



11333 N. Cedarburg Road
Mequon, WI 53092
Phone: 262-236-2934
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www.ci.mequon.wi.us

Public Works/Engineering
Taped and Televised

SEWER UTILITY DISTRICT COMMISSION
Tuesday, March 14, 2023
7:15 PM or immediately following Comm of the Whole
Christine Nuernberg Hall

Agenda

- 1) Call to Order
- 2) Approval of Meeting Minutes
Action requested: review and approve
 - a. January 10, 2023 Minutes
- 3) Resolutions
Action requested: review and recommend approval
 - a. **RESOLUTION 4033** A Resolution Approving Award of a Design Contract for the Replacement of Ranch Road Lift Station "E" to Applied Technologies, Inc., of Brookfield, Wisconsin in the Amount of \$514,205
 - b. **RESOLUTION 4032** A Resolution Approving Award of a Contract to Test and Seal 218 Sanitary Sewer Laterals in the Ranch Road Lift Station "E" Area to Visu-Sewer, Inc. of Pewaukee, Wisconsin in the Amount of \$687,632
 - c. **RESOLUTION 4031** A Resolution Approving a Contract Award to Construct a Parallel Force Main for Tamerlane Drive Lift Station "O" to Mid-City Corporation of Butler, Wisconsin, in the Amount of \$738,265
- 4) Adjourn

Dated: March 14, 2023

/s/ Andrew Nerbun, Mayor

.....
Notice is hereby given that a quorum of other governmental bodies may be present at this meeting to present, discuss and/or gather information about a subject over which they have decision-making responsibility, although they will not take formal action thereto at this meeting.

Persons with disabilities requiring accommodations for attendance at this meeting should contact the City Clerk's Office at 262-236-2914, twenty-four (24) hours in advance of the meeting.

Any questions regarding this agenda may be directed to the City Administrator's Office at 262-236-2941, Monday through Friday, 8:00 AM – 4:30 PM



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SEWER UTILITY DISTRICT COMMISSION

Tuesday, January 10, 2023

7:30 PM

Christine Nuernberg Hall

Minutes

1) Call to Order, Roll Call

Commissioner Nerbun called the meeting to order at 7:40 PM

Present:

Commissioner Andrew Nerbun
 Commissioner Glenn Bushee
 Commissioner Mark Gierl
 Commissioner Jeffrey Hansher
 Commissioner Dale Mayr
 Commissioner Brian Parrish
 Commissioner Kathleen Schneider
 Commissioner Robert Strzelczyk
 Vacant Seat -- **Excused**

Also present: City Administrator Jones, Assistant City Administrator Schoenemann, City Attorney Sajdak, City Clerk Fochs, Community Development Director Tollefson, Finance Director Engroff, Director of Public Works/City Engineering Lundeen, Deputy Director of Utilities Driscoll, Police Chief Pryor, Fire Chief Bialk, Administrative Assistant Schlereth, Press and interested public.

2) Approval of Meeting Minutes

a. December 13, 2022 Minutes

RESULT: **Approved by Voice Acclamation [Unanimous]**

MOVED BY: Commissioner Mayr

SECONDED BY: Commissioner Strzelczyk

Attachment: 1-10-23 Minutes (8256 : January 10, 2023 Minutes)

AYES: Nerbun, Bushee, Gierl, Hansher, Mayr, Parrish, Schneider, Strzelczyk
DEEMED NO: Seat

3) Resolutions

Action requested: review and recommend approval

- a. **RESOLUTION 4009** A Resolution Approving the Purchase of Two Portable Back-Up Pumps and Appurtenances from Wisconsin Pump Works of Green Bay, Wisconsin, in the Amount of \$149,319

Discussion ensued regarding the presented cost savings with a manual portable pumping system compared to the previously rejected back up automatic pumping system.

4) Adjourn

- a. Motion to Adjourn at 7:44 PM

RESULT: **Approved by Voice Acclamation [Unanimous]**

MOVED BY: Commissioner Strzelczyk

SECONDED BY: Commissioner Schneider

AYES: Nerbun, Bushee, Gierl, Hansher, Mayr, Parrish, Schneider, Strzelczyk
DEEMED NO: Seat

Respectfully Submitted,

Ren Schlereth
Administrative Assistant

Attachment: 1-10-23 Minutes (8256 : January 10, 2023 Minutes)



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Office of Sewer Utility District Commission

TO: Sewer Utility District Commission
FROM: Kevin Driscoll, Deputy Director of Utilities
DATE: February 24, 2023
SUBJECT: RESOLUTION 4033 A Resolution Approving Award of a Design Contract for the Replacement of Ranch Road Lift Station "E" to Applied Technologies, Inc., of Brookfield, Wisconsin in the Amount of \$514,205

Background

The 2023 Sanitary Sewer budget was adopted by the Sewer Utility District Commission on October 27, 2022, and included funding for a number of capital improvement projects. The 2023 Sewer Utility Budget included the design for the replacement of the Ranch Road Lift Station E. Staff established a Selection Committee and collaborated to prepare and distribute requests for qualifications and proposals. Staff received three proposals from qualified firms. Six other firms with lift station expertise responded that due to workload and backlogs they were not in a position to submit proposals or commented that they would not be the lowest fee and declined to submit on a fee-based selection process.

This selection process followed two significant efforts by staff and consultants in 2022. One effort was to implement a back-up pumping system for the Ranch Road Lift Station E. The facility's power supply is currently redundant electric feeds. Both sources of power have had service interruptions. Fortunately, these temporary outages have not been simultaneous. In the past, temporary power outages have occurred due to trees blown down during storm events or accidents that result in power poles being knocked over. In addition to the back-up pumping system, the sanitary system hydraulic model was updated for future design conditions. That model included the anticipated design of a new lift station and associated capacity improvements. This hydraulic modeling effort was also included in the 2022 budget and specifically authorized by Resolution 3911.

Analysis

Consultants provided statements of qualifications with previous experience on similar projects to design a twelve million gallons per day (9,000 gallons per minute) lift station facility and the construction of connecting gravity sewers and force mains. In addition, proposals with design fees and hours were received, and are summarized as follows:

Contractor	Total	Hours
Applied Technologies, Inc. (ATI)	\$514,205	3,641
S.E.H.	\$517,343	3,113
Arcadis	\$1,061,918	9,055

The proposal with fees, scope, and terms and conditions for the recommended proposer, ATI, are included as Exhibit A. The scope of design services is structured in phases. The first phase is the core contract essential to designing the new lift station and to make the necessary connections with the existing force main and gravity sewers. Additional phases are for gravity relief sewer extensions based on the 2022 hydraulic modeling efforts completed by Brown and Caldwell in coordination with City staff. These gravity relief sewer extensions from the new lift station will operate similar to the East Trunk Sewer, where they add capacity and eliminate choke points in the system.

Fiscal Impact

The Sewer Lift Station Capital Account 610669-740003 has sufficient funds available for the design of a new lift station. The consultant services for this project include generating cost estimates at various phases of the project (30%, 60% and 90%). Based on these cost estimates, staff will bring back information and any necessary items to the Sewer Utility District Commission (SUDC). For example, if self-funding appears to be insufficient to successfully complete the project, then staff will identify if additional financing may need to be pursued as early as possible in the design process, and schedule a discussion with the Sewer Utility Commission to discuss such, as appropriate.

Recommendation

Staff recommends that the Sewer Utility District Commission favorably endorse and the Common Council approve the award to design a replacement Lift Station by Applied Technology, Inc. of Brookfield, Wisconsin in the amount of \$514,205.

Attachments:

Exhibit A - Agreement for Professional Services (#3616-23-E) (PDF)

COMMON COUNCIL
OF THE
CITY OF MEQUON

RESOLUTION 4033

A Resolution Approving Award of a Design Contract for the Replacement of Ranch Road Lift Station “E” to Applied Technologies, Inc., of Brookfield, Wisconsin in the Amount of \$514,205

RECITALS

A. A number of capital improvement projects and equipment purchases were identified as part of the FY2023 Sanitary Sewer budget adopted by the Common Council on November 9, 2022.

B. Sewer Utility staff requested and received proposals to design the lift station improvement project to replace the Ranch Road Lift Station “E”.

C. Staff has received and reviewed the various proposals to design the Lift Station “E” replacement and design capacity improvements of gravity sewers to Applied Technologies, Inc. of Brookfield, Wisconsin, in amount of \$514,205.

D. The Sanitary Lift Station Account 611669-740003 has a sufficient balance to fund these design efforts and prepare contract documents.

E. The Sewer Utility District Commission at its meeting on March 14, 2023, approved staff’s recommendation.

BASED UPON THE FOREGOING RECITALS, IT IS RESOLVED by the Common Council of the City of Mequon, Wisconsin that:

1. The Contract to Design the Replacement of Ranch Road Lift Station “E” and Design Capacity Improvements to Gravity Sewers with Applied Technologies, Inc. of Brookfield, Wisconsin in the amount of \$514,205, in the form attached hereto is approved, subject to any clerical, technical and/or legal changes deemed necessary and appropriate by the City Attorney.

2. The Mayor and the City Clerk are authorized and directed to execute and deliver the same.

Approved by: Andrew Nerbun, Mayor

Date Approved: March 14, 2023

I certify that the foregoing Resolution was adopted by the Common Council of the City of Mequon, Wisconsin, at a meeting held on March 14, 2023.

Caroline Fochs, City Clerk



AGREEMENT FOR PROFESSIONAL SERVICES



Date: March 6, 2023

Project

Number: BD4081

Project Name: Lift Station E Replacement (#3616-23-E)

Client: City of Mequon

Address: 11333 N. Cedarburg Road

Mequon, WI 53092

The Client hereby requests and authorizes Applied Technologies, Inc. (ATI) to perform the following services:

Project: Lift Station E Replacement (Project No. 3616-23-E)

Scope of Services: See Attachment A for scope of services. Exhibits A, B and C, located in Attachment C, depict the project areas and phases.

Compensation: Work will be performed on a time and material basis for a fee not to exceed \$514,205 as described on Attachment B (compensation estimate).

Other Items:

Services covered by this Agreement shall be performed in accordance with the General Provisions stated on Page 2 of 2 and any referenced attachments or schedules.

Accepted for Client

By: _____

Title: _____

Date: _____

Accepted for Applied Technologies, Inc.

By: 

Title: President

Date: March 8, 2023

13400 Bishop's Lane • Suite 270 • Brookfield, Wisconsin 53005 • Phone (262) 784-7690 • Fax (262) 784-6847



GENERAL PROVISIONS

1. Scope of Services and Time Limit

The Proposal or Agreement for Professional Services, hereinafter both called the Agreement, is valid for a period of 60 days. Signing of the Agreement by the Client shall be considered as authorization for Applied Technologies, Inc. (ATI) to proceed with the Scope of Services. If acceptance is not received within 60 days, ATI reserves the right to revise the Scope of Services, Compensation, schedule, and personnel commitments.

2. Compensation

Compensation for the Scope of Services shall be as indicated in the Agreement, including any rate schedule or other attachments. All time spent on the Project by professional, technical, and clerical personnel will be invoiced. Unless otherwise stated, any compensation or fee estimate is considered a budget estimate only, and is not a lump-sum fee. If it becomes apparent to ATI that the total amount of compensation will exceed the budget estimate, ATI will notify the Client. Promptly thereafter, the Client and ATI shall review the matter of compensation and either the budget estimate or the remaining Scope of Services shall be revised. Rate schedules are adjusted on January 1st of each calendar year.

3. Additional Services

Additional compensation shall be negotiated between the Client and ATI for Additional Services beyond the Scope of Services.

4. Payments to ATI

Progress invoices will be issued monthly by ATI for all services performed under the Agreement. Invoices are due and payable on receipt. Interest at the rate of 1% per month will be charged on all past due amounts.

5. Professional Standards

ATI shall be responsible, to the level of competency presently maintained by other practicing professionals in the same type of work and time in the Client's community, for the professional and technical soundness, accuracy, and adequacy of all design, drawings, specifications, and other work and materials furnished under this Agreement. Professional services are not subject to, and ATI cannot provide, any warranty or guarantee, express or implied, including warranties or guarantees contained in any uniform commercial code. Any such warranties or guarantees contained in any purchase orders, requisitions or notices to proceed issued by the Client are specifically objected to.

6. Opinions of Cost

Since ATI has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions, the opinions of probable Total Project Costs and Construction Cost are made on the basis of ATI's experience and qualifications and represent ATI's professional judgment. ATI does not guarantee that proposals, bids or actual Total Project Costs or Construction Costs will not vary from the opinions of probable cost prepared by ATI. If prior to bidding, the Client wishes greater assurance as to Total Project or Construction Costs, the Client shall employ an independent cost estimator. ATI's services to modify the Contract Documents to bring the Construction Cost within any limitation established by Client will be considered Additional Services.

