FULL PROPOSAL FORM

Lewis River Aquatic Fund

Form Intent:
To provide a venue for an applicant to clearly indicate the technical basis and support for proposed project. Specifically the project's consistency with recovery plans, Settlement Agreement Fund objectives and priorities, technical studies and assessments which support the proposed action and approach.

Full Proposal format:
Please complete the following form for your Full Proposal. Maps, design drawings and other supporting materials may be attached.

The deadline for a Full Proposal Form submission is **January 21, 2021**. Please submit materials to:

Erik Lesko
PacifiCorp
825 NE Multnomah Street, Suite 1800
Portland, OR 97232
Erik.lesko@pacificorp.com

1. Project Title

Rush Creek Side Channel Reactivation Project

2. Project Manager (name, address, telephone, email)

Greg Robertson
Fisheries Habitat Restoration Biologist
Mt Adams Ranger District
2455 Hwy 141
Trout Lake, WA 98650
360-395-3412
greg.robertson2@usda.gov

3. Identification of problem or opportunity to be addressed

The project is located in the Rush Creek alluvial fan, which consists of multiple channels upstream of the confluence with the N.F. Lewis River. In the 1970s, road construction and logging activities disconnected several side channels within the alluvial fan. The northern side channel was disconnected by the construction of a road and log landing, while the southern side channel was disconnected by a channel-adjacent berm. These two disconnected side channels have limited the active channel migration processes of Rush Creek to the east side of the alluvial fan, blocking flow to roughly half of the alluvial fan area (Figure 1).

The Rush Creek Side Channel Reactivation Project would reactivate a total of 3,145 feet of channel habitat and increase juvenile bull trout rearing and adult spawning habitat in Rush Creek. Approximately 225 cubic feet of material from an abandoned log landing would be removed to reactivate the northern side channel. Approximately 175 cubic feet of berm would be removed to reactivate the southern side channel. Boulders and additional channel substrate material would also be placed in the southern side channel to reactivate flow to the blocked side channel. Full length trees will be either tipped or placed by an excavator to improve channel habitat complexity. Approximately 400 cubic yards of material total would be removed to achieve perennial flow in the north and south side channels.

Further upstream at approximately River Mile 6, vehicles are illegally fording Forest Road 65 crossing with Rush Creek at a location that used to have a bridge. The project will eliminate the vehicular access across Rush Creek, hydrologically disconnect the roadbed, and rehabilitate the damaged riparian vegetation.

4. Background

In 2017, The Lewis River Bull Trout Habitat Restoration Project Identification Assessment included a habitat suitability matrix which incorporated stream temperature, stream depth, channel complexity and distance to known populations, to guide selection of potential restoration. Using this matrix, Rush Creek Side Channels were one of the six restoration priorities although due to the coarse sediment and wood load within reactivated braided channels after the 2015 flood event, the recommendation was to monitor and re-evaluate on a regular basis. In 2019, Jamie Lamperth, WDFW Bull Trout Biologist, and primary author of the Assessment reviewed the project proposal on the ground during the summer of 2019 and agreed with the Rush Creek Side Channel Reactivation Project concept. In 2020, USFS met with USFWS at the project work site. The USFWS is supportive of the project with the inclusion of several design features discussed later in this proposal.

5. Project Objective(s)

The project objectives to address the problems are:

- Reconnect two disconnected channels, the northern side channel and the southern side channel to reactivate 870 and 2,275 feet of side channel, respectively.
- Reconstruct 225 feet of the filled in channel previously used as a timber harvest landing.
- Remove two road crossings within the northern and southern side channel flow paths.
- Restrict vehicle access to Rush Creek headwaters at Forest Road 65 road crossing.

The USFWS Recovery Plan for the U.S. Coterminous United States Population of Bull Trout (2015) identifies the four C's: Cold, Clean, Complex, and Connected habitat as

specific habitat requirements for bull trout. The proposed action will add to the complexity and connectivity in Rush Creek while also meeting one of the recovery plan's goals of a conserved and connect essential cold water habitat by reconnecting two relict side channels within a core spawning and rearing reach of Rush Creek. The Bull Trout Recovery Plan listed roads and habitat isolation and fragmentation as limiting factors for bull trout and the proposed project would address those limiting factors.

