

Houston-Moore Group, LLC

Task Order No. 21, Amendment 8

DA Purchase Order No. 190510

P3 Request For Proposal Procurement Support

In accordance with the Master Agreement for Professional Services between **Fargo-Moorhead Flood Diversion Authority** ("Owner") and **Houston-Moore Group, LLC (HMG)** ("Engineer"), dated May 1, 2017 ("Agreement"), Owner and Engineer agree as follows:

The parties agree that in the event of a conflict between prior versions of this Task Order No. 21 and this Amendment, the terms and conditions in this Amendment shall prevail, provided however, nothing herein shall preclude Engineer from invoicing for work authorized under prior versions of this Task Order and performed prior to effective date of this Amendment, even to the extent such prior work was revised by this Amendment. All other terms and conditions shall remain the same and are hereby ratified and affirmed by the parties.

The parties agree that an information firewall shall be provided to ensure separation of Public Private Partnership (P3) document information and other HMG work products, such that P3 document information is not available to unauthorized HMG staff, subcontractors or affiliates, and that Houston Engineering, Inc. and Moore Engineering, Inc. are the only firms authorized to work under this Task Order No. 21, unless specified in this task order or an amendment to this task order.

1. Specific Project Data

A. Title: **P3 Request For Proposal Procurement Support**

B. Description: Provide professional services for support of the P3 Request for Proposals (RFP) procurement phase. Services to include technical support, review of and response to: draft RFP comments and Requests for Information (RFI), Phase 8 Model submittals, Innovative Technical Concepts (ITC), Interim Technical Submittals (ITS), final Technical Proposals, and geotechnical field investigation and reporting services.

C. Background:

- i. The Owner and the USACE have entered into a Project Partnership Agreement (PPA) for construction of the Fargo-Moorhead Metro Area Flood Risk Reduction Project (Project) under a Split Delivery P3.
- ii. The Owner intends to issue the P3 RFP to four (4) short listed P3 Proposers in December 2016 for the Design, Construction, Finance, Operation and Maintenance of the Diversion Channel and Associated Infrastructure (DCAI), and the P3 Technical Proposals are due at the end of August 2017.
- iii. The Engineer has provided H&H modeling and detailed design services (Civil, Architectural, Geotechnical, Mechanical, Structural, and Transportation) for the Project, and assistance from the Engineer is required to evaluate P3 RFP, Phase 8 Models, RFIs, ITCs, ITSs, final Technical Proposals, and provide geotechnical field investigation and reporting services.

2. Services of Engineer

A. Draft RFP Comments and RFIs

- i. P3 Proposers may submit RFIs on any provision in the RFP, and the Owner may respond to such questions, requests and comments in each One-on-One Meeting and through updated drafts of the Draft RFP and through Addenda (as applicable).
- ii. P3 Proposers have been given the Project Phase 8 Model to use to develop and check the validity of their DCAI design. Proposers may have specific Phase 8 Model related comments or RFIs.
- iii. Scope of Work
 - 1. If requested by Owner, or Owner's Representative (CH2M), evaluate and respond to technical comments and RFIs requiring expertise in the fields of Civil, Architectural, Geotechnical, GIS, Mechanical, Structural, or Transportation. Prepare maps or other P3 documents as requested by Owner or Owner's Representative to support the P3 procurement.
 - a. Assume Owner or Owner's Representative will request up to two hundred (200) hours of technical comment or RFI evaluation support.
 - b. Amendment 2 adds additional hours in support of the P3 procurement for this subtask.
 - 2. In order to facilitate timely development and use of Proposer Phase 8 Models, Engineer is requested to provide Phase 8 Modeling expertise during the RFP Process to respond to comments, RFIs, and provide technical modeling support when requested by Owner or Owner's Representative.
 - a. Assume Owner or Owner's Representative will request up to two hundred (200) hours of Phase 8 Modeling RFI evaluation support.
 - b. Amendment 2 adds additional hours in support of the P3 procurement for this subtask, including: QA/QC of Phase 8 model to identify differences between existing conditions and project condition models; evaluation of Diversion Inlet tailwater and flood duration; evaluating Manning's n value; tabulating outside water surface elevations; evaluation, survey and generating data sheets of non-WRD side inlets.
 - 3. Perform H&H modeling sensitivity analysis of proposed NDDOT bridges on the Maple River and future Cass County Bridges on the Rush, Lower Rush, and Sheyenne Rivers to determine if planned and future roadway crossing changes could impact Diversion Channel inlet design sizes and requirements.
 - a. Background: The NDDOT will be replacing three (3) Maple River bridges on I-94 and Hwy 10 west of the project. The replacement bridges will be longer, which may change Maple River system flood event flows and water surface elevations, causing changes to flood flow splits between Drain 14 and the Maple River. This flow split changes could impact Diversion Channel inlet design sizes and requirements.
 - b. Incorporate proposed bridge geometry for five (5) NDDOT bridges and ten (10) Cass County bridges into the Phase 9.1 CLOMR Project Conditions model, and perform a road crossing sensitivity analysis using the Red River peak 100-year and 500-year flood events and tributary peak 100-year and 500-year flood events. Document results in a technical memorandum that includes changes to river water surface elevations and flows, along with changes to Diversion Channel inlet design sizes and requirements.

