GRANDE RONDE MODEL WATERSHED
Watershed Enhancement Project Proposal
September 2014

1. **Project Name:** Rock Creek Restoration and Enhancement Project ('For the Girls LLC') Phase III

2. **Applicant:** Confederated Tribes of the Umatilla Indian Reservation, Grande Ronde Subbasin Fish Habitat Restoration Project

3. **Participating Landowner(s):**

For the Girls LLC, Warren Bean (Trustee)
1905 SE 10th Ave
Portland
OR 97801

4. **Project Contact(s):**

Technical Contact:
Allen Childs/Leslie Naylor
Confederated Tribes of the Umatilla Indian Reservation
La Grande Field Office
Ag Service Center, Rm. 4
10507 North McAlister Road
Island City, Oregon 97850
allenchilds@ctuir.org/lesnaylor@ctuir.org
Allen - 541.429.7940 (office & fax)/Les – 541-429-7942 (office and fax)
Allen - 541.969.3142 (mobile)/ Les – 541 215 2245 (mobile)

Administrative Contact:
Julie Burke
Confederated Tribes of the Umatilla Indian Reservation
DNR Administrative Manager
PO Box 638
Pendleton, Oregon 97801
julieburke@ctuir.org
541.429.7292 (office & fax)

5. Project Description:

The project was originally initiated by the landowner and Oregon Department of Forestry (ODF) to address poor access road conditions and legacy forest management issues. Planning efforts expanded into more a comprehensive perspective related to natural resource management and ultimately opportunities to protect and enhance significant riparian, floodplain, and instream habitat for ESA listed Snake River Basin juvenile Chinook salmon and summer steelhead, and resident fishery resources. The landowner enlisted the assistance of the CTUIR, NRCS, and ODF to develop conservation plans for water, fisheries and upland habitat which will ultimately be accomplished through multiple programs, including BPA sponsored fish habitat programs, CREP, EQUIP, and ODF programs.

6. Project Location:

The Rock Creek Project encompasses nearly 16 miles of fish habitat on Rock, Little Rock, Sheep, Graves, Little Graves, and Little Whiskey Creek within the UGC-2 and UGS-16 recovery plan assessment units. UGS-16 has been identified by the BiOp Expert Panel as one of the highest priority geographic units to protect and restore summer steelhead habitat. UGC-2 is identified as having high intrinsic potential for Chinook and moderately high densities of *O.mykiss* in the lower reaches of Rock Creek and low to medium intrinsic potential for Chinook within upper stream reaches. The lower reaches have been shown to provide juvenile Chinook rearing habitat from data collected during snorkel surveys conducted by CTUIR staff in 2011 and 2012. The presence of juvenile Chinook within this degraded system emphasizes the need for these restoration efforts and is an indication of the importance of these tributaries in the recovery of salmonid fish populations within the Grande Ronde Basin.

Phase III of the project is located in the lower one mile of Rock Creek 6.8 miles west of La Grande, Oregon in Township 3 South, Range 37 East, all or portions of Sections 5 and 6. This project area is characterized as a typical mid-elevation Blue Mountain forested watershed interspersed with open dry meadows in the uplands and typically narrow floodplains. Stream channel types include Rosgen C3/C4 channel types in low gradient wide valley forms.

