

PERE MARQUETTE CHARTER TOWNSHIP BOARD  
REGULAR MEETING AGENDA  
August 13, 2024 – 4:00 p.m.

Location: PERE MARQUETTE TOWNSHIP HALL  
1699 S. Pere Marquette Highway  
Ludington, MI 49431

1. CALL TO ORDER
2. INVOCATION
3. PLEDGE TO FLAG
4. ROLL CALL
5. APPROVAL OF MINUTES
6. SHERIFF / COUNTY COMMISSIONER REPORT(S)
7. DEPARTMENT REPORTS
8. BRIEF PUBLIC COMMENTS (TWO MINUTES)
9. APPROVAL OF AGENDA
10. PUBLIC HEARINGS
11. COMMUNICATIONS
12. UNFINISHED BUSINESS
13. NEW BUSINESS
  - A. **Consider Water/Sewer Rate Study Proposals**
  - B. **Consider Water/Sewer Reliability Study Proposals**
  - C. **First Reading of Ordinance No. 157 – Amendment to Water System Rate & Administration Ordinance**
  - D. **Consider Resolution to Appoint Officer Delegate / MERS Annual Meeting #2024-13**
  - E. **Consider Compensation of Election Inspectors**
14. COMMITTEE REPORTS
15. COMMITTEE OF THE WHOLE
16. OFFICERS REPORTS
  - A. Trustees
  - B. Clerk and payment of invoices
  - C. Treasurer
  - D. Supervisor
17. ANNOUNCEMENTS
18. EXTENDED PUBLIC COMMENTS (TEN MINUTES)
19. ADJOURNMENT

**REGULAR MEETING**  
**July 23, 2024**

**PERE MARQUETTE CHARTER TOWNSHIP BOARD**  
held at 1699 S. Pere Marquette Highway, Ludington MI 49431

Board members present: Supervisor Kelly Smith; Clerk Rachelle Enbody; Treasurer Sarah Iteen; Trustees: Andrew Kmetz, James Nordlund Sr., Henry Rasmussen, and Ronald Soberalski.  
Board member(s) absent: None.  
Also present: County Commissioner Les Johnson and numerous guests.

The meeting was called to order at 6:00 p.m. by the Supervisor. The invocation was given by Smith; The Pledge of Allegiance was recited by all.

APPROVAL OF MINUTES: **Moved** by Soberalski, seconded by Kmetz to approve the minutes of the July 9, 2024, meeting as presented.

Motion carried.

PUBLIC COMMENT: Public comment was held.

County Commissioner Johnson reported on the most recent meeting of the Mason County Board of Commissioners.

APPROVAL OF AGENDA: **Moved** by Iteen, seconded by Enbody to approve the agenda as presented.

Motion carried.

NEW BUSINESS: A. **Consider Web Services Sales Agreement – E-Notify System** – Board members reviewed a proposal for an E-Notify system. The system allows interested parties to sign up for email and/or text notifications from the township. The system will work through the township’s website. Revize, LLC is the current website provider for the township and the notification system is an additional service offered by the vendor.

Nordlund arrived at 6:16 p.m.

**Moved** by Kmetz, seconded by Iteen to approve the Revize Web Services Sales Agreement at an annual cost of \$1,000.00 and to authorize the supervisor to sign the agreement on behalf of the township.

Motion carried.

B. **Consider Pere Marquette Conservation Park Proposed Treatment Workplan** – Board members reviewed a proposed work plan detailing the treatment of invasive species at the Pere Marquette Conservation Park. Treatments include: autumn olive \$3,400.00, oriental bittersweet \$600.00, tree of heaven \$200.00 and garlic mustard \$800.00 for a total treatment plan cost of \$5000.00

**Moved** by Rasmussen, seconded by Soberalski to approve the proposed workplan for the treatment of invasive species in Pere Marquette Conservation Park for a total treatment cost of \$5,000.00.

Motion carried.

EXTENDED PUBLIC COMMENT: Public comment was held.

ANNOUNCEMENTS: Enbody reported that in person Early Voting for the August Primary Election begins July 27, 2024.

ADJOURNMENT: The meeting was adjourned by consent at 6:25p.m.



Rachelle D. Enbody, MiPMC<sup>2</sup>, CMC Township Clerk



Kelly D. Smith, Township Supervisor





# PERE MARQUETTE

CHARTER TOWNSHIP

1699 SOUTH PERE MARQUETTE HWY. • LUDINGTON, MICHIGAN 49431  
(231) 845-1277 • FAX (231) 843-3330

## **Memo**

**August 9, 2024**

**To: Township Board**

**From: Kelly Smith, Supervisor**

**Re: Rate Study Proposals**

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I have received 3 proposals for a water and sewer Financial Projections and Rate Study. The water and sewer committee met to go through each proposal and discussed the differences each company has laid out within their respective proposals.

Most notable were the total hours needed to complete the project, the amounts charged per hour and the number of years of projections to be provided.

The water and sewer committee recommends entering into an agreement with Stantec Consulting Services Inc. with a total not to exceed amount of \$23,310 for the water portion of the study and a not to exceed amount of \$22,420 for the sewer portion of the study.



