for bull trout.

H. Describe use of the action area by other listed fish species (*green sturgeon, eulachon, bocaccio, canary rockfish and yelloweye rockfish).*

I. Is the project located within designated/proposed critical habitat for any of the species listed below? If so please address the proposed projects' potential direct and indirect effect to primary constituent elements. Please see the NOAA-Fisheries and US Fish and Wildlife websites (www.nwr.noaa.gov and www.fws.gov/pacific respectively) for further information.

Southern resident killer whale	*Marbled murrelet*
Northern spotted owl	*Western snowy plover*
Green sturgeon	*Eulachon*

The project site is not located within listed critical habitat for any of the species listed above. The following web site did not map any critical habitat for spotted owls in Chelan County:
http://www.fws.gov/pacific/ecoservices/nso/map.html

J. Describe use of action area by marbled murrelets. How far to the nearest marbled murrelet nest site or critical habitat? Some information is available on the Fish and Wildlife Service website: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B08C.

N/A

K. Describe use of action area by the spotted. How far to the nearest spotted nest site or critical habitat? Some information is available on the Fish and Wildlife Service website: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B08B.

The following web site did not map any critical habitat for spotted owls in Chelan County:
http://www.fws.gov/pacific/ecoservices/nso/map.html
The WDFW Priority Habitat Species web site indicates that the site is located within a northern spotted owl (*Strix occidentalis*) management buffer.

L. **For marine areas only:** Describe use of action area by Southern Resident killer whales. How often have they been seen in the area and during what months of the year? For information on noise impacts on killer whales and other marine mammals, please see the National Marine Fisheries website: http://www.nwr.noaa.gov/Marine-Mammals/MM-consults.cfm.

N/A

M. **For marine areas and Columbia River:** How far is the nearest steller sea lion haulout site from the action area? Describe their use of the action area. See the National Marine Fisheries website: http://www.nwr.noaa.gov/Marine-Mammals/MM-consults.cfm for information on the steller sea lion and location of their haulout sites.

N/A

N. **For marine areas only: Forage Fish Habitat** – only complete this section if the project is in tidal waters.

Check box if Washington Department of Fish and Wildlife (WDFW) documented habitat is present. Go to the WDFW website for this information: http://wdfw.wa.gov/fish/forage/forage.htm, then search for each species under the link to Biology, then the link to Documented Spawning Grounds (if available, please attach a copy of the Hydraulic Project Approval from WDFW):

Surf Smelt: ☐ **Pacific Herring:** ☐ **Sand Lance:** ☐

Check box if the proposed action will occur in potentially suitable forage fish spawning habitat:

Surf Smelt: ☐ **Pacific Herring:** ☐ **Sand Lance:** ☐

If no boxes are checked, please explain why site is not suitable as forage fish spawning habitat.

Please describe the type of substrate and elevation and presence of aquatic vegetation at the project area. For example:
At +10 to +5 feet above MLLW, there is no aquatic vegetation, the substrate consists of large cobbles.
At +5 to +1 foot above MLLW, there is eelgrass and the substrate consists of fine sand.

10. Effects Analysis
Describe the direct and indirect effects of the action on the proposed and listed species as well as designated and proposed critical habitat within the action area. Consider the impact to both individuals and the population. Discuss the short-term, construction-related, impacts as well as the long-term and permanent effects.

Direct Impacts:

Indirect Impacts:

Sections 7 and 8 (pages 8-10) provide an analysis of direct and indirect effects to ESA listed species and critical habitat.

11. Conservation measures:
Conservation measures are measures that would reduce or eliminate adverse impacts of the proposed activity (examples: work done during the recommended work window (to avoid times when species are most likely to be in the area), silt curtain, erosion control best management practices, percent grating on a pier to reduce shading impacts).

Proposed work window:
See information in Sections 5 and 8 above
Other conservation measures:
See the description of best management practices in Section 5 (pages 2-4).

12. Determination of Effect:
Provide a summary of impacts concluding with statement(s) of effect, by species. Even projects that are intended to benefit the species might have short-term adverse impacts and those must be addressed. Only the following determinations are valid for listed species or designated critical habitat:

No effect. Literally no effect. No probability of any effect. The action is determined to have 'no effect' if there are no proposed or listed salmon and no proposed or designated critical habitat in the action area or downstream from it. This effects determination is the responsibility of the action agency to make and does not require NMFS review.

May Affect, Not Likely to Adversely Affect (NLAA) – Insignificant, discountable, or beneficial effects. The effect level is determined to be 'may affect, not likely to adversely affect' if the proposed action does not have the potential to hinder attainment of relevant properly functioning indicators and has a negligible (extremely low) probability of taking proposed or listed salmon or resulting in the destruction or adverse modification of their habitat. An insignificant effect relates to the size of the impact and should never reach the scale where take occurs. A 'discountable effect' is defined as being so extremely unlikely to occur that a reasonable person cannot detect, measure, or evaluate it. This level of effect requires informal consultation, which consists of NMFS and/or USFWS concurrence with the action agency's determination.

May Affect, Likely to Adversely Affect (LAA) **This form is not appropriate for use with a project that is LAA listed species. Please see the Biological Assessment (BA) template on the Corps website:**
http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=mainpage_ESA

The findings of effect for this project are:
May Affect, Not Likely to Adversely Affect Upper Columbia spring Chinook and
May Affect, Not Likely to Adversely Affect Upper Columbia steelhead.
The following information supports this conclusion for both species:

- The project is located in critical habitat for both species
- Project construction will occur outside of the in-water work window, however, this allows construction to occur during lower water levels and there is no known spawning immediately downstream of the project area.
- The project has been designed to avoid and minimize short-term construction related impacts. However, there may be short term indirect impacts associated with temporary increases in turbidity and noise. There may be indirect impacts associated with the limited vegetation removal. There may be minimal direct impacts associated with fish salvage or de-watering activities.
- The project will provide long term improved fish passage in Coulter Creek which should mitigate any potential short term indirect and direct impacts.

13. EFH Analysis

Essential Fish Habitat (EFH) is broadly defined by the Act (now called the Magnuson-Stevens Act or the Sustainable Fisheries Act) to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". This language is interpreted or described in the 1997 Interim Final Rule [62 Fed. Reg. 66551, Section 600.10 Definitions] -- Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include historic areas if appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle.

Additional guidance for EFH analyses can be found at the NOAA Fisheries web site under the Sustainable Fisheries Division.

A. Description of the Proposed Action (may refer to BA project description)
See project description above pages 2-4.
B. Addresses EFH for Appropriate Fisheries Management Plans (FMP)

C. Effects of the Proposed Action

i. Effects on EFH (groundfish, coastal pelagic, and salmon EFH should be discussed separately)

ii. Effects on Managed Species (unless effects to an individual species are unique, it is not necessary to discuss adverse effects on a species-by species basis)