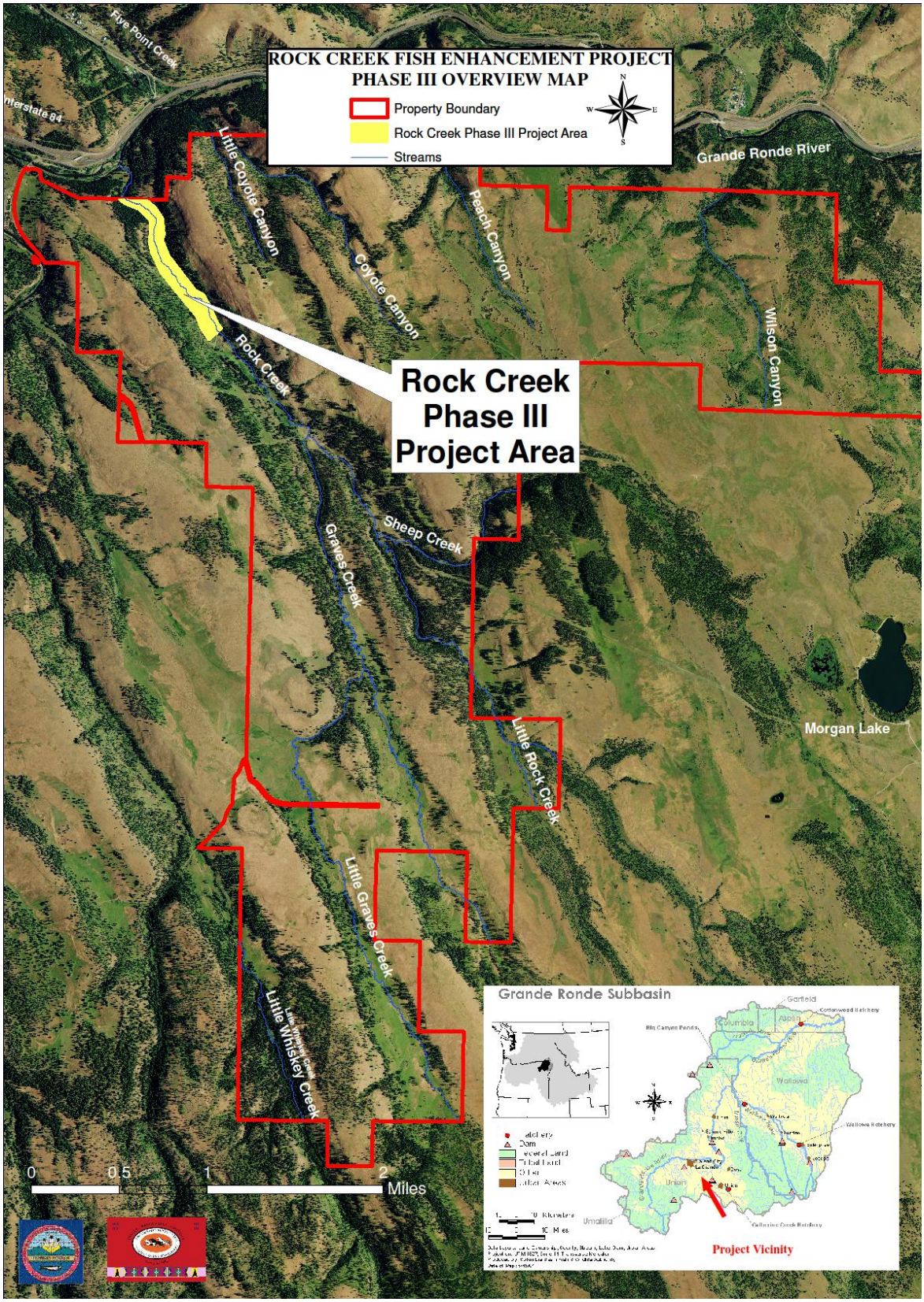
Phase I was completed during summer 2013 and included:

- Installation of 128 large wood structures along 195,000 feet of Graves Creek, 8,016 feet along Little Graves Creek, and 5,494 feet along historic side channels.
- Installation of 26 graded riffles.

Phase II implementation is currently underway (August 2014) and included:

- Installation of 127 large wood addition sites.
- Installation of 14 habitat boulder clusters.
- Riparian fencing of approx. 127 acres.

Figure 1 Project Vicinity Map



7. Project Vision, Goals, and Objectives:

Project Goal Statement

The overall goal of the project is to restore and protect hydrologic and geomorphic processes and functions that provide high quality spawning and rearing habitat for Threatened Snake River Basin ESA fish stocks and resident fishery resources within the UGC-2 and UGS-16 recovery plan assessment units.

Project Objectives

Project objectives include habitat protection, re-activating the historic floodplain and associated channel network, increasing hyporheic connectivity and cold water refuge, facilitating vegetative recovery, increasing instream habitat complexity and large pool habitat, and encouraging long-term beaver re-colonization.

