Twisp River
War Creek Area
Restoration Design and Engineering Services

Request for Proposals
March 28, 2016

Columbia River
Honor. Protect. Restore.

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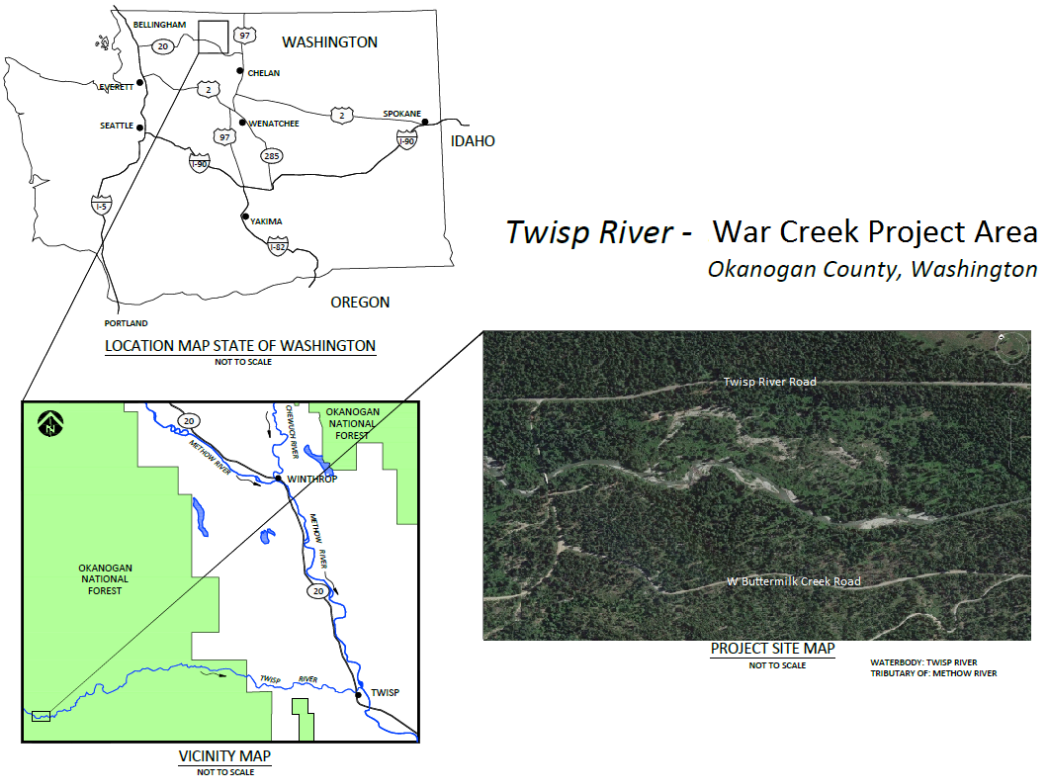
Yakama Nation Fisheries is seeking proposals from qualified engineering firms to award a design and engineering services contract in support of salmon habitat restoration activities taking place in the Twisp River near War Creek in Okanogan County, Washington. Based upon the proposals received under this solicitation the Confederated Tribes and Bands of the Yakama Nation will award a design contract to the best quality bidder for the Scope of Work described within this RFP. Services rendered under this contract will be performed between the contract start date (to be determined) and December 31, 2016.

