AMENDMENT NO. 1

TO

THE AGREEMENT

FOR

PROFESSIONAL ENGINEERING SERVICES

FOR

MUSKOGEE COUNTY

THIS AMENDMENT NO 1, to the Agreement for Professional Engineering Services made and entered into this 2 day of Jan., 2024 between the Muskogee County, Oklahoma, a County of the State of Oklahoma, hereinafter referred to as COUNTY, and Meshek & Associates, LLC, a Limited Liability Company organized under the laws of the State of Oklahoma, hereinafter referred to as ENGINEER;

WITNESSETH

WHEREAS, COUNTY and ENGINEER entered into an AGREEMENT, dated January 9th, 2023, under which the ENGINEER was to provide professional service to perform design, hydrologic, hydraulic, and other engineering services related to the FEMA DR 4438 Project #010, Muskogee County Advance Assistance, hereinafter referred to as the PROJECT; and,

WHEREAS, COUNTY requires certain additional professional services in connection with the PROJECT, hereinafter referred to as the SERVICES, thereby necessitating the amending of the AGREEMENT; and,

WHEREAS, ENGINEER is prepared to provide such SERVICES; and,

NOW THEREFORE, in consideration of the promises contained herein, the parties hereto agree as follows:

1.0 SERVICES TO BE PERFORMED BY ENGINEER. ENGINEER shall perform the SERVICES described in Attachment A, SCOPE OF SERVICES, which is attached hereto and incorporated by reference as part of this AMENDMENT.

2.0 COMPENSATION. ENGINEER shall be paid in accordance with Attachment B, COMPENSATION, which is attached hereto and incorporated by reference as part of this AMENDMENT.

3.0 All other terms and conditions of the AGREEMENT, dated January 9th, 2023, shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this AMENDMENT in multiple copies on the respective dates herein below reflected to be effective on the date executed by the Commissioner of Muskogee County.

Meshek & Associates, LLC

Benjamin W. Fletcher, PE, LSI, Manager

Date _____

(SEAL)
APPROVED:

Muskogee County, OKLAHOMA

County Clerk

Ken Doke, County Commissioner

Date Jan 2nd, 2024

2 day of Jan 2024

Chairman

Member

Member

Attest County Clerk

ATTACHMENT "A"

AMENDMENT NO. 1

TO

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FOR

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SCOPE OF SERVICES

ATTACHMENT A

B. **SCOPE OF SERVICES.** The Scope of Services shall be amended as follows:

This project consists of preparation of final construction plans for **roadway and bridge improvements along S. 55th Street East, south of E. Hancock Street.** This includes improvements to **S 55th St E** beginning approximately 0.5 miles south of the intersection of S 55th St E and E Hancock St and extending north 0.5 miles. The project includes two separate improvement areas. **Figure 1. - Bridge A** and **Figure 2 - Bridge B** show the proposed conceptual design from Task Order One**.** These proposed bridges shown in the conceptual design replace the existing culverts conveying the crossings of Unnamed Tributary to Coody Creek. Final bridge/culvert sizes will be determined by Bridge Hydraulics.