The LCFRB reach information for Rush Creek from the mouth to river mile 2.5 listed restoration needs for floodplain function and off channel and side channel habitat both of which would be addressed by the proposed project. While Rush Creek is rated as Tier 3, the primary intent of this project is to enhance Bull Trout Habitat although restoring flow to the southern side channel which has a low gradient may provide habitat for coho. The primary limiting factors for Coho in Rush Creek are key habitat quantity, sediment, channel stability and habitat diversity.

6. Tasks

Task 1: NEPA and required permits.

- Field work for this NEPA document was accomplished during the fall of 2019 and a final decision memo was signed in February 2020. The project would be implemented from July 16th -August 15th 2021.
- Instream restoration activities are covered under a Memorandum of Understanding (MOU) with the Washington Department of Fish and Wildlife, and ARBO II programmatic consultation with the USFWS and NOAA. The project will be in compliance with ARBO II which allows the project to meet the terms and conditions of the regional US Army Corps of Engineers RGP-8 permit.
- The Forest Service is the landowner and project sponsor, and the District Ranger is supportive of this project.

Task 2: Project Contracting.

- Project contracting for implementation would occur when project funds are obtained which would likely be in April 2021.
- The contract would be a Request for Quotation using a time and equipment contract.

Task 3: Project Implementation

- Side channel reactivation (removal of barriers), channel reconstruction (tree and boulder placement), ~~and hydrologically stabilizing Road 65 crossing on Rush Creek~~ would occur between July 16th -August 15th 2021.
- Qualified USFS personnel will administer the contract to ensure project specifications and BMP's are met.

Task 4: Monitoring

- Baseline monitoring will occur pre and post project implementation and include a longitudinal profile, cross-sections, pebble counts, and photo-documentation.
- A monitoring report will be provided to PacifiCorp February 2022.

7. Methods

Side Channel Reactivation and Reconstruction:
A closed and stabilized legacy road would be used to access the areas to be excavated for opening the northern and southern side channels. The bankfull widths for the northern and southern side channel mainstem Rush Creek are 58 and 45 feet, respectively (Figure 1). Low flow target mean depths within the side channel will be from 15-20 cm which are suitable and preferred spawning depths for bull trout within the Upper Lewis River Basin (Lamperth et al 2017). To reach those target depths, approximately 0.6-0.8 feet will need to be excavated below the current water surface at the side channel entrances. Current mean flow depth from the Bull Trout Habitat Restoration Project Assessment (Lamperth et al. 2017) measured much greater depths within the proposed project area with most of the mean depth of 25-30 cm within the northern side channel site to 30-35 cm mean depth within the southern side channel site. Reducing flows at these side channel sites will provide additional suitable and preferable spawning conditions in both the main channel and the proposed side channels of Rush Creek.

