



**AMENDMENT NO. 1
TO PROFESSIONAL SERVICES CONTRACT FOR
CITY OF THREE FORKS FLOOD MITIGATION PROJECT**

This amendment, agreed upon by the City of Three Forks (Client) and Great West Engineering (Engineer), is for the purpose of modifying the said agreement dated March 14, 2023, and previous amendments for professional services as follows:

Add the following additional services:

Amendment No. 1 to Task Order No. 15 Scope of Services (Phase 2 Final Design and Bidding)

Client shall pay Great West Engineering as compensation for Professional Services as follows:


For completion of professional services and reimbursable expenses, Client shall pay services at hourly rates and expenses in accordance with the attached rate schedule (Exhibit A) for a total not to exceed \$558,600.

This amendment increases the previous contract amount from \$202,700 to \$761,300.

The City of Three Forks and Great West Engineering hereby agree to this amendment.

GREAT WEST ENGINEERING, INC.

CITY OF THREE FORKS


 _____ 12/4/2024
 Jeremiah Theys, PE Date

 Authorized Signature Date

Business Unit Manager

 [Print Name & Title]



AMENDMENT NO. 1 TO TASK ORDER NO. 15 SCOPE OF SERVICES CITY OF THREE FORKS FLOOD MITIGATION PROJECT – PHASE 2 FINAL DESIGN AND BIDDING

Project Understanding

The City of Three Forks submitted funding applications to FEMA in January 2022 for the purposes of funding a flood mitigation project to reduce flooding risk from the Jefferson River. The proposed mitigation is a grass-lined channel and culvert crossing improvement project that will intercept flood waters west of Three Forks and divert them back to the Jefferson River before reaching the city. The construction cost is estimated at \$5.5 million; the project would reduce flood risk and remove a large portion of the city from the floodplain.

The city was notified in early August 2022 of their selection for further review under the Flood Mitigation Assistance (FMA) grant program. Further review by FEMA resulted in a Request for Further Information (RFI) related to more detailed information on the environmental resources potentially affected by the project. In order to satisfy the environmental review requirements requested by FEMA, it was necessary for the city to initiate several tasks associated with the project before official award of the grant. Phase 1 of Task Order No. 15 included necessary work on several preliminary design tasks to respond to the RFI request from FEMA. The city received the official funding award in October of 2024 and is ready to begin Phase 2 of the design.

The scope of services described herein includes the final design, permitting, and bidding tasks necessary for the successful completion of the flood mitigation project. Upon completion of the bidding phase and award to a contractor, a separate scope of services and contract amendment will be prepared for the City's consideration that will include construction management and observation services.

Work Tasks

The following tasks are anticipated for this scope of services. Tasks are designated by number; however, the work process involves iterative aspects and may or may not follow in sequential order.

Task 1 – Additional Coordination and Meetings

It is assumed that the monthly project team meetings (virtual) will continue through the design and bidding phase (anticipated to be 12 months). The highway crossing will require coordination with the Montana Department of Transportation (MDT) throughout the design process. It is anticipated that correspondence with the attorneys will be required to secure the permanent landowner easements. In addition to the project team meetings, it is anticipated that an additional 12 meetings (6 in-person and 6 virtual) will be necessary between the landowners, City of Three Forks, Great West, MDT, and stakeholders for the successful implementation of this scope of services.



Task 2 – Additional Field Data Collection

- Two days of supplemental topographic survey are budgeted to ensure that the additional data required by MDT can be appropriately surveyed and incorporated into hydraulic analysis, design, and construction documents.
- Geotechnical services required for structural foundation, pavement design, and soil composition including groundwater depth. Great West will subcontract with a geotechnical consultant to conduct an investigation and evaluation of existing soil conditions at the project site. It is anticipated that a maximum of nine boreholes will be conducted along the project site: Up to five boreholes along the channel and up to four boreholes and the MDT crossing. Advanced public notification, traffic control, and coordination with MDT will be the requirement of the geotechnical subconsultant. The final geotechnical report will provide recommendations for material slope stability and compaction, MDT roadway section design, lateral earth pressures, and structure foundation type and size. Recommendations will meet requirements of the AASHTO LRFD Bridge Design Specifications.
 - The boreholes along the channel alignment will be completed as temporary piezometers. These piezometers will be monitored up to 4 times to collected groundwater depth along the channel alignment.
- Great West will assist the City of Three Forks (City) in coordinating with known utilities for potential relocation activities. A GPS survey conducted during Phase 1 of the project identified two fiber optic lines within the vicinity of the project site. One line crosses Frontage Road to the northwest of the proposed crossing and the other line is directly east of the crossing on Front Street. Great West will coordinate and attend one on-site meeting with utility companies. All fees associated with utility relocates will be the responsibility of the city.