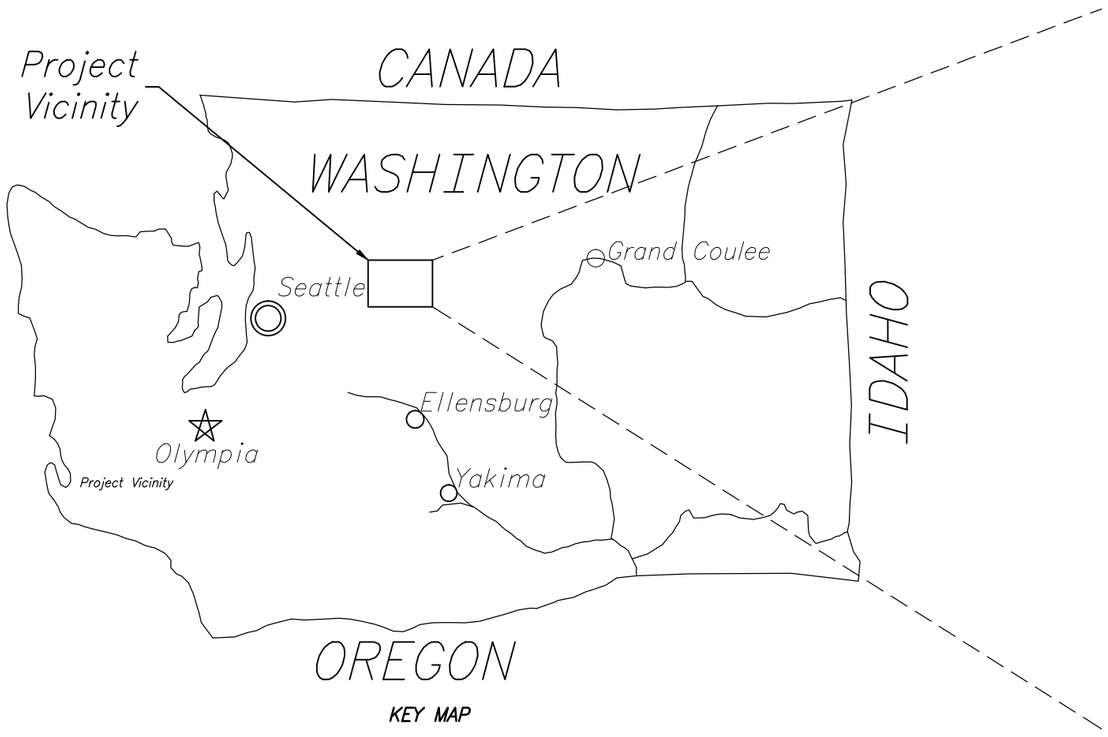
iii. Effects on Associated Species, Including Prey Species

iv. Cumulative Effects
Any effects on EFH species is anticipated to be similar to those described above for spring Chinook and steelhead.

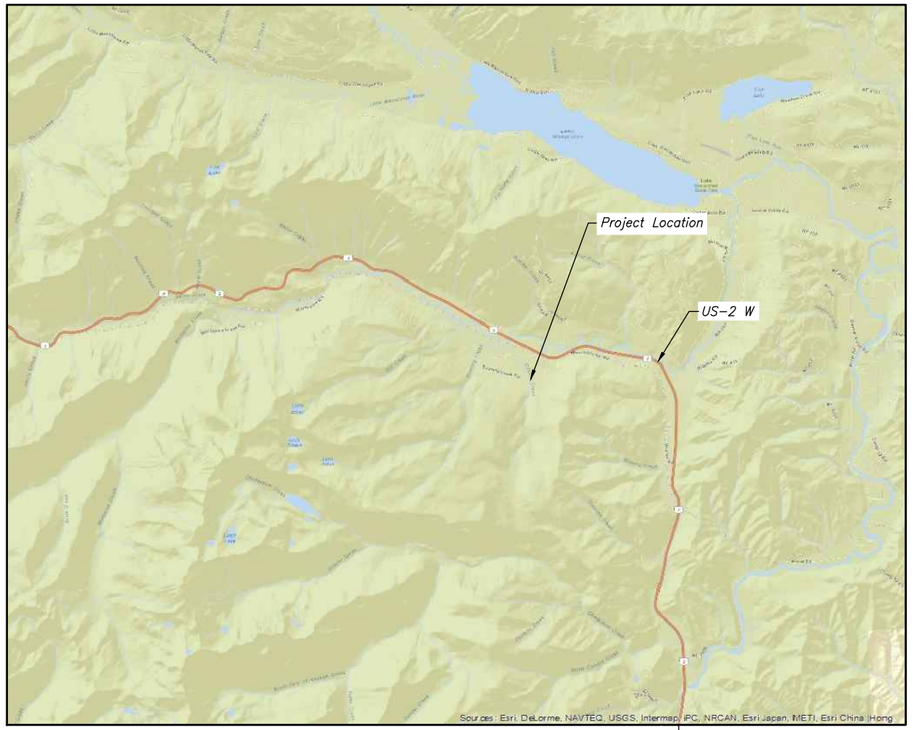
D. Proposed Conservation Measures
See pages 3-4
E. Conclusions by EFH (taking into account proposed conservation measures)

14. References:
Include any studies or papers that support statements made in this form (example: reference the source for the listed species that are covered).

15. Appendices:
As needed include mitigation, revegetation plans, monitoring plans, results of studies, water quality information, etc.



KEY MAP



VICINITY MAP

4000 0 4000 8000 12000
SCALE OF FEET

LOCATION MAP

500 0 500 1000 1500
SCALE OF FEET

SHEET INDEX	
1678-100-2586	LOCATION MAP
1678-100-2587	GENERAL NOTES AND QUANTITIES
1678-100-2588	PROJECT OVERVIEW, DEWATERING PLAN
1678-100-2589	CULVERT PROFILE AND CROSSECTION
1678-100-2590	ENGINEERED STREAM MATERIAL LOCATION MAP

SITE SUMMARY

T26N, R16E, Sec. 11
Wenatchee County
Washington

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

COLUMBIA/SNAKE RIVER SALMON RECOVERY PROGRAM

COULTER CREEK BARRIER REPLACEMENT
WENATCHEE SUBBASIN
LOCATION MAP

REV. NO.

Colin Forsyth
DESIGNED
Colin Forsyth
DRAWN
Steve Montague, P.E.
CHECKED
Colin Forsyth
TECH. APPR. NAME, PROF. ABBR.
Sharon Parkinson, P.E.
ADMIN. APPROVAL
NAME Sharon Parkinson, P.E.
TITLE Program Manager

