2017 Entiat River

Signal Peak & Upper Burns Project

Columbia River
Honor. Protect.
Restore.

OFFICE
P.O. Box 151
401 Fort Road
Toppenish, WA 98948

PHONE
(509)-881-5746

FAX
(509)-423-7616

EMAIL
clec@yakamafish-nsn.gov

WEB
Yakamafish-nsn.gov

Dear Contractor: March 16, 2017

The Yakama Nation's Upper Columbia Habitat Restoration Project is requesting bids for construction of a **Salmon Habitat Enhancement Project** to be implemented adjacent to the Entiat River during the in-water work window for this reach of the Entiat which is July 16th-July 31st. The project will involve all work elements and specifications found in the Project Plans attached to this bid packet.

If you are interested in an award for this contract please attend the only pre-bid site visit scheduled on **Tuesday, April 18th, 2017, at 10:00 am** at the meeting location (**USFS Preston Pit, Entiat River Road Mile 22.5**). This site visit will be conducted by Yakama Nation Fisheries Habitat Biologist, Christopher Clemons who is the project manager.

By the close of business on **Thursday, May 4th, 2017**, each contractor must have completed and submitted a signed copy of the attached Signal Peak& Upper Burns Project Bid Sheet. Please specify in writing on the bid sheets that all bid prices will be valid for at least 180 days. All competitive bid materials must be either hand delivered or sent by parcel delivery service or postal mail to:

Yakama Nation
Attn: Jackie Olney
RE: Signal Peak & Upper Burns Project
PO Box 151
Toppenish WA, 98948
(Shipping address: 401 Fort Road, Toppenish, WA 98948)

Most portions of the project will be conducted between **July 16th and July 31, 2017**, to coincide with the permitted in-water work windows negotiated with NOAA, USFWS, and WDFW for this project. The full project will occur when ESA-listed juvenile and adult salmon and steelhead may be present in or near the project area so turbidity control via cofferdam systems will be of the utmost importance. The winning contractor will understand the magnitude of this project and be equipped to perform all necessary elements for a project of this type within a critical habitat stream. The winning contractor will have extensive experience in the following: building cofferdams, de-watering following NMFS fish screening protocols, constructing log jams, excavating engineered channels and minimizing local disturbance.

All contractors submitting bids for this project shall provide and/or demonstrate, at a minimum, the following:

- ***A list of experienced equipment operators that will be on-site during project construction. Please provide details of their work on in-stream habitat enhancement structures within the past several years.***
- ***A detailed construction timeline of how you propose to get all project tasks completed within the stated project timeline.***
- ***Experience and preferably examples of the ability to create de-watered work areas through the use of coffering techniques. A cofferdam and surface water diversion plan should be submitted with the bid documents.***
- ***A list of key pieces of heavy equipment that will be used in construction of the project.***
- ***A vibratory pile driver; no impact hammer of any sort will be permitted for this project.***

Please note:

- Davis Bacon Wages apply to this contract. The winning contractor will adhere to the Davis Bacon rules and comply and submit all necessary paperwork to the Yakama Nation.

- The Yakama Nation is exempt from state taxes on this project. Please see the attached Treaty Fishery Exempt Cover Letter and Treaty Fishery Exempt Certificate. The winning contractor will receive signed copies for their records.

- This project has adopted by reference in the Engineer's Planset the 2014 Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction. Please download a digital copy of the WSDOT 2014 Standard Specifications from http://www.wsdot.wa.gov/publications/manuals/fulltext/M41-10/SS2014.pdf .

- This project will occur on public federal properties of the USFS. No materials may be stockpiled in and along road shoulders of the Entiat River Road except during construction activities. The Preston Pit location will be used during construction activities for pre-project work if needed.

- Awarded contractor must provide “san-i-can” service. It is the contractor’s responsibility to remove the san-i-can immediately upon project completion.

The attached template Construction Services Agreement provides an overview of the scope of work likely to be incorporated into the awarded contract. Please make note of specific provisions provided in this Construction Services Agreement, including the detailed Exhibits, that may be in addition to the specifications and directions found in the Project Planset.

Also, please note that this project is pending on permitting and final landowner permission. The Yakama Nation reserves the right to accept or reject any and all of the proposals received as a result of this request, or to cancel in part or entirely this request if it is in the best interest of the Yakama Nation to do so. This request does not commit the Yakama Nation to pay any costs incurred in the preparation of a proposal.

For questions regarding the site visit, please contact me at the numbers provided below.

Sincerely,

Christopher Clemons

Christopher Clemons
1885 S. Wenatchee Ave.
Wenatchee, WA. 98801
(509)-881-5746
clec@yakamafish-nsn.gov

EXHIBIT A

Project Overview & Scope of

Work Signal Peak & Upper Burns Habitat Enhancement Project

1. Background:

The Yakama Nation's Upper Columbia Habitat Enhancement Project (UCHRP) will accepting bids for a Habitat Enhancement Project taking place this summer along the Upper Entiat River, Stillwaters Reach. The project will take place during the in-water work window of July 16 - July 31st, 2017. There are four distinct project locations where wood and rock will be placed as well as reconnecting a side-channel to the mainstem Entiat for listed salmonids.

The attached **Exhibit B "Budget Bid Sheet"** provides the contract Line Item Budget/Task Bid Sheet which is referenced to the work tasks described in this **Exhibit A "Scope of Work"** and **Exhibit C "Payment Plan/Schedule"** provides a payment schedule and requirements. **Exhibit D "Engineer's Stamped Final Project Plans"** provides the Engineer's Construction Plan Set and special provisions by which the work tasks are based. **Exhibit E "ARBO II General Conservation Measures"** provides specific best management practices to be employed during construction activities.

2. Location:

This project is along the mainstem Entiat River between river miles (RM) 25.8 and 27.5. The four project locations are as follows: Signal Peak Side-Channel, Signal Peak Rip-Rap Enhancement Site A, Signal Peak Rip-Rap Enhancement Site B and Upper Burns Rip-Rap Enhancement Site C. Additionally, wood and rock will be stored at the Preston Pit location owned and operated by the USFS at Entiat River Road mile 22.5. This location will be used to store and assemble materials for all four project sites.

A pre-bid project tour will take place on Tuesday April 11th, 2017, 10AM. We will be meeting at the Preston Pit location at Entiat River road mile 22.5. Please dress appropriately for the weather and site conditions for this time of the year. While this meeting is not mandatory, it is highly recommended that the contractor attend this site visit as this will be the only time for the contractor to ask detailed questions of the project manager, Chris Clemons and project engineer, Dan Miller of Interfluve Inc. Pre-bid tour notes **Exhibit "I"** will be uploaded to the Yakama Nation Fisheries site upon completion of the project tour within 48 hours.

Completed bid materials need to be mailed in hard copy format along with all required exhibits, to the address listed in the cover letter as well as below no later than Close of Business, 5PM, on Friday April 27th, 2017. No electronic copies will be accepted nor will bids with missing or required exhibits.

Attn: Jackie Olney; Signal Peak & Upper Burns Habitat Enhancement Project Sites

PO Box 151

Toppenish, WA. 98948

(Shipping address if large envelope): 401 Fort Road, Toppenish, WA. 98948

3. Project Tasks:

All tasks will be completed as per **Exhibit D "Engineer's Final Stamped Project Plans."** Major project elements include, but are not limited to the following:

- Mobilization & Traffic Control
- TESC, SPCC Plan & Implementation
- Site Access, including temporary bridge
- Temporary Cofferdams & Fish Rescue
- Dewatering
- Signal Peak Side-Channel, Signal Peak Rip-Rap Enhancement Sites A & B as well as Upper Burns Rip-Rap Enhancement Site C construction.
- Site restoration and cleanup (seed/mulch)
- Asphalt resurfacing as needed

4. Project Schedule and Key Deliverables:

- Construct the habitat enhancement projects at the four sites identified within the in-water work window of July 16th – July 31st, 2017.
- **Cut logs into appropriate lengths. Currently the logs are 42' in length. In order to create the amount and size needed for sticks and 12' rootwad rip-rap units the contractor will need to cut the logs to the appropriate length as directed by the project engineer that will be on-site during construction activities.**
- Obtain the Chelan County Right of Way permit prior to the start of construction and s**ubmit traffic and safety plan to Chelan County Public Works as well as emailing a copy to the Designated Representative prior to construction.**
- Obtain the DNR Industrial Fire Precaution Level Waiver prior to the start of construction for the appropriate fire level.

- Repair and/or resurfacing any County or Forest Service roads impacted by the proposed project activities.

5. Contractor Obligations:

Pre Project:

- The Contractor shall fill out and return **Exhibit B "Budget/Bid Sheet".** The bid submitted needs to be all inclusive for all activities identified in **Exhibit A "Scope of Work", signed, dated, certified and be valid for 180days.**
- The Contractor is responsible for submitting an appropriate construction activity timeline.
- The Contractor is responsible for obtaining the Chelan County Right of Way permit as well as submit to the Designated Representative a traffic and safety control plan that has been approved by Chelan County Public Works.
- Contact the regional Department of Natural Resources Office to obtain information to submit the necessary paperwork to for the appropriate Industrial Fire Precaution Level Waiver for construction activities.

For the Project:

- The contractor shall furnish all supervision, labor and equipment and tools necessary to complete the project tasks as described in **Exhibits A "Scope of Work" & D "Engineer's Stamped Final Project Plans".**
- The contractor is responsible for providing a bridge and abutment materials for crossing the river at Signal Peak Rip-Rap Enhancement Site A to construct the island structure.
- The contractor will be responsible for providing a crane and/or boom truck for placing the pre-assembled rip-rap units at the three rip-rap locations as well as an transport to and from the project location.
- The contractor shall provide dust abatement control along the Entiat River Road while working along its right of way and shoulders.
- The contractor shall be responsible for providing traffic and safety control during construction activities taking place along the Entiat River Road for all locations.
- The contractor is responsible for repairing and/or replacing the asphalt and shoulder along the Entiat River Road per WSDOT hot mix asphalt specifications as well as Chelan County Cut and Repair Standards at the Upper Burns site.
- The contractor shall only use and provide a vibratory implement for the vertical log installation.
- The contractor will be responsible for hauling across the bridge while it is in place 4 super sacs filled with hog fuel and two pallets of planting cages. This delivery will be

coordinated with the construction contractor at time of delivery by separate vegetation contractor.

- The contractor will need to outfit equipment with bio-degradable hydraulic fluid and only refuel at approved upland locations at least 50yards from open water.
- Provide Sani-Can service for all project locations and place 50yds. from open water.
- The **in-water work window for this project is from July 16th-July 31st**. Construction will be permitted to take place between sunrise and sunset on any given day within the in-water work window.
- The contractor will need to be familiar with constructing the log/boulder/threaded rod units that will be used for the rip-rap enhancement project sites. The Preston Pit location located at Entiat River Road mile 22.5, owned by the USFS, can be used for pre-assembling the units up to two weeks prior to construction; however **no materials can be placed prior to construction within the Entiat River road right of way or along its shoulders.** Materials for the Signal Peak Side-Channel site can only be staged in the vehicle pullout only once construction begins.

Final Cleanup: The contractor shall perform final cleanup to the Owner's satisfaction. The Owner will not process the final invoice for this project until all items have been addressed appropriately. Any and all work areas for all project sites shall be inspected by the Owner prior to demobilization for each project location. The contractor shall, but not limited to for each project site as follows:

- The contractor shall remove and dispose of properly any and all construction materials as well as remove Sani-Can Service upon project completion.
- The contractor shall haul and dispose of properly any and all excess project spoils to an approved upland location at contractor's expense.
- The contractor shall haul any excess wood to the Preston Pit location at their expense and decked at a location approved by the Owner.
- Replace and Repair any damage for all locations to the Entiat River Road.

6. Consistent Satisfactory Progress:

Consistent satisfactory progress in this project will be required. Satisfactory progress will be measured by both the quality and quantity of work. If for any reason no work is performed, the Contractor may be given a notice of contract cancellation. Consistent satisfactory progress will also be determined by the Contractor's demonstrated ability to perform all work tasks described in **Exhibit D "Engineer's Stamped Final Project Plans."** If it appears that the Contractor is unable to complete the project tasks within the permitting work window, the Contractor may be given a notice of contract cancellation. The Yakama Nation's designated representative will monitor progress closely.

7. Fish Removal

In-water construction activities will require fish removal of all isolated in-water work sites. Fish removal will be conducted in a timely manner by the Owner's Designated Representatives and the time taken to implement proper fish removal protocols will be considered incidental to the contractor's work tasks.

8. Fire Suppression

The Contractor will be familiar with and prepared for the requirements associated with Industrial Fire Precaution Levels (IFPL) II & III and the restrictions associated with those. The contractor may seek to acquire IFPL shut down exemptions to allow work to continue on schedule.

9. Road Signage

The Contractor will observe all road signage regulations regardless of the project location and as per **Exhibit D "Engineer's Stamped Final Project Plans."** The Contractor will need to submit an approved by Chelan County Public Works Department traffic safety plan. This plan will need to be provided to the Designated Representative prior to construction activities. In addition, the Contractor will be responsible for obtaining a Chelan County Right of Way permit prior to construction. Any damage to the Entiat River Road or its shoulders will need to be repaired and/or replaced per Chelan County road cut/fill requirements for the Upper Burns site and per WSDOT hot mix asphalt standards for the other remaining sites. This work is listed as an added alternative in **Exhibit B "Budget Bid Sheet."**

10. Utilities Location

The Contractor will locate all utilities prior to any excavation.

11. Communication with Landowners

The Contractor expressly agrees that Contractor and his staff will not communicate with the Landowner in any manner, whether it be in regard to the project or otherwise, without express permission from, or the presence of the Designated Representative.

12. Exclusivity

During the term of this Agreement, including time taken for mobilization and demobilization of construction equipment, Contractor shall not conduct any work on the property designated in this Agreement unless so directed by the Designated Representative. Contractor shall require in all contracts with subcontractors that subcontractors not conduct any work on the property designated in this Agreement unless so directed by the Designated Representative. Any additional work conducted

on the property designated in this Agreement by Contractor without the express consent of the Designated Representative shall constitute a material breach of this Agreement, thereby relieving the Yakama Nation from all payment obligations to the Contractor.

13. Applicable Documents (List of Exhibits A-I):

- Exhibit "A" – Project Overview & Scope of Work **(Provided by YN)**
- Exhibit "B" – Budget Bid Sheet **(Provided by YN)**
- Exhibit "C" – Payment Plan/Schedule **(Provided by YN)**
- Exhibit "D" – Engineer's Stamped Final Project Plans **(Provided by YN)**
- Exhibit "E" – ARBO II General Conservation Measures **(Provided by YN)**
- Exhibit "F" – Heavy Equipment Daily Standby Rate **(Provided by YN)**
- Exhibit "G" – Tax Forms & Certified Payroll Forms **(Provided by YN)**
- Exhibit "H" – Interfluve Inc. Tech. memo for strength testing Log/Boulder/Threaded Rod Connections **(Provided by YN)**
- Exhibit "I" – Pre-Bid Project Tour Notes ***(Provided by YN after April 11, 2017)***
- Washington State Department of Transportation (WSDOT) Standard Specifications, current edition for hot mix asphalt (Section 5.04) or APWA as amended by the USFS **(Obtained by Contractor)**
- Department of Natural Resources (DNR) Industrial Fire Precaution Level (IFPL) II & III waiver. **(Obtained by Contractor)**

14. Standby Time

The Contractor shall notify the Designated Representative in advance of any intent to charge for standby time based upon the rates quoted by the contractor in **Exhibit F "Heavy Equipment Daily Standby Rate."** Prior to invoicing for any standby time, the contractor must receive notice in writing from the Designated Representative that standby time is an applicable charge due to construction halting events related to environmental or permitting conditions outside of the control of the Yakama Nation or the Contractor. Standby time will be calculated at the daily rate per piece of equipment as per the Contractor's stated rates. Standby time charges will only apply to full work days where construction activities are not possible and will not be pro-rated by partial work days or hours on standby.

Please use the Engineer's Stamped Project Plans and the bid packet to produce your competitive bids.

EXHIBIT B BUDGET Bid Sheet Signal Peak and Upper Burns Project

No.	Item	Quantity	Unit	Unit Price	Extended Price
1	Mobilization, Traffic Control	1	LS		
2	TESC, SPCC Plan & Implementation	1	LS		
3	Site Access, including temporary bridge	1	LS		
4	Temporary Cofferdams & Fish Rescue	1	LS		
5	Dewatering	1	LS		
6	Signal Peak Side Channel	1	LS		
7	Type 3 Jam on island at Site A	1	LS		
8	Riprap Enhancement Site A	1	LS		
9	Riprap Enhancement Site B	1	LS		
10	Riprap Enhancement Site C	1	LS		
11	Site Restoration & Clean Up / Seed & Mulch	1	LS		
12	Alternate Item: Pavement repair		SY		
				GRAND TOTAL (No Tax)	

Company Name: **Date Prepared:**

Certification:

Printed Name & Title: **Signature:**

By signing and submitting this form you are agreeing to honor the completed competitive bid for a period of up to 180 days from the date this form was prepared.

EXHIBIT C

Payment Plan/Schedule: Signal Peak & Upper Burns Habitat Enhancement Project Sites

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1. **Payment Schedule**

☒ **Progress:** The Contractor shall submit a separate bill for each major project task element after the work has been completed, reviewed and accepted by Yakama Nation's Designated Representative. The Contractor is encouraged to invoice monthly when payment is necessary.

☐ **Percentage:** The Contractor shall invoice monthly and will be allowed to submit a bill for percentage of work completed after the work has been reviewed and accepted by Yakama Nation's Designated Representative.

☐ **Actual Work Completed:** The Contractor shall invoice monthly and will be allowed to submit a bill for actual work completed.

☐ **Alternative Schedule:** The Contractor shall invoice and be allowed to submit a bill as follows: [alternate payment plan description, e.g., 30% deposit with balance due after work has been reviewed and accepted by the Yakama's Designated Representative.]

2. **Tax Exempt Certificate**

Due to the location and nature of the Services being provided by Contractor:

☐ The Contractor **has not** been given a Tax Exemption Certificate

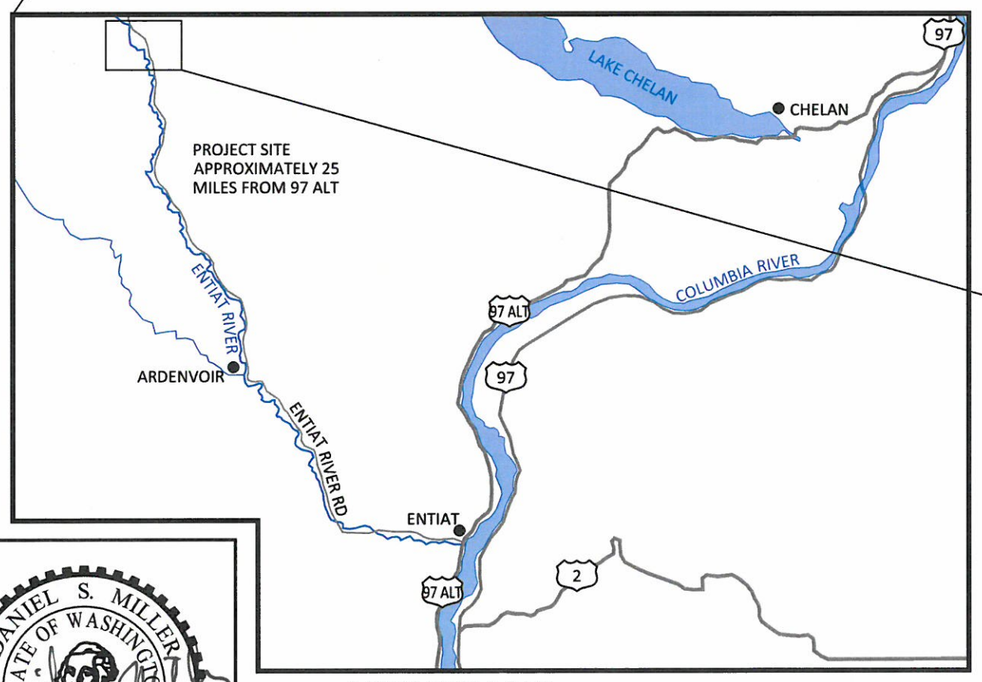
☒ The Contractor **has** been given a single use Tax Exemption Certificate. Due to the nature of this Agreement, as set forth below, the Contractor should be allowed to use the tax-exempt certificate that is included with this document. [Provide a description of how the Services to be performed justifies use of tax-exempt certificate.

ENTIAT RIVER UPPER STILLWATERS HABITAT ENHANCEMENT FINAL DESIGN

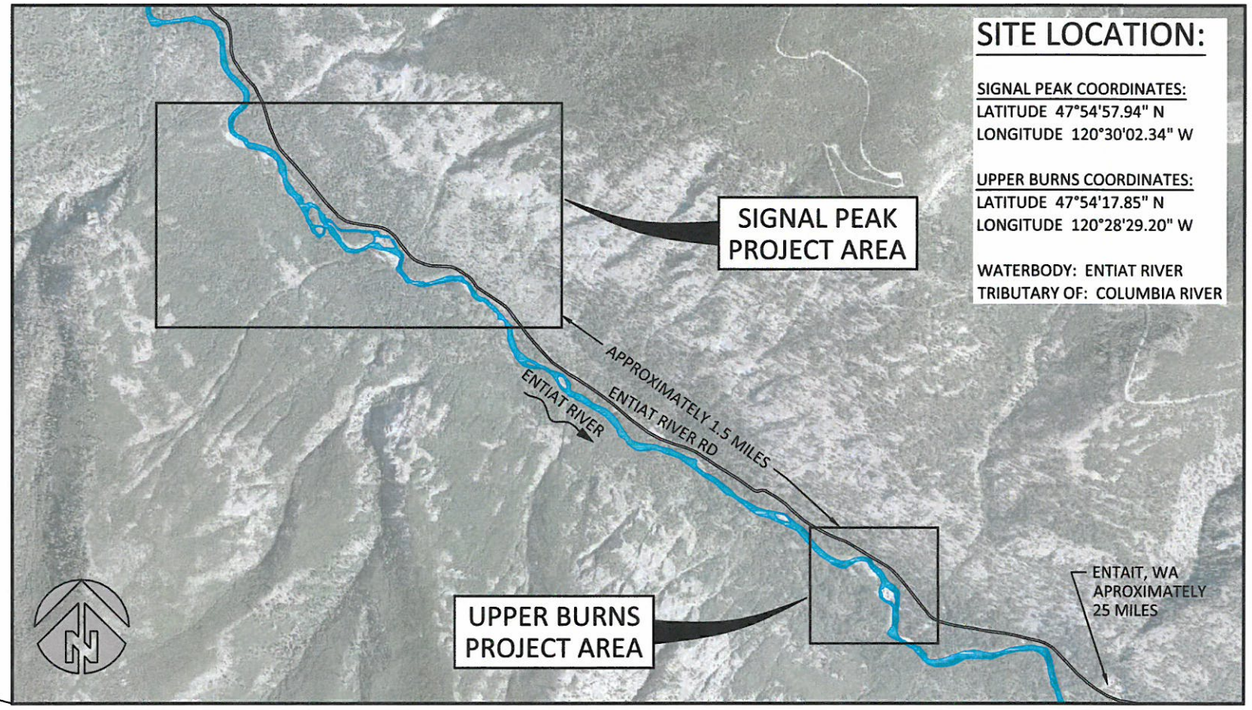
CHELAN COUNTY, WASHINGTON

DECEMBER, 2016

LOCATION MAP STATE OF WASHINGTON
NOT TO SCALE



VICINITY MAP



PROJECT SITE MAP

SITE LOCATION:

SIGNAL PEAK COORDINATES:
LATITUDE 47°54'57.94" N
LONGITUDE 120°30'02.34" W

UPPER BURNS COORDINATES:
LATITUDE 47°54'17.85" N
LONGITUDE 120°28'29.20" W

WATERBODY: ENTIAT RIVER
TRIBUTARY OF: COLUMBIA RIVER

SHEET INDEX:

ABBREVIATIONS:

APPROX	APPROXIMATE
DBH	DIAMETER AT BREAST HEIGHT
E	EAST
FT	FEET
FTR	FULLY THREADED ROD
IN	INCHES
LWM	LARGE WOODY MATERIAL
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH
NTS	NOT TO SCALE
RD	ROAD
RM	RIVER MILE
S	SOUTH
SF	SQUARE FEET
TYP	TYPICAL
W	WEST

DANIEL S. MILLER
STATE OF WASHINGTON
34208
REGISTERED
PROFESSIONAL ENGINEER

NO.	BY	DATE	REVISION DESCRIPTION

NS	GJ, DM, LH	GJ,DM
DRAWN	DESIGNED	CHECKED
DM	12/14/2016	140205
APPROVED	DATE	PROJECT

YAKAMA NATION FISHERIES
ENTIAT UPPER STILLWATERS
HABITAT ENHANCEMENT PRELIMINARY DESIGN

inter·fluve
501 Portway Avenue, Suite 101
Hood River, OR 97031
541.386.9003
www.interfluve.com

COVER, SHEET INDEX, VICINITY MAP & ABBREVIATIONS

SHEET 1 OF 13

THE CONTRACTOR SHALL ATTEND A MANDATORY PRE-BID SITE MEETING.

THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH OWNER AND OWNER'S REPRESENTATIVE PRIOR TO MOBILIZING TO SITE AND BEGINNING CONSTRUCTION.

ALL WORK SHALL CONFORM TO THE CURRENT EDITIONS OF STANDARD PLANS AND SPECIFICATIONS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT), AND LOCAL STANDARDS UNLESS INDICATED OTHERWISE BY THE CONTRACT DOCUMENTS. IN CASE OF A CONFLICT BETWEEN THE REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT WILL PREVAIL.

WDFW IN-WATER WORK PERIODS

WORK SHALL OCCUR DURING THE PERMITTED IN-WATER WORK PERIOD STATED IN THE HYDRAULIC PROJECT APPROVAL.

EXISTING DATA

TOPOGRAPHIC DATA WAS COLLECTED BY INTER-FLUVE USING RTK AND TOTAL STATION IN OCTOBER 2014 AND NOVEMBER 2015.

HORIZONTAL DATUM: STATE PLANE NAD83 WASHINGTON NORTH
VERTICAL DATUM: NAVD88

HYDROLOGY INFORMATION PROVIDED BY USBR.

HYDRAULIC MODELING BY INTER-FLUVE USING USACE HEC-RAS 2D (5.0 BETA 2015-09-28).

GIS DATA INCLUDING AERIAL PHOTOGRAPHY, LIDAR, FISH USE, LAND OWNERSHIP, AND TRANSPORTATION ROUTES PROVIDED BY VARIOUS AGENCIES.

SOILS

FOUR SHALLOW SOILS PITS WERE EXCAVATED ALONG THE UPPER STILLWATERS SIDE CHANNEL. MEMORANDUM IS AVAILABLE FROM YAKAMA NATION UPON REQUEST. NO OTHER SUBSURFACE SOILS INVESTIGATIONS HAVE BEEN COMPLETED.

CONTRACTOR SHALL CONDUCT OWN INVESTIGATIONS IF ADDITIONAL DATA IS REQUIRED AT NO ADDITIONAL COST.

UTILITIES

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR HAVING UTILITIES LOCATED PRIOR TO CONSTRUCTION ACTIVITIES.

THE CONTRACTOR SHALL CALL (800-424-5555) FOR UTILITY LOCATE PRIOR TO CONSTRUCTION.

THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE AFFECTED UTILITY SERVICE TO REPORT ANY DAMAGED OR DESTROYED UTILITIES.

THE CONTRACTOR SHALL PROVIDE EQUIPMENT AND LABOR TO AID THE AFFECTED UTILITY SERVICE IN REPAIRING DAMAGED OR DESTROYED UTILITIES AT NO ADDITIONAL COST.

CONSTRUCTION STAKING

OWNER'S REPRESENTATIVE WILL PROVIDE STAKING OF PROJECT LIMITS, GRADE STAKES, AND ELEVATION CONTROL POINTS. SOME FIELD ADJUSTMENTS TO THE LINES AND GRADES ARE TO BE EXPECTED.

CONTRACTOR SHALL MEET WITH THE OWNER AND OWNER'S REPRESENTATIVE TO DEFINE AND MARK LIMITS OF DISTURBANCE PRIOR TO MOBILIZATION OF EQUIPMENT OR MATERIALS ONTO THE SITE.

THE CONTRACTOR SHALL REPLACE DAMAGED OR DESTROYED CONSTRUCTION STAKES AT NO ADDITIONAL COST.

CONSTRUCTION MATERIALS

LOCATION, ALIGNMENT, AND ELEVATION OF LOGS AND LOGS WITH ROOTWADS ARE SUBJECT TO ADJUSTMENT BASED ON FIELD CONDITIONS AND MATERIAL SIZE.

OWNER PROVIDED LOGS, LOGS WITH ROOTWADS AND VERTICAL LOGS ARE TO BE LOCATED IN THE STOCKPILE/STAGING AREA KNOW AS THE USFS PRESTON PIT LOCATION, LOCATED AT ROAD MILE 22.5 ALONG THE ENTIAT RIVER ROAD. ANY EXCESS CONSTRUCTION MATERIALS SHALL BE NEATLY STORED AT THE APPROVED STAGING LOCATION; PRESTON PIT. UPON COMPLETION OF THE PROJECT ANY EXCESS MATERIALS, WITH THE EXCEPTION OF ANY LARGE WOODY MATERIAL (LWM), WILL BECOME THE PROPERTY OF THE CONTRACTOR AND HAULED OFFSITE IN A TIMELY MANNER AND LEGALLY DISPOSED OF. ADDITIONALLY, UPON PROJECT COMPLETION THE CONTRACTOR WILL BE RESPONSIBLE FOR HAULING ANY EXCESS LWM OFFSITE TO THE PRESTON PIT LOCATION AND PLACED AT AN APPROVED LOCATION WITHIN THE PRESTON PIT BOUNDARIES.

CONSTRUCTION ACCESS/TRAFFIC CONTROL

CONTRACTOR SHALL SUBMIT AN ACCESS, STAGING, AND STOCKPILE PLAN TO THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO MOBILIZATION.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ANY REQUIRED TRAFFIC CONTROL OR ACCESS PERMITS.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING ANY REQUIRED TRAFFIC CONTROL INCLUDING, BUT NOT LIMITED TO, SIGNAGE AND FLAGGERS.

ALL SAPLINGS AND TREES TO BE TRANSPLANTED OR REMOVED SHALL BE CLEARLY MARKED AND APPROVED BY THE OWNER AND OWNER'S REPRESENTATIVE.

ALL EQUIPMENT, MATERIALS AND PERSONNEL SHALL REMAIN WITHIN THE LIMITS OF DISTURBANCE.

THE CONTRACTOR SHALL KEEP THE WORK AREAS IN A NEAT AND SIGHTLY CONDITION FREE OF DEBRIS AND LITTER FOR THE DURATION OF THE PROJECT.

CONTRACTOR SHALL IMPLEMENT MEASURES TO CONTROL AND MINIMIZE WIND BLOWN DUST FROM THE SITE.

ALL DISTURBED AREAS INCLUDING ROADS, DRIVEWAYS AND ACCESS ROUTES SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AND RE-VEGETATED PER PLANS BY WILDLANDS.

AT PROJECT COMPLETION, PAVEMENT SHALL BE CLEANED PER WASHINGTON DEPARTMENT OF TRANSPORTATION STANDARD. CLEANING SHALL BE INCIDENTAL TO MOBILIZATION/DEMOBILIZATION.

ALL DISTURBED AREAS OUTSIDE THE LIMITS OF DISTURBANCE SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AT NO ADDITIONAL COST.

EROSION CONTROL

CONTRACTOR SHALL BE SOLELY RESPONSIBLE AT OWN EXPENSE FOR PROVIDING AND MAINTAINING ALL NECESSARY EROSION CONTROL FACILITIES TO COMPLY WITH APPLICABLE EROSION CONTROL REGULATIONS AND TO MAINTAIN CLEAN ACCESS ROUTES.

STABILIZE SOILS AND PROTECT SLOPES

FROM MAY 1 THROUGH SEPTEMBER 30, ALL EXPOSED SOILS SHALL BE PROTECTED FROM EROSION BY MULCHING, HYDROSEED COVERING, OR OTHER APPROVED MEASURES WITHIN THREE DAYS OF GRADING. FROM OCTOBER 1 THROUGH APRIL 30, ALL EXPOSED SOILS MUST BE PROTECTED WITHIN 2 DAYS OF GRADING. SOILS SHALL BE STABILIZED BEFORE A WORK SHUTDOWN, HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST. SOIL STOCK PILES MUST BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES. HYDROSEED ALL DISTURBED AREAS NOT INDICATED IN THE CONTRACT DOCUMENTS FOR OTHER PERMANENT STABILIZATION MEASURES AS SOON AS PRACTICAL.

DESIGN, CONSTRUCT, AND PHASE CUT AND FILL SLOPES IN A MANNER THAT WILL MINIMIZE EROSION. REDUCE SLOPE VELOCITIES ON DISTURBED SLOPES BY PROVIDING TEMPORARY BARRIERS. STORMWATER FROM OFF SITE SHOULD BE HANDLED SEPARATELY FROM STORMWATER GENERATED ON SITE.

AFTER FINAL SITE STABILIZATION

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BEST MANAGEMENT PRACTICES (BPMs) ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED FROM THE SITE OR INCORPORATED INTO FINISHED GRADING. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.

EROSION/SEDIMENTATION CONTROL PLAN

THE EROSION AND SEDIMENT CONTROL (ESC) PLAN PROVIDED IS FOR INFORMATIONAL PURPOSES ONLY, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING EROSION CONTROL MEASURES TO COMPLY WITH APPLICABLE REGULATIONS.

THE RECOMMENDATIONS FOR AN ESC PLAN INCLUDED HEREIN WILL PROVIDE A GUIDELINE FOR THE CONTRACTOR TO DEVELOP AND IMPLEMENT AN ESC PLAN.

A. THE IMPLEMENTATION OF AN ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
B. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
C. ESC FACILITIES AS APPROXIMATELY SHOWN ON THIS PLAN ARE TO BE CONSTRUCTED PRIOR TO CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT ENTER SURFACE WATERS, THE DRAINAGE SYSTEM, OR VIOLATE APPLICABLE WATER STANDARDS.
D. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED AT NO ADDITIONAL COST FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
E. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
F. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 24 HOURS FOLLOWING A STORM EVENT.
G. STABILIZED CONSTRUCTION ENTRANCES AND ADDITIONAL MEASURES MAY BE REQUIRED AND SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT TO ENSURE ALL ACCESS ROADS ARE KEPT CLEAN AT NO ADDITIONAL COST.

INSPECTION AND MAINTENANCE

ALL ESC FACILITIES SHALL BE INSPECTED, MAINTAINED, AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL ESC FACILITIES SHALL BE INSPECTED DAILY AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD AND AFTER EVENTS EXCEEDING 2 HOURS DURATION.

CONTRACTOR'S ESC RECORD

WEEKLY REPORTS SUMMARIZING THE SCOPE OF INSPECTIONS, THE PERSONNEL CONDUCTING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL PLAN, AND ACTIONS TAKEN AS A RESULT OF THESE INSPECTIONS SHALL BE PREPARED AND RETAINED ON SITE BY THE CONTRACTOR. IN ADDITION, A RECORD OF THE FOLLOWING DATES SHALL BE INCLUDED IN THE REPORTS:

1. WHEN MAJOR GRADING ACTIVITIES OCCUR.
2. DATES OF RAINFALL EVENTS EITHER EXCEEDING 2 HOURS DURATION OR MORE THAN 0.5 INCHES/24 HOURS.
3. WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON SITE, OR ON A PORTION OF THE SITE.
4. WHEN STABILIZATION MEASURES ARE INITIATED FOR PORTIONS OF THE SITE.

ESC RECORDS SHALL BE MADE AVAILABLE TO THE OWNER AND OWNER'S REPRESENTATIVE ON REQUEST AND SHALL BE PROVIDED FOR REVIEW AND APPROVAL PRIOR TO APPLICATION FOR PAYMENT.

DANIEL S. MILLER
STATE OF WASHINGTON
34208
REGISTERED PROFESSIONAL ENGINEER

NO.	BY	DATE	REVISION DESCRIPTION

NS	GJ, DM, LH	GJ,DM
DRAWN	DESIGNED	CHECKED
DM	12/14/2016	140205
APPROVED	DATE	PROJECT

YAKAMA NATION FISHERIES
ENTIAT UPPER STILLWATERS
HABITAT ENHANCEMENT PRELIMINARY DESIGN

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Hood River, OR 97031
541.386.9003
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GENERAL NOTES

SHEET 2 OF 13

RIVER DIVERSION

DIVERSIONS MAY BYPASS THE RIVER AROUND SMALLER WORK AREAS AT CONTRACTOR'S DISCRETION.

DEWATERING OF IN-CHANNEL WORK AREA(S) SHALL OCCUR CONCURRENT WITH FISH RESCUE. CONTRACTOR SHALL COORDINATE WITH THE YAKAMA NATION FISHERIES FOR FISH RESCUE. CONTRACTOR SHALL PROVIDE YAKAMA FISHERIES AMPLE TIME TO SCHEDULE FISH RESCUE. IF DIVERSION FAILS DUE TO CONTRACTOR NEGLIGENCE, FISH RESCUE SHALL BE REPEATED BY YAKAMA FISHERIES CREWS AT CONTRACTOR'S EXPENSE.

IF ADDITIONAL PUMPING IS REQUIRED TO DEWATER DURING CONSTRUCTION, PUMPED DISCHARGE SHALL RELEASE SEDIMENT-LADEN WATER AT AN UPLAND DISCHARGE LOCATION IN A MANNER THAT DOES NOT CAUSE EROSION, CONTAMINATION OR INCREASE TURBIDITY OF SURFACE WATERS (SEE CONSTRUCTION DEWATERING).

OWNER'S REPRESENTATIVE SHALL APPROVE DEWATERING DISCHARGE LOCATION PRIOR TO IMPLEMENTATION.

CONSTRUCTION DEWATERING

CONTRACTOR SHALL PERFORM CONSTRUCTION DEWATERING IN SUCH A MANNER AS TO AVOID THE RELEASE OF TURBID OR SEDIMENT-LADEN WATER IN ORDER TO PREVENT CONTAMINATION OR INCREASE TURBIDITY OF SURFACE WATERS. SEDIMENT LADEN WATER MAY BE PUMPED TO AN UPLAND DISCHARGE LOCATION AND ALLOWED TO SHEET FLOW THROUGH EXISTING VEGETATION BEFORE INFILTRATING INTO THE GROUND. IF THIS METHOD IS NOT SUFFICIENT TO PREVENT RETURN OF TURBID WATER TO SURFACE WATERS OF THE ENTIAT RIVER AND FLOODPLAIN, A 'DIRT-BAG' OR SEDIMENT RETENTION STRUCTURE MAY BE REQUIRED AS NECESSARY TO COMPLY WITH LAWS AND PERMIT REQUIREMENTS AT NO ADDITIONAL COST.

CONTRACTOR SHALL PROVIDE VISQUEEN, GEOTEXTILE LINER, PLYWOOD, OR METAL PLATING AS NECESSARY TO DISSIPATE PUMP DISCHARGE JET TO PREVENT EROSION.

FISH RESCUE

ALL FISH RESCUE EFFORTS SHALL BE SUPERVISED BY A YAKAMA NATION FISHERIES/AQUATIC BIOLOGIST EXPERIENCED WITH THE COLLECTION AND HANDLING OF SALMONID FISHES FROM CONSTRUCTION SITES.

ALL FISH TRAPPED IN RESIDUAL POOLS WITHIN THE PROJECT AREA WILL BE CAREFULLY COLLECTED BY SEINE AND/OR DIP NETS AND PLACED IN CLEAN TRANSFER CONTAINERS WITH ADEQUATE VOLUME OF FRESH RIVER WATER.

CAPTURED FISH SHALL BE IMMEDIATELY RELEASED INTO ENTIAT RIVER SURFACE WATER.

LIVE TREES

ALL TREES NOT MARKED FOR REMOVAL SHALL BE LEFT STANDING UNDISTURBED. CONSTRUCTION ACTIVITY SHALL NOT DEBARK OR DAMAGE LIVE TREES.

KEEP OUT OF DRIP LINE OF EXISTING TREES TO REMAIN.

WETLANDS AND WATERS OF THE US

THE WETLAND BOUNDARIES DISPLAYED IN THIS DESIGN PACKAGE WERE DETERMINED BY INTER-FLUVE STAFF. THESE LINES ARE BASED UPON ANALYSIS, MODELING, AND BEST PROFESSIONAL JUDGEMENT.

THESE DO NOT NECESSARILY REPRESENT JURISDICTIONAL BOUNDARIES. WITHIN THE STATE OF WASHINGTON, THE ARMY CORPS OF ENGINEERS AND THE DEPARTMENT OF ECOLOGY HAVE THE FINAL AUTHORITY IN DETERMINING WATERS AND WETLAND BOUNDARIES AND REGULATIONS.

TREE SALVAGE

ALL TREES AND SLASH REMOVED FOR CONSTRUCTION SHALL TEMPORARILY BE STOCKPILED WITHIN LIMITS OF DISTURBANCE. STOCKPILED TREE/SLASH SHALL BE REINCORPORATED INTO FINISHED PROJECT.

ANY REMOVED VEGETATION GREATER THAN 6 INCHES DIAMETER AND 15 FEET LONG SHOULD BE INCORPORATED INTO LOG STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR REMOVING SMALLER CLEARING AND GRUBBING DEBRIS FROM THE SITE AND DISPOSING AT A LEGAL LOCATION AT THE END OF THE PROJECT UNLESS DIRECTED BY THE OWNER'S REPRESENTATIVE.

ALL TREES REMOVED WITHIN CLEARING LIMITS SHALL BE REMOVED WHOLE WITH ROOTWAD AND UTILIZED IN CONSTRUCTION AS DIRECTED BY OWNER'S REPRESENTATIVE.

PAVING

ROAD PAVEMENT REPAIR SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS CURRENT EDITION FOR HOT MIX ASPHALT (SECTION 5.04) OR APWA AS AMENDED BY THE USFS.

DAMAGED PAVEMENT SHALL BE REMOVED TO A SAW CUT A MINIMUM OF 3FT INTO GOOD PAVEMENT, PERPENDICULAR TO THE TRAVEL LANE AND FULL WIDTH OF AFFECTED LANE.

REPLACEMENT PAVEMENT THICKNESS SHALL BE THE GREATER OF THE THICKNESS OF EXISTING PAVEMENT OR WSDOT OR USFS SPECIFICATIONS.

SUBGRADE SHALL BE LEVELED AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557 TEST METHOD (MODIFIED PROCTOR). SUBGRADES SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLACING EMBANKMENTS, ENGINEERED FILLS OR FINE GRADING FOR BASE ROCK.

ENGINEERED FILLS SHALL BE CONSTRUCTED IN 6 INCH LIFTS OVER APPROVED SUBGRADES. EACH LIFT IN THE PUBLIC RIGHT OF WAY SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557 TEST METHOD (MODIFIED PROCTOR).

CRUSHED ROCK SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, CURRENT EDITION. COMPACT TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557 TEST METHOD (MODIFIED PROCTOR). WRITTEN COMPACTION TEST RESULTS FROM AN INDEPENDENT TESTING LABORATORY SHALL BE RECEIVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLACING HOT MIX ASPHALT (HMA) PAVEMENT.

HMA PAVEMENT SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, CURRENT EDITION. MIX SHALL BE COMMERCIAL, CL 1/2INCH, GRADE PG 64-28. PAVEMENT SHALL BE COMPACTED TO MINIMUM OF 91% OF MAXIMUM DENSITY AS DETERMINED BY THE RICE STANDARD METHOD.

UNLESS OTHERWISE SHOWN ON THE DRAWINGS, STRAIGHT GRADES SHALL BE RUN BETWEEN ALL FINISHED GRADES ELEVATIONS AND/OR FINISHED CONTOUR LINES SHOWN.

FINISHED PAVEMENT GRADES AT TRANSITION IN EXISTING PAVEMENT SHALL MATCH EXISTING PAVEMENT GRADES OR BE FEATHERED PAST JOINTS WITH EXISTING PAVEMENT AS REQUIRED TO PROVIDE A SMOOTH, FREE DRAINING SURFACE.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED OR NECESSARY INSPECTIONS ARE COMPLETED BY THE OWNER'S REPRESENTATION PRIOR TO PROCEEDING WITH SUBSEQUENT WORK WHICH COVERS OR THAT IS DEPENDENT ON THE WORK TO BE INSPECTED. FAILURE TO OBTAIN NECESSARY INSPECTIONS AND APPROVALS SHALL RESULT IN THE CONTRACTOR BEING FULLY RESPONSIBLE FOR ALL PROBLEMS ARISING FROM UNINSPECTED WORK.

MINIMUM TESTING SCHEDULE FOR STREETS SUBGRADE, BASE ROCK AND ASPHALT SHALL BE ONE TEST PER 4000 SQUARE FEET PER LIFT WITH A MINIMUM OF 2 TESTS BY AN INDEPENDENT TESTING AGENCY.

THIS TESTING SCHEDULE IS NOT COMPLETE, AND DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING ALL NECESSARY INSPECTIONS FOR ALL WORK PERFORMED, REGARDLESS OF WHO IS RESPONSIBLE FOR PAYMENT.

QUANTITIES ESTIMATE

Location	Item	Qty	Unit	Total
Type 1 Wood Structures- Side Channel				
	Large wood (no rootwads) hauled from staging and installed	1	EA	2
	Large wood (rootwads) hauled from staging and installed	1	EA	2
	Excavation for LWM (geometry varies per structure)	15	CY	30
	Imported gravel/cobble/topsoil for LWM trench backfill (volume varies per structure)	9	CY	18
Type 2 Wood Structures- Side Channel				
	Large wood (no rootwads) hauled from staging and installed	2	EA	8
	Large wood (rootwads) hauled from staging and installed	4 to 7	EA	19
	Vertical log installation	5 to 7	EA	12
	Excavation for LWM (geometry varies per structure)	varies	CY	520
	Imported gravel/cobble/topsoil for LWM trench backfill (volume varies per structure)	varies	CY	240
Individual Wood- Side Channel				
	Large wood (rootwads) hauled from staging and installed	1	EA	13
Type 3 Large Wood Structures with Bumper Log				
	Large wood (no rootwads) hauled from staging and installed	1	EA	4
	Large wood (rootwads) hauled from staging and installed	3 to 7	EA	10
	Vertical log installation	3 to 16	EA	19
	Excavation for LWM (geometry varies per structure)	varies	CY	165
	Imported gravel/cobble/topsoil for LWM trench backfill (volume varies per structure)	varies	CY	70
Type 4 Large Wood Structures				
	Large wood (no rootwads) hauled from staging and installed	2 to 3	EA	10
	Large wood (rootwads) hauled from staging and installed	2 to 5	EA	14
	Ballast boulder with FTR connection	4 to 6	EA	20
Rip-Rap Enhancement Site A				
	Large wood (no rootwads) hauled from staging and installed	20	EA	20
	Large wood (rootwads) hauled from staging and installed	22	EA	22
	Boulders hauled from staging and installed	84	EA	84
	Pavement repair (300ft x 24ft)	800	SY	800
Rip-Rap Enhancement Site B				
	Large wood (no rootwads) hauled from staging and installed	12	EA	12
	Large wood (rootwads) hauled from staging and installed	30	EA	30
	Boulders hauled from staging and installed	84	EA	84
	Pavement repair (275ft x 24ft)	733	SY	733
Rip-Rap Enhancement Site C				
	Large wood (no rootwads) hauled from staging and installed	6	EA	6
	Large wood (rootwads) hauled from staging and installed	18	EA	18
	Vertical log installation	0	EA	0
	Boulders hauled from staging and installed	46	EA	48
	Pavement repair (175ft x 24ft)	467	SY	467
Side Channel Inlet				
	Excavation (5ft bottom width, 2H:1V side slopes)	95	CY	95
	Levee removal to flood plain elevation	200	CY	200
Site Restoration				
	Seed and mulch	59	MSF	59
Wetland Bench				
	Excavation (760sf x 12in deep)	varies	CY	28
	Imported wetland soil for backfill (760sf x 9in deep)	varies	CY	21

CY = cubic yards
EA = each
MSF = 1,000-square feet
SY = square yards

NOTE:

ESTIMATED MATERIAL VOLUMES ARE APPROXIMATE IN-PLACE QUANTITIES AND NOT FACTORED FOR EXPANSION OF EXCAVATED MATERIAL OR COMPACTION OF PLACED MATERIAL. MEASUREMENT AND PAYMENT SHALL NOT BE BASED ON WEIGHT TICKETS OR TRUCK MEASURE WITHOUT PRIOR WRITTEN APPROVAL.