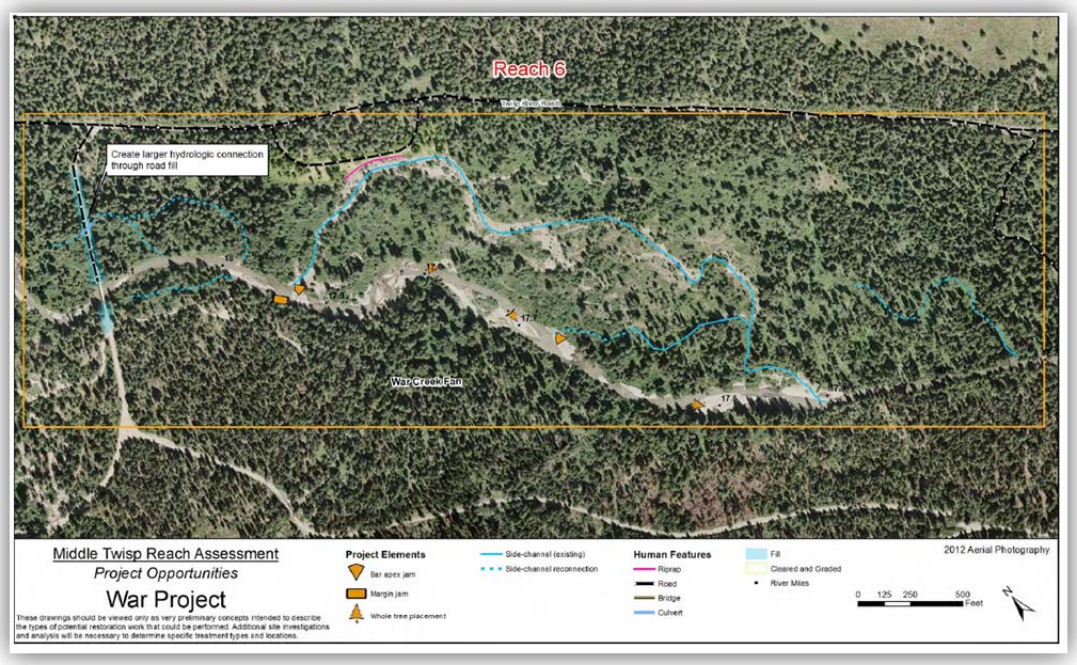
Project Background

The 2015 Reach Assessment of the Middle Twisp River identified the War Creek project area as a priority location for improving habitat conditions for rearing juvenile salmonids. Project opportunities include modifying road infrastructure to restore floodplain connectivity, side channel enhancements, stream bank restoration, and large wood enhancements to the main river channel. The design services contract created through this RFP process will be used to develop restoration actions in the War Creek project area. The project area lies exclusively on USFS managed lands.

Project Location



Aerial Image of Project Area



Link to the 2015 Middle Twisp River Reach Assessment

http://yakamafish-nsn.gov/restore/projects/uchrp

Proposed Scope of Work

Phase 1 - Site investigation

Task 1 –Existing data review

The contractor will review existing data to be provided by Yakama Nation Fisheries or any other private or government entity that would aid future analysis and design. It is assumed this data consists of fish habitat survey, stream flow data, historical air photos, geomorphic field survey, hydrology, and hydraulic analysis from the 2015 Reach Assessment.

Task 2 – Geomorphic Field investigation and site survey

To gain a perspective of river process, including fluvial geomorphology and sediment continuity, the river will be walked within the site boundaries and sufficient distances up and downstream to gain a reach level understanding of conditions. Air photos will be used during this investigation. An overview of reach conditions will be documented with general field notes and photos. Appropriate hydraulic cross sections will be identified and marked on maps and in the field for topographic survey.

A site survey will be conducted using a total station or survey grade GPS to collect survey data required for hydraulic analysis, conceptual designs and drawings. LIDAR data may be used in floodplain areas to complete hydraulic cross sections where appropriate.

Topographic and bathymetry survey will be completed on all lands from which ownership permission can be obtained by the Yakama Nation. Cross section survey and profile will be completed to develop a reach level hydraulic model. Survey will be based on an existing horizontal and vertical datum. A number of temporary bench marks using wooden hubs will be established for reference during construction. River and floodplain cross sections will be surveyed to develop both 1 and 2 dimensional models of the entire reach. Obvious infrastructural elements such as riprap, levees, bridges, irrigation diversions, well heads, power lines, building foundations, and/or other such elements shall be surveyed.

Stream substrate size will be documented by collection of pebble counts. Pebble count locations of representative bed load materials will be determined in the field. The data will be used in design considerations of sediment continuity and stream stability.

Existing riparian vegetative composition will be noted including species and elevations with respect to the stream.

Field and survey data will be downloaded into and summarized in appropriate software (i.e. Excel, AutoCAD).

