Grand Ledge City Council Resolution #19 of 2024

A Resolution to Approve a Proposal with Hubbell, Roth, and Clark, Inc., for Wastewater Treatment Plant Engineering Services, Clean Water State Revolving Fund Project 5825-01.

A resolution adopted by the Grand Ledge City Council, at a regular meeting held on Monday, 12 February 2024, in the Council Chambers, City Hall, 310 Greenwood St., Grand Ledge MI 48837, in compliance with the Open Meetings Act, as amended.

Whereas, the City of Grand Ledge, Michigan ("City") is a municipal corporation organized under the provisions of the Home Rule City Act, Public Act 279 of 1909, as amended, and is governed by the provisions of the Grand Ledge City Charter adopted 07 August 2018, as amended ("Charter"); and

Whereas, Charter §13.1A provides:

"The power to make and to authorize the making of contracts on behalf of the City is vested in the City Council and shall be exercised in accordance with the provisions of law"; and

Whereas, Hubbell, Roth, and Clark, Inc., has provided a proposal for Wastewater Treatment Plant engineering services, Clean Water State Revolving Fund Project 5825-01; and

Whereas, staff recommends approving a proposal with Hubbell, Roth, and Clark, Inc., for Wastewater Treatment Plant engineering services, Clean Water State Revolving Fund Project 5825-01;

Now, Therefore, It Is Resolved:

1. The City approves the proposal with Hubbell, Roth, and Clark, Inc., for Wastewater Treatment Plant engineering services, Clean Water State Revolving Fund Project 5825-01, as attached.

2. The City directs the City Manager and Finance Director / Treasurer to appropriate the funds necessary to implement said proposal.

3. The City Manager, or their duly authorized agent or representative, is authorized and directed to implement said proposal on behalf of the City; to do any other act(s) or thing(s) which shall be necessary to implement said proposal on behalf of the City; to preserve and protect the rights, duties and obligations of the City thereunder; and to do any act or thing required by statute, Charter, ordinance, rule, regulation or other provision of law in order to implement said proposal.

Motion by Willems

Second by Logel

Ayes: Gillespie, Jancek, Logel, Mulder, Willems

Nays: None

Absent: Lantz, MacDowell

Approved:

Keith O. Mulder

Keith O. Mulder, Mayor

I, Gregory L. Newman, Grand Ledge City Clerk, certify this is Resolution #19 of 2024, adopted by the Grand Ledge City Council at a regular meeting held on Monday, 12 February 2024; in the Council Chambers, City Hall, 310 Greenwood St., Grand Ledge MI 48837, in compliance with the Open Meetings Act, as amended.

Gregory L. Newman, City Clerk

HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

2101 Aurelius Rd. Ste. 2A
Holt, MI 48842
517-694-7760
www.hrcengr.com

February 6, 2024

City of Grand Ledge
310 Greenwood St.
Grand Ledge, MI 48837

Attn: Adam Smith, City Manager ***Via e-mail – asmith@cityofgrandledge.com***

Re: WWTP New Alternatives Engineering Evaluation and Basis Design
HRC Project 20221119

Dear Mr. Smith:

Thank you for requesting a proposal from Hubbell, Roth & Clark, Inc. (HRC)

STATEMENT OF UNDERSTANDING

We understand that, based on your recent experience, having received two bids on essentially the same project for improvements at the WWTP which were both significantly beyond its means, there is now interest in pursuing a new project to accomplish the intended results. We further recognize that the City has indicated that its financial means are closer to a total of $45 Million versus the previous bids, which were significantly higher than that.

Our understanding is that the City is also likely facing a necessity to upgrade its wastewater treatment system to meet new potential effluent limits (i.e., AWT Standards requiring filtration beyond conventional biological treatment) and to address the excess flow in the system. The previous Project Plan prepared by Fishbeck stated that the system would have addressed an upgrade from 3,400 residential equivalent units (REUs) to 8,400 REUs and so there is certainly a significant portion of the Capital Project Cost that is allocated to "potential growth" rather than current needs. In addition, the proposed peak flow for conveyance (15.9 MGD) in the Fishbeck plans does not seem to match the peaks from the 25-year, 24-hour design hydrographs previously provided to us plus the anticipated sanitary flows from this new growth.