# Pere Marquette Charter Township

Water and Sewer Financial Projections and Rate Study

PROPOSAL / AUGUST 2, 2024





August 2, 2024

Rachelle Enbody, CMC, MiPMC  
Township Clerk  
Pere Marquette Charter Township  
1699 South Pere Marquette Highway  
Ludington, MI 49431

**Subject: Proposal for Water and Sewer Financial Projections and Rate Study**

Dear Rachelle Enbody:

Raftelis is pleased to submit this proposal to assist Pere Marquette Charter Township (Township) with a water and sewer utility rate study. We appreciate the opportunity to submit this proposal, which details our approach to meet the Township's objectives as well as our qualifications and experience within the water and wastewater industry.

**Proven Process.** The Township is looking to partner with an experienced firm that can help them understand *why* certain options should be considered from an industry best practices perspective. Raftelis has a deep understanding of these practices because we are active in shaping them. While each community is unique, the challenges and opportunities facing the Township are shared by many other communities throughout the United States. At Raftelis, we have developed a proven process for getting up to speed quickly and delivering actionable recommendations that meet the needs of our clients.

**Experienced Project Team.** The proposed project team has extensive experience conducting these types of studies for utilities throughout North America, including Michigan. This combination of knowledge and experience means we have an unparalleled ability to efficiently and effectively deliver the scope of services identified in the Township's RFP. I will serve as Project Manager, acting as the primary point of contact for the Township and ensuring that the project stays on schedule, is within budget, and effectively meets the Township's objectives. I will be supported by Joe Collins, who resides in Kalamazoo, MI, and has been involved in numerous engagements of similar size and complexity.

We are proud of the resources that we offer and welcome the opportunity to work with the Township and its professional staff to meet the Township's objectives. If you have any questions regarding our proposal, please do not hesitate to reach out to me using the contact information below.

Sincerely,

A handwritten signature in black ink that reads "Thomas A. Beckley". The signature is written in a cursive style with a long, sweeping underline.

**Thomas A. Beckley**

*Vice President*

P: 816.682.1328 / E: tbeckley@raftelis.com



**PROJECT APPROACH**

# Project Approach

We have developed the following proposed services based on our extensive experience in completing comprehensive water rate studies for other utilities while taking into account the considerations identified by the Township in its RFP. Our approach has been tailored to address the specific objectives and concerns identified in the RFP while maintaining those elements that we believe are essential for a successful project. We have used a similar project approach on many of our rate study projects for utilities throughout Michigan and the U.S.

## **Task 1: Project Initiation, Management, and Kick-off Workshop**

The project team will conduct a kick-off meeting with Township staff to confirm the project approach, work plan, schedule, and priorities. A successful kick-off meeting ensures that Township staff and the project team agree on the project's goals and expectations. We will develop a kick-off meeting package that contains the meeting agenda and presentation materials to guide the discussion. Following the meeting we will provide a brief memorandum summarizing the discussion and any action items.

We will provide a data request upon receipt of notice to proceed from the Township. Prior to the kick-off meeting, we will thoroughly review the data provided by the Township. This review is critical for two reasons. First, it is critical to appropriately use the most accurate data possible. This means clearly communicating the types of data we need from the Township and ensuring we received what we asked for and are using it for the appropriate purpose. A miscommunication regarding the data can cause significant deviations between expectations and actual results. Raftelis staff will work closely with the Township's point person in each area (e.g., finance, operations, and customer service) to ensure that we all agree on the intended use of what is being provided. Second, we have found that beginning to work with the data provided by our clients in advance makes for a much more productive kick-off meeting as it allows us to begin framing preliminary analyses, formulate any questions, and come fully prepared to discuss any issues. Even though we may request additional data or clarification as the study progresses, we will minimize the additional data requests and will strive to balance the time and effort required to provide the data with the relative impact it has on the analysis.

Effective ongoing project management ensures that Township staff are receiving the support they need at all times. This means regular and responsive communication, timely provision of deliverables, and prompt communication of any issues or challenges. One of Raftelis' key project management objectives is to serve as an asset to Township staff, enhancing their capabilities and bringing a broader industry perspective to bear on any challenges. Our project management team includes senior Raftelis staff who have successfully collaborated on numerous engagements of a similar size and complexity. This team is prepared to continue to leverage our institutional knowledge to support the critical work performed by the Township going forward.

## **Task 2: Financial Plan Development**

The financial plans identify the overall level of revenue necessary to fund operations and maintenance expense (O&M), water purchases from the City of Ludington, routine repair and replacement capital expenditures, and repayment of debt service (current and future) while achieving the Township's financial management objectives and remaining in compliance with statutory water regulations and standards. Determining the revenue requirement involves a detailed cash flow forecast, which compares projected baseline revenues to projected expenditures and identifies any adjustments to revenues that may be necessary to fund utility operations in a financially sustainable

manner. The projections we develop for the Township will include the balance of the Township's current fiscal year and the following 10 fiscal years.

### **Task 2.1 — Projection of Revenue Under Existing Rates**

Raftelis will develop revenue projections under existing rates and projected customer usage by customer class. This will serve as a baseline for revenues if no adjustments to rate levels or structures are made. In Task 3, we will compare these baseline revenue projections to projected expenditures to determine the overall level of revenue necessary (including revenue increases) to fund these projected expenditures and achieve the Township's financial performance objectives.

Accurately forecasting revenues is one of the biggest financial planning challenges faced by utilities because there are several factors that can affect usage. A particularly rainy or dry season, unforeseen population growth or decline, and commercial and industrial customers moving in and out of the Township's service area can have a dramatic effect on usage. The biggest risk involved in such projections is overstating the amount of billed usage, which results in unit rates that are too low to recover the revenue requirement.