Assumptions: *Consent for access will be provided. *Stream flows will be low enough to wade.

Task 3 – Hydrology

Peak stream flow frequencies will be estimated or obtained from previous BOR, USGS, and Yakama Fisheries work efforts. If necessary peak flow frequencies can be estimated using available gage data and/or using published regression equations appropriate for the site.

Task 4 – Hydraulic analysis

Hydraulic conditions will be modeled using both 1 dimensional and 2 dimensional models. Site survey collected in Task 2 will be used to build an existing conditions model. Manning's n values will be estimated from reference literature, professional experience and opinion. In support of the alternatives analysis and design tasks, the existing conditions model will be copied and modified for project conditions.

The U.S. Army Corps of Engineer's one-dimensional HEC-RAS hydraulic model will be used to consider and certify FEMA flood impacts. Two-dimensional modeling will be used to estimate surface flow behaviors at various stream discharges, including analyzing for changes in flow direction, sheer stress, and bed mobility based on the proposed conditions.

Phase 2 – Concept Development

Task 5 – Development of Conceptual Report and Drawings

Based on Site Investigation findings, the contractor will provide restoration/enhancement strategies and options to benefit adult and juvenile salmonid habitats at range of discharges and where possible low summer river stage. Restoration strategies shall be developed with consideration of the 2014 UCSRB RTT Biological Strategy and the 2015 Twisp River Reach Assessment. The contractor will work closely with Yakama Nation UCHRP staff to ensure restoration designs address top priority ecological concerns in the project reach.

Task deliverables will include a report of findings from Phases 1 and 2, a drawing set of conceptual restoration designs, planning estimates, and a power point presentation for stakeholder meetings.

Task 6 - Stakeholder Meetings and Communications

Following conceptual report completion, the contractor will present such findings to landowners and agency stakeholders. The presentation will focus on existing river processes, future trends, project benefits, relative project costs, project risks, future river processes as they relate to each project opportunity and how each potential project fits within existing and likely future conditions.

Phase 3: Draft Construction Plan

Task 7 - Design level survey (if additional survey is needed)

As agreed to between the Yakama Nation project manager and the contractor, supplementary site survey may be completed to gather additional field data on existing conditions so that robust restoration designs can begin to be produced. Supplementary surveys may include further topographic/bathymetric surveys, groundwater testing, and/or geologic surveys, among other things.

Task 8 - Development of Permit level Construction Plan

The contractor will proceed with producing engineered designs of the preferred restoration concept(s) as directed by UCHRP staff. Design deliverables provided under this task will provide suitable detail to allow for environmental permits to be acquired for the project (includes accurate depiction of areas being impacted and estimates of material quantities). Please refer to the attached HIP III Checklist for an overview of the design and data criterion needed to obtain the necessary permits.

Task 9 - Stakeholder Meetings and Communications

If requested, the contractor will assist in presenting the Phase 3 Construction Drawing Set to landowners and agency stakeholders for additional feedback and buy-in.

Bid Directions

Please note that subcontracting will not be allowed.

Each engineering firm seeking to be eligible for a contract award under this Request for Proposals must submit two hardcopies of their proposal in writing to:

Yakama Nation Fisheries
Attn: Jackie Olney
PO Box 151
401 Fort Road (if using a shipping service)
Toppenish, WA 98948

Proposals must be received by Close of Business, Wednesday, April 27, 2016. Only hand deliveries and/or mail or parcel delivery service submittals will be accepted. Please clearly state "Twisp River War Creek Design RFP" on the shipping envelope and the cover letter of the proposal. It is recommended that all shipping and/or delivery confirmation receipts are retained past the proposal due date to ensure proof of submission.

Each proposal must include a roster of qualified staff proposed to work under this contract, including resumes. Please also include a detailed cost proposal based upon the Scope of Work provided, a company fee schedule detailing all billing rates, a schedule/timeline proposal for completing the described tasks by December 31, 2016, and certify the cost proposal as being valid for at least 150 days.

Project related questions should be directed to:

Hans Smith, UCHRP Habitat Biologist
Phone: 509-996-5005
E-mail: smih@yakamafish-nsn.gov

Limitations

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.