We still feel that selective removal of foundation drain sources of inflow with a rate-incentivized program would be an appropriate next step for consideration, but we recognize that there may not be much interest in that approach. However, with the interest of confirming whether the peak flow numbers in the previous design are realistic, we propose to install four (4) flow meters at relevant locations within the system plus use the pumps at the West River Pump station (WRPS), West Jefferson Pump Station (WJPS) and Whitney Street Pump Station over the period between when we are authorized until May 1, 2024 (and possibly beyond that), coupled with rain gauge data from the Grand Ledge WWTP to verify the design flow due to I&I. There is potential to possibly reduce the size of wet weather conveyance or storage costs below that originally intended and thus realize some project cost savings. As proposed in the design that was recently bid, the wet weather storage and conveyance alone represents approximately 10-15% of the total project capital cost, not to mention the portion of treatment capacity and operating costs that are assigned to excess wet weather flows.

We understand that the City is currently obligated to complete a Project Alternative Analysis including a Project Plan Amendment since the City will continue to pursue funding through an CWSRF loan by May 1, 2024 and that, beyond that, design and start construction on a new project facility starting in the 2025 construction season or earlier if possible.

We understand that the city started off with an intent to have a project in the $35-40M Capital Cost range that would handle additional growth within the system as well as meet the criteria of EGLE to provide treatment of the system during a 25-year, 24-hour frequency storm event. Based on our understanding of your system, and as outlined in our previous proposal from Fall of 2023, one option would be to develop a lower cost project primarily by making better re-use of the existing structures and processes. If the flow monitoring reveals that some I&I reduction could reduce peak flow and storage requirements that would also be factored in. We also intend to look at some alternatives that could be constructed independent of the existing treatment process tankage and thus get the advantage of less-hindered construction. The phasing will always be challenging since existing facilities must remain operational, but the previous design made this extremely difficult due to the proximity of new facilities to existing.

It is recognized that optimum use of the existing facilities alone will provide some opportunity for growth but may not satisfy all the projected growth needs. If that is the case, some additional treatment needs may be required beyond the current site footprint, which is somewhat limited due to the proximity between the bluff and the Grand River.

We have arranged the discussion points below to follow the requested discussion format as sent to us last week. Following that, we have prepared a Scope of Services and Fee for the Basis of Design and Engineering Analysis and Project Plan Amendment which is intended to be completed for submittal to EGLE by May 1, 2024.

INTRODUCTION AND ABILITY TO COMPLETE CWSRF PROJECTS

HRC is a multi-disciplined Consulting Engineering Firm with a long history of accomplishments in the wastewater treatment dating back to our founding in 1915. HRC currently operates seven offices in Michigan including a local office in Holt. Project personnel assigned to this project will be from our Holt, Grand Rapids, and Detroit area offices.

HRC has a long history with Clean Water State Revolving Loan Fund (CWSRF) projects including both the planning, design, and administration of CWSRF financed projects. This includes adherence to the Michigan Department pf Great Lakes and Energy's (EGLE) financing schedule and meeting the required milestone dates. HRC's team understands the financing rules and reporting requirements for American Iron and Steel (AIS) and Davis-Bacon provisions and works to ensure the contractors comply with these requirements. Recent CWSRF projects have included:

- City of Howell WWTP Improvements
- City of Cheboygan WWTP Improvements
- City of Mason WWTP Improvements
- City of Hastings WWTP Improvements
- City of South Haven WWTP Improvements
- City of Traverse City Sewer Replacement

In all these projects, HRC followed the CWSRF requirements from the Project Plan, through design, bidding, and construction.

CURRENT TREATMENT ABILITY AND TECHNIQUES

Based on the documents that we have reviewed; we understand that the current flow at the WWTP is an average of approximately 1.1 MGD and serves a total population equivalent of approximately 8,320. The WWTP does a reasonable job of Permit Compliance but struggles during wet weather and occasionally has sanitary sewer overflows (SSO's) due to the wet weather flow. The plant is a conventional primary treatment followed by a single pass activated sludge and has limited facilities for storage of wet weather flows.

SCHEDULE

See STUDY AND DESIGN SCHEDULE narrative sections below as well as the Schedule Chart which shows our ability to complete the alternative analysis and Final Project Plan Amendment for internal review by the City staff and City Council Action onApril 22, 2024, in advance of May 1, 2024.

