Project Title: ***O'DELL CREEK PHASE 18 STREAM AND WETLAND RESTORATION PROJECT DESIGN-BUILD PROPOSAL***

Date: November 6, 2020

Applicability to Project 2188 License Article(s)

Phase 18 will offset impacts to river resources associated with Project 2188 (Madison-Missouri River). The project meets the purpose and intent of License Articles 408, 409 and 412, which require: 1) developing plans to restore and protect important riparian areas; 2) enhancing fish habitat both in main stem and tributary streams to the Madison River, for all life stages of fish; 3) restoring riparian habitat; and 4) protecting and aiding in the recovery of threatened and endangered fish species including Arctic grayling. Over the past 16 years, 15 phases of restoration have been implemented in the O'Dell Creek planning area, including 14.5 miles of spring creek and close to 900 acres of wetland restoration. For the past several years, Montana Fish, Wildlife & Parks in coordination with the U.S. Fish and Wildlife Service, have been placing Arctic grayling Remote Site Incubators (RSIs) in several reaches of O'Dell Creek. This program is schedule to continue in 2021 and project designs will be developed to help optimize conditions that increase egg-to-fry survival rates.

Justification for Priority 2 Classification

The O'Dell Creek Phase 18 Stream and Wetland Restoration Project classifies as a Priority 2 2188 license project. The project is located on O'Dell Creek, a major cold-water spring creek tributary to the Madison River, and will address limiting factors related to degraded aquatic habitat conditions (Figure 1). This project is a continuation of Phase 17 and will occur on the west branch O'Dell Spring Creek (Figure 2).

Project Sponsors: NorthWestern Energy, Inc.
Granger Ranches, L.P.
U.S. Fish and Wildlife Service
Madison River Foundation
River Design Group, Inc.

Location of Proposed Project

The project is located in Madison County approximately three miles south of the town of Ennis, Montana. The project is located on Granger Ranches, a working cattle ranch. The legal description of the project area is Southeast ¼ of Section 17 and Northeast ¼ of Section 20, Township 6 South, Range 1 West. Please refer to Figure 1.

Geocodes: 25-0423-20-1-01-01-0000; 25-0423-17-4-05-01-0000

Latitude: 45.306; **Longitude:** -111.745

Total Project Cost: **$**179,100

MadTAC Funds (Cost-Share) Requested for Project: $104,100

I. INTRODUCTION

O'Dell Spring Creek and floodplain wetlands are important ecological resources to the Madison River. Over the past 15 years, 15 major phases of restoration work have culminated in the restoration of 14.5 miles of spring creek, and close to 900 acres of improved wetland functions. Restoration suitability, willing landowners, and private-public partnerships are the reasons for the success of this large-scale, comprehensive restoration project. In 2018, NorthWestern Energy, Granger Ranches, Longhorn Ranch, and the US Fish and Wildlife Service received the ***Society for Ecological Restoration Northwest Restoration Project of the Year Award.*** The award recognized the important wildlife habitat gains resulting from permanently protecting and restoring wetland habitats. Accomplishments include:

- Restoring complex riffle and pool sequences throughout the 14-mile project area, including the mainstem O'Dell Creek and East and West Branches O'Dell Creek.
- Reconnecting close to 900 acres of previously drained floodplain wetlands; wetlands supporting 265 wetland plant taxa, representing 20% of Montana's wetland flora including five rare species.
- Increasing the distribution and availability of adult holding, spawning and juvenile rearing habitat (e.g. deep pools, complex undercut banks), with an estimated ten-fold increase compared to pre-restoration conditions.
- Reducing fine sediment inputs to the spring creek and Madison River by treating chronic sources of sediment including streambank and terrace erosion.
- Reducing surface water temperatures by improving channel morphology (e.g. lower width-to-depth ratios, reduced surface water area), and increasing hyporheic exchange between surface water and groundwater.

