Grand Ledge City Council Resolution #_____ of 2022

A Resolution to Approve a Proposal for Professional Engineering Services from Fishbeck for Reliability Study and General Plan.

A resolution adopted by the Grand Ledge City Council, at a regular meeting held on Monday, 11 April 2022, in the Gymnasium, 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, Fishbeck has provided a proposal for professional engineering services for Reliability Study and General Plan; and

Whereas, staff have reviewed and recommend approving the proposal for professional engineering services for Reliability Study and General Plan;

Now, Therefore, It Is Resolved:

1. The City approves the proposal for professional engineering services from Fishbeck for Reliability Study and General Plan, 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 of Grand Ledge; to do any other act(s) or thing(s) which shall be necessary to implement said proposal on behalf of the City of Grand Ledge; 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

Second by

Ayes:

Nays:

Absent:

Approved:

Thomas J. Sowle, Jr., Mayor

I, Gregory L. Newman, Grand Ledge City Clerk, certify this is Resolution #_____ of 2022, adopted by the Grand Ledge City Council at a regular meeting held on Monday, 11 April 2022; in the Gymnasium, City Hall, 310 Greenwood St., Grand Ledge MI 48837, in compliance with the Open Meetings Act, as amended.

Gregory L. Newman, City Clerk

The City of Grand Ledge

PUBLIC SERVICE

310 Greenwood St. • Grand Ledge MI 48837
Ph: 517.627.2144 • Fax: 517.622.3684 • www.grand-ledge.com

Date: March 23, 2022

To: Grand Ledge City Council

From: Kurt Ristow, Public Works Superintendent

RE: Fishbeck Engineers Reliability Study Proposal

The City is seeking to have its Reliability Study updated. The study is required for cities seeking funding through the Drinking Water State Revolving Fund (DWSRF). It must be updated every five years per the Michigan Safe Drinking Water Act (SDWA) rule 325.1120 revision of 2009. Fishbeck last completed the study in 2016. The plan requirements include hydraulic modeling for fire protection and system performance under peak demands. Additionally, inventory of mains by size, material, and age is included along with Capital Improvement Plans for 5- and 20- year planning.

It is of City Staff's recommendation that the WHPP proposal is accepted in the amount not to exceed $24,800.00.

fishbeck
Engineers | Architects | Scientists | Constructors

1515 Arboretum Drive, SE
Grand Rapids, Michigan 49546

616.575.3824 | fishbeck.com

March 30, 2022

Kurt Ristow
Public Works Superintendent
City of Grand Ledge
Department of Public Services
13253 Lawson Road
Grand Ledge, MI 48837

Proposal for Professional Engineering Services
City of Grand Ledge Reliability Study and General Plan

Dear Kurt:

Fishbeck is pleased to provide the City of Grand Ledge (City) with this proposal to update the City's Reliability Study and General Plan. Fishbeck has extensive experience with reliability studies for many communities in the state and completed the City's last reliability study in October of 2015. Reliability studies and general plans are required to be updated every 5 years.

Fishbeck has completed several water studies for the City over the years. We are currently designing a new Iron Removal Plant for the City to replace the existing plant. We have completed many hydraulic modeling projects for the City since the completion of the last Reliability Study. Through this work, we have developed a complete understanding of the City's existing water treatment and distribution.

Background

The City currently operates an Iron Removal Plant that treats groundwater from three supply wells. A fourth well is equipped to pump directly to the distribution system. Other distribution system facilities include the Industrial Park Pump Station with an adjacent 0.75-million-gallon (MG) ground storage tank, a 0.5MG elevated tank, a 0.1-MG elevated tank, and a 0.1-MG below-grade clearwell adjacent to the plant.

The intent of this project is to update the previous reliability study, demand projections, hydraulic model, and recommendations to comply with Rule 325.1120 of the Michigan Safe Drinking Water Act (SDWA). The City's hydraulic model was last calibrated as part of the 2015 Reliability Study. Since the model was recently calibrated, the 2022 Reliability Study Update can be conducted without model calibration.

In December 2009, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), promulgated rule changes to the SDWA. Specifically, clarified and expanded what must be included in reliability studies (Part 12) and general plans (Part 16). Reliability study requirements were expanded to require 20-year demand projections.