The contractor shall furnish all supervision, labor, equipment and tools necessary to complete the work as outlined in the Scope of Work.

TITLE – BPA Project Number

Click here to enter a date.

HIP III

GENERAL PROJECT AND DATA SUMMARY REQUIREMENTS for RRT REVIEW

Version 2.0

Instructions: *The project sponsor shall provide the information requested in this form to initiate Restoration Review Team (RRT) review for a Habitat Improvement Program (HIP) III Endangered Species Act (ESA) consultation for* ***medium*** *and* ***high*** *risk restoration projects. If the project consists only of* ***low*** *risk activities the completion of this form is not required. Refer to page 66 of the HIP III Handbook (http://efw.bpa.gov/environmental_services/endangeredspecies.aspx)or contact your BPA Environmental Compliance Lead for additional information on risk determinations.*

Information should be provided as a short summary or reference the appropriate documents where the requirements have been addressed (e.g. see Basis of Design Report page 5. paragraph 2). All technical documents referred to in the GPDSR must be submitted to facilitate technical review. If the information being requested was not conducted provide rational on why the analysis is not necessary or how the design was informed. If the information requested is not applicable please write not applicable.

Include pictures or use bulleted lists, as necessary. Examples of completed applications are available upon request.

This information will be used to conduct a functional and technical review of the project for HIP III ESA consultation by the Restoration Review Team (RRT). The completion of this form is a regulatory requirement of the HIP III ESA consultation and failure to complete this form may result in delays in ESA consultation completion and therefore project implementation.

If you have questions regarding the completion of this form or the HIP III ESA consultation process, please contact your environmental compliance lead for the contract, or the RRT Team Lead, Dan Gambetta, 503-230-3493, or email dagambetta@bpa.gov

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1.0 General Data Requirements

Project Background

		Included in Designs	
1)	Names and title of sponsor, firms and individuals responsible for design.	Yes	☐
		No	☐
		NA	☐
Supporting information/document title/page numbers			
Click here to enter text.			

		Included in Designs	
2)	List of project elements that have been designed by a licensed Professional Engineer.	Yes	☐
		No	☐
		NA	☐
Supporting information/document title/page numbers			
Click here to enter text.			

		Included in Designs	
3)	Identification and description of risk to infrastructure or existing resources.	Yes	☐
		No	☐
		NA	☐
Supporting information/document title/page numbers			
Click here to enter text.			

		Included in Designs	
4)	Explanation and background on fisheries use (by life stage –period) and limiting factors addressed by project. Information detailing locations of ESA-listed salmonid spawning areas within the reach.	Yes	☐
		No	☐
		NA	☐
Supporting information/document title/page numbers			
Click here to enter text.			

		Included in Designs	
5)	List of primary project features including constructed or natural elements	Yes	☐
		No	☐
		NA	☐
Supporting information/document title/page numbers			
Click here to enter text.			

		Included in Designs	
6)	Brief description of disturbance including timing and areal extent and potential impacts associated with implementation of each element.	Yes	☐
		No	☐
		NA	☐
Supporting information/document title/page numbers			
Click here to enter text.			

Resource Inventory and Evaluation

		Included in Designs	
1)	In-stream flow management and constraints in project reach.	Yes	☐
		No	☐
		NA	☐

Supporting information/document title/page numbers

Click here to enter text.

		Included in Designs	
2)	Description of existing geomorphic conditions and constraints on physical processes.	Yes	☐
		No	☐
		NA	☐

Supporting information/document title/page numbers

Click here to enter text.

		Included in Designs	
3)	Description of existing riparian condition and historical riparian impacts.	Yes	☐
		No	☐
		NA	☐

Supporting information/document title/page numbers

Click here to enter text.

		Included in Designs	
4)	Description of lateral connectivity to floodplain and historical floodplain impacts.	Yes	☐
		No	☐
		NA	☐

Supporting information/document title/page numbers

Click here to enter text.

		Included in Designs	
5)	Tidal influence in project reach and influence of structural controls (dikes or gates).	Yes	☐
		No	☐
		NA	☐

Supporting information/document title/page numbers

Click here to enter text.

