



MEMORANDUM

**Highway
Department**

Jason Benson, P.E.
County Engineer

Thomas B. Soucy, P.E.
Deputy County Engineer

Blaine Laaveg
Superintendent

TO: Cass County Commission

FROM: Jason Benson, County Engineer *JAB*

DATE: June 12, 2022

SUBJECT: Agenda topic for June 20, 2022 Commission Meeting: Houston Engineering, Inc. Agreement for the design of the Slide Repair on Cass Highway 81 south of 88th Ave S along the Wild Rice River.

Attached are the contract documents for Houston Engineering, Inc. to provide engineering services for the detailed design of the Slide Area on Cass Highway 81 south of 88th Ave S along the Wild Rice River.

This slide is located on the west of Cass Hwy 81 approximately 300 feet south of 88th Ave S along the Wild Rice River. Cass County hired Braun Intertec Corporation to complete Geotech Evaluation Report of this slide area a couple of years ago. An inclinometer was installed which measures the movement and depth of the slide. In the past two years movement has been relatively slow. Unfortunately, this April a significant slide occurred destroying the inclinometers and initiating a repair project that will need to be completed by the fall of 2022.

This slide is directly threatening the west side of Cass 81 along with several utilities parallel the west shoulder between Cass Hwy 81 in the slide area. Century Link has two lines; the first is 2' and the second is 7' from the slide. A force main sewer line that connects the City of Oxbow to the City of Fargo is located 12' from the slide. Cass Rural Water is the furthest away at 17' to the failure location. The shoulder of Cass Highway 81 is 39' from the Slide.

In April 2022, this project was brought to the Cass County Flood Sales Tax Committee for approval of an estimated project of \$1.5 million for Geotech, Design and Construction is the project scope. The Flood Sale Tax Committee requested the Cass County Highway Department seek additional funding from other sources prior to deciding on dedicating any funding. Staff then submitted funding requests to the ND State Water Commission. At the June 7th, 2022 State Water Commission meeting, a total of \$732,950 in state funding was approved for this Cass 81 slide project.

Due to the sanitary sewer force main concerns, the City of Fargo indicated they would be able to cost share with the project. Details for this cost share

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agreement are still being worked out based on the recent funding approval by the State Water Commission.

Besides this engineering agreement, future approvals will be brought to the Cass County Commission for this emergency repair project, to include: cost share agreements with the City of Fargo, contract agreements for the construction work needed for this repair, and a budget adjustment for this work. This project is expected to be bid in July and brought to the Cass County Commission for contract approval in August with a construction completion date of November 2022.

This request is for the engineering services of Houston Engineering, Inc. to complete final plans for this slide repair. The estimated cost of this work is \$30,803.

SUGGESTED MOTION:

Authorize Chairperson to sign purchase order and contract documents with Houston Engineering, Inc. for Engineering Services for the Detailed Design of the Slide Area along Cass Highway 81 south of 88th Ave S Subject to State's Attorneys Approval.

CASS COUNTY GOVERNMENT ENGINEERING SERVICES AGREEMENT

Project Numbers and Locations: Cass County Highway 81 Slide Repair on the Wild Rice River South of 88th Ave S

Type of Project: Engineering services for the detailed design of the Slide Repair on Cass County Highway 81 on the Wild Rice River South of 88th Ave S.

Type of Construction: Road Reconstruction and Emergency Slide Repair

THIS AGREEMENT is entered into by and between Cass County, herein after known as the County, and Houston Engineering, Inc., of Fargo, North Dakota hereinafter known as Engineer.

I.

The Engineer shall perform the needed detailed construction design services only per Request for Proposal.

II.

The County will pay the Engineer as follows:

A. Maximum Payment: The total contract cost not to exceed \$30,803 unless changed according to Section VI.

III.

The work under this agreement shall be performed as required to meet the project requirements and the contractor's work schedule.

IV.

Duly authorized representatives of the County, North Dakota Department of Transportation, and Federal Highway Administration (FHWA) shall have right to inspect and copy the Engineer's plans, files, and records relating to the work included in this agreement.

All books, documents, papers, accounting records, and other evidence pertaining to the cost incurred under the agreement shall be retained by the Engineer and available for inspection by the County, North Dakota Department of Transportation, or FHWA for a period of three years after the date of final payment.

