

September 3, 2020

Resolution Selecting Crawford, Murphy & Tilly and Authorizing the City Manager to Execute an Agreement for Water System Analysis and Project Design in an amount not to exceed \$250,000

PREPARED BY: John Burkhart, Director of Water

REVIEWED BY: Pamela S. Reece, City Manager
Eric Hanson, Assistant City Manager
Alan Alward, Water Project Engineer

BUDGET IMPACT: Funds are available in the Water Capital Fund for this expense

STAFF RECOMMENDATION: Approval

ATTACHMENTS: Proposed Resolution, Crawford, Murphy & Tilley Proposal, Project Location Map

BACKGROUND

With the investment of Rivian Automotive into the former Mitsubishi Property and the pending economic impact of the auto manufacturer in the M-1 manufacturing district, ensuring high quality water service to the area is critical to successful economic development.

Currently, the water distribution system serving the West College area is a large diameter, long dead-end water main. Because the system is not looped, the distribution system experiences water quality issues. Further, there is risk of service interruption if a break occurs in the water main or if any appurtenances are damaged. This type of situation would negatively impact water customers in the manufacturing district.

In preparation for future economic development along the West College Avenue corridor and Rivian Motorway, evaluation of the current distribution system and developing a plan to loop the existing water main from Electric Avenue, south along Rivian Motorway and east along West College to connect to the current water main at White Oak Road would be advantageous. This improvement would ensure water service to customers, minimizing the risk of service interruption in the future.

Recent experience with grant programs has confirmed that “shovel-ready” projects, those already designed and capable of commencing construction pending available funding, may be given preferential consideration for grant funding. Therefore, once review of the current water distribution system is complete, the next step would be to complete project design for the extension of water main from Electric Avenue around to White Oak Road. With completed designs, the Town could best position itself for grant opportunities.

DISCUSSION/ANALYSIS

Water Department staff sent a Request for Qualifications (RFQ) to conduct a study of the water distribution system along West College Avenue from White Oak Road to Rivian Motorway to three engineering firms

from the Town's approved list of professional engineers. Professional engineering firms responding to the RFQ were asked to submit information covering several areas, but some of the major ones were: Company history, qualifications and experience for team members who would work on the project, experience evaluating water age and quality in remote areas of a distribution system, experience with large diameter water mains as well as knowledge of current and potential regulatory changes.

RFQ's were sent July 24, 2020 to Farnsworth Group, Clark-Dietz and Crawford, Murphy & Tilly (CMT). Proposals were due August 17, 2020 by 4:00pm. Responses were evaluated based upon the RFQ criteria. Following thorough review of the three proposals, staff recommends Crawford, Murphy & Tilly (CMT) for this project.

With Council approval, staff enter into an agreement with CMT for this project with a price not to exceed \$250,000. CMT will 1) analyze the current distribution system in the area and develop a detailed plan on how to effectively serve future needs in a timely manner; and 2) develop construction plans after the study is completed. Following completion by CMT, the Town will have a project designed and ready for bidding.

Staff recommends Council approval of CMT as the qualified consultant on this project and authorization to enter into an agreement in an amount not to exceed \$250,000.

COMMUNITY IMPACT

The Water Department is responsible for providing effective water services to meet customer demands for consumption and fire suppression. Preparing for economic growth by ensuring a dependable water system benefits employers and supports the local economy.

RESOLUTION NO. _____

RESOLUTION SELECTING CRAWFORD, MURPHY & TILLY, INC AND AUTHORIZING THE CITY MANAGER TO EXECUTE AN AGREEMENT FOR WATER SYSTEM ANALYSIS AND PROJECT DESIGN IN AN AMOUNT NOT TO EXCEED \$250,000

WHEREAS, The Town of Normal is a home rule unit of local government with authority to legislate in matters concerning its local government and affairs.

WHEREAS, Due to increased development along West College Avenue, it is necessary to analyze the water-distribution system in that area and to design any necessary improvements of that system.