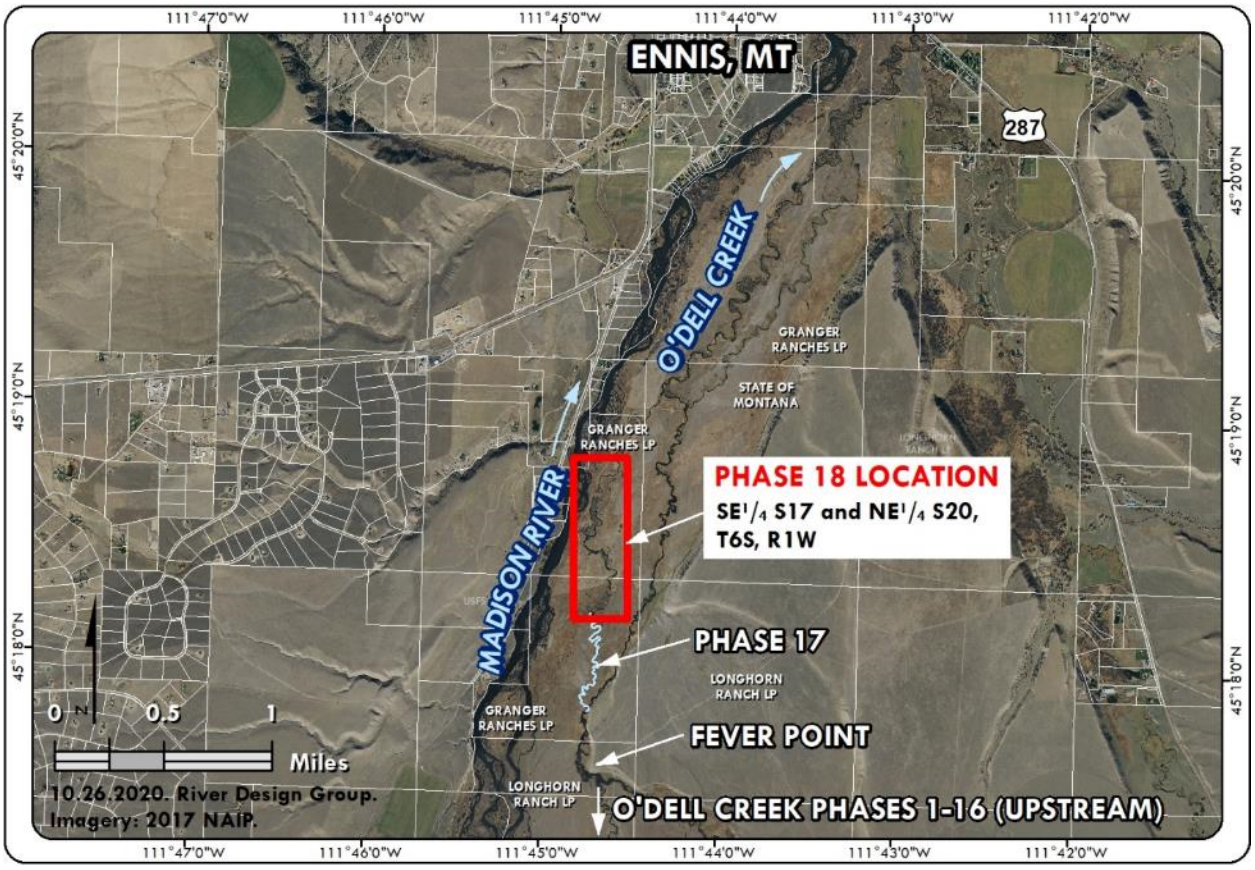

Figure 1. O'Dell Creek project vicinity map and location of the Phase 18 project area.

This project proposal furthers restoration and conservation efforts on the Granger Ranch, a third generation, working cattle ranch owned by the Laszlo family. The legal description of the project area is noted above, and a project vicinity map is included as Figure 1.