ALTERNATIVE PROJECT DELIVERY METHODS

Alternative delivery methods will be explored with this evaluation. Through the CWSRF program, EGLE does accept the use of either Construction Management at Risk (CMAR) and Progressive Design Build (PDB) methods. For both options, the design-build team or construction manager develops 90% plans acceptable for Part 41 permit approval and develops a guaranteed maximum price (GMP). These methods differ from a conventional design-build method which generates a GMP based on only 30% design drawings, but this method is not allowed through the CWSRF financing requirements.

There are various pros and cons to these approaches. The benefits include Greater involvement by the owner and contractor in the major decisions that affect prices; Improved procurement schedule (i.e., pre-purchasing of equipment) and This method provides the owner the ability to use an “open book” cost estimate during the design. This approach also provides an off-ramp whereby the Owner can reject the Design-Builder’s Completion Stage Price and competitively bid on the completion of the project (primarily construction) without significant delays.

One of the potential drawbacks includes higher overall construction costs. This can be due to the selection of a Design-Builder based on qualifications rather than low bid, limited competitiveness and/or reduced incentives by the selected Design-Builder to lower costs. Because the plans are not 100%, there is a risk of higher unforeseen costs or changes required to ensure successful completion. Therefore, it is particularly important to know the Design-Build entities that you are working with at the start of the endeavor.

This method should be considered when the Owner places a priority on the qualifications of the Design-Builder; wishes to have a single contract arrangement with a Design-Builder; wants the Design-Builder to take primary responsibility for design from an early point on the schedule, but desires to have a high level of involvement in the design process with the Design-Builder; and is willing to defer the final project pricing until later in the design process.

CITY BUDGET CONSTRAINTS

We understand that the city has a financing goal of approximately $45 million and would desire a project closer to this figure than the one recently bid. Based on our review, the project that was recently bid had several problems that likely drove up the cost including difficult to construct components due to the sequencing, complicated treatment technology, limited numbers of bidders and a low level of detail in the completed documents. These factors, plus the limited availability of contractors, led to increased prices. Our design approach will address all of these and the number of bidders will likely improve due to the timing and having better detailed documents to follow. Alternate Project Delivery methods will also lead to a shorter project schedule which will most likely lead to cost reductions.

In addition, some phasing of solids handling equipment and other facilities may be required to fully meet budget restraints. This can be accommodated by using deductible alternates in the Bid Documents.

DESIGN AND FLOW REQUIREMENTS THAT WILL ADDRESS THE HANDLING OF I/I

We previously had suggested implementing a rate-incentivized program, which would encourage the removal of existing foundation drains that already utilize sump pumps. We understand the reluctance that some folks have regarding alterations within the home or on the private property side, however, by providing shallow storm sewers in close proximity to the homes plus a rate inventive, there is a strong likelihood that there will be acceptance of removing a portion of the existing connected foundation drains.

POTENTIAL TREATMENT TECHNOLOGIES THAT COULD MEET BOTH BUDGETARY RESTRAINTS AND FLOW NEEDS

The detailed proposal scope below includes alternatives that will make more optimum use of existing facilities and be easier and less costly to construct than the design that was recently bid. The current flow requirements can be met using the proposed alternate facilities supplemented by longer term infiltration and inflow removal. Potential future phasing of additional treatment capacity could be installed at the plant if required, but we are confident that the proposed alternative designs will adequately address the currently anticipated flow rates and loading.

Flow conveyance will be addressed by modifying the pump discharge location and installing new pumps and a check valve on the high-level interceptor at the WRPS. This will provide the ability for significantly improved conveyance to the WWTP, without having to construct the force main down Jefferson Street.

