Oregon
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May 13, 2011

Carol S. Franson
US Army Corps of Engineers
CENWP-OD-GE
1600 Executive Parkway, Suite 210
Eugene, OR 97401-2156

Dear Ms. Franson:

The Department of Environmental Quality (DEQ) has reviewed the U.S. Army Corps of Engineers (USACE) Permit application #2010-00576, Oregon Department of State Lands (DSL) Permit 46125-RF received on February 18, 2011. The Applicant, Calapooia Watershed Council, proposes impacts to Sodom Ditch and the Calapooia River to remove the Sodom and Shearer Dams, and install grade control, bank stabilization, and habitat structures.

DEQ has evaluated the applications for consistency with applicable provisions of Sections 301, 302, 303, 306, and 307 of the federal Clean Water Act, state rules in Oregon Administrative Rules (OAR) Chapter 340, Divisions 41 and 48, and other relevant requirements of state law.

The Sodom Dam portion of the project is located on the Sodom Ditch adjacent to Knife River Pit Road, southeast of the town of Shedd, Linn County, Oregon (Section 27, T13S/R3W). The Calapooia River portion of the project is located on the Calapooia River near Roberts Road, southeast of the town of Thompson's Mills, Linn County, Oregon (Section 8, T13S/R3W).

Project Description: The project will provide fish passage, restore historic flows, and improve aquatic habitat in the Sodom Ditch and Calapooia River, through removal of Sodom Dam and Shearer Dam, which currently inhibit free passage for migrating fish.

Dam removal elements include: isolation of the work areas by the installation of bulk bag and rock cofferdams, and floating turbidity curtains; excavator work pads constructed upstream of the dams using imported 12-inch minus rounded rock; concrete demolition using a tracked excavator fitted with a hydraulic pick and working from the streambank.

Sodom Ditch Restoration elements include: placement of boulders in the bypass channel to provide velocity breaks to ensure fish passage through the former dam site; channel reconstruction to build three engineered riffles, and three pools over a 1,500 linear foot reach; placement of large wood habitat structures; and planting of native vegetation on disturbed banks.

Calapooia River Restoration elements include: engineered placement of excavator pad rock and additional imported rock to provide a channel bed through the former dam site and a stable transition from the inlet at the Sodom Ditch bifurcation; and placement of large wood habitat structures at the bifurcation and spanning the length of the former dam footprint to provide habitat and riverbank stability.

The total impacts of the project are expected to be up to 1,500 linear feet in Sodom Ditch and up to 300 linear feet of the Calapooia River. Compensatory mitigation was not proposed for these impacts, but it's anticipated that the project will result in improvements to water quality and beneficial use habitat.

Sediment Characterization: The sediments proposed for disturbance were evaluated following the protocol of the Sediment Evaluation Framework for the Pacific Northwest, May 2009 (SEF). Project Evaluation Group (PRG) reviewed the project and found that due to the small project volume and low likelihood that the sediment contains contaminants above SEF benthic toxicity screening levels, the approximately 1,000 cy of accumulated material is suitable for unconfined, aquatic release.

Status of Affected Waters of the State: Sodom Ditch and the Calapooia River are tributary to the Willamette River, and all are classified as water quality limited under the Clean Water Act. Sodom Ditch is on the Clean Water Act Section 303(d) list of impaired waterbodies for the parameter of Temperature. The Calapooia River is on the Clean Water Act Section 303(d) list of impaired waterbodies for the parameters of: Dissolved Oxygen; E Coli; Fecal Coliform; Flow Modification; Iron; Manganese; Temperature; and with potential concern for the parameters of: Alkalinity; Arsenic; Copper; Hexavalent Chromium; Nickel; and Phosphorus. In the Willamette River, US Environmental Protection Agency (EPA) approved Total Maximum Daily Loads (TMDLs) have been developed for the parameters of: Bacteria; Dioxin; Mercury; and Temperature; the Willamette is on the Clean Water Act Section 303(d) List for the parameters of: Dissolved Oxygen, Iron, DDT, DDE (DDT metabolite), PCB, Arsenic, Aldrin, Dieldrin, Polynuclear Aromatic Hydrocarbons (PAHs), Fecal Coliform, Manganese, Pentachlorophenol, and Biological Criteria; and other parameters listed for potential concern include: Hexavalent Chromium, Lead, Copper, Nickel, Zinc, Parathion, Malathion, Fluoranthene, Chrysene, DDD, Benzo(A)pyrene, and Benzo(A)anthracene.

Beneficial Use Designations: The above listed parameters impair the following beneficial uses in Sodom Ditch, the Calapooia River and the Willamette River: salmon and steelhead spawning and rearing; salmon and trout rearing and migration; anadromous fish passage; core cold water habitat; cool-water aquatic life; resident trout spawning; resident fish and aquatic life; drinking water; human health; fishing; and water contact recreation.