General plan requirements were expanded to require a hydraulic modeling analysis for systems that provide fire protection to demonstrate adequate system performance under peak demands. The general plan requirements also include an inventory of mains by size, material, and age; a water service area map; and a Capital Improvements Plan for 5- and 20-year planning periods.

Scope of Services

Fishbeck will prepare a Reliability Study in accordance with the requirements of the Part 12 Administrative Rules of the SDWA. To satisfy these requirements, the Reliability Study will include the following tasks:

- Obtain and review information from the City required for the study. Through recent work with the City, Fishbeck has a significant amount of information pertaining to the existing water system. Additional materials needed from the City may include:
  - Water production and consumption information, including pumping records and billing records of customer usage, in electronic (spreadsheet) format.
  - Current population data and population projection data for the water system service area.
  - Number of service connections, their size and service categories.
  - Number of equivalent residential units.
  - A list of the 10 largest water users including locations/addresses and consumption totals.
  - A description of current storage tank and pump control setpoints, including seasonal tank level setpoints and elevations.
  - Copy of the most recent EGLE Sanitary Survey of the water system.
  - Fire flow requirements and insurance services office reports. This information will be used for the fire flow analysis.
  - Records or reports of current problem areas (e.g., frequent main breaks, pressure deficiencies, water quality complaints, etc.), if any.
  - The City's written Contingency Plan for water supply emergencies.
- Summarize current population, service connections, and equivalent residential unit data in table format.
- Summarize monthly and annual production totals for each water source.
- Summarize water usage data for the overall system and by customer class.
- Analyze historical water use data and population figures, and review water usage records.
- Estimate unaccounted water that may exist due to unmetered water uses, hydrant flushing, system leaks, etc.
- Update future water use projections for average day, maximum day, and maximum hour demands for 5- and 20-year planning periods. Summarize the basis for development of the demand projections.
- Verify with City staff which fire flow goals to use in the fire flow modeling.
- Summarize pumping and storage capacity and evaluate suitability to meet projected system demands.
- Summarize the City's provisions for contingency in the event of a water shortage emergency, based on input from the City.
- Review the adequacy of the water supply to meet current and future demands and identify needs.
- Summarize water storage facilities and identify needs.

Fishbeck will perform a hydraulic analysis and update the City's Capital Improvements Plan, as described under the Part 16 Administrative Rules of the SDWA. The elements of a General Plan to be completed will include:

- Inventory of water main by size, material, and age.
- Hydraulic analysis (present, 5-year, and 20-year demands).
- Capital Improvements Plan for the 5- and 20-year planning periods.
- Update the hydraulic model for all new construction completed since the last model update, based on information provided by the City.
- Complete a hydraulic analysis of the distribution system using the WaterGEMs hydraulic model.
  - Complete model runs and prepare drawings for graphical representation for the following scenarios:
    - Pressure contours at present and projected peak hour demand.
    - Pressure contours at present and projected peak hour demand with recommended improvements.
    - Fire flow contours at present and projected maximum day demand.

  - Fire flow contours at present and projected maximum day demand with recommended improvements.

- Evaluate model runs and identify deficiencies relative to pressure and fire flows.
- Evaluate water system improvements needed to reduce or eliminate deficiencies.
- Develop budgetary cost estimates for recommended system improvements.
- Update the City's 5- and 20-year Capital Improvements Plan with a list of prioritized recommendations and estimated costs. The items will be prioritized based on input from the City and in coordination with the City's Asset Management Program.
- Develop a pipe inventory for material and age, to satisfy the requirements of the General Plan.
- Submit the draft Reliability Study and General Plan to the City and EGLE for comment, and address EGLE comments prior to completion of the study.
- Provide four hard copies and a digital copy of the final report to the City.

Project Schedule

We propose to begin work on this study by May 2022 and to complete the draft report by December 2022.

Professional Services Fees

We proposed to complete the scope of services on a time and materials basis for a not-to-exceed fee of Twenty-Four Thousand Eight Hundred Dollars ($24,800).

Authorization

If you concur with our scope of services, please provide notification to proceed. We will complete these services in accordance with the terms of our existing engineering services agreement with the City.

If you have any questions or require additional information, please contact me at 616.464.3825 or cmccorkle@fishbeck.com.

Sincerely,

Colin G. McCorkle, PE
Water & Wastewater Engineer

David J. Baar, PE
Vice President/Senior Water & Wastewater Engineer

By email
Copy: Adam Smith – City of Grand Ledge Manager