BOISE, ID 2014-04-30

LOCATION MAP

1678-100-2586

SHEET 1 OF 5

DATE AND TIME PLOTTED
MAY 23, 2014 10:53
PLOTTED BY
JPEETZ

CAD SYSTEM
AutoCAD Rel. 19.0s
CAD FILENAME
1678-100-2586.DWG

GENERAL NOTES

1. ALL COMPONENTS OF THE CONTRACT DOCUMENTS SHALL FULLY APPLY TO THE WORK WHETHER SPECIFICALLY REFERENCED IN THE DRAWINGS OR NOT. ANY ITEMS NOT SPECIFICALLY DISCUSSED IN NOTES ON SHEETS IN THE PLANS SHALL BE AS DESCRIBED IN THE STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND MUNICIPAL CONSTRUCTION, 2012 PUBLISHED BY THE STATE OF WASHINGTON DEPARTMENT OF TRANSPORTATION.
2. STATIONING, DISTANCES, AND LENGTHS SHOWN ON THE DRAWINGS ARE BASED ON HORIZONTAL MEASUREMENTS ALONG THE STREAM CENTERLINE. CROSS SECTIONS, CROSSING DETAILS, AND REFERENCES TO LEFT (L) AND RIGHT (R) ON THE DRAWINGS ASSUME LOOKING IN THE DIRECTION OF INCREASING STATION ALONG STREAM CENTERLINE ALIGNMENT (FACING DOWNSTREAM).
3. ALL DIMENSIONS, INCLUDING, BUT NOT LIMITED TO, ELEVATIONS, STATIONS, AND DISTANCES ARE IN STANDARD ENGLISH UNITS. COORDINATES AND ELEVATIONS ARE BASED ON LOCAL COORDINATE SYSTEM.
4. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS; OR ANY INCONSISTENCIES OR AMBIGUITIES BETWEEN THE DRAWINGS AND OTHER COMPONENTS OF THE CONTRACT DOCUMENTS SHALL BE IMMEDIATELY REPORTED IN WRITING TO THE ENGINEER. THE ENGINEER WILL PROMPTLY CORRECT INCONSISTENCIES OR AMBIGUITIES IN WRITING. WORK DONE BY THE CONTRACTOR INVOLVING SUCH DISCREPANCIES WITHOUT A WRITTEN REPORT AND RESPONSE FROM THE ENGINEER SHALL BE DONE AT THE CONTRACTOR'S SOLE RISK AND EXPENSE.
5. CONTRACTOR SHALL NOT DISTURB OR DESTROY ANY EXISTING SURVEY MONUMENTS OR BENCHMARKS. ANY BENCHMARKS DISTURBED OR DESTROYED BY THE CONTRACTOR SHALL BE REPLACED TO THE ENGINEER'S SATISFACTION AT THE CONTRACTOR'S SOLE EXPENSE.
6. EXISTING UTILITIES ARE NOT SHOWN ON THE DRAWINGS. UTILITY LOCATION AND PROTECTION IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT TYPE, OWNER, LOCATION, AND ELEVATION OF ALL BURIED AND OVERHEAD UTILITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE WORK IN A SAFE MANNER AND IN ACCORDANCE WITH ANY REQUIREMENTS SET FORTH BY THE UTILITY OWNER AND APPLICABLE LAWS AND REGULATIONS.
7. CONTRACTOR IS ADVISED THAT NORTH ARROWS AND ORIENTATION OF PLAN VIEW SHEETS VARY TO ALLOW FOR LEFT-TO-RIGHT STATIONING AND STATIONING IN THE DIRECTION OF STREAM FLOW.
8. CONTRACTOR SHALL NOTIFY UTILITY OWNERS WITHIN THE LIMITS OF CONSTRUCTION A MINIMUM OF TWO WEEKS PRIOR TO EXCAVATION, OR OTHER CONSTRUCTION ACTIVITY THAT MAY IMPACT THE UTILITY. CONTRACTOR SHALL ALSO CONTACT CCNRD PRIOR TO ANY CONSTRUCTION ACTIVITY IN THE AREA. CONTRACTOR SHALL PROVIDE ACCESS TO UTILITY OWNERS FOR MAINTENANCE AND WORK ON THEIR UTILITIES DURING THE COURSE OF THE WORK.
9. CONTRACTOR SHALL ENSURE THAT OPERATION OF EXISTING IRRIGATION, SEWER, DRAINAGE, DOMESTIC WATER, AND OTHER UTILITY SYSTEMS ARE CONTINUOUS DURING CONSTRUCTION.
10. RELOCATIONS AND/OR REPLACEMENTS OF EXISTING UTILITIES SHALL BE COORDINATED BY THE CONTRACTOR WITH THE UTILITY OWNER. CONTRACTOR SHALL CONTACT, SCHEDULE, AND ESTABLISH UTILITY SHUT DOWN TIMES AND DETERMINE THE RELOCATION AND/OR REPLACEMENT REQUIREMENTS OF EXISTING UTILITIES PRIOR TO THE START OF ANY WORK. THE UTILITY SHALL BE RELOCATED OR REPLACED TO THE SATISFACTION OF THE UTILITY OWNER.
11. IF APPLICABLE, CONSTRUCTION EASEMENTS SHALL NOT BE USED IN ANY MANNER THAT WILL CAUSE PERMANENT DAMAGE TO THE PROPERTY. DESCRIPTIONS OF THE EASEMENTS ACQUIRED FOR THE WORK WILL BE ON FILE AT THE OFFICE OF THE OWNER. CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE EASEMENT AGREEMENTS.
12. CONTRACTOR SHALL KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE CONSTRUCTION LIMITS AND ANY TEMPORARY CONSTRUCTION OR PERMANENT EASEMENTS OBTAINED FOR THIS PROJECT, IF APPLICABLE. THIS INCLUDES, BUT IS NOT LIMITED TO, VEHICLES AND EQUIPMENT, LIMITS OF EXCAVATION, STOCKPILED EXCAVATED AND IMPORTED MATERIAL, BACKFILL MATERIAL, STREAMBED MATERIAL, AND BRIDGE MATERIAL. IF THE CONTRACTOR REQUIRES ADDITIONAL CONSTRUCTION EASEMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SUCH EASEMENTS FROM INDIVIDUAL PROPERTY OWNERS AND BEAR ALL ASSOCIATED COSTS.
13. UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR SPECIFICATIONS, ALL EXISTING ITEMS INCLUDING, BUT NOT LIMITED TO, STRUCTURES, IMPROVEMENTS, GROUNDWATER WELLS, SIGNS, FENCES, GATES, CURBS, PAVEMENT, BRIDGES, UTILITIES, IRRIGATION PIPELINES AND DITCHES, ETC. SHALL BE PROTECTED BY THE CONTRACTOR. IF SUCH ITEMS ARE DAMAGED OR MUST BE REMOVED OR MODIFIED TO FACILITATE CONSTRUCTION, CONTRACTOR SHALL FIRST NOTIFY THE OWNER AND THEN REPLACE THE ITEMS TO A LIKE OR BETTER CONDITION AT CONTRACTOR'S EXPENSE TO SATISFACTION OF OWNER OF FACILITIES.
14. CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING THE TRENCH LIMITS NEEDED TO COMPLETE THE WORK IN CONFORMANCE WITH LOCAL, STATE AND FEDERAL CODES GOVERNING SHORING, SHEETING, BRACING OF EXCAVATIONS AND TRENCHES, AND FOR PROTECTION AND SAFETY OF THE WORKERS AND OTHER CONSTRUCTION RELATED PERSONNEL.
15. EXCAVATION SHALL MEET THE REQUIREMENTS OF OSHA 29 CFR PART 1926, SUBPART P, EXCAVATIONS. ACTUAL SLOPES SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SLOPES (SUBPART P. APPENDIX B).
16. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE INDICATED.
17. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
18. THE CONTRACTOR IS RESPONSIBLE FOR PRODUCING, IMPLEMENTING, ADHERING TO, AND MAINTAINING A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH THE REGULATIONS AND GUIDELINES SET FORTH AND SUBJECT TO APPROVAL BY THE STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, WATER QUALITY PROGRAM. CONTRACTOR SHALL IMPLEMENT AND DOCUMENT ANY ADDITIONAL MEASURES NECESSARY TO PREVENT ANY EROSION OR HAZARDOUS MATERIALS FROM LEAVING THE SITE, DISCHARGING, BEING ENTRAINED, ABSORBED OR OTHERWISE ENTERING SURFACE WATERS, GROUND WATER OR SOILS.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES AT ALL TIMES. MAINTENANCE OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE CONSIDERED INCIDENTAL.
20. THE CONTRACTOR SHALL BE HELD SOLELY RESPONSIBLE FOR ANY NPDES OR OTHER APPLICABLE ENVIRONMENTAL PERMIT VIOLATIONS AND FINES.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED IN THE PLANS. CONTRACTOR SHALL STAKE LOCATIONS OF CORNERS OF CULVERT AND OBTAIN APPROVAL FROM ENGINEER PRIOR TO EXCAVATION.

QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNITS
	SITE PREPERATION		
1	MOBILIZATION	1.00	L.S.
2	REMOVAL OF STRUCTURE AND OBSTRUCTION	1.00	EA.
3	TEMPORARY DAMS AND DEWATERING	1.00	EA.
4	SURVEYING	1.00	L.S.
	EARTHWORK		
5	SPCC PLAN	1	E.A.
6	STRUCTURE EXCAVATION CLASS B INCLUDING HAUL	250	C.Y.
7	FURNISH AND INSTALL CMP PIPE ARCH	40.00	L.F.
8	CULVERT BEDDING	96	TON
9	GRAVEL BACKFILL CLASS A	275	TON
10	CONSTRUCTION GEOTEXTILE FOR SEPARATION	250	S.Y.
11	HAUL AND PLACE ENGINEERED STREAMBED MATERIAL	60	C.Y.
12	FURNISH AND PLACE STREAMBED BOULDERS	10	C.Y.
13	CRUSHED SURFACING TOP COURSE	110	TON
	OTHER		
14	PROJECT TEMPORARY TRAFFIC CONTROL	1.00	E.A.
15	EROSION CONTROL & WATER POLLUTION CONTROL	1.00	L.S.
16	EROSION CONTROL BLANKET	70	S.Y.