7. Construction Observation

During construction observation ATI shall not supervise, direct, or have control over the Contractor's work or responsibility for the means, methods, techniques, sequences, or procedures of construction, nor for construction safety precautions and programs. ATI shall not be responsible for any failure of the Contractor to comply with applicable laws, rules, regulations, ordinances, or codes. ATI can neither guarantee the performance of the construction contract by the Contractor nor assume responsibility for the Contractor's failure to furnish and perform work in accordance with the Contract Documents.

8. Insurance

ATI shall procure and maintain insurance for protection from claims under workers' compensation acts, claims for damages because of bodily injury

including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims or damages because of injury to or destruction of property including loss of use.

9. Indemnification

ATI agrees to indemnify Client from any claims, damages, losses, and costs, including, but not limited to, attorney's fees and litigation costs, arising out of claims by third parties for property damage and bodily injury, including death, caused solely by the negligence or willful misconduct of ATI in connection with the project. Client agrees to indemnify ATI from any claims, damages, losses, and costs, including, but not limited to, attorney's fees and litigation costs, arising out of claims by third parties for property damage and bodily injury, including death, caused solely by the negligence or willful misconduct of Client, Client's employees, or agents in connection with the project.

If the negligence or willful misconduct of both ATI and Client (or a person identified above for whom each is liable) is a cause of such damage or injury, the loss, cost, or expense shall be shared between ATI and Client in proportion to their relative degrees of negligence or willful misconduct and the right of indemnity shall apply for such proportion.

10. Limitation of Liability

Nothing contained within this Agreement is intended to be a waiver or estoppel of the Client or its insurer to rely upon the limitations, defenses, and immunities contained within Wisconsin law, including those contained within Wisconsin Statutes §§ 893.80, 895.52, and 345.05.

11. Reuse of Documents

Any reuse of documents including reports, drawings, specifications, Contract Documents and other deliverables furnished by ATI, whether in hard copy or electronic form, under this Agreement without specific written verification or adoption by ATI will be at the Client's sole risk and without liability or legal exposure to ATI. Any such reuse, verification or adoption will entitle ATI to further compensation at rates agreed upon by the Client and ATI.

12. Termination

Either the Client or ATI may terminate the Agreement by giving 30 days written notice to the other party. In such an event, the Client shall pay ATI in full for all work previously authorized and performed prior to the effective date of termination. All relationships and obligations created by this Agreement shall be terminated upon completion of all applicable requirements of this Agreement.

13. Dispute Resolution

In the event of a dispute arising under this Agreement, the Client and ATI shall attempt to settle the dispute by discussion between the Client's and ATI's management. If any dispute cannot be resolved in this manner, in a reasonable length of time, the Client and ATI agree to attempt non-binding mediation or other alternative dispute resolution prior to filing any legal proceedings. In the event actions are brought to enforce this Agreement, the prevailing party shall be entitled to collect its litigation costs from the other party.

14. Controlling Law and Severability

This Agreement is to be governed by the law of the principal place of business of ATI. If any provisions, paragraph, word, section, or subsection of this Agreement is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, sections, and subsections shall not be affected and shall continue in full force and effect.

15. Entire Agreement

This Agreement represents the entire agreement between the Client and ATI. No other terms, conditions, promises, understandings, statements, or representations, express or implied, covered in the subject matter of this Agreement exist or have been made. This Agreement cancels and supersedes all previous agreements, proposals and understandings, if any, written or oral, between the parties relating to the subject matter of this Agreement.

ATTACHMENT A – SCOPE OF SERVICES

City of Mequon

Lift Station E Replacement (#3616-23-E)

The Consultant scope of work is generally described as follows:

- Deliver Conceptual Design Memos based on Consultant Site Investigation, Surveying, Soil Borings, Wetland Delineations, Lift Station location, Pump Selection and Station Configuration with Cost Estimates for Lift Station; and Memos on Alignment for Force Mains with Cost Estimates, and Gravity Sewer Alignments with Cost Estimates. These memos are intended to be compiled into a comprehensive Design Report based on City feedback to finalize alignments and major design considerations. This design report is intended for presentation to the SUDC.
- Consultant to prepare Preliminary and Final Plans and Specifications in Contract Document Bid Package for a new Lift Station, Force Main extensions, and Gravity Relief Sewer extensions with revised Cost Estimates, and complete all necessary permits for successful bid documents. Plan format to adhere with City Standard Specifications.
- Consultant to schedule and attend meetings, phone calls and communications, and provide general consultation services to successfully complete project.

Exhibits A, B, and C are located in Attachment C.

SECTION 1 – INITIAL SITE VISIT, MEETINGS AND CONSULTATIONS

- I. The Consultant shall meet (#1) with City of Mequon representatives to review project scope and complexity, design criteria, related requirements, view existing conditions, gather data from the City engineering files and previously prepared reports. City to provide latest city mapping of sanitary sewer system and parcels in Geographical Information Systems (GIS) shapefile format including Sanitary Sewer pipes and structures, in addition to parcels and right-of-way. No water main exists in this project area.
 - A. City to provide as-built plans for the sanitary sewer, force main through GIS access. City to provide system mapping in Computer Aided Drafting (CAD) format. However, consultant field survey to be basis for design and plans.
 - B. Upon request property lines and right-of-way, sewer utility system mapping can be provided.
 - C. Topography and contours, easements, aerials and buildings may be provided by Ozaukee County upon request.
 - D. For easement files on record, City to make easement and plat records available, and coordinate with Ozaukee County for recorded easements and plat maps within the project corridor.

- E. Inspect with initial site visit and become closely familiar with Mequon’s East Trunk collection system including anticipated flows, the proposed LS E site, and project corridor.
 - F. Consultant to meet with City Staff (#2) and discuss preliminary findings with DCD to address new lift station location, building footprint and other considerations and pedestrian accommodations.
- II. Provide needed measurements and Surveying to complete the site work for various phases. Phase I is essential to completing a successful lift station project. Phases II, III and IV will be considered “if authorized.” All survey work shall be based on following Survey Requirements:
- A. A Wisconsin registered professional land surveyor shall oversee all surveys.
 - B. Project horizontal and vertical control shall be based on the North American Datum of 1983, (2011 Adjustment) for horizontal and the North American Vertical Datum of 1988 for vertical. This specification is to be used for all plans, consistent with City of Mequon Standard Specifications for Land Development.
 - C. Surveyor to request diggers hotline prior to site survey for marking of all underground facilities and shall label facilities with offsets on alignment evaluations, preliminary and final plans.
 - D. The surveyor will be responsible for obtaining permission from all private property owners in the project corridor for any survey work on private property. This may be accomplished via a right-of-entry agreement or another document approved by the City.
 - E. Obtain sufficient horizontal and vertical information for all surface features that may be impacted during construction activities. This includes existing LS E structure, manholes, electrical facilities (poles, boxes) driveway, culvert, roadways, paths, ditches and other features that may be impacted such as trees and landscaping.
 - 1. In addition to survey all sanitary structures in project area, survey all culverts elevations on culverts, pipes and structures used for storm drainage in the right-of-way within 100 feet of the project areas. Label inverts of recorded storm drainage inventory.
 - F. Survey shall make every effort to identify property lines along the project corridor.
 - G. Trees with diameters in the proposed project alignment/corridor shall be surveyed and inventoried with tree species identified.
 - H. The center of rim locations shall be recorded for all manholes and measure down to the actual invert elevations in the project corridor. Provide a measure down sheet for each structure surveyed and measured down, that identifies if any structural repair or infiltration needs rehabilitation. Measure down sheets to include structure number, surface elevation, elevation of the subsurface inverts and diameters
 - I. Provide any needed measurements and surveying to complete the site work.
- III. Consultant to prepare base maps and analyze conceptual routes for new gravity sewers and force main for a new lift station location. Consultant to prepare conceptual memo to present findings that show feasible alignments/routes for the gravity sewers and force mains.
- A. Consultant to show utilities on base maps and complete conceptual design memo on Utility Impact Planning.

- B. The exact location of the force main will depend on existing utilities in the corridor, but will also depend on many other factors, including pavement condition, maintaining access to residents and pedestrian trails, etc.
- IV. Consultant to complete conceptual design memo on Traffic Impacts. A multi-use pedestrian path exists in the 60-ft right-of-way north of Laguna Drive dead end. The lift station design must accommodate a multi-use pedestrian path and address access during construction activities.
 - A. The Consultant shall evaluate all traffic impacts associated with LS E and Force Main installation, recommend the best route/location for the Force Main, obtain all necessary approvals to locate the Force Main in the right-of-way, and include the necessary traffic control plans in the design documents.
 - B. The consultant shall also consider access to the new lift station for routine operations, maintenance and future improvement projects such as pump replacements and upgrades.
- V. Consultant to identify if easements required for successful project construction of Lift Station, Force Main and Gravity Sewers. Easements exists and work within the existing easement is preferred, where feasible and legally practical. If additional easements are necessary, the City will lead the easement acquisition process, but the Consultant to assist the City as required during easement negotiations. The exact number of easements required will depend on the final LS E location, gravity sewer, and force main route/alignment selected.
 - A. If authorized, the Consultant shall prepare legal descriptions and maps for all easements required to complete successful construction of lift station, force mains and gravity sewers. This includes permanent easements and/or temporary easements.
 - B. The City will lead any negotiation efforts with landowners, work with the Consultant to prepare any necessary easement documents, and have the documents recorded. The Consultant may attend negotiation meetings with private landowners as required and assist the City during the easement acquisition process. Eminent domain is not expected. If appraisals and/or title reports are required, the City will pay for these directly.
- VI. Consultant to complete archaeological survey.
 - A. Consultant to hire an archaeologist to perform a detailed archaeological review and field survey of the entire project corridor. The archaeologist shall be licensed with the State of Wisconsin and approved to perform archaeological surveys.
 - B. Literature review and field work to be completed in accordance with state statutes, such as any report submittals required to Wisconsin Historical society and/or any other state organizations for approval. The archaeologist to work with the State Historical Society, as necessary, to meet all laws in the project corridor. Consultant and archaeologist to include any necessary language in the contract documents for archaeological regulations and/or discoveries during construction.
- VII. Consultant to complete Wetland Delineation Reports.
 - A. Depending on the final route chosen, portions of the proposed Force Main extension and potentially gravity sewers are anticipated to be in wetland areas.
 - B. The Consultant to identify, locate, classify, and evaluate all wetlands in the selected corridor.

- C. The Consultant to document the results of the wetlands investigation in a report and include all mapped wetlands on the project plans. The wetland delineation shall be sufficient to obtain US Army Corp and WDNR approval, and any other permits required.
- VIII. Consultant to complete Arborist Evaluation, as necessary. At the present time, it is not known if the assistance of an arborist will be required during design of the Force Main and Gravity Sewers. This will depend on the final route selected and the presence of trees in the proposed corridor. However, it is likely that an arborist will be required, especially to document tree species and condition along the creek bank near Wildwood drive and River Bend Court, in addition to Stone Creek Drive and Hidden Reserve.
- A. At a minimum, the surveyor shall obtain the location and size of all trees larger than 4" diameter in the project corridor during the surveying process.
 - B. Consultant to assume services of an arborist are required, and during the design process that will be an “if authorized” item in the work scope.
 - C. Consultant to be familiar with specimen tree list. No trees shall be removed without City Forester authorization. <https://www.ci.mequon.wi.us/publicworks/page/specimen-tree-list-0>
- IX. Consultant to complete Geotechnical Investigation and Technical Report.
- A. The Consultant shall retain the services of and coordinate all design work with a geotechnical engineer. The new LS E, gravity sewers and Force Main are anticipated to be located in areas with high groundwater and poorly draining soils.
 - B. Consultant to present Soil Borings and findings in technical memo(s) that evaluate(s) trenchless techniques of Directional Drilling / Boring Tunneling Evaluation. This is to accompany the memo on alignment feasibility. That memo with feasibility analysis to also evaluate and address any Creek/Pond Crossings. In addition to identification of any necessary permanent or temporary easement requirements identified during survey research.
 - C. Phase I is essential to completing a successful lift station project. Consultant to consider additional phases as “if authorized” for Phases II, III and IV.
- X. Consultant to compile conceptual design memos and investigative reports (Section 1, Tasks IV–IX) into comprehensive design report for presentation to Sewer Utility District Commission (#3) and to make available at Public Information meetings (#4, #5).
- A. Prepare a detailed design report with cost estimates, design features and parameters recommended for design.
 - B. Consultant to prepare Renderings of Lift Station for two (2) Public Information Meetings. First set of renderings to include multiple views: side view displaying materials of either brick or composite siding to meet any requirements established by Community Development, identified in kick-off meeting, in addition to adhering with the City of Mequon Code of Ordinances including Chapter 58 – Planning and Development Regulations.
 - 1. Three dimensional renderings will be provided to assist the public and City staff in understanding the facility, its exterior and interior layout at the first PIM. As presented during the interview with the selection committee, this rendering will

include an overall view, a ground level view without the building walls and a full depth view indicating the structure from the top to the bottom.