Using historical customer billing data, we will evaluate trends in customer accounts and usage per account. Using this data, we will seek to establish a normalized usage per account, which avoids assigning undue weight to usage in wetter or drier periods. Typically, this involves determining a multi-year average of per customer usage, incorporating years with higher and lower usage, then applying an assumed conservation trend reflective of increasing customer fixture and appliance efficiency and other factors. We will then calculate revenues under existing rates at projected consumption levels. We will compare these revenues to the operating and capital expenses forecast in Tasks 2.2 and 2.3 to understand the sufficiency of existing revenues to fund projected expenditures.

### **Task 2.2 — Projection of O&M Expense**

The Township's water and sewer budgets (for the current year and any available future years) will serve as the starting point for the projection of O&M expense. To project O&M expenses for the forecast period, we typically make three adjustments: budget performance adjustments, incremental expense adjustments, and inflationary adjustments.

**Budget performance adjustments** will be made based on a detailed review of several years of budgeted O&M expense compared to actual performance. To the extent that the utility tends to outperform in certain areas (i.e., spend less than budgeted), we will discuss potential adjustments so that the projection of baseline O&M (i.e., before any incremental expenses and inflationary adjustments) is a reasonable reflection of what is likely to occur.

The current budget may include one-time expenses that are not expected to be incurred in the future. In this case, the one-time expense will either be excluded from future years or, if it occurs periodically, normalized in future years. To the extent that the current year budget represents a snapshot plan for the year in question, **incremental expense adjustments** ensure future years carry forward the appropriate level of O&M expense. The current budget may also exclude incremental changes in operating expenses anticipated to occur in the future. This includes incorporating recommendations for non-recurring O&M expenses such as meter replacement and ground reservoir maintenance.

**Inflationary adjustments** account for expected future inflation in O&M expense, after accounting for budget performance and any incremental expenses. Inflationary adjustments will be based on the best and most relevant data possible. Expenses driven by customer growth and usage (e.g., power and chemicals) will be adjusted based on

the projections in Task 2.1. Personnel costs will be adjusted based on planned compensation adjustments from the Township. The largest expense for the Township is water purchases from JAWA. The forecast for water purchases is based on the water use forecast developed in Task 2.1 as well as expectations for future wholesale price adjustments. For expenses where less detailed data is available, we will rely on historical trends, discussions with Township staff, and our experience working with similar utilities throughout the United States.

### **Task 2.3 — Projection of Routine and Major Capital Expenditures**

Task 2.3 involves developing a capital improvement financing plan that identifies the Township's capital projects (routine and major) and the mix of cash and debt used to finance them. The cash flow impact of the capital financing plan is incorporated into the cash flow analysis in Task 2.4 as annual cash outlays (i.e., PAYGO or revenue-funded capital) and new debt service. To develop the capital financing plan, we will review the Township's approved capital improvement plan (CIP) and work with Township staff to ensure that the appropriate level of investment is balanced against the potential rate implications. To the extent that the CIP is in current year dollars, we will include adjustments for future construction cost inflation based on an analysis of trends for the appropriate cost indices (e.g., Engineering News-Record). We will also incorporate any projects that the Township already has in progress from prior approved CIPs that will be completed in the first few years of the forecast period.

The CIP financing plan we develop for the Township will incorporate both routine repair and replacement expenditures as well as major capital improvements. Given the recurring nature of routine expenditures (i.e., water line replacement), many utilities employ a PAYGO funding approach. Major capital improvements are often funded with debt to spread out the financial burden on customers and to ensure that the cost of major improvements is borne by all customers, not just current customers. We will work with Township staff to recommend CIP financing alternatives which will achieve the Township's financial management objectives. The projected capital costs, including PAYGO and any new debt service, will be incorporated into the cash flow projections in Task 2.4.



**REGISTERED  
MUNICIPAL  
ADVISOR**

Because Raftelis is a Registered Municipal Advisor with the Municipal Securities Rulemaking Board, we are fully registered and qualified to provide the Township with municipal advice related to the issuance of debt to fund the CIP. This registration allows us to provide clients with advice related to the size, timing, structure, and terms of municipal debt.

### **Task 2.4 — Utility Cash Flow Forecasts and Revenue Adjustments**

We will develop a detailed cash flow forecast for the multi-year planning horizon. This forecast will compare existing revenues (Task 2.1) to forecast expenditures (Tasks 2.2 and 2.3), identifying any deficiencies in funding under existing revenues. Throughout Task 2.4, we will discuss the Township's existing financial policies and objectives (formal and informal). This will include a review of the performance of the utility relative to key financial ratios (e.g., days cash, capital structure, and debt service coverage). Throughout these discussions, we will provide recommendations to ensure the Township's financial management strategies align with industry best practices. We will structure rate adjustments to achieve the Township's strategic financial management objectives and maintain alignment with best financial management practices regarding debt service coverage ratios and reserve balances. We will develop at least two primary revenue adjustment scenarios: one in which revenue adjustments will be smoothed over the five-year, mitigating the impact on customers in any given year, and one in which the full revenue increase needed over the study period is achieved in the first year, followed by no increases in later years. The ultimate outcome of Task 2.4 will be the identification of the overall level of revenue required (including any adjustments to revenue) to fund the provision of safe and reliable water service in a financially sustainable manner. This revenue requirement will form the basis for the cost-of-service analysis in Task 3.



