
MEMORANDUM

TO: RANDY HILL, PUBLIC WORKS DIRECTOR

FROM: JON LUTZ, CITY ENGINEER

SUBJECT: MAD CREEK SEWER EXTENSION – DESIGN AGREEMENT

DATE: APRIL 3, 2012

INTRODUCTION:

City staff have coordinated with private land and business owners to develop a solution for the failing sewer lagoon system at Clearview Mobile Home Court(formerly Ripley's). The best solution for all parties appears to be extending the Mad Creek gravity sewer from Park Ave West to Clearview. Design by a professional engineer is necessary. See attached concept plan and benefit district.

BACKGROUND:

The Clearview Mobile Home Court is under court order to modify the existing failing lagoon system to meet regulations. Options for a pump station and force main system from Clearview to the Menard's area were initially designed and pursued by Clearview. City staff proposed the option to extend 15" gravity sewer from the existing Mad Creek sewer at Park Ave West following Mad Creek to Clearview. This gravity option opens up a 1200 acre benefit district to be serviced by this extension. Initial responses from both Clearview and affected landowners were positive and agreeable. The city engineer prepared a concept plan as shown on the attachment. Further staff negotiations with Clearview have established appropriate and agreeable financial contributions by Clearview for this project.

Request for cost proposals for design services were solicited. The following 3 professional responses were received.

Shoemaker & Haaland	\$76,300.00 + \$3,800.00 reimbursable
Anderson-Bogert	\$175,986.00
Stanley Consultants	\$185,500.00

These design fees will be paid by internal fund transfers.

RECOMMENDATION/RATIONALE:

Enter into a design agreement with Shoemaker & Haaland for the amount of \$76,300.00 plus reimbursables.

BACKUP INFORMATION:

1. Concept Plan
2. Benefit District
3. Shoemaker & Haaland Proposal



Shoemaker & Haaland

Engineering Landscape Architecture Surveying

PROPOSAL

January 4, 2012

Mr. Jon Lutz
City Engineer
City of Muscatine Public Works
1459 Washington Street
Muscatine, IA 52761

Re: ***MAD CREEK SEWER EXTENSION
ENVIRONMENTAL, SURVEYING AND DESIGN SERVICES***

Dear Mr. Lutz:

Thank you for the opportunity to provide the city of Muscatine with a proposal for the Mad Creek sewer extension project. We have successfully completed numerous projects of a similar nature and look forward to providing you a quality design. We would be happy to provide additional details regarding our qualifications if you desire.

We understand the immediate purpose of the project is to provide sanitary sewer service to the Clearview Mobile Home Court. The existing Clearview wastewater treatment system is not meeting the requirements of the NPDES permit; therefore, a quick turnaround in the design phase is desired to allow for a spring bid and summer construction. In addition to providing reliable sewer service to the mobile home park, the sewer extension will provide opportunities for development in the area. An accurate assessment of the potential service area and the associated flows will be critical to both the long term success of the project and optimizing the initial capital investment.

The route provided in the Request for Proposal follows Mad Creek from Highway 38 to the northeast to the Clearview Mobile Home Court. The sewer extension will terminate on the west side of Highway 61 with a total of 12,250 LF of new sanitary sewer. There are likely to be several environmental considerations because the provided route follows the Mad Creek corridor. They are:

- Numerous crossings of Mad Creek and its tributaries.
- Proximity to Mad Creek will likely result in temporary disturbances to wetlands.
- Vegetation along the route likely meets the criteria for Indiana Bat habitat.

- Review of the online database of Iowa archeology indicates the presence of at least one site of archeological significance within the vicinity of the project.

None of these will prevent the project from proceeding; however, they will need to be addressed during the data collection and design phases.

The provided route crosses multiple properties. Permanent easements and construction easements will be required. Review of available property records indicates eight property owners will need to be approached for easements. Provisions will also need to be made for access of construction equipment and material delivery.

Based on the available information, we estimate the construction cost to be in the range of \$1,250,000.