- C. Consultant to facilitate up to three (3) public information meetings. Based on feedback, consultant to incorporate aspects into design process. Optional third public information meeting (#6) to present final contract document as advertised.

SECTION 2 – DESIGN LIFT STATION E (LS E)

- I. Establish Lift Station Location based on Section 1.
 - A. Consultant to draft Technical Memorandum to document the proposed Lift Station Location recommendation. Memo to identify space requirements in addition to feasible final route alignment and preliminary profile evaluation of gravity sewer and force mains to address MMSD, WDNR, FEMA regulations.
 - B. Meet with the City staff (#8) to discuss City staff comments on the Technical Memorandum.
 - C. Coordinate with the CITY to present the final location at Public Outreach Meeting (#4) including the recommended final horizontal alignment and preliminary profile with example construction details. (Sewer offset distances to be considered in alignment selection and completed in final design Task 3).
- II. Consultant to design the new LS E to handle flows similar to that of the LS E.
 - A. Consultant to prepare conceptual design memo as basis for design. Memo to be reviewed by City staff and comments to be incorporated into Design Report (Section 2, Task III)
 - B. Improvements essential to the proper operation of LS E to be included in the design and ultimately, must be coordinated with construction and start-up.
 - 1. Consultant to prepare design of the gravity sewer to connect existing sewers to new lift station location, as necessary for functionality and normal operation.
 - C. Consultant to design a new sanitary lift station with capacity for expansion based on MMSD 2050 Facilities Plan (Table 48 including Basins ME4001, ME4002, ME4003, ME4012 and northern part of ME4004).
 - D. Consultant to review and become familiar with 2022 East Trunk Hydraulic Analysis Report and PCSWMM Model of collection system. In general, model includes gravity flows from three sewersheds.
 - E. Consultant to prepare conceptual design memo, based on review of collection system hydraulics and Consultant's update to City's hydraulic model in PCSWMM for various scenarios:
 - 1. Consultant to prepare model with new force main extension through Hidden Reserve, and prepare associated cost estimate of construction. (Section 3, Task II, Exhibit B)
 - 2. Update Model to reflect with new lift station, force mains and re-route gravity sewer from existing station to new station.

3. Consultant to prepare model with analysis of new relief sewer extending along Ranch Road west to SMH 219.003 and prepare associated cost estimate of construction. (Refer to Section 4 and Exhibit C)
 4. Consultant to prepare model with analysis of new relief sewer extending north to SMH 119.038 near Oriole Lane and Wildwood and prepare associated cost estimate. (Refer to Section 4 and Exhibit C)
 5. Consultant to prepare model with analysis of new relief sewer extending north to SMH 118.127 near Oriole Lane and Glen Oaks Lane and prepare cost estimate. (Refer to Section 4 and Exhibit C)
 6. This memo will also be the basis for design of the connecting gravity sanitary sewer collection layout and force main connections.
- F. Consultant to design the lift station capacity and pumps while taking into account future phases of infrastructure improvements, as outlined above and in tasks 3 & 4.
1. Consultant to evaluate and design Lift Station that allows for future capacity expansion at lift station, including additional pumps and/or larger pumps.
 2. Consultant to identify the effect the new pumping station will have on the ETS capacity.
 3. Consultant to make recommendations for lift station design regarding the essential collection system connections and future phases of gravity relief sewer extensions.
 4. If SUDC determines that relief sewers are cost prohibitive, then underground storage facilities at nearby contributing lift stations (Riverdale Park LS F & Fieldwood Drive LS G) may be pursued.
 5. It is anticipated that additional construction improvements to the gravity collection system, including inline relief sewer/storage, will occur after the LS E is constructed and operational.
- G. Consultant to design lift station with corrosion resistant materials. Identify and evaluate concrete protection measures, such as epoxy coating, for the LS E wet well, new manholes and pipelines.
- H. Consultant to design lift station for adequate head room and easy access without obstructions, typical 3ft of space for human access with tools for repairs, operation and maintenance.
- III. Produce a preliminary design report early in the design process to provide an overview of the project and present major alternatives that may be selected or modified to better define and focus the project. Consultant to prepare a conceptual design memo for LS E to address capacity, mechanicals, electrical, controls, architectural, civil/structural, staging and sequencing.
- A. Capacity. Ability to meet maximum demand with firm pumping capacity, in addition to average day flows including diurnal variation.
1. Design to avoid problems caused by hydraulic transients such as surge pressure and valve closures.
 2. Provide mechanical and hydraulic analysis needed for proposed systems, including hydraulic transients (water hammer) and potential equipment vibration.

3. If Authorized, Complete and provide CFD modeling of the wetwell configuration and inlets to pumps, summarized in the design report.
 4. Evaluate installation and automation of wet well flow control methods.
 5. Evaluate vibration damping and surge protection measures as required.
- B. Mechanicals. Consultant to design necessary aspects that ensure mechanical and electrical operations of LS E including:
1. Pumping System. Evaluate and compare in a tables: the types, configurations, constant speed pumps versus variable speed pumping modes; pump operating curves. Include the pros and cons for each type/arrangement with maintenance considerations and make recommendation based on site and system operations.
 2. Identify mechanical pumping system requirements, including piping, isolation valves, check valves, surge relief and appurtenances.
 3. Identify and design pump types, equipment, valves, and appurtenances. Consider size and number of individual pumps, constant speed vs. variable speed operation, size and types of valves, piping requirements, space constraints and other considerations.
 4. Evaluate Valve actuation with SCADA to operate alternating Force Mains and Alternating pumps consistent with current SOPs.
 5. Debris removal system. Consultant to evaluate and design Wastewater debris removal such as screening and/or grinder systems to protect the pumps and reduce pump plugging. Consultant to evaluate at least three options for automatic debris removal and include in design report, and with concurrence of Wastewater Superintendent include in preliminary plans with specifications and final design plans with specifications.
 6. Consultant to design station with the ability to split/isolate portions of the wetwell for redundancy and maintenance, such as with wet sluice gates.
 7. Consultant to identify and evaluate alternatives for the HVAC systems and odor control. Then Design HVAC and odor control systems to replace existing system, including granular activated filtration system. Avoid accumulation of toxic gases and explosive gases with preferred design of 25-30 air changes per hour, and limits humidity.
 8. Evaluate sound proofing, take ambient noise level readings, and design sound attenuating devices to adhere with required decibel levels.
- C. Electrical. Electrical and control systems.
1. Design Control system to integrate with Supervisory Control and Data Acquisition (SCADA) and other site requirements.
 2. Electrical demand scenarios
 3. load sharing and Modes of operation.
 4. Pump efficiencies
 5. Design to adhere with applicable codes (NEMA, IEEE NEC, NFPA, OSHA)
 6. Design flow metering systems.

7. Identify and evaluate required electrical equipment and power feeds. Evaluate emergency power system, including redundant services and on-site generation from natural gas.
 8. Design Lighting system to adhere with applicable codes, explosion proof (IES)
- D. Architectural. Consultant to design architectural features of the lift station exterior architectural style and building aesthetics, to address any Mequon requirements by Community Development, including but not limited to lighting, building aesthetics, blending the lift station exterior with nearby buildings.
1. Present renderings at public information meetings. Review the feedback from Public Information meetings. Revise in coordination with City staff and incorporate features into final design as directed by City staff including DCD.
 2. Provide Renderings. Allow for revision based on feedback from City staff (DCD) and feedback from public information meetings.
 3. Address concerns from a zoning and land use standpoint identified during meetings. Address guidance provided by Community Development staff regarding planning, zoning and/or inspections.
- E. Civil / Structural. Design civil and structural aspects based on soil borings analysis for footing or piling evaluation that avoids settlement.
1. Complete soil borings and survey as part of plan preparation, in Section 1. The Consultant shall review all recommendations by the geotechnical engineer, suggest alternatives, perform any structural analysis required, and incorporate all necessary details into the contract documents. The Consultant shall provide an Engineer's cost estimate for any proposed foundation support systems required for the project in the Design Report.
 2. Other systems and equipment as needed including electrical service, gas service, air release valves, hoists/cranes, driveway/pavement, landscaping) for successful construction and operation of a new lift station.
 3. Locate outside of Floodplain.
 4. Provide means for rescue, and design is preferred with platforms rather than ladders.
 5. Consider access to the new lift station for routine operations, maintenance and future improvement projects such as pump replacements and upgrades.
 6. Address Pedestrian access during construction, post construction, and during future operation and maintenance. Consider bollards, with adjustable hinge lock type.
 7. Determine structure size and configuration to adequately house the ultimate equipment layout.
 8. Evaluate design of building space with emergency shower, toilet, and sink. Estimate structural needs required to accommodate installation and maintenance of new and future equipment. No public water available in immediate vicinity.
- F. Staging and Construction Sequencing.

1. Consultant to evaluate and document specific sequencing required for construction, plans and specific prosecution and progress to address considerations for the need to keep the existing station and collection system in service during construction activities and wet weather events.
 2. Consultant to prepare staging plans, in addition to preparing specifications with detailed descriptions for prosecution and progress to construct a lift station, reconnect gravity sewers and force mains while maintaining operations and traffic control and minimizing impacts to other utilities.
 3. Phased construction may be required for various disciplines. Evaluate and prepare contracts for core lift station work in addition to extending gravity relief sewer for collection system capacity improvements. See Exhibit C
 - a. Consultant to recommend number of Construction Contracts to build new lift station, force main and gravity sewer project.
 - b. For successful operation of the new station, gravity sewer re-routing is required. In addition, anticipates future phases to improve system function by adding capacity with gravity relief sewer extensions, as identified in the 2022 System Planning Study.
- IV. Consultant to prepare plans, drawings and details necessary for successful lift station construction. Plans to be transmitted for City staff and/or Owner's representative (potential consultant review) meet with staff to discuss conceptual design memo (#7), preliminary (#8) and final design (#9) meetings.
- V. Consultant to prepare specifications necessary for successful lift station construction. Specifications to be transmitted for City staff and/or Owner's representative (potential consultant review) meet with staff to discuss conceptual design memo (#7), preliminary (#8) and final design (#9) meetings.
- VI. Cost Estimates. Consultant to generate cost estimates and revise cost estimates for station construction at various stages of project progress to reflect decisions based on conceptual memo (30%), design report (60%) preliminary plans (90%) pre-final plans
- A. For the design report, Consultant to include a preliminary cost estimate of the major items that can be generally described as Site/Civil/Mechanical/Electrical/Architectural.
 - B. Lift cycle cost. Provide detailed cost estimates and include life cycle costs analysis as part of preliminary concept memo and design report, and revise as needed.
 - C. The design report with preliminary cost is intended to identify selection of materials and equipment, that can be presented to the City Engineer / Director of Public Works and the Mequon Sewer Utility District Commission.
 - D. Provide final cost estimate prior to bidding.
- VII. If authorized, Prepare Operation and Maintenance Manual for new lift station with Standard Operating Procedures for Sewer Maintenance staff.
- A. Schedule meeting with Wastewater Superintendent to review draft SOPs.
 - B. Provide training to Sewer Maintenance staff and start-up guidance.

- C. Revise and finalize SOPs based on input from Sewer Utility staff during start-up and training.
- VIII. If authorized, Prepare Decommissioning Study for existing station and
 - A. Include preliminary sketches in draft Decommissioning Study.
 - B. Allow for input from Sewer Utility District and the River Bend Homes Association Inc. The existing lift station at 2020 Ranch Road is in easement located on outlot of the River Bend HOA.
 - C. In revised final version, address necessary removals, temporary easement access, disposal and abandonment of various aspects including but not limited to civil / structural features, underground infrastructure, lighting, utilities (electric pedestals and services, communications, and any other activity necessary to complete restoration as required by Community Development).
 - D. Prepare rendering of area post-decommissioning to present at 2nd public information meeting.

SECTION 3 – LIFT STATION E FORCE MAIN

Consultant to design force mains for work in two areas generally described as: First, station relocation area at Ranch Road and Laguna Drive, and second is a force main extension at the discharge end of the short force main from Sunnydale to Stone Creek Drive.