The files and records shall be available in the Engineer's office located at Houston Engineering, Inc.

V.

The Engineer warrants that he has not employed or retained any company or person, other than a bona fide employee working solely for the Engineer, to solicit or secure this agreement, and that he has not paid or agreed to pay any company or person, other than bona fide employees working solely for the Engineer, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this agreement. For breach or violation of this warranty, the County and North Dakota Department of Transportation shall have the right to annul this agreement without liability, or to deduct from the agreement price or consideration or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

VI.

No change in the type or extent of the work to be performed by the Engineer shall be made except by supplemental agreement in writing between the County and the Engineer. The supplemental agreement shall set forth the proposed changes of work, extension of time for preparation of the plans, and adjustment to the fee to be paid by the County to the Engineer, if any. On federal-aid participating projects any supplemental agreement must be approved by the North

Dakota Department of Transportation.

VII.

This agreement may be terminated by the County and North Dakota Department of Transportation at any time upon written notice to the Engineer. In the event that such termination should take place before the completion of the total work to be performed hereunder the County will pay the Engineer for the completed hourly work not to exceed the total work to be performed under this contract.

In the event that the termination of this agreement is not the fault of the Engineer the County shall compensate the Engineer for services performed prior to the termination, along with reimbursable expenses then due.

The original copies of all drawing, prints, plans, and field notes prepared by the Engineer prior to termination shall become the property of the County. Such termination shall not affect any legal right of the County against the Engineer for any breach of this agreement.

The design services done as a result of this agreement are intended for use only on the project that is the subject of this agreement. The design services are not intended to be used on other projects. In the event that the County uses the design services that are the subject of this agreement on another project the use of the design services will be at the County's own risk.

VIII.

The Engineer shall indemnify, save, and hold harmless the County and/or North Dakota Department of Transportation and employees thereof, from any and all claims, demands, actions arising out of the negligent acts, errors, or omissions of the Engineer, his employees, or agent, in the performance of the agreement, or matters incidental thereto.

Any and all persons employed directly or indirectly by the Engineer who are engaged in the performance of any work or services required of the Engineer under this agreement shall be considered employees of the Engineer only and not of the County or North Dakota Department of Transportation.

The Engineer shall comply with applicable federal state and local laws together with all applicable ordinances and regulations applicable to the work. He shall procure all licenses, permits, and other rights necessary for the fulfillment of his obligations under this agreement.

The appropriate professional engineer (P.E.) and/or land surveyor (L.S.) endorsement shall be placed on all documents, plans, or plats.

The Engineer shall comply with Title VI of the Civil Rights Act of 1964, Executive Order 112246 and Executive Order 11375. In accordance with the aforementioned act, no person in the United States shall, on the grounds of race, color, religion, sex, age, handicap, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under this agreement.

IX.

The services of the Engineer to be performed hereunder are personal and shall not be assigned, sublet, or transferred, except specialized services or additional work items. If the specialized services or additional work exceeds \$10,000.00, the contract with the agency or firm doing the work shall contain all the provisions of this agreement. The Engineer shall not engage, on a full-or part-time or other basis during the period of this agreement, any professional or technical personnel who are or have been at any time during the period of the agreement in the employment of the FHWA, the North Dakota Department of Transportation, or the County, without the written consent of the public employer of such person.

X.

The Engineer shall obtain all risk record protection insurance to cover the loss of all survey notes or all other records or

data obtained in connection with the work.

XI.

The Engineer is advised that his or her signature on this contract and/or agreement certifies that the company or any person associated with it is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three years; and has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction on any matter involving fraud or official misconduct within the past three years.

ATTESTED:

COUNTY OF CASS

County Finance Director

Chairperson, Board of County Commissioners

Date

Houston Engineering, Inc.

