2017 Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds

Project 2188 (Madison-Missouri River) License Protection, Mitigation and Enhancement (PM&E) projects are required to offset impacts to river resources from the continued operation of one or more of NWE's nine hydro developments (Hebgen, Madison, Hauser, Holter, Black Eagle, Rainbow, Cochrane, Ryan and Morony Dams). PM&E projects need to be prioritized toward in-river or on-the-ground measures that directly benefit fisheries and/or wildlife populations and their habitats:

Priority 1: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats within the main stem Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir)

Priority 2: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats in primary tributaries or on adjacent lands and, in doing so, provide PM&E for Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir) resources.

Priority 3: 2188 License PM&E projects which meet License Article requirements by providing scientific or other tangible PM&E benefits to Madison-Missouri River fisheries or wildlife populations or their habitats. These projects must be located in the greater Missouri River drainage upstream from Fort Peck Reservoir, but not necessarily located on the main stem Madison River or Missouri River or their adjacent lands or primary tributaries.

All TAC project proposals must include the following information:

Project Title:Ruby FAS Swale reconnect/restoration

Date:11/1/20-11/1/21

Explain how this Project addresses a specific Project 2188 License Article(s):

Factors limiting ecological function of the riparian corridor within the Project Area include reduced hydrologic connectivity, browse and trampling. Goals of restoration within the Project Area include:
;

Increase biodiversity and habitat complexity to support long-term ecosystem resilience.

Provide justification for Priority 1, 2 or 3 (above) that you selected:

- ***Priority 1***-

-Increase riparian corridor width and woody vegetation cover;
-Increase aquatic habitat complexity;
-Increase primary production and food web support;
-Improve water quality and increase clean, cold water inputs to the Madison River;

Project Sponsor (submitted by): Madison River Foundation

Location of Proposed Project: upstream of Ruby Creek on the left bank of the Madison River within Bureau of Land Management (BLM) Reach 632/633 (Project Area).
Narrative

Geocode (in decimal degrees ex 46.89743) Lat; 45.088324 Lon:111.661949

Total Project Cost: $29,000.00

TAC Funds (Cost-Share) Requested for Project:$12,000.00

I. Introduction; brief statement of project to be completed with pertinent background information.
This memo outlines restoration design concepts for a floodplain swale area upstream of Ruby Creek on the left bank of the Madison River within Bureau of Land Management (BLM) Reach 632/633 (Project Area). The purpose of this memo is to provide information to support funding acquisition, permitting and internal scoping by project partners.

Restoration concepts are based on the *Madison River Riparian Restoration Master Plan* (Geum, 2018); a document outlining a restoration planning framework to restore and protect riparian, wetland, and aquatic habitats on the Madison River. Restoration concepts presented here are preliminary and were developed based on a site visit, aerial imagery interpretation and analysis of LiDAR data.

II. Objectives; explicit statement(s) of what is intended to be accomplished.

Increase riparian corridor width and woody vegetation cover;

Increase aquatic habitat complexity;

Increase primary production and food web support;

Improve water quality and increase clean, cold water inputs to the Madison River;

Increase biodiversity and habitat complexity to support long-term ecosystem resilience.

III. Methods; description of how Project objectives will be accomplised

Restoration strategies include treatments designed to address limiting factors within the Project Area to improve ecological function and set the site on a trajectory to reach project goals.

-Install a livestock fence protecting approximately 1.75 acres of floodplain including the swale and adjacent river bank where browse and trampling have limited establishment of woody riparian vegetation. Livestock fence will be 'let down' to allow for wildlife movement across the fence line when cattle are not grazing the area, At the upstream and downstream end of the fence, a fence extension will be installed that hangs over the river so cattle do not walk around the edge of the fence, The exact type of wildlife friendly livestock fence will be determined by project partners based on cost, feasibility, and maintenance considerations. The fence unit would be evaluated annually for maintenance and monitoring data would be collected to evaluate effectiveness. An annual monitoring report would be developed to document findings including information on wildlife versus livestock browse.