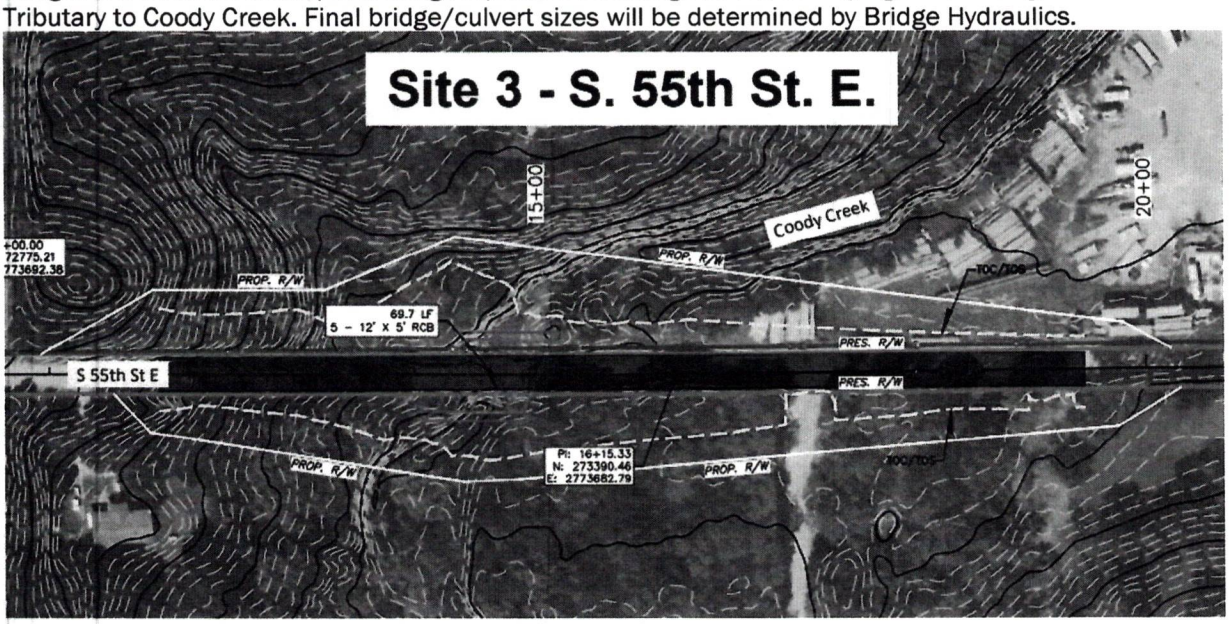

Figure 1 -

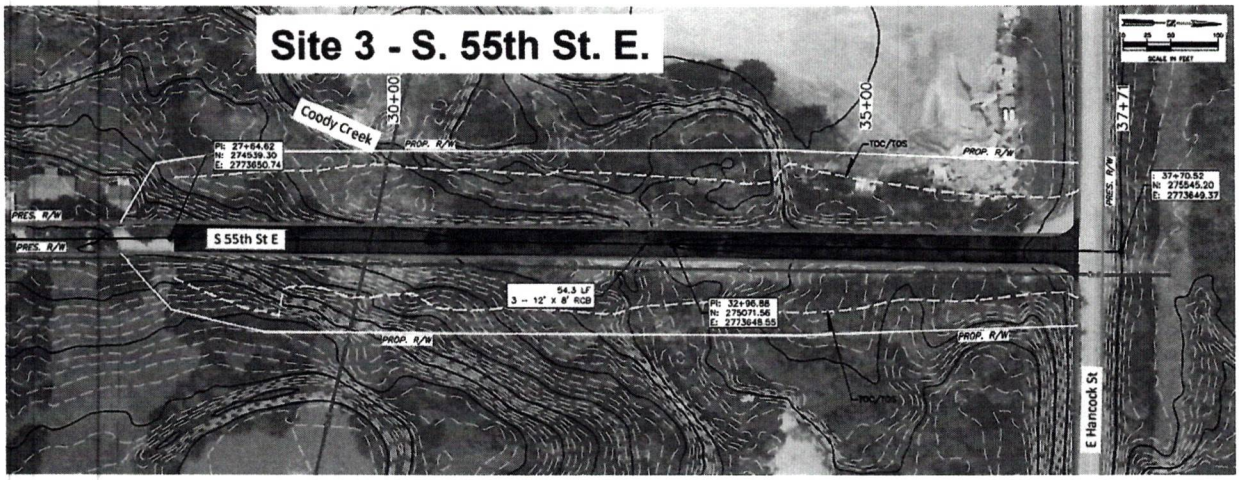

Figure 2 -

1.1 Surveying

1.1.1 S 55th St E Full Survey:

- Control:
  - Control points and benchmarks established on the Oklahoma State Plane North coordinate system
- Topographic Survey:
  - Natural ground features including flowlines, ditches, and slopes; Structures, paving, fences and other observed improvements.
- Property Survey:
  - Locations of property lines, easement, and rights-of-way as filed of record with the Muskogee County Clerk and available on-line will be shown in the DWG file.
- Utilities:
  - Atlas information and field observation.
- Deliverables:
  - Civil 3D dwg, Survey Data Sheet in PDF