- **Protect Habitat:** Develop riparian easement (CTUIR/BPA easement as well as FSA CREP).
- **Enhance Riparian Habitat:** Plant and seed riparian with native plant mix. Protect plantings by excluding livestock grazing until vegetation has established and is providing bank stability and shade.
- **Enhance Floodplain Connectivity:** Remove channel confinement structures (obliterate draw bottom roads and remove levees along Rock Creek) and activate/construct side channels.
- **Enhance in-stream structural diversity, complexity, and geomorphic stability:** Re-meander channelized stream reaches/re-activate abandoned meandering reaches along Rock Creek to promote diversity and complexity of habitat types, decrease channel slope, decrease width:depth, and diversify sediment distribution. Install large wood and riffle complexes to provide roughness, overhead cover, and velocity diversity.
- **Reduce streambank erosion rates:** Use bio-engineering techniques, planting/seeding, activation of floodplain, and protection (fencing) of riparian area to facilitate bank stability and increase pool numbers. Visual assessments indicated that the bulk of the sediment supply is from localized stream bank erosion. Stream bank stabilization may be achieved using several techniques including rest from overgrazing, or physically reshaping some banks and adding native material such as large woody debris (LWD), sedge/rush mats, shrub transplants or other plantings. This should greatly reduce the sediment supply, decrease percentage of fines in the substrate and provide complex habitat.
- **Decrease peak summer temperatures:** Improve/increase channel and floodplain conditions to diversify hyporheic exchange, facilitate vegetative cover/shade, and promote decreased channel width:depth to decrease summer stream temperatures and increase winter temperatures.

Project scope includes a combination of techniques to address habitat limiting factors and facilitate processes and functions that support ecological and life history requirements. The Project includes new channel construction, reactivation of historic meanders and channel segments, reclamation of channelized reaches into functioning floodplains, road and dike removal to reconnect floodplains, side channel development, large wood additions to enhance pool complexity, riparian floodplain planting, completed under FY2014 work.

Figure 2 – Two aerial photographs of the existing conditions on Rock Creek (upper image is looking upstream from river mile 0.6; lower image is looking upstream at Rock Creek from river mile 0.75). Note lack of riparian vegetation, lack of instream habitat complexity (large wood), channel confining road (to be removed as part of Phase III), and simplified channel.

Phase I: **(Graves Creek Fish Habitat Restoration and Enhancement Project) – Constructed in 2013 and funded by CTUIR/BPA Accord –**
Consisted of re-activating historic side channels, reconnecting the floodplain, installing riffles to aggrade and stabilize degraded segments along Graves Creek, installing large wood and brush complexes to provide habitat complexity and margin roughness, riparian planting and seeding, and installation of riparian enclosure fences to protect the project area from livestock grazing. The Phase I area was located along 3.8 miles of Graves Creek and 1.4 miles of Little Graves Creek within the "For the Girls LLC" ranch.

Phase II (Rock Creek Fish Habitat Enhancement Project) – Under construction summer 2014 and funded by CTUIR/BPA Accord and GRMW/BPA–

1. Large Wood Additions – Approximately 127 large wood addition sites have been identified along project area streams to enhance instream habitat complexity.

2. Removal of Floodplain Levees - Approximately 3500 cubic yards of levees had been constructed by previous landowners to prevent Rock Creek from flooding riparian pastureland during high flows. These levees have been removed to re-connect the stream with the floodplain and allow side channel activation.

3. Side Channel Activation - The activation of side channels will benefit the development of riparian trees, shrubs, and wetland plant communities. Approximately 1,400 feet of high flow channels along Rock Creek were re-connected.

4. Habitat Boulders (14 Sites) – Habitat boulder installation were installed in the middle reaches of Rock Creek to develop habitat complexity and small pools.

5. Install Overflow Culverts - Two high flow culverts were installed in the road prism near the Rock Creek cabin to facilitate floodwater conveyance.

6. Streambank and Floodplain Re-vegetation – There are approximately 376 acres planned for Fall/Spring planting under both BPA/CTUIR and CREP programs.

7. Protect Habitat Improvements – Approximately 288.5 acres of riparian habitat will be enrolled in the CREP program during October 2014 and 127.24 acres will remain in a BPA/CTUIR conservation easement.

Phase III (Rock Creek Fish Habitat Enhancement Project) – Proposed construction in summer 2015 –

1. **Channel Excavation** – Construct 0.62 miles of meandering channel
2. **Side channel Excavation –** Construct 0.33 miles of side channel
3. **Channel Reclamation -** Back-fill and grade 0.3 miles of existing channelized reach after construction of new channel.
4. **Road De-commission** – Remove 0.32 miles of draw bottom roads.
5. **Large Wood Additions** – Approximately 87 large wood addition sites will be installed along the newly constructed channel and sections of the existing channel that are to remain intact. Approximately 503 whole trees with root wads attached will be used in Phase III.
6. **Habitat Boulders (10 sites)** - Boulder clusters will be used to provide habitat complexity, velocity refuge and riffle habitat.

7. **Culvert Installation -** The undersized culvert on Graves Creek will be replaced with a bridge (supplied by the landowner).