DANIEL S. MILLER
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PROFESSIONAL ENGINEER

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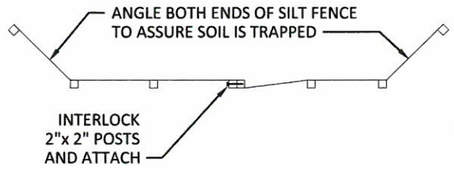
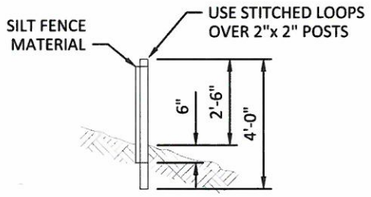
GENERAL NOTES, QUANTITIES ESTIMATE

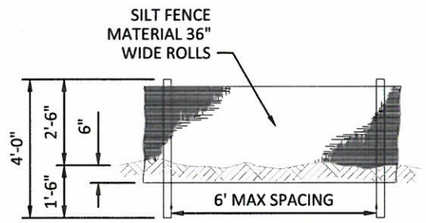
SHEET 3 OF 13



TOP VIEW
NTS



SIDE VIEW
NTS

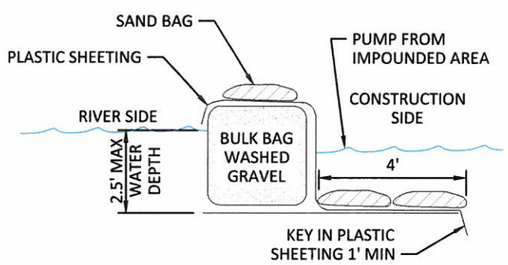


FRONT VIEW
NTS

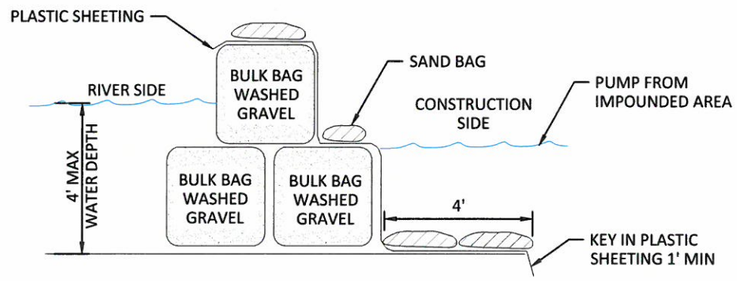
SILT FENCES GENERAL NOTES:

1. THE SILT FENCE SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST. ALTERNATIVELY, OVERLAP AND INTERLOCK TWO POSTS WITH ATTACHED FABRIC AS REQUIRED TO MEET APPLICABLE REGULATIONS.
2. THE SILT FENCE IS TO BE INSTALLED AT LOCATIONS SHOWN ON THE PLAN ALONG THE DOWNHILL PERIMETER OF CONSTRUCTION AREAS. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
3. THE SILT FENCE SHALL HAVE A MINIMUM VERTICAL BURIAL OF 6 INCHES. ALL EXCAVATED MATERIAL FROM SILT FENCE INSTALLATION SHALL BE BACK-FILLED AND COMPACTED ALONG THE ENTIRE DISTURBED AREA.
4. STANDARD OR HEAVY DUTY SILT FENCE SHALL HAVE MANUFACTURED STITCHED LOOPS FOR 2 INCHES X 2 INCHES POST INSTALLATION.
5. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY PROTECTED AND STABILIZED, OR AS DIRECTED BY OWNER'S REPRESENTATIVE.

1/4 TYPICAL DETAIL - SILT FENCE
NTS



TEMPORARY COFFERDAM SECTION IN WATER DEPTHS LESS THAN 2.5'
NTS



TEMPORARY COFFERDAM SECTION IN WATER DEPTHS GREATER THAN 2.5'
NTS

BULK BAG GENERAL NOTES:

1. BULK BAG COFFERDAM SHALL BE CONSTRUCTED OF SEVERAL UNITS OF BULK BAGS FILLED WITH WASHED GRAVEL, AND ABUTTED SIDE BY SIDE TO CREATE A ROW THAT ISOLATES THE CONSTRUCTION SITE.
2. IF WATER DEPTH EXCEEDS 85% OF THE BULK BAG HEIGHT, AN ADDITIONAL TOP ROW OF BULK BAGS SHALL BE INSTALLED, SUPPORTED BY TWO BOTTOM ROWS OF BULK BAGS. BULK BAG COFFERDAM SHALL BE SEALED BY COVERING THE COFFERDAM WITH PLASTIC SHEETING HELD IN PLACE BY STANDARD SANDBAGS PLACED IN ROWS ON TOP OF COFFERDAM, AND AT TOE OF COFFERDAM.
3. THE PLASTIC SHEETING SHALL BE DRAPED ALONG THE CHANNEL BOTTOM ON BOTH SIDES OF THE COFFERDAM WITH OUTWARD EDGE OF SHEETING MINIMUM 4-FEET FROM TOE OF COFFERDAM. THE DRAPED PORTION OF PLASTIC SHEETING SHALL BE PINNED TO THE CHANNEL BED BY MINIMUM TWO ROWS OF STANDARD SANDBAGS.
4. THE CONSTRUCTION SIDE EDGE OF PLASTIC SHEETING SHALL BE TOED INTO THE CHANNEL BED MINIMUM 1-FT. TOEING IN THE OUTWARD EDGE OF PLASTIC SHEETING SHALL OCCUR AFTER THE COFFERDAM IS CLOSED TO PREVENT TURBIDITY RELEASE TO THE WATERWAY.
5. THE TERMINAL ENDS OF BULK BAG COFFERDAM, WHERE IT CONNECTS TO CHANNEL BANK OR HIGH GROUND, SHALL BE SEALED WITH PLASTIC SHEETING AND STANDARD SANDBAGS.
6. BULK BAGS SHALL BE CUBE-SHAPED POLYPROPYLENE WOVEN FABRIC BAGS WITH FULLY OPEN TOP, FLAT BOTTOM, FOUR LOOPS, MINIMUM 2-TON WEIGHT CAPACITY, MINIMUM 5:1 SAFETY FACTOR.
7. PLASTIC SHEETING SHALL BE MINIMUM 6-MIL THICKNESS. ROLL LENGTH SHALL BE LONG ENOUGH TO ENSURE THAT ENTIRE LENGTH OF COFFERDAM WILL BE COVERED WITHOUT A SEAM. MINIMUM 12-FT WIDE ROLL SHALL BE USED FOR SINGLE LAYER BULK BAG COFFERDAM. MINIMUM 16-FT WIDE ROLL SHALL BE USED FOR 2-LAYER STACKED BULK BAG COFFERDAM.
8. BULK BAG COFFERDAM SHALL BE COMPLETELY REMOVED AFTER CONSTRUCTION IS COMPLETED AND TURBIDITY HAS BEEN REMOVED. WASHED GRAVEL SHALL BE REMOVED FROM SITE UNLESS OTHERWISE DIRECTED BY OWNER.
9. MEASUREMENT AND PAYMENT FOR BULK BAG COFFERDAM, SAND BAGS, PLASTIC SHEETING, WASHED GRAVEL PLACEMENT, MAINTENANCE AND REMOVAL OF ALL MATERIALS SHALL BE INCIDENTAL TO THE LUMP SUM ALL INCLUSIVE COST FOR DIVERSION AND DEWATERING.
10. ALTERNATE COFFERDAM MATERIALS AND CONFIGURATIONS MAY BE ALLOWED BUT SHALL NOT BE IMPLEMENTED WITHOUT REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND/OR VENDOR CUT SHEETS FOR SUBSTITUTIONS.

2/4 TYPICAL DETAIL - BULK BAG COFFERDAM
NTS

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DRAWN	DESIGNED	CHECKED
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APPROVED	DATE	PROJECT

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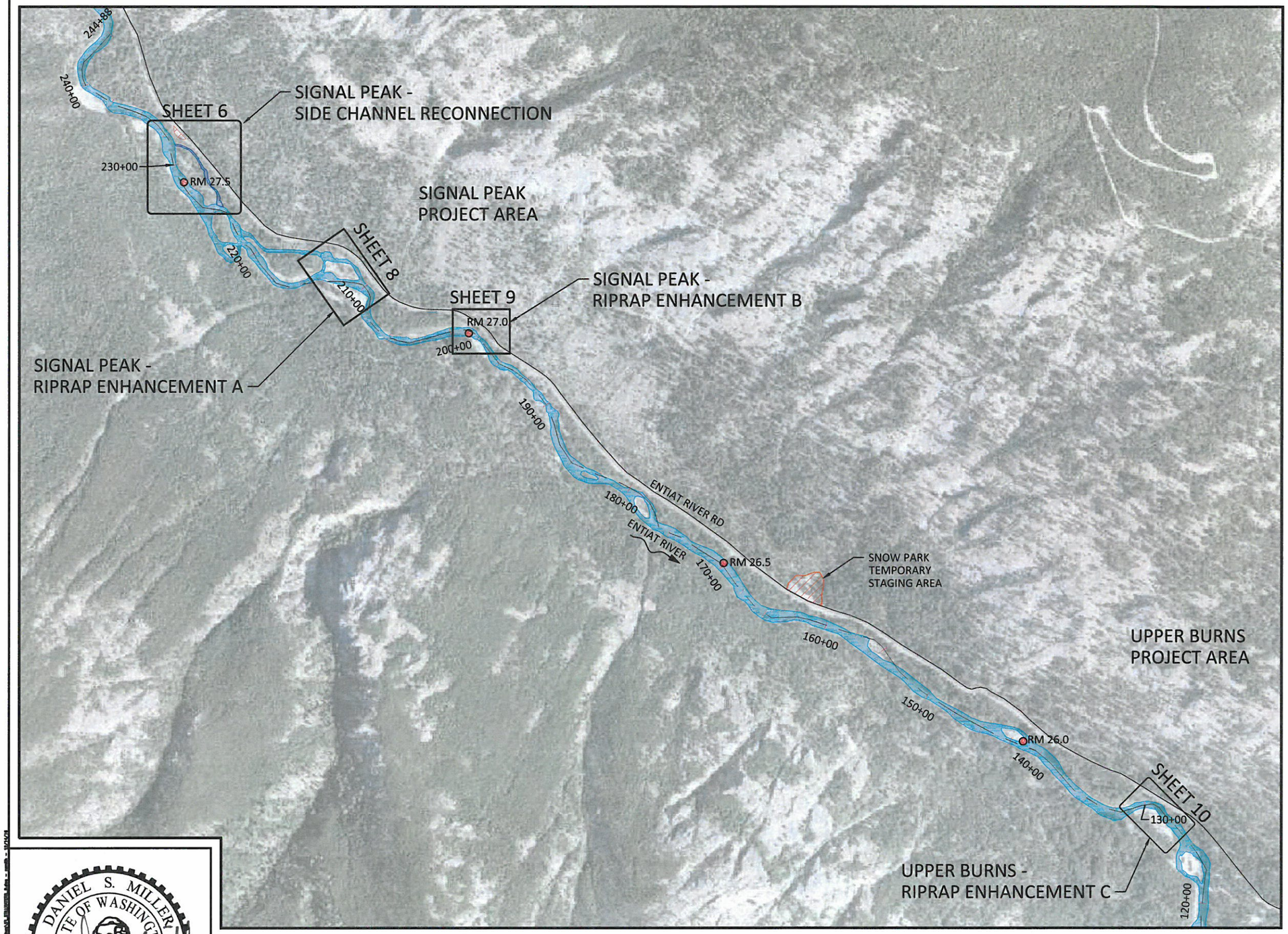
EROSION CONTROL AND COFFERDAM DETAILS

SHEET
4 OF 13



PLAN VIEW

0 800 1600

SCALE IN FEET

LEGEND

- RM 27 — RIVER MILE MARKER
- 160+00 — ENTIAT RIVER STATIONS
- EXISTING ENTIAT RIVER CHANNEL
- PROPOSED ENTIAT SIDE CHANNEL
- TEMPORARY CONSTRUCTION STAGING

NOTE:

PRESTON PIT STOCKPILE AREA 2.4 MILES SOUTHEAST OF SNOW PARK TEMPORARY STAGING AREA.

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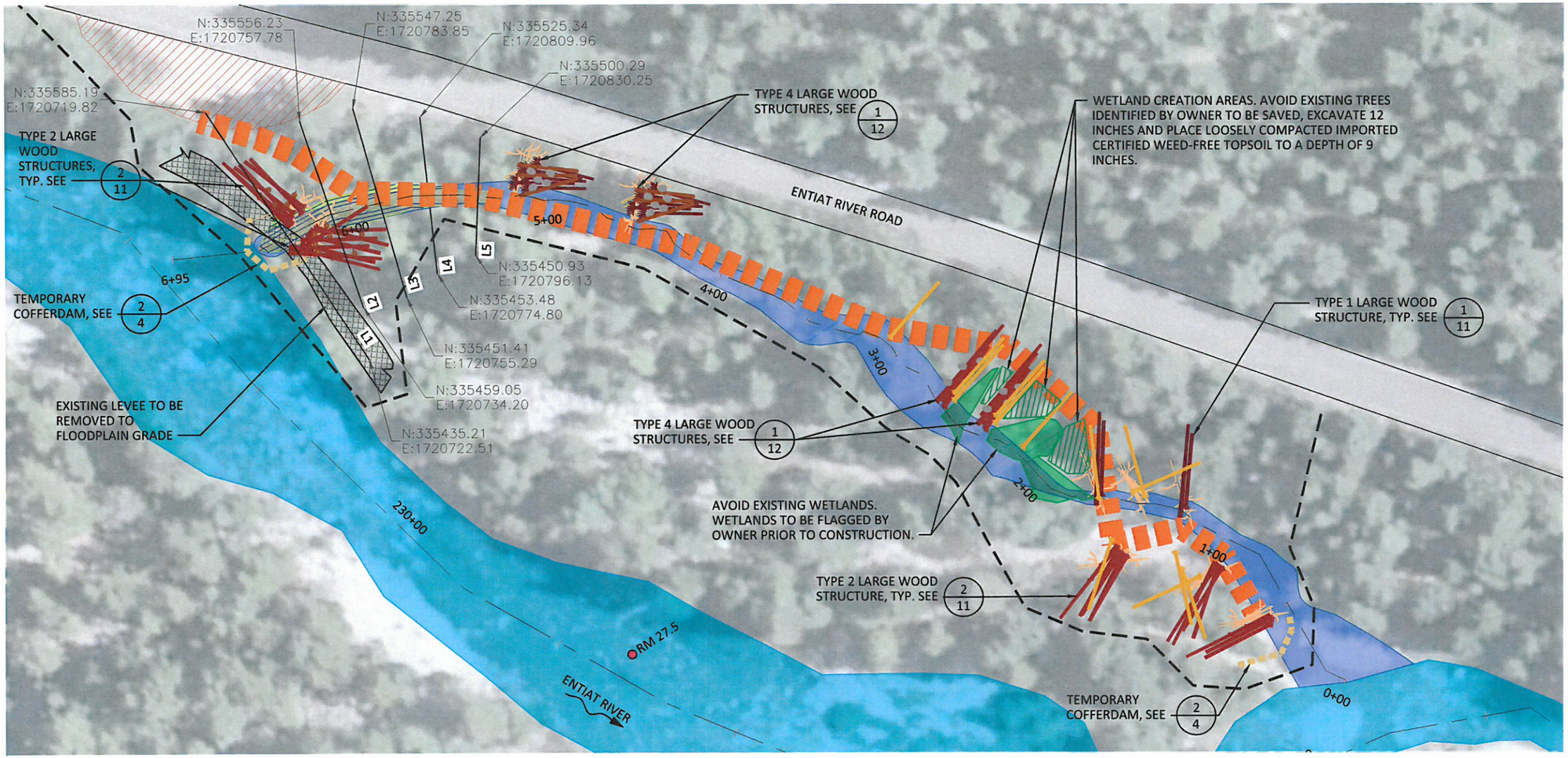
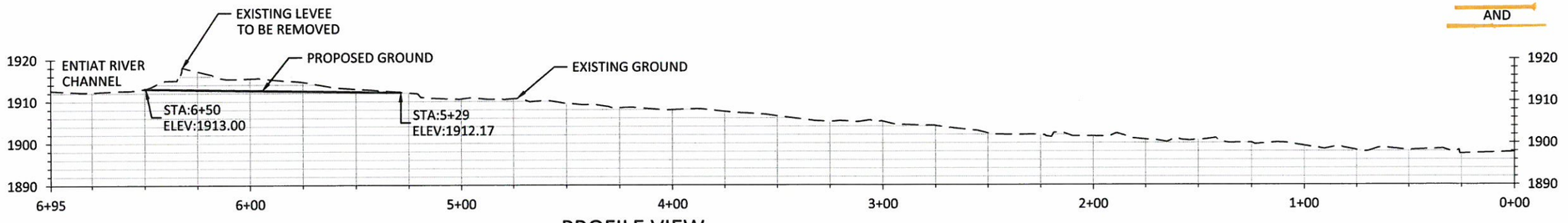
SITE OVERVIEW AND SHEET KEY

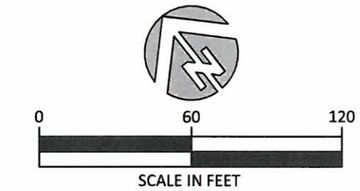
SHEET 5 OF 13



PLAN VIEW



PROFILE VIEW



LEGEND

- PROPOSED CONTOURS (1FT)
- 160+00 — ENTIAT RIVER AND SIDE CHANNEL STATIONS
- LIMITS OF DISTRUBANCE
- L1 — SIDE CHANNEL CROSS SECTION, SEE 3/7
- EXISTING ENTIAT RIVER CHANNEL
- PROPOSED ENTIAT RIVER SIDE CHANNEL
- SIDE CHANNEL EXCAVATION AREA
- EXISTING WETLAND
- WETLAND CREATION AREA
- EXISTING LEVEE TO BE REMOVED
- TEMPORARY CONSTRUCTION STAGING
- TEMPORARY CONSTRUCTION ACCESS
- TEMPORARY COFFERDAM, SEE 2/4
- SLASH
- TYPE 1 LARGE WOOD STRUCTURE, SEE 1/11
- TYPE 2 LARGE WOOD STRUCTURE, SEE 2/11
- TYPE 4 LARGE WOOD STRUCTURE, SEE 1/12
- AND — SINGLE LOG PLACEMENT

2x VERTICAL EXAGGERATION
SCALE: 1" = 30'
SCALE: 1" = 60'

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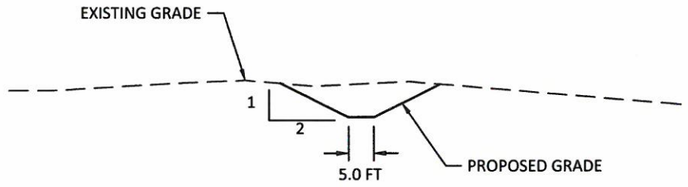
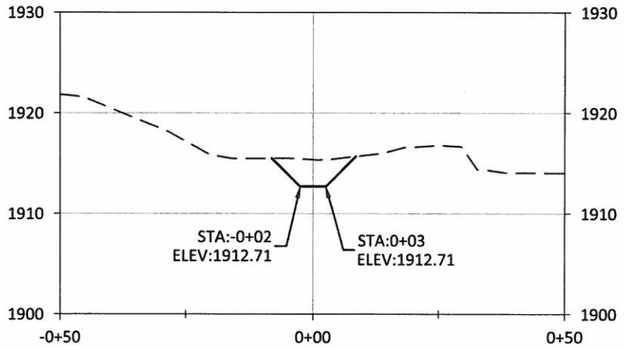
SIGNAL PEAK SIDE CHANNEL RECONNECTION PLAN AND PROFILE

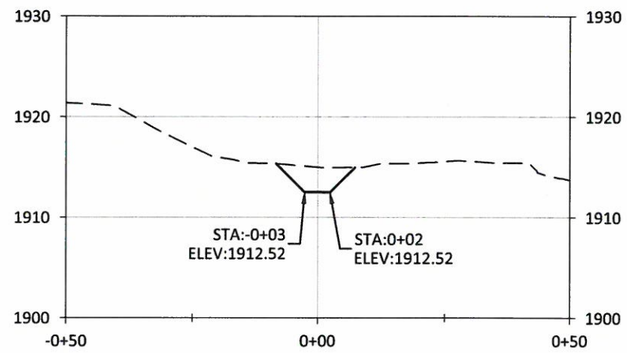
SHEET 6 OF 13



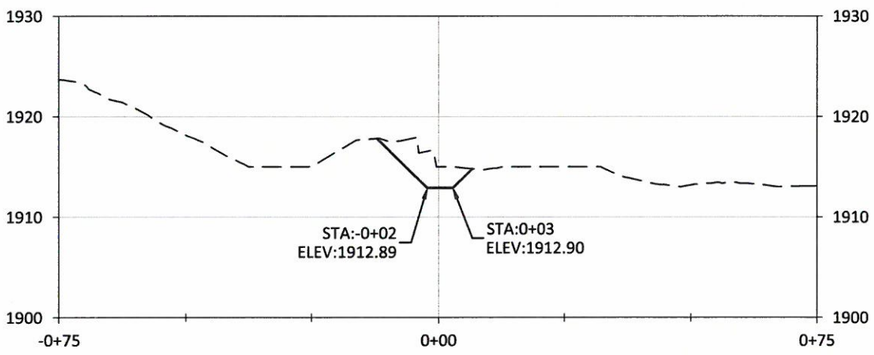
1/7 TYPICAL SECTION -
SIDE CHANNEL STA 5+29 TO 6+39
1" = 30'



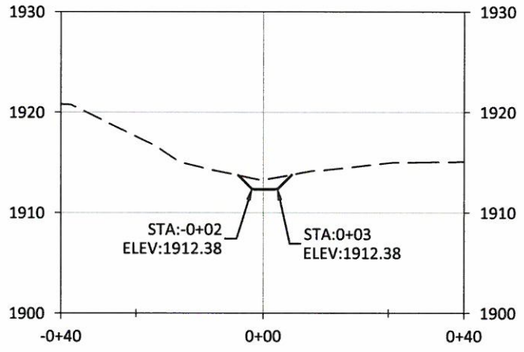
SIDE CHANNEL 6+10 (L2)



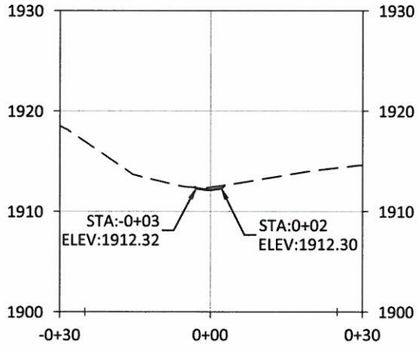
SIDE CHANNEL STA 5+85 (L3)



SIDE CHANNEL STA 6+35 (L1)

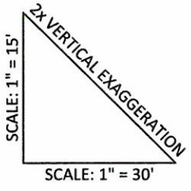


SIDE CHANNEL STA 5+60 (L4)



SIDE CHANNEL 5+35 (L5)