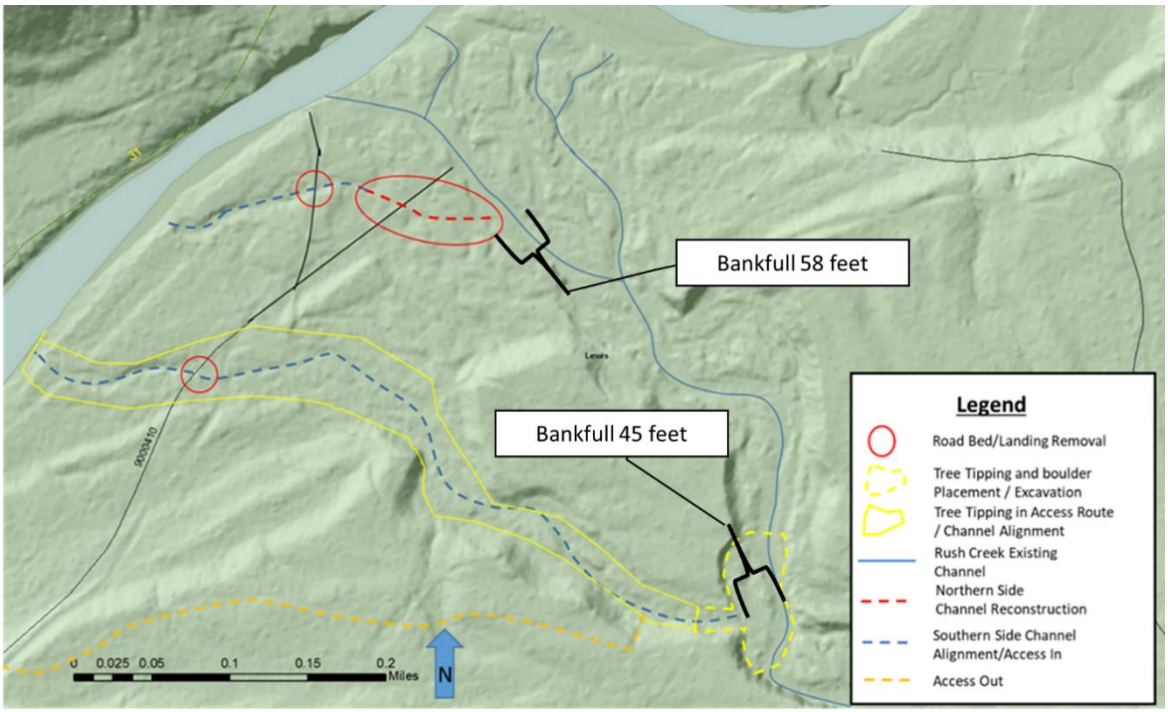

Figure 1. LiDAR DEM of the Rush Creek alluvial fan and proposed opening of two side channels.

The northern side channel excavation would remove legacy roadbed material where it is blocking stream access to a relict side channel. The legacy roadbed spur and old landing behind it will be excavated from approximately 3 feet at the edge of the active channel to 0 feet at native ground within the side channel reconstruction over a length of

approximately 200 feet (Figure 2). The bankfull width of the proposed side channel would be approximately 16 feet with 2:1 side slope. The approximate 400 cubic yards of excavated spoils would be hauled by dump truck and disposed of on top the legacy roadbed outside of the floodplain and any potential alluvial fan activation.

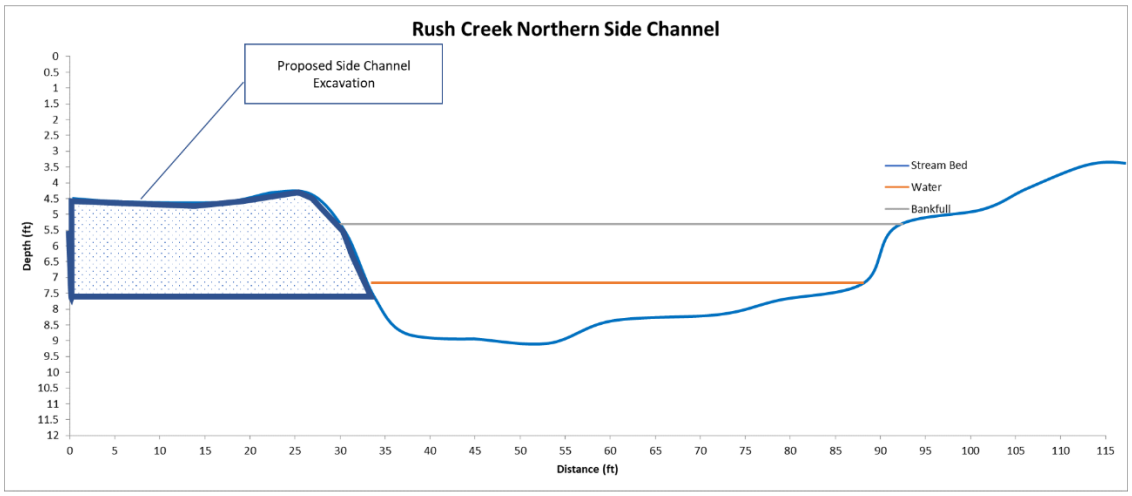

Figure 2. Proposed excavation and cross-sectional profile of Rush Creek southern side channel.

The southern side channel would be opened by redistributing channel bed material and woody debris within the active Rush Creek channel and removing a two-foot berm at the entrance to the side channel. The southern side channel will be used to access the mainstem Rush Creek side channel entrance from the legacy roadbed by an excavator. Approximately 800 trees, within the side channel alignment/access route would be tipped by an excavator and left in place. Tree tipping orientation will be perpendicular to the flow when possible and existing trees will be used as anchor points. At the southern side channel confluence with the mainstem active channel of Rush Creek, excavation of a 2.8 feet high by 80 feet wide berm would occur to allow water to flow down the side channel (Figure 3). Approximately 400 cubic yards of boulders would need to be redistributed and the existing large wood at the confluence of the side channel and Rush Creek would be used to construct a log jam. Any spoils from the side channel excavation would be used in the construction of the log jam. Upon completion of the opening of the side channel, the excavator may have to use a skid trail to connect to the legacy spur road to exit the project area if the tree tipping creates an impassable route. If the route is passable, the same access through the channel alignment will be used to the legacy roadbed and it will be closed in a manner consistent with the existing closed and stabilized condition.