WHEREAS, The Town solicited requests for proposals for this analysis and design work, and Town staff has reviewed the RFQ responses and determined that Crawford, Murphy& Tilly, Inc. is the firm best suited for this project..

WHEREAS, It is in the best interests of the health, safety, and welfare of the citizens of Normal to select Crawford, Murphy& Tilly, Inc. for the analysis and design work and authorize the execution of an agreement with that firm to perform the work for an amount not to exceed \$250,000.

NOW, THEREFORE, BE IT RESOLVED BY THE PRESIDENT AND BOARD OF TRUSTEES FOR THE TOWN OF NORMAL, ILLINOIS:

SECTION 1. That the City Manager is hereby authorized to execute, for and on behalf of the Town of Normal, Illinois, a contract with Crawford, Murphy& Tilly, Inc. to analyze the water-distribution system in the area of West College Avenue and to design any necessary improvements of that system. The contract price may not exceed \$250,000.

SECTION 2. That the Town Clerk is authorized and directed to attest the signature of the City Manager on the document and retain a fully executed original of the contract in her office for public inspection.

ADOPTED this ____ day of _____, 2020.

APPROVED:

President of the Board of Trustees
of the Town of Normal, Illinois

ATTEST:

Town Clerk
(Seal)



September 3, 2020

Mr. John Burkhart
Water Director
Town of Normal
11 Upton Circle
Normal, Illinois 61761

RE: **2020 Watermain Project
Water Distribution – College Avenue Study
Proposal for Engineering Services**

Dear Mr. Burkhart:

Crawford, Murphy & Tilly is pleased to provide this proposal for engineering services to for the Water Distribution – College Avenue Study for the construction of new watermains within the College Avenue / Rivian Motorway Study Area (approximately 17,000 L.F.).

In accordance with our Standard Form of Agreement dated March 8, 2016, we have prepared a detailed scope of services for the project, which is shown in the attached Exhibit A

Using our 2020 Hourly Rates and Direct Costs, we propose to complete the project on a time and expense basis not to exceed \$250,000.00.

We appreciate the opportunity to provide engineering services for the Town of Normal and look forward to working with you and your staff on this project. Upon your review and concurrence, please sign below to indicate your authorization for Crawford, Murphy & Tilly to proceed with this project.

Sincerely,
Crawford, Murphy & Tilly

A handwritten signature in purple ink that reads 'Ty Besalke'.

Ty Besalke, PE
Water Group Manager

Authorized by Town of Normal

Pamela Reece
City Manager

Project: Water Distribution – College Avenue Study

Budget: _____

Consultant: Crawford, Murphy & Tilly, Inc.

Exhibit A

Referred to in and part of the Agreement between TOWN and ENGINEER for Professional Services dated March 8, 2016

Initials of Representatives

TOWN: _____

ENGINEER: _____ **SLD**

The **Scope of Services** for the College Avenue Watermain Study/Project shall consist of the following areas of work:

- A. Construction of approximately 17,000 lineal feet watermain to provide a second connection to the development west of the Interstate 55/Railroad and loop watermain around Rivian Motors.

The **Scope of Services for Investigation, Design and Bidding Engineering Phase Services** shall consist of the following tasks:

INVESTIGATION PHASE ENGINEERING SERVICES

(Approximately 375 hours - \$58,000)

1. Project Kickoff Meeting – CMT will meet with the Town and their staff to review the project goals. We will also request any existing information and discuss any planning or design that has been considered to date on the project.
2. Preliminary Alignment Alternatives – CMT will review the goals and information obtained through the kickoff meeting and develop potential watermain alignments based on existing GIS information.
3. Preliminary Utility Coordination – CMT will complete a design JULIE and request utility information on the preliminary. CMT will review the utility information with reference to the preliminary alignments to identify any major conflicts.
4. Budgetary Opinion of Probable Construction Costs – CMT will develop budgetary construction costs for the different preliminary alignments.
5. Review Preliminary Alignments – CMT will meet with the Town and the staff to review preliminary alignments select the most cost-effective alignment that best meets the project goals. CMT will walk/drive the selected alignment with the Town to review specific concerns and potential conflicts.