Technical Data

		Included in Designs	
1)	Stability analyses and computations for project elements, and comprehensive project plan.	Yes	☐
		No	☐
		NA	☐

Supporting information/document title/page numbers

Click here to enter text.

		Included in Designs	
2)	Summary of site information and measurements (survey, bed material, etc.) used to support assessment and design.	Yes	☐
		No	☐
		NA	☐

Supporting information/document title/page numbers
Click here to enter text.

	Included in Designs	
3) Summary of hydrologic modeling and analyses conducted, including data sources and period of record including a list of design discharge (Q) and return interval (RI) for each design element.	Yes	☐
	No	☐
	NA	☐

Supporting information/document title/page numbers
Click here to enter text.

	Included in Designs	
4) Summary of sediment supply and transport analyses conducted, including data sources including sediment size gradation used in streambed design.	Yes	☐
	No	☐
	NA	☐

Supporting information/document title/page numbers
Click here to enter text.

	Included in Designs	
5) Description of how preceding technical analysis has been incorporated into and integrated with the construction – contract documentation.	Yes	☐
	No	☐
	NA	☐

Supporting information/document title/page numbers
Click here to enter text.

Construction – Contract Documentation

The Design Plans must include the following items:	Included		Location in planset (document and page no#)
Site Access Staging and Sequencing Plan with description	Yes	☐	Click here to enter text.
	No	☐	
	NA	☐	
Work Area Isolation and Dewatering Plan with description of how aquatic organisms within the action area will be treated / protected. Confirm that work will be conducted in accordance with the Work Area Isolation and Fish Salvage General Conservation Measures.	Yes	☐	Click here to enter text.
	No	☐	
	NA	☐	
Erosion and Pollution Control Plan.	Yes	☐	Click here to enter text.
	No	☐	
	NA	☐	
Site Reclamation and Restoration Plan.	Yes	☐	Click here to enter text.
	No	☐	
	NA	☐	
List of proposed equipment and fuels management plan.	Yes	☐	Click here to enter text.

	No ☐ NA ☐	
Calendar schedule for construction/implementation procedures.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Site or project specific monitoring to support pollution prevention and/or abatement.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Confirm the incorporation of HIP III specific and general and Construction Conservation Measures into contractor/sub-contractor bid package. Identify any conservation measures that cannot be met.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Identify any conservation measures that cannot be met due to design and implementation constraints.	Yes ☐ No ☐ NA ☐	Click here to enter text.

2.0 Activity Specific Data Requirements

Activity 1a: Dams, Water Control Structures, or Legacy Structures Removal

The Design Plans must include the following items:	Included	Location in planset (document and page no#)
A longitudinal profile of the stream channel thalweg for 20 channel widths upstream and downstream of the structure shall be used to determine the potential for channel degradation.	Yes ☐ No ☐ NA ☐	Click here to enter text.
A minimum of three cross-sections – one downstream of the structure, one through the reservoir area upstream of the structure, and one upstream of the reservoir area outside of the influence of the structure) to characterize the channel morphology and quantify the stored sediment.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Sediment characterization to determine the proportion of coarse sediment (>2mm) in the reservoir area.	Yes ☐ No ☐ NA ☐	Click here to enter text.
A survey of any downstream spawning areas that may be affected by sediment released by removal of the water control structure or dam. Reservoirs with a d35 greater than 2 mm (i.e., 65% of the sediment by weight exceeds 2 mm in diameter) may be removed without excavation of stored material, if the sediment contains no contaminants; reservoirs with a d35 less than 2 mm (i.e., 65% of the sediment by weight is less than 2 mm in diameter) will require partial	Yes ☐ No ☐ NA ☐	Click here to enter text.

removal of the fine sediment to create a pilot channel, in conjunction with stabilization of the newly exposed streambanks with native vegetation.		
Sediment characterization to determine the presence and fate of organic or inorganic pollutants stored in the reservoir.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Confirm the incorporation of HIP III specific Conservation Measures related to *Activity 1a: Dams, Water Control Structures, or Legacy Structures Removal* are into contractor/sub-contractor bid package.	Yes ☐ No ☐ NA ☐	Click here to enter text.