* Quantities are neat line only, shrink and swell factors have not been determined.

SEED MIX:

SPECIES NAME	COMMON NAME	LBS/ACRE
ACHNATHERUM HYMENOIDES	INDIAN RICEGRASS	12
AGROPYRON SPICATUM	BLUEBUNCH WHEATGRASS	12
ELYMUS TRACHYCAULUS	SLENDER WHEATGRASS	8
FESTUCA IDAHOENSIS	IDAHO FESCUE	6
TRITICUM AESTIVUM X SECALE CEREALE	STERILE TRITICALE	60
POA SECUNDA	SANDBERG BLUEGRASS	4

SEEDING NOTES:

1. FOLLOWING CONSTRUCTION, ALL AREAS ABOVE SURFACE WATER DISTURBED DUE TO EARTHWORK, CLEARING, ACCESS, STAGING, OR OTHER CONSTRUCTION ACTIVITIES SHALL BE SEEDED ACCORDING TO THE SEED MIX AND APPLICATION RATES SHOWN ON THIS SHEET.

2. ALL SEEDING AREAS SHALL BE PREPARED IN ACCORDANCE WITH SECTION 8-01.3 OF THE STANDARD SPECIFICATIONS. SEEDING AREAS NEED NOT BE CULTIVATED, BUT SHALL BE RAKED OR CHAINED TO ENSURE A FRIABLE SURFACE FREE OF SOIL CLUMPS LARGER THAN 2 INCHES IN DIAMETER.

3. APPLICATION OF SEED SHALL BE FOLLOWED BY THE APPLICATION OF STRAW MULCH APPLIED AT A RATE OF 2 TONS/ACRE.

STRUCTURE NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING A CULVERT MEETING THE FOLLOWING DIMENSIONS AND REQUIREMENTS:
   - 1.1. LENGTH: 40 FEET MADE UP OF NO MORE THAN 2 SECTIONS CONNECTED WITH THE APPROPRIATE BAND AS SUPPLIED BY MANUFACTURER
   - 1.2. SPAN: 117 INCHES
   - 1.3. RISE: 79 INCHES
   - 1.4. 10 GAGE GALVANIZED STEEL
   - 1.5. 2 FOOT MINIMUM COVER
2. GALVANIZATION SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M 218 OR ASTM A 929. ANY DAMAGE TO GALVANIZED FINISH SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A 780.
3. HANDLING AND ASSEMBLY SHALL BE IN ACCORDANCE WITH NCSPA'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) RECOMMENDATIONS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS. CONTRACTOR SHALL STAKE LOCATIONS OF CULVERT INVERTS AND OBTAIN APPROVAL FROM CONTRACTING OFFICER PRIOR TO EXCAVATION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING DELIVERY OF THE CULVERT AND ALL ASSOCIATED COMPONENTS TO THE PROJECT SITE. DISTURBANCE TO NORMAL TRAFFIC FLOW SHALL BE MINIMIZED; ANY TRAFFIC CONTROL MEASURES REQUIRED FOR DELIVERY OF ANY PROJECT RELATED MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ROCK NOTES:

1. ENGINEERED STREAMBED MATERIAL (ESM) SHALL BE OBTAINED FROM EXISITNG STOCKPILE LOCATED ADJACENT TO LEAVENWORTH FISH HATCHERY AS DIRECTED BY CONTRACTING OFFICER.
2. CONTRACTOR IS RESPONSIBLE FOR LOADING AND TRANSPORTING ALL ESM.
3. STREAMBED BOULDERS SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-03.11(3) STREAMBED BOULDERS ONE MAN ROCK SIZE.
4. ESM AND STREAMBED BOULDERS ARE TO BE STOCKPILED AND HANDLED SEPARATELY. STREAMBED BOULDERS SHALL BE PLACED AS DIRECTED BY CONTRACTING OFFICER. STREAMBED BOULDERS WILL BE PLACED CONCURRENTLY WITH ESM AND GENERALLY PLACED PREFERENTIALLY ALONG EDGES OF PIPE.
5. COARSE BANDS TO BE CONSTRUCTED WITH WELL-GRADED MATERIAL WITH D_{100}=24".

ROAD NOTES:

1. CONTRACTING OFFICER SHALL APPROVE ROAD SUBGRADE PRIOR TO PLACEMENT OF GEOTEXTILE AND SURFACING.
2. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN APPROVED SUBGRADE AND ROAD SURFACING AT ALL NEW CONSTRUCTION, APPROXIMATELY STATION 1+40 AND 2+00. GEOTEXTILE FABRIC SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-33, CONSTRUCTION GEOTEXTILE FOR SEPARATION.
3. SOIL EXCAVATED FOR CULVERT INSTALLATION MAY BE USED AS BACKFILL IF IT MEETS THE REQUIREMENTS OF WSDOT STANDARD SPECIFICATION 9-3.12(2) OR AS APPROVED BY CONTRACTING OFFICER.
4. ROAD SHALL BE GRADED BETWEEN POINTS SHOWN SUCH THAT THERE ARE SMOOTH VERTICAL TRANSITIONS FROM THE EXISTING ROAD.
5. CONTRACTOR SHALL AVOID DAMAGE TO EXISING WOODY VEGETATION, INCLUDING TREES AND SHRUBS, UNLESS APPROVED BY CONTRACTING OFFICER.
6. SIDE SLOPES OF ALL FILL MATERIAL SHALL NOT EXCEED 1.5:1.
7. CRUSHED ROCK SURFACING SHALL BE APPLIED TO A COMPACTED DEPTH OF 6 INCHES AT THE STATIONING SHOWN BELOW. CRUSHED ROCK SURFACING SHALL BE APPLIED TO A COMPACTED DEPTH OF 6 INCHES TO THE TURNOUT AS SHOWN ON SHEET 3. PRIOR TO APPLICATION OF CRUSHED ROCK SURFACING, THE EXISTING ROAD AND TURNOUT SHALL BE GRADED WITH A CROWN FROM CENTERLINE AT A SLOPE OF 3%. GRADING SHALL BE DONE TO THE EXTENT THAT POTHOLES ARE CUT OUT AND NOT SIMPLY FILLED IN. PRIOR TO APPLICATION OF CRUSHED SURFACING THE ROAD SHALL BE PROOF ROLLED WITH A LOADED DUMP TRUCK AND APPROVED BY THE CONTRACTING OFFICER.

STATION	FINISHED SURFACE WIDTH
0+00 TO 1+30	12 FEET
1+30 TO 1+40	12 FEET TO 16 FEET TRANSITION
1+40 TO 2+00	16 FEET
2+00 TO 2+10	16 FEET TO 12 FEET TRANSITION
2+10 TO 2+40	12 FEET

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
APPROX	APPROXIMATE
ASTM	AMERICAN SOCIETY OF TESTING & MATERIALS
BM	BENCHMARK
C	CENTERLINE
CCNRD	CHELAN COUNTY NATURAL RESOURCE DEPARTMENT
CDF	CONTROLLED DENSITY FILL
CMP	CORRUGATED METAL PIPE
CO	CONTRACTING OFFICER
CP	CONTROL POINT
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CY	CUBIC YARD
EA	EACH
EL	ELEVATION
FG	FINAL GRADE
L	LENGTH
LF	LINEAR FOOT
LS	LUMP SUM
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH
NTS	NOT TO SCALE
OG	ORIGINAL GROUND
OHW	ORDINARY HIGH WATER
Q	FLOW
ROW	RIGHT-OF-WAY
SF	SQUARE FOOT
SPEC	SPECIFICATION
STA	STATION
SY	SQUARE YARD
TYP	TYPICAL
W	WEST
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WSE	WATER SURFACE ELEVATION
USFWS	UNITED STATES FISH AND WILDLIFE SERVICE

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

COLUMBIA/SNAKE RIVER SALMON RECOVERY PROGRAM

WENATCHEE SUBBASIN

COULTER CREEK BARRIER REPLACEMENT PROJECT

GENERAL NOTES AND QUANTITIES

REV. NO.	DATE	DESCRIPTION
1	2014-05-21 Steve Montague, P.E.	100 Revised quantities. Added Note 5 to Rock Notes.