SCOPE OF SERVICES

Shoemaker & Haaland will provide the engineering design for the project and coordinate the various environmental services required for this project including applicable permits from federal and state agencies. The detailed scope of services and the related fees prepared in accordance with the Request for Proposal and our conversations to date are detailed below.

PRE-DESIGN DATA COLLECTION PHASE

The design of the sanitary sewer route will be based upon available public data. Shoemaker & Haaland's survey personnel will perform a topographic survey of specific areas within the project where more detail is necessary (near the mobile home park, stream crossings, and where sewer will be adjacent to paved surfaces). The wooded nature of the stream corridor may limit the use of LIDAR data for topography in some areas. Traditional field survey will be used in these areas to establish elevations for design purposes. The data collection will consist of the following:

- A. Collect available LIDAR data, aerial mapping and aerial photography
- B. Establish horizontal and vertical survey control. This will be available to the contractors during the construction phase
- C. Provide profile survey to confirm one foot contours at specific areas noted above
- D. Perform OneCall Utility Locate and record the location of all marked utilities
- E. Locate other man made features including:
 - a. Buildings & pavements
 - b. Above ground utilities such as hydrants, utility poles, and overhead utilities
 - c. Bollards, flag poles, landscape lights, etc.
 - d. Existing survey monuments (section corners, property corners, etc.)
- F. Coordinate wetland delineation if required
- G. Prepare a project base drawing from the data collected

SERVICE AREA STUDY PHASE

The Shoemaker & Haaland design team will prepare a study evaluating the proposed sanitary route provided by the city of Muscatine and the implications it has on future development. The report will include the following:

- A. Determine theoretical service area based on existing corporate limits and topography
- B. Research existing and proposed land use and zoning to predict future demand on proposed sewer extension
- C. Evaluate various pipe materials in terms of cost and performance
- D. Meet with Owner to discuss any Owner specific requirements

DESIGN PHASE

Shoemaker & Haaland will complete a detailed evaluation and design of the sewer extension route to meet the objectives of the city of Muscatine and assist in securing necessary approvals and permits from regulating authorities. The design will take into account the existing site topography and proximity to Mad Creek. Construction costs associated with stream crossings, endangered species habitat, wetlands, and other sensitive areas will be considered during the design phase. The major components of the design process are:

- A. Review geotechnical report and recommendations (provided by owner)
- B. Perform preliminary environmental reviews
- C. Develop a proposed route to minimize stream crossings and sensitive areas and address other design or construction considerations
- D. Document location of proposed route in the field
- E. Walk proposed route with Owner and environmental consultant
- F. Adjust proposed route if necessary
- G. Prepare applications for construction permits

CONSTRUCTION DOCUMENTS & BIDDING

Shoemaker & Haaland will provide construction documents including plan sets and the project manual. Our successful completion of numerous projects for the city of Muscatine ensures that the documents will be in accordance with the city of Muscatine's standards. Further, we have experience working with the likely bidders for this project. The services included in this phase are:

- A. Prepare detailed plan set, including SWPPP
- B. Prepare Project Manual
- C. Distribute documents to potential bidders
- D. Assist city staff in publishing notice to bidders
- E. Attend Pre-Bid Meeting (if necessary)

- F. Address questions for bidders prior to bid
- G. Prepare addendum (if necessary)
- H. Attend Bid Opening
- I. Review bids and provide bid tabulation and recommendation to Owner

CONSTRUCTION SERVICES

Shoemaker & Haaland will provide the construction services requested in the RFP. The services included in this phase are:

- A. Provide shop drawing review
- B. Attend pre-construction meeting
- C. Attend monthly progress meetings during construction (seven meetings assumed)

EASEMENT ACQUISITION PHASE

Shoemaker & Haaland will assist the city of Muscatine in obtaining the necessary construction easements and permanent utility easements. Eight property owners and fourteen properties are affected by the provided route.

