


Department of Engineering/Road Management
Dan Gaillet, P.E., County Engineer/ Road Manager

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MEMORANDUM

July 13, 2017

To: Sheila Jones, Supervisor, District I
Trey Baxter, Supervisor, District II
Gerald Steen, Supervisor, District III
David Bishop, Supervisor, District IV
Paul Griffin, Supervisor, District V

From: Dan Gaillet, P.E.
County Engineer and Road Manager 

Re: Hydraulic Study
Weisenberger Road

During major storm events, Weisenberger Road, between Highway 51 and Parkway East, becomes flooded. As a result, the County is forced to shut down a major east to west corridor during such events. Unfortunately, a fire station sits approximately 400 feet to the east of this location.

Therefore, the Engineering Department recommends hiring Mendrop Engineering Resources, LLC to evaluate the current situation and make recommendations to the County to rectify the problem at a fee not to exceed \$20,895.

**WORK ASSIGNMENT NO. 16
DRAINAGE INVESTIGATION AND RECOMMENDATIONS
FOR WEISENBERGER ROAD BETWEEN U.S. HIGHWAY 51 & PARKWAY EAST
MADISON COUNTY**

THIS WORK ASSIGNMENT TO THAT CERTAIN GENERAL ENGINEERING SERVICES CONTRACT IS EXECUTED BY AND BETWEEN MADISON COUNTY BOARD OF SUPERVISORS AND **MENDROP ENGINEERING RESOURCES, LLC**, EFFECTIVE THE 12th DAY OF JULY, 2017, IS INCORPORATED THEREIN AS IF COPIED FULLY IN BOTH WORDS AND FIGURES AS A PART OF EXHIBIT NO. 1.

LET IT BE KNOWN THAT:

WHEREAS, the parties to the above stated CONTRACT are now desirous of implementing an additional Work Assignment or phase thereunder: and,

WHEREAS, each of said parties represents that it continues to have authority to execute this Work Assignment and that all certifications previously made in said CONTRACT remain in effect;

NOW THEREFORE, the parties hereto do further contract and agree to add the following items of work to the above CONTRACT under the additional terms and conditions as are hereinafter stated:

SPECIFIC SCOPE OF WORK FOR THIS WORK ASSIGNMENT

The CONSULTANT, in accordance with the General Services Agreement, shall (1) complete drainage investigation for the bridge crossing at Bear Creek and for the culvert crossing of Stream P (FEMA Designation), a tributary of Bear Creek, at Weisenberger Road, near Gluckstadt, MS., (2) review drainage patterns within the area of concern for the crossing locations while verifying FEMA Effective hydrology, (3) utilize and verify the FEMA effective hydraulic model to review existing hydraulic site conditions, as well as develop and recommend options to help mitigate Weisenberger Road overtopping, as needed, and (4) provide documentation of findings.

The following engineering services shall be performed by the CONSULTANT on behalf of Madison County in accordance with the CONTRACT at the direction of the County Engineer or his designee, unless otherwise modified by the Madison County Board of Supervisors (MCBOS).

The Scope of Work shall include the following:

Part 1 –FIELD RECONNAISSANCE & DATA GATHERING

The CONSULTANT shall make an initial site visit to document existing site conditions and other information which may be pertinent to the study.

The CONSULTANT shall acquire the FEMA Effective hydrologic and/or hydraulic documents and models from the FEMA engineering library, for use within the drainage investigation.

Part 2 – FIELD SURVEY

The CONSULTANT shall perform topographic survey for the following, as per Attachment 1, in accordance with current Survey Standards. The survey information shall include, but is not limited to,

site specific topographic data to document the size of existing channels, drainage structures, invert elevations, finish floor elevations of structures within the investigation area, roadway profile of Weisenberger Road, and other pertinent survey information that will be part of the study. The field survey shall not be all inclusive of topographic data that would be required for preliminary or final design.

Part 3 – HYDROLOGIC/HYDRAULIC ANALYSES & MITIGATION ALTERNATIVES

The hydraulic study and recommendations shall include the following as a minimum:

- A. **HYDROLOGIC ANALYSES:** The CONSULTANT shall obtain the FEMA Effective hydrology for the study area, if available, from the FEMA Engineering Library. The FEMA peak discharges for Bear Creek and Stream P, a tributary of Bear Creek, shall be verified using appropriate hydrologic methods. The FEMA flowrates shall be modified, if needed, to more accurately represent discharges at the subject crossings for Weisenberger Road.
- B. **HYDRAULIC ANALYSES:** The CONSULTANT shall use the U.S. Army Corps of Engineers (USACE) Hydrologic Engineer Center, River Analysis System (HEC-RAS) software to perform a one-dimensional steady flow analysis of Bear Creek and Stream P, within the study area. The area of concern is located in or across a FEMA regulatory floodway with determined base flood elevations as noted on the NFIP maps; therefore, the CONSULTANT shall obtain the step-backwater hydraulic model for the specified streams and community from FEMA. The field survey data will be incorporated into the FEMA effective hydraulic data to assess existing hydraulic conditions. Hydraulic computations will then be performed for up to 3 possible proposed alternatives that could improve hydraulic conditions at Weisenberger Road to reduce aforementioned roadway overtopping.
- C. **HYDRAULIC REPORT:** Hydraulic report shall include as a minimum a narrative that describes the project scope; statements defining any additional sources of information including cross sections, topographic data, and other supporting information; analysis considerations; supporting documentation stating analysis procedures including existing and proposed conditions; documentation of all modifications made to models to correctly represent the conditions; recommendations and details to help mitigate frequent roadway overtopping; tables comparing water surface elevations between the models;

The CONSULTANT shall submit a draft preliminary engineering recommendations to MCBOS for review. Subsequent to MCBOS review, a meeting will be scheduled to review and discuss the findings of the study. Subsequent to the review meeting, the CONSULTANT shall make all necessary changes which arise during the review prior to submitting final recommendations. All pertinent hydraulic data, documentation, and reports shall be included in the submittal.

These recommendations do not include a Conditional Letter of Map Revision (CLOMR) or LOMR, as per FEMA regulations, for the proposed alternates. However, if CLOMR and LOMR submittals are determined to be necessary, the appropriate documentation can be provided as additional services.

MAXIMUM ALLOWABLE COST

The CONSULTANT'S fee for completion of this Work Assignment shall be **\$20,895**, which sum shall be paid incrementally each month. Services will be billed monthly on an hourly basis for cost incurred during the period, but shall not exceed the total estimated fee without prior written authorization from the Client.

SO EXECUTED AND AGREED THIS THE _____ DAY OF _____, 2017.

THE MADISON COUNTY BOARD OF SUPERVIORS

SO EXECUTED AND AGREED THIS THE _____ DAY OF _____, 2017.

MENDROP ENGINEERING RESOURCES, LLC

ATTEST: (affix seal)

Exhibit 1



Area of Interest