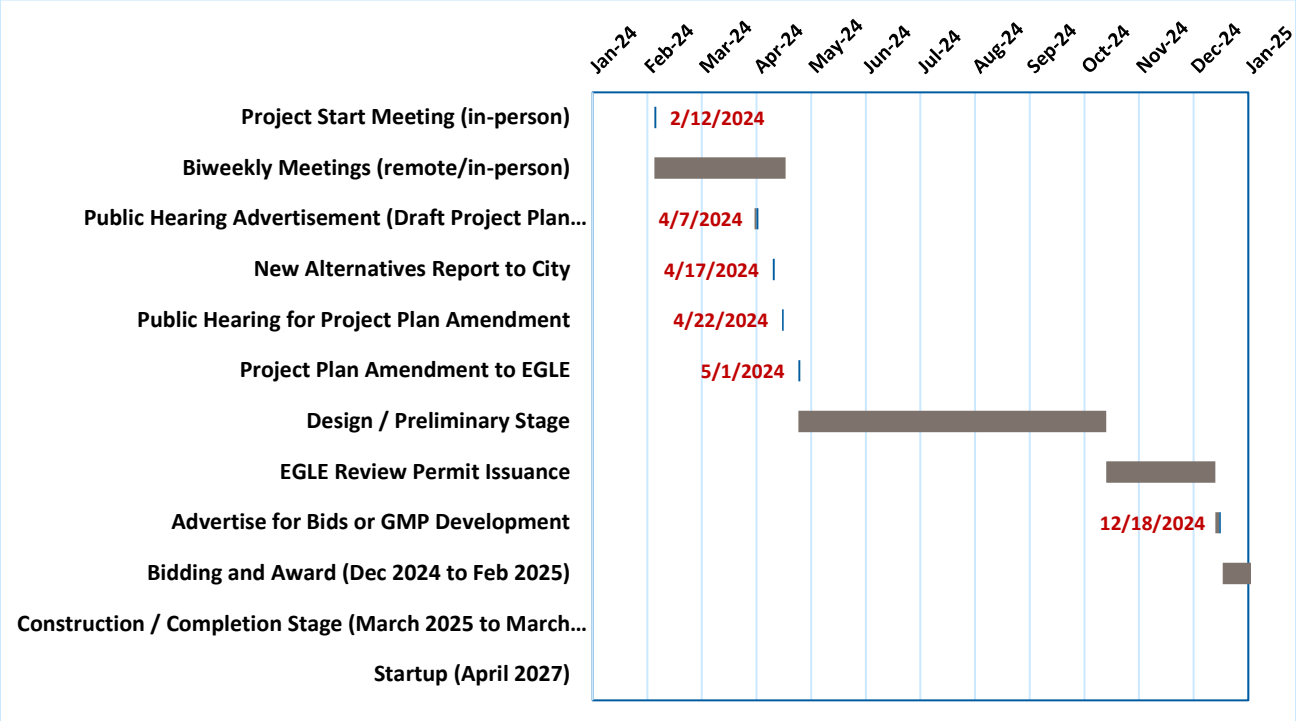
TIMELINE OF PROJECT DESIGN.

We understand that it is the City's goal to meet CWSRF Quarter 1.5 bidding schedule for FY 2025. This will require that the plans be completed to a level of 90% for obtaining Construction Permits by November 15, 2024. The type of design anticipated will require approximately 200 Drawings and about 1300 pages of Specifications. We are confident in our ability to produce quality documents of this magnitude within this time range. If Design-Build or some other hybrid Project Delivery method is chosen the required document size may be reduced somewhat but EGLE still requires a similar size and detail for permit plans. If an Alternate Project Delivery Method is chosen, then it may be desirable to have the Contractor Team identified and work with them during the Design Phase so that Value Engineering and other cost saving measures can be identified early on.

POTENTIAL PROJECT COMPLETION DATE

A project of this size will typically take 18-24 months to construct beyond the award date. This would put the fully operational date at approximately November 2026 to March 2027 based on a March 2025 construction start date. The Alternate Project Delivery Methods may shave a few months off of this so that would put the fully operational date between June to October 2026.

Alternative Study and Design Schedule



ESTIMATES OF COST ASSOCIATED WITH THE PROJECT BOTH DESIGN AND CONSTRUCTION ENGINEERING
See Narrative Section below for both the Design and Construction Phase engineering fee.

SCOPE OF SERVICES
Based on this preamble and our understanding of your needs, we propose the following scope of services:

