DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
EUGENE FIELD OFFICE
211 EAST 7th AVENUE SUITE 105
EUGENE OR 97401-2722

REPLY TO
ATTENTION OF:

May 29, 2015

Operations Division
Regulatory Branch
Corps No. NWP-2001-860/4

Aaron Cubic
City of Grants Pass
101 NW A Street
Gants Pass OR 97526

Dear Mr. Cubic:

The U.S. Army Corps of Engineers (Corps) received your request for Department of the Army authorization to replace a culvert. The project is located in Gilbert Creek in Grants Pass, Josephine County, Oregon. The site is in Section 7, Township 36 South, Range 5 West.

The applicant proposes to excavate up to 200 cubic yards of culvert and concrete. They will discharge 62 cubic yards of material to install a bridge and provide grade control with improved fish passage. The project is shown on the enclosed drawings (Enclosure 1).

This letter verifies that your project is authorized under the terms and limitations of Nationwide Permit (NWP) No. 14 (Linear Transportation). Your activities must be conducted in accordance with the conditions found in the Portland District NWP Regional Conditions (Enclosure 2) and the NWP General Conditions (Enclosure 3). You must also comply with the Oregon Department of Environmental Quality (DEQ) Water Quality Certification Conditions (Enclosure 4), and the project specific conditions lettered (a) through (i) below. **Failure to comply with any of the listed conditions could result in the Corps initiating an enforcement action.**

a. Permittee shall notify the Regulatory Branch with the date the activities authorized in waters of the United States are scheduled to begin. Notification shall be sent by e-mail to cenwp.notify@usace.army.mil or mailed to the following address:

U.S. Army Corps of Engineers
CENWP-OD-GC
Permit Compliance, Josephine County
PO Box 2946
Portland, Oregon 97208-2946

The subject line of the message shall contain the name of the county in which the project is located followed by the Corps of Engineers permit number.

b. Permittee shall ensure a Professional Archaeologist is onsite to monitor all ground disturbing activities within the permit area to ensure an archaeological site or cultural resource is not adversely affected.

c. Permittee shall immediately notify the Corps at the letterhead address if at any time during the authorized work, human remains and/or cultural resources are discovered within the permit area. We also draw your attention to Regional Condition 2.

d. In the event cultural resources and/or historic properties are discovered during the any phase of the authorized work, the Permittee shall fully implement the recommendations outlined in the Inadvertent Discovery Plan (Enclosure 5).

e. Permittee shall ensure all artifacts and records generated and/or collected from the monitoring of the project area be properly curated and a final technical report prepared by the permittee's contractor in accordance with the scope of work as stated in the project description above. The final technical report shall be submitted to the Corps at the address listed in Special Condition (a), Oregon SHPO, Oregon Commission on Indian Services, National Park Service, and Tribes.

f. Permittee shall perform all in-water work, including temporary fills or structures, during the in-water work window of June 15 to September 15 to minimize impacts to aquatic species unless coordinated with and subsequently approved by the Corps. We also draw your attention to Regional Condition 3.

The Corps has determined the proposed project may affect Southern Oregon/Northern California Coast (SONCC) Coho Salmon, a species protected by the Endangered Species Act, and Essential Fish Habitat for salmon species as designated under the Magnuson-Stevens Fishery Conservation and Management Act. The Corps utilized a programmatic biological opinion to assess compliance with these laws and provide coverage for incidental take. The biological opinion is titled *Revisions to the Standard Local Operating Procedures for Endangered Species to Administer Maintenance or Improvement of Stormwater, Transportation or Utilities Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon (SLOPES V Stormwater, Transportation, Utilities)*, dated March 14, 2014. The Corps recommends that you review the SLOPES opinion in its entirety. Please contact us for a copy of the SLOPES opinion.

The programmatic consultation also requires that we provide you with the following notice:

> If a sick, injured or dead specimen of a threatened or endangered species is found, the finder must notify NMFS' Office of Law Enforcement at 503-231-6240 or 206-526-6133. The finder must take care in handling of sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of

cause of death. The finder also has the responsibility to carry out instructions provided by the Office of Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

g. Permittee shall fully implement all applicable nondiscretionary Terms and Conditions of the Reasonable and Prudent Measures of the SLOPES V Stormwater, Transportation and Utilities programmatic opinion. General Construction conditions applicable to the permitted activity are numbered 14, 18, 19, 30, 34, and 42. (Enclosure 6).

h. Permittee shall notify the Corps if the project changes in scope or is otherwise modified. The Corps is required to reinitiate consultation on this action where discretionary Federal involvement or control over the action has been retained or is authorized by law and (a) the amount or extent of taking specified in the Incidental Take Statement is exceeded, (b) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, (c) the identified action is subsequently modified in a manner that has an effect to the listed species or critical habitat that was not considered in the biological opinion; or (d) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16).

i. The project shall provide mitigation for storm water runoff as outlined in the Environmental Study for Redwood Avenue Improvement Project Grants Pass, Josephine County, Oregon, September 12, 2011 and Stormwater Mitigation (Enclosure 7). Storm water treatment is required to reduce the impacts from surface runoff that directly flows into the Rouge River.

We direct your attention to NWP Regional Condition 16 (Enclosure 2) and General Condition 29 (Enclosure 3) that requires the transfer of this permit if the property is sold, and NWP General Condition 30 that requires you to submit a signed certificate when the work is completed. A "Compliance Certification" is provided (Enclosure 8). If archaeological monitoring is required as a special condition of this permit you must have the archaeologist sign the Compliance Certification prior to submittal.

We have prepared a Preliminary Jurisdictional Determination (JD), which is a written indication that wetlands and waterways within your project area may be waters of the United States (Enclosure 9). Such waters have been treated as jurisdictional waters of the United States for purposes of computation of impacts and compensatory mitigation requirements. If you concur with the findings of the Preliminary JD, please sign it and return it to the letterhead address within two weeks. If you believe the Preliminary JD is inaccurate, an Approved JD may be requested, which is an official determination regarding the presence or absence of waters of the United States. If you will like an Approved JD, one must be requested prior to starting work within waters of the United States. Once work within waters of the United States has been started, the opportunity to request an Approved JD will no longer be available.

This authorization does not obviate the need to obtain other permits where required. Permits, such as those required from the Oregon Department of State Lands (ODSL) under Oregon's Removal /Fill Law, must also be obtained before work begins. The DEQ water quality certification conditions (Enclosure 4) require you to obtain DEQ approval of your stormwater management plan prior to initiating construction. Please contact the 401 Water Quality Certification Coordinator, Oregon Department of Environmental Quality, 2020 SW Fourth Avenue, Suite 400, Portland, Oregon, 97201-4987, by telephone at (503) 229-6030, or visit http://www.deq.state.or.us/wq/sec401cert/removalfill.htm.

The nationwide permits expire on March 18, 2017. This verification is valid until March 18, 2017 unless the NWP is modified or revoked prior to that date. If you commence or are under contract to commence this activity before the date the NWP expires, is modified, or revoked, you will have 12 months from the date of the expiration, modification, or revocation to complete the activity under the present terms and conditions of the current NWP.

We will like to hear about your experience working with the Portland District, Regulatory Branch. Please complete a customer service survey form at the following address: http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

If you have any questions regarding this NWP verification, please contact Andrea Wagner at the letterhead address, by telephone at (541) 465-6882, or email andrea.r.wagner@usace.army.mil.

FOR THE COMMANDER, JOSE L. AGUILAR, COLONEL, CORPS OF ENGINEERS, DISTRICT COMMANDER:

for Shawn H. Zinszer
Chief, Regulatory Branch

Enclosures

Copy Furnished:

Oregon Department of State Lands (Harrington)
Oregon Department of Environmental Quality (English)

Corps ID No: _____

REQUEST FOR PERMIT TRANSFER PER GENERAL CONDITION 29

When the structures or work verified by this nationwide are still in existence at the time the property is transferred, and/or a new party obtains this permit verification, the terms and conditions of this permit will continue to be binding on the new permittee. The new permittee should sign and date below to accept the liabilities associated with complying with the terms and conditions of this permit verification, and to validate its transfer.

PERMIT TRANSFEREE:

_____ _____
Signature DATE

_____
Name (Please print)

_____
Street Address

_____
City, State, and Zip Code

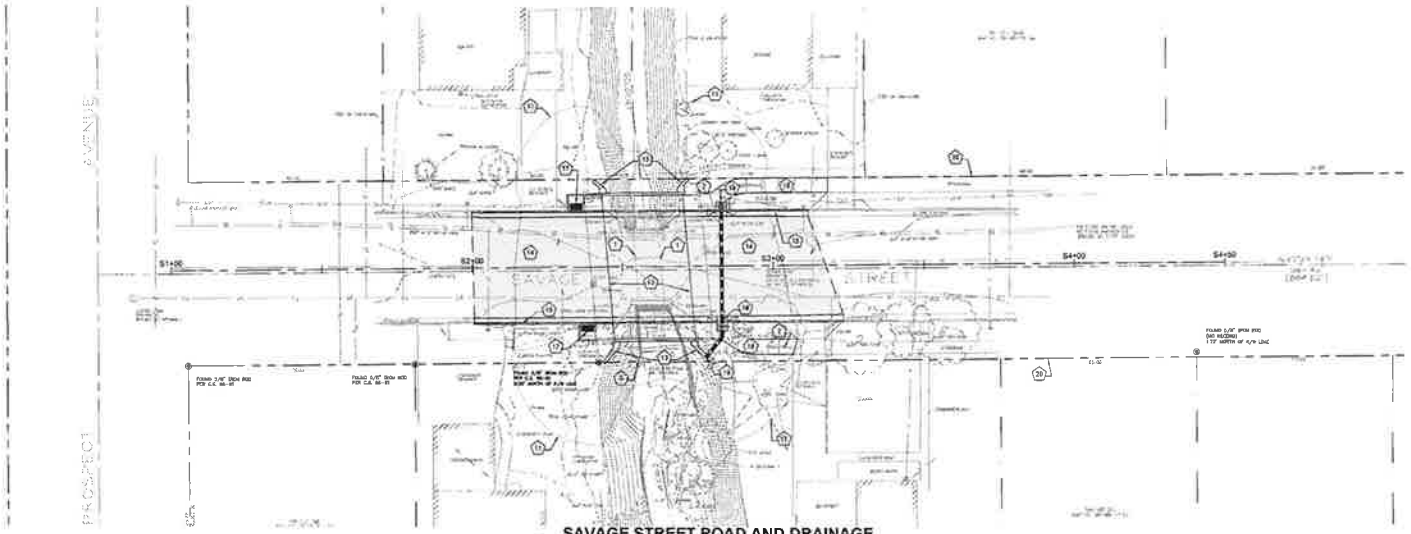
NEW OWNER (if applicable):

_____ _____
Signature DATE

_____
Name (Please print)

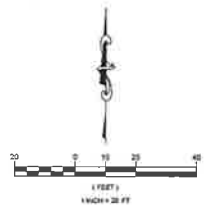
_____
Street Address

_____
City, State, and Zip Code



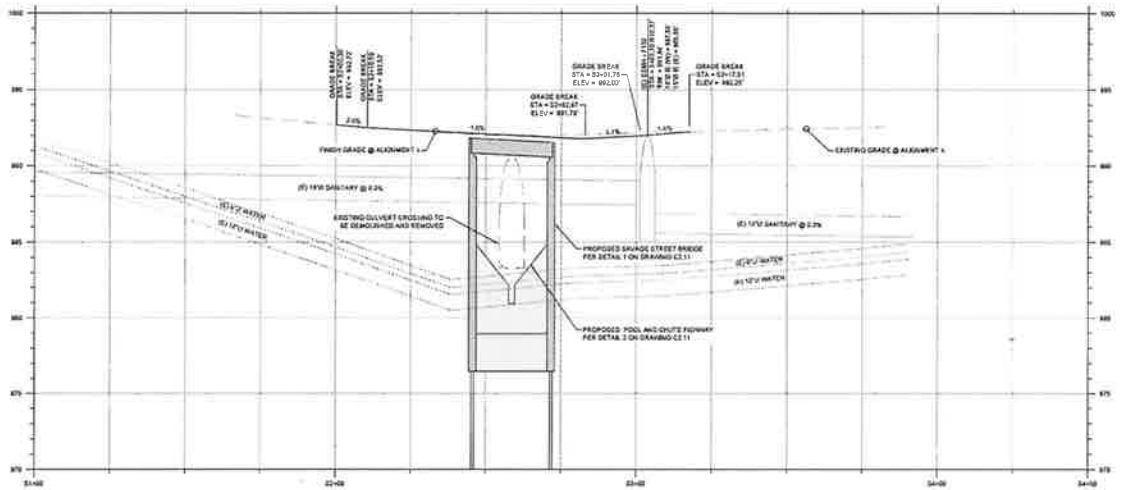
SAVAGE STREET ROAD AND DRAINAGE PLAN: STA S1+00 TO STA S4+50

1" = 20'



CONSTRUCTION NOTES - PLAN:

1. REMOVE EXISTING GILBERT CREEK CROSSING AND DOWNSTREAM WEIR TO FACILITATE CONSTRUCTION.
2. REMOVE EXISTING CONCRETE SIDEWALK TO FACILITATE CONSTRUCTION.
3. REMOVE EXISTING GILBERT CREEK STORMWATER OUTFALL TO FACILITATE CONSTRUCTION.
11. APPROXIMATE TEMPORARY CUT LIMITS (1.5' HORIZONTAL, 1' VERTICAL) WITHOUT SHORING.
12. PROPOSED SAVAGE STREET BRIDGE PER DETAIL 1 ON DRAWING C5.11. REFER TO DETAIL 2 ON DRAWING C5.11 FOR PROPOSED POOL AND CHUTE FISHWAY.
13. PROPOSED WINGWALL PER DETAIL 1 ON DRAWINGS C5.11.
14. PROPOSED ASPHALT SURFACING CONSISTING OF (3) 2" LIFTS OF 1/2" ODOT SPECIFICATION LEVEL 2 ACP, OVER 8" OF COMPACTED 3/4"-0 CRUSHED ROCK, OVER 14" OF COMPACTED 4"-6 CRUSHED ROCK, OVER WOVEN GEOTEXTILE.
15. PROPOSED CURB AND GUTTER PER CITY OF GRANTS PASS STANDARD DRAWING NO. 103.
16. PROPOSED 5' WIDE SIDEWALK SIMILAR TO CITY OF GRANTS PASS STANDARD DRAWING NO. 105-A.
17. PROPOSED PARALLEL SIDEWALK RAMP SIMILAR TO CITY OF GRANTS PASS STANDARD DRAWING NO. 101-A.
18. PROPOSED TYPE 8" CONCRETE CURB INLET PER CITY OF GRANTS PASS STANDARD DRAWING NO. 103 WITH BIO-CLEAN ENVIRONMENTAL SERVICES, INC. ROUND CURB INLET FILTER.
19. PROPOSED 12"Ø STORMWATER OUTFALL THROUGH FACE OF EAST DOWNSTREAM WINGALL.
20. EXISTING RIGHT-OF-WAY LINE, TYPICAL.



SAVAGE STREET ROAD AND DRAINAGE PROFILE: STA S1+00 TO STA S4+50

HORZ: 1" = 20'
VERT: 1" = 4'

CITY OF GRANTS PASS

SAVAGE STREET BRIDGE

ZBINDEN • CARTER • SOUDERS
ENGINEERING

PROJECT NO. C-0713-14
DRAWN JRK
CHECKED JRK
DATE 09-11-15

PRELIMINARY NOT FOR CONSTRUCTION

SAVAGE STREET ROAD AND DRAINAGE PLAN & PROFILE STA S1+00 TO STA S4+50

C1.11

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION

CITY OF GRANTS PASS

SAVAGE STREET BRIDGE

ZBINDEN • GRETEA • SOUDERS

ENGINEERING

PRELIMINARY NOT FOR CONSTRUCTION

GILBERT CREEK DRAINAGE PLAN & PROFILE: STA G3+50 TO STA G5+50

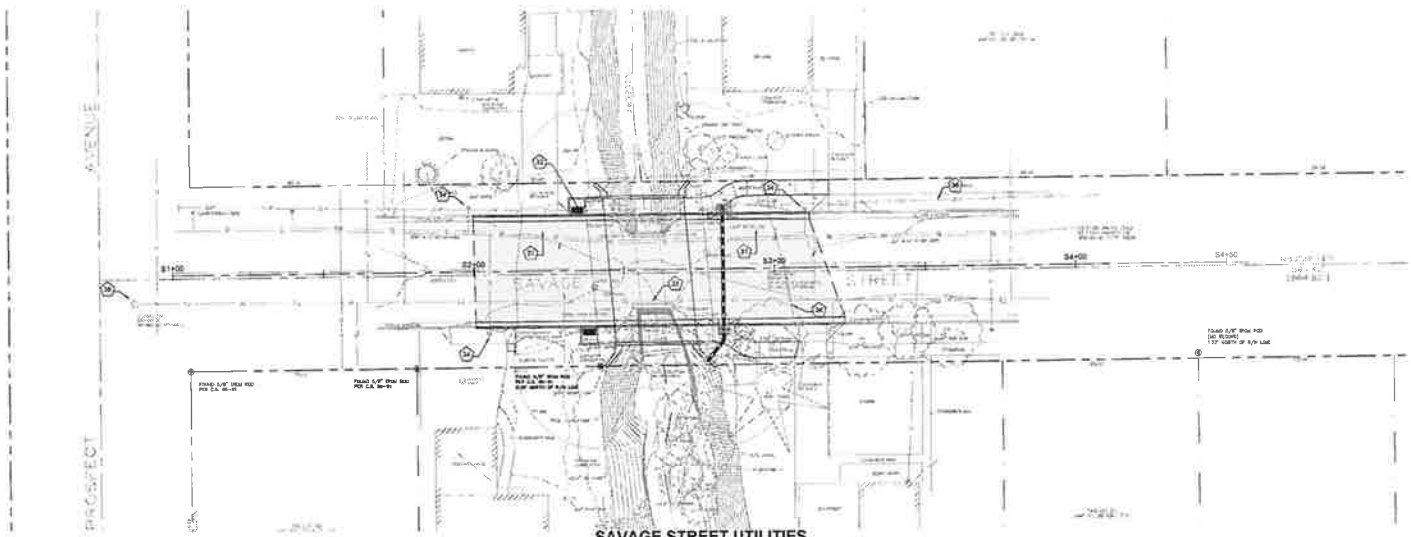
C1.21

CONSTRUCTION NOTES – PLAN:

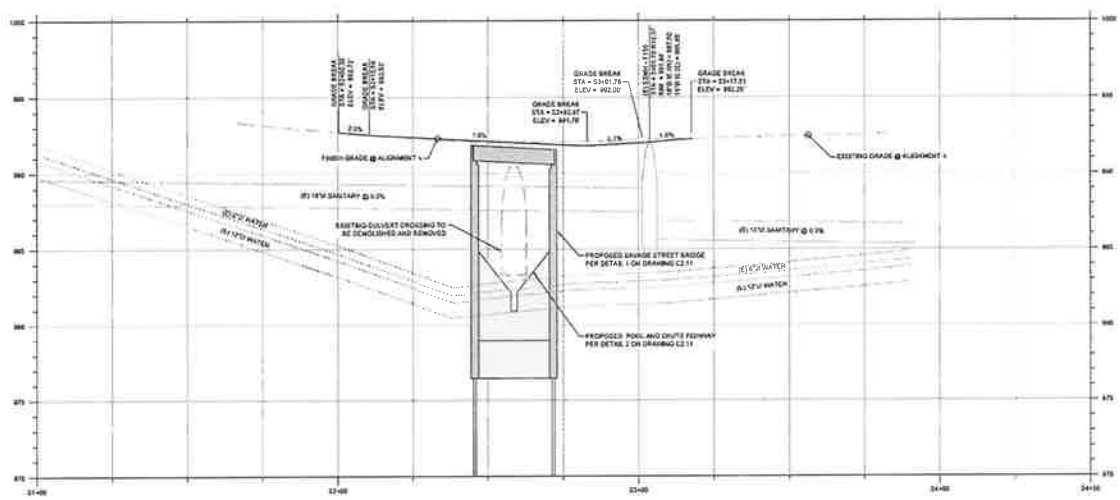
1. REMOVE EXISTING GILBERT CREEK ENCASING TO FACILITATE CONSTRUCTION.
2. APPROXIMATE TEMPORARY CUT LIMITS (1:1 HORIZONTAL : 1 VERTICAL) WITHOUT SHORING.
3. PROPOSED SAVAGE STREET BRIDGE PER DETAIL 1 ON DRAWING C3.11. REFER TO DETAIL 2 ON DRAWING C3.11 FOR PROPOSED POOL AND CHUTE FISHWAY.
4. PROPOSED WINGWALL, PER DETAIL 1 ON DRAWINGS C3.11.