Colin Forsyth
DESIGNED
Colin Forsyth
DRAWN
Steve Montague, P.E.
CHECKED
Colin Forsyth
TECH. APPR. NAME, PROF. ABBR.
Sharon Parkinson, P.E.
ADMIN. APPROVAL
NAME Sharon Parkinson, P.E.
TITLE Program Manager

BOISE, ID 2014-04-30

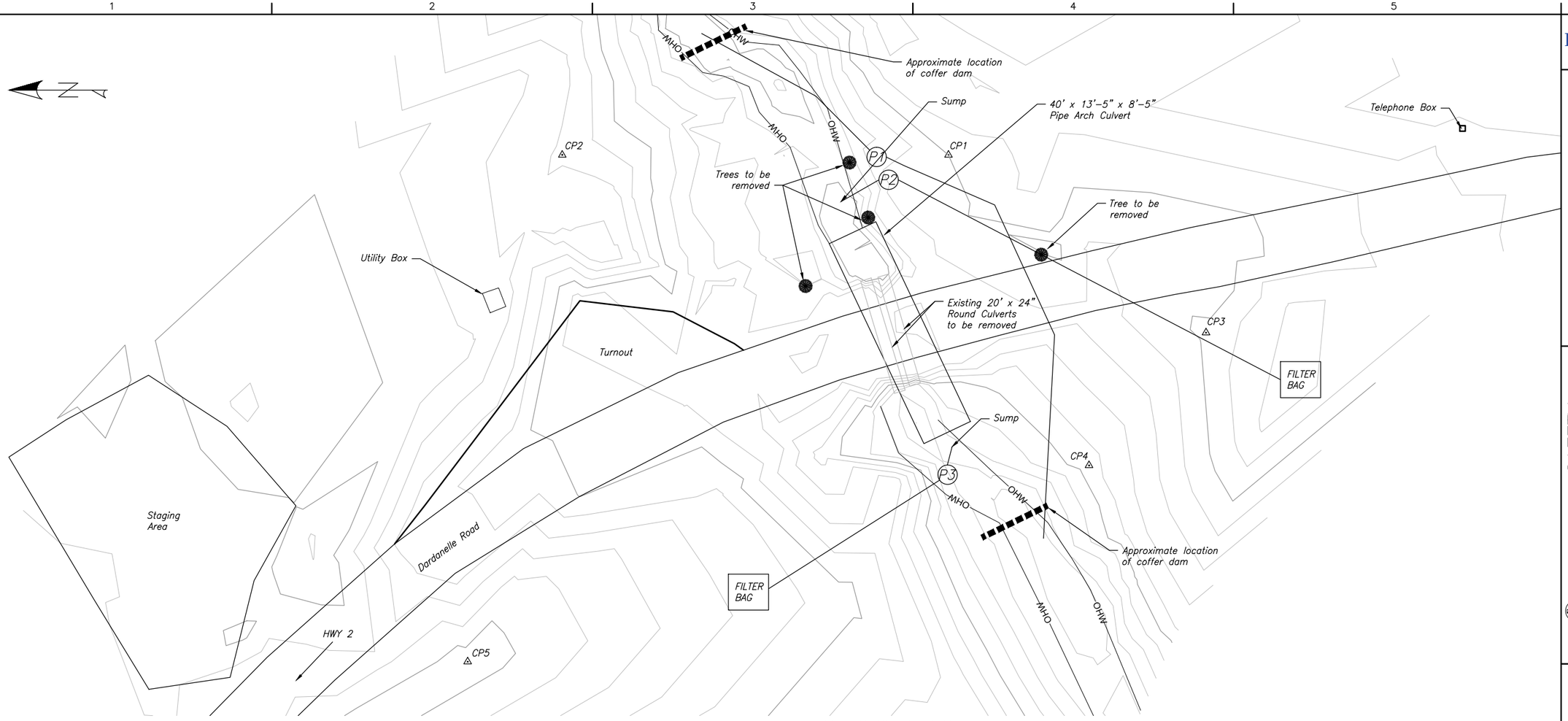
GENERAL NOTES AND QUANTITIES

1678-100-2587

SHEET 2 OF 5

DATE AND TIME PLOTTED
MAY 23, 2014 11:49
PLOTTED BY
JPEETZ

CAD SYSTEM
AutoCAD Rel. 19.0s
CAD FILENAME
1678-100-2587_1.DWG



EXISTING CONDITIONS

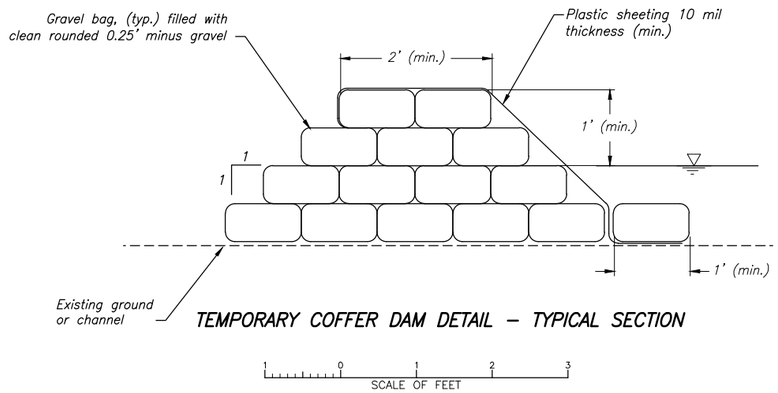
SCALE OF FEET: 10 0 10 20 30

LEGEND

- P1 — Pump stream around excavation area
- P2 — Pump dirty water from an excavated and lined sump to filter bag
- P3 — Pump dirty water from an excavated and lined sump to filter bag

CONTROL POINTS

POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
CP1	5000.0	5000.0	5000.0	YELLOW CAP REBAR
CP2	5069.9	5000.0	5001.8	YELLOW CAP REBAR
CP3	4953.4	4967.9	5000.2	YELLOW CAP REBAR
CP4	4974.6	4943.9	4995.6	YELLOW CAP REBAR
CP5	5087.0	4908.4	5005.7	YELLOW CAP REBAR



TEMPORARY COFFER DAM DETAIL – TYPICAL SECTION

SCALE OF FEET: 1 0 1 2 3

NOTES:

1. Existing underground utility locations have not been identified and are not shown on these plans. The contractor is responsible to locate and protect utilities during construction as described in section 1-07.17 of the WSDOT standard specifications. The telephone number for the one call center for utility locates is 1-800-424-5555.
2. Locations of control points will be clearly marked by the contracting agency.
3. The contractor shall place temporary dams in Coulter Creek upstream and downstream of the culvert location to keep water and fish from entering the active construction area. The exact location of the temporary dams shall be coordinated with the contracting officer. The contractor shall furnish and operate a pump, or pumps, capable of bypassing the entirety of Coulter Creek streamflow. Flow conditions can vary seasonally and extended periods of rainfall will increase flow. All pumps used by the contractor for dewatering shall have screened intakes that meet WDFW specifications and juvenile fish screening criteria.
4. The contractor shall notify the contracting officer a minimum of 5 working days in advance of temporary dam construction to coordinate fish removal. The contracting agency will be responsible for all fish removal and handling.
5. Dewatering within the work area shall be performed to the extent necessary for contractor to perform all work in the dry. Discharge from dewatering is not permitted in wetland areas. Due to a lack of area appropriate for filtering sediment prior to re-entering creek, all dirty water pumped from the excavation site shall be discharged through a punch woven geotextile filter bag suitable for filtering out sand, silt, and sediment and sized appropriately for the pump discharge rate.
6. Contractor may propose other methods of dewatering. The locations of temporary dams, pumps and discharge locations shown on this sheet are approximate and are intended to schematically represent one method of dewatering the project area. The contractor shall submit a dewatering plan as described in the specifications prior to construction for review and approval by the contracting agency. Significant deviations from the methods shown may require approval by WDFW.

