Project Title: **O'DELL CREEK PHASE 20 STREAM AND WETLAND RESTORATION PROJECT FLOODPLAIN DEVELOPMENT PERMIT**

Date: **November 16, 2026**

Applicability to Project 2188 License Article(s)

O'Dell Creek Phase 20 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 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 Phase 20 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, within 0.8 miles of the Madison River, and will 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 State of Montana School Trust Land, and leased by Granger Ranches, LLC for livestock pasture. The legal description of the project area is Sections 16 and 17, Township 6 South, Range 1 West.

Geocodes: 25-0423-16-1-01-01-0000
Latitude: 45.316; **Longitude:** -111.741

Total Project Cost: $15,662

WildTAC Funds (Cost-Share) Requested for Project: $15,662

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 Phase 20 project is to improve aquatic habitat conditions of O'Dell Creek and associated riparian wetland functions (Figure 1). This will be accomplished by restoring appropriate channel and floodplain dimensions by lowering channel width-to-depth ratios through island creation and expansion, lowering high streambank terraces to bankfull elevation, and restoring side channels. New floodplain surfaces will be created in over-widened channel areas. Specifically, the goals of this project include: 1) improving aquatic, riparian, and terrestrial habitat diversity for fish and wildlife; 2) reducing channel width-to-depth ratios; 3) creating a complex matrix of variable depth wetlands in over-widened channel sections; and 4) converting areas within the existing upland herbaceous plant communities to wetlands by creating new, lower floodplain surfaces adjacent to O'Dell Creek.

The final design planset has been produced and the Joint Permit Application has been completed under a previous NWE WildTAC project. However, newly published FEMA mapping includes the downstream portion of the Phase 20 project as within Flood Zone AE of the Madison River, which necessitates the development and submittal of a no-rise hydraulic analysis memo to the Madison County Floodplain Administrator. **The purpose of the Phase 20 Floodplain Development Permit Project** is to comply with Madison County floodplain regulations and complete the necessary hydraulic analysis to successfully permit the project with the Floodplain Administrator.

