Project Title: **O'DELL CREEK RESTORATION PROJECTS WETLAND AND STREAM MONITORING**

Date: **November 16, 2026**

Applicability to Project 2188 License Article(s)

The O'Dell Creek Restoration Projects 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 20 years of restoration work in the O'Dell Creek headwaters, are specifically referenced in Article 423 (see Updated Five Year 2013-2017 Project 2188 Wildlife Plan). 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.

Justification for Priority 2 Classification

The O'Dell Creek Restoration Projects are classified as Priority 2 2188 license projects. The project areas are located on O'Dell Creek, a major cold-water spring creek tributary to the Madison River, within 0.8 miles of the Madison River, and address limiting factors related to degraded wildlife, wetland and aquatic resources.

Project Sponsor/Submitted By:

SWCA Environmental Consultants, Inc.

Location of Proposed Project

The project is in Madison County approximately three miles south of the town of Ennis, Montana. The project is located on both Granger Ranches, LLC land, and Longhorn Ranch land. The project area spans across Section 4 of Township 7 South, Range 1 West; and Sections 20, 21, 29, 28, and 33 of Township 6 South, Range 1 West.

Geocodes: 25-0423-20-1-01-01-0000, 25-0423-20-4-01-01-0000, 25-0423-29-1-01-01-0000, 25-0423-28-1-01-01-0000, 25-0334-04-1-01-01-0000

Latitude (center): 45° 16' 10.76" North; **Longitude (center):** 111° 44' 14.62" West

Total Project Cost: $71,439

WildTAC Funds (Cost-Share) Requested for Project: $71,439

I. INTRODUCTION

O'Dell Spring Creek and floodplain wetlands are important ecological resources to the Madison River. Over the past 20 years, 19 major phases of restoration work have culminated in the restoration of 19 miles of spring creek and approximately 900 acres wetlands. 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 recognizes the important wildlife habitat gains resulting from permanently protecting and restoring wetland habitats. Accomplishments include:

- Approximately 900 acres of restored wetlands, with over 265 wetland plant taxa detected on restored floodplain surfaces, representing 20% of Montana's wetland flora including 5 rare species. A range of wetland types and wetland plant communities including fens, saline meadows, open water and emergent complex.
- 115 bird species are now documented in the project area compared to 29 species prior to restoration, with 18 Montana Species of Concern.
- The project now supports over 50 over-wintering trumpeter swans following the successful release of juvenile birds in 2012.
- 8 documented species of waterfowl broods compared to 4 species prior to restoration.
- Increasing distribution and abundance of songbirds and wetland-dependent species.
- 20 miles of stream channel restoration, with an estimated ten-fold increase in the availability of adult holding and juvenile rearing habitat compared to pre-restoration conditions.
- Reduction in stream water temperatures due to improvement to channel morphology and hyporheic exchange between surface water and groundwater.

The purpose of the O'Dell Creek Restoration Projects Wetland and Stream Monitoring Project is to complete wetland and stream monitoring throughout the completed restoration phases 5-18 (Figure 1) using a standardized approach that will provide quantitative data on the physical response of the wetland and stream ecosystem to restoration actions, following a minimum of 5 years after restoration project construction. Phases 1-4 were monitored with a different approach and with different objectives. For Phases 5-18, Wetland extent will be monitored through a comprehensive wetland delineation and Unmanned Aerial Systems (UAS, i.e. drone) aerial photography approach. Stream physical monitoring parameters will be collected in the field, including channel bathymetry profiles, cross-sections, Wolman pebble counts, and photo points.