2/7 SIDE CHANNEL CROSS-SECTIONS



LEGEND

EXISTING GROUND

PROPOSED GROUND

NOTE:

SECTION ORIENTATION IS LEFT TO RIGHT LOOKING DOWNSTREAM

NO.	BY	DATE	REVISION DESCRIPTION

NS	GJ, DM, LH	GJ,DM
DRAWN	DESIGNED	CHECKED
DM	12/14/2016	140205
APPROVED	DATE	PROJECT

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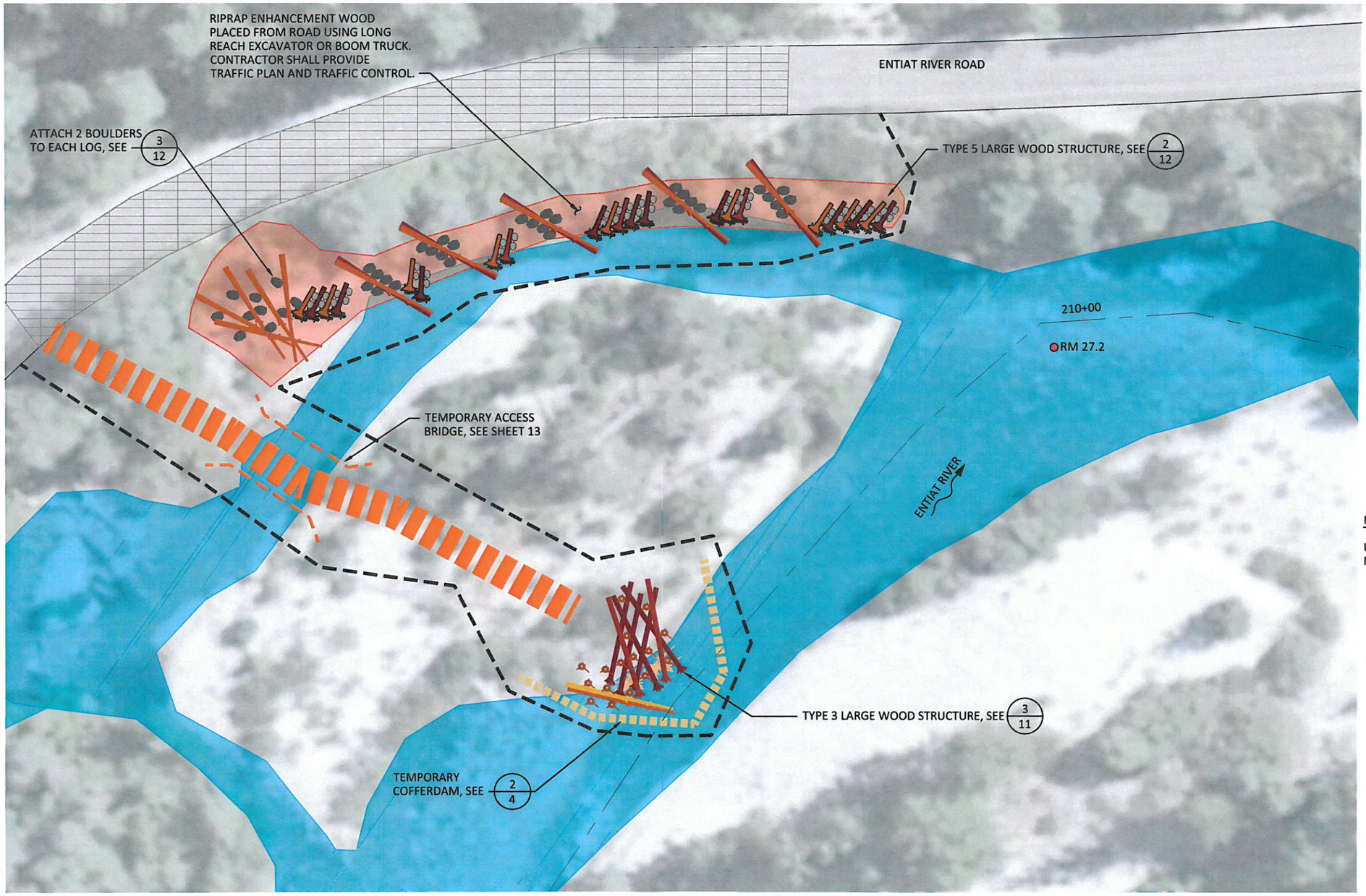
SIGNAL PEAK SIDE CHANNEL
CROSS-SECTIONS

SHEET
7 OF 13



PLAN VIEW

0 40 80

SCALE IN FEET

LEGEND

- RM 28 — RIVER MILE MARKER
- 160+00 — ENTIAT RIVER STATIONS
- LIMITS OF DISTURBANCE
- EXISTING ENTIAT RIVER CHANNEL
- LARGE WOOD ENHANCEMENT OF EXISTING RIPRAP, SEE 2/12
- TEMPORARY CONSTRUCTION ACCESS
- APPROX PAVEMENT REPAIR AREA, SEE PAVING NOTES ON SHEET 3
- TEMPORARY COFFERDAM, SEE 2/4
- SLASH

NOTE:

UTILIZE OFF-SITE, NEARBY STAGING AREA TO MINIMIZE SITE IMPACTS.

CONSTRUCTION SEQUENCE

ACCESS TO THE SITE IS FROM ENTIAT RIVER ROAD.

BOULDER BALLASTED LOG STRUCTURES

BOULDERS AND LOGS SHALL BE CLEANED TO REMOVE SEDIMENT. EACH LOG SHALL BE BALLASTED BY TWO 32 INCH DIAMETER BOULDERS BOLTED TO THE LOG. INSTALL EACH BALLASTED LOG BY LOWERING INTO THE RIVER BY CRANE OR LONG REACH EXCAVATOR.

"BUMPER" LOGS SHALL BE STACKED AT THE UPSTREAM FACE OF EACH STRUCTURE. EACH SET OF BUMPER LOGS SHALL CONSIST OF THREE 18" DBH, 30' LONG LOGS AND SHALL BE BALLASTED BY SIX 36" BOULDERS.

VERTICAL LOG BALLASTED LOG STRUCTURE

INSTALL TEMPORARY COFFERDAM AND PUMP.

EXCAVATE TO SUBGRADE.

THE STRUCTURE SHALL BE COMPOSED OF THREE LAYERS OF LOGS BALLASTED BY VERTICAL LOGS AND GRAVEL/COBBLE BACKFILL. ALL LOGS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO INSTALLATION. INCORPORATE CLEARED BRUSH/SLASH AS SMALL WOODY DEBRIS INTERMINGLED WITH INSTALLED LOGS.

"BUMPER" LOGS SHALL BE STACKED AT THE UPSTREAM FACE OF THE STRUCTURE.

INSTALL VERTICAL LOGS AND BOLT LOGS TO VERTICAL LOGS. BACKFILL STRUCTURE.

REMOVE COFFERDAM.

SEED AND MULCH ALL DISTURBED GROUND.

DANIEL S. MILLER
STATE OF WASHINGTON
34208
REGISTERED PROFESSIONAL ENGINEER

NO.	BY	DATE	REVISION DESCRIPTION

NS DRAWN	GJ, DM, LH DESIGNED	GJ,DM CHECKED
DM APPROVED	12/14/2016 DATE	140205 PROJECT

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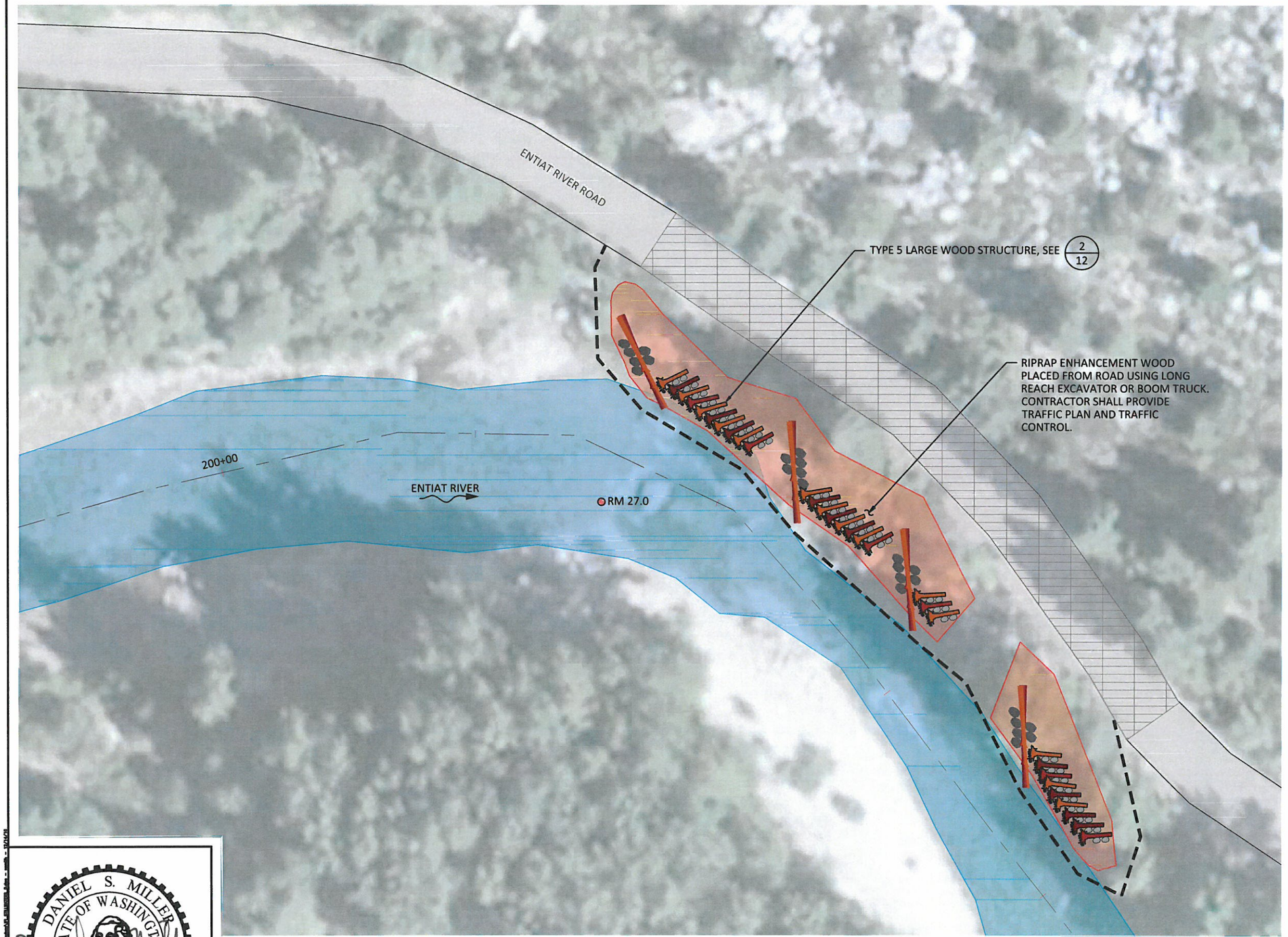
SIGNAL PEAK RIPRAP ENHANCEMENT SITE A

SHEET 8 OF 13



PLAN VIEW

0 40 80

SCALE IN FEET

LEGEND

- RM 28 — RIVER MILE MARKER
- 160+00 — ENTIAT RIVER STATIONS
- LIMITS OF DISTURBANCE
- EXISTING ENTIAT RIVER CHANNEL
- LARGE WOOD ENHANCEMENT OF EXISTING RIPRAP, SEE SHEET 12
- APPROX PAVEMENT REPAIR AREA, SEE PAVING NOTES ON SHEET 3

NOTE:

UTILIZE OFF-SITE, NEARBY STAGING AREA TO MINIMIZE SITE IMPACTS.

CONSTRUCTION SEQUENCE NOTES:

ACCESS TO THE SITE IS FROM ENTIAT RIVER ROAD.

BOULDER BALLASTED LOG STRUCTURES
CONSTRUCTION SHALL OCCUR FROM THE TOP OF A RIPRAP LEVEE. BOULDERS AND LOGS SHALL BE CLEANED TO REMOVE SEDIMENT. EACH LOG SHALL BE BALLASTED BY TWO 32 INCH DIAMETER BOULDERS BOLTED TO THE LOG. INSTALL EACH BALLASTED LOG BY LOWERING INTO THE RIVER BY CRANE OR LONG REACH EXCAVATOR.

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34208
REGISTERED
PROFESSIONAL ENGINEER

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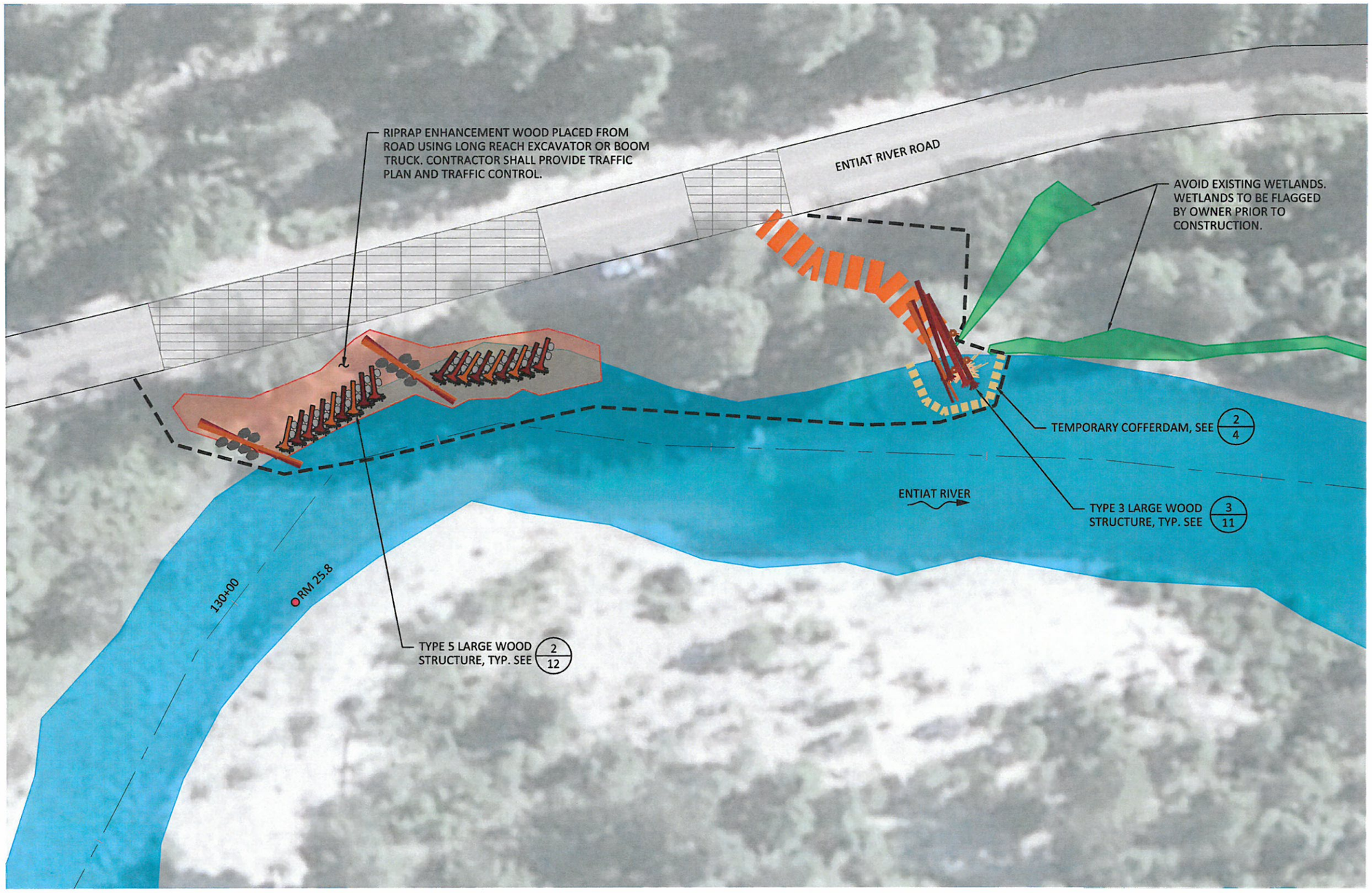
SIGNAL PEAK RIPRAP ENHANCEMENT SITE B

SHEET 9 OF 13



PLAN VIEW

0 40 80

SCALE IN FEET

LEGEND

- RM 28 — RIVER MILE MARKER
- 160+00 — ENTIAT RIVER STATIONS
- LIMITS OF DISTURBANCE
- EXISTING ENTIAT RIVER CHANNEL
- LARGE WOOD ENHANCEMENT OF EXISTING RIPRAP, SEE SHEET 9
- EXISTING WETLANDS
- TEMPORARY CONSTRUCTION ACCESS
- APPROX PAVEMENT REPAIR AREA, SEE PAVING NOTES ON SHEET 3
- TEMPORARY COFFERDAM, SEE 2/4
- SLASH

NOTE:

UTILIZE OFF-SITE, NEARBY STAGING AREA TO MINIMIZE SITE IMPACTS.

CONSTRUCTION SEQUENCE NOTES:

ACCESS TO THE SITE IS FROM ENTIAT RIVER ROAD.

BOULDER BALLASTED LOG STRUCTURES
CONSTRUCTION SHALL OCCUR FROM THE TOP OF A RIPRAP LEVEE. BOULDERS AND LOGS SHALL BE CLEANED TO REMOVE SEDIMENT. EACH LOG SHALL BE BALLASTED BY TWO 32 INCH DIAMETER BOULDERS BOLTED TO THE LOG. INSTALL EACH BALLASTED LOG BY LOWERING INTO THE RIVER BY CRANE OR LONG REACH EXCAVATOR.

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34208
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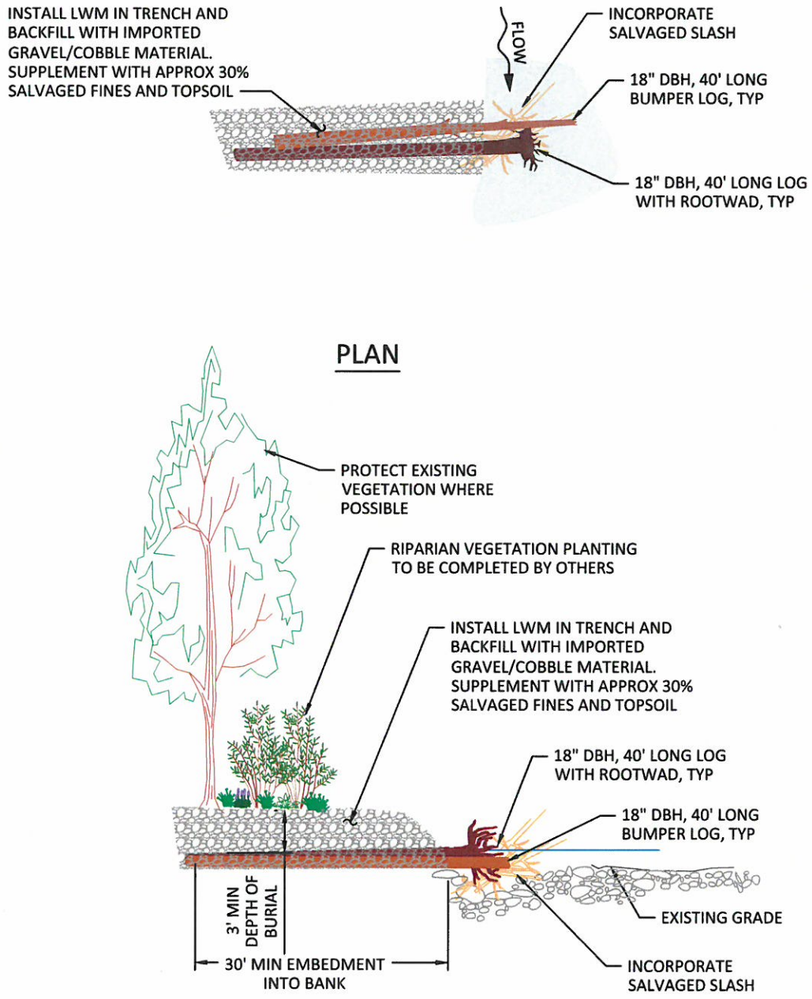
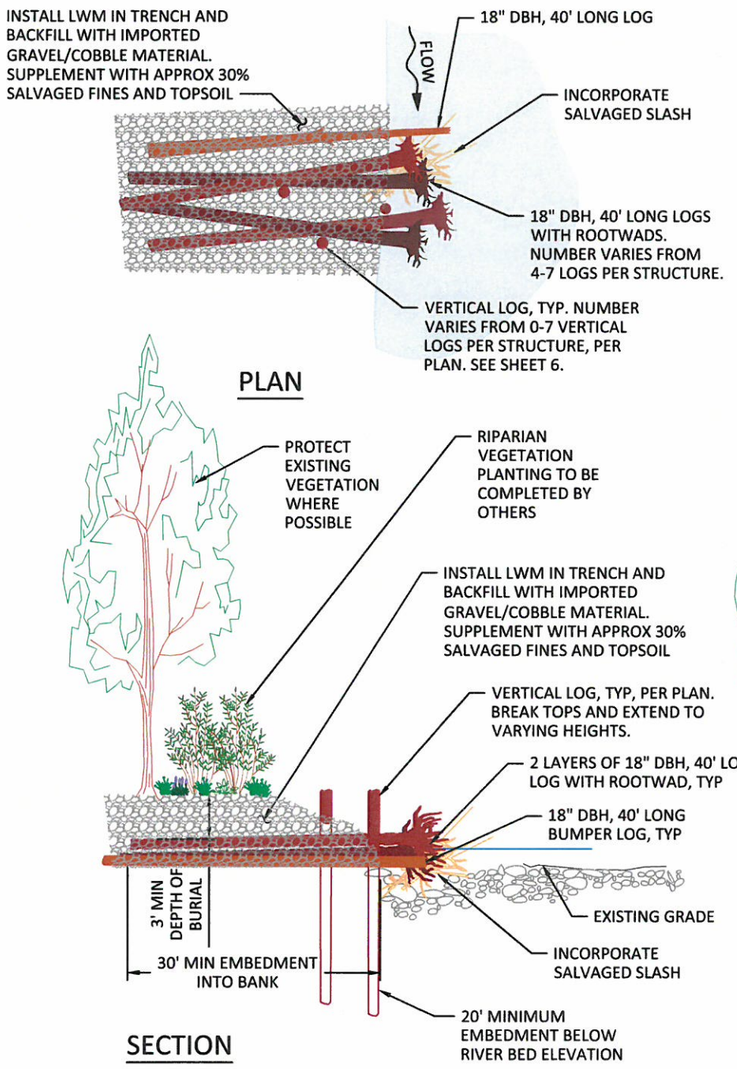
UPPER BURNS RIPRAP ENHANCEMENT SITE C