GILBERT CREEK DRAINAGE
PLAN: STA G3+50 TO STA G5+50
1" = 20'

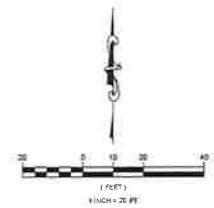
GILBERT CREEK DRAINAGE
PROFILE: STA G3+50 TO STA G5+50
HORZ: 1" = 20'
VERT: 1" = 4'



SAVAGE STREET UTILITIES
PLAN: STA S1+00 TO STA S4+50
1" = 20'



SAVAGE STREET UTILITIES
PROFILE: STA S1+00 TO STA S4+50
HORZ. 1" = 20'
VERT. 1" = 4'



CONSTRUCTION NOTES - PLAN:

31 EXISTING STACKED (6"Ø AND 12"Ø) WATER MAIN MAY REQUIRE RELOCATION TO FACILITATE CONSTRUCTION; APPROXIMATE LIMITS OF IMPACT COULD BE WITHIN 20' OF OUTSIDE LIMITS OF NEW BRIDGE ABUTMENTS.

32 EXISTING POWER TO BE RELOCATED AND/OR SUPPORTED TO FACILITATE CONSTRUCTION.

33 EXISTING SANITARY SEWER MAIN TO BE TEMPORARILY REMOVED/REPLACED TO FACILITATE CONSTRUCTION.

34 EXISTING WATER SERVICE TO REMAIN.

35 EXISTING OVERHEAD UTILITIES TO BE TEMPORARILY DISCONNECTED FOR PILE DRIVING OPERATIONS.

36 EXISTING SANITARY SEWER MANHOLE TO REMAIN.

CITY OF GRANTS PASS

SAVAGE STREET BRIDGE

ZCS
ZBINDEN • CARTER • SOUDERS
ENGINEERING

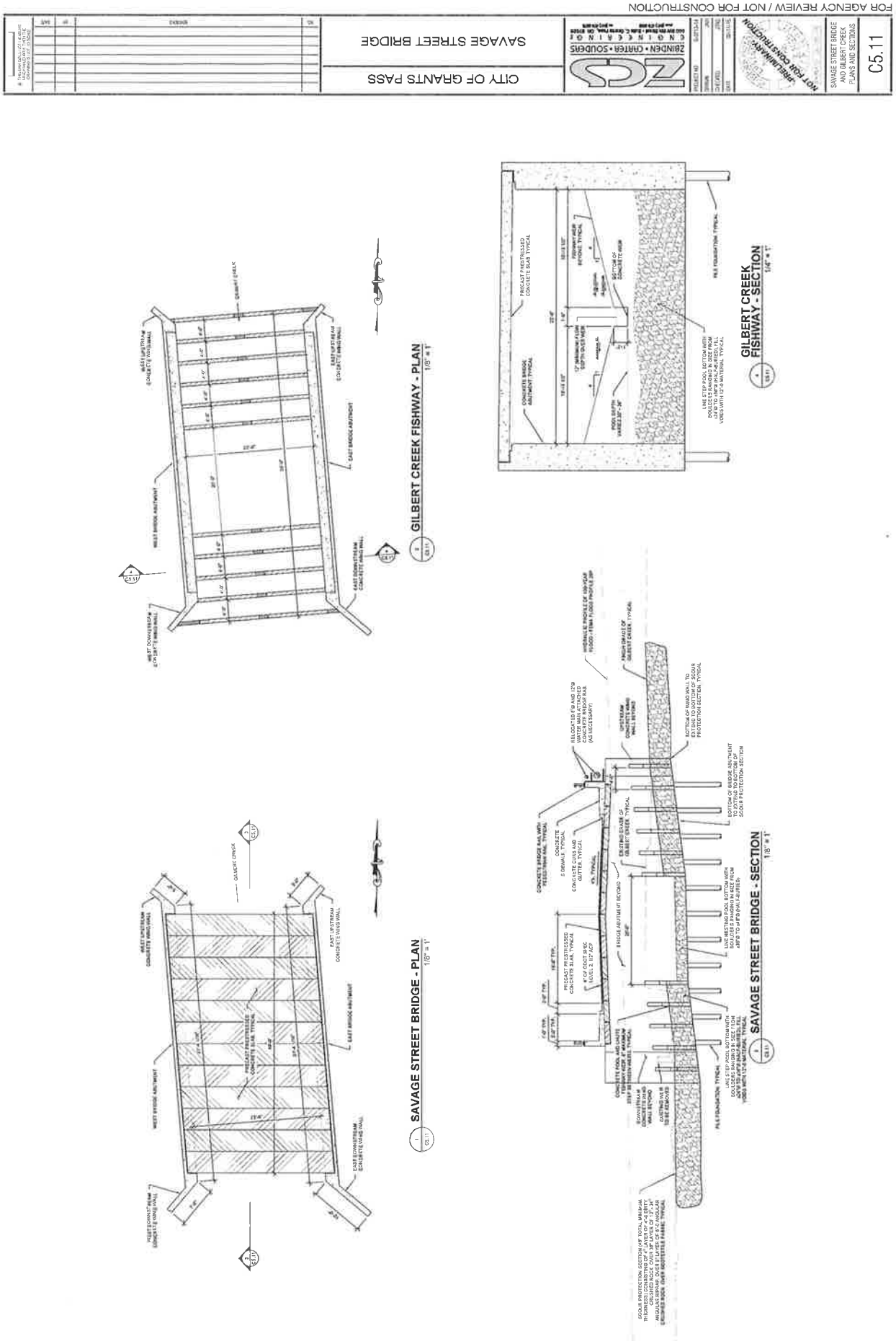
PROJECT NO. 5-0713-19
DRAWN JRH
CHECKED JTR
DATE 02-01-12

PRELIMINARY NOT FOR CONSTRUCTION

SAVAGE STREET UTILITIES
PLAN & PROFILE
STA S1+00 TO STA S4+50

C2.11

FOR AGENCY REVIEW / NOT FOR CONSTRUCTION


FOR AGENCY REVIEW / NOT FOR CONSTRUCTION
CITY OF GRANTS PASS
SAVAGE STREET BRIDGE
ZCS
ZBINDEN • CARTER • SOUDERS
ENGINEERING
PRELIMINARY
NOT FOR CONSTRUCTION
SAVAGE STREET BRIDGE AND GILBERT CREEK PLANS AND SECTIONS
C5.11
GILBERT CREEK FISHWAY - PLAN
1/8" = 1'
GILBERT CREEK FISHWAY - SECTION
1/4" = 1'
SAVAGE STREET BRIDGE - PLAN
1/8" = 1'
SAVAGE STREET BRIDGE - SECTION
1/8" = 1'

US Army Corps of Engineers
Portland District

2012 Nationwide (NWP) Regional Permit Conditions Portland District

The following Nationwide Permit (NWP) regional conditions are for the Portland District Regulatory Branch boundary. Regional conditions are placed on NWPs to ensure projects result in less than minimal adverse impacts to the aquatic environment and to address local resource concerns.

ALL NWPs –

1. **High Value Aquatic Resources:** Except for NWPs 3, 20, 27, 32, 38, and 48, any activity that would result in a loss of waters of the United States (U.S.) in a high value aquatic resource is not authorized by NWP. High value aquatic resources in Oregon include bogs, fens, wetlands in dunal systems along the Oregon coast, native eel grass (*Zostera marina)* beds, kelp beds, rocky substrate in tidal waters, marine reserves, marine gardens, vernal pools, alkali wetlands, and Willamette Valley wet prairie wetlands.

   NOTE: There are other types of wetlands in Oregon, such as mature wooded wetlands and tidal swamps, which are also considered as providing high value and functions to the State's aquatic ecosystems. Impacts to these waters will be evaluated on a case-by-case basis for potential authorization under a Nationwide Permit. For more information about the State's Wetlands of Conservation Concern" please visit http://oregonstatelands.us/DSL/PERMITS/forms.shtml#Permit_Forms

2. **Cultural Resources and Human Burials-Inadvertent Discovery Plan**: In addition to the requirements in NWP General Conditions 20 and 21 permittee shall immediately notify the Portland District Engineer if at any time during the course of the work authorized, human burials, cultural items, or historic properties, as identified by the National Historic Preservation Act and Native American Graves and Repatriation Act, are discovered. The permittee shall implement the following procedures:

   a. Immediately cease all ground disturbing activities.

   b. Project Located in Oregon: Notify the Oregon State Historic Preservation Office (503-986-0674).

   c. Project Located in Washington: Notify the Washington Department of Archaeology and Historic Preservation (360-586-3077).

   d. Notify the Portland District Engineer. Notification shall be made by fax (503-808-4375) as soon as possible following discovery but in no case later than 24 hours. The fax shall clearly specify the purpose is to report a cultural resource discovery. Follow up the fax notification by contacting the Portland District Engineer representative (by email and telephone) identified in the verification letter.

   e. Failure to stop work immediately and until such time as the Portland District Engineer has coordinated with all appropriate agencies and Native American tribes, and complied with the provisions of 33 CFR 325 (Appendix C), the National Historic Preservation Act, Native American Graves and Repatriation Act, and other pertinent regulations could result in violation of state and federal laws. Violators are subject to civil and criminal penalties.

3. **In-water Work:** In order to minimize potential impacts to water quality, aquatic species and habitat, in-water work will be limited by the following timing considerations:

   a. Permittee shall complete all in-water work within the preferred work window specified in Oregon Department of Fish and Wildlife's (ODFW) "Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources," June 2008, or most current version, available at: http://www.dfw.state.or.us/lands/inwater/Oregon_Guidelines_for_Timing_of_%20InWater_Work2008.pdf.

b. If work cannot be completed within the preferred timing window, despite every attempt to do so, permittee shall submit a request to work out side of the preferred window to the Portland District Engineer in writing. Permittee shall not begin any in-water work outside of the preferred window until they have received written approval from the District Engineer. The District Engineer will coordinate with the appropriate agencies prior to finalizing a decision.

4. **Fish and Aquatic Life passage:** In addition to the requirements of NWP General Conditions 2 and 9, all activities authorized by a NWP shall not restrict passage of aquatic life temporarily or permanently. Aquatic life shall be interpreted to include amphibians, reptiles, and mammals whose natural habitat includes waters of the United States and which are generally present in and/or around waters of the United States.

   a. Activities such as the installation of culvert, intake structures, diversion structures, or other modifications to stream channel morphology must conform to fish passage standards developed by the ODFW and the National Marine Fisheries Service (NMFS). ODFW's standards can be found at OAR 635-412-0035; ODFW provides an overview at http://www.dfw.state.or.us/fish/passage/ and NMFS provides an overview at http://www.nwr.noaa.gov/Salmon-Hydropower/FERC/upload/Fish-Passage-Design.pdf.

5. **Fish Screening:** The permittee shall ensure that all intake pipes utilize fish screening that complies with standards developed by NMFS and ODFW ("Anadromous Salmonid Passage Facility Design", February 2008). http://www.nwr.noaa.gov/Salmon-Hydropower/FERC/upload/Fish-Passage-Design.pdf or the most current version.

6. **Work Area Isolation and Dewatering**: Appropriate best management practices shall be implemented to prevent erosion and sediments from entering wetlands or waterways.

   a. All in-water work shall be isolated from the active channel or conducted during low seasonal stream flows.

   b. Permittee shall provide for fish passage upstream and downstream of the worksite.

   c. Cofferdams shall be constructed of non-erosive material, such as concrete jersey barriers, sand and gravel bag dams, or water bladders. Constructing a cofferdam by pushing material from the streambed or sloughing material from the streambanks is not authorized.

   d. Sand and gravel bag dams shall be lined with a plastic liner or geotextile fabric to reduce permeability and prevent sediments and/or construction materials from entering the active stream channel.

   e. Upstream and downstream flows shall be maintained by routing flows around the construction site with a pump, bypass pipe, or diversion channel.

   f. A sediment basin shall be used to settle sediments in return water prior to release back into the waterbody. Settled water shall be returned to the waterbody in such a manner as to avoid erosion of the streambank. Settlement basins shall be placed in uplands.

   g. Fish and other aquatic species must be salvaged prior to dewatering. The State of Oregon requires a Scientific Take Permit be obtained to salvage fish and wildlife. Permittee is advised to contact the nearest ODFW office. For further information contact ODFW at http://www.dfw.state.or.us.

7. **Dredging:** For any NWP-authorized activities, including but not limited to NWP 1, 3, 12, 13, 19, 27, 28, 35, 36, 40, and 41 that involve removal of sediment from waters of the United States permittee shall ensure that:

a. Prior to dredging, appropriate sediment characterization as to size composition and potential contaminants has been undertaken and the material is suitable for in-water disposal per the Sediment Evaluation Framework for the Pacific Northwest, 2009 (available at: http://www.nwp.usace.army.mil/environment/sediment.asp) or the most current version.

b. Permittee shall use the least impactful methodology and activity sequencing to ensure impacts to the aquatic system are minimized to the maximum extent practicable. Examples include using a hydraulic, closed-lipped clamshell bucket, toothed clamshell bucket, dragline and/or excavator.

c. Dredged or excavated material is placed where sediment-laden water cannot enter waterways or wetlands in an uncontrolled manner. The discharge associated with the return of sediment-laden water into a water of the United States from an upland disposal site requires separate authorization from the District Engineer under NWP 16.

8. **Chemically Treated Wood:** Withdrawn

9. **Mechanized Equipment:** In addition to the requirements in NWP General Condition 11, permittee shall implement the following to prevent or limit aquatic impacts from mechanized equipment:

a. In all events use the type of equipment that minimizes aquatic impacts spatially and temporally.

b. Use existing roads, paths, and drilling pads where available. Temporarily place mats or pads onto wetlands or tidal flats to provide site access. Temporary mats or pads shall be removed upon completion of the authorized work.

c. Operate equipment from the top of a streambank and conduct work outside of the active stream channel, unless specifically authorized by the District Engineer.

d. Isolate storage, staging, and fueling areas, and operate and maintain equipment in isolation from waters, wetlands, and riparian areas.

e. Maintain spill prevention and containment materials with ready access at vehicle staging areas. Permittee and staff shall be trained to effectively deploy the measures. Spill response materials include straw matting/bales, geotextiles, booms, diapers, and other absorbent materials, shovels, brooms, and containment bags. In the event of a spill of petroleum products or other chemicals with potential to affect waters or wetlands, permittee shall immediately report the spill to the Oregon Emergency Response Service (OERS) at 1-800-452-0311 and shall implement containment and cleanup measures, as directed.

10. **Deleterious Waste:** In addition to the requirements in NWP General Condition 6, permittee shall not dispose of biologically harmful or waste materials into waters or wetlands. These materials include but are not limited to the following:

a. Petroleum products, chemicals, cement cured less than 24 hours, welding slag and grindings, concrete saw cutting by-products, sandblasted materials, chipped paint, tires, wire, steel posts, asphalt and waste concrete.

b. Discharge water created during construction activities (such as but not limited to concrete wash out, pumping for work area isolation, vehicle wash water, drilling fluids, dredging return flows, and sediment laden runoff) shall be treated to remove debris, sediment, petroleum products, metals, and other pollutants and discharged in a controlled fashion to avoid erosion. A separate Department of the Army permit and/or a National Pollutant Discharge Elimination System (NPDES) permit from Oregon Department of Environmental Quality's (DEQ) may be required prior to discharge. Permittee is directed to contact the nearest DEQ office (http://www.deq.state.or.us/about/locations.htm) for more information about the NPDES program.

11. **Stormwater Discharge Pollution Prevention:** Activities that result in stormwater runoff passing over disturbed areas and impervious surfaces must include reduction measures, controls, treatment techniques and management practices to avoid discharge of soil, debris, toxics and other pollutants to waterways and wetlands.

a. **Erosion Control:** During construction and until the site is stabilized, the permittee shall ensure all practicable measures are implemented and maintained to prevent erosion and runoff. For proper erosion control measure selection and implementation, the Permittee is referred to DEQ "Oregon Sediment and Erosion Control Manual," April 2005, available at: http://www.deq.state.or.us/wq/stormwater/escmanual.htm. Appropriate control measures and maintenance include, but are not limited to the following:

1) Permittee shall inspect and maintain control measures in good condition throughout construction and until permanent measures are well established. Permittee shall repair or replace any damages such as rips, broken stakes that result in loss of intended function. Permittee shall install additional control measures and reseed or replant with native and/or non-competitive species as necessary to achieve stabilization of the site. Spray-on mulches imbedded with benign sterile species may be used to temporarily stabilize the area until permanent controls are in place.

2) Once soils or slopes have been stabilized, permittee shall completely remove and properly dispose of or re-use all components of installed control measures.

b. **Post-Construction Stormwater Management:** If the activity will result in creation of new impervious surfaces and federally listed aquatic species or their habitat may be affected by the proposed activity permittee shall forward a copy of the post-construction stormwater management plan (SWMP) to the Portland District Engineer for our consultation under the Endangered Species Act. A copy of the SWMP must be submitted to the DEQ for their review and approval prior to initiating construction.

1) Submittal of the post-construction stormwater management plan to DEQ at the same time the application is submitted to the Corps will streamline the project review. DEQ's Stormwater Management Plan Submission Guidelines for Removal/Fill Permit Applications which involve impervious surfaces can be found at http://www.deq.state.or.us/wq/sec401cert/docs/stormwaterGuidlines.pdf. This document provides information to determine the level of detail required for the plan based on project type, scope, location, and other factors, as well as references to assist in designing the plan and a checklist for a complete submission.

12. **Upland Disposal:** Material disposed of in uplands shall be placed in a location and manner that prevents discharge of the material and/or return water into waters or wetlands unless otherwise authorized by the Portland District Engineer.

a. Final disposition of materials removed from waters and wetlands to uplands may require separate approvals under Oregon State Solid Waste Rules. For more information please visit DEQ's Solid Waste program at http://www.deq.state.or.us/lq/sw/index.htm.

b. Temporary upland stockpiles of excavated or dredged materials shall be isolated from waterways, wetlands, and floodwaters; stabilized prior to wet weather; and maintained using best management practices unless specifically authorized by the District Engineer.

13. **Restoration of Temporary Impacts:** To minimize temporal losses of waters of the U. S. construction activities within areas identified as temporary impacts shall not exceed two construction seasons or 24 months, whichever is less. For all temporary impacts, permittee shall provide the Portland District Engineer a description, photos, and any other documentation which demonstrates pre-project conditions with the Preconstruction Notification.

a. Site restoration of temporarily disturbed areas shall include returning the area to pre-project ground surface contours. Permittee shall revegetate temporarily disturbed areas with native, noninvasive herbs, shrubs, and tree species sufficient in number, spacing, and diversity to replace affected aquatic functions.

b. Site restoration shall be completed within 24 months of the initiation of impacts (unless otherwise required by the specific NWP). However, if the temporary impact requires only one construction season, site restoration shall be completed within that same construction season before the onset of seasonal rains.