6. Develop a basic (uncalibrated) water model of the primary conveyance routes, pump stations and elevated storage tanks for the western portion of the system.
 - a. The model will utilize the Town's AutoCAD water distribution map. The map will be adjusted to "best fit" into the State Plane Coordinate System
 - b. The model will utilize the IDOT Lidar Data to develop elevations for the existing watermains within the distribution system.
 - c. The model will utilize anticipated roughness coefficients for the existing watermains based on general watermain age data provided by the Town.
 - d. It is assumed that no field calibration will be completed for the basic model.
 - e. It is assumed that the Town will provide average day demand data for the study area.
 - f. A minimum fire flow demand of 1,000 gallons per minute at 20 psi residual pressure will be applied to each junction node.
7. The model will be used to review the maximum day demand conditions, while reviewing the available fire flow and ability to serve Rivian and the underdeveloped land in the area. The model will assist in the determination of the watermain size to serve the area for the current conditions and potential future demand.
8. Develop a letter report outlining the results and recommendations of the hydraulic model. Submit draft letter report to the Town for review and comment.
9. Meet with the Town to review preliminary model results and alternatives for the watermain alignment.
10. Complete final update to model and make alignment selection based on comments received from the meeting with the Town.
11. Complete final report based on comments received final model update.
12. Submit final letter report.

DESIGN PHASE ENGINEERING SERVICES FOR SELECTED ALIGNMENT

(Approximately 1,300 hours - \$182,000)

13. Field Surveying
 - a. Establish horizontal and vertical control based on Illinois State Plane Coordinates (NAD 83, 2011 adj.)
 - b. Complete topographic survey ROW to ROW including building fronts and significant improvements including sidewalks, visible utilities, manholes and inlets (including structure details), driveways, curbs, etc...
 - c. Existing ROW information from the Town's GIS System will be utilized for the ROW throughout the project limits. No field investigation or courthouse research will be performed to verify existing ROW.
 - d. Point processing and generate AutoCAD C3D drawing for the survey limits
 - e. QA/QC - field visit improvement area with paper copy of survey to spot check.

14. Final Utility Coordination (contact utility companies and request review of selected alignment)
15. Geotechnical Investigation – CMT would propose to subcontract with Ramsey Geotechnical to complete soil borings near the perennial stream crossing. The borings will help to evaluate soil conditions and determine the presence of rock or cobble at the stream crossing. The soil conditions will affect the installation options for the stream crossing. It would also be recommended to take borings at any jack-and-bore locations and horizontal directional drill locations, since the proposed alignment is located on the edge of Town where soil conditions are unknown. Ramsey could also provide pavement cores to determine the existing pavement structure along the alignment if requested by the Town.
16. Watermain Alignment Plans – CMT will update the preliminary alignment to account for permitting requirements, utility conflicts and field surveys.
17. Permitting Review – CMT will review the numerous permits that are required by the proposed improvements and assist the Town with obtaining permit approvals.
 - a. IEPA Public Water Supply Construction Permit
 - b. IEPA NPDES Permit for Construction Activities (Erosion & Sediment Control Permit) – CMT will develop and include a Stormwater Pollution Prevention Plan (SWPPP) that will outline the erosion and sediment control requirements for the project since the disturbed area for the project will exceed 1 acre. CMT will assist the Town in completing a Notice of Intent a minimum of 1 month prior to the start of construction.
 - c. IDOT Utility Permit – CMT will reach out to Cale Shonk with IDOT District 5 to review alignment alternatives and identify the most cost-effective approach to crossing Interstate 55. CMT will approach IDOT with the option to avoid a jack-and-bore under Interstate 55 by installing the watermain via open cut under the overpass along White Oak Road.
 - d. Railroad Crossing Permit – CMT will coordinate Union Pacific to gain approval of the railroad crossing. CMT has recently completed this for the Town on the Main Street Watermain Improvement Project.
 - e. IDNR Statewide Permit No. 8 – Authorizing the Construction of Underground Pipeline and Utility Crossing under a Perennial Stream. CMT would complete the design and the ECO-CAT review required by the permit. Currently Statewide Permit No. 8 does not require a submittal to IDNR, but a revision to this has been proposed. CMT will continue to monitor the requirements of the permit and keep the Town updated on any revisions to the permitting requirements.
 - f. USACE Nationwide Permit No. 12 – Utility Line Activities – Heather Lacey with CMT would review the project to determine the potential impacts to wetlands along the proposed alignment. This review would determine if a site visit or additional investigation into wetlands or habitat is required (this is not anticipated). If the impacts to these areas are below the public notification threshold, a submittal to the USACE would not be required. The only anticipated impacts will be at the perennial stream crossing.
18. Watermain Alignment Coordination meeting – CMT will meet with the Town and their staff to review the alignment and discuss alternatives and preferences. This meeting