SHEET 10 OF 13



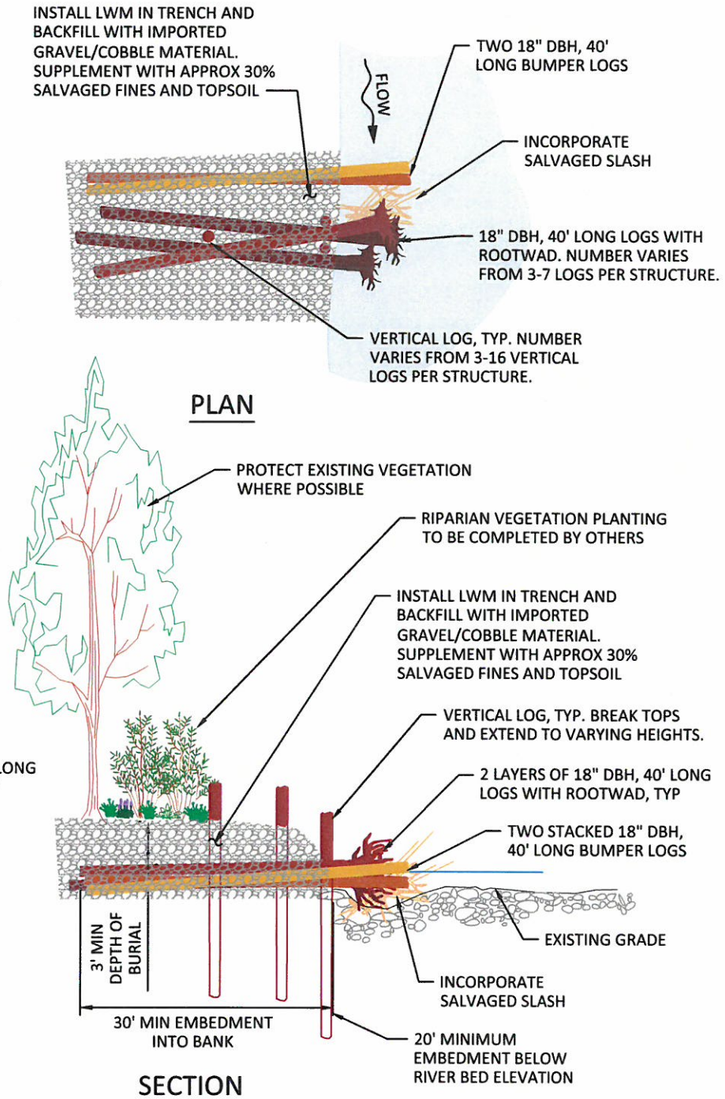
1 / 11 TYPE 1 LARGE WOOD STRUCTURE: SMALL BURIED JAM

NOT TO SCALE



2 / 11 TYPE 2 LARGE WOOD STRUCTURE: LARGE BURIED JAM

NOT TO SCALE



3 / 11 TYPE 3 LARGE WOOD STRUCTURE: BURIED JAM WITH BUMPER LOG

NOT TO SCALE

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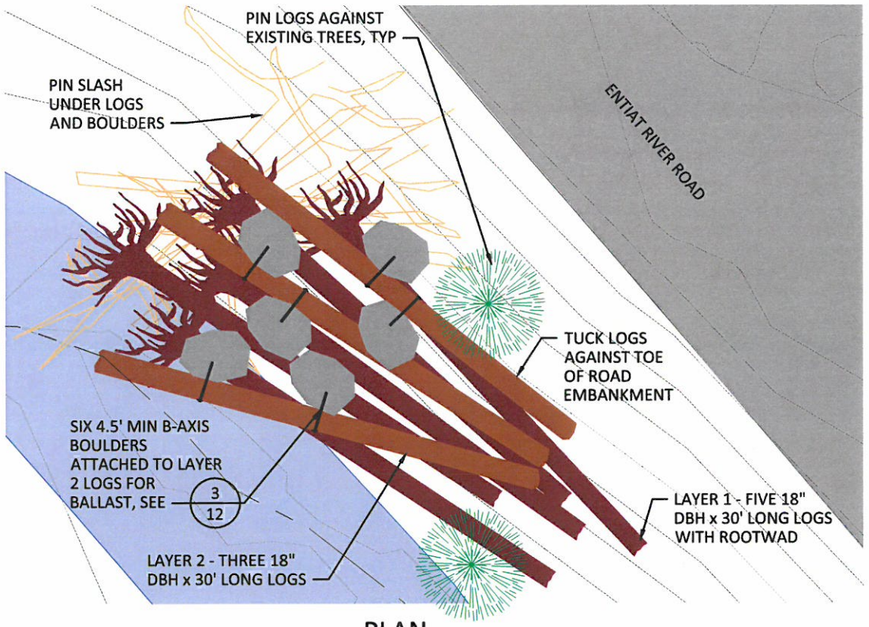
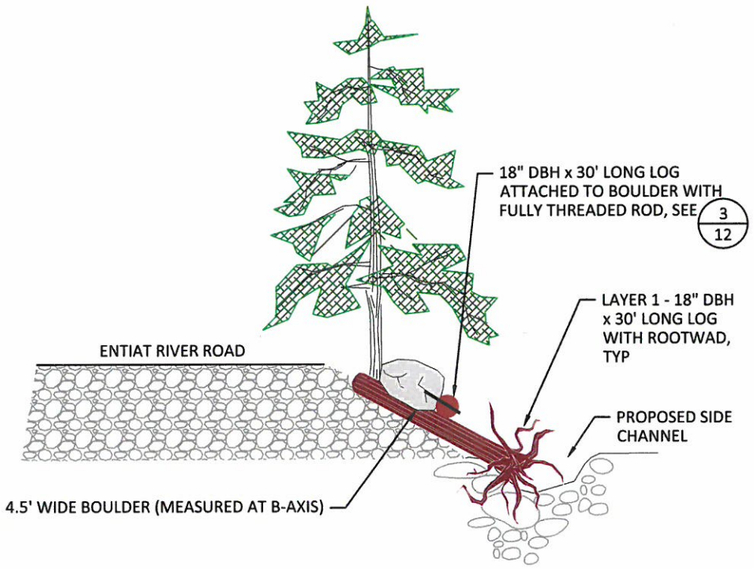
LARGE WOOD DETAILS

SHEET 11 OF 13



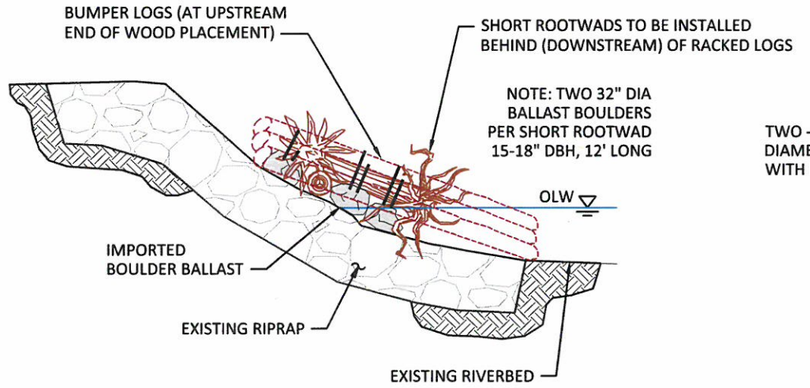
PLAN



SECTION

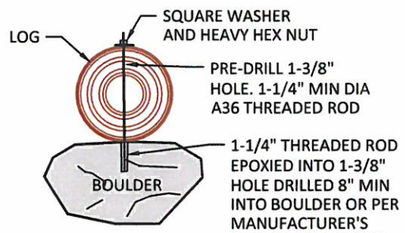
1/12 TYPE 4 LARGE WOOD STRUCTURE: ROAD EMBANKMENT/ SURFACE DEFLECTOR JAM

NOT TO SCALE



2/12 TYPICAL SECTION- TYPE 5 LARGE WOOD STRUCTURE: BOULDER BALLASTED RIPRAP ENHANCEMENT

NOT TO SCALE

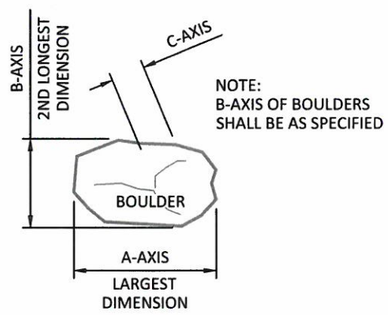


3/12 BOULDER BALLAST DETAIL

NOT TO SCALE

LOG ANCHORED TO BOULDER

1. SECURE LOG WITH 1-1/4" MIN DIAMETER A36 THREADED ROD THROUGH LOG EPOXIED INTO BOULDER.
2. INSTALL STEEL PLATE(S) AND HEAVY HEX NUT(S).
3. SECURE NUT(S) BY CHISELING THREADS.
4. FILE OR GRIND OFF SHARP EDGES. INSTALL PLASTIC BOLT CAP(S).

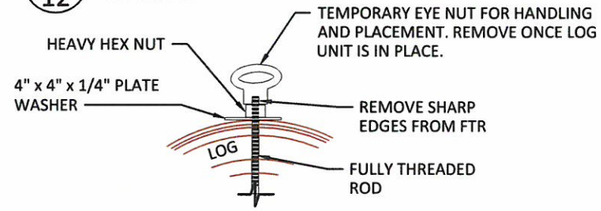


4/12 BOULDER SIZING DETAIL

NOT TO SCALE

5/12 LOG AND BOULDER DETAIL

NOT TO SCALE



6/12 FULLY THREADED ROD AND EYE NUT DETAIL

NOT TO SCALE

DESCRIPTION

THIS WORK CONSISTS OF PRE-ASSEMBLING LOG UNITS AND INSTALLING WITH BOOM TRUCK OR LONG REACH EXCAVATOR AS SHOWN ON THE PLANS AND AS DIRECTED BY THE OWNERS REPRESENTATIVE.

MATERIALS

FULLY THREADED RODS SHALL BE 1-1/4" MINIMUM DIAMETER A36 THREADED RODS

BOULDERS SHALL BE NON-FRACTURED BASALT WITH A MINIMUM SPECIFIC GRAVITY OF 2.65.

EPOXY FOR ANCHORING SHALL BE HILTI HIT RE 500 ADHESIVE OR APPROVED EQUAL.

CONSTRUCTION

FINAL POSITIONING OF THE ANCHORED LOG STRUCTURES SHALL BE IN THE APPROXIMATE LOCATION AS SHOWN ON THE PLANS AND AS APPROVED IN THE FIELD BY THE OWNERS REPRESENTATIVE.

BALLAST BOULDERS SHALL BE SECURED AS SHOWN ON THE PLANS.

PIN LOG IN PLACE WITH ONE END SUSPENDED OFF THE GROUND. DRILL HOLE THROUGH LOG. MOVE BOULDER INTO PLACE, LEAVING A SMALL SPACE BETWEEN THE LOG AND THE BOULDER. DRILL BOULDER USING A 36" LONG DRILL BIT, PASSED THROUGH THE HOLE IN THE LOG TO DRILL THE BALLAST BOULDER ALONG A CONTINUOUS ALIGNMENT.

DRILL HOLES IN SOLID ROCK AND AVOID ANY CRACKS OR FRACTURES. HOLES SHALL BE 1-3/8" INCH IN DIAMETER. HOLES SHALL BE DRILLED 8 INCHES, MINIMUM, INTO ROCK. HOLES SHALL BE CLEANED OF LOOSE ROCK FRAGMENTS AND POWDER WITH A BRUSH AND WATER. HOLES SHALL BE CLEAN OF ALL DUST, DEBRIS, OIL, AND SOAP RESIDUES. THE HOLES SHALL BE FLUSHED CLEAR TO INSURE NO MATERIAL EXISTS BETWEEN THE FULLY THREADED ROD, EPOXY, AND ROCK SURFACE. INSTALL EPOXY PER MANUFACTURER'S RECOMMENDATIONS.

WIPE FULLY THREADED ROD WITH CLEAN ACETONE SOAKED RAG TO REMOVE OILS AND GREASES PRIOR TO INSERTION INTO EPOXY FILLED HOLE. FILL DRILL HOLES ENOUGH TO ENSURE COMPLETE COVERAGE WITH EPOXY. INSERT FULLY THREADED ROD INTO HOLE SO THAT END OF ROD HITS THE BOTTOM OF THE HOLE. ROTATE FULLY THREADED ROD DURING INSERTION TO FILL THREAD VALLEYS WITH EPOXY. EXCESS EPOXY SHOULD COME OUT OF THE TOP OF THE HOLE AS ROD IS SEATED IN DRILL HOLE.

ATTACH A SECOND BOULDER, USING THE SAME METHOD, ON THE SAME SIDE OF THE LOG. ATTACH A HEAVY EYE NUT TO THE END OF EACH FULLY THREADED ROD AND USE THE EYE NUTS TO LIFT THE UNIT AND MOVE INTO PLACE. REMOVE THE EYE NUTS ONCE THE UNIT IS PLACED IN ITS FINAL ALIGNMENT.

DANIEL S. MILLER
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34208
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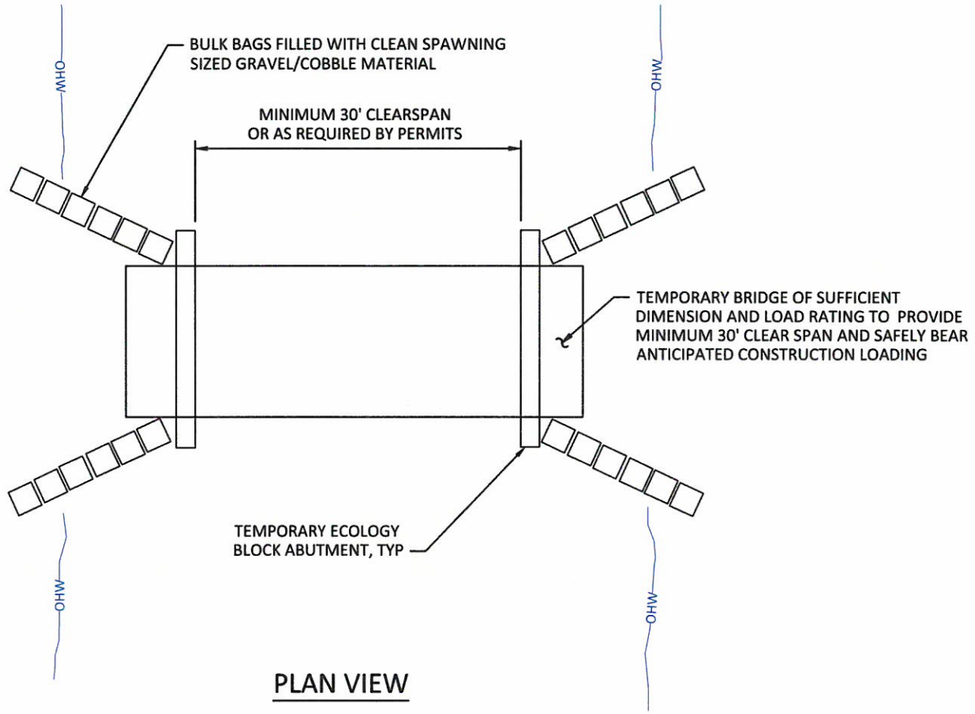
LARGE WOOD AND BOULDER BALLAST DETAILS

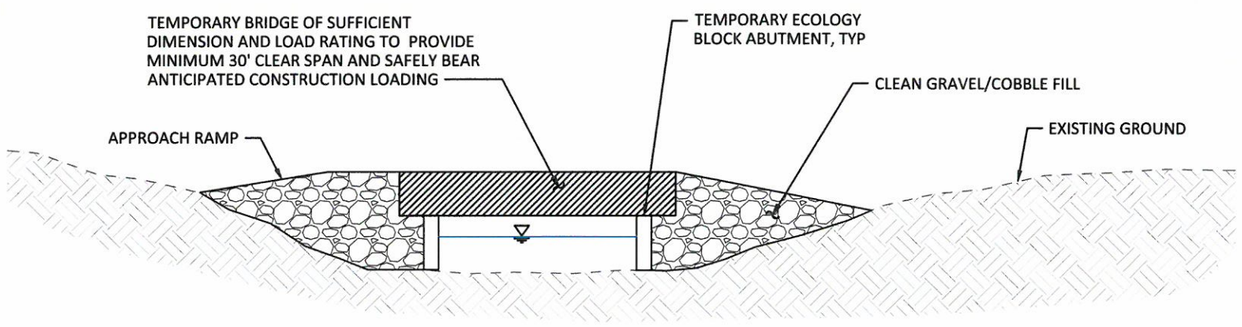
SHEET 12 OF 13



PLAN VIEW

NOTE:

TEMPORARY BRIDGE, ECOLOGY BLOCK ABUTMENTS, CLEAN GRAVEL/COBBLE FILL AND BULK BAGS SHALL BE REMOVED AT PROJECT COMPLETION AND SITE RESTORED TO PRE-PROJECT GRADE AND CONDITIONS.



SECTION VIEW

1/13 TEMPORARY BRIDGE CROSSING
NTS

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TEMPORARY ACCESS BRIDGE
TYPICAL DETAILS

SHEET
13 OF 13

EXHIBIT E ARBO II General Conservation Measures Signal Peak & Upper Burns Project Sites 2017

The following project design criteria for large wood placement, ELJ's and side channel habitat restoration are from the Programmatic Biological Assessment for Fish Habitat Restoration Activities Affecting ESA-Listed Animal and Plant Species and their designated or proposed Critical Habitat and Designated Essential Fish Habitat under MSA found Oregon, Washington and portions of California, Idaho and Nevada (USFS/USDI/BIA 2013).

1. All conditions and requirements within the U.S. Forest Service Aquatic Restoration Program regional general permit (RGP-8) (USACE 2011) will be met.
2. All design criteria and conservation measures in the 2013-2017 Programmatic Biological and Conference Opinions (BiOps) for Aquatic Restoration Activities in Oregon, Washington and portions of California, Idaho and Nevada will be met (NMFS 2013 and USFWS 2013).
3. Yakama Nation will need to work with WDFW to determine in-water work periods and obtaining the appropriate hydrologic permits.

B. General Aquatic Conservation Measures

General Aquatic Conservation Measures (ACM) are intended to minimize effects to the aquatic environment, and the following apply, when relevant, to all 20 aquatic restoration categories.

1. **Minor Variance Process** – Because of the wide range of proposed activities and the natural variability within and between stream systems, some projects may require minor variations from criteria specified herein. The Services will consider granting variances, especially when there is a clear conservation benefit or there are no additional adverse effects (especially take) beyond that covered by the ARBO II. Minor variance requests must:
   a) cite ARBO II identifying number
   b) cite the relevant criterion by page number
   c) define the requested variance
   d) explain why the variance is necessary
   e) provide a rationale why the variance will either provide a conservation benefit or, at a minimum, not cause additional adverse effects
   f) include as attachments any necessary approvals by state agencies
   g) Minor variances can be authorized by the Services at the NMFS Branch Chief or FWS Field Office Supervisor level.

2. **Technical Skill and Planning Requirements**
   a) Ensure that an experienced fisheries biologist or hydrologist is involved in the design of all projects covered by this ARBA II. The experience should be commensurate with technical requirements of a project.

b) Planning and design includes field evaluations and site-specific surveys, which may include reference reach evaluations that describe the appropriate geomorphic context in which to implement the project. Planning and design involves appropriate expertise from staff or experienced technicians (e.g., fisheries biologist, hydrologist, geomorphologist, wildlife biologist, botanist, engineer, silviculturist, fire/fuels specialists.)
c) The project fisheries biologist/hydrologist will ensure that project design criteria are incorporated into implementation contracts. If a biologist or hydrologist is not the Contracting Officers Representative (COR), then the biologist or hydrologist must regularly coordinate with the project COR to ensure the project design criteria and conservation measures are being followed.

3. **Climate Change** – Consider climate change information, such as predictive hydrographs for a given watershed or region, when designing ARBA II projects.

4. **Lamprey –** To the extent possible, incorporate lamprey BMPs found in Best Management Practices to Minimize Adverse Effects to Pacific Lamprey, Entosphenus tridentatus (USFWS 2010).

5. **Fish Passage –** Fish passage will be provided for any adult or juvenile fish likely to be present in the action area during construction, unless passage did not exist before construction, stream isolation and dewatering is required during project implementation, or where the stream reach is naturally impassible at the time of construction. After construction, adult and juvenile passage that meets NMFS's fish passage criteria (NMFS 2011) will be provided for the life of the action.

6. **Site Assessment for Contaminants** – In developed or previously developed sites, such as areas with past dredge mines, or sites with known or suspected contamination, a site assessment for contaminants will be conducted on projects that involve excavation of > 20 cubic yards of material. The action agencies will complete a site assessment to identify the type, quantity, and extent of any potential contamination. The level of detail and resources committed to such an assessment will be commensurate with the level and type of past or current development at the site. The assessment may include the following:
   a) Review of readily available records, such as former site use, building plans, records of any prior contamination events
   b) Site visit to observe the areas used for various industrial processes and the condition of the property
   c) Interviews with knowledgeable people, such as site owners, operators, occupants, neighbors, local government officials, etc.
   d) Report that includes an assessment of the likelihood that contaminants are present at the site.

7. **Pollution and Erosion Control Measures (PCEM) –** When heavy machinery will be used to complete a project, implement the following PCEMs:
   a) Project Contact: Identify a project contact (name, phone number, an address) who will be responsible for implementing PCEMs.
   b) List and describe any hazardous material that would be used at the project site, including procedures for inventory, storage, handling, and monitoring; notification procedures; specific clean-up and disposal instructions for different products

available on the site; proposed methods for disposal of spilled material; and employee training for spill containment.

c) Temporarily store any waste liquids generated at the staging areas under cover on an impervious surface, such as tarpaulins, until such time they can be properly transported to and treated at an approved facility for treatment of hazardous materials.

d) Procedures based on Best Management Practices to confine, remove, and dispose of construction waste, including every type of debris, discharge water, concrete, cement, grout, washout facility, welding slag, petroleum product, or other hazardous materials generated, used, or stored on-site.

e) Procedures to contain and control a spill of any hazardous material generated, used or stored on-site, including notification of proper authorities. Ensure that materials for emergency erosion and hazardous materials control are onsite (e.g., silt fence, straw bales, oil-absorbing floating boom whenever surface water is present).

f) Best management practices to confine vegetation and soil disturbance to the minimum area, and minimum length of time, as necessary to complete the action, and otherwise prevent or minimize erosion associated with the action area.

g) No uncured concrete or form materials will be allowed to enter the active stream channel.

h) Steps to cease work under high flows, except for efforts to avoid or minimize resource damage.

8. **Site Preparation**

a) **Flagging Sensitive Areas** – Prior to construction, flag critical riparian vegetation areas, wetlands, and other sensitive sites to minimize ground disturbance.

b) **Staging Area**– Establish staging areas for storage of vehicles, equipment, and fuels to minimize erosion into or contamination of streams and floodplains.

c) No Topographical Restrictions – place staging area 150 feet or more from any natural water body or wetland in areas where topography does not restrict such a distance.

d) Topographical Restrictions –place staging area away from any natural water body or wetland to the greatest extent possible in areas with high topographical restriction, such as constricted valley types. .

e) **Temporary Erosion Controls** – Place sediment barriers prior to construction around sites where significant levels of erosion may enter the stream directly or through road ditches. Temporary erosion controls will be in place before any significant alteration of the action site and will be removed once the site has been stabilized following construction activities.

f) **Stockpile Materials** – Minimize clearing and grubbing activities when preparing staging, project, and or stockpile areas. Any large wood, topsoil, and native channel material displaced by construction will be stockpiled for use during site restoration. Materials used for implementation of aquatic restoration categories (e.g., large wood, boulders, fencing material etc.) may be staged within the 100-year floodplain.

g) **Hazard Trees** - Where appropriate, include hazard tree removal (amount and type) in project design. Fell hazard trees within riparian areas when they pose a safety risk. If possible, fell trees towards a stream. Keep felled trees on site when needed to meet coarse woody debris objectives.