Task 3 – Preliminary Design (60% Design Deliverable)

- Preliminary structure design and calculations for the proposed frontage road crossing will be conducted in accordance with Gallatin County and MDT design manual guidance. The existing roadway corridor will be reviewed. Great West will evaluate sight distances, widths, horizontal and vertical curves, and approach road layouts to determine the optimal crossing structure design and layout for the crossing.
 - It is anticipated that the frontage road can be closed at the crossing, so no additional work related to designing a detour route is included in this scope of services. The traffic control plan will be the responsibility of the selected contractor.
 - The trail crossing will be maintained over the new structure. It is assumed that pedestrian rail will need to be incorporated at the structure outlet and wingwalls to provide pedestrian safety over the crossing.
 - It is assumed the new structure will consist of multiple sided four-sided precast concrete boxes. A deep foundation system is not anticipated. MDT concurrence on the structure layout and road design will be required before advancing the design to the 60% design level.
- Preliminary alternatives for the irrigation crossing will be developed. Either a siphon or an



aerial span crossing will be presented to the irrigators for structure selection.

- Landowner/irrigator selection of the crossing type will be required before advancing the design to the 60% design level.
- The conveyance channel alignment and geometry will be finalized based upon landowner negotiations for easements and the additional field data gathered in task 1.
- Design information will be incorporated into drawings and specifications utilizing the approved preliminary conceptual design. Great West will prepare design drawings and technical specifications in accordance with Montana Public Works Standard Specifications, following Gallatin County and MDT Standards, and in conformance with other applicable County, State, and Federal requirements.
- The plans and specifications will outline the work to be conducted by the contractor, along with the parties' legal responsibilities. The drawings will include the existing and new right-of-way and easements, utility information, plans of the new structures and roadway geometry, foundation, new flood conveyance channel geometry, trail crossing features, irrigation crossing structure, roadway cross sections, channel cross sections, and detail sheets.
- A 60% design level Engineers Opinion of Probable Cost will be developed.
- A draft design report will be prepared to provide, at a minimum, the requirements and design features as outlined in FEMA and MDT guidance. The design report will document the design process including the design criteria, development of engineering parameters, geotechnical conditions, hydraulic conditions, and engineering analyses.
- Great West will submit 60% drawings and specifications to the city and MDT for review and schedule an in-person design review and Plan-in-Hand meeting at the project site. Meeting minutes will be prepared and distributed to all attendees.

Task 4 – Final Design (90% Design and Final Deliverables)

- Based upon comments received from the Preliminary Design submittal and concurrence from MDT and the City, Great West will make the applicable modifications to the plans and specifications.
- The plans and specifications will be incorporated into a construction bid package. This package will include drawings and details, the technical specifications, general conditions, applicable funding agency special conditions, wage rates, and bid documents.
- Great West will submit drawings and construction bid package to the City and MDT for review at the 90% design level and schedule an in-person design review meeting at the project site. Meeting minutes will be prepared and distributed to all attendees.
- Based upon comments received from the 90% Design submittal, Great West will make the applicable modifications to the plans and specifications and work with the appropriate officials to obtain approval and prepare the final documents.
- Great West will submit one electronic copy of the final submittal package to the City and MDT.

Task 5 – Project Permitting

- Floodplain: The hydraulic model developed in Phase 1 will be refined to include the finalized structure and conveyance channel alignment/geometry utilizing the Great West



developed one-dimensional (1D) hydraulic model. The modeling will incorporate both the Madison and Jefferson Rivers to ensure all flood risk scenarios are analyzed. This includes finalizing the worst-case scenario analysis, ensuring the proposed channel and crossing match the finalized and approved geometry, and completing the updated floodway analysis.

