

REQUEST AUTHORIZATION FOR MAYOR AND FINANCE OFFICER TO SIGN PROFESSIONAL SERVICES AGREEMENT OR AMENDMENT

Date: 6/11/2020

Project Name & Number: Analysis of Federal Emergency Management Agency (FEMA) Special Flood Hazard Areas (SFHA) Meade/Hawthorne Drainage Basin, Project Number 18-2458 **CIP#:** 51190

Project Description: To provide professional engineering services related to the preparation of detailed hydrologic and hydraulic analyses, Letter of Map Revision (LOMR) to SFHA's identified in the current National Flood Insurance Rate Maps and recommendations for drainage infrastructure projects within the Meade/Hawthorne Drainage Basin to reduce current flood risks.

Consultant: Advance Engineering and Environmental Services, Inc. (AE2S)

Original Contract Amount: \$164,272.00	Original Contract Date: 1/22/19	Original Completion Date: 12/31/19
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Addendum No: 2

Amendment Description: The Amendment to the Agreement includes adjustment of the project schedule and additional and/or modified project tasks determined to be necessary including hydraulic/hydrologic models for mapping and stormwater infrastructure evaluation, FEMA LOMR review comments and a web-based informational meeting not contemplated in agreements to date, as reflected in Exhibits A and B. The new contract completion date shall be July 30, 2020.

Current Contract Amount: \$164,272.00	Current Completion Date: April 30, 2020
Change Requested: \$18,097.00	
New Contract Amount: \$182,369.00	New Completion Date: July 30, 2020

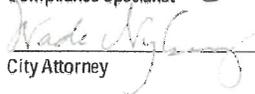
Funding Source This Request:

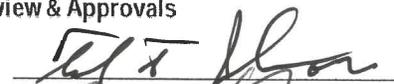
Amount	Dept.	Line Item	Fund	Comments
\$182,369.00	7402	4223	609	Stormwater
\$18,097.00				
\$182,369.00	Total			
\$18,097.00				

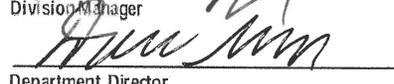
Agreement Review & Approvals

 6-11-2020
Project Manager Date

 6-16-20
Compliance Specialist Date

 6-15-2020
City Attorney Date

 6-16-20
Division Manager Date

 6-16-2020
Department Director Date

ROUTING INSTRUCTIONS

Route two originals of the Agreement for review and signatures.
Finance Office - Retain one original
Project Manager - Retain second original for delivery to Consultant
cc: Public Works
Engineering
Project Manager

FINANCE OFFICE USE ONLY

(Note to Finance: Please write date of Agreement in appropriate space in the Agreement document)

	Date	Initials	Approved
Appropriation	6/14/20	[Signature]	Y N
Cash Flow			Y N

AMENDMENT NO. 2 TO AGREEMENT

Project: Analysis of FEMA SFHA Meade/Hawthorne Drainage Basin
Project No. 18-2458 / CIP 51190

Background Data: Effective Date of Agreement: January 22, 2019
Owner: City of Rapid City
Engineer: AE2S

Nature of Amendment:

The Amendment to the Agreement includes adjustment of the project schedule and additional and/or modified project tasks determined to be necessary including hydraulic/hydrologic models for mapping and stormwater infrastructure evaluation, FEMA LOMR review comments and a web-based informational meeting not contemplated in agreements to date, as reflected in Exhibits A and B. The new contract completion date shall be July 30, 2020.

Current Contract Amount: \$164,272.00

Change Requested: \$ 18,097.00

New Contract Amount: \$182,369.00

Owner and Engineer hereby agree to modify the above referenced Agreement as set forth in this Amendment. All provisions of the Agreement not modified by this or previous Amendments remain in effect. The effective date of this Amendment is:

_____.

CITY OF RAPID CITY:

Engineer:

By: _____
Steve Allender, Mayor

By: _____
AE2S

Date Signed: _____

Date Signed: 6/11/2020

ATTEST:

By: _____
Pauline Sumption, Finance Officer

Date Signed: _____



**EXHIBIT A
SCOPE OF SERVICES
AMENDMENT NO. 2 TO EXISTING CONTRACT**

**Analysis of FEMA SFHA Meade/Hawthorne Drainage Basin
Project No. 18-2458 / CIP 51190**

The City of Rapid City has requested an amendment to the original contract for professional services for the Meade/Hawthorne Drainage Basin.