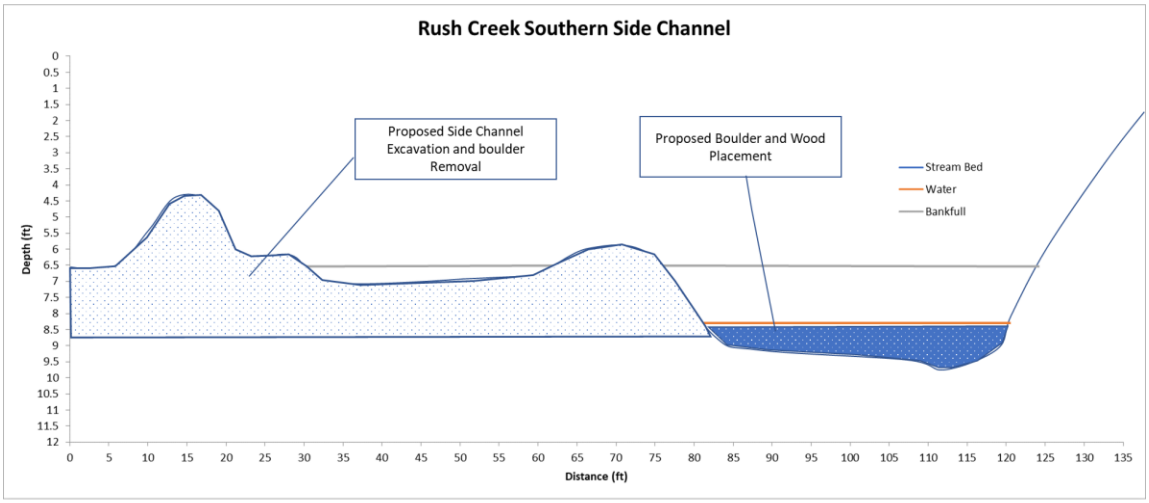

Figure 3. Proposed excavation and boulder placement cross-sectional profile of Rush Creek southern side channel.

Both the northern and southern side channel entrance slopes are designed to be less than the main channel to decrease the risk of capturing the entire flow of the main channel. Southern side channel slope design would be 3.5% and the mainstem Rush Creek channel slope design would be 5.5%. The northern side channel side channel slope design would be 1.5% with the existing main channel slope being 3.8%. A temporary and erodible berm will be constructed at each side channel entrance that would be washed away after the first high water event to limit turbidity during the summer months and limit stress to aquatic species.

Similar Project with a berm removal:

A similar project on Still Creek, Mt Hood National Forest, Clackamas County, Oregon re-connected multiple side channels that were blocked from push up berms constructed after the 1964 floods to convey water downstream to presumably reduce flooding in the valley downstream. Figures 4-6 show photos of that project…

Figure 4. Photo of a similar project site on Still Creek with a push up berm in the background overgrown with alder trees. Still Creek, Mt Hood National Forest, Clackamas County, Oregon.

Figure 5. Photo sequence showing the elevation of the streambed with wood and boulders to reach the relict channel elevation after the removal of the push up berm. Still Creek, Mt Hood National Forest, Clackamas County, Oregon.

Figure 6. Photo one-year post project showing relict channel and floodplain activation after being disconnect for almost fifty years. Still Creek, Mt Hood National Forest, Clackamas County, Oregon.

Hydrologically Stabilized Road 65 Crossing on Rush Creek:

Additionally, a bridge washout on the 65 road at the Rush Creek crossing, mile post (MP) 20.6, will be re-closed and the road will be hydrologically stabilized for 400 feet on either side of the crossing to disconnect the road from Rush Creek (Figure 7). Currently, the crossing closure has been breached by vehicles and there is evidence of riparian vegetation cutting and sedimentation into Rush Creek. Currently, the 65 road is classified as a Seasonal Designated road from MP 12-20.6 and from MP 20.7-21.9 and is open from 04/01-11/30 (2019 MVUM). The tenth of a mile gap is where the re-closure will take place.