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

COLUMBIA/SNAKE RIVER SALMON RECOVERY PROGRAM

COULTER CREEK BARRIER REPLACEMENT
WENATCHEE SUBBASIN
PROJECT OVERVIEW, DEWATERING PLAN

REV. NO.		
1	2014-05-23 Steve Montague, P.E.	100 Updated drawing to BOR standards.

Colin Forsyth
DESIGNED
Colin Forsyth
DRAWN
Steve Montague, P.E.
CHECKED
Colin Forsyth
TECH. APPR. NAME, PROF. ABBR.
Sharon Parkinson, P.E.
ADMIN. APPROVAL NAME Sharon Parkinson, P.E. TITLE Program Manager

BOISE, ID 2014-04-30

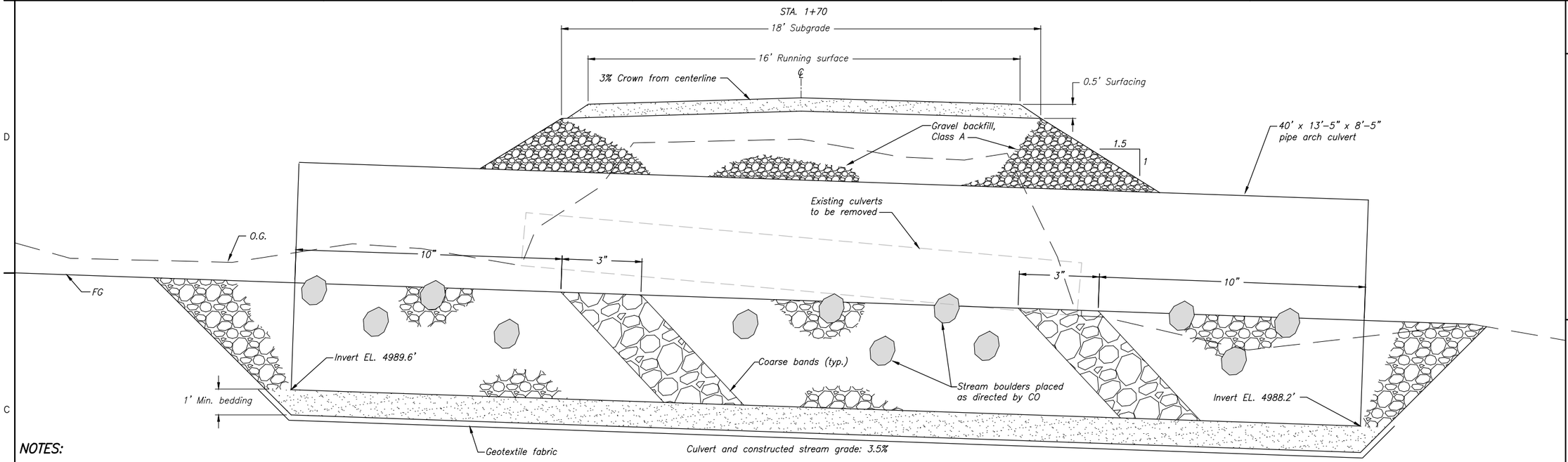
PROJECT OVERVIEW, DEWATERING PLAN

1678-100-2588

SHEET 3 OF 5

DATE AND TIME PLOTTED MAY 23, 2014 10:56
PLOTTED BY JPEETZ

CAD SYSTEM AutoCAD Rel. 19.0s
CAD FILENAME 1678-100-2588.DWG



CULVERT PROFILE

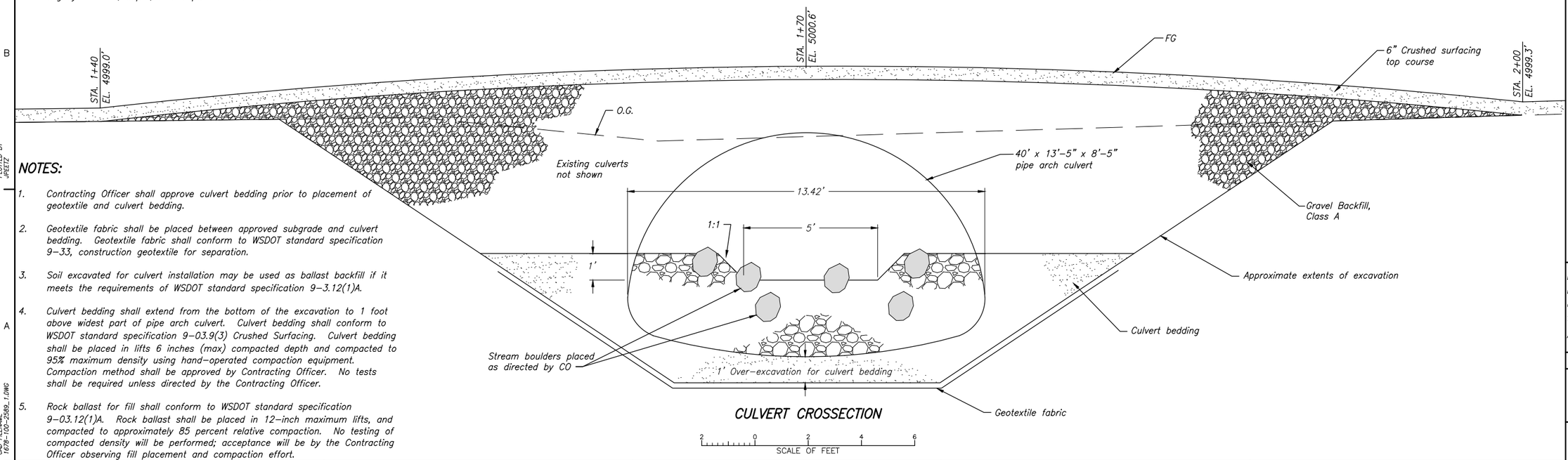
2 0 2 4 6
SCALE OF FEET

NOTES:

1. Compact fill adjacent to culvert by working parallel, not against the culvert.
2. Culvert bedding shall be in 6-inch maximum lifts. Backfill shall proceed evenly on both sides of pipe. Special attention shall be paid to maintaining the pipes rise and dimensions.
3. Special attention shall be paid to compaction of material under the haunches of the pipe. Culvert bedding shall be shaped to approximate the culvert bottom prior to placement of culvert. A 2-inch bedding blanket of loose fill shall be shaped to the bottom of the pipe prior to placement of the pipe.
4. Channel reshaping to be field directed by Contracting Officer and may vary slightly in width, depth, and slope from that shown.