The proposed amendment for the Meade/Hawthorne Drainage Basin consists of:

1. Revising the scope to reflect:
 - a. Additional effort to support obtaining a FEMA Letter of Map Revision (LOMR) associated with:
 - i. Revising the hydrology and hydraulics approach from the original contract.
 - ii. FEMA requesting additional documentation beyond the documentation requested on previously approved LOMRs.
 - b. Additional effort to support the DBDP evaluation associated with:
 - i. Revising the hydrology approach from the original contract.
 - ii. Preparing an opinion of probable cost update for a DBDP alternative developed by others in 2004.
2. Revising the schedule to reflect delays by FEMA in reviewing and providing comments on the Letter of Map Revision (LOMR) submittal made on October 1, 2019.

The City requested that Advanced Engineering and Environmental Services, Inc. (AE2S) submit an amendment to the existing contract for these additional services.

AMENDED PROJECT SCOPE

AE2S will complete the additional or modified tasks as part of this amendment. Task and subtask numbering are consistent with the original contract. Modified scope items are in ~~strike-out~~ and *italics*.

TASK 1 - MEETINGS AND PROJECT MANAGEMENT:

- 1.1 Meetings – Prepare for, attend, take and distribute minutes for the following meetings:
 - ~~D. Floodplain – Public Informational Meeting to Present Floodplain Revisions and Information on Property Owner Improvements to Reduce Flood Risk~~ *Floodplain and Drainage Basin Design Plan – Web-based informational meeting that will be recorded and posted to the City's website.*

TASK 2 - DATA COLLECTION:

No additional services.

TASK 3 - HYDROLOGIC ANALYSIS:

- 3.7 Modify hydrologic model developed in Task 3 of the original contract to reflect the effective FEMA peak flows for use in FEMA LOMR submittal.
- 3.8 Determine flow split between Meade Street surface flow, Meade concrete channel east of Elm Avenue and south of Meade Street, and existing Meade St. box culvert from Elm Avenue to Meade-Hawthorne channel that begins just east of Haines Court extended.

TASK 4 - HYDRAULIC ANALYSIS AND MAPPING:

- 4.4 ~~Complete floodway encroachment analysis meeting City and FEMA standards for maximum elevation rise. Floodway will be defined for the portion of the Meade/Hawthorne Channel northeast of the Meade Street / Haines Court intersection (upstream end) to the mouth at Rapid Creek (downstream end).~~
- 4.5 Provide QA-QC of hydraulic analysis and floodplain/~~floodway~~ mapping.
- 4.6 Adjust revision area for floodplain mapping for submittal to FEMA from the upstream end of the Meade channel just east of Haines Court to Saint Anne Street to reflect survey data collected in Task 2 of the original contract and the City's box storm sewer / culvert under Meade Street.
- 4.7 Input flow split values determined as part of the amended Task 3 into the revised hydraulic model.
- 4.8 Develop 100- and 500-year floodplain mapping for the reach that extends from the upstream end of the Meade channel just east of Haines Court to Saint Anne Street

TASK 5 - FEMA DOCUMENTATION:

No additional tasks except providing additional effort for responding to FEMA comments on the LOMR application, as outlined in Task 5.6.

- 5.6 *Additional effort to respond to FEMA comments beyond original contract scope.*
- 5.8 Prepare zoomed-in 8.5"x11" maps of the revised floodplain area along Meade Street for use in mailings prepared by the City.

TASK 6 - DRAINAGE INFRASTRUCTURE EVALUATION AND RECOMMENDATIONS:

- 6.3 ~~Prepare cost-benefit analysis using FEMA approved standards and FEMA's BCA Tool for two of the three alternatives (alternatives to be determined after meeting with City). Prepare cost-benefit analysis using comparison of improvement cost to value of structures protected in the 10-, 50, and 100-year events for two alternatives.~~
- 6.5 Revise hydrologic model to reflect infiltration parameters outlined in City's Infrastructure Design Criteria Manual (IDCM) versus the parameters that reflect the unique conditions that are present in the Black Hills that is reflected in Task 3 of the original contract.