General Force Main Design Requirements to be provided by the Consultant:

- I. Surveying. Consultant to survey areas for force main work as outlined in Section 1. Consultant to include this survey work that is displayed in Exhibit B as necessary to design the extension of the force main from approximately Sunnydale Lane to Stone Creek Drive as part of the Phase I scope. This work may not be considered essential to the start-up of the station and may become additive rather than part of the base bid.
 - A. Surveyor to obtain any necessary permissions and survey proposed corridor described in Section 1.
 - B. Survey to include but not be limited to topography, existing utilities, streets, drainage swales, wetlands, paths, building structures, plantings, trees, and any other surface features relevant for construction through the proposed corridor.
- II. Consultant to provide conceptual memo that evaluates potential alignments and provides recommendation of the most feasible routes for: 1) Force Mains for Station Relocation (near LS E, Ranch Road and Laguna Drive) and 2) At the discharge end of the short Force Main from Sunnydale to north end of Stone Creek Dr. at existing 24-inch dia. sewer. Consultant to prepare alignment memo that evaluates three force main alignments for each area
 - A. Alignment to be based consultant survey, geotechnical investigation, where Geotechnical investigation along the selected Force Main route shall include soil borings spaced at approximately 300 feet apart along the project route and at all access pits/work shafts requiring earth retention systems.

1. The LS E pump to be designed for two force mains. Currently two force mains discharge: one at Sunnydale Lane and one at Zedler Lane.
 2. Consultant to understand the discharge point for the long force main at Zedler Lane to remain. No change to force main discharge at Zedler.
 3. For short force main, Consultant to design extension from Sunnydale Lane through Hidden Reserve subdivision for discharge connection directly into the 24-inch dia. relief sewer at north end of Stone Creek Drive. However, that extension is contingent upon working within existing easements or securing any necessary easements, and successful design and permitting through wetlands.
 4. Work shaft dewatering plans and specifications anticipated.
- B. Consultant to identify advantages and disadvantages of each route.
1. Permits. Identify any permits and approvals necessary from the Wisconsin Department of Natural Resources and US Army Corp of Engineers or other regulatory agencies.
 - a. Permits that constrain constructability or increase costs, beyond typical erosion control, and any other permits which may be required such as dewatering, to be taken into consideration during alignment evaluations.
 2. Easements. Consultant to identify easement requirements, traffic impacts, construction requirements (pipe support, bypass pumping, etc.), and a recommendation of the best alternative available.
- C. Provide all design elements for the Force Main not limited to but including:
1. Hydraulic analyses needed for proposed systems, including assessment of potential transients.
 2. Consultant to Review City's collection system hydraulics and update City's hydraulic model in PCSWMM to reflect core and essential improvements including:
 - a. New lift station, force mains and re-route gravity sewer from existing station to new station.
 - b. Consultant to prepare model with new force main extension through Hidden Reserve, and prepare associated cost estimate of construction.
 3. Evaluate, sizing and head requirements, minimum scour velocities in design memos prior to final design of the Force Main. The upsizing of the existing Force Mains is not planned at this time but Consultant to identify as consideration for future expansion of facilities as part of design report.
 4. Material. Evaluate different types of pipeline materials, including fused HDPE, PVC Certa- lok, wrapped ductile iron, fiberglass, and others.
- D. Analyze Force Main installation methods, including conventional open-cut, horizontal directional drilling, tunneling, and any other methods deemed appropriate.
1. Directional Drilling. Directional drilling or another trenchless technology is anticipated to be required at Force Main crossings of any intermittent creek and waterways. Consultant to evaluate directional drilling and/or trenchless options, costs, advantages/disadvantages to minimize wetland impacts.

2. Creek/River Crossings. Waterway crossings are expected near Stone Creek Drive and Hidden Reserve subdivision. Consultant to identify any special requirements associated with this.
 - a. The proposed gravity sewer will cross beneath the unnamed tributary creek to the Milwaukee River near LS E and at the force main downstream end also cross Stone Creek in the Hidden Reserve Subdivision.
 - b. Consultant to evaluate Force Main and gravity sewer work installation methods at any river/creek crossings, including concrete encasement, pipe buoyancy (floating) analysis, foundations/tight sheeting to prevent undermining, clay dams on either side of the creek, rip-rap, and any other considerations required to protect the pipe.
- III. Plans. Consultant to prepare plans for successful project bid that adhere with City Standards found at <https://www.ci.mequon.wi.us/publicworks/page/standard-specifications-land-development>. This includes Consultant to provide individual plan and profile sheets, a cover sheet, various standard details, special connection details, traffic control plans, erosion control drawings, and any additional miscellaneous drawings necessary to complete the plan set for two force main locations.
- A. Relocation and Design Force Main for New Station. Design new sanitary force main extensions for connection to two existing 16-inch dia. force mains in Ranch Road, approximately 800 feet, near an intermittent stream.
 1. The Consultant shall prepare a conceptual design memo that outlines the alternatives investigated for the force main alignment to connect the new LS E.
 2. Consultant to design force mains to the existing infrastructure near the existing lift station. This includes approximately 800 feet of twin 16-inch dia. Force Mains between the new station and existing Force Mains in Ranch Road.
 - B. Design Force Main Discharge Extension. Consultant to design the short Force Main extension (approximately 2,000 feet) with discharge from Sunnydale Lane to Stone Creek Drive. The proposed LS E short Force Main would pump directly to the East Trunk Relief sewer through a force main that would extend for a distance of approximately 8400 feet, to the north end of Stone Creek Drive. The long Force Main is approximately 14,000 feet and that discharge point will remain the same, at Zedler Lane and Port Washington Road.
 1. An additional 2,000 feet of 16-inch dia. sanitary Force Main design is anticipated at the downstream or discharge end of the short Force Main in the vicinity of Sunnydale and Oriole Lane to the north end of Stone Creek Drive, contingent on legal constructability in easements.
 2. Design LS E Force Main to handle existing flows identified in condition assessment and based on update flow monitoring, pump runtime and metering records. Consultant to review and possibly revise the peaking factors used to calculate the maximum flows. Any updated peak flow information will be provided to the Consultant. The consultant shall review the flow and capacity information and suggest modifications where deemed necessary. The consultant shall also determine the final alignment of the Force Main and best location of the Force Main.

3. Design air release valves and structures at high points, and as necessary for successful operation.
 4. Design to adhere with NR 110, Standard Specifications for Sewer and Water Construction in Wisconsin, and to accurately locate the new Force Mains in the future.
- IV. Specifications. Consultant to prepare specifications for the project, using the Consultant's specification format for lift stations, force mains, and gravity sewers, in addition to the General Conditions provided by the City.
- A. Design air release valves and structures at high points, and as necessary for successful operation.
 - B. Design to adhere with NR 110, Standard Specifications for Sewer and Water Construction in Wisconsin, and to accurately locate the new Force Mains in the future.
 - C. Identify flow meter for installation with Force Main Specifications to monitor flows at Lift Station E that tie into SCADA.
 - D. Consultant to provide list of specifications, prepare basis for payment sections that identify quantity, type and basis for measurement that will be reviewed by City staff/Owner's representative at various stages with cost estimates.
- V. Cost Estimates. Consultant to generate cost estimates and revise cost estimates for station construction at various stages of project progress to reflect decisions based on conceptual memo (30%), design report (60%) preliminary plans (90%) pre-final plans.
- A. The design report is to include a preliminary cost estimate of the major items that can be generally described as Site/Civil/Mechanical/Electrical/Architectural.
 - B. Lift cycle cost. Provide detailed cost estimates prior to bidding and include life cycle costs analysis as part of design report.
 - C. The design report with preliminary cost is intended to identify selection of alignment, materials, size and any additional special considerations that may be required for presentation to the City Engineer / Director of Public Works and the Mequon Sewer Utility District Commission.

SECTION 4 – GRAVITY SEWER DESIGN

General. The consultant shall serve as the lead design engineer and prepare all necessary documents (design report, permit applications, plans, specifications, addenda, etc.) required for the gravity sewer portion of the LS E project.

- City to provide the Consultant with all planning information that has been complete to date. The consultant shall perform all work necessary to plan, design and bid the project. This includes field survey, hydraulic analysis and updates to existing PCSWMM model, environmental evaluations, archeological surveys, geotechnical investigations, and obtaining all permits from local, county, state and any federal agencies as needed.
- Consultant to survey additional phases “if authorized” for Phase II, III and IV.

- Consultant to evaluate and address critical path design to move the LS E replacement project forward.
 - Consultant to prioritize design of lift station, force main, and gravity sewer to bring new LS E operational and functional. Assume second design team to work in parallel, to avoid gravity sewer extensions from delaying progress on core lift station work. Future gravity sewer profiles are important for design and it is expected that Consultant to set profiles, but focus on final design after lift station plans established.
- I. Survey. Survey the proposed project alignment as outlined in Section L.2. The essential gravity sewer that is priority is the proposed project corridor between the existing station from SMH 119.034 to 219.008, approximately 1000ft apart. That sewer connection from existing to new station is core element of design and LS E construction. Survey information shall include topography, existing utilities, streets, drainage swales, paths, building structures, plantings, trees, and any other surface features relevant for construction through the proposed corridor.
- II. Conceptual Design Memos to Establish Alignments. Consultant to evaluate potential project corridors and recommend the most feasible routes for the gravity sewer(s) in a conceptual design memo. Consultant to design gravity sewers for successful project construction and system operation. Scope to include four phases generally described as (1) First, station relocation area to connect to the new station, and (2) second is a gravity relief sewer extension west from Laguna Drive along Ranch Road to a point 1300 feet west, (3) third and fourth are phased extensions north. These are intended as intercepting relief sewers with diversion structures along Oriole Lane at (3) Wildwood Drive and (4) Glen Oaks Lane.
- A. Request diggers hotline system maps for planning and communicate and coordinate any necessary meetings with utility companies (WE Energies gas and electric, Spectrum Cable, AT&T and others). Consultant to discuss utility impacts and determine restrictions and guidelines to construction near their facilities. Consultant to forward exhibits and preliminary routes to respective agencies and request mark-ups and edits to assist in route analysis. Consultant to summarize analysis in alignment memo(s) for gravity sewer work.
 - B. Consultant to conduct a survey over routes for the proposed gravity sewer extension. The west branch is approximately 1250 feet. The north branch is approximately 900 feet for future phase to Wildwood, prior to an additional 1350 feet for another phase of construction to Glen Oaks. The survey will be based upon the as-built and system map reviews and our meeting (#1) with the City staff, and any necessary spot checks to successfully complete the survey and design.
 - C. Consultant to determine the final alignment of the gravity sewers, the most feasible and cost effect methods for construction, and the best location for the construction activities in coordination with City staff. This work shall be completed after all field information has been gathered, including topographic survey, mapping of existing structures, identification of delineated floodplain, geotechnical information, identify if any easements are required, and map the location of all utilities in the survey area.
 - D. Re-route Gravity Sewer. Consultant to Design system improvements for three existing gravity sewer systems (ME4001, ME4002, and ME4004) to re-route into the existing lift station E location to connect with the new station.

- III. Design Reports. At the completion of conceptual memos, the Consultant shall prepare a design report that outline the alternative alignments and construction methods investigated. Consultant to include in the report a summary of the geotechnical investigation, advantages, and disadvantages of each route, tunneling evaluations, easement requirements, traffic impacts, construction requirements (pipe support, flow control plan/bypass pumping, etc.), and a recommendation of the best alternative available. Consultant to complete additional system evaluation, document in conceptual memos and prepare design for:
- A. Existing Station to New Station (Phase I). This gravity sewer is core contract and essential to functional new lift station location. Evaluate at least two alignments and prepare modeling and design of gravity sewer from the existing station at 119.034 approximately 750ft west/southwest towards Laguna Drive.
 - B. Laguna Drive to a point 1300 ft west (Phase II). Inspect and become closely familiar with possible routes for the gravity sewer between the existing station and the new station in the right-of-way extended north of Laguna Drive. Evaluate at least two alignments, and prepare modeling and design of gravity sewer extension Preliminary design system between existing station, 1200ft from 219.008 to 219.003, with diversion structure at 219.003, a point east of St. James where the 18-inch dia. converges with a 10- inch dia.
 - C. River Bend (Phase III). Evaluate at least two alignments, and prepare modeling and design of gravity sewer from the existing station at 119.034 approximately 950ft to 119.039 at Wildwood, for a new diversion structure at 119.038 (option to gain authorization and perform bathymetric survey of pond)
 - D. Oriole Lane (Phase IV). Evaluate at least two alignments and prepare modeling and design of gravity sewer for approximately 1350ft from 119.039 at Wildwood to a new diversion structure near Glen Oaks Lane 118.127. This is the anticipated connection for a future Force Main extension from Fieldwood Drive LS G.
 - E. Port Washington Road (Future Phase IV). If authorized, evaluate flow restriction in 48-inch dia. ETS n/o Zedler in vicinity of 431.198 and 431.199 to optimize storage.
 - F. Design Report to include:
 - 1. Consultant to review PCSWMM model and 2022 planning study that identifies capacity improvements are being required. Consultant to updated PCSWMM Model to design final size/diameter and length of relief sewer. Consultant to summarize hydraulic evaluation in technical memo as basis for design of inline relief gravity relief sewer improvements.
 - 2. Geotechnical investigation along the gravity sewer route identified in #2 & #3. Investigation shall include soil borings spaced at approximately 300 feet apart along the project route and at all tunnel access pits.
- IV. City staff plans to review/manage the overall design of the gravity sewers/forcemain and lift station project, however may pursue additional consultant services to review plans.
- V. Consultant to investigate tunneling and/or trenchless options, costs, advantages/disadvantages for the project design phase crossings of all creeks and waterways. Consultant to provide memo on construction methods to address environmental considerations including wetlands, stream crossing, trees and any archaeological aspects.