14. **Permittee-responsible Compensatory Mitigation:** When permittee-responsible compensatory mitigation is required by the Portland District Engineer to replace lost or adversely affected aquatic functions, the permittee shall provide long-term protection for the mitigation site through real estate instruments (e.g., deed restriction or conservation easement) or other available mechanisms. The appropriate long-term protection mechanism will be determined by the Portland District Engineer based on project-specific review and must be in place prior to initiating the permitted activity.

15. **Inspection of the Project Site:** The permittee shall allow representatives of the Portland District Engineer and/or DEQ to inspect the authorized activity to confirm compliance with nationwide permit terms and conditions. A request for access to the site will normally be made sufficiently in advance to allow a property owner or representative to be on site with the agency representative making the inspection.

16. **Sale of Property/Transfer of Permit:** Permittee shall obtain the signature(s) of the new owner(s) and transfer this permit in the event the permittee sells the property associated with this permit. To validate the transfer of this permit authorization, a copy of this permit with the new owner(s) signature shall be sent to the Portland District Engineer at the letterhead address on the verification letter.

NATIONWIDE SPECIFIC CONDITIONS:

NWP 3 – Maintenance

1. Permittee shall implement measures necessary to prevent streambed gradient alterations and streambank erosion.

NWP 5 – Scientific Measurement Devices

1. Permittee shall remove all scientific measurement devices including all associated structures and fills including anchoring devices, buoys, and cable within 30 days after research is completed.

NWP 6 – Survey Activities

1. Use of in-water explosives is not authorized.

2. Permittee shall isolate all in-stream exploratory trenching from the active channel.

NWP 12 – Utility Line Activities

1. Permittee shall install trench-blockers of a type and design sufficient to prevent the drainage of the wetland areas (e.g. bentonite clay plugs, compacted sand bags, etc.) where utility lines are buried within or immediately adjacent to wetlands and other waters.

2. Permittee shall remove and separately reserve the topsoil from the subsurface soils during trenching. Permittee shall place the reserved topsoil as the final surface layer in backfilling the trench.

3. Agency coordination, per Nationwide Permit General Condition 31 (d), is required where utility lines are proposed in estuaries to ensure there are no impacts to native shellfish beds.

4. Manholes placed in streams or other waterways require specific approval by the District Engineer.

NWP 13 – Bank Stabilization

1. Permittee shall include the use of bioengineering techniques and natural products (e.g. vegetation and organic material such as root wads) in the project design to the maximum extent practicable and shall minimize the use of rock, except when it is anchoring large woody debris. Non-biodegradable materials, such as plastic netting, that may entrap wildlife or pose a safety concern shall not be used for soil stabilization. Riparian plantings shall be included in all project designs unless the permittee can demonstrate that such plantings are not practicable.

2. Riprap shall be clean (i.e. free of toxic contaminants and invasive species), durable, angular rock.

NWP 23 – Approved Categorical Exclusions

1. Pre-construction notification or other Corps-approved documentation is required for all activities which require a permit from the Portland District Engineer.

NWP 29 – Residential Developments

1. Wetland impacts associated with the construction or expansion of a single residence including attendant features (utility lines, roads, yards, etc) shall not exceed one-fourth (¼) acre.

NWP 41 – Reshaping Existing Drainage Ditches

1. All in-water work shall be isolated from the active stream channel or conducted during low seasonal stream flows.

NWP 43- Stormwater Management Facilities

1. All in-water work shall be isolated from the active stream channel or conducted during low seasonal stream flows.

2. This NWP does not authorize the retention of water in excess of that required to meet stormwater management requirements for purposes such as recreational lakes, reflecting pools, irrigation, etc.

NWP 44 - Mining Activities

1. Reclamation, when required, must be achieved within 24 months of completing the mining activity.

2. In-stream mining including bar scalping is not authorized by this NWP.

3. Permittee shall ensure site includes appropriate grade controls to prevent headcutting of streams or bank erosion.

4. The use of in-water explosives is prohibited under this nationwide.

5. Excavated materials may be temporarily stockpiled within the channel above the plane of the water surface for up to seven (7) days. Excavated materials shall not be stockpiled in wetlands or flowing water.

NWP 48 – Commercial Shellfish Aquaculture Activities

1. Agency coordination, per NWP General Condition 31 (d), is required for all activities proposed under this NWP.

NOTE: For projects involving commercial aquaculture or mariculture cultivation of oysters, clams, and mussels on state submerged and submersible lands permittee is advised authorization may be required from the Oregon Department of Agriculture. For more information go to http://www.oregon.gov/ODA/FSD/program_shellfish.shtml

NWP 51– Land-Based Renewable Energy Generation Facilities

1. Agency coordination, per NWP General Condition 31 (d), is required for activities where aerial power transmission lines cross navigable waters.

NWP 52 – Water Based Renewable Energy Generation Pilot Projects

1. Agency coordination, per NWP General Condition 31 (d), is required for all activities proposed for verification under this NWP.

2. Activities authorized under this NWP shall comply with the siting requirements of the Oregon Territorial Sea Plan, which designates areas as suitable for such activities.

NOTE: The State of Oregon is updating its Territorial Sea Plan to identify areas suitable for renewable ocean energy. Once identified and adopted by the Land Conservation and Development Commission, the general public will be able to identify those areas using a Geographic Information Systems map layer.

C. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation

(a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course; condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or Study River (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species.
(a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.noaa.gov/fisheries.html respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

20. Historic Properties.
(a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the

requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district

engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a

final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, and ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation

may be required to reduce the adverse effects of the project to the minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l) (3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

31. Pre-Construction Notification.
(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity.

The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b) (1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of

NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

F. Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulations of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide

line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b) (1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of

immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b) (1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a jurisdictional wetland is adjacent – meaning bordering, contiguous, or neighboring – to a waterbody determined to be a water of the United States under 33 CFR 328.3(a)(1)-(6), that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

State of Oregon
Department of
Environmental
Quality

Oregon Department of Environmental Quality (DEQ) 401 Water Quality (WQC) General Conditions

In addition to all USACE permit conditions and regional permit conditions, the following 401 Water Quality Certification conditions apply to all Nationwide Permit (NWP) categories certified or partially certified Additional 401 Water Quality Certification category specific conditions follow, which must also be complied with as applicable.

1) Turbidity: All Permittees must implement all reasonably availably technological controls and management practices to meet the standard rule of no more than a 10 percent increase in project caused turbidity above background levels. However, if all reasonably available controls and practices are implemented by a permittee, turbidity exceedances of more than 10 percent above background are allowed for limited times depending on the severity of the increase, as specified in this condition.

a. **Monitoring and Compliance Requirements:** Permittee must monitor and record in a daily log stream turbidity levels during work below ordinary high water, compare turbidity caused by authorization actions to background levels, and adapt activities to minimize project-caused turbidity. Required monitoring steps include:

i. Identify two monitoring locations:

A. Background location: A relatively undisturbed location, approximately 100 feet upcurrent from the disturbing activity; and,

B. Compliance location: A location downcurrent from the disturbing activity, at approximately mid-depth, within any visible plume, at the distance that corresponds to the size of the waterbody where work is taking place as listed on the table below:

WETTED STREAM WIDTH	COMPLIANCE DISTANCE
Up to 30 feet	50 feet
>30 feet to 100 feet	100 feet
>100 feet to 200 feet	200 feet
>200 feet	300 feet
LAKE, POND RESERVOIR	Lesser of 100 feet or Maximum surface dimension

ii. Determine Compliance:

A. At the start of work, measure turbidity at both locations and record in the daily log date, time, location, tidal stage (if waterbody is tidally influenced), and turbidity levels at each point and comparison. Permittee must also record in the daily log all controls and practices implemented at the start of the work.

B. During work, measure turbidity at both locations at the frequency directed in the tables below and record in the daily log date, time, location, tidal stage (if waterbody is tidally influenced), and turbidity measurements.

C. Turbidity measurements must be representative of stream turbidity when the activity is being conducted. Measurements cannot be taken during a cessation of activity.

D. If project caused turbidity is elevated above background, Permittee must implement additional controls and practices and monitor both points again as described below for either monitoring method. A description of the additional controls and the date, time, and location where they are implemented must be recorded in the daily log:

MONITORING WITH A TURBIDIMETER*		
ALLOWABLE EXCEEDANCE TURBIDITY LEVEL	ACTION REQUIRED AT 1ST MONITORING INERNAL	ACTION REQUIRED AT 2ND MONITORING INTERNAL
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 controls & continue to Monitor every 4 hours	Stop work after 8 hours at 5-29 NTU above background
30 to 49 NTU above Background	Modify controls & continue to Monitor every 2 hours	Stop work after 2 confirmed 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 within compliance distance	Modify controls & continue to Monitor every 4 hours	Stop work after 8 hours with an observed plume within compliance distance
Plume observed beyond compliance distance	Stop work	Stop work
**Note: Monitoring visually may require stopping work as soon as the visual plume exceeds the waterbody specific compliance distance. However, using a turbidimeter can allow work to continue based on more precise determination of the severity of the turbidity increase over time.*		

iii. Work must **stop immediately for the remainder of the 24-hour period** if:

A. A visible turbidity plume extends beyond the compliance distance; or,

B. Turbidity is measured at the compliance point at:

I. 50 NTU or more over background at any time;
II. 30 NTU over background for 2 hours; or
III. 5-29 NTU over background for 8 hours.

iv. Work may continue if no visible plume is observed, turbidity measured at the compliance point is no more than 0-5 NTU above background, or additional control measures can be applied to keep the visible plume within the compliance distance, measured turbidity ranges, and durations listed in the tables above.

b. Turbidity Control Measures - The permittee must implement all reasonably available controls and practices to minimize turbidity during in-water work, which may include, but are not limited to:

i. Schedule, sequence or phase work activities so as to minimize in-water disturbance and duration of activities below ordinary high water;

ii. Install and maintain containment measures to prevent erosion of upland material to waterways and wetlands, isolate work areas from flowing waters, and prevent suspension of in-stream sediments to the maximum extent practicable;

iii. Apply control measures for all in-stream digging, including but not limited to: employing an experienced equipment operator; not dumping partial or full buckets of material back into the wetted stream; adjusting the volume, speed, or both of loads or hydraulic suction equipment; or by using a closed-lipped environmental bucket;

iv. Limit the number and location of stream crossing events. If equipment must cross a waterway, establish temporary crossing sites at an area with stable banks, where the least vegetation disturbance will occur, shortest distance across water, oriented perpendicular to the stream, and supplement with clean gravel or other temporary methods as appropriate;

v. Place excavated, disturbed, and stockpiled material so that it is isolated from the edge of waterways and wetlands and not allowed to enter waters of the state uncontrolled; and

vi. Apply other effective turbidity control techniques, such as those in Appendix D and throughout DEQ's *Oregon Sediment and Erosion Control Manual*, April 2005, http://www.deq.state.or.us/wq/stormwater/docs/escmanual/appxd.pdf.

c. Reporting: Copies of daily logs for turbidity monitoring must be made available to DEQ and other regulatory agencies upon request. The log must include:

i. Background NTUs or observation, compliance point NTUs or observation, comparison of the points in NTUs or narrative, and location, time, date, and tidal stage (if applicable) for each reading or observation.

ii. A narrative discussing all exceedances, controls applied and their effectiveness, subsequent monitoring, work stoppages, and any other actions taken.

2) Stormwater Discharge Pollution Prevention: All projects that involve land disturbance or impervious surfaces must implement prevention or control measures to avoid discharge of pollutants in stormwater runoff to waters of the state.

a. For land disturbances during construction, the permittee must obtain and implement permits where required (see: http://www.deq.state.or.us/wq/stormwater/construction.htm) and follow DEQ's *Oregon Sediment and Erosion Control Manual*, April 2005 (or most current version), http://www.deq.state.or.us/wq/stormwater/docs/escmanual/appxd.pdf.

b. Following construction, prevention or treatment of on-going stormwater runoff from impervious surfaces must be provided (including but not limited to NWP categories 3, 12, 14, 15, 28, 29, 31, 32, 36, 39, 42, 43, and 51). DEQ encourages prevention of discharge by managing stormwater on site through Low Impact Development principles and other prevention techniques. Assistance in developing an approvable stormwater management plan is available in DEQ's *Stormwater Management Plan Submission Guidelines for Removal/Fill Permit Applications Which Involve Impervious Surfaces*, January 2012 (or most current version), available at: http://www.deq.state.or.us/wq/sec401cert/docs/stormwaterGuidlines.pdf.

c. In lieu of a complete stormwater management plan, the applicant may submit:

i. Documentation of acceptance of the stormwater into a DEQ permitted National Pollutant Discharge Elimination Strategy (NPDES) Phase I or II Municipal Separate Storm Sewer System (MS4); or

ii. Reference to implementation of a programmatic process developed to achieve these expectations, and acknowledged by DEQ as adequately addressing pollution control or reduction through basin-wide post-construction stormwater management practices.

3) Vegetation Protection and Restoration: Riparian, wetland, and in-water vegetation in the authorized project area must be protected from unnecessary disturbance to the maximum extent practicable through methods including:

a. Minimization of project and impact footprint;

b. Designation of staging areas and access points in open, upland areas;

c. Fencing or other barriers demarking construction areas;

d. Use of alternative equipment (e.g., spider hoe or crane); and,

e. Replacement - If authorized work results in unavoidable vegetative disturbance that has not been accounted for in planned mitigation actions; riparian, wetland and in-water 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.

4) Land Use Compatibility Statement: In accordance with OAR 340-048-0020(2) (i), each permittee must submit findings prepared by the local land use jurisdiction that demonstrates the activity's compliance with the local comprehensive plan. Such findings can be submitted using Block 7 of the USACE & DSL Joint Permit Application, signed by the appropriate local official and indicating:

a. "This project is consistent with the comprehensive plan and land use regulations;" or,

b. "This project will be consistent with the comprehensive plan and land use regulations when the following local approvals are obtained," accompanied by the obtained local approvals.

c. Rarely, such as for federal projects on federal land, "this project is not regulated by the comprehensive plan" will be acceptable.

5) A copy of all applicable 401 WQC conditions must be kept on the job site and readily available for reference by the permittee, their contractors, DEQ, USACE, NMFS, USFWS, DSL, ODFW, and other appropriate state and local government inspectors.

6) DEQ may modify or revoke these 401 WQC conditions, in accordance with OAR 340-048-0050, in the event that project activities are having a significant adverse impact on state water quality or beneficial uses.

Category Specific Conditions

In addition to all national and regional conditions of the USACE permit and the 401 Water Quality Certification general conditions above, the following conditions apply to the noted specific categories of authorized activities.

NWP 7 – Outfall Structures and Associated Intake Structures:

7.1) The following actions are denied certification:

a. Discharge outfalls that are not subject to an NPDES permit; and,

b. Outfalls that discharge stormwater without pollutant removal demonstrated to meet water quality standards prior to discharge to waters of the state.

7.2) If a permittee cannot obtain an NPDES permit or submit an approvable stormwater management plan per DEQ's Guidelines (at: http://www.deq.state.or.us/wq/sec401cert/docs/stormwaterGuidlines.pdf), the permittee must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

NWP 12 – Utility Lines:

12. 1) For proposals that include directionally-bored stream or wetland crossings:

a. All drilling equipment, drill recovery and recycling pits, and any waste or spoil produced, must be completely isolated, recovered, then recycled or disposed of to prevent entry into waters of the state. Recycling using a tank instead of drill recovery/recycling pits is preferable;

b. In the event that drilling fluids enter a water of the state, the equipment operator must stop work, immediately initiate containment measures and report the spill to the Oregon Emergency Response System (OERS) at 800-452-0311.

c. Prior to cleaning up drilling fluids spilled into waters of the state, cleanup plans must be submitted and approved by the regulatory agencies; and

d. An adequate supply of materials needed to control erosion and to contain drilling fluids must be maintained at the project construction site and deployed as necessary.

NWP 13 – Bank Stabilization:

13.1) Projects that do not include bioengineering are denied certification, unless a registered professional engineer provides a written statement that non-bioengineered solutions are the only means to protect an existing transportation-related structure.

13.2) To apply for certification for a project without bioengineering, the permittee must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

NWP 14 – Linear Transportation:

14.1) For projects that include bank stabilization, bioengineering must be a component of the project, unless a registered professional engineer provides a written statement that non-bioengineered solutions are the only means to protect an existing transportation related structure.

14.2) To apply for certification for a project without bioengineering, the permittee must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

NWP 16 - Return Water from Contained Upland Disposal Areas: Water quality criteria and guidance values for toxics, per OAR 340-041-0033, are available in Tables 20, 33A, 33B, and 33C at: http://www.deq.state.or.us/wq/standards/toxics.htm#Cur.

16.1) Return to waters of the state of water removed with contaminated dredged material that exceeds a chronic or acute toxicity water quality standard is denied certification.

16.2 Water removed with contaminated dredged material that could or does exceed chronic water quality criteria must be contained and disposed of at an appropriately sized and sealed upland facility by evaporation or infiltration.

16.3) If a Modified Elutriate Test (MET) is performed for the known contaminants of concern (CoCs) and CoC concentrations are below DEQ chronic water quality criteria, return water discharge is not limited.

a. The MET must be performed before dredging.

b. DEQ must approve the list of CoCs and analytical method prior to the permittee performing the MET.

c. DEQ must review the results and provide approval of discharge from return water, in writing, prior to dredging.

NWP 20 – Response Operations for Oil and Hazardous Waste:

20.1) Coordination with DEQ's Emergency Response program is required. See: http://www.deq.state.or.us/lq/cu/emergency/index.htm.

NWP 22 – Removal of Vessels:

22.1) Coordination with DEQ's Emergency Response program is required. See: http://www.deq.state.or.us/lq/cu/emergency/index.htm.

NWP 31 – Maintenance of Existing Flood Control Facilities:

31.1) Projects at existing facilities in streams with Temperature TMDLs and that propose net permanent, riparian vegetation removal are denied certification.

31.2) To apply for certification for projects where riparian vegetation removal is unavoidable and vegetation cannot be re-established, the permittee must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

NWP 38 – Cleanup of Hazardous and Toxic Waste:

38.1) For removal of contaminated material from waters, dredging method is limited to diver assisted hydraulic suction, hydraulic suction, closed-lipped environmental bucket, or excavation in the dry.

a. For in-water isolation measures, the permittee is referred to Appendix D of DEQ's *Oregon Erosion and Sediment Control Manual*, April 2005 (or most current version), at: http://www.deq.state.or.us/wq/stormwater/docs/escmanual/appxd.pdf.

38.2) Discharge to waters resulting from dewatering during dredging or release of return water from an upland facility is prohibited except as provided below.

a. All water removed with sediment must be contained and disposed of at an appropriately sized and sealed upland facility by evaporation or infiltration; or,

b. A Modified Elutriate Test (MET) may be performed for the known CoCs and if CoC concentrations are below DEQ chronic water quality criteria, return water discharge is not limited.

i. The MET must be performed before dredging.

ii.DEQ must approve the list of CoCs and analytical method prior to the permittee performing the MET.

iii. DEQ must review the results and provide approval of discharge from dewatering and return water in writing prior to dredging.

38.3) Dredged material must be disposed of in compliance with DEQ Rules governing Hazardous Waste (see: http://www.deq.state.or.us/lq/hw/hwmanagement.htm) or Solid Waste (see: http://www.deq.state.or.us/lq/sw/index.htm).

38.4) The new in-water surface must be managed to prevent exposure or mobilization of contaminants.

NWP 41 - Reshaping Existing Drainage Ditches:

41.1) To the extent practicable, permittees must work from only one bank in order to minimize disturbance to existing vegetation, preferably the bank with the least existing vegetation;

41.2) Following authorized work, permittee must establish in-stream and riparian vegetation on reshaped channels and side-channels using native plant species wherever practicable. Plantings must be targeted to address water quality improvement (e.g., provide shade to water to reduce temperature or provide bank stability through root systems to limit sediment inputs). Planting options may include clustering or vegetating only one side of a channel, preferably the side which provides maximum shade.