- A Conditional Letter of Map Revision (CLOMR) application will be prepared under the phase 1 contract. This amendment will include one round of model revisions to address comment responses received by the MT DNRC, FEMA, or FEMA's contractors. This scope also includes up to two meetings with DRNC and FEMA to discuss the CLOMR application and potential model comments.
- Environmental Permits: In Phase 1, Great West completed a Biological Assessment to document the presence of and potential impacts to plant and animal species of concern within the project area. USFWS issued a Biological Opinion that included avoidance and minimization measures. These recommendations shall be incorporated into the design and permitting process where appropriate.
 - Great West will prepare a Joint Applicant for Proposed Work in Montana Streams, Wetlands, Floodplains, and Other Water Bodies to apply for permits from the following agencies:
 - Montana Department of Fish, Wildlife & Parks (FWP)
 - Montana Department of Environmental Quality (DEQ)
 - U.S. Army Corps of Engineers (USACE)
 - Gallatin and Jefferson County, and Three Forks Floodplain Administrators
 - Additional documentation will be included per floodplain regulation requirements.
 - Based upon the final approved design, Great West will draft a mitigation plan to address wetland impacts from the proposed project. Wetland delineations and the mitigation plan will be included in the Joint Application for Proposed Work in Montana Streams, Wetlands, Floodplains, and Other Water Bodies. It is assumed that the mitigation plan will be to purchase mitigation credits. This scope of services does not include developing a plan for onsite mitigation.
- MDT Permits: A MDT Encroachment Permit will be needed for the structures crossing MT Highway 2 and for construction within MDT R/W. A permit application and supplemental materials will be prepared and submitted through MDT's online encroachment permit portal. Great West will coordinate with MDT to submit additional information and revise the project design, if requested by MDT, to assist in obtaining the Encroachment Permit.

Task 6 – Easement Assistance

- Great West will coordinate with the Attorney working on the easement acquisition. Up to 8 hours of Engineering time are allocated for coordination. An additional 16 hours of GIS time is allocated for developing figures to be used with easement documents as requested by the Attorney.
- It is assumed that two easements will need to be documented and recorded with the County Clerk and Recorder. Great West will hire a Professional Land Surveyor subconsultant to perform a legal boundary survey and develop easement descriptions.



- Great West will prepare the MDT Encroachment Permit for the work completed in the MDT right of way.

Task 7 – Bidding

- Great West will prepare the bid advertisement and assist the city in advertising for and obtaining competitive bids. Great West will prepare and distribute up to 10 sets of plans and specifications to qualified bidders and arrange and attend a pre-bid conference to answer specific project questions from contractors.
- Great West Will address questions from contractors and prepare addendums, if necessary. Great West shall arrange, attend, and conduct a pre-bid conference. The pre-bid conference will include a meeting to go over construction plans and specifications with interested bidders and City/State officials. After the meeting, a site visit of the project site will be conducted for further explanation of the project.
- Great West will attend the bid opening. Great West will review and tabulate all bids and make a recommendation to City regarding the project award. Upon award of the bids, Great West will prepare the Notice of Award, Agreement, and Notice to Proceed forms for use in awarding the project.

Task 8 – Grant and Loan Administration – Phase 2

- Great West will assist the City with the FEMA – FMA grant, the MT DES – Resiliency grant, and the State Revolving Fund loan program administration tasks including loan closing, maintenance of complete and accurate project financial files, review of proposed project expenditures to ensure proper allocation to the project budget, preparing draws from the loan (assume monthly), and monthly coordination calls with SRF, FEMA, and DES.

Construction Administration and Observation – Future Task. This task order will be amended after the project is awarded to a contractor.

Compensation

Great West will complete these services per the costs listed below for each task. Our estimated fee to complete the Flood Mitigation Project Phase 2 tasks is \$558,600. This would be completed on a time and materials basis, not to exceed this amount.

Task	Cost
Additional Coordination and Meetings	\$28,300
Additional Field Data Collection	\$76,100
Preliminary Design (60% Design Deliverable)	\$193,400
Final Design (90% Design and Final Deliverables)	\$99,100
Project Permitting	\$62,200
Easement Assistance	\$47,200
Bidding	\$18,900
Grant and Loan Administration – Phase 2	\$33,400
TOTAL	\$558,600