- VI. Special design conditions will need to be evaluated to protect the Force Main and Gravity Sewer work at any creek/pond crossings and adhere with WDNR technical standards (1072). Consultant to analyze concrete encasement, pipe buoyancy (floating), foundations and earth retention systems to prevent undermining, in addition to clay dams on either side of the creek and any other considerations required to protect the pipe. This analysis is to also consider soil quality (poorly draining) for directional drilling.
- A. Creek Crossings. In addition to evaluating the force main downstream end also cross Stone Creek in the Hidden Reserve Subdivision, the consultant will complete future phase analysis for gravity relief sewer extension north of LS E under the unnamed tributary creek to the Milwaukee River near the unnamed adjacent to River Bend Court. Also, the proposed gravity sewer near LS E may cross beneath an intermittent drainage swale along the pedestrian path.
 - B. Wetland Delineations. Portions of the proposed gravity sewer and force main may be in designated wetlands. Consultant to identify, locate, classify, and evaluate all wetlands in the selected corridors. Consultant to document the results of the wetlands investigation in a report and include all mapped wetlands on the project plans. The wetland delineation and report sufficient to obtain US Army Corp and WDNR approval, and any other permits required. Consultant to identify any wetland mitigation strategies, as necessary.
 - C. Arborist. At the present time, it is not known if the assistance of an arborist will be required during design of the gravity sewer. This will depend on the final route selected and the presence of trees in the proposed corridor.
 - 1. Consultant to assume services of an arborist are required, and during the design process and for finalizing evaluation of corridor alignment “if authorized” item in the work scope.
 - 2. Consultant to document tree species and condition in potential project corridor(s). Design land disturbing activities outside of tree canopy (dripline), where possible. This includes area along the unnamed tributary/creek bank near River Bend Court and Wildwood Drive, also along Glen Oaks Lane, in addition to Hidden Reserve and for the Force Main connection to the existing gravity relief sewer in Stone Creek Drive (private road with easement).
 - 3. At a minimum, the surveyor shall obtain the location and size of all trees larger than 4-inch diameter in the project corridor during the surveying process.
- VII. Traffic and Utility Impacts. Consultant to propose alignment of the gravity sewer based on showing centerline offsets with existing utilities in the corridor, and other factors listed in standard specifications. Consultant to also consider pavement condition and maintaining access to residents including the impacts to pedestrian trails. Consultant to evaluate all traffic impacts associated activities to Construct the New LS E and Force Mains and Gravity Sewer connection. Consultant to recommend the best route/location for the Force Main that minimizes utility and pedestrian impacts. Consultant to include traffic control plans in the design documents to minimize disturbance to subdivision residents, such as a proposed pedestrian detour if the path is temporarily closed. Consultant to anticipate presentation of this pedestrian detour exhibit at public information meetings.

- VIII. Easements. Consultant to identify if any new easements are necessary. The exact number of easements that may be required will depend on the final LS E location and force main route/alignment selected. IF AUTHORIZED, the Consultant to prepare legal descriptions and maps for required easements required. The City will lead any negotiation efforts with landowners, work with the Consultant to prepare any necessary easement documents, and have the documents recorded. Consultant to attend negotiation meetings with private landowners as required and assist the City during the easement acquisition process, if authorized. Eminent domain is not expected. If appraisals and/or title reports are required, the City will pay for these directly.
- A. Prepare easement maps and legal descriptions for all areas where the gravity sewer is to be located on private lands, outside of existing easements.
 - B. Consultant to retain an allowance in the budget for this service for use on an “IF Authorized” basis.
- IX. Gravity Sewer Design. Consultant to complete design for gravity sewer connection to new facilities, existing facilities, and new relief structures. Design per NR110 and City of Mequon Standard Specifications. The gravity sewer design services to be provided by the consultant design firm are anticipated to the following:
- A. Consultant to provide all design elements in a technical memo for the gravity sewer, including sizing, location/route, soil conditions, surveying, easement descriptions, permits. Memo to include the following:
 - 1. Consultant to analyze gravity sewer installation methods including conventional open-cut, horizontal directional drilling, tunneling, and any other methods deemed appropriate.
 - 2. Consultant to evaluation of different types of pipeline materials, including epoxy coated structures, and plastic lined concrete pipe, and fiber reinforced polymer mortar pipe.
 - 3. Final sizing of the gravity sewer, including evaluation of potential storage and staging.
 - 4. Technical memo to be submitted to MMSD and WDNR with the necessary forms.
 - B. 2. Identify new metering manhole to monitor inflows for Lift Station E.
- X. IF AUTHORIZED, Consultant to design flow optimization with a sluice gate in Port Washington Road north of Zedler Lane on the existing 48-inch dia. relief sewer system. This relief sewer is successful and is intended for replication in the collection system leading up to the new Lift Station E location.

SECTION 5 – GENERAL DESIGN SERVICES

General consultant services to be provided by the design firm include the following:

- I. Prepare documents for MMSD and WDNR submittals.
 - A. Manage and carry out the design project and coordinate lift station aspects with force main and gravity sewer details as required.

- B. Frequently meet and interact with the City throughout the project, and submit key design recommendations, as needed for various milestones and approvals.
 - C. Provide frequent schedule updates.
 - D. Obtain all required design approvals and permits and attend public information meetings.
 - E. Consultant to prepare drawings to include all necessary site maps, plans, elevations, sections, details, and notes as needed or necessary to adequately show, explain or describe all features of the project.
 - F. Drafting services to provide individual plan and profile sheets, a cover sheet, various standard details, special connection details, traffic control plans, erosion control drawings, and any additional miscellaneous drawings necessary to complete the plan set.
 - G. Prepare specifications for the project, using the Consultant's standard specification format and General Conditions provided by the City.
 - H. Attend public meeting(s) as required.
- II. Prepare detailed plans and specifications to be used for construction bidding and provide any needed addenda.
- III. Provide services through advertising and bidding of the project including any requests for information.
- IV. Flow Control in Port Washington Road. Model, prepare Cost Estimate, Design, Specifications. (Refer to Section 4, Part X.)

ATTACHMENT B
Mequon Lift Station E Replacement
Compensation Estimate

Item	Description	Units (hrs)	Fee
Section I: Site Visit/Investigation, Meetings, Data Collection, Surveying, Consultant and Admin Services			
1.A	Meetings to discuss Alignment, DCD, Concept Design Memos, PIM#1 w/Rendering, Preliminary Design, Final Design, PIM#2, Pre-Bid, Pre-Con (1 Meeting per each month, 12 total)	92	\$ 16,538
1.B.i	Survey for Lift Station (LS), Force Mains (FM) and Gravity Sewers (GS) – Phase I	64	\$ 6,710
1.B.ii	<i>If Authorized, Survey for Phase II GS (incl Arch, Wetlands and Tree Survey)</i>	94	\$ 11,738
1.B.iii	<i>If Authorized, Survey for Phase III GS (incl Arch, Wetlands and Tree Survey)</i>	96	\$ 12,064
1.B.iv	<i>If Authorized, Survey for Phase IV GS (incl Arch, Wetlands and Tree Survey)</i>	95	\$ 11,754
1.C	Data Collection & Base Mapping	8	\$ 1,120
1.D	Traffic and Utility Impact Planning Memo	16	\$ 2,208
1.E	Identify Any Necessary Easements for Acquisition (Temp / Permanent)	4	\$ 720
1.E.i	<i>If Authorized, Prepare up to 10 legal descriptions & Map Exhibits</i>	40	\$ 6,000
1.F	Archaeological Survey (base only)	36	\$ 2,127
1.G	Wetland Delineation Reports (base only)	32	\$ 1,300
1.H	Arborist Evaluation (base only)	40	\$ 1,600
1.I.i	Geotechnical Investigation – Phase I Technical Report with Soil Borings and Evaluation of Directional Drilling / Boring Tunneling	120	\$ 8,500
1.I.ii	<i>If Authorized Geotech Investigation – Phase II Technical Report with Soil Borings, Evaluate Directional Drilling/Boring/Tunneling</i>	25	\$ 4,250
1.I.iii	<i>If Authorized Geotech Investigation – Phase III Technical Report with Soil Borings, Evaluate Directional Drilling/Boring/Tunneling</i>	15	\$ 3,000
1.I.iv	<i>If Authorized Geotech Investigation – Phase IV Technical Report with Soil Borings, Evaluate Directional Drilling/Boring/Tunneling</i>	25	\$ 4,250
1.J	Compile Conceptual Design Memos into Preliminary Report	20	\$ 2,908
Subtotal Section I (Items 1.A – 1.J)		822	\$ 96,787
Section II: Lift Station Design			
2.A	Technical Memo on Location and Major Design Aspects (25%)	112	\$ 15,928
2.B	Design and Update Model (PCSWMM)	92	\$ 12,000
2.C	Preliminary Design Report on Capacity, Mechanicals, Electrical, Site/Civil, Architectural and stages for construction sequencing	44	\$ 6,086
2.C.i	<i>If Authorized, CFD Model</i>	250	\$ 25,000
2.D	Lift Station Plans (30%, 60%, 90%, 100%)	1,031	\$ 149,046
2.E	Lift Station Specifications (60%, 90%, 100%)	160	\$ 25,352
2.F	Update Cost Estimates for LS Construction (30%, 60%, 90%)	82	\$ 12,208
2.G	<i>If Authorized, Prepare Operation and Maintenance Manual with Standard Operating Procedures</i>	24	\$ 3,472
2.H	<i>If Authorized, Prepare Decommissioning Study (2020 Ranch Rd)</i>	16	\$ 2,848
Subtotal Section II (Items 2.A-2.H)		1,811	\$ 256,940
Section III: Design Force Main for New Lift Station			
3.A	Survey and Establish Alignments in Conceptual Design Memo (included in 1.B.i)	-	\$ -
3.B	Draft Conceptual Memo for Design Report	24	\$ 3,392
3.B.i	Update PCSWMM Model with Force Main from New station to tie into existing force mains	10	\$ 1,350
3.B.ii	Update PCSWMM Model with 2,000ft of Force Main Extension from Sunnydale SMH 430.011 to 430.196 Stone Creek Drive	10	\$ 1,350
3.C	Force Main Plans (30%, 60%, 90%, 100%) (included in 3.C.i)	-	\$ -
3.C.i	Design Force Main from New station to tie into existing twin parallel force mains (800'+/- per each)	106	\$ 16,248
3.C.ii	<i>If Authorized, Design 2000 ft of FM Extension from Sunnydale SMH 430.011 through Hidden Reserve to 430.196 Stone Creek Drive</i>	100	\$ 36,284
3.D	Specifications for 3.C (60%, 90%, 100%)	40	\$ 6,408
3.E	Revised Estimates for Force main Construction	12	\$ 1,696
Subtotal Section III		302	\$ 66,728
Section IV: Design Gravity Sewers for New Lift Station			
4.A	Survey Corridors to Establish Gravity Sewer Alignments for Projects (included in 1.B.i)	-	\$ -
4.B	Draft Alignment Memos w/ Costs Estimates (4.B.i-iv) for Design Report	22	\$ 3,080
4.B.i	Update PCSWMM Model with Gravity Sewer Extension from Existing Station SMH 119-034 to New Station (Laguna Dr. extended)	8	\$ 1,050
4.B.ii	Update PCSWMM Model with Gravity Sewer Extension from New Station to a point near SMH 0219.003 in Ranch Road	8	\$ 1,050
4.B.iii	Update PCSWMM Model with Gravity Relief Sewer Extension from 119.034 to a point near SMH 0119.038 at Wildwood Dr.	8	\$ 1,050