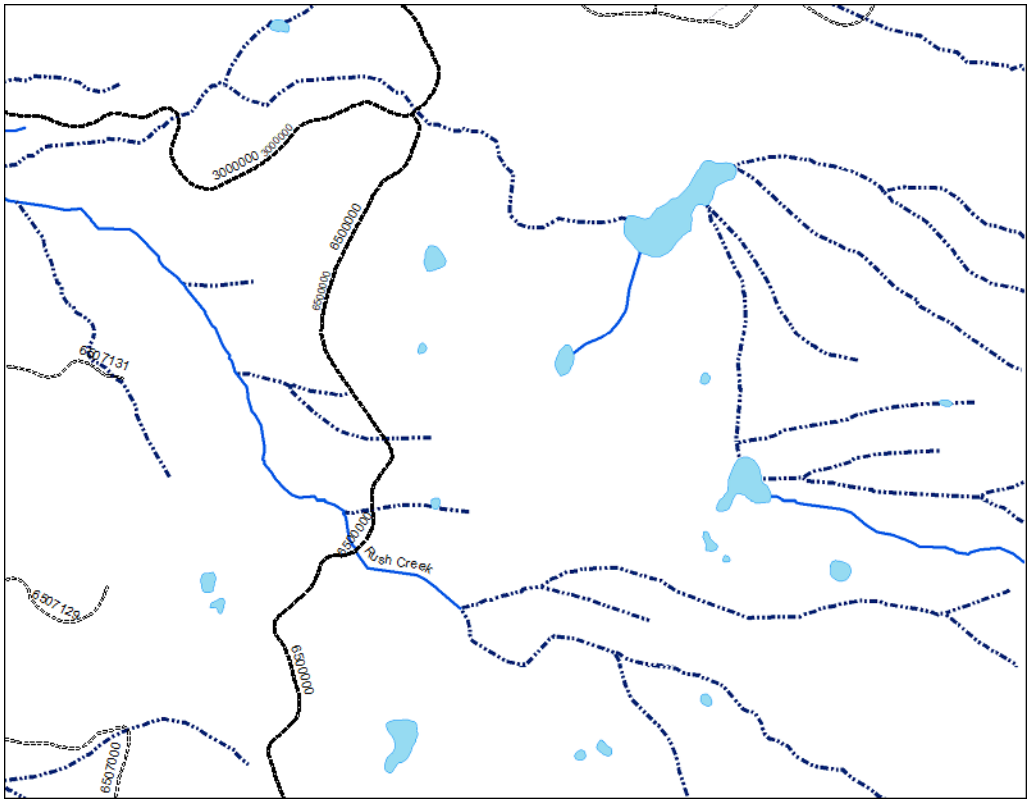

Figure 7. Location of the proposed re-closure at the 65 road and Rush Creek crossing.

Best Management Practices:
Specific BMPs for the Rush Creek Side Channel project are specified in the NEPA document. The project will meet the provisions within the Forest Service's MOU with WDFW. The project is consistent with resource protection requirements in ARBO II which, as intended, incorporates the terms and conditions of the regional US Army Corps of Engineers RGP-8 permit.

Using BMPs, the provisions of the MOU and requirements within ARBO II ensure that minimal resource damage will occur when implementing instream projects. Examples include worksite isolation to minimize instream turbidity or erosion control measures that limit sediment delivery to the waterbody.

Short- and Long-Term Benefits:
Short-term project benefits include increased juvenile refuge habitat from high flow events in re-connected side channels and large wood structure habitats. An increase in juvenile summer rearing, increased spawning gravel retention, and an increase in available cold-water habitat would be achieved.

Long term benefits include additional high-quality, complex, connected cold-water habitat. More natural channel migration processes within the Rush Creek alluvial fan will also be restored and the processes that provide self-sustaining aquatic habitat would be promoted.

The Rush Creek project will build resiliency to potential impacts from climate change. The Gifford Pinchot National Forest completed a climate change vulnerability assessment (CVA) in October 2019. With respect to watershed stewardship, this analysis focused on potential thermal impacts to anadromous fish species, emphasizing the need to build aquatic habitat resiliency and connectivity. The Rush Creek project would restore natural thermal, hydrologic, and wood regimes, and fluvial connectivity in alignment with the goals and recommendations identified in the Forest's CVA.