Activity 1b: Consolidate or Replace Existing Irrigation Diversions

The Design Plans must include the following items:	Included	Location in planset (document and page no#)
A longitudinal profile of the stream channel thalweg for 20 channel widths upstream and downstream of the structure shall be used to determine the potential for channel degradation.	Yes ☐ No ☐ NA ☐	Click here to enter text.
A minimum of three cross-sections – one downstream of the structure, one through the reservoir area upstream of the structure, and one upstream of the reservoir area outside of the influence of the structure) to characterize the channel morphology and quantify the stored sediment	Yes ☐ No ☐ NA ☐	Click here to enter text.
Confirm the incorporation of HIP III specific Conservation Measures related to *Activity 1b: Consolidate or Replace Existing Irrigation Diversions* are incorporated into contractor/sub-contractor bid package.	Yes ☐ No ☐ NA ☐	Click here to enter text.

Activity 1c: Headcut and Grade Stabilization

The Design Plans must include the following items:	Included	Location in planset (document and page no#)
A longitudinal profile of the stream channel thalweg for 20 channel widths upstream and downstream of the structure shall be used to determine the potential for channel degradation.	Yes ☐ No ☐ NA ☐	Click here to enter text.
A minimum of three cross-sections – one downstream of the structure, one through the reservoir area upstream of the structure, and one upstream of the reservoir area outside of the influence of the structure) to characterize the channel morphology and quantify the stored sediment	Yes ☐ No ☐ NA ☐	Click here to enter text.
Confirm the incorporation of HIP III specific Conservation	Yes ☐	Click here to enter text.

Measures related to *Activity 1c: Headcut and Grade Stabilization* are incorporated into contractor/sub-contractor bid package.	No ☐ NA ☐	

Activity 1f: Bridge and Culvert Removal or Replacement

The Design Plans must include the following items:	Included	Location in planset (document and page no#)
Designs shall include site sketches, drawings, aerial photographs, or other supporting specifications, calculations, or information that is commensurate with the scope of the action, that show the active channel, the 100-year floodplain, the functional floodplain, any artificial fill within the project area, the existing crossing to be replaced, and the proposed crossing.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Confirm the incorporation of HIP III specific Conservation Measures related to *Activity 1f: Bridge and Culvert Removal or Replacement* are incorporated into contractor/sub-contractor bid package.	Yes ☐ No ☐ NA ☐	Click here to enter text.

Activity 1h: Installation of Fords

The Design Plans must include the following items:	Included	Location in planset (document and page no#)
Designs must demonstrate that the ford accommodate reasonably foreseeable flood risks, including associated bedload and debris, and to prevent the diversion of streamflow out of the channel and down the trail if the crossing fails.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Information detailing locations of ESA listed salmon, steel head, and bull trout spawning areas within the reach.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Confirm the incorporation of HIP III specific Conservation Measures related to *Activity 1h: Installation of Fords* are incorporated into contractor/sub-contractor bid package.	Yes ☐	Click here to enter text.

Activity 2a: Improve Secondary Channel and Wetland Habitats

The Design Plans must include the following items:	Included	Location in planset (document and page no#)
Evidence of historical channel location, such as land use	Yes ☐	Click here to enter text.

surveys, historical photographs, topographic maps, remote sensing information, or personal observation.	No NA	☐ ☐	
If new side channel habitat is proposed, designs must demonstrate sufficient hydrology and that the project will be self-sustaining over time. Self-sustaining means the restored or created habitat would not require major or periodic maintenance, but function naturally within the processes of the floodplain.	Yes No NA	☐ ☐ ☐	Click here to enter text.
Designs must demonstrate that the proposed action will mimic natural conditions for gradient, width, sinuosity and other hydraulic parameters.	Yes No NA	☐ ☐ ☐	Click here to enter text.
Designs must demonstrate that the proposed action will not result in the creation of fish passage issues or post construction stranding of juvenile or adult fish.	Yes No NA	☐ ☐ ☐	Click here to enter text.
Confirm the incorporation of HIP III specific Conservation Measures related to *Activity 2a: Improve Secondary Channel and Wetland Habitats* are incorporated into contractor/sub-contractor bid package.	Yes No NA	☐ ☐ ☐	Click here to enter text.