Date



PURCHASE ORDER

PAGE: 1
 P.O. NO.: 151415
 DATE: 06/15/22

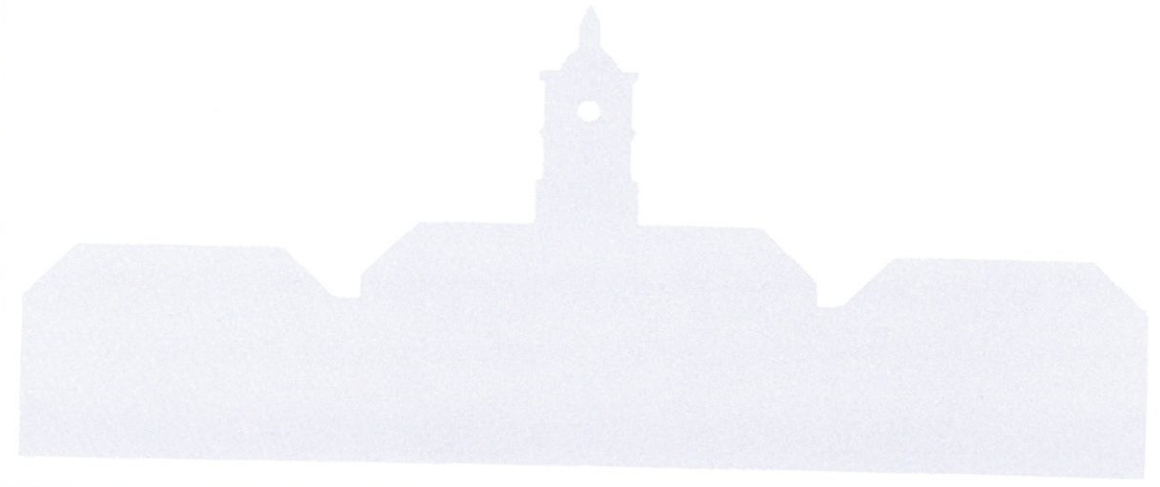
N.D. Sales Tax Exempt No. E-3009

HOUSTON ENGINEERING
 1401 21ST AVENUE NORTH
 FARGO, ND 58102

SHIP TO: CASS COUNTY GOVERNMENT
 COUNTY ENGINEER
 1201 WEST MAIN AVENUE
 WEST FARGO, ND 58078

| | | | | | |
|------------|--------------|--------------------|---|-----------|---------------|
| VENDOR NO. | | 879 | | | |
| DELIVER BY | SHIP VIA | F.O.B. | TERMS | | |
| 06/15/22 | | | NET | | |
| CONFIRM BY | | CONFIRM TO | | | |
| | | HALLAND, SHARI K | | | |
| | | REQUISITIONED BY | | | |
| | | JASON BENSON | | | |
| FREIGHT | CONTRACT NO. | ACCOUNT NO. | PROJECT | | |
| | | 211-4001-431.33-01 | CH2012HOUSTON | | |
| | | | REQ. NO. | | |
| | | | 06/15/22 | | |
| | | | REQ. DATE | | |
| LINE NO. | QUANTITY | UOM | ITEM NO. AND DESCRIPTION | UNIT COST | EXTENDED COST |
| 1 | 30803.00 | EA | SLIDE AREA ON CASS 81 SOUTH OF 88TH AVE S | 1.0000 | 30803.00 |
| SUB-TOTAL | | | | | 30803.00 |
| 30803.00 | | | | | |

CASS COUNTY
GOVERNMENT



AUTHORIZED BY _____ COUNTY OFFICIAL

June 8, 2022

Tom Soucy
Cass County Highway Department
1201 Main Avenue West
West Fargo, ND 58078

**Subject: Engineering Design Services
Cass Highway 81 and 88th Ave. S. Slide Repair
Wild Rice River
HEI 6006_0149**

Dear Mr. Soucy:

Thank you for the opportunity to submit this proposal for engineering services for the repair of a slide located along Highway 81 where it parallels the Wild Rice River near 88th Ave. South.

BACKGROUND

It is our understanding that there are two slides in the vicinity of the Wild Rice River bridge that have occurred. The focus of this proposal is the South slide only, near 88th Ave. South. The subject slide has exhibited movement in the past, but the movement has expedited significantly in recent weeks due to wet conditions and continued high water levels in the river.

The site is further complicated in the fact that multiple utilities are located near the top (western) edge of the slough. It is our understanding that there is a fiber line, Cass Rural Water, as well as a sanitary force main that serves the City of Oxbow. Failure of any of these lines would be significant, but especially the force main due to the number of individuals served as well as the expense to fix a larger force main.