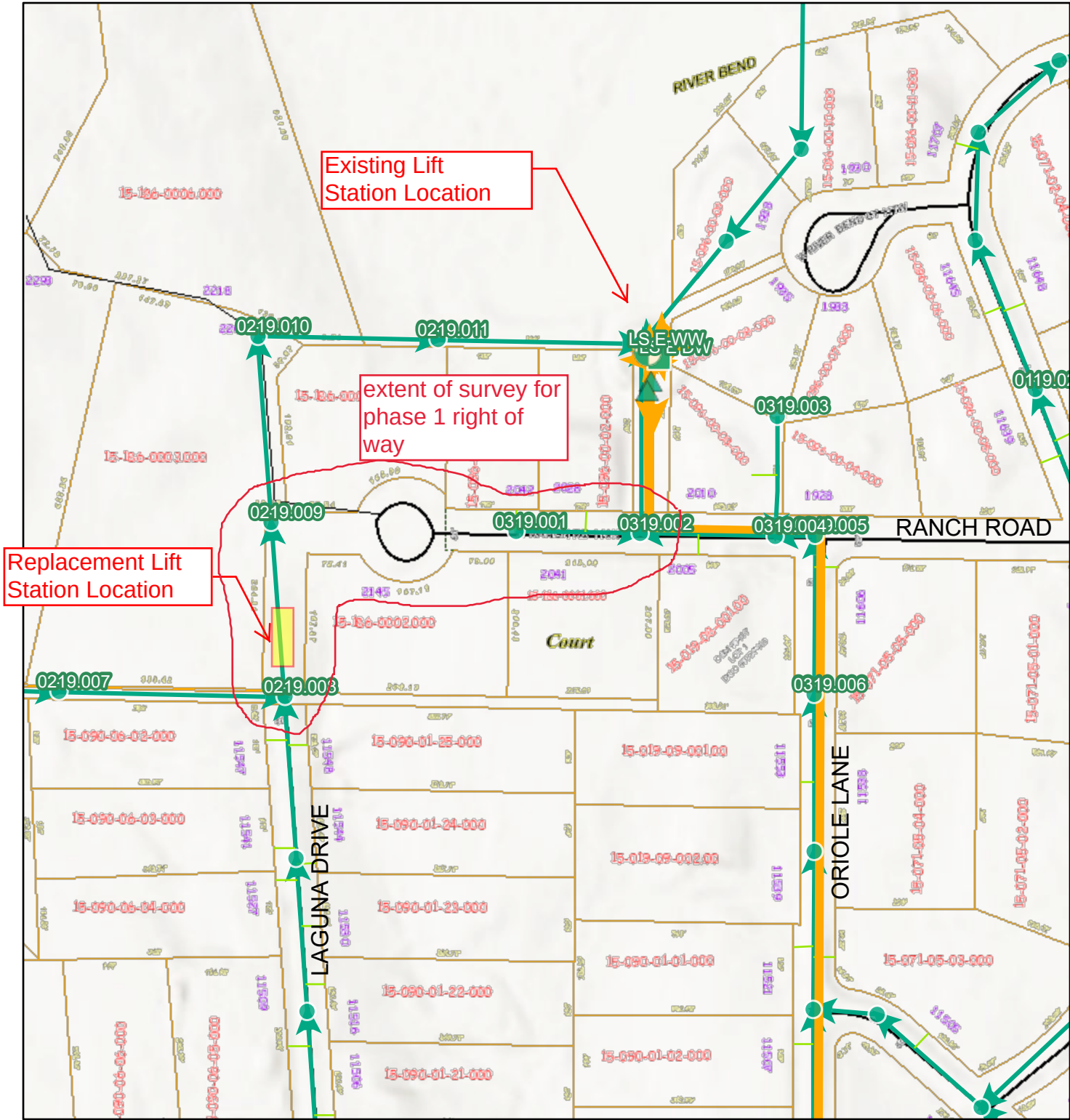
Attachment: Exhibit A - Agreement for Professional Services (#3616-23-E) (RESOLUTION 4033 : Award Consultant Contract to Design New Sanitary Lift Station)

ATTACHMENT B
Mequon Lift Station E Replacement
Compensation Estimate

Item	Description	Units (hrs)	Fee
4.B.iv	<i>If Authorized, Update PCSWMM Model with Relief GS from SMH 0119.038 in Oriole Ln to a point near SMH 0118.127 Glen Oaks Ln</i>	8	\$ 1,050
4.C	Gravity Sewer Plans (30%, 60%, 90%, 100%)	30	\$ 4,260
4.C.i	Design Gravity Sewer Extension from Existing Station SMH 119-034 to New Station in Laguna Drive extended	46	\$ 6,472
4.C.ii	<i>If Authorized, Design GS Extension from New Station to a point near SMH 0219.003 in Ranch Road, 1300ft west of Laguna Drive</i>	118	\$ 16,680
4.C.iii	<i>If Authorized, Design Relief GS Extension from 119.034 through River Bend sub. to a point near SMH 0119.038 at Wildwood Dr.</i>	92	\$ 12,780
4.C.iv	<i>If Authorized, Design Gravity Relief Sewer Extension from SMH 0119.038 in Oriole Ln to a point near SMH 0118.127 at Glen Oaks Ln</i>	118	\$ 16,680
4.D.i	Specifications (60%, 90%, 100%) - Phase I	24	\$ 3,392
4.D.ii	<i>If Authorized, Specifications (60%, 90%, 100%) - Phase II</i>	12	\$ 1,696
4.D.iii	<i>If Authorized, Specifications (60%, 90%, 100%) - Phase III</i>	12	\$ 1,696
4.D.iv	<i>If Authorized, Specifications (60%, 90%, 100%) – Phase IV</i>	12	\$ 1,696
4.E.i	Revise Estimates for Gravity Sewer Construction including any necessary easements - Phase I	12	\$ 1,696
4.E.ii	<i>If Authorized, Revise Estimates for Gravity Sewer Construction including any necessary easements - Phase II</i>	12	\$ 1,696
4.E.iii	<i>If Authorized, Revise Estimates for Gravity Sewer Construction including any necessary easements - Phase III</i>	12	\$ 1,696
4.E.iv	<i>If Authorized, Revise Estimates for Gravity Sewer Construction including any necessary easements - Phase IV</i>	12	\$ 1,696
Subtotal Section IV		566	\$ 79,416
Section V General Design Services and Bid Assistance			
5.A	Prepare Submittal Packets for Regulatory Authorities (WDNR & MMSD)	40	\$ 5,120
5.B	Addenda to Plans and Specifications	44	\$ 6,644
5.C	Respond to Requests for Information (5 RFIs)	24	\$ 3,370
5.D.i	<i>If Authorized, Model Flow restriction in 48-inch dia. ETS north of Zedler Ln. in the vicinity of SMH 431.198 and SMH 431.199</i>	8	\$ 1,050
5.D.ii	<i>If Authorized, Estimate Cost for Flow restriction in 48-inch dia. ETS north of Zedler Ln. in the vicinity of SMHs 431.198 and 431.199</i>	8	\$ 1,050
5.D.iii	<i>If Authorized, Design Flow restriction in 48-inch dia. ETS north of Zedler Ln. in the vicinity of SMH 431.198 and SMH 431.199</i>	8	\$ 1,050
5.D.iv	<i>If Authorized, Prepare Specs of Flow restriction in 48-inch ETS north of Zedler Ln. in the vicinity of SMH 431.198 and SMH 431.199</i>	8	\$ 1,050
Subtotal Section V		140	\$ 19,334
GRAND TOTAL (Items 1-5)		3,641	\$ 514,205
<i>Sub-Total: "If Authorized" Items</i>		1,220	\$ 182,226
Adjusted Amount: Subtract “IF AUTHORIZED” Items from Grand Total		2,421	\$ 331,979

The fees for individual task items are estimates. The actual distribution of item fees under the Agreement may vary from the amounts shown, but the Grand Total Item fee and “If Authorized” Total fee will be within their respective totals, unless the Agreement is amended.

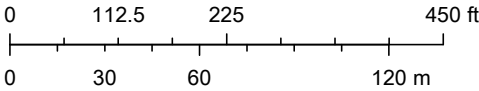
Attachment: Exhibit A - Agreement for Professional Services (#3616-23-E) (RESOLUTION 4033 : Award Consultant Contract to Design New Sanitary Lift Station)



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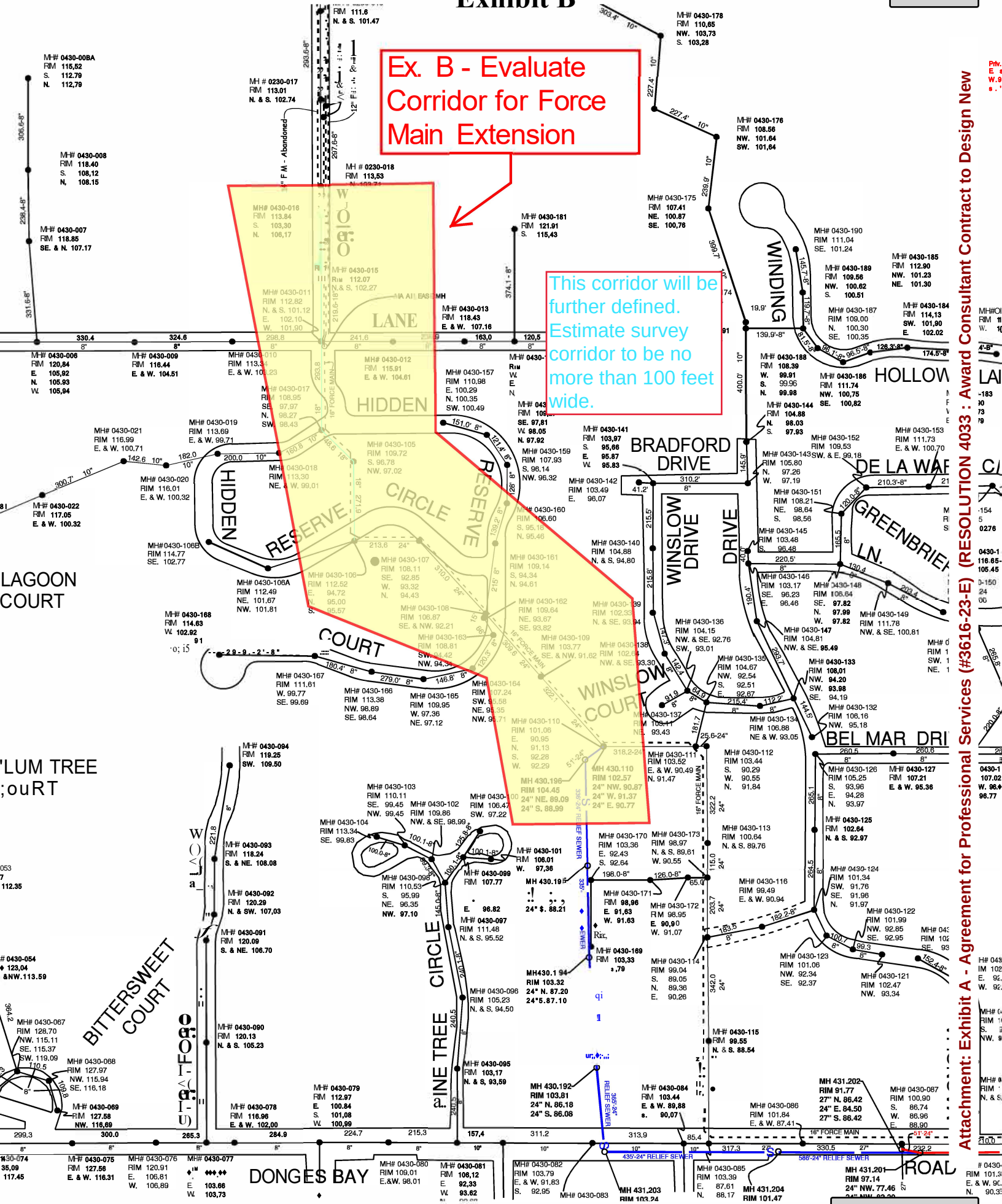
- | | | |
|---------------------|---------------------|-------------------------|
| Sanitary Structures | — Lateral | Overlap |
| ▲ Air Release | ➡ Main | Tax Parcel |
| ■ Lift Station | Parcels | Historical Parcel Lines |
| ● Manhole | — Road Reservation | Local Roads |
| ⊕ Wet Well | — Road Right-of-Way | Private Road |
| Sanitary Pipes | — Condominium | Town/Public Road |
| ➤ Force Main | ▨ Gap | |



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Ex. B - Evaluate
Corridor for Force
Main Extension