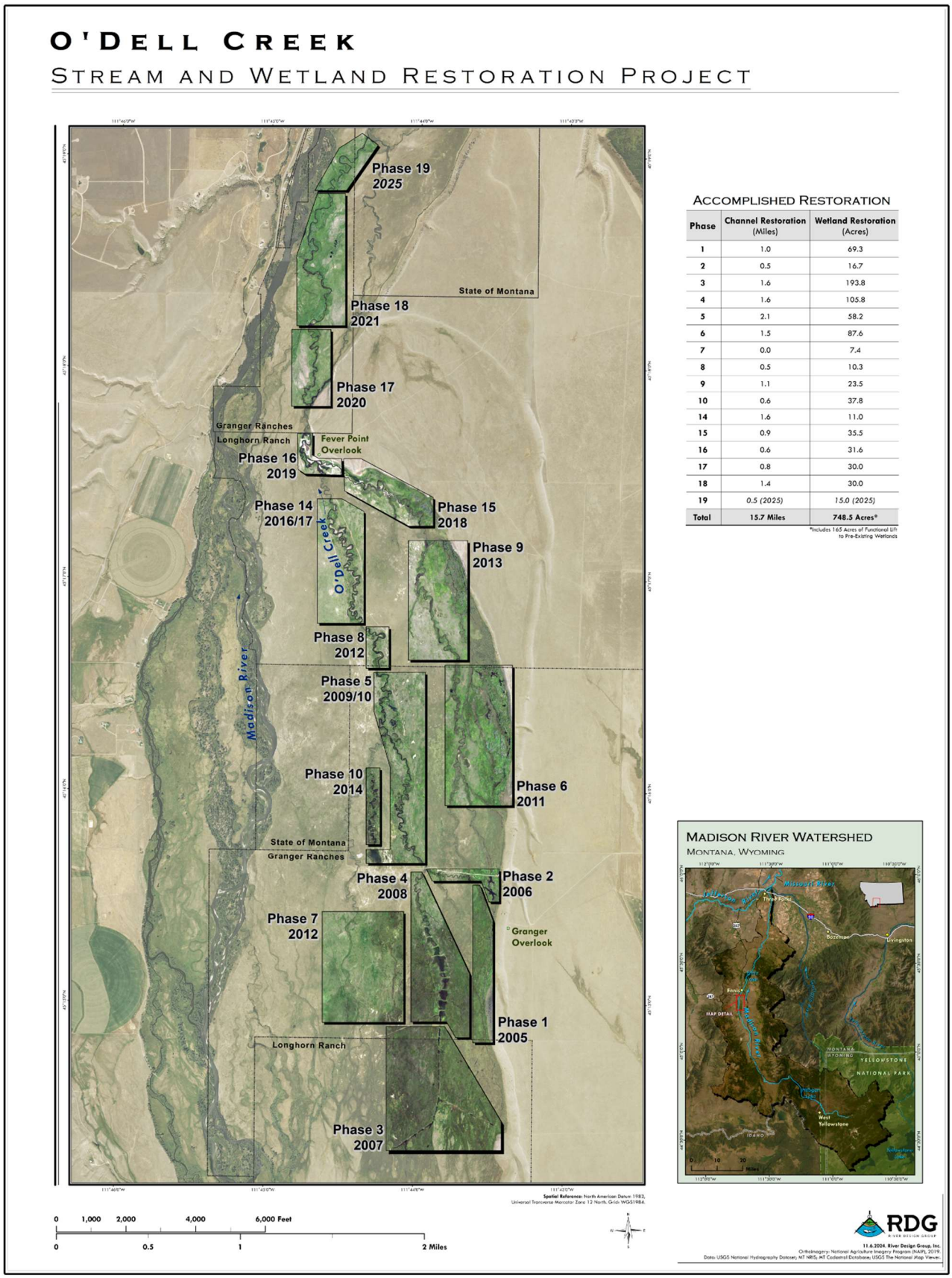


Figure 1. Overview of O'Dell Creek Restoration Projects through 2025. This proposal proposes wetland and stream monitoring on Phases 5 – 18.

II. Objectives

The O'Dell Creek Wetland and Stream Monitoring Project will provide monitoring of wetland extent across projects that are at least 5 years post-construction, to document no-net-loss of wetlands from pre-project conditions to restored post-project conditions. Wetland monitoring will also quantify wetland acreage gains instead of the broad estimates that are currently used in project descriptions. This project will also provide monitoring of physical stream parameters to quantify instream habitat gains from the stream restoration projects.