NWP 42 – Recreational Facilities:

42.1) For facilities that include turf maintenance actions, the permittee must develop and implement an Integrated Pest Management Plan (IPM) that describes pest prevention, monitoring and control techniques with a focus on prevention of chemical and nutrient inputs to waters of the state, including maintenance of adequate buffers for pesticide application near salmonid streams, or coverage under an NPDES permit, if required (information is available at: http://www.deq.state.or.us/wq/wqpermit/pesticides.htm).

NWP 43 – Stormwater Management Facilities:

43.1) Projects that propose the following elements are denied certification:

a. In-stream stormwater facilities;

b. Discharge outfalls not subject to an NPDES permit; and,

c. Proposals that do not demonstrate pollutant removal to meet water quality standards prior to discharge to waters of the state.

43.2) To apply for certification for a project with in-stream stormwater facilities, without an NPDES permit, or without submittal of an approvable stormwater management plan per DEQ's Guidelines (at: http://www.deq.state.or.us/wq/sec401cert/docs/stormwaterGuidlines.pdf), the permittee must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

NWP 44 – Mining Activities:

44.1) Projects that do not obtain an NPDES 700-PM or Individual permit are denied certification.

44.2) To apply for certification for a project without an NPDES permit, the permittee must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

NWP 51 – Land-Based Renewable Energy Generation Facilities:

51.1) For associated utility lines with directionally-bored stream or wetland crossings proposed, condition 12.1) must be applied.

DEPARTMENT OF THE ARMY
Corps of Engineers, Portland District
Regulatory Branch

Inadvertent Discovery Plan (IDP)

Background

Traditionally, Tribes have managed the lands in Oregon for thousands of years. Although these lands are now broken up into segments of various ownerships and managing agencies, Native Americans still retain a strong connection to their ancestral lands. For Oregon Tribes, archaeological/burial sites are not simply artifacts of the tribe's cultural past, but are considered sacred and represent a continuing connection with their ancestors. Native American ancestral remains, funerary objects, sacred objects, and objects of cultural patrimony associated with Oregon Tribes are protected under state and federal law. These laws recognize and codify the Tribes' rights in the decision-making process regarding ancestral remains and associated objects. Therefore, both the discovered ancestral remains and/or archaeological objects should be treated in a sensitive and respectful manner by all parties involved.

It is the policy of the Corps Regulatory program to work effectively with Native American Tribes, landowners, resource agencies, historic preservation organizations, stakeholders, applicants and the public to comply with the National Historic Preservation Act (NHPA) and other applicable laws and regulations, Executive Orders, Presidential Memoranda, and policy guidance documents and to efficiently process permit applications so that development projects can proceed for the good of the Nation's economic health and national security. Respectful and meaningful coordination and consultations between the Corps, Native American Tribes, the Oregon State Historic Preservation Office (SHPO), and Washington State Department of Archaeology & Historic Preservation (DAHP) are conducted as we strive to balance economic needs with historic preservation concerns.

This IDP ensures all parties involved during inadvertent discovery of cultural materials are contacted and fulfill their obligation under state and federal laws, including but not limited to the following:

National Historic Preservation Act (NHPA) – **[16 USC 470] [36 CFR 60]**
Native American Graves Protection and Repatriation Act – **[25 USC 3001] [43 CFR 10]**
Indian Graves and Protection Objects – **ORS 97.740-S 97.760**
Archaeological Objects and Sites – **ORS 358.905 – 358.955**
Permits and Conditions for Excavation or Removal of Archaeological or Historical Material; Rules; Criminal Penalty—ORS 390.235
Procedures for the Protection of Historic Properties – **[33 CFR 325 – Appendix C]**
Consultation and Coordination with Indian Tribal Governments – **[Executive Order – 13175]**

Suspend Work

Cultural Resources and Human Burials: In the event evidence of human burials, human remains, cultural items, suspected cultural items, or historic properties, as identified by the NHPA, are discovered and/or may be affected during the course of the work authorized, the Permittee shall **Immediately Cease All Ground Disturbing Activities**.

Failure to stop work immediately and until such time as the Corps has coordinated with all appropriate agencies and complied with the provisions of 33 CFR 325, Appendix C, the NHPA and other pertinent regulations, could result in violation of state and federal laws. Violators are subject to civil and criminal penalties.

Notification Process for Permittee and/or Archaeological Monitor

The person(s) making the discovery shall immediately notify the permittee(s), the Corps of Engineers, and other appropriate agencies as necessary.

- Notification to the Portland District Regulatory Branch shall be made by fax (503-808-4375) as soon as possible following discovery but in no case later than 24 hours or via email to christopher.m.page@usace.army.mil, (503) 808-4389. The fax shall clearly specify the purpose is to report a cultural resource discovery, provide the Permittee's name, Corps Permit No., and the archaeological monitor's contact information for follow-up purposes.
- Follow up the fax notification with an email and phone call to the Corps of Engineers Project Manager identified in the permit letter.

Notification Process for Corps Project Manager

The Project Manager or person(s) designated to manage the inadvertent discovery shall immediately notify the following agencies:

- Oregon State Historic Preservation Office:
  Dr. Dennis Griffin, office phone (503) 986-0674, cell (503) 881-5038.
- Washington Department of Archaeology and Historic Preservation:
  Greg Griffith, office phone (360) 586-3073.
- Oregon State Police [**if human remains are found**]:
  Sergeant Chris Allori, office phone (503) 731- 4717 cell (503) 708-6461.
  - Commission on Indian Services (CIS) [provide the list of appropriate Native American Tribes], Karen Quigley, Director, office phone (503) 986-1067.

Tribes:

- Confederated Tribes of the Grand Ronde Community of Oregon:
  David Harrelson (503) 879-2320; or Dustin Kennedy (503) 879-1679
- Confederated Tribes of the Siletz Reservation, Oregon:
  Robert Kentta (800-922-1399 xtn. 1244.
- Cow Creek Band of Umpqua Tribe of Indians:
  Jessie Plueard (541) 677-5575 ext. 5577.
- Smith River Rancheria, California:
  Suntayea Steinruck (707) 487-9255 ext. 3180.

The Corps will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Registry of Historic Places. In addition, the Corps will coordinate a Site Avoidance Plan (SAP) and/or a Scope of Work (SOW) with the SHPO/DAHP, the Tribe(s) and the permittee to avoid or excavate the archaeological/burial site. In the event the Corps decides to delegate their cultural resource protection responsibilities to another federal or state agency, the Corps shall contact the interested parties and provide those parties with the appropriate new contact person(s).

Plan of Action (POA)

In the event human burials, human remains, cultural items, suspected cultural items, or historic properties, as identified by the NHPA, are discovered and/or may be affected during the course of the work authorized, the archaeological monitor, and/or designee, has the authority to temporarily stop all ground disturbance activities to further inspect the material(s). If an isolated artifact (defined as fewer than 10 artifacts by the Oregon SHPO) is identified, the monitor shall determine whether sufficient quantities and/or evidence of artifacts warrant presence to define a site. If upon closer examination the materials discovered are not consistent with human burials, human remains, cultural items, suspected cultural items, or historic properties, as identified by the NHPA, the monitor will allow work to proceed but with caution and at a slower rate until the monitor is confident no sites are represented.

Upon positive identification of human burials, human remains, cultural items, suspected cultural items, or historic properties, as identified by the NHPA, the monitor will maintain the cease work order, make efforts to secure the discovery location, and immediately notify the permittee and/or designee of the positive discovery as defined in the notification process above. Examples of cultural material that constitutes such sites but are not limited to the following: 1) historic sites can include glass bottles, cans, building foundations; and 2) prehistoric sites include lithic flakes, shell, beads, ovens, etc.

Human Remains POA

If human burials and/or human remains are discovered, the monitor will treat the remains with sensitivity and respect, ensure all unauthorized personnel have vacated the site location in a safe manner, make reasonable efforts to secure the location, and stabilize the remains if necessary, e.g. they are endangered of falling out a trench wall. Every reasonable effort will be made by the monitor(s) to ensure the remains are not physically handled or examined by unauthorized personnel until the proper notifications have been made. Reference is made to the Tribal Position Paper on Human Remains found on SHPO's website at: http://www.oregon.gov/OPRD/HCD/ARCH/docs/Tribal_position_paper_on_Human_Remains.pdf.

Treatment Plan (TP)

A treatment plan (TP) will be developed between the Corps, SHPO/DAHP, Tribe(s) and the Permittee during consultation to ensure the proper handling and curation of human remains and/or cultural items is clearly outlined and agreed upon. The TP will define the items found; develop a strategy for handling/moving human remains and/or cultural items; develop a strategy for determining whether additional human remains and/or cultural items are endangered; determine if additional testing is necessary to identify site boundaries; and determine the disposition of the human remains and/or cultural items. The TP will be agreed upon by all parties involved before any future ground disturbance activities resume.

Construction related activities and/or ground disturbance activities shall not resume until authorization from the Corps has been received.

This plan was developed to ensure the safeguarding of our Nation's heritage through inadvertent discovery, and to ensure the Corps' Tribal-Trust responsibilities are met with Diligence, Responsiveness, Reliability, Accuracy, and Respect to our fellow government agencies.

Endangered Species Act – Section 7 Programmatic Consultation
Conference and Biological Opinion and
Magnuson-Stevens Fishery Conservation and Management Act
Essential Fish Habitat Consultation
For

Revised Standard Local Operating Procedures for Endangered Species to Administer Maintenance or Improvement of Stormwater, Transportation, and Utility Actions Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon (SLOPES for Stormwater, Transportation or Utilities)

NMFS Consultation No. NWR-2013-10411

Action Agency: U.S. Army Corps of Engineers
Portland District, Operations and Regulatory Branches

Affected Species and Determinations:

ESA-Listed Species	ESA Status	Is the action likely to adversely affect this species or its critical habitat?	Is the action likely to jeopardize this species?	Is the action likely to destroy or adversely modify critical habitat for this species?
Lower Columbia River Chinook salmon	T	Yes	No	No
Upper Willamette River Chinook salmon	T	Yes	No	No
Upper Columbia River spring-run Chinook salmon	E	Yes	No	No
Snake River spring/summer run Chinook salmon	T	Yes	No	No
Snake River fall-run Chinook salmon	T	Yes	No	No
Columbia River chum salmon	T	Yes	No	No
Lower Columbia River Coho salmon	T	Yes	No	No*
Oregon Coast Coho salmon	T	Yes	No	No
Southern Oregon/Northern California coasts Coho	T	Yes	No	No
Snake River sockeye salmon	E	Yes	No	No
Lower Columbia River steelhead	T	Yes	No	No
Upper Willamette River steelhead	T	Yes	No	No
Middle Columbia River steelhead	T	Yes	No	No
Upper Columbia River steelhead	T	Yes	No	No
Snake River Basin steelhead	T	Yes	No	No
Southern green sturgeon	T	Yes	No	No
Eulachon	T	Yes	No	No
Southern resident killer whale	T	No	No	N/A

*Critical habitat has been proposed for LCR Coho salmon.

Fishery Management Plan that Describes	Would the action adversely affect	Are EFH conservation recommendations
Coastal Pelagic Species	Yes	Yes
Pacific Coast Groundfish	Yes	Yes
Pacific Coast Salmon	Yes	Yes

Consultation
Conducted By: National Marine Fisheries Service
West Coast Region

Issued by: William W. Stelle, Jr.
Regional Administrator

Date Issued: March 14, 2014

Excerpt from SLOPES for Stormwater, Transportation, or Utilities General Construction March 14, 2014

Natural hazard response to complete an unplanned, immediate, or short-term repair of a stormwater facility, road, culvert, bridge, or utility line without federal assistance. These include in-water repairs that must be made before the next in-water work period to resolve critical conditions that, unless corrected, are likely to cause loss of human life, unacceptable loss of property, or natural resources. Natural hazards may include, but are not limited to, a flood that causes scour erosion and significantly weakens the foundation of a road or bridge; culvert failure due to blockage by fluvial debris, overtopping, or crushing; and ground saturation that causes a debris slide, earth flow, or rock fall to cover a road. This category of actions is only included to the extent that they require Corps permits or are undertaken by the Corps, but otherwise do not require federal authorization, funding, or federal agency involvement.. The response will include an assessment of its effects to listed species and critical habitats and a plan to bring the response into conformance with all other applicable PDC in this opinion, including compensatory mitigation based on the baseline conditions prior to the natural hazard.

Streambank and channel stabilization to ensure that roads, culverts, bridges and utility lines do not become hazardous due to the long-term effects of toe erosion, scour, subsurface entrainment, or mass failure. This action includes installation and maintenance of scour protection, such as at a footing, facing, or headwall, to prevent scouring or down-cutting of an existing culvert, road foundation, or bridge support. It does not include scour protection for bridge approach fills. Proposed streambank stabilization methods include alluvium placement, vegetated riprap with large wood (LW), log or roughened rock toe, woody plantings, herbaceous cover, deformable soil reinforcement, coir logs, bank reshaping and slope grading, floodplain flow spreaders, floodplain roughness, and engineered log jams (ELJs), alone or in combination. Any action that requires additional excavation or structural changes to a road, culvert, or bridge foundation is covered under road, culvert and bridge maintenance, rehabilitation, and replacement.

Road surface, culvert and bridge maintenance, rehabilitation and replacement. Maintenance, rehabilitation, and replacement to ensure that roads, culverts and bridges remain safe and reliable for their intended use without impairing fish passage, to extend their service life, and to withdraw temporary access roads from service in a way that promotes watershed restoration when their usefulness has ended. This includes actions necessary to complete geotechnical surveys, such as access road construction, drill pad preparation, mobilization and set up, drilling and sampling operations, demobilization, boring abandonment, and access road and drill pad reclamation. It also includes, excavation, grading, and filling necessary to maintain, rehabilitate, or replace existing roads, culverts, and bridges. This type of action does not include significant channel realignment, installation of fish passage (*e.g.*, fish ladders, juvenile fish bypasses, culvert baffles, roughened chutes, step weirs), tidegate maintenance or replacements other than full removal, construction of new permanent roads within the riparian zone that are not a bridge approach, or construction of a new bridge where a culvert or other road stream crossing did not previously exist, or any project which will result in or contribute to other land use changes that trigger effects, including indirect effects not considered in this opinion.

Stormwater facilities and utility line stream crossings to install, maintain, rehabilitate, or replace stormwater facilities, or pipes or pipelines used to transport gas or liquids, including new or upgraded stormwater outfalls, and cables, or lines or wires used to transmit electricity or communication. Construction, maintenance or improvement of stormwater facilities include surveys, access road construction, excavation, grading, and filling necessary to maintain, rehabilitate, or replace existing stormwater treatment or flow control best management practices (BMPs). Utility line actions involve excavation, temporary side casting of excavated material, backfilling of the trench, and restoration of the work site to preconstruction contours and vegetation. This type of action does not include construction or enlargement of gas, sewer, or water lines to support a new or expanded service area for which effects, including indirect effects from interrelated or interdependent activities, have not been analyzed in this opinion. This opinion also does not include construction of any line that transits the bed of an estuary or saltwater area at depths less than -10.0 feet (mean lower low water).

1.3.1.2 Project Design Criteria - General Construction Measures

13. Project Design

a. Use the best available scientific information regarding the likely impacts of climate change on resources in the project area to design the project so that it will be resilient to those impacts, including projections of local stream flow, water temperature, and extreme events.

b. Assess whether the project area is contaminated by chemical substances that may cause harm if released by the project. The assessment will be commensurate with site history and may include the following:

i. Review available records, *e.g.*, the history of existing structures and contamination events.

ii. If the project area was used for industrial processes, inspect to determine the environmental condition of the property.

iii. Interview people who are knowledgeable about the site, *e.g.*, site owners, operators, and occupants, neighbors, or local government officials.

iv. If contamination is found or suspected, consult with a suitably qualified and experienced contamination professional and NMFS before carrying out ground disturbing activities.

c. Obtain all applicable regulatory permits and authorizations before starting construction.

d. Minimize the extent and duration of earthwork, *e.g.*, compacting, dredging, drilling, excavation, and filling.

14. In-Water Work Timing

a. Unless the in-water work is part of a natural hazard response, complete all work within the wetted channel during dates listed in the most recent version of Oregon In-water Work Guidelines (ODFW 2008), except that that in-water work in the Willamette River below Willamette Falls is not approved between December 1 and January 31.

b. Hydraulic and topographic measurements and placement of LW or gravel may be completed anytime, provided the affected area is not occupied by adult fish congregating for spawning, or redds containing eggs or pre-emergent alevins.

15. Pile Installation. Pile may be concrete, or steel round pile 24 inches in diameter or smaller, steel H-pile designated as HP24 or smaller, or wood that has not been treated with preservatives or pesticides. Any proposal to use treated wood pilings is not covered by this consultation and will require individual consultation.

a. NMFS will review and approve pile installation plans.

b. When practical, use a vibratory hammer for in-water pile installation. In the lower Columbia River only a vibratory hammer may be used in October.

c. Jetting may be used to install pile in areas with coarse, uncontaminated sediments that meet criteria for unconfined in-water disposal (USACE Northwest Division 2009).

d. When using an impact hammer to drive or proof a steel pile, one of the following sound attenuation methods will be used:

i. Completely isolate the pile from flowing water by dewatering the area around the pile.

ii. If water velocity is 1.6 feet per second or less, surround the pile being driven by a confined or unconfined bubble curtain that will distribute small air bubbles around 100% of the pile perimeter for the full depth of the water column. See, *e.g.*, NMFS and USFWS (2006), Wursig *et al.* (2000), and Longmuir and Lively (2001).

iii. If water velocity is greater than 1.6 feet per second, surround the pile being driven with a confined bubble curtain (*e.g.*, surrounded by a fabric or non-metallic sleeve) that will distribute air bubbles around 100% of the pile perimeter for the full depth of the water column.

iv. Provide NMFS information regarding the timing of in-water work, the number of impact hammer strikes per pile and the estimated time required to drive piles, hours per day pile driving will occur, depth of water, and type of substrate, hydroacoustic assumptions, and the pile type, diameter, and spacing of the piles.

16. Pile Removal. The following steps will be used to minimize creosote release, sediment disturbance and total suspended solids:

a. Install a floating surface boom to capture floating surface debris.

b. Keep all equipment (*e.g.*, bucket, steel cable, vibratory hammer) out of the water, grip piles above the waterline, and complete all work during low water and low current conditions.

c. Dislodge the pile with a vibratory hammer, when possible; never intentionally break a pile by twisting or bending.

d. Slowly lift the pile from the sediment and through the water column.

e. Place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment. A containment basin for the removed piles and any adhering sediment may be constructed of durable plastic sheeting with sidewalls supported by hay bales or another support structure to contain all sediment and return flow which may otherwise be directed back to the waterway.

f. Fill the hole left by each pile with clean, native sediments immediately after removal.

g. Dispose of all removed piles, floating surface debris, any sediment spilled on work surfaces, and all containment supplies at a permitted upland disposal site.

17. Broken or Intractable Pile. If a pile breaks above the surface of uncontaminated sediment, or less than 2 feet below the surface, make every attempt short of excavation to remove it entirely. If the pile cannot be removed without excavation, drive the pile deeper if possible.

a. If a pile in contaminated sediment is intractable or breaks above the surface, cut the pile or stump off at the sediment line.

b. If a pile breaks within contaminated sediment, make no further effort to remove it and cover the hole with a cap of clean substrate appropriate for the site.

c. If dredging is likely where broken piles are buried, use a global positioning system (GPS) device to note the location of all broken piles for future use in site debris characterization.