9. **Heavy Equipment Use**
    a) **Choice of Equipment –** Heavy equipment will be commensurate with the project and operated in a manner that minimizes adverse effects to the environment (e.g., minimally-sized, low pressure tires, minimal hard turn paths for tracked vehicles, temporary mats or plates within wet areas or sensitive soils).
    b) **Fueling and Cleaning and Inspection for Petroleum Products and Invasive Weeds**
        i. All equipment used for instream work will be cleaned for petroleum accumulations, dirt, plant material (to prevent the spread of noxious weeds), and leaks repaired prior to entering the project area. Such equipment includes large machinery, stationary power equipment (e.g., generators, canes, etc.), and gas-powered equipment with tanks larger than five gallons.
        ii. Store and fuel equipment in staging areas after daily use.
        iii. Inspect daily for fluid leaks before leaving the vehicle staging area for operation.
        iv. Thoroughly clean equipment before operation below ordinary high water or within 50 feet of any natural water body or areas that drain directly to streams or wetlands and as often as necessary during operation to remain grease free.
    c) **Temporary Access Roads –** Existing roadways or travel paths will be used whenever possible. Minimize the number of temporary access roads to lessen soil disturbance and compaction and impacts to vegetation. Temporary access roads will not be built on slopes where grade, soil, or other features suggest a likelihood of excessive erosion or failure. When necessary, temporary access roads will be obliterated and/or revegetated. Temporary roads in wet or flooded areas will be restored by the end of the applicable in-water work period. Construction of new permanent roads is not permitted.
    d) **Stream Crossings** – Minimize number and length of stream crossings. Such crossings will be at right angles and avoid potential spawning areas to the greatest extent possible. Stream crossings shall not increase the risk of channel re-routing at low and high water conditions. After project completion, temporary stream crossings will be abandoned and the stream channel and banks restored.

e) **Work from Top of Bank –** To the extent feasible, heavy equipment will work from the top of the bank, unless work from another location (instream) would result in less habitat disturbance, less floodplain disturbance, and/or better meet ARBA II design criteria. In another way, operate heavy equipment in streams only when project specialists believe that such actions are the only reasonable alternative for implementation, or would result in less sediment in the stream channel or damage (short- or long-term) to the overall aquatic and riparian ecosystem relative to other alternatives.

f) **Timely Completion** – Minimize time in which heavy equipment is in stream channels, riparian areas, and wetlands. Complete earthwork (including drilling, excavation, dredging, filling and compacting) as quickly as possible. During excavation, stockpile native streambed materials above the bankfull elevation, where it cannot reenter the stream, for later use.

10. **Site Restoration**
    a) **Initiate Rehabilitation** – Upon project completion, rehabilitate all disturbed areas in a manner that results in similar or better than pre-work conditions through removal of project related waste, spreading of stockpiled materials (soil, large wood, trees, etc.) seeding, and/or planting with local native seed mixes or plants.
    b) **Short-term Stabilization** – Measures may include the use of non-native sterile seed mix (when native seeds are not available), weed-free certified straw, jute matting, and other similar techniques. Short-term stabilization measures will be maintained until permanent erosion control measures are effective. Stabilization measures will be instigated within three days of construction completion.
    c) **Revegetation** – Replant each area requiring revegetation prior to or at the beginning of the first growing season following construction. Achieve re-establishment of vegetation in disturbed areas to at least 70% of pre-project levels within three years. Use an appropriate mix of species that will achieve establishment and erosion control objectives, preferably forb, grass, shrub, or tree species native to the project area or region and appropriate to the site. Barriers will be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons.
    d) **Planting Manuals** – All riparian plantings shall follow Forest Service direction described in the Regional letter to Units, Use of Native and Nonnative Plants on National Forests and Grasslands May 2006 (Final Draft), and or BLM Instruction Memorandum No. OR-2001-014, Policy on the Use of Native Species Plant Material.
    e) **Decompact Soils** – When necessary, loosen compacted areas, such as access roads and paths, stream crossings, staging, and stockpile areas.

11. **Monitoring –** Monitoring will be conducted by BLM, FS, or BIA staff during and after a project to track effects and compliance with ARBA II.
    a) **Implementation**
        i. Visually monitor during project implementation to ensure effects are not greater (amount, extent) than anticipated and to contact Level 1 representatives if problems arise.
        ii. Fix any problems that arise during project implementation.
        iii. Regular biologist/hydrologist coordination with COR if biologist/hydrologist is not always on site to ensure contractor is following all stipulations.

b) **401 Certification** – To minimize short-term degradation to water quality during project implementation, follow current 401 Certification provisions of the Federal Clean Water Act for maintenance or water quality standards described by the following: Oregon Department of Environmental Quality (Oregon BLM, FS and BIA); Washington Department of Ecology (Washington BLM); and the MOU between the Washington Department of Fish and Wildlife and FS regarding Hydraulic Projects Conducted by FS, Pacific Northwest Region (FS); California, Idaho, or Nevada 401 Certification protocols (BLM and FS).

c) **Post Project** – A post-project review shall be conducted after winter and spring high flows. For each project, conduct a walk through/visual observation to determine if there are post-project affects that were not considered during consultation? For fish passage and revegetation projects, monitor in the following manner:

   i. **Fish Passage Projects** – Note any problems with channel scour or bedload deposition, substrate, discontinuous flow, vegetation establishment, or invasive plant infestation.

   ii. **Revegetation** – For all plant treatment projects, including site restoration, monitor for and remove invasive plants until native plants become established.

   iii. In cases where remedial action is required, such actions are permitted without additional consultation if they use relevant ARBA II PDCs and ACMs and the effects of ARBA II programmatic actions are not exceeded.

Work Area Isolation & Fish Capture and Release

Isolate the construction area and remove fish from a project site for projects that include concentrated and major excavation at a single location within the stream channel.

1. **Isolate Capture Area –** Install block nets at up and downstream locations outside of the construction zone and leave in a secured position to exclude fish from entering the project area. Leave nets secured to the stream channel bed and banks until construction activities within the stream channel are complete. If block nets or traps remain in place more than one day, monitor the nets and or traps at least on a daily basis to ensure they are secured to the banks and free of organic accumulation and to minimize fish predation in the trap.
2. **Capture and release –** Fish trapped within the isolated work area will be captured and released as prudent to minimize the risk of injury, then released at a safe release site, preferably upstream of the isolated reach in a pool or other area that provides cover and flow refuge. Collect fish by seine or dip nets as the area is slowly dewatered, and minnow traps will be in place overnight. Fish must be handled with extreme care and kept in water the maximum extent possible during transfer procedures. A healthy environment for the stressed fish shall be provided—large buckets (five-gallon minimum to prevent overcrowding) and minimal handling of fish. Place large fish in buckets separate from smaller prey-sized fish. Monitor water temperature in buckets and well-being of captured fish. If buckets are not being immediately transported, use aerators to maintain water quality. As rapidly as possible (especially for temperature-sensitive bull trout), but after

fish have recovered, release fish. In cases where the stream is intermittent upstream, release fish in downstream areas and away from the influence of the construction. Capture and release will be supervised by a fishery biologist experienced with work area isolation and safe handling of all fish.

3. **Electrofishing –** Use electrofishing only where other means of fish capture may not be feasible or effective. If electrofishing will be used to capture fish for salvage, NMFS' electrofishing guidelines will be followed (NMFS 2000 - http://www.nwr.noaa.gov/ESA-Salmon-Regulations-Permits/4d-Rules/upload/electro2000.pdf). Those guidelines are available from the NMFS Northwest Region, Protected Resources Division in Portland, Oregon.

    a. Reasonable effort should be made to avoid handling fish in warm water temperatures, such as conducting fish evacuation first thing in the morning, when the water temperature would likely be coolest. No electrofishing should occur when water temperatures are above 18ºC or are expected to rise above this temperature prior to concluding the fish capture.
    b. If fish are observed spawning during the in-water work period, electrofishing shall not be conducted in the vicinity of spawning adult fish or active redds.
    c. Only Direct Current (DC) or Pulsed Direct Current (PDC) shall be used.
    d. Conductivity <100, use voltage ranges from 900 to 1100. Conductivity from 100 to 300, use voltage ranges from 500 to 800. Conductivity greater than 300, use voltage to 400.
    e. Begin electrofishing with minimum pulse width and recommended voltage and then gradually increase to the point where fish are immobilized and captured. Turn off current once fish are immobilized.
    f. Do not allow fish to come into contact with anode. Do not electrofish an area for an extended period of time. Remove fish immediately from water and handle as described below. Dark bands on the fish indicate injury, suggesting a reduction in voltage and pulse width and longer recovery time.
    g. If mortality is occurring during salvage, immediately discontinue salvage operations (unless this would result in additional fish mortality), reevaluate the current procedures, and adjust or postpone procedures to reduce mortality.

4. **Dewater Construction Site** –When dewatering is necessary to protect species and/or critical habitat, divert flow around the construction site with a coffer dam (built with non-erosive materials) and an associated pump, a by-pass culvert, or a water-proof lined diversion ditch. Diversion sandbags can be filled with material mined from the floodplain as long as such material is replaced at end of project. Small amounts of instream material can be moved to help seal and secure diversion structures. Pumps must have fish screens and be operated in accordance with NMFS fish screen criteria described in part 5 of this section. Dissipate flow energy at the bypass outflow to prevent damage to riparian vegetation or stream channel. If diversion allows for downstream fish passage, place diversion outlet in a location to promote safe reentry of fish into the stream channel, preferably into pool habitat with cover. When necessary, 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.

5. **Fish screens for Dewatering**
    a) **NMFS Hydro Fish Passage Review and Approve –** When using Fish screens for surface water that is diverted by gravity or by pumping at a rate that exceeds 3 cfs, the BLM, FS and BIA will ensure that the action is individually reviewed by the Portland office of the NMFS' Habitat Conservation Division for consistency with criteria in *NOAA Fisheries Anadromous Salmonid Passage Facility Design* (NMFS 2011), located at: http://www.nwr.noaa.gov/Salmon-Hydropower/FERC/upload/Fish-Passage-Design.pdf Refer to section "F" of this chapter.
    b) For the dewatering of a work site to remove or install culverts, bridge abutments, etc. a fish screen must be used on the pump intake to avoid juvenile fish entrainment that meets criteria specified by NMFS (2011, or most recent version).
    c) All other diversions will have a fish screen that meets the following specifications: (a) An automated cleaning device with a minimum effective surface area of 2.5 square feet per cfs, and a nominal maximum approach velocity of 0.4 feet per second (fps), or no automated cleaning device, a minimum effective surface area of 1 square foot per cfs, and a nominal maximum approach rate of 0.2 fps; and (b) a round or square screen mesh that is no larger than 2.38 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.
    d) Each fish screen will be installed, operated, and maintained according to NMFS' fish screen criteria (NMFS 2011, or most recent version). NMFS fish screen criteria applies to federally listed salmonid species under their jurisdiction as well as bull trout, Oregon chub, shortnose sucker, Lahontan cutthroat trout, Lost River sucker, Modoc sucker, and Warner sucker under FWS jurisdiction.

6. **Stream Re-watering –** Upon project completion, slowly re-water the construction site to prevent loss of surface water downstream as the construction site streambed absorbs water and to prevent a sudden increase in stream turbidity. Monitor downstream during re-watering to prevent stranding of aquatic organisms below the construction site.
7. **Salvage Notice –** NOTICE: If a sick, injured, or dead specimen of a threatened or endangered species is found in the project area, the finder must notify NMFS through the contact person identified in the transmittal letter for this opinion, or through the NMFS Office of Law Enforcement at 1-800-853-1964, and follow any instructions. If the proposed action may worsen the fish's condition before NMFS can be contacted, the finder should attempt to move the fish to a suitable location near the capture site while keeping the fish in the water and reducing its stress as much as possible. Do not disturb the fish after it has been moved. If the fish is dead, or dies while being captured or moved, report the following information: (a) NMFS consultation number; (b) the date, time, and location of discovery; (c) a brief description of circumstances and any information that may show the cause of death; and (d) photographs of the fish and where it was found. The NMFS also suggests that the finder coordinate with local biologists to recover any tags or other relevant research information. If the specimen is not needed by local biologists for tag recovery or by NMFS for analysis, the specimen should be returned to the water in which it was found, or otherwise discarded.

General Wildlife Conservation Measures

1. An action agency wildlife biologist shall participate in the planning and design of all activities affecting listed terrestrial species.
2. To ensure ESA consistency for terrestrial species, final design and contract packages must be reviewed by an action agency wildlife biologist prior to their approval/implementation. A primary concern is that work be conducted during the appropriate wildlife work windows.
3. A known nest tree may be removed only when it is an immediate danger, when the tree is unoccupied by nesting birds or their young, and will be consulted on after the fact in an Emergency consultation. The proposed project will only have an insignificant or discountable effect to spotted owls or murrelets due to habitat modifications.
4. To minimize risk to murrelets from attracting predators to activity areas, remove or contain all garbage (especially food products) on a daily basis from the vicinity of any activity.
5. Activities associated with projects within the disruption distance of known occupied or unsurveyed suitable murrelet habitat, or unsurveyed potential nesting structure, and implemented in the marbled murrelet breeding season would not begin until 2 hours after sunrise and would end 2 hours before sunset.
6. Tree removal must not contain any nesting structure for murrelets, nor contain a spotted owl nest. Minimum nest tree dbh may range from 11" to 18" depending on site specific conditions and may vary from unit to unit.
7. An action agency wildlife biologist must be involved in the project, including decisions on whether individual trees are suitable for nesting and in developing local habitat maps for the area which will be used for applying timing restrictions based on Tables 10, 11 and 12.

This ARBA II is intended to include those aquatic restoration activities that are implemented on lands under the jurisdiction of the BLM, FS and BIA, are predictable as to their effects to ESA- and MSA-listed species, and are consistent with broad scale aquatic conservation strategies and the best available science. For project descriptions, administration requirements, conservation measures, and project design criteria, refer to Chapter II.

1. Fish Passage Restoration (Stream Simulation Culvert and Bridge Projects; Headcut and Grade Stabilization; Fish Ladders; Irrigation Diversion Replacement/Relocation & Screen Installation/Replacement.)
2. Large Wood, Boulder, and Gravel Placement (Large Wood and Boulder Projects; Engineered Logjams; Porous Boulder Weirs and Veins; Gravel Augmentation; Tree Removal for Large Wood Projects)
3. Dam, Tidegate, and Legacy Structure Removal
4. Channel Reconstruction/Relocation
5. Off- and Side-Channel Habitat Restoration
6. Streambank Restoration
7. Set-back or Removal of Existing Berms, Dikes, and Levees
8. Reduction/Relocation of Recreation Impacts
9. Livestock Fencing, Stream Crossings, and Off-Channel Livestock Watering
10. Piling and other Structure Removal
11. In-channel Nutrient Enhancement
12. Road and Trail Erosion Control and Decommissioning
13. Non-native Invasive Plant Control
14. Juniper Removal
15. Riparian Vegetation Treatment (controlled burning)
16. Riparian Vegetative Planting
17. Bull Trout Protection
18. Beaver Habitat Restoration
19. Sudden Oak Death Treatments
20. Fisheries, Hydrology, Geomorphology Wildlife, Botany, and Cultural Surveys in Support of Aquatic Restoration

2. Large Wood, Boulder, and Gravel Placement includes large wood (LW) and boulder placement, engineered logjams (ELJs), porous boulder weirs and vanes, gravel placement, and tree removal for LW projects. Such activities will occur in areas where channel structure is lacking due to past stream cleaning (LW removal), riparian timber harvest, and in areas where natural gravel supplies are low due to anthropogenic disruptions. These projects will occur in stream channels and adjacent floodplains to increase channel stability, rearing habitat, pool formation, spawning gravel deposition, channel complexity, hiding cover, low velocity areas, and floodplain function. Equipment such as helicopters, excavators, dump trucks, front-end loaders, full-suspension yarders, and similar equipment may be used to implement projects.

Large Wood and Boulder Projects

i. Place LW and boulders in areas where they would naturally occur and in a manner that closely mimic natural accumulations for that particular stream type. For example, boulder placement may not be appropriate in low-gradient meadow streams.
ii. Structure types shall simulate disturbance events to the greatest degree possible and include, but are not limited to, log jams, debris flows, wind-throw, and tree breakage.
iii. No limits are to be placed on the size or shape of structures as long as such structures are within the range of natural variability of a given location and do not block fish passage.
iv. Projects can include grade control and bank stabilization structures, while size and configuration of such structures will be commensurate with scale of project site and hydraulic forces.
v. The partial burial of LW and boulders is permitted and may constitute the dominant means of placement. This applies to all stream systems but more so for larger stream systems where use of adjacent riparian trees or channel features is not feasible or does not provide the full stability desired.
vi. LW includes whole conifer and hardwood trees, logs, and rootwads. LW size (diameter and length) should account for bankfull width and stream discharge rates. When available, trees with rootwads should be a minimum of 1.5x bankfull channel width, while logs without rootwads should be a minimum of 2.0 x bankfull width.
vii. Structures may partially or completely span stream channels or be positioned along stream banks.
viii. Stabilizing or key pieces of LW must be intact, hard, with little decay, and if possible have root wads (untrimmed) to provide functional refugia habitat for fish. Consider orienting key pieces such that the hydraulic forces upon the large wood increases stability
ix. Anchoring Large Wood – Anchoring alternatives may be used in preferential order:
    a) use of adequate sized wood sufficient for stability
    b) orient and place wood in such a way that movement is limited
    c) ballast (gravel and/or rock) to increase the mass of the structure to resist movement
    d) use of large boulders as anchor points for the LW

e) Pin LW with rebar to large rock to increase its weight. For streams that are entrenched (Rosgen F, G, A, and potentially B) or for other streams with very low width to depth ratios (<12) an additional 60% ballast weight may be necessary due to greater flow depths and higher velocities.

Engineered Logjams (ELJs) are structures designed to redirect flow and change scour and deposition patterns. To the extent practical, they are patterned after stable natural log jams and can be either unanchored or anchored in place using rebar, rock, or piles. Engineered log jams create a hydraulic shadow, a low-velocity zone downstream that allows sediment to settle out. Scour holes develop adjacent to the log jam. While providing valuable fish and wildlife habitat they also redirect flow and can provide stability to a streambank or downstream gravel bar.

NMFS Hydro Fish Passage Review and Approve – For non-porous ELJs that occupy >25% of the bankfull area, the BLM, FS and BIA will ensure that the action is individually reviewed by the Portland office of the NMFS' Habitat Conservation Division for consistency with criteria in *NOAA Fisheries Anadromous Salmonid Passage Facility Design* (NMFS 2011), located at: http://www.nwr.noaa.gov/Salmon-Hydropower/FERC/upload/Fish-Passage-Design.pdf Refer to section "F" of this chapter.

i. ELJs will be patterned, to the greatest degree possible, after stable natural log jams.
ii. Grade control ELJs are designed to arrest channel downcutting or incision by providing a grade control that retains sediment, lowers stream energy, and increases water elevations to reconnect floodplain habitat and diffuse downstream flood peaks.
iii. Stabilizing or key pieces of LW that will be relied on to provide streambank stability or redirect flows must be intact, solid (little decay). If possible, acquire LW with untrimmed rootwads to provide functional refugia habitat for fish.
iv. When available, trees with rootwads attached should be a minimum length of 1.5 times the bankfull channel width, while logs without rootwads should be a minimum of 2.0 times the bankfull width.
v. The partial burial of LW and boulders may constitute the dominant means of placement, and key boulders (footings) or LW can be buried into the stream bank or channel
vi. Angle and Offset – The LW portions of engineered log jam structures should be oriented such that the forces upon the large wood increases stability. If a rootwad is left exposed to the flow, the bole placed into the streambank should be oriented downstream parallel to the flow direction so the pressure on the rootwad pushes the bole into the streambank and bed. Wood members that are oriented parallel to flow are more stable than members oriented at 45 or 90 degrees to the flow.
vii. If LW anchoring is required, a variety of methods may be used. These include buttressing the wood between riparian trees, the use of manila, sisal or other biodegradable ropes for lashing connections. If hydraulic conditions warrant use of structural connections, such as rebar pinning or

bolted connections, may be used. Rock may be used for ballast but is limited to that needed to anchor the LW.

5. Off- and Side-Channel Habitat Restoration projects will be implemented to reconnect historic side-channels with floodplains by removing off-channel fill and plugs. Furthermore, new side-channels and alcoves can be constructed in geomorphic settings that will accommodate such features. This activity category typically applies to areas where side channels, alcoves, and other backwater habitats have been filled or blocked from the main channel, disconnecting them from most if not all flow events. These project types will increase habitat diversity and complexity, improve flow heterogeneity, provide long-term nutrient storage and substrate for aquatic macroinvertebrates, moderate flow disturbances, increase retention of leaf litter, and provide refuge for fish during high flows. Equipment such as excavators, bull dozers, dump trucks, front-end loaders, and similar equipment may be used to implement projects.

a. **NMFS Hydro Fish Passage Review and Approve –** When a proposed side channel will contain >20% of the bankfull flow, the BLM, FS and BIA will ensure that the action is individually reviewed by the Portland office of the NMFS' Habitat Conservation Division for consistency with criteria in NMFS (2011). Refer to section "F" of this chapter.
b. **Data Requirements** – Data requirements and analysis for off- and side-channel habitat restoration include evidence of historical channel location, such as land use surveys, historical photographs, topographic maps, remote sensing information, or personal observation.
c. **Allowable Excavation –** Off- and side-channel improvements can include minor excavation (< 10% of volume) of naturally accumulated sediment within historical channels. There is no limit as to the amount of excavation of anthropogenic fill within historic side channels as long as such channels can be clearly identified through field and/or aerial photographs. Excavation depth will not exceed the maximum thalweg depth in the main channel. Excavated material removed from off- or side-channels shall be hauled to an upland site or spread across the adjacent floodplain in a manner that does not restrict floodplain capacity.

H. Project Design Criteria for Wildlife, Plant, and Invertebrate Species and Habitats
This section provides Project Design Criteria (PDC) and Conservation Measures (CMs) that ensure restoration activities minimize or avoid potential adverse effects to listed terrestrial species and critical habitat. The programmatic activities are designed to "Not Likely to Adversely Affect" (NLAA) all terrestrial species, except as discussed below (II. C.1. Birds) for a limited number of actions that are "Likely to Adversely Affect" for Northern spotted owls (NSO) and marbled murrelets (MAMU),

1. The following CMs apply to all ESA-listed terrestrial species for all programmatic activities:
    a. Aquatic restoration actions will not remove or downgrade suitable habitat (on either public or private land) for any listed terrestrial species.
    b. Effects of danger tree removal will be either discountable or insignificant to ESA-listed terrestrial species and their critical habitat.
    c. All restoration activities must have the unit's botanist and terrestrial wildlife biologist input/analysis of the project design and their site-specific species assessment to proceed. This includes a plant survey and nest analysis (or survey, as described in section II.H. 2. Birds, if suitable habitat is known to occur within the project prior to project implementation.
    d. There will be no disturbance allowed from blasting activities as they are not part of the proposed action.
    e. The unit wildlife biologist is responsible for ensuring that the correct effects determination is made for each project. The unit wildlife biologist may increase or decrease disturbance distances according to the best available scientific information and site-specific conditions. Refer to Tables 10-12. For instance, if a known NSO site is surveyed to protocol and the owls are determined to be non-nesting, the unit biologist may determine that no disturbance or disruption would occur and lift the associated restrictions on activities within disruption distances during the year of survey.

Table 10 – Disturbance Distances and Time Periods When Disturbance (and Possibly Disruption) May Occur for Terrestrial Species.*

Species	Disturbance Distance (in miles)	Time Period Applicable
Northern spotted owl (nesting)	See table 11	Mar 1 – September 30
Marbled murrelet (nesting)	See table 12	Apr 1 – Sept 15 w/ 2-hr timing
Canada lynx (denning)	0.25	May 1 – Aug 31
Gray wolf (active dens/rendezvous sites)	1.0	Jan 1 – Dec 31
Grizzly bear (denning)	0.25	Oct 15 – May 15
Grizzly bear (early foraging habitat)	0.25	Mar 15 – July 15
Grizzly bear (late foraging habitat)	0.25 (actions >1 day)	July 16 – Nov 15
Woodland caribou	Recovery Area	Early winter
All Plants	0.25**	Jan 1 – Dec 31

*See CMs below for additional details. **If project is within 0.25 mile of a listed plant, then measures must be taken to minimize threats to NE or NLAA the species to be covered by this programmatic consultation.

2. **Birds –** This ARBA II attempts to minimize or avoid adverse effects to listed birds by implementing aquatic restoration actions outside of critical nesting period windows and/or outside of disturbance or disruption distances from occupied habitat. However, some aquatic restoration activities must occur within a listed bird critical nesting period or within a disturbance or disruption distance. A limited number of aquatic restoration activities that adversely affect listed birds will therefore occur under this proposed action.