4. Provide support to respond to Proposer Clarification Requests, participate in Proposer one-on-one meetings, conduct reviews of the Technical Requirements, and provide technical information to the PMC during the Procurement.
 5. Update the H&H model to include the current CLOMR model features, current USACE Southern Embankment features, and other geometry updates identified by the Proposers. Conduct a QA/QC of the model geometry to ensure there is consistency between the existing conditions and the with-project geometry and flow files. Flood events include the Tributary Peak 10, 5, 2, 1 and 0.2 percent chance events, Tributary Peak Sheyenne River Standard Project Flood (SPF), Red River Peak 5, 2, 1 and 0.2 percent chance events, and the Red River Peak Diversion Channel Inflow Design Flood (IDF) event. Floodplain mapping will be conducted.
- iv. Deliverables include:
1. Comment or RFI responses within 48 hours of the request or provide a timeline for response. Provide a summary of the type of support provided.
 2. Maps or other P3 procurement related documents.
 3. Technical Memorandum: Sensitivity Analysis of NDDOT and Cass County Highway Road Crossings.
- B. Innovative Technical Concepts
- i. An ITC is a technical or other concept that deviates from the requirements of the Technical Requirements and, at the sole discretion of the Owner, provides equal or better value.
 - ii. Scope of Work
 1. If requested by Owner, or Owner's Representative, evaluate and respond to ITCs requiring expertise in the fields of Civil, Architectural, Geotechnical, Mechanical, Structural, or Transportation professional services. ITC evaluations should include technical advantages or disadvantages of ITC.
 - a. Assume Owner or Owner's Representative will request up to two hundred (200) hours of technical comment or RFI evaluation support.
 - b. Provide support to evaluate Innovative Technical Concepts that deviate from the Technical Requirements.
 - iii. Deliverables include:
 1. Written ITC evaluations.
- C. Interim Technical Submittals
- i. All Proposers will make one ITS. The purpose of the ITS is to allow the Owner and Proposers to confirm a mutual understanding and approach to the Phase 8 model and, enable the Authority to review, on a confidential basis, the Proposers' preliminary designs and, through a one-on-one meeting, provide feedback on such designs and clarify any misinterpretations or ambiguities in the RFP relating to Project design concepts before the Proposers' final submission of their Technical Proposals.
 - ii. Scope of Work
 1. Owner or Owner's Representative will request Engineer to participate in up to sixteen (16) one-on-one meetings.

- a. Assume Owner or Owner’s Representative will request up to four hundred (400) hours of Phase 8 Modeling or other support staff to meet with P3 Proposers.
 - 2. Provide review of up to four (4) P3 Proposer ITS Phase 8 Models.
 - a. Assume up to four hundred (400) hours of Phase 8 Modeling support to evaluate four (4) ITS Phase 8 Models for compliance with the RFP Technical Requirements.
 - 3. Provide expertise in the fields of Civil, Architectural, Geotechnical, Mechanical, Structural, and Transportation to evaluate up to four (4) P3 Proposer ITSs.
 - a. Assume up to two hundred (200) hours of professional services in the disciplines of Civil, Architectural, Geotechnical, Mechanical, Structural, or Transportation to evaluate four (4) ITS submittals for compliance with the RFP Technical Requirements.
 - 4. Provide and set-up four (4) computers in the Owner’s Program Management office for secure use to review hydraulic models submitted with ITSs. This is required in order to maintain ITS confidentiality.
 - a. Owner agrees to compensate Engineer for the use of these computers, software, and associated equipment, and house it in a secure room for the P3 proposal period.
 - b. The agreed to monthly rate per computer, software, and associated equipment is \$145.00, and the budgeted duration is 16 months, September 2017 through December 2018.
- iii. Deliverables include:
 - 1. For each ITS Phase 8 Model evaluation, provide written summary of the evaluation.
 - 2. For each Civil, Architectural, Geotechnical, Mechanical, Structural, or Transportation ITS evaluation, provide written summary of the evaluation.