LAYOUT POINTS

POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
401	5017.4	4985.9	4989.6	CULVERT INLET INVERT
402	5000.2	4949.8	4988.2	CULVERT OUTLET INVERT
403	5009.0	4968.6	5000.6	CL STA 1+70
404	5037.6	4958.7	4999.0	CL STA 1+40
405	4979.4	4975.9	4999.3	CL STA 2+00



NOTES:

1. Contracting Officer shall approve culvert bedding prior to placement of geotextile and culvert bedding.
2. Geotextile fabric shall be placed between approved subgrade and culvert bedding. Geotextile fabric shall conform to WSDOT standard specification 9-33, construction geotextile for separation.
3. Soil excavated for culvert installation may be used as ballast backfill if it meets the requirements of WSDOT standard specification 9-3.12(1)A.
4. Culvert bedding shall extend from the bottom of the excavation to 1 foot above widest part of pipe arch culvert. Culvert bedding shall conform to WSDOT standard specification 9-03.9(3) Crushed Surfacing. Culvert bedding shall be placed in lifts 6 inches (max) compacted depth and compacted to 95% maximum density using hand-operated compaction equipment. Compaction method shall be approved by Contracting Officer. No tests shall be required unless directed by the Contracting Officer.
5. Rock ballast for fill shall conform to WSDOT standard specification 9-03.12(1)A. Rock ballast shall be placed in 12-inch maximum lifts, and compacted to approximately 85 percent relative compaction. No testing of compacted density will be performed; acceptance will be by the Contracting Officer observing fill placement and compaction effort.

CULVERT CROSSECTION

2 0 2 4 6
SCALE OF FEET

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

COLUMBIA/SNAKE RIVER SALMON RECOVERY PROGRAM
WENATCHEE SUBBASIN

WENATCHEE SUBBASIN

COULTER CREEK BARRIER REPLACEMENT PROJECT
CULVERT PROFILE AND SECTIONS

REV. NO.	DATE	DESCRIPTION
1	2014-05-15 Steve Montague, P.E. STEVE MONTAGUE, P.E.	100 Changed Culvert Dimension. Updated drawing to BOR standards. Added coarse bands.

Colin Forsyth
DESIGNED
Colin Forsyth
DRAWN
Steve Montague, P.E.
CHECKED
Colin Forsyth
TECH. APPR. NAME, PROF. ABBR.
Sharon Parkinson, P.E.
ADMIN. APPROVAL
NAME Sharon Parkinson, P.E.
TITLE Program Manager

BOISE, ID 2014-04-30

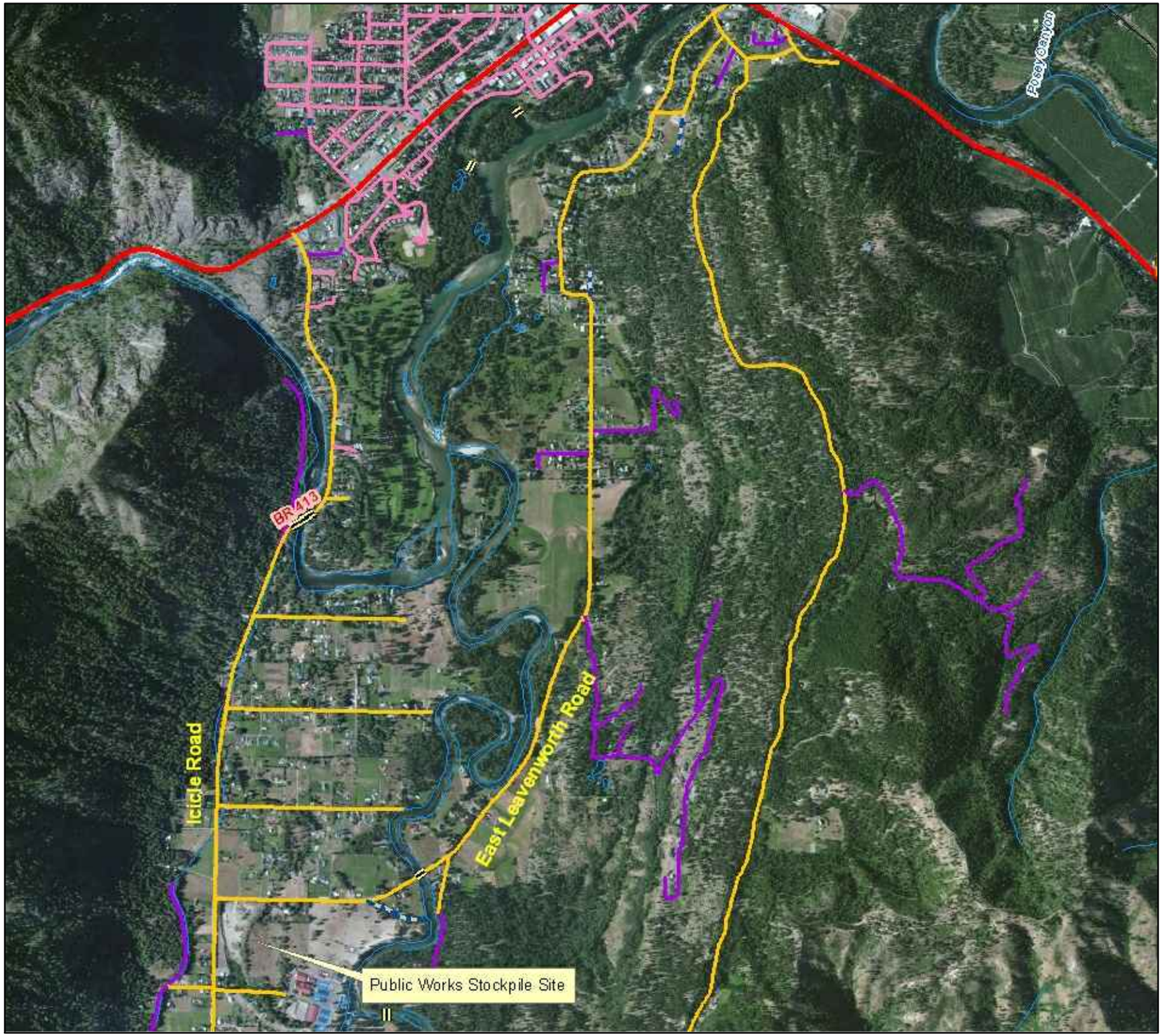
CULVERT PROFILE AND CROSSECTION

1678-100-2589

SHEET 4 OF 5

DATE AND TIME PLOTTED
MAY 23, 2014 11:51
PLOTTED BY
JPEETZ

CAD SYSTEM
AutoCAD Rel. 19.0s
CAD FILENAME
1678-100-2589_1.DWG



N.T.S.

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

COLUMBIA/SNAKE RIVER SALMON RECOVERY PROGRAM

COULTER CREEK BARRIER REPLACEMENT
WENATCHEE SUBBASIN
ENGINEERED STREAM MATERIAL LOCATION MAP

REV NO

Colin Forsyth
DESIGNED
Colin Forsyth
DRAWN
Steve Montague, P.E.
CHECKED
Colin Forsyth
TECH. APPR. NAME, PROF. ABBR.
Sharon Parkinson, P.E.
ADMIN. APPROVAL
NAME Sharon Parkinson, P.E.
TITLE Program Manager