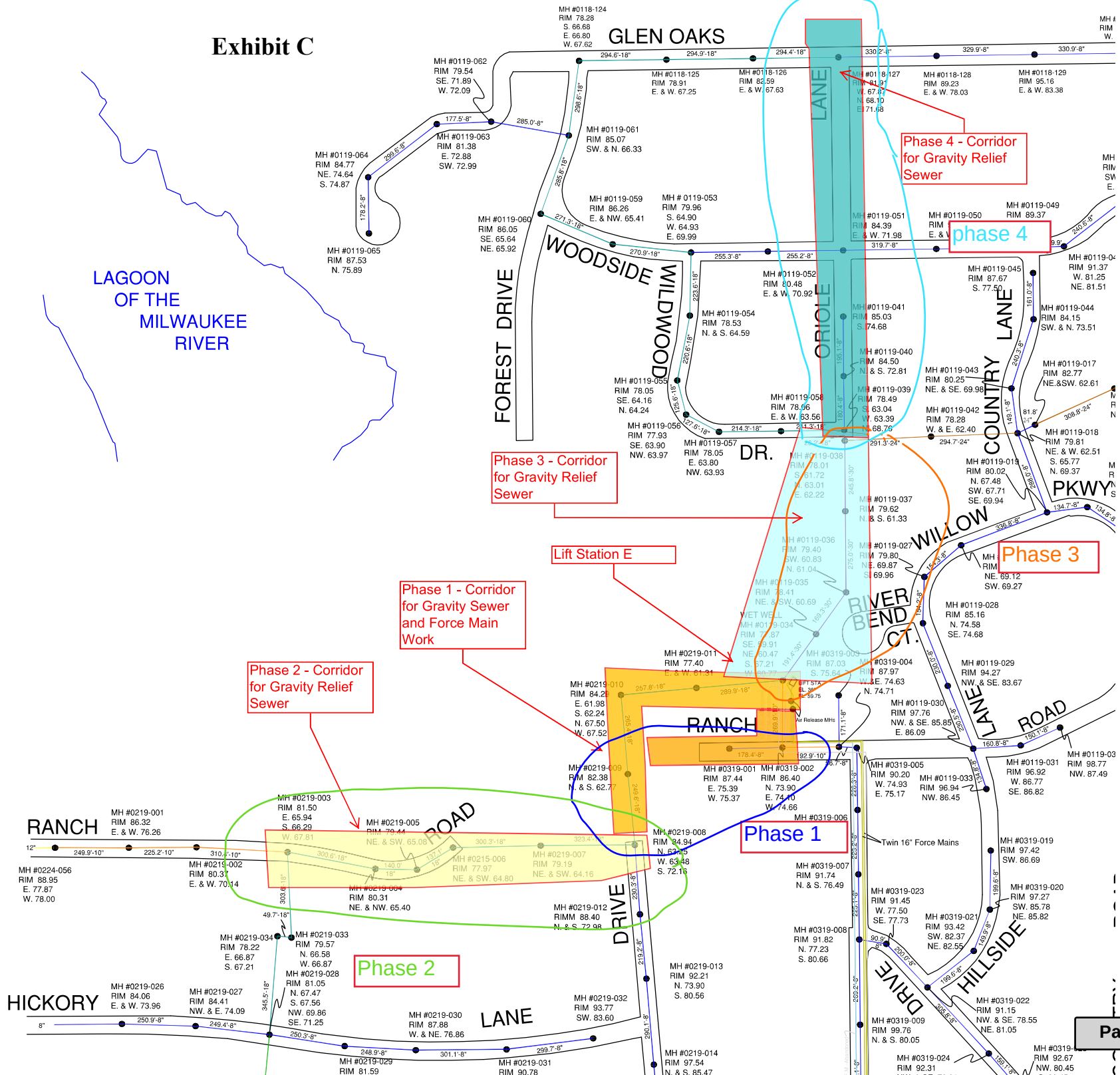
This corridor will be
further defined.
Estimate survey
corridor to be no
more than 100 feet
wide.



Attachment: Exhibit A - Agreement for Professional Services (#3616-23-E) (RESOLUTION 4033 - Award Consultant Contract to Design New

Exhibit C

3.a.a



Attachment: Exhibit A - Agreement for Professional Services (#3616-23-E) (RESOLUTION 4033 : Award



11333 N. Cedarburg Road
 Mequon, WI 53092
 Phone: 262-236-2913
 Fax: 262-242-9655

www.ci.mequon.wi.us

Office of Sewer Utility District Commission

TO: Sewer Utility District Commission
FROM: Kevin Driscoll, Deputy Director of Utilities
DATE: February 24, 2023
SUBJECT: RESOLUTION 4032 A Resolution Approving Award of a Contract to Test and Seal 218 Sanitary Sewer Laterals in the Ranch Road Lift Station "E" Area to Visu-Sewer, Inc. of Pewaukee, Wisconsin in the Amount of \$687,632

Background

The 2023 Sanitary Sewer budget adopted on October 27, 2022 by the Sewer Utility District Commission, includes a continuation of previous years' improvements to the City's sanitary sewers as pipes age and deteriorated. The budget includes work in the Ranch Road Lift Station "E" area to rehabilitate laterals and reduce leaks, commonly referred to as infiltration. This contract is to test laterals and seal them with grout from mains and manholes, and is part of the Private Property Inflow and Infiltration reduction program.

Analysis

This work is based on a previous 2019 planning study and prioritization report. The goal of that report was to identify and prepare work plans to reduce infiltration and address overflows, that may result due to wet weather events like rain storms and snow melt. That report identified the history of clear water compliance inspections, lift station flow data and provided a summary of sanitary sewer overflows (SSOs). These SSO volumes and lift station '*peak factors*' were ultimately used to prioritize the work areas. The *peak factor* is the ratio of the lift station wet weather flow in comparison to dry weather flow. Previous work plan authorizations included the Riverdale Park Lift Station "F" and Riverland Drive Lift Station "H" Areas. This project adds the Lift Station "E" Area into the program efforts to reduce infiltration and inflow.

For contractors to participate in this program and for the municipality to be eligible for reimbursement, the contractors must pre-register with the Milwaukee Metropolitan Sewerage District (MMSD) and the City must use the pre-registered contractors. Five (5) contractors are pre-registered for this type of work, and two attended the City's pre-bid meeting. The contract documents were advertised, and two bids were received. However, one bid was rejected and not opened because that Contractor did not submit a City pre-qualification statement for 2023, as required per Wisconsin State Statute 66.0901. This pre-qualification statement requirement was identified in the contract documents and that form was also included in the advertised contract documents. As a result, only one bid was opened.

Of the five pre-qualified contractors only one qualified bid was received from Visu Sewer, in the amount of \$687,632. Staff received feedback from two contractors that were pre-registered bidders, and their respective companies each referred to workloads and honoring existing contracts, as the basis for not submitting bids. The fifth Contractor is located out of state and did

not respond to staff's follow-up inquiry.

Fiscal Impact

Funding is available to rehabilitate up to 218 laterals in the Ranch Road Lift Station right-of-way areas in the Sewer PPI/I Account 610669-740006, which is reimbursable by MMSD. Notably, the bid amount is within MMSD's funding agreement budget of \$755,852. Staff anticipates the remainder of that funding agreement balance will be allocated for Inspection Services this spring. The completion deadline for this work coincides with the expiration of the funding agreement, and that is October 31, 2024.

In summary, the average budget for each lateral is \$3,150. That includes testing and sealing the lateral, in addition to televising and cleaning. A contingency is also built into that cost in the event a lateral would need to be repaired and the pavement be replaced following excavation. Without fully exercising those contingencies the average cost of this work per lateral is \$2,250. The itemized unit prices are shown in Exhibit A.

Recommendation

Staff recommends that the Sewer Utility District Commission favorably endorse and the Common Council approve the contract award to Visu-Sewer in the amount of \$687,632.

Attachments:

Exhibit A - Bid Results (#3566-23-E) (PDF)

COMMON COUNCIL
OF THE
CITY OF MEQUON

RESOLUTION 4032

A Resolution Approving Award of a Contract to Test and Seal 218 Sanitary Sewer Laterals in the Ranch Road Lift Station "E" Area to Visu-Sewer, Inc. of Pewaukee, Wisconsin in the Amount of \$687,632

RECITALS

A. On August 26, 2021, the City of Mequon established a Funding Agreement in the amount of \$755,852 with the Milwaukee Metropolitan Sewerage District (MMSD) to implement sewer lateral work that reduces infiltration and inflow into building sewer laterals.

B. A number of sewer projects were identified as part of the FY2023 Sanitary Sewer Budget adopted by the Common Council on November 9, 2022.

C. On March 2, 2023, the City of Mequon Department of Public Works Engineering Division Staff received and reviewed various bids from qualified contractors to test and seal 218 existing sanitary building sewer laterals in the Ranch Road Lift Station "E" Area.

D. The City of Mequon has the ability for the Milwaukee Metropolitan Sewerage District (MMSD) to reimburse eligible expenses that reduce infiltration and inflow from entering sanitary sewer building laterals.

E. Staff evaluated bids and recommends that the Sewer Lateral Rehabilitation work to test and seal 218 existing sanitary building sewer laterals in the Ranch Road Lift Station "E" Area be awarded to Visu-Sewer, Inc. of Pewaukee, Wisconsin in the amount of \$687,632.

F. The Sewer PPI/I Account 611669-740006 is a reimbursable account with a sufficient balance to fund this project.

G. The Sanitary Utility District Commission at its meeting on March 14, 2023, endorsed staff's recommendation.

BASED UPON THE FOREGOING RECITALS, IT IS RESOLVED by the Common Council of the City of Mequon, Wisconsin that:

1. The contract for Testing and Sealing 218 Laterals in the Ranch Road Lift Station "E" Area, as let for bid, is approved and awarded to Visu-Sewer, Inc. of Pewaukee, Wisconsin in the amount of \$687,632, subject to any clerical, technical and/or legal changes deemed necessary and appropriate by the City Attorney.

2. The Mayor and the City Clerk are authorized and directed to execute and deliver the same.

Approved by: Andrew Nerbun, Mayor

Date Approved: March 14, 2023

I certify that the foregoing Resolution was adopted by the Common Council of the City of Mequon, Wisconsin, at a meeting held on March 14, 2023.

Caroline Fochs, City Clerk

Testing and Sealing Sanitary Laterals from Mains and Manholes in Ranch Road Lift Station "E" Area (#8395493); City Project #3566-23-E
Owner: City of Mequon
Solicitor: raSmith
03/02/2023 09:00 AM CST

Section Title	Line Item	Item Code	Item Description	UofM	Quantity	Engineer Estimate		Visu-Sewer		National Power Rodding Corp	
						Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
Base Bid Items							\$0.00		\$484,544.00		\$0.00
	1		1 Traffic Control	LS	1			\$26,500.00	\$26,500.00		
	2		2 Setup for Testing and Sealing Laterals from Mainlines - First 15 feet	EA	182			\$1,775.00	\$323,050.00		
	3		3 Setup for Testing and Sealing Laterals from Manholes - First 30 feet	EA	29			\$1,775.00	\$51,475.00		
	4		4 Setup for Testing and Sealing Laterals from Mainlines - Riser (Average Length 5 LF)	EA	7			\$1,775.00	\$12,425.00		
	5		5 Grout	GAL	4852			\$12.00	\$58,224.00		
Additive Bid Items	6		6 Setup for Lateral Televising if Testing and Sealing Does Not Occur	EA	22			\$585.00	\$12,870.00		
							\$0.00		\$203,088.00		\$0.00
	7		7 If Authorized, Lateral Obstruction Removal	EA	22			\$950.00	\$20,900.00		
	8		8 If Authorized, Additional Lateral Televising in ROW from Mains and Manholes	LF	1266			\$8.00	\$10,128.00		
	9		9 If Authorized, Sanitary Lateral Televising with Dye Flooded Drainage Swales	LF	633			\$20.00	\$12,660.00		
	10		10 If Authorized, 4-inch or 6-inch Dia. Lateral Spot Repair	LF	25			\$2,160.00	\$54,000.00		
	11		11 If Authorized, Pavement Restoration with Slurry Backfill	SY	50			\$1,164.00	\$58,200.00		
	12		12 If Authorized, Shoulder Restoration	SY	50			\$60.00	\$3,000.00		
	13		13 If Authorized, Lawn Restoration (Sod)	SY	50			\$24.00	\$1,200.00		
	14		14 If Authorized, Mainline Obstruction Removal	EA	22			\$500.00	\$11,000.00		
Base Bid Total:	15		15 If Authorized, 4-inch or 6-inch Pressure Cured CIPP Short Liner	LF	8			\$4,000.00	\$32,000.00		
							\$0.00		\$484,544.00		\$0.00
Overall Total:									\$687,632.00		

Attachment: Exhibit A - Bid Results (#3566-23-E) (RESOLUTION 4032 : Award Contract to Test and Seal



11333 N. Cedarburg Road
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Office of Sewer Utility District Commission

TO: Sewer Utility District Commission
FROM: Kevin Driscoll, Deputy Director of Utilities
DATE: February 24, 2023
SUBJECT: RESOLUTION 4031 A Resolution Approving a Contract Award to Construct a Parallel Force Main for Tamerlane Drive Lift Station "O" to Mid-City Corporation of Butler, Wisconsin, in the Amount of \$738,265

Background

The 2023 Sanitary Sewer budget adopted by the Sewer Utility District Commission on October 27, 2022, included funding for a number of capital improvement projects. Most of the proposed projects are a continuation of prior years' improvements and include upgrades to the City's sanitary sewer lift stations. The Huntington Park subdivision is currently served by a 6-inch diameter force main, where in May 2020, a wet weather event led to a sanitary sewer overflow at the station. A condition assessment on Tamerlane Drive Lift Station "O" was completed in 2021, and in 2022 a contract began to design improvements and add capacity to the lift station.