Work Dates – Project implementation for Phase III is scheduled to begin in July 2015, and be completed in 2016. Specific dates for various project aspects include:

- Permitting – December 2014.
- Construction Start – Summer 2015
- Planting/seeding – Fall 2015 to Spring 2016
- Monitoring – Started in 2010, continued through 2020.

Project Maintenance

CTUIR and the landowner will maintain the project. Extensive maintenance of in-stream habitat structures is not anticipated. Annual fence maintenance will be carried out by CTUIR for those areas under the CTUIR/BPA conservation easement, and by the landowner for those areas under the CREP program. Weed management within the CTUIR/BPA easement is undertaken by the landowner.

Permits

CTUIR Fish Habitat Staff are completing all environmental compliance requirements (HIP III, DSL/USCOE Fill Removal Permit Application). CTUIR Cultural Resource Protection Program has conducted cultural resource site surveys and has completed consultation with the State Historic Preservation Office (SHPO) and BPA. A programmatic agreement between SHPO, BPA, and CTUIR is now in place for the survey, monitoring, and protection of cultural resources within the Project Area.

8. Project Budget:

Funds secured through this project proposal will be directed to the purchase of wood and boulder materials needed for project construction. CTUIR/BPA Accords funds will be used for cost share of implementation of the restoration project as well as the planning, permitting, administration, management, monitoring and reporting of the project.

Item	Item	Description	Quantity	Unit	Unit Cost	Total Cost (Quantity X Unit Price)	BPA-GRMW	CTUIR-BPA Accord
Item 1	Mobilization/De-Mobilization	Mobilization/De-Mobilization to/from work area.	1	Lump Sum	$23,500.00	$23,500.00	$0.00	$23,500.00
Item 2	Purchase and Delivery of Large Wood	2.a Purchase and deliver 275 whole trees (18" plus dbh) with rootwads attached to designated wood addition sites	275	each	$450.00	$123,750.00	$123,750.00	$0.00
		2.b Purchase and deliver 228 whole trees (12" plus dbh) with rootwads attached to designed wood addition sites	228	each	$200.00	$45,600.00	$45,600.00	$0.00
Item 3	Large Wood Additions	3.a. 34 Large Wood Addition Sites (Type I structure): Avg 5 key member pieces per site.	34	each	$1,135.00	$38,590.00	$0.00	$38,590.00
		3.b 35 Large Wood Addition Sites (Type II structure): Avg 3 key member pieces per site.	35	each	$875.00	$30,625.00	$0.00	$30,625.00
		3.c 18 Wood Addition Sites (Type III structure): Avg 5 pieces of wood per site. No excavation.	18	each	$500.00	$9,000.00	$0.00	$9,000.00
Item 4	Channel Excavation	Construct 3,300 feet of Rock Creek channel. Approximately 6,000 cubic yards	6000	cubic yards	$6.00	$36,000.00	$0.00	$36,000.00
Item 5	Side Channel Excavation	Construct 1,786 Feet side channel. Approximately 1,000 cubic yards	1000	cubic yards	$6.00	$6,000.00	$0.00	$6,000.00
Item 6	Purchase and Place Boulders	Purchase, deliver, and place 50 habitat boulders (5 boulders each site for 10 sites).	50	each	$205.00	$10,250.00	$10,250.00	$0.00
Item 7	Channel Reclamation	Back-fill and grade existing channelized reach (approximately 1,600 lineal feet)	1	each	$10,000.00	$10,000.00	$0.00	$10,000.00
Item 8	Culvert replacement	Install bridge on Graves Creek to replace existing undersized culvert	1	each	$50,000.00	$50,000.00	$0.00	$50,000.00
Item 9	De-commission Road	Decommission 1,690 feet of road	1,000	cubic yards	$2.50	$2,500.00	$0.00	$2,500.00
Item 10	Equipment Rental	80 hours of fully operated 200 Series track-mounted excavator (or larger) with hydraulic thumb. Miscellaneous construction, wood placement, etc. This work item is on an 'as needed' basis.	80	per hour	$185.00	$14,800.00	$0.00	$14,800.00
Item 11	Site clean-up and rehabilitation	Complete final site clean-up and rehabilitation prior to de-mobilization and release from project area. Includes final grading and contouring disturbed areas, clean-up and removal of rock and wood material debris, and shallow scarification of haul roads and disturbed areas to prepared disturbed areas for seeding and planting.	1	Lump Sum	$12,500.00	$12,500.00	$0.00	$12,500.00
TOTAL AGGREGATE CONSTRUCTION COSTS						$413,115.00	$179,600.00	$233,515.00