

Project Title: *O'Dell Creek Revegetation Phase 3 Project*

Date: November 1, 2021

Applicability to Project 2188 License Article(s)

The O'Dell Creek Revegetation Phase 3 project will offset impacts to river resources associated with Project 2188 (Madison-Missouri River). The project meets the purpose and intent of License Article 423, which requires development of a vegetation and wildlife monitoring and enhancement plan intended to enhance native plants and wildlife populations on Project 2188 wildlife habitats adjacent to the Madison River. Specifically, NorthWestern Energy is successfully enhancing Project 2188 wildlife habitats through funding aimed to protect, restore, and enhance riparian, wetland, and upland habitats on private lands. The O'Dell Creek project, and the benefits that have resulted from 16 phases of restoration work in the O'Dell Creek headwaters, are specifically referenced in Article 423. NorthWestern Energy continues to monitor prior phases of work to assess the effectiveness of previously implemented projects, including the benefits to stream temperature, streamflow quantity, avian species richness and numbers, sensitive plants, and acres of restored/enhanced wetlands.

Priority Classification

The O'Dell Creek Revegetation Phase 3 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, within 0.4 miles of the Madison River, and will address limiting factors related to degraded wildlife habitat, wetlands, and aquatic resources.

Project Sponsor(s): NorthWestern Energy, Inc.
Granger Ranches, L.P.
Longhorn Ranch, L.P.
River Design Group, Inc.
Madison River Foundation

Location of Proposed Project

The proposed Revegetation Phase 3 Project is in Madison County approximately five miles south of the town of Ennis, Montana, on the Longhorn Ranch and/or Granger Ranches, both working cattle ranches (Figure 1). It is located in Sections 20, 21, 28, 29, and 33 of Township 6 South, Range 1 West, and Sections 4 and 9 of Township 7 South, Range 1 West.

Geocodes: 25-0423-33-1-01-01-0000; 25-0423-28-1-01-01-0000; 25-0423-29-1-01-01-0000;
25-0334-04-1-01-01-0000.

Latitude (Center of Project Area): 45.267 **Longitude (Center of Project Area):** -111.731