### **Task 3: Cost-of-service and Rate Design**

At a minimum, the project team will recommend overall adjustments to the Township's existing water and sewer rate structures to ensure sufficient funding for the projected revenue requirement identified Task 2. In addition, we will recommend two alternatives to the Township's rate structures to improve alignment with cost of service, industry best practices, and the community values identified in Task 1. Once the rate alternatives are established, the project team will assess the impact on Township customers via traditional methods, such as typical customer bills and peer benchmarking.

#### **Task 3.1 — Cost of Service**

The project team will utilize our experience, combined with industry best practices as set forth in the AWWA *Manual M1, Principles of Water Rates, Fees and Charges (Manual M1)* as well as the WEF *Manual of Practice No. 27, Financing and Charges for Wastewater Systems (MOP 27)* to assign the revenue requirement determined in the water and sewer financial plans to the Township's customer classes.

This involves three steps: functionalization, which assigns the revenue requirement to the various components of the water system (e.g., water purchases, treatment, or distribution); classification, which assigns the functionalized costs to demand parameters, or the components of customer demand which drive costs (e.g., base water demand, water peaking patterns, meter capacity); and distribution, which assigns costs to customer classes in proportion to the demands they place on the water system.

#### **Task 3.2 — Rate Design**

Evaluating the equity of the Township's existing rate structure involves assessing whether the rates fairly recover costs from different types of users. The Township's water rate structure includes a quarterly fixed charge that varies by meter size and a volumetric rate of \$4.05 per 100 cubic feet. The sewer rate structure also includes fixed and volumetric components, charging \$5.65 per 100 cubic feet.

We anticipate that the Township's approach to fixed revenue recovery will be a key area of discussion. In general, customer conservation due to increasing fixture and appliance efficiency will make it increasingly challenging to recover water costs, which are mostly fixed. In general, we recommend developing the fixed charge from "the bottom-up" recognizing the different types of fixed costs incurred by the Township to provide water and sewer service. This would include both per bill costs (meter reading, billing, collection, and customer service), which do not vary by meter size, and readiness to serve costs, which would be scaled up by meter size. The readiness to serve concept recognizes that the Township incurs costs to make service available to customers 24/7/365, regardless of how much water is used.

The impact on low-volume users is also an important consideration, but the exclusive focus on volumes may not be appropriate in all communities. The concern with the impact on low-volume customers is typically one of affordability, using the presumption that low volume is equivalent to low income and high volume is equivalent to high income. In our experience, volumes are not always the best indicator of a customer's ability to pay for water service. A high-volume customer could be a low-income customer with a large family, older appliances and fixtures, and poor plumbing, for example. One way of addressing this issue is to evaluate the affordability impacts of different options using United States Census data. This approach involves comparing usage and household income using a spatial analysis and would result in a more direct measurement of the impact of fixed charges on low-income customers.

We also expect that the potential adoption of an inclining block tiered rate structure will be an important consideration. Typically, these structures are used to encourage conservation and recognize the fact that customers

entering the higher tiers are likely to be seasonal users, which place greater demands on the water system. This type of rate structure is typically applied only to single-family residential customers, with other customer classes paying a uniform rate. This is because commercial and industrial customers are very different from residential customers. A commercial customer paying in one of the higher tiers may be using water consistently year-round to operate their business, whereas a residential customer using the same amount is likely using the water seasonally for discretionary outdoor watering. Applying the same structure to both customers results in charging the larger customer a higher unit cost for the same service (indoor, non-seasonal usage).

A potential challenge with the use of inclining block rates in the Township is the fact that the Township bills for water on a quarterly basis. Conservation is encouraged by the pricing signal sent by the higher cost of water in upper tiers, but the Township's billing is likely not frequent enough for ratepayers to adjust their water use patterns based on their bills. Additionally, it is difficult to identify peak demands and the related cost impact on the system using quarterly billing data as opposed to monthly billing data.

### **Task 3.3 — Bill Impacts**

Any rate structure change will have different impacts on different types of customers. For example, a significant increase of the fixed charge will likely result in an overall increase of the water bill for small water users and a decrease for large water users. Raftelis will prepare comparisons of typical customer bills under existing rates, and under each proposed alternative, for the Township's review. At a minimum, this will include impacts on representative customers from each customer class. Raftelis can also develop a distribution of all potential impacts using detailed customer billing information if needed. This would identify the number and percentage of bills falling within certain impact ranges. We will also develop bill comparisons between the Township and other comparable communities.

## **Task 4: Report Preparation and Board Presentations**

### **Task 4.1 – Interim Presentation**

Raftelis will attend a meeting of the Board of Trustees in September or October to provide an update on the status of the study and present preliminary findings. We expect that by the time of this presentation we will be able to present draft financial plan results and lead a discussion of potential rate structure alternatives.

### **Task 4.2 – Final Report and Presentation**

Raftelis will prepare a preliminary report that overviews the process, significant assumptions, conclusions, and recommendations regarding the study including, but not limited to, the development of the revenue requirement, cash flow forecast, proposed rates and impacts, tap-on fee analysis, and capital project funding strategies. Raftelis will conduct a meeting with Township staff to review any comments they have regarding the draft report. The report will include an executive summary that overviews the results of the study for a non-technical audience. Raftelis will then incorporate Township staff's comments into a final report. Senior members of Raftelis staff will present the final report to the Township's Board of Trustees.