18. Fish Capture and Release

a. If practicable, allow listed fish species to migrate out of the work area or remove fish before dewatering; otherwise remove fish from an exclusion area as it is slowly dewatered with methods such as hand or dip-nets, seining, or trapping with minnow traps (or gee-minnow traps).

b. Fish capture will be supervised by a qualified fisheries biologist, with experience in work area isolation and competent to ensure the safe handling of all fish.

c. Conduct fish capture activities during periods of the day with the coolest air and water temperatures possible, normally early in the morning to minimize stress and injury of species present.

d. Monitor the nets frequently enough to ensure they stay secured to the banks and free of organic accumulation.

e. Electrofishing will be used during the coolest time of day, only after other means of fish capture are determined to be not feasible or ineffective.

i. Do not electrofish when the water appears turbid, *e.g.*, when objects are not visible at depth of 12 inches.

ii. Do not intentionally contact fish with the anode.

iii. Follow NMFS (2000) electrofishing guidelines, including use of only direct current (DC) or pulsed direct current within the following ranges:[11]

1. If conductivity is less than 100 µs, use 900 to 1100 volts.
2. If conductivity is between 100 and 300 µs, use 500 to 800 volts.
3. If conductivity greater than 300 µs, use less than 400 volts.

iv. Begin electrofishing with a minimum pulse width and recommended voltage, then gradually increase to the point where fish are immobilized.

v. Immediately discontinue electrofishing if fish are killed or injured, *i.e.*, dark bands visible on the body, spinal deformations, significant de-scaling, torpid or inability to maintain upright attitude after sufficient recovery time. Recheck machine settings, water temperature and conductivity, and adjust or postpone procedures as necessary to reduce injuries.

[11] National Marine Fisheries Service. 2000. Guidelines for electrofishing waters containing Salmonid listed under the Endangered Species Act. Portland, Oregon and Santa Rose, California
http://swr.nmfs.noaa.gov/sr/Electrofishing_Guidelines.pdf

f. If buckets are used to transport fish:

i. Minimize the time fish are in a transport bucket.

ii. Keep buckets in shaded areas or, if no shade is available, covered by a canopy.

iii. Limit the number of fish within a bucket; fish will be of relatively comparable size to minimize predation.

iv. Use aerators or replace the water in the buckets at least every 15 minutes with cold clear water.

v. Release fish in an area upstream with adequate cover and flow refuge; downstream is acceptable provided the release site is below the influence of construction.

vi. Be careful to avoid mortality counting errors.

g. Monitor and record fish presence, handling, and injury during all phases of fish capture and submit a fish salvage report (Appendix A, Part 1 with Part 3 completed) to the Corps and the SLOPES mailbox (slopes.nwr@noaa.gov) within 60 days.

19. Fish Passage

a. Provide fish passage for any adult or juvenile ESA-listed fish likely to be present in the action area during construction, unless passage did not exist before construction or the stream is naturally impassable at the time of construction.

b. After construction, provide fish passage for any adult or juvenile ESA-listed fish that meets NMFS's fish passage criteria (NMFS 2011a) for the life of the action.

20. Fish Screens

a. Submit to NMFS for review and approval fish screen designs for surface water diverted by gravity or by pumping at a rate that exceeds 3 cubic feet per second (cfs).

b. All other diversions will have a fish screen that meets the following specifications:

i. An automated cleaning device with a minimum effective surface area of 2.5 square feet per cubic foot per second, and a nominal maximum approach velocity of 0.4 feet per second, or no automated cleaning device, a minimum effective surface area of 1 square foot per cubic foot per second, and a nominal maximum approach rate of 0.2 foot per second; and

ii. A round or square screen mesh that is no larger than 2.38 millimeters (mm) (0.094") in the narrow dimension, or any other shape that is no larger than 1.75 mm (0.069") in the narrow dimension.

c. Each fish screen will be installed, operated, and maintained according to NMFS's fish screen criteria.

21. Surface Water Withdrawal

a. Surface water may be diverted to meet construction needs, including dust abatement, only if water from developed sources (*e.g.,* municipal supplies, small ponds, reservoirs, or tank trucks) are unavailable or inadequate; and

b. Diversions may not exceed 10% of the available flow and will have a juvenile fish exclusion device that is consistent with NMFS's criteria (NMFS 2011a).[12]

[12] National Marine Fisheries Service 2011. Anadromous Salmonid passage facility design. Northwest Region. http://www.nwr.noaa.gov/publications/hydropower/ferc/fish-passage-design.pdf

22. Construction Discharge Water. Treat all discharge water using best management practices to remove debris, sediment, petroleum products, and any other pollutants likely to be present (*e.g.*, green concrete, contaminated water, silt, welding slag, sandblasting abrasive, grout cured less than 24 hours, drilling fluids), to avoid or minimize pollutants discharged to any perennial or intermittent water body. Pump seepage water from the de-watered work area to a temporary storage and treatment site or into upland areas and allow water to filter through vegetation prior to reentering the stream channel. Treat water used to cure concrete until pH stabilizes to background levels.

23. Temporary Access Roads and Paths

a. Whenever reasonable, use existing access roads and paths preferentially.

b. Minimize the number and length of temporary access roads and paths through riparian areas and floodplains.

c. Minimize removal of riparian vegetation.

d. When it is necessary to remove vegetation, cut at ground level (no grubbing).

e. Do not build temporary access roads or paths where grade, soil, or other features suggest slope instability.

f. Any road on a slope steeper than 30% will be designed by a civil engineer with experience in steep road design.

g. After construction is complete, obliterate all temporary access roads and paths, stabilize the soil, and revegetate the area.

h. Temporary roads and paths in wet areas or areas prone to flooding will be obliterated by the end of the in-water work window. Decompact road surfaces and drainage areas, pull fill material onto the running surface, and reshape to match the original contours.

24. Temporary Stream Crossings

a. No stream crossing may occur at active spawning sites, when holding adult listed fish are present, or when eggs or alevins are in the gravel.

b. Do not place temporary crossings in areas that may increase the risk of channel re-routing or avulsion, or in potential spawning habitat, *e.g.*, pools and pool tailouts.

c. Minimize the number of temporary stream crossings; use existing stream crossings whenever reasonable.

d. Install temporary bridges and culverts to allow for equipment and vehicle crossing over perennial streams during construction.

e. Wherever possible, vehicles and machinery will cross streams at right angles to the main channel.

f. Equipment and vehicles may cross the stream in the wet only where the streambed is bedrock, or where mats or off-site logs are placed in the stream and used as a crossing.

g. Obliterate all temporary stream crossings as soon as they are no longer needed, and restore any damage to affected stream banks or channel.

25. Equipment, Vehicles and Power Tools

a. Select, operate and maintain all heavy equipment, vehicles, and power tools to minimize adverse effects on the environment, *e.g.*, low pressure tires, minimal hard-turn paths for track vehicles, use of temporary mats or plates to protect wet soils.

b. Before entering wetlands or working within 150 feet of a water body:

i. Power wash all heavy equipment, vehicles and power tools, allow them to fully dry, and inspect them for fluid leaks, and to make certain no plants, soil, or other organic material are adhering to the surface.

ii. Replace petroleum-based hydraulic fluids with biodegradable products[13] in hydraulic equipment, vehicles, and power tools.

c. Repeat cleaning as often as necessary during operation to keep all equipment, vehicles, and power tools free of external fluids and grease, and to prevent a leak or spill from entering the water.

d. Avoid use of heavy equipment, vehicles or power tools below ordinary high water (OHW) unless project specialists determine such work is necessary, or would result in less risk of sedimentation or other ecological damage than work above that elevation.

e. Before entering the water, inspect any watercraft, waders, boots, or other gear to be used in or near water and remove any plants, soil, or other organic material adhering to the surface.

f. Ensure that any generator, crane or other stationary heavy equipment that is operated, maintained, or stored within 150 feet of any water body is also protected as necessary to prevent any leak or spill from entering the water.

26. Site Layout and Flagging

a. Before any significant ground disturbance or entry of mechanized equipment or vehicles into the construction area, clearly mark with flagging or survey marking paint the following areas:

i. Sensitive areas, *e.g.*, wetlands, water bodies, OHW, spawning areas.

ii. Equipment entry and exit points.

iii. Road and stream crossing alignments.

iv. Staging, storage, and stockpile areas.

b. Before the use of herbicides, clearly flag no-application buffer zones.

27. Staging, Storage, and Stockpile Areas

a. Designate and use staging areas to store hazardous materials, or to store, fuel, or service heavy equipment, vehicles and other power equipment with tanks larger than 5 gallons, that are at least 150 feet from any natural water body or wetland, or on an established paved area, such that sediment and other contaminants from the staging area cannot be deposited in the floodplain or stream.

b. Natural materials that are displaced by construction and reserved for restoration, *e.g.*, LW, gravel, and boulders, may be stockpiled within the 100-year floodplain.

c. Dispose of any material not used in restoration and not native to the floodplain outside of the functional floodplain.

[13] For additional information and suppliers of biodegradable hydraulic fluids, motor oil, lubricant, or grease, see, Environmentally Acceptable Lubricants by the U.S. EPA (2011a); *e.g.*, mineral oil, polyglycol, vegetable oil, synthetic ester; Mobil® biodegradable hydraulic oils, Total® hydraulic fluid, Terresolve Technologies Ltd.® bio-based biodegradable lubricants, Cougar Lubrication® 2XT Bio engine oil, Series 4300 Synthetic Bio-degradable Hydraulic Oil, 8060-2 Synthetic Bio-Degradable Grease No. 2, *etc.* The use of trade, firm, or corporation names in this opinion is for the information and convenience of the action agency and applicants and does not constitute an official endorsement or approval by the U.S. Department of Commerce or NMFS of any product or service to the exclusion of others that may be suitable.

d. After construction is complete, obliterate all staging, storage, or stockpile areas, stabilize the soil, and revegetate the area.[14]

28. Drilling and Boring

a. If drilling or boring are used, isolate drilling operations in wetted stream channels using a steel casing or other appropriate isolation method to prevent drilling fluids from contacting water.

b. If drilling through a bridge deck is necessary, use containment measures to prevent drilling debris from entering the channel.

c. Sampling and directional drill recovery/recycling pits, and any associated waste or spoils will be completely isolated from surface waters, off-channel habitats and wetlands.

d. All waste or spoils will be covered if precipitation is falling or imminent.

e. All drilling fluids and waste will be recovered and recycled or disposed to prevent entry into flowing water.

f. If a drill boring case breaks and drilling fluid or waste is visible in water or a wetland, make all possible efforts to contain the waste and contact NMFS within 48 hours.

g. Waste containment

i. All drilling equipment, drill recovery and recycling pits, and any waste or spoil produced, will be contained and then completely recovered and recycled or disposed of as necessary to prevent entry into any waterway. Use a tank to recycle drilling fluids.

ii. When drilling is completed, remove as much of the remaining drilling fluid as possible from the casing (*e.g.*, by pumping) to reduce turbidity when the casing is removed.

29. Pesticide and Preservative-Treated Wood[15]

a. Treated wood may not be used in a structure that will be in or over water or permanently or seasonally flooded wetlands, *except to maintain or repair an existing wood bridge*. The following criteria in b, c, and d below apply to the use of treated wood for maintenance or repair of existing wood bridges.

b. No part of the treated wood may be exposed to leaching by precipitation, overtopping waves, or submersion (*e.g.,* no treated wood piles (per PDC#10, and stringers or decking of a timber bridge can be made from treated wood only if they will be covered by a non-treated wood wearing surface that covers the entire roadway width), and all elements of the structure using the treated wood are designed to avoid or minimize impacts or abrasion that could create treated wood debris or dust.

c. Installation of treated wood

i. Treated wood shipped to the project area will be stored out of contact with standing water and wet soil, and protected from precipitation.

ii. Each load and piece of treated wood will be visually inspected and rejected for use in or above aquatic environments if visible residue, bleeding of preservative, preservative-saturated sawdust, contaminated soil, or other matter is present.

[14] Road and path obliteration refers to the most comprehensive degree of decommissioning and involves decompacting the surface and ditch, pulling the fill material onto the running surface, and reshaping to match the original contour.

[15] Treated woods may contain chromated copper arsenate (CCA), ammoniacal copper zinc arsenate (ACZA), alkaline copper quat (ACQ-B and ACQ-D), ammoniacal copper citrate (CC), copper azole (CBA-A), copper dimethyldithiocarbamate (CDDC), borate preservatives, and oil-type wood preservatives, such as creosote, pentachlorophenol, and copper naphthenate.

iii. Prefabrication will be used whenever possible to minimize cutting, drilling and field preservative treatment.

iv. When field fabrication is necessary, all cutting, drilling, and field preservative treatment of exposed treated wood will be done above OHW to minimize discharge of sawdust, drill shavings, excess preservative and other debris.

v. Tarps, plastic tubs or similar devices will be used to contain the bulk of any fabrication debris, and any excess field preservative will be removed from the treated wood by wiping and proper disposal.

d. Removal of treated wood

i. Evaluate all wood construction debris removed during a project, including pile, to ensure proper disposal of treated wood.

ii. Ensure that no treated wood debris falls into the water or, if debris does fall into the water, remove it immediately.

iii. After removal, place treated wood debris in an appropriate dry storage site until it can be removed from the project area.

iv. Do not leave any treated wood debris in the water or stacked on the streambank at or below OHW.

30. Erosion Control

a. Use site planning and site erosion control measures commensurate with the scope of the project to prevent erosion and sediment discharge from the project site.

b. Before significant earthwork begins, install appropriate, temporary erosion controls downslope to prevent sediment deposition in the riparian area, wetlands, or water body.

c. During construction,

i. Complete earthwork in wetlands, riparian areas, and stream channels as quickly as possible.

ii. Cease project operations when high flows may inundate the project area, except for efforts to avoid or minimize resource damage.

iii. If eroded sediment appears likely to be deposited in the stream during construction, install additional sediment barriers as necessary.

iv. Temporary erosion control measures may include fiber wattles, silt fences, jute matting, wood fiber mulch and soil binder, or geotextiles and geosynthetic fabric.

v. Soil stabilization using wood fiber mulch and tackifier (hydro-applied) may be used to reduce erosion of bare soil, if the materials are free of noxious weeds and nontoxic to aquatic and terrestrial animals, soil microorganisms, and vegetation.

vi. Remove sediment from erosion controls if it reaches 1/3 of the exposed height of the control.

vii. Whenever surface water is present, maintain a supply of sediment control materials and an oil-absorbing floating boom at the project site.

viii. Stabilize all disturbed soils following any break in work unless construction will resume within four days.

d. Remove temporary erosion controls after construction is complete and the site is fully stabilized.

31. Hazardous Material Safety

a. At the project site:

i. Post written procedures for notifying environmental response agencies, including an inventory and description of all hazardous materials present, and the storage and handling procedures for their use.

ii. Maintain a spill containment kit, with supplies and instructions for cleanup and disposal, adequate for the types and quantity of hazardous materials present.

iii. Train workers in spill containment procedures, including the location and use of the spill containment kits.

iv. Temporarily contain any waste liquids generated under an impervious cover, such as a tarpaulin, in the staging area until the wastes can be properly transported to, and disposed of, at an approved receiving facility.

32. Barge Use.

Any barge used as a work platform to support construction will be:

a. Large enough to remain stable under foreseeable loads and adverse conditions.

b. Inspected before arrival to ensure vessel and ballast are free of invasive species.

c. Secured, stabilized and maintained as necessary to ensure no loss of balance, stability, anchorage, or other condition that can result in the release of contaminants or construction debris.

33. Dust Abatement

a. Use dust abatement measures commensurate with soil type, equipment use, wind conditions, and the effects of other erosion control measures.

b. Sequence and schedule work to reduce the exposure of bare soil to wind erosion.

c. Maintain spill containment supplies on-site whenever dust abatement chemicals are applied.

d. Do not use petroleum-based products.

e. Do not apply dust-abatement chemicals, *e.g.*, magnesium chloride, calcium chloride salts, lignin sulfonate, within 25 feet of a water body, or in other areas where they may runoff into a wetland or water body.

f. Do not apply lignin sulfonate at rates exceeding 0.5 gallons per square yard of road surface, assuming a 50:50 solution of lignin sulfonate to water.

34. Work Area Isolation

a. Isolate any work area within the wetted channel from the active stream whenever ESA-listed fish are reasonably certain to be present, or if the work area is less than 300 feet upstream from known spawning habitats.

b. Engineering design plans for work area isolation will include all isolation elements and fish release areas.

c. Dewater the shortest linear extent of work area practicable, unless wetted in-stream work is deemed to be minimally harmful to fish, and is beneficial to other aquatic species.[16]

[16] For instructions on how to dewater areas occupied by lamprey, see *Best management practices to minimize adverse effects to Pacific lamprey* (*Entosphenus tridentatus*) (USFWS 2010).

i. Use a coffer dam and a by-pass culvert or pipe, or a lined, non-erodible diversion ditch to divert flow around the dewatered area. Dissipate flow energy to prevent damage to riparian vegetation or stream channel and provide for safe downstream reentry of fish, preferably into pool habitat with cover.

ii. Where gravity feed is not possible, pump water from the work site to avoid rewatering. Maintain a fish screen on the pump intake to avoid juvenile fish entrainment.

iii. Pump seepage water to a temporary storage and treatment site, or into upland areas, to allow water to percolate through soil or to filter through vegetation before reentering the stream channel with a treatment system comprised of either a hay bale basin or other sediment control device.

iv. Monitor below the construction site to prevent stranding of aquatic organisms.

v. When construction is complete, re-water the construction site slowly to prevent loss of surface flow downstream, and to prevent a sudden increase in stream turbidity.

d. Whenever a pump is used to dewater the isolation area and ESA-listed fish may be present, a fish screen will be used that meets the most current version of NMFS's fish screen criteria (NMFS 2011a). NMFS approval is required for pumping at a rate that exceeds 3 cfs.

35. Invasive and Non-Native Plant Control

a. ***Non-herbicide methods.*** Limit vegetation removal and soil disturbance within the riparian zone by limiting the number of workers there to the minimum necessary to complete manual, mechanical, or hydro-mechanical plant control (*e.g.*, hand pulling, bending[17], clipping, stabbing, digging, brush-cutting, mulching, radiant heat, portable flame burner, super-heated steam, pressurized hot water, or hot foam (Arsenault *et al.* 2008; Donohoe *et al.* 2010))[18]. Do not allow cut, mowed, or pulled vegetation to enter waterways.

b. ***Herbicide Label.*** Herbicide applicators will comply with all label instructions

c. ***Power equipment.*** Refuel gas-powered equipment with tanks larger than 5 gallons in a vehicle staging area placed 150 feet or more from any natural water body, or in an isolated hazard zone such as a paved parking lot.

d. ***Maximum herbicide treatment area.*** Do not exceed treating 1.0% of the acres of riparian habitat within a 6th-field HUC with herbicides per year.

e. ***Herbicide applicator qualifications.*** Herbicides may only be applied by an appropriately licensed applicator using an herbicide specifically targeted for a particular plant species that will cause the least impact. The applicator will be responsible for preparing and carrying out the herbicide transportation and safely plan, as follows.

f. ***Herbicide transportation and safety plan.*** The applicator will prepare and carry out an herbicide safety/spill response plan to reduce the likelihood of spills or misapplication, to take remedial actions in the event of spills, and to fully report the event.