D. Technical Proposals

- i. P3 Proposers will submit final Technical Proposals at the conclusion of the P3 RFP process, and evaluation of these Technical Proposals is required. Owner may request Engineer evaluation of up to four (4) Technical Proposals.
- ii. Scope of Work
 - 1. Provide review of up to four (4) P3 Proposer Technical Proposal Phase 8 Models.
 - a. Assume up to two hundred (200) hours of Phase 8 Modeling support to evaluate four (4) Technical Proposal Phase 8 Models for compliance with the RFP Technical Requirements.
 - 2. Provide expertise in the fields of Civil, Architectural, Geotechnical, Mechanical, Structural, or Transportation to Evaluate up to four (4) P3 Proposer Technical Proposals.
 - a. Assume up to two hundred (200) hours of professional services in the disciplines of Civil, Architectural, Geotechnical, Mechanical, Structural, or Transportation to evaluate four (4) Technical Proposals for compliance with the Technical Requirements.

iii. Deliverables include:

1. For each Technical Proposal Phase 8 Model evaluation, provide written summary of the evaluation.
2. For each Civil, Architectural, Geotechnical, Mechanical, Structural, or Transportation Technical Proposal evaluation, provide written summary of the evaluation.

E. Geotechnical Services

i. Background

1. AWD-00061 authorized geotechnical field investigations at two bridge crossings of the DCAI. The Right of Entry (ROEs) were expiring on November 25, 2016 for properties at these two bridge locations. In order to maintain schedule, this Authority Work Directive was issued to authorize geotechnical services to begin prior to the execution of the task order agreement, and it is being incorporated into this task order. In addition, P3 Proposers have submitted requests for supplemental geotechnical information. Task Order No. 21 Amendment 0 included an allowance for initial geotechnical work. This amendment modifies the scope of geotechnical work based on the Diversion Authority's Supplemental Geotechnical Investigation Plan.

ii. Scope of Work

1. AWD-00061: Provide geotechnical investigation and associated management services at the proposed Cass County Highway 14 and 38th Street West bridge crossings of the Diversion Channel.
2. P3 Proposers requested supplemental geotechnical information and the Diversion Authority has incorporated those requests into a Supplemental Geotechnical Investigation Plan: Provide up to 110 Standard Penetration Test (SPT) borings and 10 Cone Penetration Test (CPT) soundings, laboratory testing, and associated map and report.
3. Scope of services to include, but is not limited to:
 - a. Per AWD-00061, provide 31 proposed borings at estimated depths, surveyed location of borings, map of boring locations, sample types and quantities, sample testing and test results, and report. For the two (2) bridge sites, include:
 - i. Drilling Plan preparation. Include utility clearances and access coordination.
 - ii. Field Exploration:
 1. Include mobilization to the sites.
 2. Eight (8) Deep SPT Borings: sample every 2.5-ft to a depth of 40-ft, and every 5-ft below 40-ft. Also conduct thin wall tube sampling at depth.
 3. Twenty three (23) Shallow SPT Borings: sample every 2.5-ft to a depth of 15-ft and every 5-ft below 15-ft.
 4. Grout bore holes when boring and sampling are completed.
 - iii. Laboratory Testing: perform the following tests:

1. Moisture Content
 2. Atterberg Limit
 3. Mechanical Sieve-Hydrometer
 4. Unconfined Compression
 5. CU Triaxial Shear Strength
 6. Time-Rated Consolidation
 7. Proctor
- iv. Coordination: For each boring, provide soil classifications, boring log preparation and review, and laboratory test selection.
 - v. Provide a map of the location of the borings in PDF format and shapefile of locations.
- b. Provide additional P3 Proposer requested borings at estimated depths, surveyed location of borings, map of boring locations, sample types and quantities, sample testing and test results, and report per Houston Moore Group Proposal, dated January 25, 2017.
- i. Drilling Plan preparation.
 - ii. Field Exploration:
 1. Coordinate utility clearance with public utilities.
 2. Include mobilization to the sites.
 3. Perform up to 110 Deep SPT Borings in 3 Categories as described in your January 25, 2017 proposal:
 - a. Category A – Deep Borings at Structures
 - b. Category B - Deep borings for the Channel
 - c. Category C – Shallow Borings
 4. Perform up to 10 CPT soundings adjacent to 10 of the deep structure borings to a depth of 50 to 90 ft below existing grade
 5. Install three nested vibrating wire piezometers at three of the boring locations along the alignment and take monthly readings at each of the locations starting in March of 2017 and ending in August of 2017 (total of 6 trips)
 6. Grout bore holes when boring and sampling are completed.
 7. Include materials necessary to complete the work.
 8. Provide traffic control necessary to complete the work.
 - iii. Test Pit Observation – observe four test pit excavations and log soils as they are excavated. Include test pit observation in the final report.