1.1.2 E Hancock St Surface and Drainage Structures

- Topographic Survey:
  - Ground Features including paving, flowlines and/or water surface elevation, ditches, and slopes; Storm drain structures.
- Deliverables:
  - Bare earth surface in Civil 3D dwg.

1.2 Roadway Design

- Pavement:
  - Reconstruct in two sections, see **Figure 1** and **Figure 2**. Imported fill material will be needed to raise the pavement to an elevation determined by Roadway Hydraulics.
- Existing roadway alignment:
  - Match existing.
- Bridge A:
  - Replacement of the drainage structure approximately 2,300 feet south of the intersection of S 55th St E and E Hancock St. Structure.
- Bridge B:

- Replacement of the drainage structure approximately 470 feet south of the intersection of S 55th St E and E Hancock St. Structure.

- Typical section:
  - 2-11' driving lanes and 3' paved shoulders
- Roadway Hydraulics:
  - Replace side drains and cross drains and add new CET's.

1.3 Traffic Design

- 1.2.1 Pavement Marking and Signing
  - Replacement of existing signs and design of new signs and striping
- 1.2.2 Traffic Control
  - The roadway will be closed to through traffic with detour routes included in the construction plans. Access to adjacent properties will be maintained at all times.

1.4 Traffic Volume Data

- 1.4.1 24-hour Volume Count
  - 24 hour bi-directional volume counts at one location on S 55th St. E.

1.5. Hydrology & Hydraulics

- Determine the 2-, 5-, 10-, 25-, 50-, 100-, and 500-year flow rates for the unnamed stream that crosses S. 55th Street
  - The Regression method will be utilized
- Develop a revised-existing conditions hydraulic model of the unnamed stream that crosses S. 55th Street
- Develop a proposed conditions hydraulic model of the unnamed stream that crosses S. 55th Street that reflects the proposed design
  - The FEMA FIS flow rates will be utilized
- Determine the required road profile and hydraulic structure sizes necessary to achieve a 10-year overtopping capacity of S. 55th Street
  - Roadway design will consider flooding from the unnamed creek, Coody Creek, and the Arkansas River
- Develop a revised-existing conditions hydraulic model of Coody Creek
  - The 100-year FEMA FIS flow rate will be utilized
- The effective FEMA model of Coody Creek will be requested from FEMA for reference
  - FEMA requires a $300 fee for the data request
- Develop a proposed conditions hydraulic model of Coody Creek that reflects the proposed design
- Prepare a hydraulic summary report comparing revised-existing to proposed conditions for both modeled streams
- Update the conceptual benefit-cost analysis based on the H&H results
- H&H staff will attend up to three (3) project meetings
  - Either in-person or virtual

1.6 Geotechnical Investigation

- 1.6.1 Pedological and Geological Survey
  - Report will include soil descriptions, shrinkage/expansion factors, potential soil issues, and recommended soil additives.

- 1.6.2 Soil exploration for embankments greater than 10 feet
    - Two borings for the new embankment.
        - Engineering report will include recommendations for construction of the fill, slope stability and settlement of the embankment fill.
- 1.6.3 Bridge/Reinforced Concrete Box Subsurface Exploration
    - Two borings at the two existing culvert locations. Four borings total.
        - Engineering report will include either foundation recommendations for reinforced concrete boxes or driven pile recommendations for bridges.
- 1.6.4 Asphalt Pavement Design
    - Pavement design recommendations.