## EXPERIENCE

# Experience

**WE HAVE DEVELOPED A TEAM OF CONSULTANTS WHO SPECIALIZE IN THE SPECIFIC ELEMENTS THAT WILL BE CRITICAL TO THE SUCCESS OF THE TOWNSHIP'S PROJECT.**

Our team includes senior-level professionals to provide experienced project leadership with support from talented consultant staff. This close-knit group has frequently collaborated on similar successful projects, providing the Township with confidence in our capabilities.

Here, we have included an organizational chart showing the structure of our project team. On the following pages, we have included resumes for each of our team members as well as a description of their role on the project.

## **Pere Marquette Charter Township**

**PROJECT MANAGER****Tom Beckley****QA/QC REVIEW****Collin Drat****LEAD CONSULTANT****Joe Collins**

# Tom Beckley

**PROJECT MANAGER | Vice President**



## ROLE

Tom will manage the day-to-day aspects of the project ensuring it is within budget, on schedule, and effectively meets the Township’s objectives. He will also lead the consulting staff in conducting analyses and preparing deliverables for the project. Tom will serve as the Township’s main point of contact for the project.

## PROFESSIONAL EXPERIENCE

Tom has 20 years of experience with Raftelis conducting financial and rate consulting related projects. He has assisted a wide range of municipal water, wastewater, and stormwater utilities in conducting cost-of-service, rate setting, financial feasibility, privatization, system development fees, and other finance-related studies. Tom authored a chapter entitled, “Designing Water and Wastewater Rate Structures,” for the Fourth Edition of the industry guidebook, *Water and Wastewater Finance and Pricing: The Changing Landscape*. He is also an active member of AWWA and WEF, as well as ICMA, and has presented at various national and state conferences.

## KEY PROJECT EXPERIENCE

### Arkansas

- City of Bentonville
- Little Rock WRA

### Arizona

- City of Peoria
- City of Phoenix

### Illinois

- City of Bloomington
- City of Naperville
- Northwest Water Commission
- Village of Northfield
- Village of Wilmette

### Iowa

- Des Moines Water Works

### Kansas

- City of Junction City
- City of Atchison
- City of Edgerton

- City of Lawrence
- City of Olathe
- City of Topeka
- City of Wichita
- Johnson County Water One

### Michigan

- Allendale Township
- City of Flint
- City of Grosse Pointe
- City of Macomb
- City of Marquette
- City of Rochester
- City of Saginaw
- City of Wyoming
- Detroit WSD
- Downriver Utility WW Authority
- Fort Gratiot Township
- Genesee County Drain Commission
- Grand Blanc Township
- Marquette Township
- Oakland County

## Specialties

- Utility cost-of-service & rate structure studies
- Conservation rate studies
- Bond forecasts & feasibility studies
- Economic feasibility studies
- Industrial waste charge studies
- Capital recovery fee studies

## Professional History

- Raftelis: Vice President (2020-present); Senior Manager (2014-2019); Manager (2000-2013)

## Education

- Master of Public Administration - University of Kansas (2008)
- Master of Business Administration (Concentration in Finance) - A.B. Freeman School of Business, Tulane University (2000)
- Bachelor of Science in Naval Architecture & Marine Engineering - Webb Institute (1995)

## Certifications

- Series 50 Municipal Advisor Representative
- Series 54 Municipal Advisor Principal

## Professional Memberships

- AWWA
- WEF
- ICMA

- Saginaw Midland Water Supply Corp
- State of Michigan

## Missouri

- City of Jefferson City
- City of North Kansas City
- City of Perryville
- St. Louis MSD

## Nevada

- City of Boulder City
- City of Henderson

# Collin Drat

## QA/QC REVIEW | Senior Manager



### ROLE

Collin will provide oversight for the project ensuring it meets both Raftelis and industry standards.

### PROFESSIONAL EXPERIENCE

Collin has over 10 years of experience advising municipally owned water, wastewater, stormwater, electric and natural gas utilities throughout North America. Collin has conducted 80+ studies for dozens of utility clients in 20 states. This experience includes not only establishing cost justified utility rates but also critiquing and defending them in court and before state public service commissions.

### KEY PROJECT EXPERIENCE

#### Arkansas

- City of Bentonville
- Central Arkansas Water

#### Arizona

- Marana Water

#### California

- City of San Diego

#### Canada

- Parkland Water Systems Comm.
- Strathcona County Utilities
- Town of Stony Plain
- City of Calgary
- Regional Water Customers Grp
- Sturgeon County

#### Florida

- Clearwater Gas System

#### Kansas

- City of Atchison
- City of Lawrence
- City of Junction City
- City of Topeka

#### Illinois

- Village of Northfield
- City of Bloomington
- Northwest Water Commission

#### Pennsylvania

- Masonic Villages

#### Puerto Rico

- Gran Melia

#### Michigan

- Bloomfield Township
- City of Marquette
- City of Saginaw
- City of Rochester
- City of Alpena
- City of Flint
- City of Sterling Heights
- Port Huron Township
- Marquette Township
- State of Michigan
- Detroit WSD

#### Missouri

- St. Louis MSD
- Silverleaf Resorts

#### Nevada

- City of Boulder City

#### New Mexico

- City of Aztec

#### Rhode Island

- Providence Water

### Specialties

- Utility strategic financial planning
- Cost-of-service analysis
- Water, wastewater, & stormwater rate design
- Conservation rate design
- Statistical analysis

### Professional History

- Raftelis: Senior Manager (2023-present); Manager (2019-2022); Senior Consultant (2016-2018); Consultant (2014-2015); Associate Consultant (2012-2013)