III. Methods

Wetland monitoring will follow U.S. Army Corps of Engineers (USACE) protocols for wetland delineations, including collection of vegetation, soils, and hydrology data at a minimum of two Wetland Determination Sampling Points per project phase (one paired wetland and upland sampling point per phase). Additional sampling points will be collected if more than one habitat type is encountered in a project phase. Following plot-scale wetland determination, wetland/upland boundaries will be walked and boundary lines will be collected using a mapping-grade GPS unit. Representative boundaries will be collected in the field, and where necessary because of the size of the complete project area, boundaries will be interpolated across the entirety of the project area utilizing UAS/drone high-resolution mapping. Drone flights will be conducted during the field data collection effort by an FAA licensed drone operator following all established protocols. Following drone imagery post-processing to orthophotos, imagery will be utilized to remotely define wetland boundaries to supplement field collection of boundaries.

Restored stream physical monitoring will include RTK GPS surveys of longitudinal profiles as well as cross-sections. Longitudinal profiles will detail the channel profile, and typical cross-sections will include stream bathymetry as well as the collection of water surface, bankfull points, and terrace elevations, and will be collected at typical riffle, run, pool, and glide features for each representative stream type. In addition, Wolman pebble counts and photo points will also be collected throughout project phases 5-18.

Reporting will include a wetland monitoring report and comparison to pre-project wetland extent, and a geomorphic data summary report which will also include channel dimensions and metrics compared to design conditions.

IV. Schedule

SWCA proposes a schedule which includes wetland and stream monitoring in late spring/early summer 2027, which will depend on the Longhorn Ranch and Granger Ranches schedule as well. Wetland monitoring can occur anytime during the growing season, but is preferred in the spring or early summer so wetland hydrology and vegetation expressions are during the peak season. Stream monitoring can occur through the fall if that timing works better for landowners. Reporting and GIS mapping will occur following field data collection, and reporting and map deliverables will be completed by December 31, 2027.

V. Personnel

For wetland monitoring, SWCA proposes an internal team led by Selita Ammondt, PWS, who has performed most of the pre-project wetland delineations. Selita will oversee the wetland monitoring field work performed by two SWCA ecologists, who will also perform drone flights. Stream monitoring will be led by John Muhlfeld, who has been River Design Group's O'Dell Creek project manager since 2005 and has provided design and construction oversight of all projects. Stream monitoring will be conducted by two SWCA geomorphologists. SWCA (formerly RDG) is an approved consultant on NorthWestern Energy's Qualified Vendor's List for stream and wetland restoration services. RDG prepared designs for and implemented all previous phases of restoration on O'Dell Creek apart from Phases 1 and 2.

VI. Budget

Table 1 includes a not-to-exceed cost estimate for both wetland and stream monitoring. The total cost to perform the Scope of Work is $71,438, which includes $34,123 for wetland monitoring, and $37,315 for stream monitoring.

Table 1. O'Dell Creek Wetland and Stream Monitoring Cost Estimate.

Phase 1 - Wetland Monitoring		
Task 1	Project Management	1,484
Task 2	Wetland Delineation Field Work	17,698
Task 3	Wetland Monitoring Reporting	11,348
Task 4	Direct Costs	
	GPS Equipment	184
	Mileage	1,234
	Lodging	1,495
	Per Diem	680
	Total	**$ 34,123**
Phase 2 - Stream Monitoring		
Task 1	Project Management	1,484
Task 2	Stream Monitoring Field Work	14,532
Task 3	Stream Monitoring Reporting	17,784
Task 4	Direct Costs	
	GPS Equipment	1,150
	Mileage	626
	Lodging	1,196
	Per Diem	544
	Total	**$ 37,316**
	Total Cost	**$ 71,439**

VII. Deliverables

Project deliverables will include the following:

- Wetland Determination Report, maps of all results, and a pre-project vs. post-project assessment of wetland extent.
- Geomorphic Data Summary Report, including LP and Cross-Section data, and an interpretation of changes to channel metrics since project implementation.
- Wetland and stream data, and photo points, as digital files.

VIII. Cultural Resources

Not applicable. Cultural Resource considerations for the O'Dell Creek Restoration Project Phases 5-18 have already been addressed in conjunction with each individual stream and wetland restoration project phase.

IX. Water Rights

Not applicable.