In 2018, the NorthWestern WildTAC funded a master plan to identify and prioritize restoration opportunities on O'Dell Creek from Fever Point (end of Phase 16 project) to Highway 287 near Ennis, Montana (see Figure 1). The west branch O'Dell Creek was identified as the next high priority segment for restoration actions. In 2020, the upper one mile of the west branch was restored. This proposal for Phase 18 will complete restoration actions on the west branch and encompass approximately one mile of spring creek and floodplain riparian area. Completing restoration work on the west branch O'Dell Creek will be a significant accomplishment and milestone, as articulated in the master plan.

The purpose of this project is to improve aquatic habitat conditions of O'Dell Creek and associated stream and floodplain functions. This will be accomplished by restoring the proper channel and floodplain dimensions and creating off-channel, disconnected shallow emergent, and shallow to deep open water wetlands. Specifically, the goals of this project include: 1) improving aquatic habitat conditions for focal fish species including rainbow trout and brown trout; 2) establishing complex riffle and pool habitat features; 3) lowering channel width-to-depth ratios to decrease stream temperature; 4) restoring streambank conditions that support complex habitat conditions including undercut banks and deep lateral scour pools; 5) increasing channel sinuosity by reactivating abandoned meander oxbows characterized by high quality willow-shrub plant communities; and 6) creating a complex matrix of variable depth wetlands in over-widened channel sections as well as isolating wetlands from the channel to lower stream temperature. New floodplain surfaces supporting emergent and scrub-shrub wetland communities will be created in over-widened channel areas. *Project partners are seeking a contribution from the WildTAC to fund all wetland-related improvements in the Phase 18 project area* (see Table 2 Cost Estimate for budget allocation).

II. Objectives

The following objectives have been developed for the Phase 18 project area in conjunction with the project partners and landowners:

1. Produce clean, cold water consistent with supporting aquatic life and beneficial uses in the O'Dell Creek watershed and downstream receiving waterbody, the Madison River;
2. Create complex aquatic habitat components such as depth, velocity, substrate, cover, and pools that support populations of wild trout and other aquatic organisms;
3. Construct a stream channel that is connected to and interacts with the floodplain in terms of hyporheic flow and nutrient exchange; and
4. Create a more complex matrix of wetlands in over-widened channel sections by creating backwater areas, open water wetlands, and new floodplain surfaces that support emergent and scrub-shrub wetland communities, while reducing stream temperature.

III. Methods

RDG will prepare preliminary and final design drawings in coordination with NorthWestern Energy and Granger Ranches. Regulatory permits will be prepared and coordinated with the US Army Corps of Engineers, Montana Department of Environmental Quality, and Madison Conservation District. A routine wetland delineation report with mapping exhibits will be produced to support regulatory permitting and to illustrate the net functional lift to aquatic resources within the project area.