[17] Knotweed treatment pre-treatment; See Nickelson (2013).
[18] See http://ahmct.ucdavis.edu/limtask/equipmentdetails.html

g. ***Herbicides.*** The only herbicides proposed for use under this opinion are (some common trade names are shown in parentheses):[19]

i. aquatic imazapyr (*e.g.*, Habitat)
ii. aquatic glyphosate (*e.g.*, AquaMaster, AquaPro, Rodeo)
iii. aquatic triclopyr-TEA (*e.g.*, Renovate 3)
iv. chlorsulfuron (*e.g.*, Telar, Glean, Corsair)
v. clopyralid (*e.g.*, Transline)
vi. imazapic (*e.g.*, Plateau)
vii. imazapyr (*e.g.*, Arsenal, Chopper)
viii. metsulfuron-methyl (*e.g.*, Escort)
ix. picloram (*e.g.*, Tordon)
x. sethoxydim (*e.g.*, Poast, Vantage)
xi. sulfometuron-methyl (*e.g.*, Oust, Oust XP)

h. ***Herbicide adjuvants.*** When recommended by the label, an approved aquatic surfactant or drift retardant can be used to improve herbicidal activity or application characteristics. Adjuvants that contain alky amine etholoxylates, *i.e.*, polyethoxylated tallow amine (POEA), alkylphenol ethoxylates (including alkyl phenol ethoxylate phosphate esters), or herbicides that contain these compounds are **not** covered by this opinion. The following product names are covered by this opinion:

i. Agri-Dex
ii. AquaSurf
iii. Bond
iv. Bronc Max
v. Bronc Plus Dry-EDT
vi. Class Act NG
vii. Competitor
viii. Cut Rate
ix. Cygnet Plus
x. Destiny HC
xi. Exciter
xii. Fraction
xiii. InterLock
xiv. Kinetic
xv. Level 7
xvi. Liberate
xvii. Magnify
xviii. One-AP XL
xix. Pro AMS Plus
xx. Spray-Rite
xxi. Superb HC
xxii. Tactic
xxiii. Tronic

i. ***Herbicide carriers.*** Herbicide carriers (solvents) are limited to water or specifically labeled vegetable oil. Use of diesel oil as an herbicide carrier is not covered by this opinion.

j. ***Dyes.*** Use a non-hazardous indicator dye (*e.g.*, Hi-Light or Dynamark™) with herbicides within 100 feet of water. The presence of dye makes it easier to see where the herbicide has been applied and where or whether it has dripped, spilled, or leaked. Dye also makes it easier to detect missed spots, avoid spraying a plant or area more than once, and minimize over-spraying (SERA 1997).

k. ***Herbicide mixing.*** Mix herbicides and adjuvants, carriers, and/or dyes more than 150 feet from any perennial or intermittent water body to minimize the risk of an accidental discharge.

[19] The use of trade, firm, or corporation names in this opinion is for the information and convenience of the action agency and applicants and does not constitute an official endorsement or approval by the U.S. Department of Commerce or NMFS of any product or service to the exclusion of others that may be suitable.

i. ***Tank Mixtures.*** The potential interactive relationships that exist among most active ingredient combinations have not been defined and are uncertain. Therefore, combinations of herbicides in a tank mix are not covered by this opinion.

m. ***Spill Cleanup Kit.*** Provide a spill cleanup kit whenever herbicides are used, transported, or stored. At a minimum, cleanup kits will include material safety data sheets, the herbicide label, emergency phone numbers, and absorbent material such as cat litter to contain spills.

n. ***Herbicide application rates.*** Apply herbicides at the lowest effective label rates.

o. ***Herbicide application methods.*** Apply liquid or granular forms of herbicides as follows:

i. Broadcast spraying – hand held nozzles attached to back pack tanks or vehicles, or by using vehicle mounted booms.

ii. Spot spraying – hand held nozzles attached to back pack tanks or vehicles, hand-pumped spray, or squirt bottles to spray herbicide directly onto small patches or individual plants.

iii. Hand/selective – wicking and wiping, basal bark, fill ("hack and squirt"), stem injection, cut-stump.

iv. Triclopyr – will not be applied by broadcast spraying.

v. Keep the spray nozzle within four feet of the ground when applying herbicide. If spot or patch spraying tall vegetation more than 15 feet away from the high water mark (HWM), keep the spray nozzle within 6 feet of the ground.

vi. Apply spray in swaths parallel towards the project area, away from the creek and desirable vegetation, *i.e.*, the person applying the spray will generally have their back to the creek or other sensitive resource.

vii. Avoid unnecessary run off during cut surface, basal bark, and hack-squirt/injection applications.

p. ***Washing spray tanks.*** Wash spray tanks 300 feet or more away from any surface water.

q. ***Minimization of herbicide drift and leaching.*** Minimize herbicide drift and leaching as follows:

i. Do not spray when wind speeds exceed 10 miles per hour, or are less than 2 miles per hour.

ii. Be aware of wind directions and potential for herbicides to affect aquatic habitat area downwind.

iii. Keep boom or spray as low as possible to reduce wind effects.

iv. Increase spray droplet size whenever possible by decreasing spray pressure, using high flow rate nozzles, using water diluents instead of oil, and adding thickening agents.

v. Do not apply herbicides during temperature inversions, or when air temperature exceeds 80 degrees Fahrenheit.

vi. Wind and other weather data will be monitored and reported for all broadcast applications.

r. ***Rain.*** Do not apply herbicides when the soil is saturated or when a precipitation event likely to produce direct runoff to salmon bearing waters from the treated area is forecasted by the NOAA National Weather Service or other similar forecasting service within 48 hours following application. Soil-activated herbicides may follow label instructions. Do not conduct hack-squirt/injection applications during periods of heavy rainfall.

s. ***Herbicide buffer distances.*** Observe the following no-application buffer-widths, measured in feet, as map distance perpendicular to the bankfull elevation for streams, the upland boundary for wetlands, or the upper bank for roadside ditches. Widths are based on herbicide formula, stream type, and application method, during herbicide applications (Table 3). Before herbicide application begins, flag or mark the upland boundary of each applicable herbicide buffer to ensure that all buffers are in place and functional during treatment.

Table 3. Herbicide buffer distances by herbicide formula, stream type, and application method.

Herbicide	No Application Buffer Width (feet)					
	Streams and Roadside Ditches with flowing or standing water present and Wetlands			Dry Streams, Roadside Ditches, and Wetlands		
	Broadcast Spraying	Spot Spraying	Hand Selective	Broadcast Spraying	Spot Spraying	Hand Selective
Labeled for Aquatic Use						
Aquatic Glyphosate	100	waterline	waterline	50	None	none
Aquatic Imazapyr	100	15	waterline	50	None	none
Aquatic Triclopyr-TEA	**Not Allowed**	15	waterline	**Not Allowed**	None	none
Low Risk to Aquatic Organisms						
Imazapic	100	15	bankfull elevation	50	None	none
Clopyralid	100	15	bankfull elevation	50	None	none
Metsulfuron-methyl	100	15	bankfull elevation	50	None	none
Moderate Risk to Aquatic Organisms						
Imazapyr	100	50	bankfull elevation	50	15	bankfull elevation
Sulfometuron-methyl	100	50	5	50	15	bankfull elevation
Chlorsulfuron	100	50	bankfull elevation	50	15	bankfull elevation
High Risk to Aquatic Organisms						
Picloram	100	50	50	100	50	50
Sethoxydim	100	50	50	100	50	50

36. Actions Requiring Stormwater Management[20]

a. Provide stormwater management for any project that will:

i. Increase the contributing impervious area within the project area

ii. Construct new pavement that increases capacity or widens the road prism.

iii. Reconstructs pavement down to subgrade.

iv. Rehabilitate or restore a bridge to repair structural or functional deficiencies that are too complicated to be corrected through normal maintenance, except for seismic retrofits that make a bridge more resistant to earthquake damage (*e.g.*, external post-tensioning, supplementary dampening) but do not affect the bridge deck or drainage.

v. Replace a stream crossing

vi. Change stormwater conveyance

b. Stormwater management is not required for the following pavement actions: minor repairs, patching, chip seal, grind/inlay, overlay or resurfacing (*i.e.,* nonstructural pavement preservation, a single lift or inlay).

c. Stormwater management plans will consist of:

i. Low impact development.

ii. Water quality (pollution reduction) treatment for post-construction stormwater runoff from all contributing impervious area.

iii. Water quantity treatment (retention or detention facilities), unless the outfall discharges directly into a major water body (*e.g.,* mainstem Columbia River, Willamette River (downstream of Eugene), large lakes, reservoir, ocean, or estuary). Retention or detention facilities must limit discharge to match pre-developed discharge rates (i.e., the discharge rate of the site based on its natural groundcover and grade before any development occurred) using a continuous simulation for flows between 50% of the 2-year event and the 10-year flow event (annual series).

d. Stormwater management plans will:

i. Explain how runoff from all contributing impervious area that is within or contiguous with the project area will be managed using site sketches, drawings, specifications, calculations, or other information commensurate with the scope of the action.

ii. Identify the pollutants of concern.

iii. Identify all contributing and non-contributing impervious areas that are within and contiguous with the project area.

iv. Describe the BMPs that will be used to treat the identified pollutants of concern, and the proposed maintenance activities and schedule for the treatment facilities.

[20] The most efficient way for an applicant or the Corps to prepare and submit a stormwater management plan for NMFS' review is to attach a completed *Checklist for Submission of a Stormwater Management Plan* (the *Checklist*, ODEQ updated 2012, or the most recent version) with the electronic notification when it is sent to the SLOPES mailbox. However, stormwater conveyance to a DEQ permitted Municipal Separate Storm Sewer System (MS4) or consistency with any other program acknowledged by DEQ as adequate for stormwater management will not meet the requirements of this opinion unless NMFS determines that the facility accepting the stormwater will provide a level of treatment that is equivalent to that called for in this opinion. The *Checklist* and guidelines for its use are available from NMFS or the ODEQ in Portland Oregon. The latest version of the *Checklist* is also available online in a portable document format (pdf) through the ODEQ Water Quality Section 401 certification webpage (ODEQ 2014) at http://www.deq.state.or.us/wq/sec401cert/process.htm#add (see "Post Construction Stormwater Management Plan").

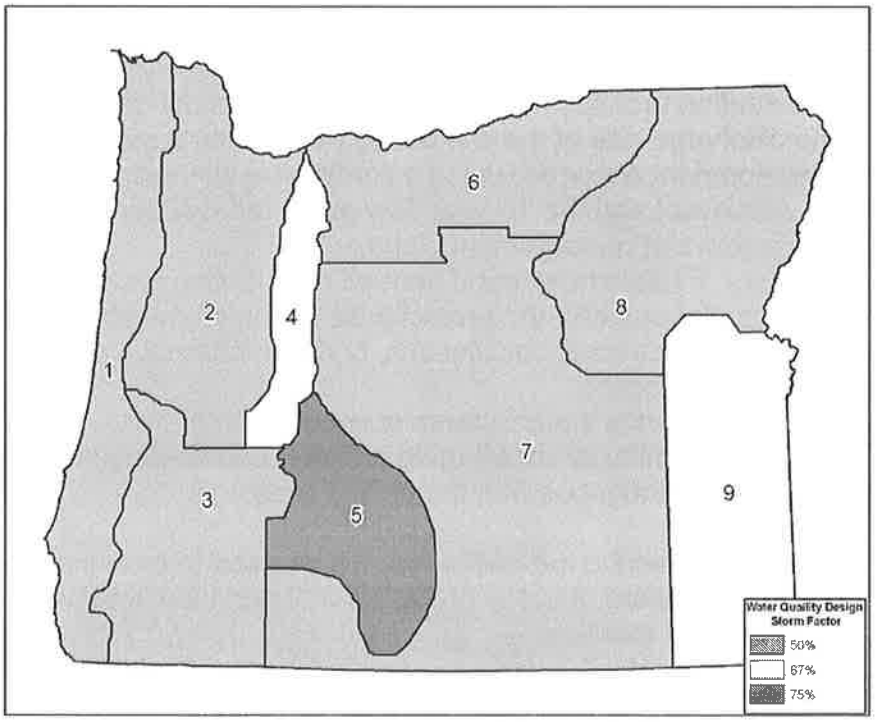
v. Provide a justification for the capacity of the facilities provided based on the expected runoff volume, including, *e.g.*, the design storm, BMP geometry, analyses of residence time, as appropriate.

vi. Include the name, email address, and telephone number of the person responsible for designing the stormwater management facilities that NMFS may contact if additional information is necessary to complete the effects analysis.

vii. The proposed action will include a maintenance, repair, and component replacement plan that details what needs to be done, when, and by whom for each facility.

e. All stormwater quality treatment practices and facilities will be designed to accept and fully treat the volume of water equal to 50% of the cumulative rainfall from the 2-year, 24-hour storm for that site, except as follows: climate zone 4 – 67%; climate zone 5 – 75%; and climate zone 9 – 67% (Figure 1). (ESA-listed species considered in this opinion are unlikely to occur in Zones 5 or 9.) A continuous rainfall/runoff model may be used instead of runoff depths to calculate water quality treatment depth.

Figure 1. Water Quality Design Storm Factor – Oregon Climate Regions (Oregon Department of Transportation 2008)



f. Use low impact development practices to infiltrate or evaporate runoff to the maximum extent feasible. For runoff that cannot be infiltrated or evaporated and therefore will discharge into surface or subsurface waters, apply one or more of the following specific primary treatment practices, supplemented with appropriate soil amendments:

i. Bioretention cell
ii. Bioslope, also known as an "ecology embankment"
iii. Bioswale
iv. Constructed wetlands
v. Infiltration pond
vi. Media filter devices with demonstrated effectiveness. Propriety devices should be on a list of "Approved Proprietary Stormwater Treatment Technologies" *i.e.*, City of Portland (2008) Stormwater Management Manual. Bureau of Environmental Services.
vii. Porous pavement, with no soil amendments and appropriate maintenance
viii. All stormwater flow control treatment practices and facilities will be designed to maintain the frequency and duration of instream flows generated by storms within the following end-points:
1. Lower discharge endpoint, by U.S. Geological Survey (USGS) flood frequency zone:
a. Western Region = 42% of 2-year event
b. Eastern Region
i. Southeast, Northeast, North Central = 48% of 2-year event
ii. Eastern Cascade = 56% of 2-year event
2. Upper discharge endpoint
a. Entrenchment ratio <2.2 = 10-year event, 24-hour storm
b. Entrenchment ratio >2.2 = bank overtopping event

g. When conveyance is necessary to discharge treated stormwater directly into surface water or a wetland, the following requirements apply:

i. Maintain natural drainage patterns.
ii. To the maximum extent feasible, ensure that water quality treatment for contributing impervious area runoff is completed before commingling with offsite runoff for conveyance.
iii. Prevent erosion of the flow path from the project to the receiving water and, if necessary, provide a discharge facility made entirely of manufactured elements (*e.g.*, pipes, ditches, discharge facility protection) that extends at least to OHW.

h. **NMFS review and approval.** NMFS will review proposed stormwater treatment and new or upgraded stormwater outfalls plans.

37. Site Restoration

a. Restore any significant disturbance of riparian vegetation, soils, stream banks or stream channel.

b. Remove all project related waste; *e.g.*, pick up trash, sweep roadways in the project area to avoid runoff-containing sediment, *etc.*

c. Obliterate all temporary access roads, crossings, and staging areas.

d. Loosen compacted areas of soil when necessary for revegetation or infiltration.

e. Although no single criterion is sufficient to measure restoration success, the intent is that the following features should be present in the upland parts of the project area, within reasonable limits of natural and management variation:

i. Human and livestock disturbance, if any, are confined to small areas necessary for access or other special management situations.

ii. Areas with signs of significant past erosion are completely stabilized and healed, bare soil spaces are small and well-dispersed.

iii. Soil movement, such as active rills and soil deposition around plants or in small basins, is absent or slight and local.

iv. Native woody and herbaceous vegetation, and germination microsites, are present and well distributed across the site; invasive plants are absent.

v. Plants have normal, vigorous growth form, and a high probability of remaining vigorous, healthy and dominant over undesired competing vegetation.

vi. Plant litter is well distributed and effective in protecting the soil with little or no litter accumulated against vegetation as a result of active sheet erosion ("litter dams").

vii. A continuous corridor of shrubs and trees appropriate to the site are present to provide shade and other habitat functions for the entire streambank.

38. Revegetation

a. Plant and seed disturbed areas before or at the beginning of the first growing season after construction.

b. Use a diverse assemblage of vegetation species native to the action area or region, including trees, shrubs, and herbaceous species. Vegetation, such as willow, sedge and rush mats, may be gathered from abandoned floodplains, stream channels, *etc.* When feasible, use vegetation salvaged from local areas scheduled for clearing due to development.

c. Use species native to the project area or region that will achieve shade and erosion control objectives, including forb, grass, shrub, or tree species that are appropriate for the site.

d. Short-term stabilization measures may include use of non-native sterile seed mix if native seeds are not available, weed-free certified straw, jute matting, and similar methods.

e. Do not apply surface fertilizer within 50 feet of any wetland or water body.

f. Install fencing as necessary to prevent access to revegetated sites by livestock or unauthorized persons.

g. Do not use invasive or non-native species for site restoration.

h. Conduct post-construction monitoring and treatment to remove or control invasive plants until native plant species are well-established.

39. Actions That Require Compensatory Mitigation

a. The Corps will rely on 33 CFR 332.3 when considering appropriate mitigation. The first option for an applicant is to purchase credits from an appropriate mitigation bank. The second option is to purchase credits from an approved in-lieu-fee sponsor. The third option is Permittee-responsible mitigation. The fourth option is a combination of some or all of the above options that collectively satisfies the mitigation requirements.

b. NMFS will review and approve compensatory mitigation plans.

c. The following actions require compensatory mitigation:

i. Any stormwater management facility that requires a new or enlarged structure within the riparian zone; or that has insufficient capacity to infiltrate and retain the volume of stormwater called for by this opinion.

ii. Any riprap revetment that extends rock above the streambank toe extends the use of riprap laterally into an area that was not previously revetted, or revetment that does not include adequate vegetation and LW.

iii. Any bridge rehabilitation or replacement that does not span the functional floodplain, or causes a net increase in fill within the functional floodplain.

d. The electronic notification (Appendix A, Part 1 with Part 4 completed) for an action that requires compensatory mitigation will explain how the Corps or applicant will complete the mitigation, including site sketches, drawings, specifications, calculations, or other information commensurate with the scope of the action.

e. Include the name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis.

f. Describe practices that will be used to ensure:

i. No net loss of habitat function

ii. Completion before, or concurrent with, construction whenever possible

iii. Achieve a mitigation ratio that is greater than one-to-one and larger (*e.g.*, 1.5 to1.0 when necessary to compensate for time lags between the loss of conservation value in the project area and replacement of conservation value in the mitigation area, uncertainty of conservation value replacement in the mitigation area, or when the affected area has demonstrably higher conservation value than the mitigation area.[21]

iv. When practicable and environmentally sound, mitigation should be near the project impact site, or within the same local watershed and area occupied by the affected population(s) and age classes. Mitigation should be completed prior to or concurrent with the adverse impacts, or have an increased ratio as noted above.

[21] For additional information on compensatory mitigation, see Compensatory Mitigation for Losses of Aquatic Resources (33CFR332) at *www.poa.usace.army.mil/Portals/34/docs/regulatory/33cfr332.pdf*. More information is available from the U.S. Army Corps of Engineers, Portland District, Portland, Oregon. See: http://www.nwp.usace.army.mil/Missions/Regulatory/Mitigation.aspx

v. To minimize delays and objections during the review process, applicants are encouraged to seek the advice of NMFS during the planning and design of mitigation plans. For complex mitigation projects, such consultation may improve the likelihood of mitigation success and reduce permit-processing time.

g. For stormwater management:

i. The primary habitat functions of concern are related to the physical and biological features essential to the long-term conservation of listed species, *i.e.*, water quality, water quantity, channel substrate, floodplain connectivity, forage, natural cover (such as submerged and overhanging LW, aquatic vegetation, large rocks and boulders, side channels and undercut banks), space, and free passage.

ii. Acceptable mitigation for riparian habitat displaced by a stormwater treatment facility is restoration of shallow-water or off-channel habitat

iii. Acceptable mitigation for inadequate stormwater treatment includes providing adequate stormwater treatment where it did not exist before, and retrofitting an existing but substandard stormwater facility to provide capacity necessary to infiltrate and retain the proper volume of stormwater. Such mitigation can be measured in terms of deficit stormwater treatment capacity.

h. For riprap:

i. The primary habitat functions of concern are related to floodplain connectivity, forage, natural cover, and free passage.

ii. Acceptable mitigation for those losses include removal of existing riprap; retrofit existing riprap with vegetated riprap and LW, or one or more other streambank stabilization methods described in this opinion, and restoration of shallow water or off-channel habitats.

i. For a bridge replacement:

i. The primary habitat functions of concern are floodplain connectivity, forage, natural cover, and free passage.

ii. Acceptable mitigation is removing fill from elsewhere in the floodplain – native channel material, soil and vegetation may not be counted as fill.

j. Mitigation actions will meet general construction criteria and other appropriate minimization measures (dependent on the type of proposed mitigation).