### Education

- Master of Public Affairs (Public Finance) - Indiana University (2012)
- Bachelor of Arts in International Relations - Wheaton College (2010)

### Professional Memberships

- AWWA
- Water Environment Federation (WEF): Utility Management Committee
- Finance and Administration Subcommittee for WEF
- AWWA/WEF Young Professionals Annual Summit: Chair (2020); Co-chair (2019)

### South Carolina

- City of Georgetown

### Tennessee

- City of Cookeville
- City of Clarksville

### Texas

- City of Round Rock

### Virginia

- City of Alexandria
- City of Suffolk

### Wisconsin

- Franklin Water Utility



# Joe Collins

**LEAD CONSULTANT | Manager**



## ROLE

Joe will serve as the Lead Consultant and will work at the direction of Tom in conducting analyses and preparing deliverables for the project.

## PROFESSIONAL EXPERIENCE

Joe has over eight years of experience providing analytical support for some of the largest and smallest water and wastewater utilities in the United States. He has a background in economics, public policy analysis, and municipal finance as well as utility energy management. Joe's areas of expertise include water and wastewater demand analysis, financial planning, cost-of-service analysis and rate design. Joe has developed decision support tools and analyses for some of the largest and most complex agencies in the nation.

## KEY PROJECT EXPERIENCE

### Arkansas

- Central Arkansas Water
- City of Bentonville
- City of Blytheville

### California

- Amador Water Agency
- City of San Diego
- Jurupa Community Services District
- Mammoth Community Water District
- Marina Coast Water District
- Otay Water District
- Victor Valley Wastewater Reclamation Authority
- City of El Segundo
- City of Milpitas
- City of Manhattan Beach
- City of Manteca
- Scott's Valley Water District

### Iowa

- Des Moines Water Works

### Illinois

- City of Edwardsville
- Village of Northfield
- City of Washington
- Village of Westmont
- DuPage Water Commission
- Town of Normal
- City of Springfield

### Kansas

- City of Atchison
- City of Junction City
- City of Lawrence
- City of Edgerton
- Kansas Water Office
- Johnson County Water One

### Michigan

- Bloomfield Township
- City of Saginaw
- City of Rochester
- City of Sterling Heights
- Detroit WSD
- Great Lakes Water Authority
- Grand Blanc Township
- City of Portage

### Missouri

- City of Jefferson City
- City of North Kansas City
- City of Perryville
- St. Louis MSD
- City of Smithville
- City of Columbia

## Specialties

- Financial modeling
- Utility rate studies
- Bond feasibility reports
- Statistical analysis

## Professional History

- Raftelis: Manager (2023-present); Senior Consultant (2021-2022); Consultant (2019-2020) Associate Consultant (2016-2018)

## Education

- Master of Public Administration - Indiana University (2016)
- Bachelor of Science in Economics - Truman State University (2014)

## Professional Memberships

- AWWA
- WEF



# References

## RAFTELIS HAS THE MOST EXPERIENCED UTILITY FINANCIAL AND MANAGEMENT CONSULTING PRACTICE IN THE NATION.

Our staff has assisted more than 1,700 local government agencies and utilities across the U.S., including some of the largest and most complex agencies in the nation. Below, we have provided descriptions of projects that we have worked on that are similar in scope to the Township's project. We have included references for each of these clients and urge you to contact them to better understand our capabilities and the quality of service that we provide.

### Grand Blanc Township MI

**Reference:** Gregory Boggs II, Director of Public Works  
P: 810.424.2640 / E: boggs@gbtgov.com

Raftelis conducted a financial planning and rate study for Grand Blanc Township's (Township) water and sewer utilities in 2020. A major aspect of this project included developing a capital financing plan to provide funding for ongoing annual capital improvement projects and planning for new development. Additionally, the project involved an analysis of the impact of changes to the Township's policies regarding irrigation meters and their effect on utility revenues. The Township engaged Raftelis again in 2023 to update the study.

### Bloomfield Township MI

**Reference:** Noah Mėhalski, Director of Public Works  
P: 248.433.7728 / E: nmehalski@bloomfieldtp.org

Bloomfield Township (Township) initially engaged Raftelis in 2021 to conduct a water and sewer rate study. The study focused on determining the appropriate level of overall revenue for the water and sewer funds (Financial Plan) and the development of rate alternatives which ensure alignment with industry standards and the Township's community values (Rate Development). The financial planning process determines the overall level of revenue needed regardless of how it is recovered (fixed vs. volume, residential vs. commercial) and the rate development process identifies the most appropriate way to recover that revenue.

The study involved significant collaboration between Township staff, Township Board members and the Raftelis team. Ultimately Raftelis recommended nominal rate increases to fund ongoing operations, critical infrastructure replacement and reserves for rate stabilization and emergency capital and provided several options for modifying the Township's rate structure to improve equity among rate payers. The Town adopted the new rates in 2022 and reengaged Raftelis to update the analysis in 2023.

### City of Rochester MI

**Reference:** Anthony Moggio, Finance Director / Treasurer  
P: 248.963.0750 / E: amoggio@rochestermi.org

Raftelis was engaged to perform a financial planning, cost of service and rate study for the City of Rochester (City). Customers in the City receive water from City wells, which is treated at the City water treatment plant, or from the Great Lakes Water Authority (GLWA) via Shelby Township. A key aspect of this engagement involved evaluating the appropriateness having separate rates for customers depending on the source of the water supplied by the City.