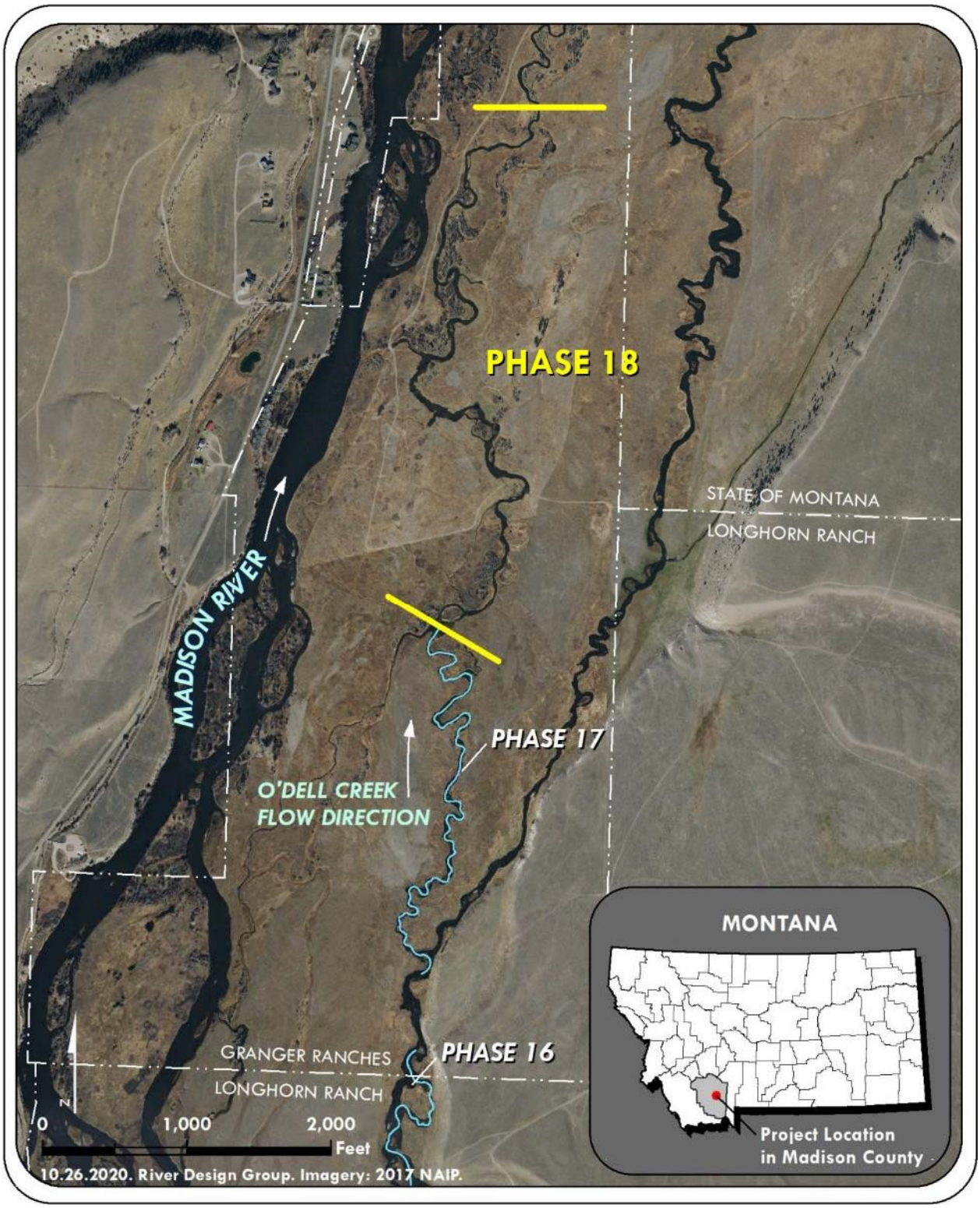

Figure 2. Phase 18 project area map, and proximity to Phases 16 and 17, and Madison River.

Construction will occur over a five-week period, beginning in May and extending through mid-June, 2021. Given the sensitive resource conditions, construction specifications will require the use of low-pressure ground equipment including a 14 cubic yard articulated truck with flotation tires, tracked excavators, an All Surface Vehicle, and harrow for de-compacting soils and construction access roads. The excavators will be GPS compatible to ensure the project is seamlessly implemented per the design.

IV. Schedule

The following project schedule has been developed. Following contract award, RDG and project partners will complete the project design and regulatory permitting. A cultural resources investigation will be coordinated by NorthWestern Energy and RDG. Table 1 includes a proposed project schedule.

Table 1. Project schedule for the Phase 18 Restoration Project (2021).

Task	January	February	March	April	May	June
Task 1. Project Management						
Task 2. Engineering and Regulatory Permitting						
Task 3. Construction Implementation						
Task 4. Direct Costs						

V. Personnel

Similar to past phases of restoration on O'Dell Creek, the project will be designed and implemented under the auspices of a diverse group of stakeholders including NorthWestern Energy, the US Fish and Wildlife Service, Madison River Foundation, and Granger Ranches, LP. As a team, we have established a track record of successful collaboration on 14 restoration projects on O'Dell Creek. Our continued collaboration and history working on this project underscores the importance we place on offering a team that will continue to be compatible with the community and stakeholders.