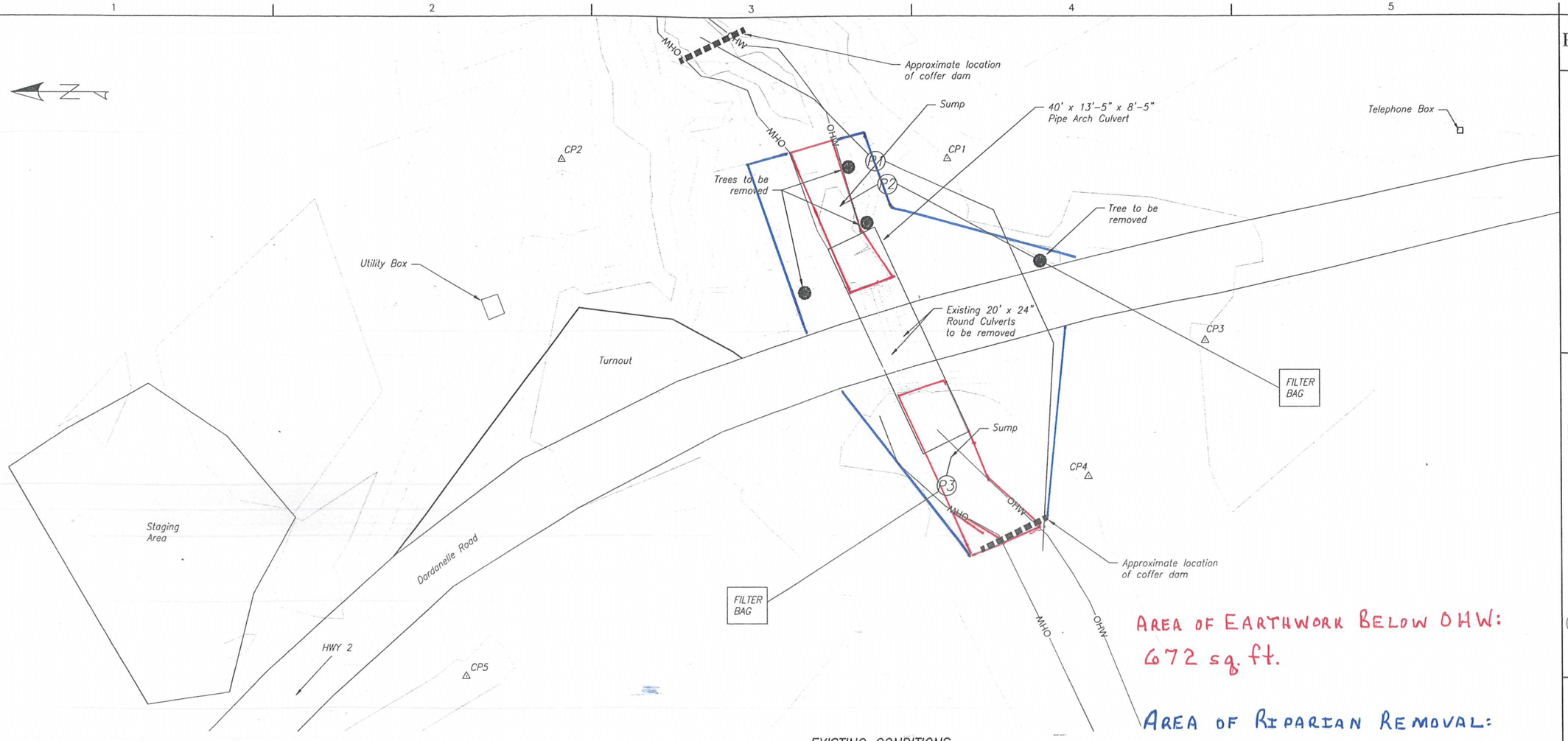
BOISE, ID 2014-04-30

ENGINEERED STREAM MATERIAL LOCATION MAP

1678-100-2590
SHEET 5 OF 5

DATE AND TIME PLOTTED
MAY 23, 2014 11:00
PLOTTED BY
JPEITZ

CAD SYSTEM
AutoCAD Rel. 19.0s
CAD FILENAME
1678-100-2590.DWG



EXISTING CONDITIONS

SCALE OF FEET

AREA OF EARTHWORK BELOW OHW: 672 sq. ft.

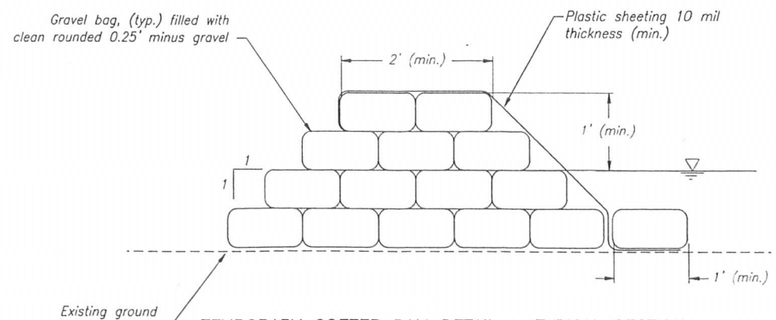
AREA OF RIPARIAN REMOVAL: 1271 sq. ft.

LEGEND

- P1 — Pump stream around excavation area
- P2 — Pump dirty water from an excavated and lined sump to filter bag
- P3 — Pump dirty water from an excavated and lined sump to filter bag

CONTROL POINTS

POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
CP1	5000.0	5000.0	5000.0	YELLOW CAP REBAR
CP2	5069.9	5000.0	5001.8	YELLOW CAP REBAR
CP3	4953.4	4967.9	5000.2	YELLOW CAP REBAR
CP4	4974.6	4943.9	4995.6	YELLOW CAP REBAR
CP5	5087.0	4908.4	5005.7	YELLOW CAP REBAR



TEMPORARY COFFER DAM DETAIL – TYPICAL SECTION

SCALE OF FEET

NOTES:

1. Existing underground utility locations have not been identified and are not shown on these plans. The contractor is responsible to locate and protect utilities during construction as described in section 1-07.17 of the WSDOT standard specifications. The telephone number for the one call center for utility locates is 1-800-424-5555.
2. Locations of control points will be clearly marked by the contracting agency.
3. The contractor shall place temporary dams in Coulter Creek upstream and downstream of the culvert location to keep water and fish from entering the active construction area. The exact location of the temporary dams shall be coordinated with the contracting officer. The contractor shall furnish and operate a pump, or pumps, capable of bypassing the entirety of Coulter Creek streamflow. Flow conditions can vary seasonally and extended periods of rainfall will increase flow. All pumps used by the contractor for dewatering shall have screened intakes that meet WDFW specifications and juvenile fish screening criteria.
4. The contractor shall notify the contracting officer a minimum of 5 working days in advance of temporary dam construction to coordinate fish removal. The contracting agency will be responsible for all fish removal and handling.
5. Dewatering within the work area shall be performed to the extent necessary for contractor to perform all work in the dry. Discharge from dewatering is not permitted in wetland areas. Due to a lack of area appropriate for filtering sediment prior to re-entering creeK, all dirty water pumped from the excavation site shall be discharged through a punch woven geotextile filter bag suitable for filtering out sand, silt, and sediment and sized appropriately for the pump discharge rate.
6. Contractor may propose other methods of dewatering. The locations of temporary dams, pumps and discharge locations shown on this sheet are approximate and are intended to schematically represent one method of dewatering the project area. The contractor shall submit a dewatering plan as described in the specifications prior to construction for review and approval by the contracting agency. Significant deviations from the methods shown may require approval by WDFW.

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

COLUMBIA/SNAKE RIVER SALMON RECOVERY PROGRAM

COULTER CREEK BARRIER REPLACEMENT

WENATCHEE SUBBASIN

PROJECT OVERVIEW, DEWATERING PLAN

REV. NO	DATE	DESCRIPTION
1	2014-05-23	100 Updated drawing to BOR standards. Steve Montague, P.E.

Colin Forsyth — DESIGNED
Colin Forsyth — DRAWN
Steve Montague, P.E. — CHECKED
Colin Forsyth — TECH. APPR. (NAME, PROF. ABBR.)
Sharon Parkinson, P.E. — ADMIN. APPROVAL (NAME Sharon Parkinson, P.E. TITLE Program Manager)
BOISE, ID — 2014-04-

PROJECT OVERVIEW, DEWATERING PLAN

1678-100-2588

SHEET 3 OF 5

DATE AND TIME PLOTTED MAY 23, 2014 10:56
PLOTTED BY JPEETZ

CAD SYSTEM AutoCAD Rel. 19.0s
CAD FILENAME 1678-100-2588.DWG

Coulter Creek Culvert Replacement
Area of Potential Effect Map for Cultural Resources Review

N

0 65 130 260
Feet

Legend: Area of Potential Effect