Based on the application and consideration of public comment, DEQ is reasonably assured that construction of the project will be consistent with applicable provisions of Sections 301, 302, 303, 306, and 307 of the federal Clean Water Act, state water quality standards set forth in OAR Chapter 340 Division 41, and other appropriate requirements of state law, provided the following conditions are incorporated into the USACE permit and strictly adhered to by the applicant.

CONDITIONS

1) **Duration of Certification:** This 401 Water Quality Certification (WQC) is valid until closure of the in-water timing window (see Condition 2) of the fifth year after issuance of the USACE permit. A new 401 WQC must be obtained prior to any substantial modification of the USACE permit.

2) **Fish protection/ODFW timing:** All in-water work shall occur within the Oregon Department of Fish and Wildlife's (ODFW) preferred time window, as specified in Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources, June 2008, or most current version. Exceptions to the work timing window must be reviewed and approved in writing in advance by ODFW and National Marine Fisheries Service (NMFS).

3) **Aquatic life movements:** No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species that normally migrate through the area. Unobstructed fish passage must be provided for at all times during dredging and disposal activities. Exceptions to this condition must be reviewed and approved in writing in advance by ODFW and NMFS.

4) **Isolation of in-water work areas:** Isolation of work from the active, flowing stream at all project areas in, over, or near water must be accomplished to the maximum extent practicable. Methods of isolation include, but are not limited to: timing work at low water so as to effectively work in the dry; using silt curtains; cofferdams; inflatable bags; geo blocks; sandbags; sheet pilings; or similar materials. TriMet and its contractors are referred to Appendix D of DEQ's *Oregon Sediment and Erosion Control Manual*, April 2005, for isolation techniques.
http://www.deq.state.or.us/wq/stormwater/docs/escmanual/appxd.pdf

(a) Under high flow conditions that may result in inundation of any project area in, over, or near water, project operations must cease, except for efforts to avoid or minimize turbidity or other resource damage as a result of the exposed project area.

(b) If isolation measures become compromised, immediately:
   i. Instigate repairs, contingency measures, and fish salvage.
   ii. Notify ODFW, DEQ, NMFS, and USACE.
   iii. Implement turbidity monitoring and sediment and erosion control BMPs per Conditions 5 and 6 (below).

5) **Turbidity:** All practical Best Management Practices (BMPs) on disturbed banks and within the stream must be implemented to minimize turbidity during in-water work. Any activity that causes turbidity to exceed 10% above natural stream turbidities is prohibited except as specifically provided below.

(a) **Monitoring:** Turbidity monitoring must be conducted and recorded as described below. Monitoring must occur each day during daylight hours when in-water work is being conducted. A properly and regularly calibrated turbidimeter is recommended, but visual monitoring is acceptable. *Turbidity that is visible over background is considered an exceedance.*

   i. Representative Background Point: a sample or observation must be taken every four hours at a relatively undisturbed area approximately 100 feet upcurrent from in-water disturbance to establish background turbidity levels for each monitoring cycle. Background turbidity, location, date, and time must be recorded prior to monitoring downcurrent.

ii. Compliance Point: Monitoring must occur every four hours, approximately 200 feet downcurrent from the point of disturbance, at approximately mid-depth and within any visible plume, and be compared against the background measurement. The turbidity, location, date, and time must be recorded for each sample.

(b) **Compliance:** Results from the compliance points must be compared to the background levels taken during each monitoring interval. Exceedances are allowed as follows:

MONITORING WITH A TURBIDIMETER		
ALLOWABLE EXCEEDANCE TURBIDITY LEVEL	ACTION REQUIRED AT 1ST MONITORING INTERVAL	ACTION REQUIRED AT 2ND MONITORING INTERVAL
0 to 5 NTU above background	Continue to monitor every 4 hours	Continue to monitor every 4 hours
5 to 29 NTU above background	Modify BMPs & continue to monitor every 4 hours	Stop work after 8 hours at 5-29 NTU above background
30 to 49 NTU above background	Modify BMPs & continue to monitor every 2 hours	Stop work after 2 hours at 30-49 NTU above background
50 NTU or more above background	Stop work	Stop work
VISUAL MONITORING		
No plume observed	Continue to monitor every 4 hours	Continue to monitor every 4 hours
Plume observed	Modify BMPs & continue to monitor every 4 hours	Stop work after 8 hours with an observed plume

If an exceedance over the background level occurs, the applicant must modify the activity and continue to monitor every two hours. **If an exceedance over the background level continues after the second monitoring interval, the activity must stop until the turbidity levels return to background.** If, however, turbidity levels return to background at or after second monitoring level due to implementation of BMPs or natural attenuation, work may continue with appropriate monitoring as above.

If an exceedance occurs at: 50 NTU or more over background; 30 NTU over background for 2 hours; or 5-29 NTU over background for 8 hours, the activity must stop immediately for the remainder of that 24-hour period.