Conditions common to all programmatic activities that will be applied to avoid disturbance or disruption of listed bird species include:

i. The proposed activities included in this document are consistent with the Northwest Forest Plan (USDA and USDI 1994) and FS Land and Resource Management Plans and BLM Resource Management Plans as amended by the Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and Other Mitigation Measures Standards and Guidelines, USDA Forest Service and USDI BLM (USDA and USDI 2001, USDI 2008 as amended by the 2011 agreement).
ii. The proposed activities do not include those that would result in loss of suitable habitat (on either public or private land) for the identified ESA-listed species.
iii. The proposed activities must have wildlife biologist input/analysis to proceed.
iv. As a general rule, a disruption site is defined as approximately 100 meters radius around the project site. However, the unit wildlife biologist has the discretion to adjust disturbance distances, based on site-specific conditions.
v. No hovering or lifting within 500 feet of the ground within occupied spotted owl habitat during the critical breeding season by ICS Type I or II helicopters would occur as part of any proposed action addressed by this assessment.

Northern spotted owl

i. **NSO1**: To reduce adverse effects to NSO, projects will not generally occur between March1 – July 15 (July 7 for the Oregon North Coast Planning Province [ONCPP]) if there is an active known owl site, predicted owl site (as determined through an approved modeling process, such as ITS), RPO (Reference Point Owl) and/or occupied habitat within the disruption distance of the project area. Projects should (a) be delayed until after the critical breeding season (unless action involves Type I helicopters, which extend critical nesting window to September 30); (b) delayed until it is determined that young are not present.
ii. **NSO2**: The unit wildlife biologist may extend the restricted season based on site-specific information (such as a late or recycle nesting attempt).
iii. **NSO3**: No suitable habitat will be removed or downgraded. No adverse effects will occur to any PCE of critical habitat.
iv. **NSO4**: NSO disruption distances applicable to the equipment types proposed in the ARBA II include and can be locally altered based on current information. Refer to Table 11.

v. **NSO5**: No activity within this ARBA II will cause adverse effects to proposed critical habitat when analyzed against the appropriate local scale as determined by the unit wildlife biologist.

Table 11 – NSO Disturbance Distances and Time Periods

DISTURBANCE SOURCE	DISTURBANCE DISTANCES DURING THE BREEDING PERIOD[1] (MAR 1 – SEP 30)	DISRUPTION DISTANCES DURING THE CRITICAL BREEDING PERIOD[1,4] MAR 1 – JUL 15 (MAR 1 – JUL 7 ONCPP))	DISRUPTION DISTANCES DURING THE LATE BREEDING PERIOD[1] JUL 16-SEP 30 (JUL 8 – SEP 30 ONCPP)
Use of chainsaws	440 yards (0.25 mile)	65 yards	0 yards
Heavy equipment	440 yards (0.25 mile)	35 yards	0 yards
Tree climbing	440 yards (0.25 mile)	35 yards	0 yards
Burning	440 yards (0.25 mile)	440 yards (0.25 mile)	0 yards
Use of Type I helicopter [2]	880 yards (0.5 mile)	440 yards (0.25 mile)	440 yards (0.25 mile)
Use of Type II, III or IV helicopter [3]	440 yards (0.25 mile)	120 yards	0 yards
Use of fixed-wing aircraft	440 yards (0.25 mile)	120 yards	0 yards
Pile driving	440 yards (0.25 mile)	60 yards	0 yards

[1] Noise disturbance and disruption distances were developed from a sound threshold (USFWS. 2003a. Appendix 1. Estimates of distances at which incidental take of murrelets and spotted owls due to harassment are anticipated from sound-generating, forest-management activities in Olympic National Forest). Smoke disturbance and disruption distances are based on a USFWS white paper (USFWS. 2008. Observations of Smoke Effects on Northern Spotted Owls. Compiled by J. Thrailkill, Oregon Department of Fish and Wildlife).

[2] Type I helicopters seat at least 16 people and have a minimum capacity of 5,000 lbs. Both a CH-47 (Chinook) and UH-60 (Blackhawk) are Type I helicopters. Kmax helicopters are considered "other" for the purposes of disturbance. Sound readings from Kmax helicopter logging on the Olympic NF registered 86 dB at 150 yards (Piper. 2006. Pers. comm. Sound Measurements for Harris Timber Sale, Olympic National Forest).

3 All other helicopters (including Kmax).

4 Dates may vary slightly depending on site specific conditions.

(Exhibit-F) Heavy Equipment List and Daily Standby Rate – Signal Peak & Upper Burns Habitat Enhancement Project Sites		
#	**Item Description**	**Daily Standby Rate**
1		$
2		$
3		$
4		$
5		$
6		$
7		$
8		$
9		$
10		$
11		$
12		$
13		$
14		$
15	Example: 160 Series Excavator	$ 50.00

EXHIBIT G Signal Peak & Upper Burns Project Sites

Confederated Tribes and Bands
of the Yakama Nation

Established by the
Treaty of June 9, 1855

Date, 2017

Business Name Here
Address
Address

RE: Tax Exemption Restoration Project

Attached please find an executed Treaty Fishery Tax Exemption Certificate concerning the Yakama Nation's contracting with Business Name for construction of salmon habitat which it undertakes as co-manager of fisheries resources pursuant to the Treaty with the Yakama of 1855 (12 Stat.951). The certificate is being provided to Business Name to assist it in complying with seller record keeping requirements in WAC 458-20-192(4). By executing the certificate, the Yakama Nation is certifying only that it is a federally recognized Indian tribe and that the contracted salmon habitat restoration work is part of its treaty fishery management program. The Yakama Nation does not waive sovereign immunity from suit, nor by executing the certificate, acknowledge or dispute the jurisdiction of the state of Washington over any governmental activities of the Yakama Nation or the applicability or non-applicability of any statutes or rules of the state of Washington to the exercise of tribal government operations or rights reserved to the Yakama Nation or its members by the Treaty of 1855. Business Name is advised to keep this letter on record with the attached certificate.

Sincerely,

Tribal Chairperson
Yakama Tribal Council
Yakama Nation

Post Office Box 151, Fort Road, Toppenish, WA 98948 (509) 865-5121

Department of Revenue
Washington State

Treaty Fishery Tax Exemption Certificate

This document is to be completed by the Tribe, Tribal member, or Intertribal organization whenever claiming an exemption from sales tax for purchases of Treaty Fishery items.

Type of Certificate:

☐ **Blanket Certificate** (*Blanket certificates are valid for as long as the buyer and seller have a recurring business relationship. A "recurring business relationship" means at least one sale transaction within a period of twelve months. RCW 82.08.050 (7)(c)).*

☑ **Single Use Certificate**

Seller's name: _____ Date: _____

Address: _____ City: _____ State ___ Zip code: _____

The purchaser is claiming exemption for the following Treaty Fishery item(s) or service(s):

Check Applicable Boxes

☐ Boat, Boat Trailer
☐ Gear, Net
☐ Boat/Engine Repair
☐ Laboratory Equipment
☐ Smoking Equipment
☐ Operating Supplies
☐ Motor
☐ Specialized Clothing
☐ Hatchery Equipment
☐ Processing Equipment
☑ Other (explain): Construction of salmon habitat restorati

Provide one of the following:

☑ Federally recognized Tribe of the purchaser: Confederated Tribes and Bands of The Yakama Nation and

Treaty Indian Fishing Identification Card number: _____ **or**

☐ Name of Intertribal Organization: _____

Note: This exclusion from tax is limited to those businesses wholly owned and operated by Indians/Tribes who have Treaty fishing rights and to Intertribal organizations for the protection of Indian Treaty Fisheries. Treaty Fishery means the fishing and shellfish rights preserved in a Tribe's treaty, a federal executive order, or an act of Congress. It includes activities such as harvesting, processing, transporting, or selling, as well as activities such as management and enforcement.

Sellers must document the buyer's name, address, item(s) purchased, and dollar amount of purchase. Reference: RCW 82.08.0254 and WAC 458-20-192.

I, the undersigned buyer, understand that by completing and signing this certificate I am certifying that I qualify for the tax-exempt purchase(s) indicated above. I understand that I am required to keep records to verify eligibility for the exemption(s) and that I will be required to pay sales or use tax on purchases that do not qualify for the exemption(s) in addition to any applicable interest and penalties. This certificate is given with full knowledge of, and subject to, the legally prescribed penalties for fraud and tax evasion per RCW 82.32.090.

Buyer's name: Yakama Nation Telephone number: (509) 865-5121

Signature: _____ Date: _____

Address: PO Box 151 City: Toppenish State: WA Zip code: 98948

Seller must retain a copy of this certificate.
Do not send to Department of Revenue.

For tax assistance or to request this document in an alternate format, visit http://dor.wa.gov or call 1-800-647-7706. Teletype (TTY) users may call (360) 705-6718.

REV 27 0049e (5/24/11)

Department of Labor and Industries
Prevailing Wage Program
PO Box 44540
Olympia WA 98504-4540
(360) 902-5335

CERTIFIED PAYROLL REPORT

Prime Contractor ☐

Subcontractor ☐

Project Name	County	Project or Contract#
Project Address	City	State
Company Name		Phone
Address	City	State ZIP+4

For the week ending: Month Day Year	Awarding Agency Name	Phone
	Address	City State ZIP+4

Work Classification and Soc Sec# of Employee	Name and Address	Overtime or Regular	Day and Date: Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total Hours	Rate of Pay	Gross Amount Earned	Total Hourly "Usual Benefits"	Deductions: FICA	Withholding Tax	Other	NET WAGES
			Hours Worked Each Day														
1.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						
2.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						
3.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						
4.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						
5.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						
6.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						
7.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						
8.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						
9.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						
10.		OT								0.00		0.00	0.00	$ 0.00				$ 0.00
		RG								0.00		0.00						

Employee Benefits Distribution and Signature Certification on Reverse Side

Department of Labor and Industries
Prevailing Wage Program
PO Box 44540
Olympia WA 98504-4540

AFFIRMATION

Today's Date	Printed name of party signing this report	Title
The party signing this report pays or supervises the payment of the persons employed by: (Name of contractor or subcontractor)		
Project Name:	For the week starting:	For the week ending:

"USUAL BENEFITS" DISTRIBUTION (Please report in "per hour" terms)

Work Classification	Total Hourly "Usual Benefits" (A + B + C + D + E)	(A) Hourly Pension	(B) Hourly Medical	(C) Hourly Vacation	(D) Hourly Holiday	(E) Approved Apprentice Program
1.	$ 0.00					
2.	$ 0.00					
3.	$ 0.00					
4.	$ 0.00					
5.	$ 0.00					
6.	$ 0.00					
7.	$ 0.00					
8.	$ 0.00					
9.	$ 0.00					
10.	$ 0.00					

The party signing below **AFFIRMS** the following:

(1) All information contained in this Certified Payroll Report, including any addenda, is correct and complete.

(2) The wage rates for workers, laborers or mechanics as reported above are not less than the applicable wage rates contained in any wage determination related to the contract; and the classifications as reported above for each worker, laborer or mechanic conform with the actual work performed by such worker, laborer or mechanic.

(3) The payments of usual benefits as listed above have been or will be made to appropriate approved plans, funds or programs for the benefit of such employees.

(4) All persons employed on the above-referenced project(s) have been paid the full weekly wages earned, and no rebates have been or will be made either directly or indirectly to or on behalf of the above-named contractor or subcontractor from the weekly wages earned by any person. No deductions, other than those which are legally permissible, have been made by any person either directly or indirectly from the full wages earned.

(5) Any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with the Washington State Apprenticeship and Training Council.

Falsification of any of the above statements is a violation of RCW 39.12.050 subject to prosecution, sanctions, and penalties.

Print or type name of party signing this report	Title	Signature

TECHNICAL MEMORANDUM

To: Chris Clemons, Yakama Nation

From: Dan Miller

Date: 4/20/2016

Re: Entiat River Upper Stillwaters: log-boulder restraint field test #2

OVERVIEW

The Upper Stillwaters Signal Peak and Upper Burns projects include a proposal to place Riprap Enhancement Wood on existing riprap protecting the Entiat River Road embankment to provide habitat complexity. The large woody material (LWM) would be placed on top of existing riprap to minimize risk to the existing riprap and road embankment. Site access is difficult – a crane or long reach excavator operating from the two lane paved road to place pre-assembled ballasted log units is the only workable solution for placing wood for habitat enhancement. Wood would be ballasted by attaching ballast boulders in a staging area prior to placement, hauling the wood to the site and placing with crane or long reach excavator. Given limitations on use of cable and chain, a field trial was completed to test the efficiency of attaching boulders to logs with fully threaded rod (FTR) and the feasibility of hauling and placing pre-assembled units.

TESTING

A scenario of preassembling log:boulder connections using FTR was assembled at Pipkin Construction's yard on March 30, 2016 and tested on April 12, 2016. Yakama Nation's Chris Clemons and Inter-Fluve's Dan Miller led the testing with assistance from Pipkin Construction crews using an excavator, boulders, logs and typical fastening materials with the following steps.

1) Considering access and manipulation of logs, boulders, FTR and equipment - the test log was placed on the ground, wedged between three boulders to hold horizontal position and propped on a log to hold vertical position.

2) The log was then drilled cleanly. The ballast boulder was positioned a sufficient distance from the log to prevent damaging the log drill bit on the boulder as it clears the log.

3) Following log drilling, the boulder is moved into position a few inches from the log and manipulated to sit solidly. A rock drill bit 36inch long is used to pass through the hole in the log to drill the ballast boulder on one continuous alignment.

4) The boulder is cleaned by air or water using a wand or extension to pass through the hole in the log to access the hole in the boulder. Following cleaning, epoxy is injected in the hole in the boulder using a flexible plastic tube as an extension on the epoxy gun to pass through the hole in the log to access the hole in the boulder. To prevent air pockets, epoxy is injected with the tip at full depth of the hole and retreating as the hole fills.

5) The FTR is passed through the hole in the log. Having cleanly drilled the log, wood particles were not observed on the threads as they cleared the log. This would be verified during field construction with threads cleaned as necessary before embedding into epoxy. The FTR is then twisted into the epoxy to fully wet ridges and valleys of the threads and seated to full depth of the hole in the boulder. The assembly is then left to cure per the epoxy manufacturer's requirements.

6) Manipulation and destructive testing was performed on April 12, 2016. A plate washer and heavy hex nut were installed and wrenched tight. The assembled unit was then lifted, swung and set down approximately 5 times to mimic handling from staging area, hauling and placement.

7) Then the unit was gripped by the log and rotated to move the boulder to about horizontal to the log and manipulated. Deformation of the wood resulted from the FTR bending. The FTR was remarkably malleable and durable. The log was then gripped about 6 feet from the boulder, rotated to position the boulder about horizontal to the log and roughly manipulated, bouncing the boulder vertically about 6-8 times. The log split at about the same time the FTR sheared cleanly at the log face closest to the boulder.

8) Following testing the boulder was weighed with Inter-Fluve's tensiometer at 2,500-lbs.

FINDINGS.

Preassembled boulder ballasted log units using FTR to connect boulders to the log is feasible. Preliminary design indicates that two boulders will be required on each log. Each boulder will be connected to the boulder by its own FTR connection. Multiple log units could be prepared concurrently in an appropriate staging area for efficient use of time and materials.

The FTR is malleable and durable but has limits. Handling should emphasize suspending the boulder below the log. A heavy eye-nut would facilitate handling in this manner as shown on the left in the photo below. Lifting the unit by the eye nut attached to the FTR will also aid in tightening

the heavy hex nut. The eye nut can then be removed after the unit is placed. A heavier FTR than the 7/8inch tested is recommended. A 1-1/8 or 1-1/4in FTR is recommended.

For ballast requirements, two boulders are attached to each log by their own FTR connection. Given handling recommendations, the two boulders should be located on the same side of the log. By shingling adjacent units during placement, boulders placed on the prior log would provide some restraint against rotation by buoyancy. The preliminary project plans will be updated to show this detail.

End of memo.

CONSTRUCTION SERVICES AGREEMENT

BETWEEN:

THE CONFEDERATED TRIBES AND BANDS OF THE YAKAMA NATION
on behalf of its program or department
P.O. Box 151 / 401 Fort Road
Toppenish, WA 98948
General Phone: (509) 865-5121
Program Phone:
(HEREAFTER "YAKAMA NATION")

AND

[CONTRACTOR NAME]
Address Line 1
Address Line 1
Phone:
(HEREAFTER "CONTRACTOR")

This Construction Services Agreement ("Agreement") is executed by and between Contractor and Yakama Nation, a federally recognized sovereign Nation pursuant to the Treaty with the Yakamas of 1855 (12 Stat. 951). Contractor and Yakama Nation may be collectively referred to herein as the "Parties," and each may be referred to as a "Party."

1. TERM

The effective term of this Agreement shall be from_____, through_____, absent a valid termination action in accordance with the express terms of this Agreement.

2. PERFORMANCE

Contractor agrees to perform the services set forth in the attached scope of work, Exhibit "A" (collectively, the "Services"), which is incorporated by reference in this Agreement.

3. COMPENSATION

A. *Maximum Compensation.* The **total compensation amount** approved by Yakama Nation for this Agreement is limited to, and ***shall not exceed*** **_____ ($_____);** which amount shall include any and all compensation for the Services as described herein and set forth in detail in the budget attached as Exhibit "B". If Exhibit "B" describes separate and specific maximum compensation amounts for services and expenses, then at the end of the term of this Agreement, any remaining balance in the amount allocated for expenses may be used by Yakama Nation, at its sole discretion, to cover fees for authorized services, so long as the total compensation amount set forth above is not exceeded.

B. *Invoicing, Progress Reports and Payment of Compensation.* Yakama Nation shall compensate Contractor according to the billing rate(s) and/or fee schedule(s) set forth in Exhibit "C" in an amount not to exceed that stated above. Contractor shall submit monthly invoices and appropriate supporting documentation to Yakama Nation, including a progress report that provides of brief summary of daily activities associated with services performed and completed by Contractor. Unless the Parties agree in writing to different terms, invoice periods shall begin on the first day of each month and end on the last day of each month. Invoices shall be submitted by Contractor to Yakama Nation's designated staff contact within fifteen (15) days after the end of the month in which the services were provided and/or expenses were incurred. Contractor waives the right to receive full payment on invoices submitted more than sixty (60) days following the end of the proper invoice period. If a question or concern arises regarding an item on an invoice, Yakama Nation shall notify Contractor of the question or concern. Within five (5) business days following such notification, Contractor shall take action to sufficiently explain or correct the item, or Contractor shall be deemed to have waived their right to demand payment for the item.

C. *Availability of Funds*. Notwithstanding any other provisions of this Agreement, Contractor understands and agrees that compensation for services and expenses under the terms of this Agreement shall be contingent upon the availability of funds (a) placed to the credit of Yakama Nation in the Treasury of the United States, (b) appropriated by Congress, or (c) from local funds maintained in the name of Yakama Nation.

D. *Federal & Grant Funds*. Contractor understands and agrees that agreements and contracts funded by federal funds or other grant funds may be subject to certain legal requirements. These may include, but are not limited to, those requirements set forth in the United States Office of Budget Management's Uniform Guidance, 2 C.F.R. Part 200, and/or the terms of an applicable source grant. Contractor agrees to comply with and utilize funds in accordance with all applicable laws, regulations, and guidelines, and with any applicable grant or contract terms, and further understands and agrees that the use of such funds may be subject to audit by the grantor agency. Contractor shall reimburse Yakama Nation for any costs of Contractor that are disallowed by a grantor.

4. PROPERTY DEVELOPED BY CONTRACTOR

Contractor agrees that it will retain no interest in the information, data, proposals, papers, copyrights, patents, or any other material or property developed, discovered, invented, and/or accumulated by Contractor in connection with the performance of this Agreement. Subject to applicable law, Contractor shall turn over such information, data, proposals, papers, copyrights, patents, discoveries, inventions, and other material or property to Yakama Nation upon the expiration or termination of this Agreement or upon request.

5. PUBLICATION OF INFORMATION

The dissemination or publication of documents, information material or other property developed or generated by Contractor during the course of this Agreement shall require the written approval of Yakama Nation.

6. RECORDS

A. *Access.* Subject to applicable law, Yakama Nation will provide Contractor with reasonable access to its personnel, facilities, and records necessary to the performance of this Agreement.

B. *Maintenance & Retention of Records; Financial Management for Accounting and Audits.* Contractor shall maintain and retain auditable records during the term of this Agreement and for a period of at least three (3) years following the expiration or termination of this Agreement. Contractor shall maintain its records to comply with the Audit Act of 1984, P.L. 98-502 (31 U.S.C. § 7501 et. seq., as amended) and the Office of Management and Budget's Uniform Guidance requirements set forth at, 2 C.F.R. part 200, Subpart F, as amended. Contractor shall adhere to a systematic accounting method that assures timely and appropriate resolution of audit findings and recommendations in compliance with the Uniform Guidance. Subject to applicable law, Contractor agrees that Yakama Nation, the grantor agency (if applicable), the Comptroller General of the United States, or any of their duly authorized representatives, shall have timely access to Contractor's records which are pertinent to the subject matter of this Agreement and the performance of obligations contained herein, for the purpose of conducting an audit and/or examination, and/or creating excerpts and/or transcriptions.

7. INDEPENDENT CONTRACTORS

Contractor shall employ, at is own expense, all personnel and equipment reasonably necessary to perform the Services called for by this Agreement. Such personnel shall not be considered Yakama Nation employees. Contractor shall be responsible to ensure that all personnel engaged in performing Services are fully qualified to undertake the work in accordance with applicable tribal, federal, state, and local laws. Contractor shall at all times in performance of this Agreement operate as, and have the status of, an independent contractor, and will not be an agent or employee of Yakama Nation; nor will Contractor or its personnel be entitled to any employee benefits provided by Yakama Nation. The Parties are not engaged in a joint venture or partnership. Neither party can represent or bind the other. Unless otherwise expressly agreed, Contractor shall be solely responsible to secure and pay for any necessary or appropriate permits, fees, licenses, inspections, or other prerequisites necessary for proper performance of the Services called for by this Agreement.

8. SUBCONTRACTING

A. Contractor shall not be permitted to hire a subcontractor to perform the Services called for by this Agreement without express prior written consent. Any unauthorized attempt by Contractor to subcontract for such Services shall be null and void, and Contractor shall be responsible for all expenses, fees, and costs associated with any such unauthorized subcontract.

B. An award of this Agreement based on a bid or proposal naming specific subcontractors and identifying the portions of the work to be performed by the subcontractors shall constitute prior written consent to the hiring of the named subcontractor(s). Subcontractor selection and subcontractor employment shall be subject to applicable TERO and Indian Preference

requirements described above. Contractor shall be responsible to ensure their subcontractors are in compliance with Yakama Nation TERO and Indian Preference requirements.

9. ASSIGNMENT OF INTEREST

Contractor shall not assign its interest in this Agreement, or any part thereof, including its right to receive payment for services performed, to another party. Any attempt by Contractor to assign any obligations, rights, or fees under this Agreement will be null and void, and Contractor shall be responsible for all expenses, fees, and or costs associated with any unauthorized assignment.

10. INDEMNIFICATION

Contractor shall, at its sole expense, hold harmless, indemnify, and defend Yakama Nation and its officers, agents, employees, and assigns against any and all losses, costs, damages, expenses or other liabilities whatsoever, including reasonable attorney's fees and expenses, that arise out of or are connected with, directly or indirectly, Contractor's actions or omissions, or Contractor's agents' acts or omissions related to this Agreement, including, but not limited to, accidents or injuries to persons or property.

11. SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK

A. Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to:

(1) Conditions bearing upon transportation, disposal, handling, and storage of materials;
(2) The availability of labor, water, electric power, and roads;
(3) Uncertainties of weather, river stages, tides, or similar physical conditions at the site;
(4) The conformation and conditions of the ground; and
(5) The character of equipment and facilities needed preliminary to and during work performance.

Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by Yakama Nation and information available to the public from local government agencies, as well as from the drawings and specifications made a part of this Agreement. Any failure of Contractor to take the actions described and acknowledged in this paragraph will not relieve Contractor from responsibility for properly estimating the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to Yakama Nation.

B. Yakama Nation assumes no responsibility for any conclusions or interpretations made by Contractor based on the information made available by Yakama Nation. Nor does Yakama Nation assume responsibility for any understanding reached or representation made concerning

conditions that can affect the work by any of its officers or agents before the execution of this Agreement, unless that understanding or representation is expressly stated in this Agreement.