- 6.6 Revise hydraulic model developed in Task 4 of the original contract to reflect the revised flows developed as part of Task 6.5 in order to develop revised inundation mapping necessary to complete Task 6 of the original contract.
 - A. Revise flow values that are input into RAS (total of about 50 flow change locations each for 10-, 50-, 100-, and 500-year events)
 - B. Complete split flow analysis in HEC-RAS to determine final flow splits between various reaches in the Meade-Hawthorne basin (e.g. between Meade-Hawthorne channel and Meade Street).
 - C. Create revised inundation mapping with the updated flows.
- 6.7 Prepare an opinion of probable cost (OPC) for improvements outlined in the “Elm Avenue Drainage Study and Preliminary Storm Sewer Design”, Rapid City Project No. DR03-1333, that are east of Elm Avenue, north of Meade Street, and south of St. Patrick Street, and west of Oak Avenue. The purpose of this OPC is to serve as a comparison to the recommended and alternative DBDP improvements in this same area developed as part of this project (18-2458).
- 6.8 Prepare map comparing current 100-year flooding risk to proposed 100-year flooding risk for the city block that includes Peace Lutheran Church.

AMENDED PROJECT SCHEDULE

Below are the modified timeframes for each phase of work based on the Scope of Services dates.

Added in **bold**. Modified deadlines in ~~strike-out~~ and *italics*

Contract Negotiations Complete.....	January 4, 2019
Final Rapid City Council Authorization NTP.....	January 25, 2019
Preliminary Mapping and Study Report	April 30, 2019
Preliminary Results Meeting.....	May 15, 2019
FEMA LOMR Documentation	June 15, 2019 <i>October 1, 2019</i>
Drainage Improvement Recommendations bounded by	
St. Anne-Meade St-Elm Ave-Maple Ave.....	November 12, 2019
Drainage Improvement Recommendations (All)	August 31, 2019 <i>November 27, 2019</i>
DBDP Meeting.....	December 9, 2019
Project Completion Date.....	April 30, 2020 <i>July 30, 2020</i>

EXHIBIT B

Analysis of FEMA SFHA Meade/Hawthorne Drainage Basin
 Project No. 18-2458 / CIP 51190, Amendment 2
 Advanced Engineering and Environmental Services, Inc.
TASK SCHEDULE
 06/09/2020

Meade Hawthorne Drainage Basin		Task Cost
TASK	Task 1 - Project Management and Meetings	Task Cost
1.1	Modify Public Meeting Approach	\$ (1,746.00)
	Project Expenses - Travel, Mileage, Printing	\$ (1,000.00)
	Subtotal Task Task 1 - Project Management and Meetings	\$ (2,746.00)

TASK	Task 2 - Data Collection	Task Cost
	No Additional Services	
	Project Expenses - Travel, Mileage, Printing	\$ -
	Subtotal Task Task 2 - Data Collection	\$ -