Items not included in this scope:

- Environmental
- Right of Way Acquisition Services
- Utility Relocation Coordination
- Bidding and Construction Services
- Bridge Design
    - The number, type and size of the bridges will be determined by Bridge Hydraulics. This may result in the necessity of a roadway or bridge class structure.
    - Because the size of structure will not be determined until Bridge Hydraulics is complete, we cannot determine the appropriate fee that will be needed at this time. If a span structure is needed, it will require an amendment to this scope and fee.
- FEMA CLOMR preparation or submittal
- FEMA LOMR preparation or submittal
- Updated floodplain mapping
- Floodway modeling

Schedule:

Notice to Proceed	February 2024
30%/60% Plans	October 2024
65% Plans	January 2025
90% Plans	August 2025
PS&E Submission	December 2025

ATTACHMENT "B"

AMENDMENT NO. 1
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COMPENSATION

ATTACHMENT B

D. **COMPENSATION**. The COUNTY agrees to pay, as compensation for services set forth in Attachment B, the following fees accrued at the billing rates in Exhibit A, payable monthly as each Phase of the work progresses; and within 30 calendar days of receipt of invoice. ENGINEER shall submit monthly invoices based upon the percentage of work performed and deliverables provided at the time of billing. Invoices shall be accompanied by such documentation as the COUNTY may require in substantiation of the amount billed.

D.1 **TOTAL COMPENSATION.**

D.1.1 For the work under Attachment B, Scope of Services, an amount not to exceed Three Hundred Fifteen Thousand One Hundred Seventy-One Dollars and 33 cents.

The ENGINEER acknowledges the following summary of modifications to the Fee Schedule at stated in the original Contract and subsequent Amendments:

Original Contract Amount	$371,536.25
Amendment No. 1	$315,171.33

Total Amended Contract Amount: $686,707.58

COMPENSATION

EXHIBIT A

Allowance for Office Work			
Project Principal II	$ 325.00	GIS Project Principal	$ 240.00
Project Principal I	$ 300.00	GIS Project Manager II	$ 230.00
Project Manager II	$ 265.00	GIS Project Manager I	$ 185.00
Project Manager I	$ 190.00	GIS Specialist II	$ 145.00
Project Engineer II	$ 190.00	GIS Specialist I	$ 115.00
Project Engineer I	$ 135.00	GIS Analyst	$ 110.00
Engineering Intern	$ 130.00	GIS Technician	$ 95.00
Engineering Technician II	$ 125.00	GPS Field Technician	$ 85.00
Engineering Technician I	$ 100.00	ROW Project Manager II	$ 230.00
CAD Designer	$ 100.00	ROW Project Manager I	$ 210.00
3 Man Survey Crew	$ 315.00	Assistant ROW Project Manager	$ 140.00
2 Man Survey Crew	$ 215.00	Acquisition/Relocation Agent	$ 120.00
Survey CAD Technician	$ 95.00	Real Estate Trainee	$ 90.00
Survey Crew Chief I	$ 100.00	Planning/Grant Project Manager II	$ 205.00
Survey Crew Chief II	$ 130.00	Planning/Grant Project Manager I	$ 170.00
Survey Crew Technician	$ 85.00	Planner II	$ 135.00
Survey Project Manager	$ 205.00	Planner I	$ 125.00
LiDAR Survey Crew	$ 250.00	Contract Administrator	$ 210.00
LiDAR Data Specialist	$ 140.00	Administrative	$ 115.00

Allowance for Travel	
Mileage	Billed at Current IRS Rate
Per Diem	Billed at Current IRS Rate
Per Diem	Billed at Current GSA Rate

Reproduction Costs		
8-1/2"x11" print	$ 0.15	Billed per page printed
8-1/2"x14" print	$ 0.20	
11"x17" print	$ 0.30	
Black and White Plots	$ 5.00	
Color Plot	$ 8.00	
Mylars	$ 13.00	

Miscellanuous Outside Expenses and Fees	
Outside Direct Project Expenses	Passthrough at Cost
Subconsultant Services	Cost plus 5% management fee