Activity 2d: Install Habitat-Forming Natural Material Instream Structures (Large Wood, Boulders, and Spawning Gravel)

The Design Plans must include the following items:	Included		Location in planset (document and page no#)
Large wood placements mimic natural accumulations of large wood in the channel, estuary, or marine environment and addresses basin defined limiting factors?	Yes No NA	☐ ☐ ☐	Click here to enter text.
Boulder placements are limited to stream reaches with an intact, well-vegetated riparian area, including trees and shrubs where those species would naturally occur, or that are part of riparian area restoration action; and a stream bed that consists predominantly of coarse gravel or larger sediments?	Yes No NA	☐ ☐ ☐	Click here to enter text.
Boulder sizing is appropriate for the size of the stream, maximum depth of flow, planform, entrenchment, and ice and debris loading?	Yes No NA	☐ ☐ ☐	Click here to enter text.
For systems where boulders were not historically a component of the project stream reach, is it demonstrated how this use of this technique will address limiting factors and provide the appropriate post restoration habitats?	Yes No NA	☐ ☐ ☐	Click here to enter text.
LW and boulder placements will not result in a fish passage barrier?	Yes No NA	☐ ☐ ☐	Click here to enter text.

Spawning gravel augmentation is limited to areas where the natural supply has been eliminated or significantly reduced through anthropogenic means?	Yes ☐ No ☐ NA ☐	Click here to enter text.
Confirm the incorporation of HIP III specific Conservation Measures related to *Activity 2d: Install Habitat-Forming Natural Material Instream Structures (Large Wood, Boulders, and Spawning Gravel)* are incorporated into contractor/sub-contractor bid package.	Yes ☐ No ☐ NA ☐	Click here to enter text.

Activity 2f: Channel Reconstruction

The Design Plans must include the following items:	Included	Location in planset (document and page no#)
Designs must demonstrate that channel reconstruction will identify, correct to the extent possible, and then account for in the project development process, the conditions that lead to the degraded condition.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Designs must demonstrate that the proposed action will mimic natural conditions for gradient, width, sinuosity and other hydraulic parameters.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Designs must demonstrate sufficient hydrology and that the project will be self-sustaining over time. Self-sustaining means the restored or created habitat would not require major or periodic maintenance, but function naturally within the processes of the floodplain.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Designs must demonstrate that structural elements shall fit within the geomorphic context of the stream system.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Designs must demonstrate that the proposed action will not result in the creation of fish passage issues or post construction stranding of juvenile or adult fish.	Yes ☐ No ☐ NA ☐	Click here to enter text.
Confirm the incorporation of HIP III specific Conservation Measures related to *Activity 2f: Channel Reconstruction* are incorporated into contractor/sub-contractor bid package in addition to the development of a *Monitoring and Adaptive Management Plan*, see below.	Yes ☐ No ☐ NA ☐	Click here to enter text.

Monitoring and Adaptive Management Plan

A Monitoring and Adaptive Management must be prepared for channel reconstruction projects that include a concise trigger table with design criteria summarized to inform when corrective action is necessary. A general outline is provided below and examples are available upon request.

1. Introduction
2. Existing Monitoring Protocols
3. Project Effectiveness Monitoring Plan
    a. Objective 1
    b. Objective 2
4. Project Review Team Triggers
5. Monitoring Frequency, Timing, and Duration
    a. Baseline Survey
    b. As-built Survey
    c. Monitoring Site Layout
    d. Post-Bankfull Event Survey
    e. Future Survey (related to flow event)
6. Monitoring Technique Protocols
    a. Photo Documentation and Visual Inspection
    b. Longitudinal Profile
    c. Habitat Survey
    d. Survival Plots
    e. Channel and Floodplain Cross-sections
    f. Fish Passage
    g. Other
7. Data Storage and Analysis
8. Monitoring Quality Assurance Plan
9. Literature Cited