## QUALIFICATIONS

# Qualifications



## HELPING LOCAL GOVERNMENTS AND UTILITIES THRIVE

Utility leaders partner with Raftelis to transform their organizations by enhancing performance, planning for the future, improving their financial condition, and telling their story. We've helped more than 700 organizations in the last year alone.

**We believe that Raftelis is the *right fit* for this project. We provide several key factors that will benefit the Township and help to make this project a success.**

**RESOURCES & EXPERTISE:** This project will require the resources necessary to effectively staff the project and the skillsets to complete all of the required components. With more than 180 consultants, Raftelis has the largest water-industry financial and management consulting practice in the nation, including many of the industry's leading rate consultants and experts in key related areas, like stakeholder engagement and data analytics. Our depth of resources will allow us to provide the Township with the technical expertise necessary to meet your objectives.

**DEFENSIBLE RECOMMENDATIONS:** When your elected officials and customers are considering the validity of recommended changes, they want to be confident that they were developed by experts using the latest industry standard methodology. Our staff are involved in shaping industry standards by chairing committees within the American Water Works Association (AWWA) and the Water Environment Federation (WEF) and co-authoring many industry-standard books regarding utility finance and rate setting. Being so actively involved in the industry will allow us to keep the Township informed of emerging trends and issues and to be confident that our recommendations are insightful and founded on sound industry principles. In addition, with Raftelis' registration as a Municipal Advisor, you can be confident that we are fully qualified and capable of providing financial advice related to all aspects of utility financial planning in compliance with federal regulations.

**HISTORY OF SIMILAR SUCCESSSES:** An extensive track record of past similar work will help to avoid potential pitfalls on this project and provide the know-how to bring it across the finish line. Raftelis staff has assisted 1,700+ local governments and utilities throughout the U.S. with financial and rate consulting services with wide-ranging needs and objectives. Our extensive experience will allow us to provide innovative and insightful recommendations to the Township and will provide validation for our proposed methodology ensuring that industry best practices are incorporated.

**USER-FRIENDLY MODELING:** A modeling tool that your staff can use for scenario analysis and financial planning now and into the future will be key for the Township going forward. Raftelis has developed some of the most sophisticated yet user-friendly financial/rate models available in the industry. Our models are tools that allow us to examine different policy options and cost allocations and their financial/customer impacts in real time. We offer model options including Microsoft Excel-based and web-based tools that are developed with the expectation that they will be used by the client as a financial planning tool long after the project is complete.

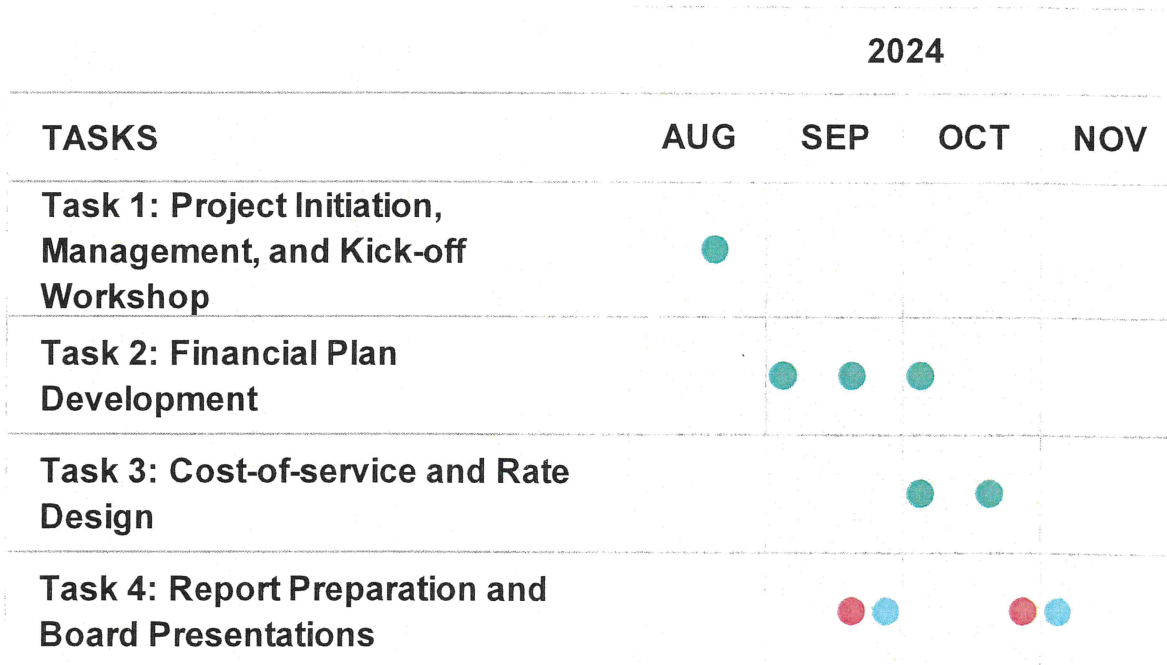
**RATES THAT ARE ADOPTED:** For the study to be a success, rates must be successfully approved and implemented. Even the most comprehensive rate study is of little use if the recommendations are not approved and implemented. Raftelis has assisted numerous agencies with getting proposed rates successfully adopted. We focus on effectively communicating with elected officials about the financial consequences and rationale behind recommendations to ensure stakeholder buy-in and successful rate adoption.