8. Specific Work Products

Deliverable 1: Contract submission to the Forest Service contracting department for the Rush Creek project will be completed the first week of April, 2021 and obligated to a qualified contractor by June, 2021.

Deliverable 2: Tree harvest on USFS land will begin August and will be completed and hauled to the project site September 2021. Instream work will be completed within the instream work window (July 16-August 15) 2022.

Deliverable 3: A project completion report that includes project narrative, financial information, description of project successes and lessons learned, and photo documentation of the completed project will be submitted to the ACC by February, 2022.

9. Project Duration

Task 1: NEPA and required permits will be completed by January 2020.
Task 2: Project Initiation will start August 2021.
Task 3: Project Implementation will be completed by August 15, 2022
Task 4: Monitoring will be completed by October 2022 and a final report submitted in February 2023
Task 5: Project site visit would occur during June of 2022 after approximately one year of flow.

10. Permits and Authorizations

Resource surveys have been completed for Rush Creek project area and NEPA was completed March 2018. As per requirements under ARBO II programmatic consultation with the USFWS and NOAA, tipped trees are selected by a wildlife biologist during a site visit immediately prior to implementation.

Permitting and BMP requirements are covered under a Memorandum of Understanding (MOU) with the Washington Department of Fish and Wildlife, a regional US Army Corps of Engineers RGP-8 permit, and ARBO II programmatic consultation with the USFWS and NOAA.

11. Matching Funds and In-kind Contributions

Table 1. USFS In-Kind Funds for the Rush Creek Side Channel Project.

USFS IK Funds		
Rush Creek Side Channel		
Stewardship Funds	Pepper Cat Timber Sale	
Excavator #2 (Large)	200 hrs @ $225	$45,000
Directional Tree Cable	100 @ $200	$20,000
NEPA Analysis @400/day	Heritage	$2,000
	Hydrology	$2,000
	Botany	$2,000
	Fisheries	$2,000
	Wildlife	$2,000
	Silviculture	$2,800
Contracting	Contracting Officer	$2,000
Full lengthTrees (estimated number from stand density/trees per acre)	825 @ $50	$41,250
Project Management	30 days	$12,000
	USFS In-Kind SUB-TOTAL	**$133,050**

12. Peer Review of Proposed Project

An invitation for a level I WDFW review team, as required by the USFS MOU with WDFW, is anticipated for the spring of 2021. A field review was also conducted in the spring of 2019 for USFS personnel and the Lewis River Bull Trout Recovery Team in which USFS resource specialist and one member of the LRBTRT (J. Lamperth) attended.

A Level 1 team (USFWS and USFS) field visit to Rush Creek occurred on October 2020. Three actions items were identified by the group to have a successful implementation of the proposed project:

- An adaptive management plan for the project
    - "to ensure the project will have the intended benefits to bull trout, including the change in water levels within Rush Creek and the reactivated side channels, access to bull trout spawning and rearing habitat, and the amount and quality of complex fish habitat from large wood added to streams."
- Fishing Closure and Signage
    - "closing portions of the project area to fishing and recreation, and creating educational signage about bull trout significance and listing status. We recommend the inclusion of this component into the proposed project to decrease the potential take of bull trout within the project area."
- Research and Targeted Monitoring of Coho and Bull Trout Interactions
    - "additional research and targeted monitoring on interactions between bull trout and Coho salmon, and differences in habitat preferences between the

two species may also increase the conservation value of the project. This information can help determine if negative interactions between the two species are of concern, and more effectively target project design at benefitting bull trout, if needed. Knowledge gained on the subject may also benefit future projects in locations where the two species co-occur."

Lewis River Bull Trout Recovery Team (LRBTRT) meeting in January 2021. USFS asked for input on how to move forward with actions items brought forward by USFWS:

> At the January LRBTRT meeting the consensus from the group was supportive of implementing the project with adding in the proposed action items. Trout Unlimited echoed the USFWS concern about providing additional habitat that may be suited to other salmonids, specifically coho and steelhead, that could provide further competition between species, possibly creating a negative impact to bull trout populations in Rush Creek. These concerns brought forward are the reason for the request for additional funds needed to implement the adaptive management plan, monitoring and research equipment. The LRBTRT is currently collaborating with the USFS to develop a plan to address the action items brought forward by the USFWS and TU. A site visit is tentatively scheduled for this spring to further the development of the adaptive management, signage/ regulation, and coho/bull trout interaction study design.