Some geotechnical analysis has been completed by Braun. They have evaluated two options, one including a flattened slope utilizing significant amounts of riprap to help stabilize and improve the factor of safety of the site. The second option would utilize structural improvements, a large sheet pile or structural wall to help improve the factor of safety. At this time, it is not known which option will be selected but for the sake of estimating engineering services, we are assuming the structural wall option as that would likely entail more engineering and plan preparation and therefore be more conservative. .

ENGINEERING SERVICES

1. Prepare Preliminary repair plans (concept level) for general review and approval of the selected option. The design will be based on information as provided by the geotechnical consultant.
2. Additional survey (as required) to pick up any additional information required for detailed design. Survey was completed of the existing roadway slope, however due to continued high water levels, the river itself could not be accurately surveyed. The riprap/slope flattening option would require more

Mr. Tom Soucy
June 8, 2022
Page 2

detailed survey to be completed to accurately determine the amount of riprap required. This survey has also been included in this proposal.

3. Prepare final plans based on comments from the concept level plan as well as any changes because of the additional survey and refined geotechnical analysis.
4. Assist the County in preparing a bid package (specifications, OPC, etc.). The preparation of any bidding documents as well as completing the bidding process would be completed by the County.

SERVICES BY OTHERS

1. We assume that HEI will assist in completing the USACE 404 permit application. The permit will be submitted by the County. Any additional permitting would be completed by the County or by HEI at our hourly rates.
2. Geotechnical borings and analysis
3. Cultural resource work will be completed by the County.

METHOD OF PAYMENT

We propose to provide the engineering services described in Items 1 through 4 above on an hourly basis (as needed) in accordance with the attached 2022 fee schedule up to a maximum of \$30,803

We propose to submit monthly invoices for payment based on work completed.

TIME SCHEDULE

We understand that the county is acquiring funding help from the State and therefore the repair may be subject to additional guidelines and restrictions as imposed by the funding rules. At this time, we have not included any additional requirements in our estimate for significant changes because of utilizing this funding, but we are not aware of any significant changes at this time. We are anticipating that this work would be done as soon as the survey could be completed with an estimate of late summer/fall construction.

Sincerely,

HOUSTON ENGINEERING, INC.



Jeremy L. McLaughlin, MBA, PE, Vice President

Houston Engineering Inc.

Estimated Hours and Fees

STRUCTURE DESIGN AND PLAN PREPARATION

Cass County

CR 81 Slide Repair

6/7/2022

HEI Project No.6006-0149

| Task No. | Classification | Engineer 12 | | Engineer 8 | | 2-Person Survey Crew | | Tech. or CAD | | Total | Total |
|------------------------------|--|-------------|-------------------|------------|--------------------|----------------------|-------------------|--------------|-------------------|--------------|--------------------|
| | Hourly Rate | \$221.00 | | \$184.00 | | \$197.00 | | \$111.00 | | Hours | Labor Cost |
| | Task Description | Hours | Cost | Hours | Cost | Hours | Cost | Hours | Cost | | |
| 1.0 | Project Management | | | | | | | | | | |
| 1.1 | Project Coordination, Management, and Misc. Meetings | 16 | \$3,536.00 | 4 | \$736.00 | | \$0 | | \$0 | 20 | \$4,272.00 |
| | | 16 | \$3,536.00 | 4 | \$736.00 | 0 | \$0 | 0 | \$0 | 20 | \$4,272.00 |
| 2.0 | Field Investigation | | | | | | | | | | |
| 2.1 | Field Investigation | 0 | \$0.00 | 2 | \$368.00 | 10 | \$1,970 | 0 | \$0 | 12 | \$2,338.00 |
| | | 0 | \$0.00 | 2 | \$368.00 | 10 | \$1,970 | 0 | \$0 | 12 | \$2,338.00 |
| 3.0 | 90% Plan Submittal for Review | | | | | | | | | | |
| 3.1 | 90% Plans and Review | 2 | \$442.00 | 50 | \$9,200.00 | | \$0 | 60 | \$6,660 | 112 | \$16,302.00 |
| | | 2 | \$442.00 | 50 | \$9,200.00 | 0 | \$0 | 60 | \$6,660 | 112 | \$16,302.00 |
| 4.0 | Final Plan Submittal | | | | | | | | | | |
| 4.1 | Respond to 95% Comments | 1 | \$221.00 | 5 | \$920.00 | | \$0 | 10 | \$1,110 | 16 | \$2,251.00 |
| 1.2 | Prepare Specifications | 1 | \$221.00 | 8 | \$1,472.00 | | \$0 | | \$0 | 9 | \$1,693.00 |
| 4.3 | 100% Plans and Review | 2 | \$442.00 | 10 | \$1,840.00 | | | 15 | \$1,665 | 27 | \$3,947.00 |
| | | 4 | \$884.00 | 23 | \$4,232.00 | 0 | \$0 | 25 | \$2,775 | 52 | \$7,891.00 |
| Total Hours and Costs | | 22 | \$1,326.00 | 79 | \$13,800.00 | 10 | \$1,970 | 85 | \$9,435 | 196 | \$26,531.00 |
| Direct Labor Costs | | | \$4,862.00 | | \$14,536.00 | | \$1,970.00 | | \$9,435.00 | | \$30,803.00 |
| | | | | | | | | | | Total | \$30,803.00 |