RDG is an approved consultant on NorthWestern Energy's Qualified Vendor's List for stream and wetland restoration services. RDG has prepared and implemented all previous phases of restoration on O'Dell Creek with the exceptions of Phases 1 and 2. John Muhlfeld will serve as the project manager and technical lead on behalf of the design team. Nate Wyatt, P.E. will serve as the engineer of record. To comply with NorthWestern Energy's Cultural Resource Management Plan, a cultural resources investigation will be conducted prior to ground-disturbing activities.

VI. Budget

Table 2 includes a not-to-exceed cost estimate to perform the Scope of Work (SOW). The total cost to perform the SOW is $179,100. Because benefits to both fisheries and wildlife habitats are anticipated, this application assumes a $50,000 match from WildTAC (28%), and an additional $25,000 from Granger Ranches, Madison River Foundation, and US Fish and Wildlife Service (14%). Funds requested from MadTAC total $104,100, or 58% of the total project cost.

Table 2. O'Dell Creek Phase 18 Cost Estimate.		
Task		**Cost**
1. Project Management	**$**	**1,500.00**
Coordination with NWE, Owners, FWS, Stakeholders	$	1,500.00
2. Engineering, Permitting and Construction Management	**$**	**36,250.00**
Design, Engineering and Pre Construction Services	$	15,000
Regulatory Permitting (Joint Permit Application)	$	2,250
Routine Wetland Delineation and Permit Support Document	$	4,000
Construction Management	$	15,000
3. Construction	**$**	**138,400**
Excavator Class 320 with GPS	$	34,500
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14 CY Articulated Off Road Truck with Flotation Tires	$	36,500
All Surface Vehicle	$	11,400
Mobilization and Demobilization	$	11,000
Per Diem and Lodging for Contractor (4 Person Crew)	$	8,000
Construction Mats	$	2,500
4. Direct Costs	**$**	**2,950**
Mileage	$	1,550
Per Diem	$	600
Lodging	$	800
Total Project Cost	**$**	**179,100**
***Cash Match (US Fish and Wildlife Service)**	**$**	**15,000**
***Cash Match (Granger Ranches and Madison River Foundation)**	**$**	**10,000**
***WildTAC Match (NorthWestern Energy)**	**$**	**50,000**
Total MadTAC Funds Requested	**$**	**104,100**
* Cultural Resources Investigation for Phase 18 will be completed by NorthWestern Energy, Inc .		

VII. Deliverables

Project deliverables will include the following:

- Preliminary and final design plan sets;
- Wetland delineation report including GIS mapping exhibits and field forms;
- Joint Permit Application/Regulatory Permitting Submittals;
- Construction implementation - approximately 4,300 feet of spring creek; and
- +/- 35 acres of improved and/or enhanced wetland and riparian functions and values.

RDG will submit a monitoring plan as a component of the Section 404 permit application. As with past phases, RDG will monitor project success through repeat survey of channel cross-sections, fixed photo points, redd counts, and streambank stability using a modified Bank Erosion Hazard Index rapid assessment.

VIII. Cultural Resources

NorthWestern Energy will coordinate the necessary cultural resources investigations.

IX. Water Rights

Appropriate analysis will be performed to demonstrate that the project complies with the intent of Montana DNRC's "*Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities*", issued by the Water Resources Division on March 9, 2016. DNRC guidelines state that "any wetland project (restoration) whose final design approximates the natural characteristics of adjacent natural wetlands or approximates something smaller in magnitude does not require a water right". The guidelines also state that restored wetlands should have characteristics similar to other natural wetlands in the area and should function entirely in the absence of artificial controls and diversions of water that intentionally appropriate water for wetland use.

This Phase 18 project intends to restore wetland habitat by enhancing existing wetlands through grading and revegetation. The restored wetlands will have identical hydrologic and vegetative characteristics to existing wetlands in the immediate area. Riverine wetland habitat will be converted to shallow open water and emergent wetlands by narrowing of the current over-widened stream channel. Wetlands will be located within the floodplain and will be very similar in size and habitat characteristics to pre-settlement open water wetlands in the area. The small open water wetlands will not involve the construction of any berms, dams, or dikes; will not involve any diversion of water; will partially offset the loss of riverine wetland habitat; and will not increase water consumption.