- A. Determine easement requirements for final route
- B. Locate existing survey monuments and property corners
- C. Preparation of easement documents for construction and permanent easements (One document per property owner with construction and permanent easements on same document described using metes and bounds of pipe centerline)

ENVIRONMENTAL INVESTIGATIONS – TRANSITION ECOLOGY, LLC

Shoemaker & Haaland will coordinate the environmental investigations of the project. Our sub consultant will be Transition Ecology, LLC of Iowa City. The services will include:

- A. Wetland Evaluation
 - a. Wetland evaluation for the project area including collection of historic aerial maps, USFWS National Wetlands Inventory Data, FEMA floodplains, soils and site photographs
 - b. Composition of a wetland evaluation report identifying wetland areas of concern where special precaution should be taken to re-construct the site to the pre-existing grade
- B. Threatened and Endangered Species
 - a. Site evaluation to determine species and quality of the wooded riparian corridor to be impacted

- b. Composition of a report including information related to the evaluation of listed threatened and endangered species suitable for submission to the Corps, the IDNR, and the USFWS

C. Archeological Survey

- a. Phase 1 archeological survey

DESIGN FEES

A bill for services rendered will be submitted to the client monthly as the project progresses. Payment terms are net 30 days. The fees outlined below reflect fixed fees. Reimbursable travel and production expenses will be billed in addition to the fees below.

Shoemaker & Haaland Base Services

Pre-Design Data Collection	\$ 5,600
Service Area Study	\$ 4,500
Design	\$ 9,700
Construction Documents & Bidding	\$ 10,500
Bidding	\$ 9,400
<u>Construction Services</u>	\$ 3,900
<i>Subtotal</i>	\$ 43,600

Shoemaker & Haaland Extended Services

Easement Acquisition	\$ 14,900
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Sub Consultants

Wetland Evaluation	\$ 2,900
Threatened and Endangered Species	\$ 3,400
<u>Archeological Survey</u>	\$ 11,500
<i>Subtotal</i>	\$ 17,800

Professional Services Total	\$ 76,300
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PROJECT SCHEDULE

We are aware of the schedule provided in the RFP for this project and the desire to have construction completed during the 2012 construction season. We are confident that we can have the 95% Design Documents completed for the March 2012 deadline. The May 2012 bid date is subject to weather conditions allowing the environmental phases to be completed and the review times associated with permits.

OUT OF SCOPE WORK

1. Geotechnical report and recommendations
2. Easement and construction access negotiations
3. NPDES Permit will be the responsibility of the contractor

RESPONSIBILITY OF THE OWNER

1. Assist in acquiring access to the properties
2. Geotechnical report and recommendations
3. Provide background data on provided route and project development to date
4. Provide information regarding downstream system capacity as required for permitting
5. Provide current aerial photography and mapping
6. Provide project corridor surface TIN, if available
7. Governmental review associated fees
8. Information regarding anticipated development within service areas.

ADDITIONAL SERVICES

During the course of the project the need for other services may arise. If additional services are requested by the Owner, Shoemaker & Haaland will prepare a proposal for those services and proceed upon receiving written authorization. In addition, Shoemaker & Haaland can provide construction related services including:

- A. Construction surveying
- B. Construction observation
- C. Construction inspection
- D. Materials testing
- E. Construction documentation including as-built drawings

Contract fees for these services can be provided upon development of construction drawings.

GENERAL TERMS OF AGREEMENT

All services will be performed in accordance with the attached Terms and Conditions.

If you wish to authorize us to proceed, please sign one copy of this letter in the space below and return to us.

Mad Creek Sewer Extension
Environmental, Surveying, and Design Services
January 2012
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Please let us know if you have any questions about this proposal or your project. We would be happy to meet with you to review the proposal, our qualifications, or the project in greater detail.

Sincerely,

SHOEMAKER & HAALAND PROFESSIONAL ENGINEERS



Michael J. Welch, P.E.



Robert W. Tobin, P.E.

MJW

Accepted for the city of Muscatine on this _____ day of _____, 2012

By:

Signature and Title

BENEFIT DISTRICT
MAD CREEK SEWER
CITY OF MUSCATINE