BASIS OF DESIGN AND ENGINEERING ANALYSIS REVIEW AND PROJECT PLAN AMENDMENT

1. **Develop Conceptual WWTP Design Alternatives**.
    - Based on our knowledge of your process, we propose to evaluate the following treatment and storage alternatives:
        - **Treatment Alternative 1-** Construct new headworks screening, grit removal and intermediate pumping facilities and then utilize a Granular Activated Sludge Biomass (GASB – Aqua Aerobics Aqua Nereda™) Sequencing Batch Reactor (SBR) built on the bluff adjacent to the existing plant or perhaps in the location originally proposed for the Wet Weather Storage Tank or near the existing sludge (biosolids) storage tank at the upper (bluff) area. This process is predicated on the ability to generate a GASB which allows for more biomass density in a smaller tank. Since this technology is an SBR, some of the tank volume could be used as storage by operating the process using a lower decant range and then moving the decant range up to a maximum range during wet weather. Using this additional volume plus the volume of the existing tankage would likely provide for enough additional storage volume to satisfy the wet weather volume needs without constructing a new tank.
            - The existing treatment tanks will be re-utilized for a portion of the wet weather storage
            - This option would also utilize Cloth Media Disc Filters (CMDFs) for treatment to meet AWT Standards plus UV disinfection.
            - In addition, to reduce the need for storage volume, it may be prudent to request from EGLE an option for extreme wet weather effluent blending if the overflow from all of the wet weather storage tanks could be blended with the majority of the plant effluent and be treated using the CMDFs plus UV prior to discharge. Since this option would make more volume available than other alternatives, it is possible that this blended effluent permit (Which could be difficult to obtain although other States have been doing this, Michigan has been reluctant to accept this practice)
            - New Solids Handling Facilities would likely be constructed on the upper (bluff) site adjacent to the existing sludge (biosolids) storage tank to reduce the site congestion of the area along the river and thus make it easier to construct.
        - **Treatment Alternative 2-** Construct new grit removal, headworks screening and intermediate pumping facilities, new belt filters for primary treatment and utilize the existing primary settling and aeration tanks for conventional activated sludge treatment.
            - New Secondary Clarifiers would be required to supplement the existing two clarifiers.
            - This option would also utilize Cloth Media Disc Filters (CMDFs) for treatment to meet AWT Standards plus UV disinfection.
            - In addition, to reduce the need for storage volume, it would also be prudent to request from EGLE an option for extreme wet weather effluent blending if the overflow from all of the wet weather storage tanks could be blended with the majority of the plant effluent and be treated using the CMDFs plus UV prior to discharge.
            - If wet weather effluent blending is not allowed, it is highly likely that this option will not provide the total desired treatment capacity and thus could still require construction of supplemental wet weather storage volume.
            - New Solids Handling Facilities could be constructed on the upper (bluff) site adjacent to the existing sludge (biosolids) storage tank to reduce the site congestion of the area along the river and thus make it easier to construct. As a potential lower cost option, thickening could possibly be done at the lower site with Dewatering and loading at the upper site)

- **Treatment Alternative 3-** Construct new grit removal, headworks screening and intermediate pumping and new primary settling, aeration, and final settling to mirror the existing WWTP. This will reuse the existing primary settling and aeration tanks for conventional activated sludge treatment.
  - New Aeration Basins and Primary Settling Tanks to double the existing WWTP primary and conventional aeration capacity.
  - New Secondary Clarifiers would be required to supplement the existing two clarifiers.
  - This option would also utilize Cloth Media Disc Filters (CMDFs) for treatment to meet AWT Standards plus UV disinfection.
  - As discussed in Alternative 2, if wet weather effluent blending is not allowed, it is highly likely that this option will not provide the total desired treatment capacity and thus could still require construction of supplemental wet weather storage volume.
  - New Solids Handling Facilities (Thickening could possibly be done at the lower site with Dewatering and loading at the upper site) could be done there would be constructed on the upper (bluff) site adjacent to the existing sludge (biosolids) storage tank to reduce the site congestion of the area along the river and thus make it easier to construct.
- The engineering analysis above will include:
  - 10% Design (Conceptual) drawings or sketches of each alternative using existing facilities (in PDF format).
  - Preliminary Sketches of Treatment Concepts using marked up existing drawings plus modified material previously developed by others.
  - A preliminary hydraulic profile of pipes and structures to determine what is feasible and what would need to be replaced.
  - A preliminary basis of design for each of the above alternatives will address the capacity of the unit processes to address the increased hydraulic loading issues caused by wet weather and organic loading to address projected growth of the system.
  - Options to accommodate phasing the improvements will be considered such that, if necessary, future capital improvements can be implemented in a cost-effective manner that aligns with the actual growth.
  - A cost-effectiveness analysis will be prepared and will provide enough background data so that it will be used in the required CWSRF Project Plan Amendment for the selected project.
  - A very Preliminary Sequence of Construction (while maintaining plant operations).
  - A Preliminary Cost Opinion
  - Six (6) Review Meetings (three (3) remote and three (3) in-person)
  - Equipment alternatives and likely manufacturers (including any intended sole sourcing) that can be included in the project specifications when bidding.
  - Development of Conceptual Solids Handling Alternatives that will need to be accommodated along with the size of these facilities, potential equipment involved, preliminary footprint and possible locations.