12. PHYSICAL DATA

Data and information furnished or referred to below or in the attached exhibits is for Contractor's information. Yakama Nation shall not be responsible for any interpretation of or conclusion drawn from the data or information made available to Contractor. Further, Yakama Nation specifically does not warrant construction methodology that may be included in such documents.

(a) The indications of physical conditions on any drawings or specifications that have been provided are the result of general inspection of the site. [if applicable, insert a description of investigational methods used, such as surveys, auger borings, core borings, test pits, probing, test tunnels, etc.].

(b) [Write "n/a" or insert other pertinent information].

13. SCHEDULE FOR CONSTRUCTION

A. *Construction Schedule.* Unless the construction schedule is specifically addressed elsewhere in this Agreement, Contractor shall, within five (5) days after the work commences on the Agreement or another period of time determined by Yakama Nation, prepare and submit to Yakama Nation three (3) copies of a practicable schedule showing the order in which Contractor proposes to perform the work, and the dates on which Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion each week during the Agreement period. If Contractor fails to submit a schedule within the time prescribed, Yakama Nation may withhold approval of progress payments until Contractor submits the required schedule. Should Contractor fall behind its schedule, a revised schedule shall be forwarded with the next Contractor's request for progress payment. Additional schedules shall be furnished to Yakama Nation as soon as practicable if so requested.

B. *Rate of Progress.* With any and each partial payment request, Contractor shall submit a copy of the last submitted schedule annotated to indicate actual progress made to date. If at any time, in the opinion of Yakama Nation, Contractor has fallen behind the schedule to an extent which would jeopardize timely completion, Contractor shall take the steps necessary to improve its progress, including those that may be required, to enable timely completion without additional cost to Yakama Nation. Such steps may include, but are not limited to, increasing the number of shifts, the amount of overtime, days of work per week, and/or the amount of construction plant being utilized. Contractor shall submit any supplementary schedules Yakama Nation deems necessary to demonstrate how the rate of progress necessary for timely completion will be regained.

C. *Breach.* Failure of Contractor to comply with the requirements of this section shall be considered a material breach and grounds for a determination by Yakama Nation that Contractor

is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Agreement. Upon making this determination, Yakama Nation may terminate Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this Agreement.

14. DIFFERING SITE CONDITIONS

Contractor shall promptly, and before the conditions are disturbed, give a written notice to Yakama Nation of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this Agreement, or (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent to the type of work provided for in the Agreement. Unless specifically identified in the Agreement, discoveries of archaeological or historical remains such as graves, fossils, skeletal materials and artifacts protected by the Archaeological Resources Protection Act (36 CFR 1214) are considered type 2 conditions.

15. LAYOUT OF WORK

Contractor shall lay out its work from Yakama Nation established base lines and bench marks indicated on the drawings or any other manner furnished by Yakama Nation. Contractor shall be responsible for all measurements in connection with the layout. Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. Contractor shall be responsible for the execution of the work to the lines and grades that may be established or indicated by Yakama Nation. Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by Yakama Nation until authorized to remove them. If such marks are destroyed by Contractor or through its negligence before their removal is authorized, Yakama Nation may replace them and deduct the expense of the replacement from any amounts due or to become due to Contractor.

16. SPECIFICATIONS, DRAWINGS AND MATERIAL SUBMITTALS

A. Omissions from any drawings and specifications that have been provided, or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve Contractor from performing such omitted or misdescribed details of the work. Work shall be performed as if fully and correctly set forth and described in the drawings and specifications.

B. Contractor shall check all drawings furnished by Yakama Nation prior to starting work and shall promptly notify Yakama Nation of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large-scale drawings shall in general govern small-scale drawings. Contractor shall compare all drawings and verify the figures before laying out the work, and will be responsible for any errors which might have been avoided thereby.

17. MATERIAL & WORKMANSHIP

A. *Materials.* All equipment, material, and articles incorporated into the work covered by this Agreement shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this Agreement. Use of recycled materials for the manufacture of such products is encouraged. Equipment, material, or articles specified by trade name, make, or catalog number, shall be provided. Equivalent items are not acceptable unless specifically authorized in the specification.

B. *Professional Work.* All work under this Agreement shall be performed in a professional, thorough, skillful, and safe manner, and shall be consistent with relevant professional standards. Yakama Nation may require, in writing, that Contractor remove from the work any employee Yakama Nation deems incompetent, unsafe, or otherwise objectionable.

C. *Legally Compliant Work.* In performing its obligations under this Agreement, Contractor shall comply with all applicable tribal, federal, state and local laws, regulations, guidelines and policies in performance of services under this Agreement. Such laws may include, but are not limited to, the Davis Bacon Act and related federal labor law requirements associated with federally funded construction projects. Contractor represents that it has reviewed, and is familiar with, all laws relevant to the performance of services under this Agreement.

18. SUPERINTENDENCE BY THE CONTRACTOR

At all times during performance of this Agreement, and until the work is completed and accepted, Contractor shall directly superintend the work or assign and have on the worksite a competent superintendent who is satisfactory to Yakama Nation and has authority to act for Contractor.

19. PERMITS AND RESPONSIBILITIES

Unless otherwise provided in this Agreement, Contractor shall, without additional expense to Yakama Nation, be responsible for obtaining any and all necessary licenses and permits, and for complying with any tribal, federal, state, and municipal laws, codes, and regulations applicable to the performance of the work. Contractor shall also be responsible for all damages to persons or property that occur as a result of Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of Yakama Nation and others. Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under this Agreement.

20. OTHER CONTRACTS

Yakama Nation may undertake or award other contracts for additional work, or may utilize in-house construction forces, at or near the site of the work. Contractor shall fully cooperate with such other contractors and Yakama Nation employees, and carefully adapt scheduling and performance of the work under this Agreement to accommodate simultaneous performance,

heeding any direction that may be provided by Yakama Nation. Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractors or by Yakama Nation employees.

21. USE AND POSSESSION PRIOR TO COMPLETION

Yakama Nation shall have the right to take possession of or use any completed or partially completed part of the work call for by this Agreement. Before taking possession of or using any work, Yakama Nation shall furnish Contractor a list of items of work remaining to be performed or corrected on those portions of the work that Yakama Nation intends to take possession of or use. However, failure of Yakama Nation to list any item of work shall not relieve Contractor of responsibility for complying with the terms of this Agreement. Yakama Nation's possession or use shall not be deemed an acceptance of any work under this Agreement.

22. CLEANING UP

A. Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the owner of the underlying real property. Upon completing the work, Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to Yakama Nation.

B. Unless specifically set forth in the Agreement, Contractor shall not burn any material on site, on the right-of-way or on the access roads to the sites. All material and debris shall be hauled to an appropriate disposal site.

23. ROAD MAINTENANCE

Contractor shall maintain all roads used by it, and upon completion of the job shall leave them in as good a condition as when first used. A road-grading machine (not a bulldozer) shall be used for maintenance and final grading. In no event shall Contractor interfere with the property owner's use of roads existing prior to Contractor's entry.

24. STOP WORK ORDER

A. Yakama Nation may order Contractor to suspend all or any part of the work call for by this Agreement for the period of time that Yakama Nation determines appropriate for the convenience of Yakama Nation.

B. Contractor shall immediately comply with Yakama Nation's order and take all reasonable steps to minimize the incurring of costs allocable to the work covered by the order.

25. PROTECTION OF EXISTING VEGETATION, STRUCTURES, AND IMPROVEMENTS

A. Contractor shall preserve and protect all structures, equipment, utilities, other improvements, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this Agreement. Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this Agreement, or by the careless operation of equipment, or by workers, Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by Yakama Nation's representative.

B. If Contractor fails or refuses to repair the damage promptly, Yakama Nation may have the necessary work performed and charge the cost to Contractor.

26. INSURANCE

A. The following minimum kinds and amounts of insurance are applicable in the performance of the work under this Agreement. Contractor shall (subject to applicable law) maintain such insurance, naming Yakama Nation as an additional insured:

(1) *Workers' compensation and employer's liability*. Contractor is required to comply with applicable Federal and State workers compensation and occupational disease statutes. Employer's liability coverage of at least $100,000 shall be required.

(2) *General liability.* Contractor shall provide general liability insurance of at least $1,000,000 per occurrence. Any policy aggregate limits which apply, shall be modified to apply to each location and project. The policy shall name Yakama Nation, its officials, officers, employees and agents, as insureds with respect to Contractor's performance of services.

(3) *Automobile liability.* Contractor shall provide automobile liability insurance covering the operation of all automobiles used in the performance of this Agreement. Policies shall provide limits of at least $1,000,000 per accident and include coverage for all owned, non-owned and hired automobiles. Contractor's policy shall be primary to any insurance of Yakama Nation.

(4) *Environmental impairment liability.* Contractor shall provide environmental impairment liability insurance of at least $1,000,000 per occurrence. Such insurance will include coverage for the clean up, removal, storage, disposal, transportation and/or use of pollutants. The insurance policy shall name Yakama Nation, its officials, officers, employees and agents as insured. Contractor's policy shall be primary to any insurance of Yakama Nation.

B. Contractor may, with the approval of Yakama Nation, maintain a self-insurance program; provided that, with respect to workers' compensation, Contractor is qualified pursuant to statutory authority.

C. Before commencing work under this Agreement, Contractor shall provide to Yakama Nation certificates of insurance from the insurance company stating the insurance required has been obtained and is in force. The certificate(s) shall identify Contractor and the contract(s) for which coverage is provided, and shall contain a statement that the insurer will give notice of cancellation or any material change to Yakama Nation at least thirty (30) days before the effective date. In addition, Contractor shall provide certificates as the policies are renewed throughout the period of this Agreement. If Contractor's insurance does not cover the subcontractors involved in the work, Contractor shall provide certificates stating that the required insurance has been obtained by the subcontractors.

27. INSPECTION - SERVICES AND CONSTRUCTION

A. Yakama Nation may inspect the work called for by this Agreement at any time and place. Where possible and practicable, Yakama Nation will perform inspections in a manner that will not unduly delay the work.

B. If any of the services do not conform with the requirements of this Agreement, or with applicable laws, regulations or governmental policies, Yakama Nation may require the Contractor to perform the services again in conformity at no cost to Yakama Nation. When the defects in services cannot be corrected by re-performance, Yakama Nation may deduct from the Agreement payments an amount which reflects the reduced value of the services performed.

C. Neither inspection, lack of inspection, acceptance, nor payment shall relieve the Contractor of any of its obligations under this Agreement. Contractor's duty to re-perform non-conforming work is intended to survive the expiration of this Agreement's term, and shall apply even where non-conformance is discovered following its expiration.

D. If Contractor does not promptly replace or correct rejected work, Yakama Nation may (without limiting any other legal or equitable remedies available to it) (1) by contract or otherwise, replace or correct the work and charge the cost to Contractor, and may (2) terminate this Agreement for default.

E. Unless otherwise specified in the Agreement, acceptance by Yakama Nation will be in writing and shall be made as promptly as practicable after completion and inspection of all work called by this Agreement or that portion of the work Yakama Nation determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, non-compliance with applicable law, or Yakama Nation's rights under any warranty or guarantee.

28. WARRANTY - CONSTRUCTION

A. In addition to any other warranties in this Agreement, Contractor warrants, except as provided in paragraph (H)(1) of this clause, that work performed by it and/or its subcontractors under this Agreement conforms to applicable law and to the contract requirements, and is free of any defect in equipment, material, or design furnished, or workmanship performed by Contractor or any subcontractor or supplier at any tier.

B. This warranty shall continue for a period of three (3) years from the date of final acceptance of the work. If Yakama Nation takes possession of any part of the work before final acceptance, this warranty shall continue for a period of three (3) years from the date Yakama Nation takes possession.

C. Contractor shall remedy at Contractor's expense any failure to conform, or any defect. In addition, Contractor shall remedy at Contractor's expense any damage to Yakama Nation-owned or controlled real or personal property, when that damage is the result of:

(1) Contractor's failure to conform to applicable law or contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished by Contractor.

D. Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. Contractor's warranty with respect to work repaired or replaced will run for three (3) years from the date of repair or replacement.

E. Yakama Nation shall notify Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

F. If Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, Yakama Nation shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at Contractor's expense.

G. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this Agreement, Contractor shall:

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of Yakama Nation, if directed by Yakama Nation; and

(3) Enforce all warranties for the benefit of Yakama Nation, if directed by Yakama Nation.

H. Unless a defect is caused by the negligence of Contractor or subcontractor or supplier at any tier, Contractor shall not be liable for the repair of any defects of material or design

furnished by Yakama Nation nor for the repair of any damage that results from any defect in Yakama Nation-furnished material or design.

(1) This warranty shall not limit Yakama Nation's rights under the Inspection and Acceptance clause of this Agreement with respect to latent defects, gross mistakes, or fraud.

29. TAXES

The compensation for Services performed under this Agreement shall include all applicable Tribal, Federal, State, and local taxes and duties. Depending on the location and nature of the Services provided, when applicable, Yakama Nation shall provide Contractor a single use Tax Exemption Certificate.

30. TERMINATION

A. *Notice.* Yakama Nation may terminate all or any part of this Agreement, at any time, with or without cause, upon written notice to Contractor. Upon receipt or the termination notice, Contractor shall promptly stop work on the terminated portion of the Agreement. Contractor obligations shall be consistent with those set forth above in the Stop Work Order clause of this Agreement.

B. *Breach.* In the event of termination for breach or violation of the terms and provisions of this Agreement, Yakama Nation, to the extent permitted by applicable law, shall be entitled to enforce its rights under this Agreement, and recover its court costs and reasonable attorney's fees, as determined by the court. The foregoing shall not in any way limit or restrict any right or remedy at law or equity which would otherwise be available to Yakama Nation, including, but not limited to, the right to contract with other qualified persons to complete the performance of services identified in or called for by this Agreement.

C. *Termination By Tribal Council Executive Committee.* Notwithstanding anything herein to the contrary, Contractor understands and agrees that the Yakama Nation Tribal Council Executive Committee may immediately terminate this Agreement by written notice.

D *Effect of Complete Termination.* Upon the complete termination of this Agreement, the liability of the Parties for the further performance of this Agreement shall cease, but the Parties shall not be relieved of the duty to perform their obligations up to the date of termination.

E. *Effect of Partial Termination.* The compensation amount shall be revised as a result of a partial termination under this section. On fixed-price contracts the revised amount shall not exceed the pre-termination contract price plus reasonable termination expenses. On cost-reimbursement contracts the revised amount shall not exceed the total of allowable and allocable costs of performance prior to termination plus termination expenses plus an adjustment of the fee on the terminated portion of the Agreement. No payment will be made for anticipated profits on the terminated portion, or consequential damages, of this Agreement. Contractor shall submit a settlement proposal within thirty (30) days of the notice of termination.

31. FORCE MAJEURE

This Agreement is subject to force majeure, and is contingent on strikes, accidents, acts of God, weather conditions, fire regulations, the actions of any government, including funding and/or budgetary decisions, and other circumstances which are beyond the control of the parties. If the terms and conditions of this Agreement are unable to be performed as a result of any cause of force majeure, then this Agreement shall be void, without penalty to any party for such non-performance.

32. NOTICE

Notice to Contractor shall consist of a letter, delivered postage prepaid, addressed to:

[Contractor's Legal Agent's Name]
[Contractor Name]
[Address No. 1]
[Address No. 2]

Notice to Yakama Nation shall consist of a letter, delivered postage prepaid, addressed to:

JoDe L. Goudy, Chairman
Yakama Tribal Council
PO Box 151 / 401 Fort Road
Toppenish, WA 98948

With courtesy copies to Yakama Nation's Designated Representative detailed below, and the Lead Attorney of Yakama Nation's Office of Legal Counsel at P.O. Box 150, Toppenish, WA 98948.

Either party may from time to time change its designated address for notice, or designated contact(s) for notice, by giving the other party reasonable notice of such change.

33. SUPERVISION OF CONTRACTOR/DESIGNATED REPRESENTATIVE

Contractor shall act under the supervision of the following Designated Representative of Yakama Nation in performing services under this Agreement:

Name:	Clemons, Christopher Yakama Nation Habitat Fisheries Biologist II
Address:	1885 S. Wenatchee Ave., Wenatchee, WA. 98801
Phone:	(509)-881-5746
Email:	clec@yakamafish-nsn.gov

The Designated Representative is designated for project management purposes only, and does not have authority to authorize any changes, modifications or addendums to this Agreement, nor does the Designated Representative have signing authority on behalf of Yakama Nation.

Yakama Nation shall provide Contractor reasonable notice if there is a change in the Designated Representative.

34. COMPLIANCE PROVISIONS

A. *Discrimination.* Contractor shall not discriminate against any employee or applicant for employment because of handicap, race, age, religion, or sex. Contractor will take affirmative steps to ensure that applicants are employed, and that employees are treated fairly during employment, without regard to their handicap, race, age, religion, or sex.

B. *Indian Preference.* Notwithstanding the above, Contractor shall, for all work performed on or near the Yakama Reservation pursuant to this Agreement, and consistent with Section 703(i) of the 1964 Civil Rights Act, give preference in employment (including any authorized subcontracts) to equally qualified Indians regardless of their handicap, age, religion or sex. To the extent feasible and consistent with the efficient performance of this Agreement, Contractor shall provide employment and training opportunities to Indians that are not fully qualified to perform under this Agreement, regardless of their handicap, age, religion or sex. Further, Contractor shall comply with any and all applicable Indian preference laws and requirements established by Yakama Nation, including those set forth in the Yakama Nation Tribal Employment Rights Ordinance ("TERO"), as amended (Yakama Revised Law & Order Codes, Title 71).

35. JURISDICTION & VENUE

The validity, interpretation, and performance of this Agreement, and any and all written instruments, agreements, specifications and other writings of whatever nature which relate to or are part of this Agreement, shall be governed by and construed in accordance with the laws of Yakama Nation. Both Parties understand and agree that this Agreement establishes a consensual business relationship between the Parties for purposes of Yakama Tribal Court jurisdiction. Venue of any court action filed to enforce or interpret the provisions of this Agreement shall be exclusively in Yakama Nation Tribal Court(s). In the event of litigation to enforce the provisions of this Agreement, the prevailing party shall be entitled to reasonable legal fees and expenses in addition to any other relief allowed.

36. DISPUTE RESOLUTION

A. *Meet and Confer Meeting.* In the event that a dispute arises between the Parties over the performance, interpretation, or enforcement of this Agreement, the Parties in the first instance shall attempt in good faith to resolve the dispute informally by mutual Agreement in a face-to-face meet and confer meeting. All offers, promises, conduct and statements, whether oral or written, made in the course of the meet and confer meeting by any of the Parties, their agents, employees, experts and attorneys shall be considered confidential, privileged and inadmissible for any purpose, including impeachment, in any other proceeding involving the Parties, provided that evidence that is otherwise admissible or discoverable shall not be rendered inadmissible or non-discoverable as a result of its use in the meet and confer meeting.

B. *By Tribal Council Chairman.* If the Parties are unable to resolve the dispute during the meet and confer meeting, the aggrieved party shall submit the matter, in writing, to the Chairman of the Yakama Nation Tribal Council. A copy of the aggrieved party's submission shall be served upon the other party in accordance with the notice provisions of this Agreement. The Chairman shall promptly convene a meeting of the Parties, which shall be held in Toppenish, Washington, to resolve the matter. The decision of the Chairman shall be final and binding upon both Parties. Provided, however, that nothing shall operate to limit or prohibit Yakama Nation from otherwise enforcing its rights under this Agreement. In the event that the Chairman has a conflict of interest that would prevent her/him from hearing the dispute, s/he may, at her/his sole discretion, either decline to hear the dispute, or appoint an alternate Tribal Leader or Elder to serve in his/her place.

C. Nothing in this section shall operate to prohibit Yakama Nation from enforcing its rights under this Agreement in a court of appropriate jurisdiction. Yakama Nation may at its own election seek recovery of monetary damages from Contractor’s breach of any terms in this Agreement.

37. GENERAL TERMS

A. *Headings.* Headings are provided for convenience and do not affect the meaning of the provisions to which they are affixed.

B. *Severability.* If any term of this Agreement is to any extent illegal, otherwise invalid, or incapable of being enforced, such term shall be excluded to the extent of such invalidity or unenforceability; all other terms hereof shall remain in full force and effect; and, to the extent permitted and possible, the invalid or unenforceable term shall be deemed replaced by a term that is valid and enforceable and that comes closest to expressing the intention of such invalid or unenforceable term.

C. *Changes to the Agreement.* No change, amendment, modification, or addendum to this Agreement shall be valid unless it is in writing and executed by authorized representatives of both Parties.

D. *Additional Services.* Except as otherwise provided in this Agreement, no payment for additional services shall be made unless such services and the price therefore have been requested and authorized in advance in writing by Yakama Nation.

E. *Survival.* The requirements of Section 4 (Property Developed by Contractor), Section 6 (Maintenance & Retention of Records; Financial Management for Accounting & Audits), Section 10 (Indemnification), Section 28 (Warranty-Construction) and Section 36 (Dispute Resolution) of this Agreement shall survive termination of this Agreement.

F. *No General Waiver.* Any waiver or failure of the Parties to enforce or insist upon any term in this Agreement does not constitute a general waiver or relinquishment of that term.

G. *No Construction Against Drafter.* Each party has participated in negotiating and drafting this Agreement. If any ambiguity or question of intent or interpretation arises, this Agreement is

to be construed as if the Parties had drafted it jointly, as opposed to being construed against one party because it was responsible for drafting one or more provisions.

H. *Execution.* This Agreement may be executed in counterparts, electronically, or by facsimile.

38. ENTIRE AGREEMENT

This Agreement incorporates all the agreements, covenants and understandings between the Parties. No agreement or understanding, verbal or otherwise, of the Parties regarding their responsibilities under this Agreement shall be valid or enforceable unless embodied in this Agreement.

The following Exhibits are incorporated by reference into this Agreement:

- Exhibit "A" – Project Overview & Scope of Work
- Exhibit "B" – Project Budget/Bid Sheet
- Exhibit "C" – Payment Plan/Schedule
- Exhibit "D" – Engineer's Stamped Final Plans
- Exhibit "E" – HIP III General Conservation Measures
- Exhibit "F" – Heavy Equipment Daily Standby Rate
- Exhibit "G" – Tax Forms & Certified Payroll Forms
- Exhibit "H" – Interfluve Inc. Tech. memo for strength testing Log/Boulder/Threaded Rod Connections
- Exhibit "I" – Pre-Bid Project Tour Notes (After April 11th, 2017)

39. SOVEREIGN IMMUNITY

Notwithstanding any other terms or provisions of this Agreement, Contractor understands and agrees that Yakama Nation, by entering into this Agreement, does not waive its sovereign immunity from suit, nor does it waive, alter, or otherwise diminish its rights, privileges, remedies or services guaranteed by the Treaty with the Yakamas of 1855 (12 Stat. 951).

40. SPECIAL PROVISIONS

In addition to the forgoing terms and conditions, the following requirements are agreed to and shall apply to this Agreement:

A. [Mark as n/a, or insert special provision text.]

IN WITNESS WHEREOF, we set our hands and seals:

[Signature page(s) to follow.]

CONFEDERATED TRIBES & BANDS OF THE YAKAMA NATION:

By:_____ Date:_____
Name: JoDe Goudy (or authorized designee)
Title: Yakama Nation Tribal Council Chairman

CONTRACTOR NAME:
EIN #

By:_____ Date:_____

Name:

Title:

NOTICE TO POTENTIAL CONSULTANTS & CONTRACTORS

COMPLIANCE REQUIREMENT:
WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
RIGHT OF ENTRY TERMS & CONDITIONS
Signal Peak & Upper Burns Project

All prospective consultants and contractors intending to bid on this project are hereby notified that any associated contract(s) awarded to them shall be subject to the requirements, terms and conditions of any Right of Entry agreement or Aquatic License ("ROE") issued to the Yakama Nation for this project by the Washington State Department of Natural Resources ("WDNR").

These ROE requirements may include, but are not limited to:

- Indemnification of WDNR
- Insurance Coverage Types & Amounts (with WDNR as additional insured)
- Performance Bonds