13. Budget

Table 2. Requested ACC funds for the Rush Creek Side Channel Project.

Requested ACC Funds		
Rush Creek Side Channel		
Mobilization (based on current BPA task order cost)	Lump Sum	$15,500
Skidder	100 @ $135	$13,500
Off Road Haul Truck 20 Ton minimum	100 hrs @ $250	$22,500
Excavator #1 (w/Harvester Cage)	200 hrs @ $200	$40,000
Erosion Control/Revegetation/ Pre-treat Weeds (Ska Co.)	Sediment control, plants, and weed treatment	$8,500
Laborer/Sawyer	Install erosion control/sawyer when needed	$2,500
Dewatering/Sediment Control		$7,000
COR Construction Oversite/ Implementation	30 days @ $400	$12,000
*Monitoring/ Reporting	Hydro Technician (2) @$200/day 60 days	$24,000
*Research equipment	Ex. Biomark PIT array, etc.	$21,350

*Adaptive Management Contingency excavator time or other by LRBTRT recommendations	125 hrs @ 200	$25,000
*Signage	Public outreach and information on bull trout biology and protection policies	$1,000
	ACC SUB-TOTAL	**$192,850**

*Additional funds added and will be returned depending on Lewis River Bull Trout Recovery Team (LRBTRT) recommendations and actions taken to comply with the adaptive management, signage, and study design being developed by the LRBTRT.

14. Photo Documentation (*Per National Marine Fisheries Service's Biological Opinion for Relicensing of the Lewis River Hydroelectric Projects – August 27, 2007*):

Photo documentation will be collected by photo point locations marked by rebar and identified with latitude and longitude. To provide a similar pre and post photographic view, azimuths will be included. Each photo will be labeled with a date, time, project name, photographer's name, and documentation of the subject activity. Both close-up and panoramic views will be included.

Photo documentation will be included in the completion report provided to PacifiCorp in February 2021.

15. Insurance. All qualifying applicants shall comply with PacifiCorp's insurance requirements set forth in Appendix A. The policy limits are deemed sufficient by PacifiCorp for project activities involving significant risk, including placement of large woody debris in navigable waterways, and are presumed to be sufficient for all activities likely to be funded under this Full Proposal Form. Should applicant's insurance program not meet these requirements, bid pricing should include any additional costs applicant would incur to comply with these requirements.

Appendix A
Insurance Requirements
(Risk Mgmt to evaluate risk by project and report needed insurance limits to Lewis River Project Coordinator)

1. INSURANCE

Without limiting any liabilities or any other obligations of [CONTRACTOR], [CONTRACTOR] shall, prior to commencing the Project, secure and continuously carry with insurers having an A.M. Best Insurance Reports rating of A-:VII or better the following insurance coverage:

1.1 Workers' Compensation. [CONTRACTOR] shall comply with all applicable Workers' Compensation Laws and shall furnish proof thereof satisfactory to PacifiCorp prior to commencing the Project.

All Workers' Compensation policies shall contain provisions that the insurance companies will have no right of recovery or subrogation against PacifiCorp, its parent, divisions, affiliates, subsidiary companies, co-lessees, or co-venturers, agents, directors, officers, employees, servants, and insurers, it being the intention of the parties that the insurance as effected shall protect all parties.

1.2 Employers' Liability. Insurance with a minimum single limit of $1,000,000 each accident, $1,000,000 disease each employee, and $1,000,000 disease policy limit.

1.3 Commercial General Liability. The most recently approved ISO policy, or its equivalent, written on an occurrence basis, with limits not less than $1,000,000 per occurrence/ $2,000,000 general aggregate (on a per location and/or per job basis) bodily injury (with no exclusions applicable to injuries sustained by volunteers working or participating in the Project) and property damage, including the following coverages:

a. Premises and operations coverage
b. Independent contractor's coverage
c. Contractual liability
d. Products and completed operations coverage
e. Coverage for explosion, collapse, and underground property damage
f. Broad form property damage liability
g. Personal and advertising injury liability, with the contractual exclusion removed
h. Sudden and accidental pollution liability, if appropriate
i. Watercraft liability, either included or insured under a separate policy

1.4 Business Automobile Liability. The most recently approved ISO policy, or its equivalent, with a minimum single limit of $1,000,000 each accident for bodily injury and

property damage including sudden and accidental pollution liability, with respect to [CONTRACTOR]'s vehicles whether owned, hired or non-owned, assigned to or used in the performance of the Project.