2. **Wet Weather Conveyance Alternatives**.
   - The basis of design and engineering analysis may be dependent on the optional metering referred to below but, due to the accelerated time frame, the conclusions of the engineering analysis will be prepared using the extent of existing flow records and modified during the design stage, as required, if new metering data obtained during this metering reflects something significantly different than what is developed based on existing records.
   - The proposed optional metering will include installing new four (4) meters on gravity sewers and using pump run data from three (3) Pump Stations (WRPS, WJPS and Whitney Street PS. - if current instrumentation is deemed adequate – we understand that Whitney Street uses run time info to determine flow) to confirm the flow rates from the following sub-areas:
     - Spring Street
     - West Main (on either South or North side of the river – preferably South but if that is too difficult to

access then on the North side)
- Gravity Sewer area south of the river tributary to the interceptor near WRPS (WRPS high level sewer)
- Total to WWTP (unless this can easily be derived from pumps or the Parshall Flume deducting any recycle flows)
- WRPS (flow from the north side of the river and south side close to the river) (WRPS low level sewer)
- WJPS (Sandstone Creek Subarea)
- Whitney Street Pump Station

- As an alternative to the force main along Jefferson Street, it appears that conveyance could be improved significantly by elevating the Hydraulic Grade Line (HGL) in the 18-inch portion of the Main Interceptor sewer downstream of WRPS along the Grand River. The previous design almost addressed this but there are some serious shortcomings including the need for another motorized valve (to check the flow during elevated HGL conditions) and possibly some pipe rehabilitation and manhole sealing along the interceptor, but we understand that this sewer has already been lined and the manhole covers are bolted down so perhaps retrofit would be minimal. By pumping all flow into the interceptor and surcharging the sewer downstream of WRPS, this section of the interceptor could carry over 3.0 MGD more flow than current (without any surcharge).
- The diversion of the WJPS Gravity Sewer outlet may still be required but the sewer could be directed to alternate tankage at the WWTP rather than to a storage tank. Details regarding screening and grit removal for this diverted flow may still need to be addressed with this option.
- Some larger additional pumps would still be needed at WRPS but they would be directed into a short force main and then into the existing interceptor sewer rather than a new long force main.

3. Based on the Engineering Analysis above, we will prepare a Report Summary
   - Our report will include drawings and sketches of any proposed alternative solutions or ideas and information and cut sheets obtained from Equipment Manufacturers if alternate suggestions are included.
   - The report will include refined cost opinions based on recent bidding experience and available equipment and sequencing that can be applied to this alternative.
   - An anticipated project duration including time to prepare final design, construction and start-up.
   - Concurrent with the preparation of the alternatives as noted above, the steps toward preparation of a Project Plan Amendment will be completed as this is required by EGLE for this alternative design since CWSRF funding is being pursued. This amendment is due to EGLE by May 1, 2024, for fiscal year 2025. The prepared schedule reflects this approach including holding the Public Hearing by April 22, 2024 and prepare a draft for public comment by April 7, 2024.
   - The report will be submitted to the City in electronic form.
   - The last Review Meeting will be held to discuss the report prior to the Public Hearing.
   - The Public Hearing could be held concurrent with and be a portion of a City Council Meeting to discuss the Report and Recommendations.
   - The report will include a discussion of the pros and cons as well as various design options.
   - Discuss next steps.

4. **<u>Potential Future Action</u> that could be considered after the above steps.** We still feel that there is merit in obtaining a better understanding of existing I&I data that has been previously completed and then to develop a plan for additional data needs and to develop a preliminary projection of the range of expected I&I removal quantities and associated cost of those removals. This systematic approach may provide the City with a convincing argument for EGLE to accept effluent blending (referred to above) in the short term while developing a plan to reduce the overall system inflow. This approach would likely involve:
   - Review areas with high foundation drain flow input, potential connected roof drains, perforated covers, leaky sewers and laterals and existing sewer television data.
   - Review the data obtained from the meeting and develop a list of additional data needs. These needs could include:

- Flow monitoring
- Sewer Televising
- Dye Testing
- Smoke Testing

- Based on information currently available (Previous maps of foundation drain connections and Smoke Testing Results) and supplemented by local knowledge from City officials as well as our experience from previous foundation drain studies and work with other communities involved in similar endeavors, we could develop a plan for the following:
  - Foundation drain flow removal including:
    - The potential range of flow removal
    - The extent of storm laterals and service lines that may be required to provide service to particular areas.
    - Logistics of the private property side of this flow removal
  - Roof drain removal or relocation to aboveground routing to storm sewers or other surface drainage routes
    - If flat roof buildings are involved, this might also include the development of a private property side logistics plan for drain removals.
  - Sewer Lining Plan – Depending on the extent of available sewer televising data, determine the potential extent of sewer lining. This would just include a review of the extent of sewers that have been previously televised and if problems areas are known to exist, then a plan for obtaining additional data or flow verification of the extent of the problem would be developed. It is important to point out that this proposal does not include any additional flow monitoring but, after review of the current data, a recommendation of the extent of new flow monitoring could be developed, which could serve to document the efficacy of sewer lining as well as to document the potential effect of other I&I removal alternatives.
  - Review previous Information to assess what reductions make sense and to determine what may be the most cost-effective means to reduce flow volume and peaks.

DELIVERABLES:

- **WWTP Basis of Design and Engineering Analysis and Project Plan Amendment in accordance with CWSRF guidelines**
  - Basis of Design and Engineering Analysis Report including any sketches and marked up drawings.
    - Draft Report (PDF)
      1. Conceptual WWTP Alternative Design Comparisons and a narrative explanation for each of the alternatives
         a. Cost Opinion of the alternatives for both WWTP and Conveyance/Storage.
         b. Conceptual Design Sketches or Drawings
         c. Anticipated Project Schedule Duration from Design through Start-up.
         d. An identification of potential risks that may occur or comments on sequencing as it may relate to the costs developed.
         e. Comments on equipment options being considered.
         f. Special Conditions that may be anticipated
         g. A complete WWTP Basis of Design of the selected Alternative
         h. Schedule, Risk and Cost Impacts of conventional and alternative project delivery methods such as:
            i. Conventional Design-Bid-Build (3 Party Relationship with Owner-Engineer-Contractor)
            ii. Hybrid Design-Build with Owner purchasing major equipment outside of

Base Contract
iii. Contractor led Progressive Design-Build
iv. Designer led Progressive Design-Build
v. Construction Management at Risk
i. Meet to discuss with City staff.

2. Final Report (PDF and 6 hard copies)
   a. Factor in any conditions that may be anticipated as a result of discussion on the Draft Report
   b. A WWTP Basis of Design for the selected Alternative
   c. A WWTP Design Fee Budget and Proposal (This will require a commitment to a Project Delivery Method prior to the completion of the Study Phase)
   d. A recommendation on the financing alternative in consideration of conventional bonding rates versus the CWSRF and prevailing wage rates.
   e. Provide 6 Bound Hard Copies plus a PDF
3. Project Plan Amendment
   a. The recommendations and costs from the alternatives study will be incorporated into a project plan amendment.
   b. A draft copy of the Project Plan will be provided in PDF format for the public hearing and a final copy will be provided for submittal to EGLE by May 1, 2024.

STUDY FEE

HRC proposes a total fee of $80,000 for the scope of services for the Basis of Design and Engineering Analysis and development of the CWSRF Project Plan amendment not including the optional metering described above. These services will be invoiced based on our normal hourly rates plus reimbursable expenses. The maximum authorized amount will not be exceeded without your prior authorization. A breakdown of the effort required is included below. If you are in agreement with the proposed scope and fee, please sign and return a copy of this letter, which will serve as our formal authorization to proceed.

ASSUMPTIONS, AND WORK NOT PRESENTLY INCLUDED IN OUR INITIAL STUDY SCOPE

- Meetings beyond the number indicated above (Seven (7) total–four (4) in-person and three (3) remote via Teams or Zoom). One of the in-person meetings will be a public hearing including the furnishing of a Court Reporter for a transcript. As mentioned above, we suggest that this public hearing be held concurrently with a regular City Council Meeting so it will also serve to inform the Council of the intended project and anticipated costs.

- Flow Metering and Evaluation including rental and installation of four meters for three months and flow data evaluation and report with the development of unit hydrographs.