(c) **Reporting:** Copies of daily logs for turbidity monitoring must be available to DEQ, USACE, NMFS, and ODFW upon request. The log must include: background NTUs, compliance point NTUs, comparison of the points in NTUs, and location, time, and date for each reading. Additionally, a narrative must be prepared discussing all exceedances with subsequent monitoring, actions taken, and the effectiveness of the actions.

(d) **BMPs to Minimize In-stream Turbidity:**

i. Sequence/Phasing of work – The applicant must schedule work activities so as to minimize in-water disturbance and duration of in-water disturbances;

ii. Machinery must not be driven into the flowing channel;

iii. Excavated or staged fill material must be placed so that it is isolated from the water edge or wetlands and not placed where it could re-enter waters of the state uncontrolled; and,
iv. Use of containment measures such as berms, silt curtains, geotextile fabric, and silt fence must be implemented and properly maintained in order to minimize in-stream sediment suspension and resulting turbidity.

6) **Erosion Control**:

(a) Projects which disturb one acre or more require an NPDES 1200C Storm Water Discharge Permit. Contact the appropriate DEQ regional office for more information (Contact information can be found at: http://www.deq.state.or.us/wq/).

(b) For projects which disturb less than one acre, the applicant is required to develop and implement an effective erosion and sediment control plan. Refer to DEQ's *Oregon Sediment and Erosion Control Manual*, April 2005 at: http://www.deq.state.or.us/wq/stormwater/escmanual.htm.

7) **Spill Prevention:** Vehicles must be fueled, operated, maintained, and stored and construction materials must be stored in areas that minimize disturbance to habitat and prevent adverse effects from potential discharges. In addition, the following specific requirements apply:

(b) Vehicle staging, cleaning, maintenance, refueling, and fuel storage must take place in a vehicle staging area placed 150 feet or more from any waters of the state.
(c) All vehicles operated within 150 feet of any waters of the state must be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected must be repaired before the vehicle resumes operation;
(d) Before operations begin and as often as necessary during operation, equipment must be steam cleaned (or undergo an approved equivalent cleaning) until all visible external oil, grease, mud, and other visible contaminates are removed if the equipment will be used below the bank of the water body; and,
(e) An adequate supply of materials (such as straw matting/bales, geotextiles, booms, diapers, and other absorbent materials) needed to contain spills must be maintained at the project construction site and deployed as necessary.

7) **Spill & Incident Reporting:**

(a) In the event that petroleum products, chemicals, or any other deleterious materials are discharged into state waters, or onto land with a potential to enter state waters, the discharge must be promptly reported to the Oregon Emergency Response Service (OERS, 1-800-452-0311). Containment and cleanup must begin immediately and be completed as soon as possible.
(b) If the project operations cause a water quality problem that results in distressed or dying fish, the operator must immediately: cease operations; take appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ, ODFW, NMFS and USFWS.

8) **Vegetation Protection and Restoration:**

(a) Riparian, wetland, and shoreline vegetation in the authorized project area must be protected from disturbance to the maximum extent practicable through one or more of the following:

i. Minimization of project and impact footprint;
ii. Designation of staging areas and access points in open, upland areas;
iii. Fencing and other barriers demarking construction areas; and,
iv. Use of alternative equipment (e.g., spider hoe or crane).

(b) If authorized work results in unavoidable vegetative disturbance and the disturbance has not been accounted for in planned mitigation actions, riparian, wetland and shoreline vegetation must be successfully reestablished to a degree that it functions (for water quality purposes) at least as well as it did before the disturbance. The vegetation must be reestablished by the completion of authorized work.

9) The applicant must notify DEQ of any change in ownership and obtain DEQ review and approval before undertaking any change to the project that might significantly affect water quality.

10) DEQ may modify or revoke this 401 WQC, in accordance with OAR 340-048-0050, in the event of project changes or new information indicating that the project activities are having a significant adverse impact on state water quality or beneficial uses.

11) A copy of this WQC letter shall be kept on site and readily available for reference by the applicant and its contractors, USACE, DEQ, NMFS, ODFW, and other appropriate state and local government inspectors.

12) This WQC is invalid if the project is operated in a manner not consistent with the project description contained in the permit application materials.

13) The applicant and its contractors must allow DEQ site access at reasonable times as necessary to monitor compliance with these 401 WQC conditions.

If you are dissatisfied with the conditions contained in this certification, you may request a contested case hearing in accordance with OAR 340-048-0045. Such request must be made in writing to the DEQ Office of Compliance and Enforcement at 811 SW 6th Avenue, Portland Oregon 97204 within 20 days of the mailing of this certification.

Carol Franson

The DEQ hereby certifies this project in accordance with the Clean Water Act and state rules, with the above conditions. If you have any questions, please contact Peter Anderson at 503 229-5051.

Sincerely,

Greg Geist
Water Quality Manager
Northwest Region

T:PA.certfran.10-576

cc: Calapooia Watershed Council
Gloria Kiryuta, DSL