Total Project Cost: \$46,747

WildTAC Funds Requested for Project: \$46,747

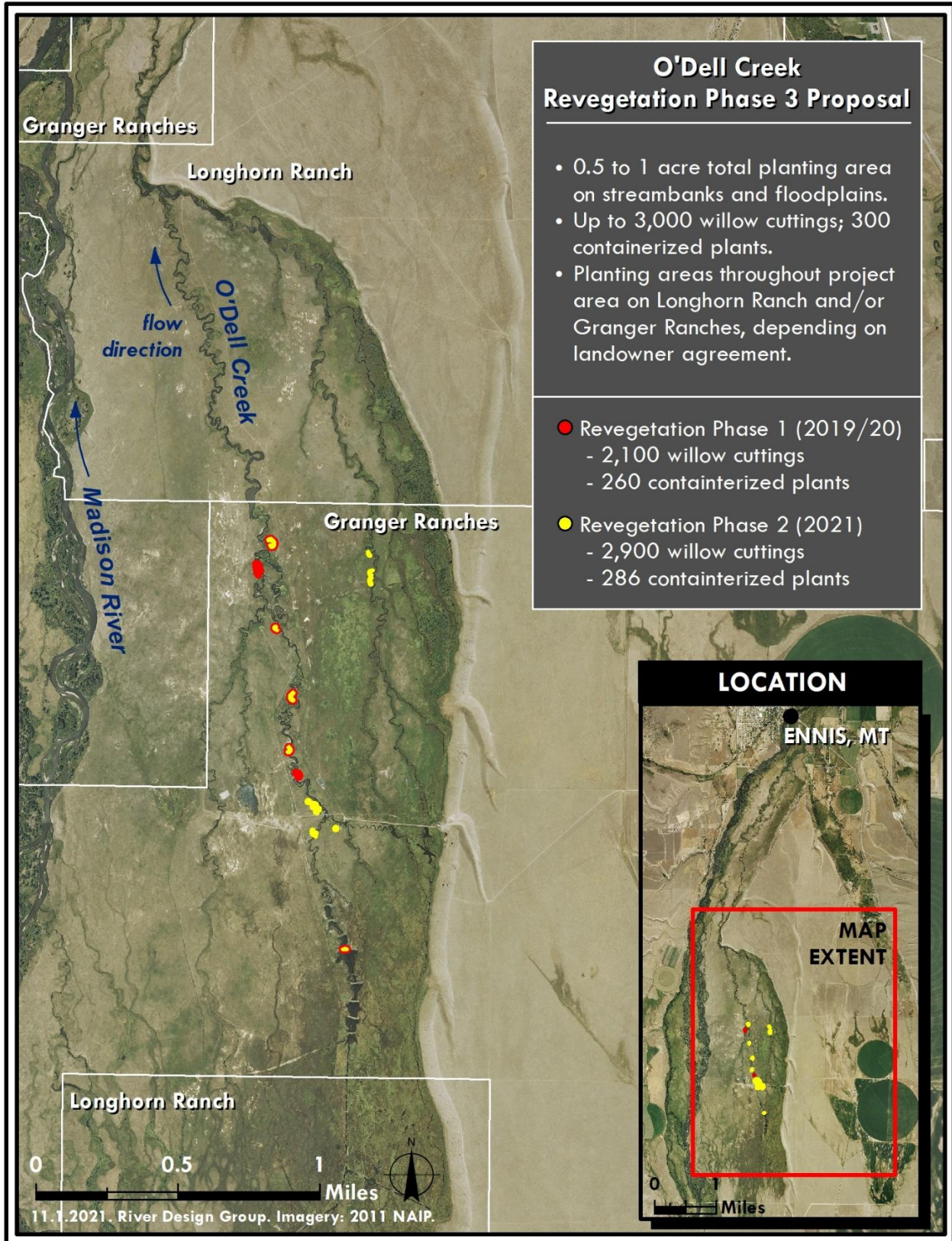


Figure 1. Overview of O'Dell Creek Revegetation Phase 3 area (O'Dell spring creeks on Longhorn Ranch and Granger Ranches), with implemented Revegetation Phase 1 locations highlighted in red, and Revegetation Phase 2 locations highlighted in yellow.

I. Introduction

O'Dell Creek and its spring creek tributaries are important ecological connections to the Madison River, providing a source of cool fresh water to the river as well as a variety of aquatic, riparian and terrestrial habitats that are utilized by a host of plant and animal species. Since 2005, 16 phases of stream and wetland restoration have resulted in the restoration of 15.5 miles of spring creek and 900 acres of wetlands in the O'Dell Creek drainage. While in-stream and wetland habitat have been significantly restored and enhanced over the past 14 years, active vegetation restoration has been limited to planting wetland sod on streambanks and seeding grasses in disturbed areas on floodplains. Passive vegetation restoration techniques have focused on creating appropriate habitat and microsites for vegetation recruitment. While this has resulted in natural recruitment of graminoids (sedges, rushes, grasses), woody vegetation remains lacking through much of the project area streambanks and floodplains. Where present, the woody species which mainly include various willows, are browsed by large resident deer, elk and moose populations and do not grow past two to three feet in height.

Woody riparian vegetation provides stream shading and overhanging streambank vegetation, which reduces stream temperatures and improves cover for aquatic species. Over time, woody vegetation on streambanks also provides a source of large woody debris to the stream, which improves fish habitat conditions by promoting pool formation and aquatic habitat heterogeneity. In addition, woody riparian vegetation serves as a seed source for other floodplain areas and provides habitat for a wide range of avian species and small and large mammals. As seen in vegetation reference reaches downstream of the project area, woody vegetation was likely a large component of the O'Dell Creek riparian system prior to anthropogenic modifications including land clearing for grazing and agriculture. This project aims to restore the vegetation component of the ecosystem to the condition it would have been in had habitat degradation not occurred.

II. Objectives

The prime objective of the O'Dell Creek Revegetation Phase 3 Project is to establish appropriate shrub and tree vegetation communities to portions of the O'Dell Creek Stream and Wetland Restoration Project currently lacking woody vegetation. It builds on the past 2 phases of revegetation work, which occurred between 2019 and 2021. The following are specific objectives designed to achieve the prime objective, with the understanding that full revegetation of the complete project area is a phased, multi-year approach.

1. Design and implement a robust planting plan, utilizing a combination of willow cuttings as well as nursery-grown containerized plants to increase species diversity.
2. Build wildlife browse exclusion fence around plantings to exclude ungulates and allow plants to grow without browse pressure for a minimum of five years.