- Detailed design is not included in the Study Phase as are detailed formal cost opinion summaries. A more detailed summary will be possible once detailed designs are completed but the cost opinions will be of sufficient detail to make a preliminary selection between alternatives. We will utilize calculations and the previous drawings provided, measurements and photos taken during our visits to develop our opinions.

SCHEDULE

We intend to complete the above scope of services in accordance with your intended schedule, which is to have the Draft Report completed by April 7, 2024 so that the required public hearing can be held at the regular City Council Meeting of April 22, 2024 and the Final Project plan Amendment can be submitted to the City (and EGLE) by May 1, 2024. In order to make the final product more meaningful and complete, we have suggested that review meetings be held approximately every two weeks, during the report preparation at which time we will discuss the status of the current project as envisioned and shaped by previous discussions and calculations. We will prepare a design fee budget as a deliverable at the

conclusion of the study efforts.

Once an Alternative is selected and design is authorized to proceed, the project milestone would be developed based on the construction delivery method selected. A design build or CMAR would require selection of the design-build team prior to the development of the construction drawings and development of a guaranteed maximum price.

DESIGN FEE

Once a project has been agreed to, we will prepare detailed plans and specifications for whatever project delivery method has been mutually decided upon during the development of the above Report. The level of Engineering involvement will depend greatly on the project delivery method as some types involve more effort on our part than others. In the case of a Design-Build Team (if that method of Project Delivery is decided upon, our effort will involve working with the Contractor Team to Value Engineer the Project as the plans are developed and may involve a higher level of effort in some cases and less in others. Therefore, until a Contractor Team has been decided, it would be impossible for us to offer a firm price for design services. Assuming that the Project Delivery Method would be Design-Build, .the range of design fee for this size of project would be as follows:

- Contractor-led Design Build
  - Preliminary Stage (Design and GMP Development): 2.5% to 4% of Construction Cost
  - Completion Stage (Construction): 1.5% to 3% of Construction Cost
  - Percentages are dependent on the Contractors selected – percentages shown are based on a preferred list of Contractor partners that we have experience with). This also assumes that the Contractor Team would be in place at the Preliminary Stage.

PROJECT TEAM

Todd Sneathen, PE, will be the HRC Principal-in-Charge of this project. **Dennis J. Benoit, PE** and **Douglas Urquhart, PE** will perform the duties of Project Manager and Team Coordinator, respectively, for the work of the study and design. Doug will also lead the Process Design working with **Joshua Cole, EIT.** Sub disciplines will include **Michael Roskelley, PE,** Electrical, **Fred Schrieber, PE,** Structural and **Adrianna Melchior, RA.**, Architectural. This HRC team has worked on numerous similar projects and both Doug and Dennis have become quite familiar with your facilities as a result of previous review work. Resumes, along with relevant project information for any of the above are available upon request.

We greatly appreciate this opportunity to be of service to the City of Grand Ledge on this project. Please feel free to contact us if you have any questions or would like to discuss any details of this proposal.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

Todd Sneathen, PE
Vice President

Douglas I. Urquhart, PE
Project Manager

Dennis J. Benoit, PE
Senior Project Engineer

Cc: Dave Gutchess, Public Services Superintendent ***Via email - dgutchess@cityofgrandledge.com***

HOURS AND COST BREAKDOWN

Basis of Design and Engineering Analysis Report			
-	Avg. Billable Rate	Hours	Amount
Labor Cost:			
Sr. Project Engineer	$160.00	160	$25,600
Project Manager, Department Manager	$135.00	95	$12,830
Project Manager, Electrical Department	$135.00	24	$3,240
Graduate Engineer	$100.00	180	$18,000
TOTAL BASIS OF DESIGN AND ENGINEERING ANALYSIS		459	$60,000
Project Plan Amendment			
-	Avg. Billable Rate	Hours	Amount
Labor Cost:			
Sr. Project Engineer	$160.00	32	$5,120
Project Manager	$135.00	32	$4,320
Graduate Engineer	$100.00	80	$8,000
Admin Assistant	$70.00	32	$2,240
TOTAL PROJECT PLAN AMENDMENT		176	$20,000
TOTAL			**$80,000**

Proposal Authorized by: _____ DIGITALLY SIGNED

CITY OF GRAND LEDGE

02/15/2024 12:38 PM EST

Date: _____

Proposed Organizational Chart