1.5 Umbrella Liability. Insurance with a minimum limit of $4,000,000 each occurrence/aggregate where applicable to be provided on a following form basis in excess of the coverages and limits required in Employers' Liability insurance, Commercial General Liability insurance and Business Automobile Liability insurance above. [CONTRACTOR] shall notify PacifiCorp, if at any time their minimum umbrella limit is not available during the term of this Agreement, and will purchase additional limits, if requested by PacifiCorp.

In addition to the requirements stated above any and all parties providing underground locate, engineering, design, or soil sample testing services including [CONTRACTOR], subcontractor and all other independent contractors shall be required to provide the followings insurance:

Professional Liability: [CONTRACTOR] (or its contractors) shall maintain Professional Liability insurance covering damages arising out of negligent acts, errors or omissions committed by [CONTRACTOR] (or its contractors) in the performance of this Agreement, with a liability limit of not less than $1,000,000 each claim. [CONTRACTOR] (or its subcontractors of any tier) shall maintain this policy for a minimum of two (2) years after completion of the work or shall arrange for a two (2) year extended discovery (tail) provision if the policy is not renewed. The intent of this policy is to provide coverage for claims arising out of the performance of work or services contracted or permitted under this Agreement and caused by any error, omission for which the [CONTRACTOR] its subcontractor or other independent contractor is held liable.

Except for Workers' Compensation insurance, the policies required herein shall include provisions or endorsements naming PacifiCorp, its affiliates, officers, directors, agents, and employees as additional insureds.

To the extent of [CONTRACTOR]'s negligent acts or omission, all policies required by this Agreement shall include provisions that such insurance is primary insurance with respect to the interests of PacifiCorp and that any other insurance maintained by PacifiCorp is excess and not contributory insurance with the insurance required hereunder, provisions that the policy contain a cross liability or severability of interest clause or endorsement, and that [CONTRACTOR] shall notify PacifiCorp immediately upon receipt of notice of cancellation, and shall provide proof of replacement insurance prior to the effective date of cancellation. No required insurance policies, except Workers' Compensation, shall contain any provisions prohibiting waivers of subrogation. Unless prohibited by applicable law, all required insurance policies shall contain provisions that the insurer will have no right of recovery or subrogation against PacifiCorp, its parent, affiliates, subsidiary companies, co-lessees, agents, directors, officers, employees, servants, and insurers, it being the intention of the Parties that the insurance as effected shall protect all parties.

A certificate in a form satisfactory to PacifiCorp certifying to the issuance of such insurance shall be furnished to PacifiCorp prior to commencement of the Project by [CONTRACTOR] or its volunteers or contractors. If requested, [CONTRACTOR] shall provide a copy of each insurance policy, certified as a true copy by an authorized representative of the issuing insurance company, to PacifiCorp.

[CONTRACTOR] shall require subcontractors who perform work at the Project to carry liability insurance (auto, commercial general liability and excess) workers' compensation/ employers' or stop gap liability and professional liability (as required) insurance commensurate with their respective scopes of work. [CONTRACTOR] shall remain responsible for any claims, lawsuits, losses and expenses including defense costs that exceed any of its subcontractors' insurance limits or for uninsured claims or losses.

PacifiCorp does not represent that the insurance coverage's specified herein (whether in scope of coverage or amounts of coverage) are adequate to protect the obligations [CONTRACTOR], and [CONTRACTOR] shall be solely responsible for any deficiencies thereof.

Appendix B

Response to ACC Requests for Clarification

Request: Is project occurring in a mapped floodway, per FEMA?

The project is in an area where floodways have not been mapped by FEMA. However, the project is located within the channel and floodplain of Rush Creek. Project activities are designed to restore more natural channel and floodplain function and will likely raise water levels in the treated side channels, where natural flood levels have been altered. There is no risk to Forest Service or private infrastructure from the project. The project is located entirely on National Forest System Lands, with no private lands on Rush Creek downstream of the project area, and there are no roads or other infrastructure adjacent to or downstream of the project.