MEMORANDUM

TO: Cass County Flood Sales Tax Committee

FROM: Jason Benson, Cass County Engineer *FOR: [Signature]*

DATE: April 14, 2022

SUBJECT: Agenda Item for April 18, 2022, Flood Sales Tax Committee Meeting: Request for funding for Cass 81 – Slide Repair on Wildrice River.

**Highway
Department**

Jason Benson, P.E.
County Engineer

Thomas B. Soucy, P.E.
Deputy County Engineer

Blaine Laaveg
Superintendent

This slide is located on the west of Cass Hwy 81 approximately 300 feet south of 88th Ave S along the Wildrice River.

Cass County hired Braun Intertec Corporation to complete Geotech Evaluation Report of this slide area a couple of years ago. An inclinometer was installed which measures the movement and depth of the slide. In the past two years movement has been relatively slow. But in recent days it has increased to the point where the inclinometer not functioning moved approximately 10' towards the river.

Utility Issues: Several utilities parallel the west shoulder between Cass Hwy 81 in the slide area. Century Link has two lines; the first is 2' and the second is 7' from the slide. A force main sewer line that connects the City of Oxbow to the City of Fargo is located 12' from the slide. Cass Rural Water is the furthest away at 17' to the failure location. They also recently installed a valve to reroute their water supply in the event of failure. The shoulder of Cass Highway 81 is 39' from the Slide. A Sprint Fiber Optic communication line is located on the east side of Hwy 81.

A site visit meeting was held with the Utilities, Consultants, City of Fargo & Cass County on April 13th of 2022 to discuss the options. Options from flattening the slope to constructing a sheet pile wall and anchor tiebacks to stabilize the area were discussed.

Houston Engineering, Inc. and Braun Intertec Corp. are evaluating and fast tracking the design options for Cass County and the City of Fargo to consider.

An estimate of \$1.5 million for Geotech, Design and Construction is the project scope. The City of Fargo indicated they would be able to cost share with the project. Details for this are still being worked out.

SUGGESTED MOTION: Approve the Cass Highway 81 Slide Repair Project estimated at \$1,500,000 using Flood Sales Tax dollars at 75% or \$1,125,000.

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Fax: 701-298-2395

Cass Hwy 81 –Slide Repair – WildRice River



SUGGESTED MOTION: Approve the Cass Highway 81 Slide Repair Project estimated at \$1,500,000 using Flood Sales Tax dollars at 75% or \$1,125,000.



Cass Hwy 81 –Slide Repair – WildRice River



SUGGESTED MOTION: Approve the Cass Highway 81 Slide Repair Project estimated at \$1,500,000 using Flood Sales Tax dollars at 75% or \$1,125,000.



Cass Hwy 81 Slide Repair – Wild Rice River





Cass Hwy 81 –Slide Repair – Wild Rice River





Cass Hwy 81 –Slide Repair – Wild Rice River