- iv. Laboratory Testing: perform the following tests per category (A, B and C) as defined in your January 25, 2017 proposal:
 - 1. Moisture Content
 - 2. Unit Weight
 - 3. Atterberg Limit
 - 4. Mechanical Sieve-Hydrometer
 - 5. Unconfined Compression
 - 6. CU Triaxial Shear Strength
 - 7. Time-Rated Consolidation
 - 8. Proctor
 - v. Coordination: For each boring conduct site reconnaissance, field exploration instructions, field exploration coordination, provide soil classifications, boring log preparation and review, and laboratory test selection.
 - vi. Reporting: Provide a final report summarizing the field exploration performed, description of the soils encountered including soil boring logs and CPT logs, and results of laboratory testing. Provide soil boring logs as available prior to the final report. Provide a map of the location of the borings in PDF format and shapefile of locations.
 - c. Comply with right of entry and right of way requirements for each property entered.
 - d. Meetings: Meet and coordinate with PMC and Local Sponsors on the development of the soil boring locations and mapping support for the P3 Proposer Requested Supplemental Geotechnical Information.
 - e. Surveying: Provide field and land surveying support for soil borings and Land Surveyor support for piezometer and test pit locations.
- iii. Deliverables include:
- 1. Geotechnical results from borings and soil samples, map, survey, and report.

3. Owner's Responsibilities

Owner shall have those responsibilities set forth in the Agreement.

4. Times for Rendering Services

<u>Phase</u>	<u>Start Time</u>	<u>Completion Time</u>
All Work	January 12, 2017	December 31, 2020
Draft Geotechnical Report	--	April 28, 2017
Final Geotechnical Report	--	May 19, 2017

5. Payments to Engineer

A. Owner shall pay Engineer for services rendered as follows:

I. Compensation for services in Subtasks 2.A through 2.E shall be on a Time and Material basis in accordance with the Standard Hourly Rates shown in Paragraph 14 of the Agreement.

B. Engineer will notify Owner when 80 percent of a subtask budget is expended.

C. Engineer will submit an amendment for additional compensation when 90 percent of a subtask budget is expended, or confirm to Owner that this Task Order can be completed for the remaining budget.

D. Engineer will not perform work beyond 100 percent of a subtask budget without Owner's written authorization.

Subtask (Work Order#)	Activity ID	Current Budget (\$)	Change (\$)	Revised Budget (\$)
2.A Draft RFP Comments and RFIs	PR-11240	413,854	231,350	645,204
2.B Innovative Technical Concepts	PR-11240	46,255	22,740	68,995
2.C Interim Technical Submittals	PR-11240	248,413	0	248,413
2.D Technical Proposals	PR-11240	91,960	0	91,960
2.E Geotechnical Services	PR-11240	1,146,715	-28,194.11	1,118,521
TOTAL		1,947,197	225,896	2,173,093

E. The terms of payment are set forth in Paragraph 15 of the Agreement.

6. Consultants:

A. Braun Intertec Corporation

B. SRF Consulting Group, Inc.

7. Other Modifications to Agreement: None

8. Attachments: None

9. Documents Incorporated By Reference:

A. AWD-00061 Geotechnical Investigation dated November 10, 2016

B. HMG Cost Proposal dated January 25, 2017

C. HMG Cost Proposal dated June 12, 2017

- D. HMG Cost Proposal dated May 22, 2018
- E. AWD-00062 Sensitivity Analysis of NDDOT and Cass County Highway Road Crossings dated December 3, 2019
- F. HMG Cost Proposal dated June 12, 2020

10. Terms and Conditions: Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.
11. Electronic Signatures. **Fargo-Moorhead Flood Diversion Authority** and **Houston-Moore Group, LLC**, agrees that the electronic signature to this **Task Order No. 21, Amendment 8 Work-In-Kind (WIK)** shall be as valid as an original signature of **Fargo-Moorhead Flood Diversion Authority** and **Houston-Moore Group, LLC** and shall be effective to bind the signatories to this **Task Order No. 21, Amendment 8 Work-In-Kind (WIK)**. For purposes hereof: (i) "electronic signature" means a manually signed original signature that is then transmitted by electronic means or an electronic acknowledgment which provides the signatory the ability to validate and affix a digital signature that is then transmitted by electronic means; and (ii) "transmitted by electronic means" means sent in the form of a facsimile or sent via the internet as a portable document format ("pdf") or other replicating image attached to an electronic mail or internet message.

The Effective Date of this Task Order is January 12, 2017.

ENGINEER:

Houston-Moore Group, LLC

Signature

Date

Jeffrey J. Volk

Name

President

Title

DESIGNATED REPRESENTATIVE FOR
TASK ORDER:

C. Gregg Thielman

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Sr. Project Manager

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Signature

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Joel Paulsen

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Executive Director

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TASK ORDER:

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