-**Swale Reconnection**. Excavate a linear feature connecting the upstream end of the existing floodplain swale to the Madison River. Excavation will remove material in about a 4,500 square foot area to an elevation that will allow surface flow into the swale at approximately a 1.5 to 2-year return flow. This will hydrologically activate the floodplain seasonally without capturing baseflow from the main channel. The excavated area at the newly created swale inlet will consist of exposed cobble and gravel to allow for natural processes to revegetate the inlet. This treatment works with the altered flow regime of the Madison River to create a location where the floodplain is activated by seasonal high flows, a natural process that would have occurred prior to Hebgen Dam. By increasing hydrologic connectivity within this floodplain swale, natural processes can aid in the expansion of the riparian corridor; promoting aquatic habitat complexity, primary production and biodiversity

IV. Schedule; when the Project work will begin and end.

Spring 2021-fall 2021

V. Personnel; who will do the work ? Identify Project leader or principal investigator.

Jon Malovich MRF- Project leader Tom ParkerGEUM environmental - PI

VI. Project budget must include amounts for the following:

Direct Labor
Travel and Living
Materials See Attachment
Other Direct Expenses
Direct Overhead
All cost-share sources and amounts, including estimation of "in-kind" contributions

Table 1. Estimated treatment quantities.

TREATMENT	ESTIMATED QUANTITY	UNIT
Livestock Fence	770	Linear Feet
Swale Reconnection	250	Cubic Yards

Table 2. Estimated design and construction costs.

	Quantity	Units	Unit Cost	Cost	Personnel
LIVESTOCK FENCING*					
6' Wooden Posts	52	Each	$6.00	$312.00	Contractor
Barbed Wire	1,540	Linear Feet	$0.06	$92.40	Contractor
Smooth Wire	1,540	Each	$0.06	$92.40	Contractor
Fence Staples	624	Each	$0.06	$37.44	Contractor
Install Fence	770	Linear Feet	$2.75	$2,117.50	Contractor
SUB TOTAL				**$2,651.74**	
*Type of fence to be determined during final design, 'let-down' livestock fence is used here for estimation purposes					
SWALE RECONNECTION					
Excavation	250	Cubic Yards	$5.00	$1,250.00	Contractor
Remove Excavated Material	1	Lump Sum	$500.00	$500.00	Contractor
SUB TOTAL				**$1,750.00**	
OTHER COSTS					
Design (analysis, wetland delineation, plan set, permitting, bid support, logistics)				$8,000.00	Geum
Construction Oversight (staking, 2 days oversight, travel, lodging, per diem)				$4,000.00	Geum
Construction Completion Documentation				$3,000.00	Geum
Monitoring and Maintenance				$4,000.00	Geum/MRF
Mobilization and Demobilization (10% of estimated construction cost)				$500.00	Contractor
Contingency (20% of estimated construction cost) *Hydrologist?floodplain engineer*				*$1,000.00* *$5000.00*	 **contractor**
SUB TOTAL				**$20,500.00**	
TOTAL PROJECT ESTIMATE				**$29,901.74**	

VII. Deliverables; describe work product (reports, habitat restoration, etc.) which will result from this Project. How will "success" for this project be monitored or demonstrated?

- The swale reconnection and surrounding floodplain within the livestock fence would be monitored prior to implementation and annually after construction to evaluate percent cover of woody riparian vegetation, density of natural recruitment, species diversity, and aquatic habitat complexity. An annual monitoring report would be developed to aid in understanding the effect of this restoration treatment on the Madison River.

VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NWE as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any buildings or structures until the CRM consultation process has been completed. Agency applicants must submit a copy of the proposed project to a designated Cultural Resource Specialist for their agency. Private parties or non-governmental organizations are encouraged to submit a copy of their proposed project to a CRM consultant they may have employed. Private parties and non-governmental organizations may also contact the NWE representative for further information or assistance. Applications submitted without this section completed, will be held by the TAC, without any action, until the information has been submitted.

Summarize here how you will complete requirements for Cultural Resource Management:

- Continue to monitor and report to NEW and other partners on project progress and completion via frequent phone and email communications

IX. Water Rights. For projects that involve development, restoration or enhancement of wetlands, please describe how the project will comply with the Montana DNRC's "Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities", issued by the Water Resources Division on 9March2016.

Summarize here how you will comply with Montana water rights laws, policies and guidelines:

- With guidance of Flood Plain, Madison Water District and Hydrology engineer set plan for final implementation and permit approval.

All TAC Project proposals should be 7 pages or less and emailed (as a WORD file) to each of:

- Andrew.Welch@Northwestern.com
- Jon.Hanson@Northwestern.com
- Grant.Grisak@Northwestern.com

Further questions about TAC proposals or Project 2188 license requirements or related issues may be addressed to: Andy Welch, Leader Hydro License Compliance, NorthWestern Energy, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.