allows the staff the opportunity to review the alignment prior to final construction plans and offer recommendations to improve the long-term maintenance and constructability.

19. Pre-Final Watermain Construction Plans and Specifications – CMT will update the watermain alignment based on the feedback provided by the Town. CMT will develop pre-final project documents and specifications. The construction plans will consist of approximately 75 sheets.
20. Opinion of Preliminary Construction Costs – CMT will utilize our project experience with previous Town projects and other similar projects to develop an opinion of probable construction cost for the project.
21. Final Permit Submittal Package – CMT will develop the final permit package and coordinate the Town's signatures to complete the submittal of the project permit applications.
22. Quality Control/Quality Assurance Review
23. Pre-Final Design Coordination Meeting – CMT will meet with the Town and their staff to review the final construction documents. This meeting allows the staff an opportunity to review the documents and offer insight into the past construction concerns along with any updates to the Town of Normal Manual of Practice.
24. Project Permits – CMT will submit for the project permits, be available to address any concerns that reviewing agencies may have and monitor the progress of permit approvals.
25. Project Management

BIDDING PHASE SERVICES

(Approximately 75 hours - \$10,000)

26. Reproduction and Distribution of Contract Documents.
27. Maintain Inventory of Plan Holders.
28. Attend/Conduct Pre-Bid Meeting and Prepare/Distribute Minutes.
29. Prepare and Issue Addenda as Required.
30. Address Bidder Questions.
31. Attend Bid Opening.
32. Record Bids and Prepare/Distribute Bid Tabulation.
33. Evaluate Bids and Issue Letter of Recommendation of Award.
34. Provide Successful Bidder with 3 Sets of Documents.

(Total Upper Limit for the Project = \$250,000)