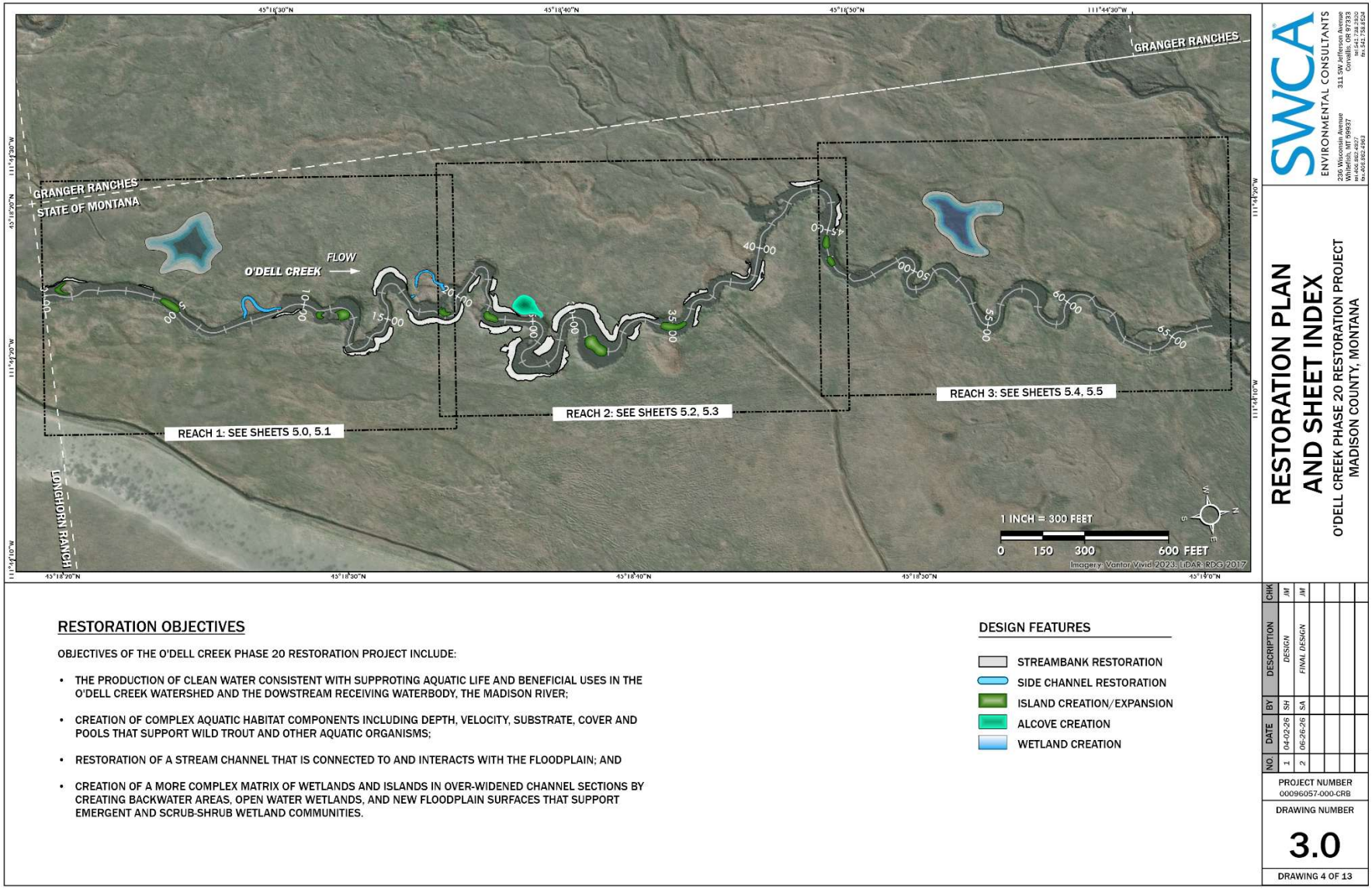


Figure 1. O'Dell Creek Phase 20 Project Restoration Plan.

II. Objectives

The O'Dell Creek Phase 20 project area lies within FEMA National Flood Insurance Program Flood Insurance Rate Map Numbers 30057C1228F and 30057C1240F within Madison County, Montana and Incorporated Areas, with an effective date of December 20, 2024. The objective of the Floodplain Development Permit task is to comply with and conform to Madison County Floodplain Development and FEMA Regulations when working within the FEMA mapped Flood Zone AE.

In addition, the following overall objectives have been developed for the Phase 20 project area in conjunction with the project partners and landowners:

1. Produce clean 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.

III. Methods

This proposal is for completing and submitting the Floodplain Development Permit, which includes a no-rise hydraulic analysis of the restoration project area and a technical memorandum. The modeling, analysis, and Floodplain Development Permit will be completed by SWCA's Professional Engineer licensed in the State of Montana. SWCA will:

1. Schedule and attend a pre-floodplain development permit meeting with the Madison County Floodplain Administrator;
2. Produce a Proposed vs. Existing Conditions HEC-RAS hydraulic model for the project reach;
3. Perform a No-Rise hydraulic analysis to support the floodplain development permit;
4. Produce the following supporting exhibits: hydraulic model inputs/outputs, cross-section plots, and tabulated water surface elevation differences; and
5. Complete a No-Rise hydraulic analysis memorandum which details the study and results, and will be used for the permit application.

IV. Schedule

SWCA is committed to ensuring the Phase 20 restoration project is implemented in Spring 2027. Once funding for the Floodplain Development Permit development is secured, we will work diligently to complete the analysis and submit the permit to Madison County Floodplain Administrator by the end of January 2027. This schedule provides three months between submittal and the start of construction, which allows for construction in May 2027.

V. Personnel

The Floodplain Development Permit will be completed by SWCA's Professional Engineer licensed in the State of Montana, Cassidy Cote, PE. We have completed previous successful floodplain development permitting within Madison County, and will leverage our experience with the Madison County Floodplain Development process to ensure a timely and accurate deliverable.

SWCA (formerly RDG) is an approved consultant on NorthWestern Energy's Qualified Vendor's List for stream and wetland restoration services. RDG prepared and implemented all previous phases of restoration on O'Dell Creek apart from Phases 1 and 2. John Muhlfeld will provide project oversight, and Selita Ammondt, PWS, will facilitate regulatory permitting.

VI. Budget

Table 1 includes a not-to-exceed cost estimate to develop and submit the Phase 20 Floodplain Development Permit. The total cost to perform the SOW is $15,662, which is the total WildTAC request. Assumptions are listed following Table 1.

Table 1. O'Dell Creek Phase 20 Floodplain Development Permit Cost Estimate.

Task	Cost
1. Project Management	
Coordination with NWE and Floodplain Administrator	**$ 1,018**
2. Floodplain Development Permit Development	
Floodplain model, analysis, hydraulic no-rise memo	**$ 14,644**
Total Project Cost/WildTAC Funds Requested	**$ 15,662**

Budget Assumptions:

- Supplemental bathymetry survey for the 1-D hydraulic model is not necessary.
- FEMA Flood Insurance Study (FIS) hydrology will be used and no additional gage/hydrologic analysis is needed.
- The no-rise hydraulic modeling will show a maximum rise of 0.5 ft and no Conditional Letter or Letter of Map Revision (CLOMR or LOMR) will be necessary.

VII. Deliverables

Project deliverables will include the following:

- Floodplain model and no-rise hydraulic analysis memo.
- Floodplain Development Permit preparation and submittal to Madison County Floodplain Administrator.

VIII. Cultural Resources

Not applicable for the Floodplain Development Permit. Cultural Resource considerations for the O'Dell Creek Restoration Project Phase 20 have already been addressed in conjunction with the Design and Permitting project.

IX. Water Rights

Not applicable.