1.3.1.3 Project Design Criteria - Types of Actions

40. Natural Hazard Response

a. A manager of a state, regional, county, or municipal stormwater facility, public transportation feature, or utility must initiate a natural hazard response by notifying the Corps.[22] The Corps will encourage the applicant to:

i. Act as necessary to resolve the initial natural hazard.

ii. Without endangering human life or contributing to further loss of property or natural resources, apply all proposed design criteria from this opinion which are applicable to the response to the maximum extent possible.

b. The Corps will also contact NMFS as part of the natural hazard response.

i. As soon as possible after the onset of the natural hazard, the Corps will require the applicant to contact the Corps and NMFS to describe the nature and location of the natural hazard, review design criteria from this opinion that are applicable to the situation, and determine whether additional steps may be taken to further minimize the effects of the initial response action on listed species or their critical habitat.

ii. For the Oregon Coast contact Ken Phippen (541-957-3385), for the Willamette Basin contact Marc Liverman (503-231-2336), and Lower Columbia River up to and including Oregon tributaries contact Jeff Fisher (360-534-9342), and for eastern Oregon contact Dale Bambrick (509-962-8911x221).

41. Streambank and Channel Stabilization

a. The following streambank stabilization methods may be used individually or in combination:

i. Alluvium placement
ii. Large wood placement
iii. Vegetated riprap with large wood
iv. Roughened toe
v. Woody plantings
vi. Herbaceous cover, in areas where the native vegetation does not include trees or shrubs.
vii. Bank reshaping and slope grading
viii. Coir logs
ix. Deformable soil reinforcement
x. Engineered log jams (ELJ)
xi. Floodplain flow spreaders
xii. Floodplain roughness

[22] Natural hazard response actions do not include federal assistance following a gubernatorial, county or local declaration of emergency or disaster with a request for federal assistance; a federal declaration of emergency or disaster; or any response to an emergency or disaster that takes place on federal property or to a federal asset because those actions are subject to emergency consultation provisions of 50 CFR 402.05

b. For more information on the above methods see Federal Emergency Management Agency (2009)[23] or Cramer *et al.* (2003).[24] Other than those methods relying solely upon woody and herbaceous plantings, streambank stabilization projects should be designed by a qualified engineer that is appropriately registered in the state where the work is performed.

c. Stream barbs and full-spanning weirs are not allowed for stream bank stabilization under this opinion.

d. Alluvium Placement can be used as a method for providing bank stabilization using imported gravel/cobble/boulder-sized material of the same composition and size as that in the channel bed and banks, to halt or attenuate streambank erosion, and stabilize riffles. This method is predominantly for use in small to moderately sized channels and is not appropriate for application in mainstem systems. These structures are designed to provide roughness, redirect flow, and provide stability to adjacent streambed and banks or downstream reaches, while providing valuable fish and wildlife habitat.

i. **NMFS fish passage review and approval.** NMFS will review alluvium placement projects that would occupy more than 25% of the channel bed or more than 25% of the bankfull cross sectional area.

ii. This design method is only approved in those areas where the natural sediment supply has been eliminated, significantly reduced through anthropogenic disruptions, or used to initiate or simulate sediment accumulations in conjunction with other structures, such as LW placements and ELJs.

iii. Material used to construct the toe should be placed in a manner that mimics attached longitudinal bars or point bars.

iv. Size distribution of toe material will be diverse and predominately comprised of D_{84} to D_{max} size class material.

v. Spawning gravels will constitute at least one-third of the total alluvial material used in the design.

vi. Spawning gravels are to be placed at or below an elevation consistent with the water surface elevation of a bankfull event.

vii. Spawning size gravel can be used to fill the voids within toe and bank material and placed directly onto stream banks in a manner that mimics natural debris flows and erosion.

viii. All material will be clean alluvium with similar angularity as the natural bed material. When possible use material of the same lithology as found in the watershed. Reference *Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings* (USDA-Forest Service 2008) to determine gravel sizes appropriate for the stream.

ix. Material can be mined from the floodplain at elevations above bankfull, but not in a manner that will cause stranding during future flood events.

x. Crushed rock is not permitted.

xi. After placement in areas accessible to higher stream flow, allow the stream to naturally sort and distribute the material.

[23] http://www.fema.gov/pdf/about/regions/regionx/Engineering_With_Nature_Web.pdf
[24] http://wdfw.wa.gov/publications/00046/wdfw00046.pdf

xii. Do not place material directly on bars and riffles that are known spawning areas, which may cause fish to spawn on the unsorted and unstable gravel, thus potentially resulting in redd destruction.

xiii. Imported material will be free of invasive species and non-native seeds. If necessary, wash prior to placement.

e. **Large Wood Placements** are defined as structures composed of LW that do not use mechanical methods as the means of providing structure stability (*i.e.,* large rock, rebar, rope, cable, *etc.*). The use of native soil, alluvium with similar angularity as the natural bed material, large wood, or buttressing with adjacent trees as methods for providing structure stability are authorized. This method is predominantly for use in small to moderately sized channels and is not appropriate for application in mainstem systems. These structures are designed to provide roughness, redirect flow, and provide stability to adjacent streambed and banks or downstream reaches, while providing valuable fish and wildlife habitat.

i. **NMFS fish passage review and approval.** NMFS will review LW placement projects that would occupy greater than 25% of the bankfull cross section area.

ii. Structure shall simulate disturbance events to the greatest degree possible and include, but not be limited to, log jams, debris flows, wind-throw, and tree breakage.

iii. Structures may partially or completely span stream channels or be positioned along stream banks.

iv. Where structures partially or completely span the stream channel LW should be comprised of whole conifer and hardwood trees, logs, and rootwads. LW size (diameter and length) should account for bankfull width and stream discharge rates.

v. Structures will incorporate a diverse size (diameter and length) distribution of rootwad or non-rootwad, trimmed or untrimmed, whole trees, logs, snags, slash, *etc.*

vi. For individual logs that are completely exposed, or embedded less than half their length, logs with rootwads should be a minimum of 1.5 times bankfull channel width, while logs without rootwads should be a minimum of 2.0 times bankfull width.

vi. Consider orienting key pieces such that the hydraulic forces upon the LW increase stability.

f. Vegetated riprap with large wood (LW)

i. NMFS will review and approve bank stabilization projects that use vegetated riprap with LW.

ii. When this method is necessary, limit installation to the areas identified as most highly erodible, with highest shear stress, or at greatest risk of mass-failure, and provide compensatory mitigation. The greatest risk of mass-failure will usually be at the toe of the slope and will not extend above OHW elevation except in incised streams.

iii. Do not use invasive or non-native species for site restoration.

iv. Remove or control invasive plants until native plant species are well-established.

v. Do not apply surface fertilizer within 50-feet of any stream channel.

vi. Install fencing as necessary to prevent access to revegetated sites by livestock or unauthorized persons.

vii. Vegetated riprap with LW will be installed as follows:

1. When present, use natural hard points, such as large, stable trees or rock outcrops, to begin or end the toe of the revetment.

2. Develop rock size gradations for elevation zones on the bank, especially if the rock will extend above OHW – the largest rock should be placed at the toe of the slope, while small rock can be used higher in the bank where the shear stress is generally lower. Most upper bank areas will not require the use of any rock but can depend on the vegetation for erosion protection.

3. For bank areas above OHW where rock is still deemed necessary, mix rock with soil to provide a better growing medium for plants.

4. Minimum amount of wood incorporated into the treated area, for mitigation of riprap, is equal to the number of whole trees whose cumulative summation of rootwad diameters is equal to 80% of linear-feet of treated streambank or 20% of the treated area (square feet) of streambank, whichever is greater.

5. Where whole trees are not used (*i.e.,* snags, logs, and partial trees) designers are required to estimate the dimensions of parent material based on rootwad diameter, and calculating a cumulative equivalency of whole trees.

6. LW should be distributed throughout the structure (not just concentrated at the toe) to engage flows up to the bankfull flow. LW placed above the toe may be in the form of rootwad or non-rootwad, trimmed or untrimmed, whole trees, logs, snags, slash, *etc.* Maximize the exposure of wood to water by placing and orienting wood to project into the water column up to the bankfull elevation.

7. Develop an irregular toe and bank line to increase roughness and habitat value.

8. Use LW and irregular rock to create large interstitial spaces and small alcoves to create planting spaces and habitat to mitigate for flood-refuge impacts – do not use geotextile fabrics as filter behind the riprap whenever possible, if a filter is necessary to prevent sapping, use a graduated gravel filter.

9. Structure toe will incorporate LW with intact rootwads. Minimum spacing between rootwads placed at the toe will be no greater than an average rootwad diameter.

10. Minimum rootwad diameter for LW placed at the toe of the structure shall be 1.0 times the bankfull depth, unless LW availability constrains the project to a smaller rootwad size. Where rootwad size is constrained due to availably, the largest diameter rootwads available should be used.

11. LW placed at the toe will be sturdy material, intact, hard, and undecayed and should be sized or embedded sufficiently to withstand the design flood.

12. Space between root wads may be filled with large boulders, trimmed or untrimmed, whole trees, logs, snags, slash, *etc.*

When used, diameter of boulders placed between toe logs with rootwads should be 1.5 to 2.0 times log diameter at breast height (dbh) of adjacent toe logs. A reasonable maximum rock size is 5-6 feet in diameter.

13. Plant woody vegetation in the joints between the rocks to enhance streambank vegetation.

14. Where possible, use terracing, or other bank shaping, to increase habitat diversity.

15. When possible, create or enhance a vegetated riparian buffer.

viii. Monitor vegetated riprap each year following installation by visual inspection during low flows to examine transitions between undisturbed and treated banks to ensure that native soils above and behind the riprap are not collapsing, sinking, or showing other evidence of piping loss or movement of rock materials; and the overall integrity of the riprap treatment, including:

1. Loss of rock materials
2. Survival rate of vegetation
3. Anchoring success of LW placed in the treatment.
4. Any channel changes since construction.

g. Roughened toe

i. Where designs use any of the approved streambank stabilization methods outlined in this section, in lieu of lining the bank with riprap above the toe, the design of any rock-filled toe will adhere to project criteria outlined in (f) Vegetated riprap with large wood (7-15, from above).

ii. Minimum amount of wood incorporated into the treated area, for mitigation of riprap, is equal to the number of whole trees whose cumulative summation of rootwad diameters is equal to 80% of linear-feet of treated streambank.

h. **Engineered log jams (ELJ).** ELJs are structures composed of LW with at least three key members and incorporating the use of any mechanical anchoring system (*i.e.*, rebar, rope, angular or large rock, *etc.*). Native soil, simulated streambed and bank materials, wood, or buttressing with adjacent trees, are not mechanical anchoring systems. ELJs are designed to redirect flow, provide roughness, and provide stability to adjacent streambed and banks or downstream reaches, while providing valuable fish and wildlife habitat.

i. **NMFS fish passage review and approval.** NMFS will review proposed ELJ projects.

ii. ELJs will be patterned, to the greatest degree possible, after stable natural log jams.

iii. Stabilizing or key pieces of LW will be intact and solid (little decay). If possible, acquire LW with untrimmed rootwads to provide functional refugia habitat for fish.

i. If LW mechanical anchoring is required, a variety of methods may be used. These include large angular rock, buttressing the wood between adjacent trees, the use of manila, sisal or other biodegradable ropes for lashing connections. If hydraulic conditions warrant use of structural connections, rebar pinning or bolted connections, may be used. Use of cable is not covered by this opinion.

j. When a hole in the channel bed caused by local scour will be filled with rock to prevent damage to a culvert, road, or bridge foundation, the amount of rock will be limited to the minimum necessary to protect the integrity of the structure.

k. When a footing, facing, head wall, or other protection will be constructed with rock to prevent scouring or down-cutting of, or fill slope erosion or failure at, an existing culvert or bridge, the amount of rock used will be limited to the minimum necessary to protect the integrity of the structure. Whenever feasible, include soil and woody vegetation as a covering and throughout the structure.

42. Road Maintenance, Rehabilitation and Replacement

a. All maintenance and rehabilitation actions shall observe applicable criteria detailed in the most recent version of NMFS fish passage criteria

i. Projects affecting fish passage shall adhere to industry design standards found in the most recent version of any of the following:

1. *Water Crossings Design Guidelines* (Barnard *et al.* 2013)[25]
2. *Part XII, Fish Passage Design and Implementation, Salmonid Stream Habitat Restoration Manual* (California Department of Fish and Game 2009)[26]
3. *Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream* (USDA-Forest Service 2008)[27]
4. Or other design references approved by NMFS.

ii. Routine road surface, culvert and bridge maintenance activity will be completed in accordance with the *ODOT Routine Road Maintenance: Water Quality and Habitat Guide Best Management Practices* (ODOT 2009) or the most recent version approved by NMFS, unless maintenance activities and practices in that manual conflict with PDC in this opinion.

1. Any conflict between ODOT (2009) and this opinion (*e.g.*, stormwater management for maintenance yards, erosion repair related to use of riprap, dust abatement, and use of pesticides) will be resolved in favor of PDC in this opinion.

b. Grade stabilization

i. Grade control materials may include both rock and LW. Material shall not in any part consist of gabion baskets, sheet piles, concrete, articulated concrete blocks, or cable anchors.

ii. Grade control shall be provided using morphologically-appropriate constructed riffles for riffle-pool morphologies, rough constructed riffles/ramps for plane bed morphologies, wood/debris jams, rock bands, and boulder weirs for step-pool morphologies, and roughened channels for cascade morphologies.

iii. LW placements and ELJs may be used to control grade individually or together with other grade control methods by simulating natural log jams and debris accumulation that traps sediment and creates forced, riffle-pool, step-pool, or cascade-pool morphologies.

[25] http://wdfw.wa.gov/publications/01501/
[26] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=12512
[27] http://stream.fs.fed.us/fishxing/aop_pdfs.html

iv. Stream banks and bed shall be designed to be immobile at the design event to reduce undermining and flanking.

v. The crest of channel spanning structures will be slightly sloped on either side, with the low point in the center, to direct flows to the middle of channel and away from streambanks. Install these structures low in relation to channel dimensions so that they are completely overtopped during channel-forming flow events (approximately a 1.0- to 1.5-year flow event).

vi. Construct boulder weir structures in a 'V' or 'U' shape, oriented with the apex upstream.

vii. Key all structures into the streambed at a depth which minimizes structure undermining due to scour, at least 2.5 times their exposure height, or the Lower Vertical Adjustment Potential (LVAP) line with an offset of 2 times D_{90}, whichever is deeper.

1. LVAP, and 2 times D_{90} offset, as calculated in *Stream Simulation: An ecological approach to providing passage for aquatic organisms at road crossings* (USDA-Forest Service 2008).

viii. Structures should be keyed into both banks—if feasible greater than 8 feet.

ix. If several drop structures will be used in series, space them at the appropriate distances to promote fish passage of target species and life histories. Incorporate NMFS (2011a) fish passage criteria (jump height, pool depth, *etc.*) in the design of drop structures.

x. Recommended spacing for boulder weirs should be no closer than the net drop divided by the channel slope (for example, a one-foot high step structure designed with a project slope of two-percent gradient will have a minimum spacing of 50-feet [1/0.02]). Maximum project slope for boulder weir designs is 5%.

xi. A series of short steep rough ramps/chutes, cascades, or roughened channel type structures, broken up by energy dissipating pools, are required where project slope is greater than 5%.

c. Rock Structures

i. Rock structures will be constructed out of a mix of well-graded boulder, cobble, and gravel, including the appropriate level of fines, to allow for compaction and sealing to ensure minimal loss of surface flow through the newly placed material.

ii. Rock sizing depends on the size of the stream, maximum depth of flow, plan form, entrenchment, and ice and debris loading.

iii. The project designer or an inspector experienced in these structures should be present during installation.

iv. To ensure that the structure is adequately sealed, no sub-surface flow will be present before equipment leaves the site.

v. Rock shall be durable and of suitable quality to assure long-term stability in the climate in which it is to be used.

i. Where feasible, channel spanning structures should be coupled with LW to improve habitat complexity of riparian areas.

d. Structure Stabilization

i. When a footing, facing, head wall, or other protection will be constructed with rock to prevent scouring or down-cutting of, or fill slope erosion or failure at, an existing culvert or bridge, the amount of rock used is limited to the minimum necessary to protect the integrity of the structure. Include soil, vegetation, and wood throughout the structure to the level possible.

e. Road-stream crossing replacement or retrofit

i. Projects shall adhere to industry design standards found in the most recent version any of the following:

1. *Water Crossings Design Guidelines* (Barnard *et al.* 2013)[28]
2. *Part XII, Fish Passage Design and Implementation, Salmonid Stream Habitat Restoration Manual* (California Department of Fish and Game 2009)[29]
3. *Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream* (USDA-Forest Service 2008)[30]
4. Or other design references approved by NMFS.

i. General road-stream crossing criteria

1. Span

a. Span is determined by the crossing width at the proposed streambed grade.

b. Single span structures will maintain a clear, unobstructed opening above the general scour elevation that is at least as wide as 1.5 times the active channel width.[31]

c. Multi-span structures will maintain clear, unobstructed openings above the general scour elevation (except for piers or interior bents) that are at least as wide as 2.2 times the active channel width.

d. Entrenched streams: If a stream is entrenched (entrenchment ratio of less than 1.4), the crossing width will accommodate the flood prone width. Flood prone width is the channel width measured at twice the maximum bankfull depth (Rosgen 1996).

e. Minimum structure span is 6 feet.

2. Bed Material

a. Install clean alluvium with similar angularity as the natural bed material, no crushed rock.

b. Bed material shall be designed based on the native particle size distribution of the adjacent channel or reference reach, as quantified by a pebble count.

c. Rock band designs as detailed in *Water Crossings Design Guidelines* (Barnard *et al.* 2013) are authorized.

d. Bed material in systems where stream gradient exceeds 3% may be conservatively sized to resist movement.

[28] http://wdfw.wa.gov/publications/01501/
[29] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=12512
[30] http://stream.fs.fed.us/fishxing/aop_pdfs.html
[31] Active channel width means the stream width measured perpendicular to stream flow between the OHW lines, or at the channel bankfull elevation if the OHW lines are indeterminate. This width includes the cumulative active channel width of all individual side- and off-channel components of channels with braided and meandering forms, and measure outside the area influence of any existing stream crossing, *e.g.*, five to seven channel widths upstream and downstream.

3. Scour Prism

a. Designs shall maintain the general scour prism, as a clear, unobstructed opening (*i.e.*, free of any fill, embankment, scour countermeasure, or structural material to include abutments, footings, and culvert inverts). No scour or stream stability countermeasure may be applied above the general scour elevation.[32]

a. The lateral delineation of the scour prism is defined by the criteria span.

b. The vertical delineation of the scour prism is defined by the Lower Vertical Adjustment Potential (LVAP) with an additional offset of 2 times D_{90}, as calculated in *Stream Simulation: An ecological approach to providing passage for aquatic organisms at road crossings* (USDA-Forest Service 2008).

b. When bridge abutments or culvert footings are set back beyond the applicable criteria span they are outside the scour prism.

4. Embedment

a. All abutments, footings, and inverts shall be placed below the thalweg a depth of 3 feet, or the LVAP line with an offset of 2 times D_{90}, whichever is deeper.

i. AP, and 2 times D_{90} offset, as calculated in *Stream Simulation: An ecological approach to providing passage for aquatic organisms at road crossings* (USDA-Forest Service 2008).

b. In addition to embedment depth, embedment of closed bottom culverts shall be between 30% and 50% of the culvert rise.