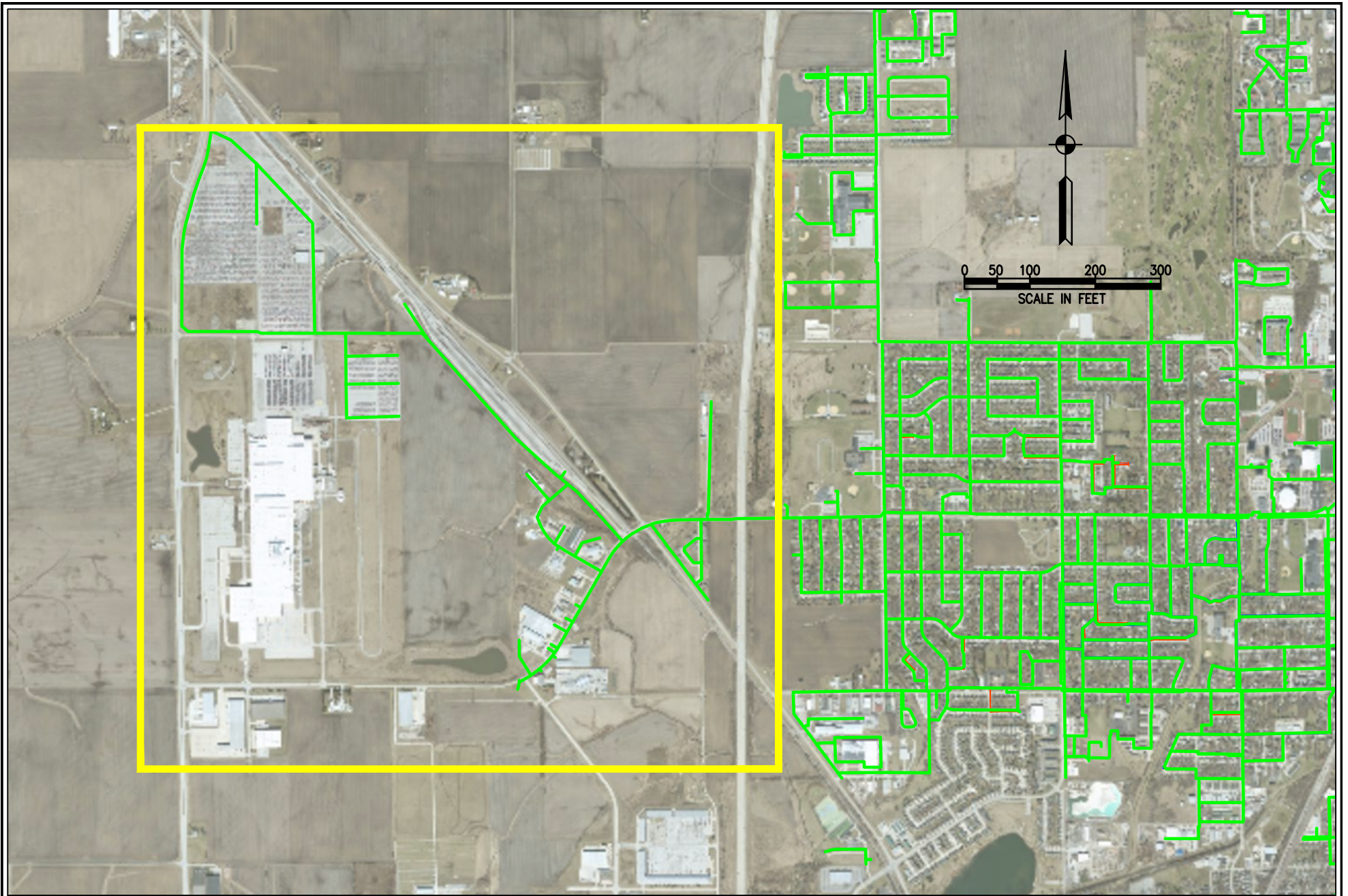
Estimated Schedule

The estimated completion for the construction plans and specifications is approximately 8 months after receipt of a signed Agreement for Engineering Services authorizing CMT to proceed.

Additional Services not included in the Scope of Services

- Ownership and easement documents (It is assumed that the construction will occur within existing ROW).
- Boundary/ROW survey
- Courthouse research on existing boundary/ROW
- It is assumed that there are no environmental hazards or any historically significant sites along the project corridor. As such this proposal does not include any fee for preparing environmental surveys, mitigation or historical investigations.
- Environmental testing of soil boring samples in conjunction with the Clean Construction and Demolition Debris Rule has not been included in CMT's proposal.
- Wetland surveys are not included in CMT's proposal.
- Preliminary Environmental Site Assessment. Soil contamination or Unresolved Leaking Underground Storage Tank.
- Construction phase services.

END OF DOCUMENT



COLLEGE AVENUE WATER DISTRIBUTION STUDY

NORMAL
WATER
DEPARTMENT