To address capacity for wet weather compliance in addition to capacity for future growth, this Tamerlane Drive Lift Station "O" Parallel Force Main project is to construct 2,435 feet of a parallel 8-inch diameter force main. A future contract to replace the pumps is also anticipated this spring.

Analysis

The Tamerlane Drive Lift Station "O" Force Main project is essential to the Huntington Park subdivision and the proposed Swan Ridge development, north of County Line Road. The construction of this parallel force main is by directional drilling, which reduces the amount of open cutting and pavement replacement. This method has been successful on previous force main replacements including the County Line Road Lift Station "Q" project and the Eastgate Drive Lift Station "B" project. However, normal traffic patterns will need to be modified and a temporary detour is anticipated for up to two or three weeks, depending on weather and subsurface conditions or other factors that impact prosecution and progress of the contract work.

The project was publicly advertised and staff received three bids for the Lift Station "O" Parallel Force Main Replacement project to be completed this year prior to asphalt plants closing in November. The base bids are shown below:

Contractor	Bid Price
Mid-City	\$738,265
Globe	\$857,370
MJ	\$1,813,200

The bid summary and item details are shown in Exhibit A. The difference between the bid prices

is due to variations in the unit prices bid. These variations include the prices bid for bore pits, the amount bid for work to connect to the existing wet well near the lift station and to connect to the sanitary sewer manhole structure at the discharge end, in addition to the unit prices for valves and piping for this directional drilling project.

Fiscal Impact

Funding for the Tamerlane Drive Lift Station "O" Parallel Force Main project is available as a part of the 2023 Sewer Utility Capital Improvement Program. The lowest bid price of \$738,265 is 27% higher than the engineer's estimate of \$580,000.

Recommendation

Staff recommends that the Sewer Utility District Commission favorably endorse and the Common Council approve the award to construct the Tamerlane Drive Lift Station "O" Parallel Force Main to Mid-City Corporation of Butler, Wisconsin in the amount of \$738,265.

Attachments:

Exhibit A - Bid Item Details (#3491-22-O) (PDF)

COMMON COUNCIL
OF THE
CITY OF MEQUON

RESOLUTION 4031

A Resolution Approving a Contract Award to Construct a Parallel Force Main for Tamerlane Drive Lift Station "O" to Mid-City Corporation of Butler, Wisconsin, in the Amount of \$738,265

RECITALS

A. A number of capital improvement projects were identified as part of the FY2023 Sanitary Sewer Budget adopted by the Common Council on November 9, 2022.

B. These projects are essential to the operation of the City's sanitary sewer system.

C. The City of Mequon Department of Public Works Engineering Division has advertised and received bids for the Tamerlane Drive Lift Station "O" Parallel Force Main Project.

D. Staff has received and reviewed the various bids and contractor qualifications for the contracts.

E. Staff recommends that the Tamerlane Drive Lift Station "O" Parallel Force Main Project work be awarded to the lowest qualified bidder, Mid-City Corporation, of Butler, Wisconsin, at a total cost of \$738,265.

F. The Capital Account 610669 740003 has sufficient balance to fund this project.

G. The Sanitary Utility District Commission at its meeting on March 14, 2023, endorsed staff's recommendation.

BASED UPON THE FOREGOING RECITALS, IT IS RESOLVED by the Common Council of the City of Mequon, Wisconsin that:

1. The Agreement for the for the Tamerlane Drive Lift Station "O" Parallel Force Main Project, as let for bid, is approved and awarded to Mid-City Corporation of Butler, Wisconsin, in the amount of \$738,265, subject to any clerical, technical and/or legal changes deemed necessary and appropriate by the City Attorney.

2. The Mayor and the City Clerk are authorized and directed to execute and deliver the same.

Approved by: Andrew Nerbun, Mayor

Date Approved: March 14, 2023

I certify that the foregoing Resolution was adopted by the Common Council of the City of Mequon, Wisconsin, at a meeting held on March 14, 2023.

Caroline Fochs, City Clerk

Mequon, WI - Tamerland Drive Lift Station "O" Parallel Force Main-Rebid (3491-22-O) (#8394424)

Owner: City of Mequon

Solicitor: SEH-Delafield, WI

03/02/2023 11:00 AM CST

Section Title	Line Item	Item Code	Item Description	UoFM	Mid City Corporation		Globe Contractors, Inc.		MJ Construction, Inc.	
					Quantity	Unit Price	Extension	Unit Price	Extension	Unit Price
Base Bid							\$738,265.00		\$857,370.00	
	1	1	Traffic Control-Project	LS	1	\$30,000.00	\$30,000.00	\$17,000.00	\$17,000.00	\$75,000.00
	2	2	Traffic Control-Message Boards	Per Day	5	\$450.00	\$2,250.00	\$400.00	\$2,000.00	\$600.00
	3	3	Traffic Control-Temporary Signals	LS	1	\$5,000.00	\$5,000.00	\$10,000.00	\$10,000.00	\$6,500.00
	4	4	Mobilization	LS	1	\$50,000.00	\$50,000.00	\$20,000.00	\$20,000.00	\$15,000.00
	5	5	Removing Asphaltic Surface	SY	260	\$4.00	\$1,040.00	\$10.00	\$2,600.00	\$30.00
	6	6	Silt Fence	LF	150	\$4.00	\$600.00	\$5.00	\$750.00	\$5.00
	7	7	Prepare Foundation for Asphaltic Paving	SY	275	\$10.00	\$2,750.00	\$10.00	\$2,750.00	\$40.00
	8	8	Base Aggregate Dense 1-1/4-Inch	TON	175	\$30.00	\$5,250.00	\$30.00	\$5,250.00	\$45.00
	9	9	Slurry Trench Backfill	CY	700	\$62.00	\$43,400.00	\$70.00	\$49,000.00	\$95.00
	10	10	Asphaltic Patching (Tamerlane Dr.)	SY	135	\$110.00	\$14,850.00	\$90.00	\$12,150.00	\$125.00
	11	11	Asphaltic Patching (County Line Rd)	SY	125	\$110.00	\$13,750.00	\$92.00	\$11,500.00	\$125.00
	12	12	Curb Removal & Replacement	LF	15	\$125.00	\$1,875.00	\$200.00	\$3,000.00	\$85.00
	13	13	Gravel Shoulder Restoration	LF	15	\$35.00	\$525.00	\$70.00	\$1,050.00	\$50.00
	14	14	Restoration (Topsoil & Staked Sod)	SY	375	\$35.00	\$13,125.00	\$16.00	\$6,000.00	\$35.00
	15	15	Tracer Wire Locator Boxes	EA	4	\$500.00	\$2,000.00	\$300.00	\$1,200.00	\$1,500.00
	16	16	6" Tapping Sleeve, Gate Valve & Box	EA	1	\$7,500.00	\$7,500.00	\$13,000.00	\$13,000.00	\$17,500.00
	17	17	Connect to Existing Wet Well	EA	1	\$5,000.00	\$5,000.00	\$27,000.00	\$27,000.00	\$200,000.00
	18	18	Connect to Existing Sanitary Sewer Manhole (Inside Drop)	EA	1	\$10,000.00	\$10,000.00	\$23,000.00	\$23,000.00	\$85,000.00
	19	19	Air Release Manhole	EA	2	\$7,500.00	\$15,000.00	\$25,000.00	\$50,000.00	\$45,000.00
	20	20	6" Insertion Valve	EA	1	\$5,000.00	\$5,000.00	\$35,000.00	\$35,000.00	\$25,000.00
	21	21	4" Gate Valve	EA	2	\$3,500.00	\$7,000.00	\$2,000.00	\$4,000.00	\$14,000.00
	22	22	4" HDPE - Open Cut (DIOD/SDR 17)	LF	35	\$500.00	\$17,500.00	\$198.00	\$6,930.00	\$650.00
	23	23	6" HDPE - Open Cut (DIOD/SDR17)	LF	10	\$600.00	\$6,000.00	\$199.00	\$1,990.00	\$750.00
	24	24	10" Ductile Iron Class 52 Sanitary Sewer Force Main	LF	35	\$650.00	\$22,750.00	\$320.00	\$11,200.00	\$850.00
	25	25	10" HDPE Sanitary Sewer Force Main (DIOD/SDR 11), Open Cut	LF	75	\$650.00	\$48,750.00	\$200.00	\$15,000.00	\$800.00
	26	26	10" HDPE Sanitary Sewer Force Main (DIOD/SDR 11), Directionally Drilled	LF	2325	\$158.00	\$367,350.00	\$200.00	\$465,000.00	\$325.00
	27	27	Bore Pit #3 - County Line Rd (Includes associated pavement restoration & traffic control)	LS	1	\$20,000.00	\$20,000.00	\$35,000.00	\$35,000.00	\$125,000.00
	28	28	Bore Pit #4 - Tamerlane Lane (Includes associated pavement restoration & traffic control)	LS	1	\$20,000.00	\$20,000.00	\$26,000.00	\$26,000.00	\$120,000.00
Alternate Bid No. 1							\$0.00		\$0.00	
	29 1A		Traffic Control	LS	1					\$75,000.00
	30 2A		Traffic Control-Message Boards	Per Day	5					\$600.00
	31 3A		Traffic Control-Temporary Signals	LS	1					\$6,500.00
	32 4A		Mobilization	LS	1					\$15,000.00
	33 5A		Removing Asphaltic Surface	SY	210					\$30.00
	34 6A		Silt Fence	LF	150					\$5.00
	35 7A		Prepare Foundation for Asphaltic Paving	SY	210					\$40.00
	36 8A		Base Aggregate Dense 1-1/4-Inch	TON	135					\$45.00
	37 9A		Slurry Trench Backfill	CY	523					\$95.00
	38 10A		Asphaltic Patching (Tamerlane Dr.)	SY	85					\$125.00
	39 11A		Asphaltic Patching (County Line Rd)	SY	125					\$125.00
	40 12A		Curb Removal & Replacement	LF	15					\$85.00
	41 13A		Gravel Shoulder Restoration	LF	35					\$50.00
	42 14A		Restoration (Topsoil & Staked Sod)	SY	375					\$35.00
	43 15A		Tracer Wire Locator Boxes	EA	4					\$1,500.00
	44 16A		6" Tapping sleeve, Gate Valve & Box	EA	1					\$17,500.00
	45 17A		Connect to Existing Wet Well	EA	1					\$200,000.00
	46 18A		Connect to Existing Sanitary Sewer Manhole (Inside Drop)	EA	1					\$85,000.00
	47 19A		Air Release Manhole	EA	2					\$45,000.00
	48 20A		6" Insertion Valve	EA	1					\$25,000.00
	49 21A		4" Gate Valve	EA	2					\$14,000.00
	50 22A		4" HDPE - Open Cut (DIOD/SDR 17)	LF	35					\$650.00
	51 23A		6" HDPE - Open Cut (DIOD/SDR17)	LF	10					\$750.00
	52 24A		10" Ductile Iron Class 52 Sanitary Sewer Force Main	LF	35					\$850.00
	53 25A		10" HDPE Sanitary Sewer Force Main (DIOD/SDR 11), Directionally Drilled	LF	2400					\$335.00
	54 26A		Bore Pit #3 - County Line Rd (Includes associated pavement restoration & traffic control)	LS	1					\$125,000.00
	55 27A		Bore Pit #4 - Tamerlane Lane (Includes associated pavement restoration & traffic control)	LS	1					\$120,000.00
Base Bid Total:							\$738,265.00		\$857,370.00	\$1,813,200.00