5. Bridges

a. Primary bridge structural elements will be concrete, metal, fiberglass, or untreated timber. The use of treated wood for bridge construction or replacement is not part of this proposed action. The use of treated wood for maintenance and repair of existing wooden bridges is part of the proposed action if in conformance with project design criterion 29.

b. All concrete will be poured in the dry, or within confined waters not connected to surface waters, and will be allowed to cure a minimum of 7 days before contact with surface water as recommended by Washington State Department of Transportation (2010).

c. Riprap may only be placed below bankfull height of the stream when necessary for protection of abutments and pilings. The amount and placement of riprap will not constrict the bankfull flow.

d. Temporary work bridges will also meet the latest version of NMFS (2011a) criteria.

[32] For guidance on how to complete bridge scour and stream stability analysis, see Lagasse *et al.* (2012) (HEC-20), Lagasse *et al.* (2001) (HEC-23), Richardson and Davis (2001) (HEC-18), ODOT (2011), and AASHTO (2013).

iii. The electronic notification for each permanent stream crossing replacement will contain the following:

1. Site sketches, drawings, aerial photographs, or other supporting specifications, calculations, or information that is commensurate with the scope of the action, that show the active channel, the 100-year floodplain, the functional floodplain, any artificial fill within the project area, the existing crossing to be replaced, and the proposed crossing.

2. A completed scour and stream stability analysis for any crossing that includes scour or stream stability countermeasures within the crossing opening that shows the general scour elevation and the local scour elevation for any pier or interior bent.

3. The name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis.

f. **NMFS fish passage review and approval.** The Corps will not issue a permit to install, replace, or improve a road-stream crossing, step structure, fish ladder, or projects containing grade control, stream stability, or headcut countermeasures, until the action has been reviewed and approved by NMFS for consistency with NMFS's fish passage criteria (NMFS 2011a).

43. Utility Line Stream Crossings

a. Design utility line stream crossings in the following priority:

i. Aerial lines, including lines hung from existing bridges.

ii. Directional drilling, boring and jacking that spans the channel migration zone and any associated wetland.

iii. Trenching – this method is restricted to intermittent streams and may only be used when the stream is naturally dry, all trenches will be backfilled below the OHW line with native material and capped with clean gravel suitable for fish use in the project area.

b. Align each crossing as perpendicular to the watercourse as possible. Ensure that the drilled, bored or jacked crossings are below the total scour prism.

c. Any large wood displaced by trenching or plowing will be returned as nearly as possible to its original position, or otherwise arranged to restore habitat functions.

d. Any action involving a stormwater outfall will meet the stormwater management criteria.[33]

e. NMFS will review new or upgraded stormwater outfalls.

[33] The most efficient way for an applicant or the Corps to prepare and submit a stormwater management plan for NMFS' review is to attach a completed *Checklist for Submission of a Stormwater Management Plan* (the *Checklist*, ODEQ updated 2012, or the most recent version) with the electronic notification when it is sent to the SLOPES mailbox. However, stormwater conveyance to a DEQ permitted Municipal Separate Storm Sewer System (MS4) or consistency with any other program acknowledged by DEQ as adequate for stormwater management will not meet the requirements of this opinion unless NMFS determines that the facility accepting the stormwater will provide a level of treatment that is equivalent to that called for in this opinion. The *Checklist* and guidelines for its use are available from NMFS or the ODEQ in Portland Oregon. The latest version of the *Checklist* is also available online in a portable document format (pdf) through the ODEQ Water Quality Section 401 certification webpage (ODEQ 2014) at http://www.deq.state.or.us/wq/sec401cert/process.htm#add (see "Post Construction Stormwater Management Plan").

Action Completion Reporting. It is the applicant's responsibility to submit this form to the Corps within 60 days of completing all work below ordinary high water (OHW). Upon receipt, the Corps will resubmit this form with the Action Completion Report portion completed to NMFS at *slopes.nwr@noaa.gov*. If it is a Corps project, the Corps shall complete and submit this form within 60 days of completing the project.

Major hazard response reporting. It is the applicant's responsibility to submit this form to the Corps within 30 days of completing all work below OHW. Upon receipt, the Corps will resubmit this form with the Action Completion Report portion completed to NMFS at *slopes.nwr@noaa.gov*. If it is a Corps project, the Corps shall complete and submit this form within 30 days of completing the project.

Fish Salvage Reporting. It is the applicant's responsibility to submit this form to the Corps within 60 days of completing a capture and release as part of an action completed under SLOPES V Transportation. Upon receipt, the Corps will resubmit this form with the Fish Salvage Report portion completed with the following information to NMFS at *slopes.nwr@noaa.gov*. If it is a Corps project, the Corps shall complete and submit this form within 60 days of completing fish salvage operations.

1. ACTION COMPLETION REPORT

The applicant shall submit this form to the Corps within 60 days of completing all work below ordinary high water (OHW). The Corps shall submit this form to NMFS at *slopes.nwr@noaa.gov* upon receipt from the applicant. If it is a Corps project, the Corps shall submit this form within 60 days of completing all work below OHW.

Actual Start and End Dates for the Completion of In-water Work:	***Start***:	***End***:
Actual Linear-feet of Riparian and/or Channel Modification within 150 feet of OHW		
Actual Acreage of Herbicide Treatment		
Turbidity Monitoring/Sampling Completed	☐ Yes (include details below)	☐ No

Please include the following:

1. Attach as-built drawings for any action involving a riprap revetment, stormwater management facility, or a bridge rehabilitation or replacement.
2. Attach photos of habitat conditions before, during, and after action completion.
3. Describe compliance with fish screen criteria, as defined below, for any pump used.
4. Summarize results of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort.
5. Describe number, type and diameter of any pilings removed or broken during removal.
6. Describe any riparian area cleared within 150 feet of OHW.
7. Describe turbidity monitoring (visual or by turbidimeter) including dates, times and location of monitoring and any exceedances and steps taken to reduce turbidity observed.
8. Describe site restoration.

If the project was a Major Hazard Response, ALSO include the following:

1. Name of the major hazard event.
2. Type of major hazard.
3. Name of the public transportation district manager that declared the response necessary.
4. NMFS staff contacted, with date and time of contact.
5. Description of the amount and type of riprap or other material used to repair a culvert, road, or bridge.
6. Assess the effects of the initial response to listed species and critical habitats.
7. Summary of the design criteria followed and not followed.
8. Remedial actions necessary to bring the initial response into compliance with design criteria in this opinion.

2. FISH SALVAGE REPORT

If applicable: The applicant shall submit a completed Fish Salvage Report and Fish Salvage Data Table (see below) to the Corps within 60 days of completing a capture and release as part of an action completed under SLOPES V Transportation. The Corps will submit the report to NMFS at *slopes.nwr@noaa.gov* upon receipt from the applicant. If it is a Corps project, the Corps shall submit this form to NMFS within 60 days of completing a capture and release event.

Date(s) of Fish Salvage Operation(s): _____

Supervisory Fish Biologist: _____

Address _____

Telephone Number _____

Describe methods that were used to isolate the work area and remove fish

Fish Salvage Data

Water Temperature:

Air Temperature:

Time of Day:

ESA-Listed Species	Number Handled		Number Injured		Number Killed	
	Juvenile	Adult	Juvenile	Adult	Juvenile	Adult
Lower Columbia River Chinook						
Upper Willamette River Chinook						
Upper Columbia River spring-run Chinook						
Snake River spring/summer run Chinook						
Snake River fall-run Chinook						
Chinook, unspecified						
Columbia River chum						
Lower Columbia River Coho						
Oregon Coast Coho						
Southern Oregon/Northern California Coasts Coho						
Snake River sockeye						
Lower Columbia River steelhead						
Upper Willamette River steelhead						
Middle Columbia River steelhead						
Upper Columbia River steelhead						
Snake River Basin steelhead						
Steelhead, unspecified						
Southern green sturgeon						
Eulachon						

3. SITE RESTORATION/ COMPENSATORY MITIGATION

By December 31 of any year in which the Corps approves that the site restoration or compensatory mitigation is complete, the Corps, will submit a complete a Site Restoration/Compensatory Mitigation Reporting Form, or its equivalent, with the following information to NMFS at slopes.nwr@noaa.gov.

Describe location of mitigation or restoration work.

Summarize the results of mitigation or restoration work completed.

SLOPES V: Stormwater, Transportation and Utilities
(NMFS# NWR-2013-10411)
Stormwater Information Form

If you are submitting a project that includes a stormwater plan for review under SLOPES: Stormwater, Transportation and Utilities please fill out the following cover sheet to be included with stormwater management plan, and any other supporting materials.

Also include a drawing of the stormwater treatment area including drainage areas, direction of flow, BMP locations/types, contributing areas, other drainage features, receiving water/location, etc.

	Project Information			
	COE#			
	Name of Project:	Redwood Avenue Roadway Improvements		
	Type of project (i.e., residential, commercial, industrial, or combination)	Roadway		
	Nearest receiving water occupied by ESA-listed species or designated critical habitat	Rogue River		
1.	**Stormwater Designer and/or Engineer Contact Information**			
	Name:	Justin T.R. Gerlitz		
	Phone:	(541) 479-3865		
	Email:	justing@zcsengineering.com		
	Summary of Design Elements			
2.	Total contributing area (new or redeveloped impervious surface) and contiguous impervious surface, (i.e. roads, driveways, parking lots, sidewalks, roofs, and similar surfaces):		7.10	Acres
	Roads, driveways, and parking lots		5.40	Acres
	Sidewalk		1.70	Acres
	Roofs		None	Acres
3.	Net new impervious surface:		2.98	Acres
4.	Total stormwater to be treated:	47,600 ft³	Volume 2.9 cfs	Flow
5.	2-year, 24-hour storm: 3.0 in	50%* or 67%* of 2-yr, 24-hr storm fully treated: (•) Yes ( ) No *If no, project may not meet the SLOPES programmatic criteria* *See PDC 36.e. for geographically based percentage		
6.	Lat/Long (DDD.dddd) of Project Location: 42.4225/123.3767			
7.	2 year, 24 hour storm from:	NOAA Precipitation Atlas: (•) Yes ( ) No http://www.nws.noaa.gov/ohd/hdsc/noaaatlas2.htm		
		Other (please specify and provide justification) Santa Barbara Urban Hydrograph		

8.	Low Impact Development methods incorporated? (●) Yes ( ) No (e.g. site layout, vegetation and soil protection, reforestation, integrated management practices such as amended soils, bioretention, permeable pavement, rainwater collection, tree retention, vegetated roofs and water re-use) Please describe: Roadside bioswales/ vegetated swales How much of the total stormwater is treated by LID: 100%
9.	Treatment train proposed, including pretreatment and bioretention methods used to treat water quality: First storm water enters the bioswales through curb openings where it will be pre-treated as it flows over the surface vegetation (removing large particles of sediment); Next storm water infiltrates into the soil where it will be further treated via biological treatment from the plant roots and swale soils; Lastly it will pass through a geotextile filter fabric as it enters a perforated drain pipe (the storm pipe system) and/or it infiltrates further into the soils below. Explain why this treatment train was chosen for the project site, including how pollutant removal will be achieved to the maximum extent practicable based on avoidance, minimization and then mitigation: The street section required large planter strips per local agency standards. Based on this and the fact that the City will be maintaining these areas, vegetated swales were the most reasonable treatment alternatives while providing a higher level of mitigation. Page(s) in stormwater plan where more details can be found: n/a
10.	Does the project discharge directly into a major water body (see PDC 36.c.iii)? ( ) Yes (●) No
11.	Pre-development runoff rate (i.e., before human-induced changes to the unimproved property): 2-yr, 24-hour storm: 0.3 cfs 10-yr storm: 0.7 cfs Post-development runoff rate (i.e., after proposed developments): 2-yr, 24-hour storm: 4.4 cfs 10-yr storm: 5.9 cfs
12.	Methods used to treat water quantity: (include size, location and release rates of detention ponds) Roadside bioswales (vegetated swales) along the entire length of the project to treat the runoff from the low flow storm event (2/3 of the 2-year storm) for all on-site storm water. The roadside bioswales will treat the low flow storm events through absorption & filtration into the installed plant/soil medium. Once the runoff passes through the soil it will be infiltrated into the native soil below and/or collected by the underground perforated storm piping Page in stormwater plan where more details can be found: n/a
13.	Stormwater design manual used and year/version: (e.g. City of Portland, Clean Water Services, King County, Stormwater Management Manual for W. Washington) Rogue Valley Sewer Services (2008), City of Grants Pass (2007 "draft"), EPA (1999), City of Portland Stormwater Manual (2004), Oregon State University Extension Rain Garden Calculator Describe which elements of your stormwater plan came from this manual: Since there were no "adopted" local agency standards, we reviewed all above stormwater manuals to design the best suited storm water treatment methods that would be most beneficial for this project. Swale sizing was checked for each method & the OSU Rain Garden Calculator was chosen based on the local conditions. Planting & soil criteria were based on the Portland Stormwater Manual and Landscape Architect's experience.

14.	Have you treated all stormwater within the Contributing Impervious Area? ◉Yes ○No If no, why not and how will the effects from remaining stormwater are offset?
	Maintenance and Inspection Plan
15.	Have you included a stormwater treatment facility maintenance plan with a description of the onsite stormwater system, inspection schedule and process, maintenance activities, legal and financial responsibility, and inspection and maintenance logs? ◉ Yes ○ No City of Grants Pass to maintain treatment swales & vegetation. Page in stormwater plan where more details can be found: n/a
16.	Contact information for the party/parties that will be legally responsible for performing the inspections and maintenance or the stormwater facilities: Name: Joey Wright Phone number: (541) 450-6113 Email: jwright@grantspassoregon.gov Name: _____ Phone number: _____ Email: _____ Name: _____ Phone number: _____ Email: _____ Name: _____ Phone number: _____ Email: _____ Page in stormwater plan where more details can be found: n/a

Monitoring and Maintenance Program

The City of Grants Pass will implement the Monitoring and Maintenance Program.

Monitoring and Maintenance Schedule

Each part of the stormwater system, including the catch basin at Savage Street on Gilbert Creek and the flow-through planter on Redwood Avenue, will be visually inspected and maintained quarterly by the City of Grants Pass for the first three years post-construction, and twice a year thereafter. The table below displays the inspection and maintenance schedule for these components. Maintenance includes the removal of debris or obstructions from the catch basin and flow-through planter to ensure all structural components freely convey stormwater. Maintenance also includes ensuring desirable vegetation in the flow-through planter covers at least 90% of the facility.

Visual Inspection and Maintenance Schedule				
Year	**January**	**April**	**July**	**October**
2016	X	X	X	X
2017	X	X	X	X
2018	X	X	X	X
2019 and every year after	X		X	

Major Storm Events

Within 48-hours of a major storm event, i.e. a storm event with greater than or equal to 1.0 inch of rain during a 24-period, a visual inspection and maintenance, if necessary, will occur at both the catch basin at Savage Street on Gilbert Creek and the flow-through planter on Redwood Avenue. This ensures that the all stormwater will drain out the catch basin within 24-hours after the rainfall ends and out of flow-through planters within 48-hours after rainfall ends.

COMPLIANCE CERTIFICATION

U.S. Army Corps of Engineers
CENWP-OD-GP
Compliance, Josephine County
PO Box 2946
Portland, Oregon 97208-2946

1. Permittee Name: J. Conser and Sons LLC
2. County: Josephine County
3. Corps Permit No: NWP-2001-860/4
4. Corps Contact: Anita Andazola
5. Type of Activity: NWP No. 14 (Linear Transportation)

Please sign and return form to the address above:

I hereby certify that the work authorized the above referenced permit has been completed in accordance with the terms and conditions of said permit and that required mitigation is completed in accordance with the permit conditions, except as described below.

_____

Signature of Permittee **Date**

.....

Professional Archaeologist Signature:

I hereby certify that the work authorized by the above referenced permit has been monitored for cultural resources and/or human remains during all ground disturbance activities in accordance with the terms and conditions of said permit. In the event cultural resources and/or human remains were discovered, all appropriate Federal, State, and local authorities have been notified.

_____

Signature of Archaeologist **Date**

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

U.S. Army Corps of Engineers

BACKGROUND INFORMATION

A. **REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):** April 1, 2015

B. **NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**

Aaron Cubic
City of Grants Pass, 101 NW A Street, Gants Pass, OR 97526

C. **DISTRICT OFFICE, FILE NAME, AND NUMBER:** CENWP-OD-G, Savage Street Culvert Replacement NWP 2001-860/4

D. **PROJECT LOCATION(S) AND BACKGROUND INFORMATION:** ***(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)***

State: Oregon County: Josephine City: Grants Pass

Center coordinates of site: Project site

Latitude/Longitude: 42.451240° North, -123.329432° West

Authority: ☑ Section 404 ☐ Section 10

Name of nearest waterbody: Gilbert Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 200 linear feet: 50 width (ft)

Cowardin Class: Riverine

Stream Flow: Perennial

Center coordinates of site: Mitigation site

Latitude/Longitude: 42.422421° North, -123.36862° West

Authority: ☑ Section 404 ☐ Section 10

Name of nearest waterbody: an un-named tributary of the Rogue River

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 850 linear feet: 50 width (ft).

Cowardin Class: Riverine

Stream Flow: Ephemeral

Wetlands: 0.112 acres.

Cowardin Class: Palustrine

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal: Not Applicable

Non-Tidal: Not Applicable

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☑ Office (Desk) Date: April 1, 2015

☐ Field Determination. Date(s): *Date*

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply) - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: *Click here to enter text.*

☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

- ☐ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: *Click here to enter text.*

☐ U.S. Geological Survey Hydrologic Atlas: *Click here to enter text.*

- ☐ USGS NHD data.
- ☐ USGS 8 and 12 digit HUC maps.

☑ U.S. Geological Survey map(s). Cite scale & quad name: OR-GRANTS PASS

☐ USDA Natural Resources Conservation Service Soil Survey. Citation: *Click here to enter text.*

☐ National wetlands inventory map(s). Cite name: *Click here to enter text.*

☐ State/Local wetland inventory map(s): *Click here to enter text.*

☐ FEMA/FIRM map(s): *Click here to enter text.*

☑ Photographs: ☐ Aerial (Name & Date): *Click here to enter text.*

☐ or ☑ Other (Name & Date): Google Earth Image taken July 4, 2014

☐ Previous determination(s). File no. and date of response letter: *Click here to enter text.*

☐ Applicable/supporting case law: *Click here to enter text.*

☐ Applicable/supporting scientific literature: *Click here to enter text.*

☐ Other information (please specify): *Click here to enter text.*

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

SHEAHAN.JOSEPH.EDWARD.1469051290 Digitally signed by SHEAHAN.JOSEPH.EDWARD.1469051290 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=SHEAHAN.JOSEPH.EDWARD.1469051290 Date: 2015.04.01 11:32:00 -07'00'

Signature and date of Regulatory Project Manager (REQUIRED)

Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. §331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Site Number	Latitude	Longitude	Cowardin Class/ Stream Flow	Estimated Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
1	42.4512404° North	-123.329432° West	Riverine	200 feet	Section 404
2	42.422421° North	-123.36862° West	Palustrine, Emergent	0.013 acres	Section 404
3	42.422421° North	-123.372318° West	Palustrine, Emergent	0.020 acres	Section 404
4	42.422421° North	-123.37608° West	Palustrine, Emergent	0.019 acres	Section 404
5	42.422421° North	-123.37907° West	Palustrine, Emergent	0.001acres	Section 404
6	42.422421° North	-123.38338° West	Palustrine, Emergent	0.039 acres	Section 404
7	42.422421° North	-123.38707° West	Palustrine, Emergent	0.009 acres	Section 404
8	42.422421° North	-123.38707° West	Palustrine, Emergent	0.024 acres	Section 404