III. Methods

Methodology incorporates lessons learned from the design and implementation of Revegetation Phases 1 and 2. In Phase 1, frozen ground conditions were encountered in late October due to an uncharacteristically freezing weather pattern, necessitating the remainder of planting and fencing to be completed the following spring. In Phase 2, inclement weather was also encountered in the second week in October. In addition, willows from the willow cutting harvest location just south of the project site were, in general, older than desired. While viable cuttings were found, it took longer than expected to find the quantity and quality of willow cuttings needed for the project.

For Phase 3, implementation will be scheduled for late September. Initial planting site selection from the Project Manager (Ecologist) will be verified and modified on the ground with the landowner(s). Planting sites will be focused on outer meander banks and some interior floodplain areas, and will consider fishing

access and aesthetics, especially as browse-exclusion fencing around plantings is designed to be kept in place for up to five years following planting. In addition, supplemental watering of any plantings is unreliable, therefore upland planting for this phase is not proposed.

Willow cuttings are proposed to be harvested elsewhere than the source south of the project site that was utilized in Phases 1 and 2, if another donor site can be identified. Containerized shrubs, black cottonwood trees, and water birch trees will also be planted along with the willow cuttings to increase diversity in plantings and add vertical structure to the design, but will be a small proportion of the project in relation to the willow cutting component.

Browse protection will be polypropylene enclosure fencing around various-sized units, kept upright with steel T-bars which are easy to transport and install.

IV. Schedule

Depending on contract award and project partner involvement, RDG will initiate design of the Revegetation Phase 3 Project in early 2022. A plan-in-hand walk-through with landowner(s) would occur in Spring 2022, and the project would be implemented in late September 2022.

Table 1. Revegetation Phase 3 Project implementation schedule, for year 2022.

Task	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.
Task 1. Project Management									
Task 2. Project Design									
Task 3. Project Review									
Task 4. Project Implementation									

V. Personnel

RDG will be responsible for project design and implementation oversight. 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 stream and wetland restoration on O’Dell Creek except for Phases 1 and 2. Ms. Selita Ammond, Restoration Ecologist and GIS Analyst, will serve as the project manager and technical lead. Mr. John Muhlfeld, Principal Hydrologist, will review all plans and documents and verify planting design and placement will enhance aquatic and riparian habitat for focal aquatic and terrestrial species.

Implementation of the Revegetation Phase 3 Project will occur with a qualified revegetation contractor such as Forestoration, Inc. who implemented the Revegetation Phase 2 project in 2021, or Basic Biological Services, who installed the Revegetation Phase 1 project in 2019/2020. RDG will provide construction oversight during project implementation to ensure the project meets all specifications and standards outlined in the final design plan.

VI. Budget

The table below includes a not-to-exceed cost estimate to perform the Scope of Work (SOW). The total cost to perform the SOW is \$46,747, which is the WildTAC request.

Cost Estimate: Revegetation Phase 2 Project	
Task 1. Project Management	\$ 960
Coordination with NWE, Owners, Stakeholders	\$ 960
Task 2. Project Design	\$ 3,795
Planset Preparation, In-house Review	\$ 2,835
Design Revisions following Landowner Review	\$ 960
Task 3. On-Site Project Walk-Through	\$ 2,400
Meeting with landowners	\$ 2,400
Task 4. Project Implementation	\$ 37,665
Construction Oversight (RDG)	\$ 7,120
Project Management (Subcontractor)	\$ 1,200
Mobilization, Equipment	\$ 6,800
Browse Protection and Installation	\$ 5,145
Willow Permit, Collection, Delivery	\$ 5,900
Containerized Nursery-grown Plants and Delivery	\$ 4,200
Planting (cuttings and nursery plants)	\$ 7,300
Task 6. Direct Costs	\$ 1,927
Mileage	\$ 782
Per Diem	\$ 245
Lodging	\$ 700
Mapping-grade GPS	\$ 200
Estimated Project Cost	\$ 46,747
Total TAC Funds Requested	\$ 46,747

VII. Deliverables

Project deliverables will include the following:

- Revegetation Phase 3 Final Design Planset; and
- Project Implementation.

The Revegetation Phase 3 Final Design will be summarized in a construction-ready planset, which will include all necessary components required for implementation of the revegetation plan. Success for the project will be monitored in future years by visually estimating percent survivorship of planted willow cuttings and containerized plants.

VIII. Cultural Resources

Cultural resources will not be impacted as the project will result in minimal ground disturbance.

IX. Water Rights

Streams or wetlands will not be impacted with this project, and Montana water rights laws, policies, and guidelines do not apply.