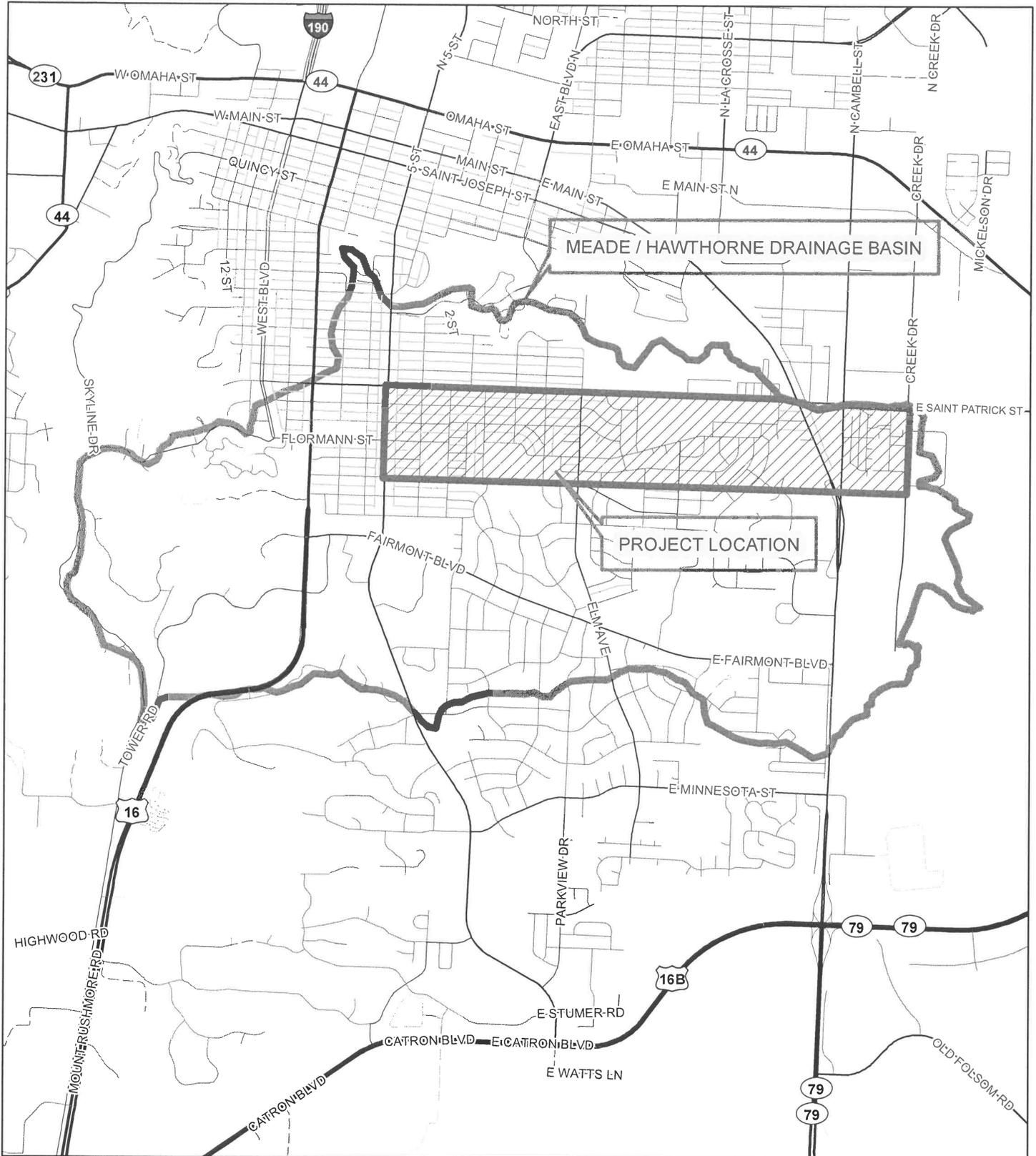
TASK	Task 3 - Hydrology	Task Cost
3.7	Modify Hydrologic Model	\$ 1,958.00
3.8	Determine Flow Split	\$ 665.00
	Project Expenses - Travel, Mileage, Printing	\$ -
	Subtotal Task Task 3 - Hydrology	\$ 2,623.00

TASK	Task 4 - Hydraulics and Mapping	Task Cost
4.4	Floodway Encroachment & Mapping	\$ (3,436.00)
4.6	Revise FEMA Effective Model	\$ 6,022.00
4.7	Input Flow Split Values	\$ 314.00
4.8	Develop 100- and 500-year Mapping	\$ 1,136.00
	Project Expenses - Travel, Mileage, Printing	\$ -
	Subtotal Task Task 4 - Hydraulics and Mapping	\$ 4,036.00

TASK	Task 5 - FEMA Documentation	Task Cost
5.6	Respond to Additional FEMA comments	\$ 3,936.00
5.8	8.5"x11" Maps for City Mailings	\$ 1,234.00
	Project Expenses - Travel, Mileage, Printing	\$ 50.00
	Subtotal Task Task 5 - FEMA Documentation	\$ 5,220.00

TASK	Task 6 - Drainage Infrastructure Evaluation and Recommendations	Task Cost
6.5	Revise Hydrologic Model	\$ 157.00
6.6	Revise Hydraulic Model	\$ 6,816.00
6.7	FMG 2004 OPC	\$ 1,374.00
6.8	Map Comparing Flood Extents	\$ 617.00
	Project Expenses - Travel, Mileage, Printing	\$ -
	Subtotal Task Task 6 - Drainage Infrastructure Evaluation and Recommendations	\$ 8,964.00

TOTAL ESTIMATED FEES - Tasks 1 - 6 -- Meade/Hawthorne Drainage		\$ 18,097.00
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ANALYSIS FEMA SFHA MEADE / HAWTHORNE DRAINAGE BASIN
PROJECT NO. 18-2458 CIP 51190