SCHEDULE

# Schedule

Raftelis will complete the scope of services within the timeframe shown in the schedule below. The proposed schedule assumes a notice-to-proceed by the second week of August 2024 and that Raftelis will receive the needed data in a timely manner and be able to schedule meetings as necessary. Project completion is estimated for November 1, 2024.

Our scope of work assumes we complete the project according to the schedule provided below. If the Township elects to extend the project completion schedule beyond the initial schedule, we will work with the Township to identify any necessary revisions to the project budget.



- *In-person Meetings*
- *Web Meetings*
- *Deliverables*



FEE SCHEDULE

# Fee Schedule

The following table provides a breakdown of our proposed fee for this project. This table includes the estimated level of effort required for completing each task and the hourly billing rates for our project team members. Expenses include costs associated with travel and a \$10 per hour technology charge covering computers, networks, telephones, postage, etc.

Our scope of work includes the number of in-person and/or virtual meetings shown in the table below. Should the Township require additional meetings and/or presentations to stakeholders, these can be arranged upon request at an added cost, which will be determined based on the scope and content of the meeting and/or presentation requested.

| Tasks  | Hours                          |                    |                |                 |                |                 | Total Fees                       | Total Expenses  |
|--|--------------------------------|--------------------|----------------|-----------------|----------------|-----------------|----------------------------------|-----------------|
|  | Web Meetings                   | In-person Meetings | TB             | JC              | CD             | Total           |                                  |                 |
| <b>Task 1: Project Initiation, Management, and Kick-off Workshop</b> | 1                              |                    | 2              | 8               |                | 10              | <b>\$3,000</b>                   | <b>\$100</b>    |
| <b>Task 2: Financial Plan Development</b>                            | 3                              |                    | 8              | 24              | 2              | 34              | <b>\$10,360</b>                  | <b>\$340</b>    |
| <b>Task 3: Cost-of-service and Rate Design</b>                       | 2                              |                    | 8              | 24              | 4              | 36              | <b>\$11,000</b>                  | <b>\$360</b>    |
| <b>Task 4: Report Preparation and Board Presentations</b>            |                                | 2                  | 2              | 12              |                | 14              | <b>\$4,140</b>                   | <b>\$540</b>    |
| <b>Total Meetings / Hours</b>  | <b>6</b>                       | <b>2</b>           | <b>20</b>      | <b>68</b>       | <b>6</b>       | <b>94</b>       |                                  |                 |
|  | <b>Hourly Billing Rate</b>     |                    | <b>\$360</b>   | <b>\$285</b>    | <b>\$320</b>   |                 |                                  |                 |
|  | <b>Total Professional Fees</b> |                    | <b>\$7,200</b> | <b>\$19,380</b> | <b>\$1,920</b> | <b>\$28,500</b> |                                  |                 |
| <i>TB – Tom Beckley</i>  |                                |                    |                |                 |                |                 | <b>Total Fees</b>                | <b>\$28,500</b> |
| <i>JC – Joe Collins</i>  |                                |                    |                |                 |                |                 |                                  |                 |
| <i>CD – Collin Drat</i>  |                                |                    |                |                 |                |                 | <b>Total Expenses</b>            | <b>\$1,340</b>  |
|  |                                |                    |                |                 |                |                 | <b>Total Fees &amp; Expenses</b> | <b>\$29,840</b> |

**APPENDIX: SAMPLE RATE STUDY**

# **Appendix: Sample Rate Study**

CITY OF  
**Rochester**

**Water and Sewer Rate Study**

Draft Final Report / August 19, 2020



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DRAFT INFOGRAPHIC

DRAFT FAQ

# Executive Summary

The City of Rochester engaged Raftelis Financial Consultants, Inc. (Raftelis) to develop water and sewer financial plans and develop rate structure alternatives to meet the City's objectives. The general objective of the financial planning process is to determine the level of rate revenue required to provide for the financial sustainability of the utilities into the future. Due to COVID-19 and the City's ability to efficiently manage its financial resources, **no rate increases are proposed for this year (September 2020 to August 2021). Modest increases may be needed beginning in September of 2021.**

## Background

### THE CITY'S WATER SYSTEM

The City currently operates two separate water distribution systems. Customers on the east side of the City receive water from the Great Lakes Water Authority (GLWA) purchased from Shelby Township. Customers on the west side receive water sourced from local wells and treated by the City of Rochester<sup>1</sup>. During the late 1980's, growth in the northeast area of the City was occurring too quickly for the City to complete the upgrades at the water treatment plant that would have been required to serve the new development. Today, the cost to expand the treatment capacity and distribution system upgrades that would be required to provide well water to customers currently on the GLWA system is prohibitively expensive. Accordingly, the most cost effective way to provide water service to Rochester residents remains the two system approach with customers on the west side receiving treated well water and the east side receiving water from GLWA.

All customers in Rochester are served by the same sewage collection system. Wastewater is treated by the Oakland-Macomb Interceptor Drainage District (OMID). The cost charged by OMID is approximately 87% of the City's sewer expenses.

“...the most cost effective way to provide water service to Rochester residents remains the “two-system” approach, with customers on the west side receiving treated well water and the east side receiving water from GLWA.”

### CITY'S FUND STRUCTURE, COST STRUCTURE AND EXISTING RATES

#### Fund Structure

The City tracks water and sewer costs within two distinct funds:

- **Operating Expenses are accounted for within Fund 592.** For the water utility, this includes the supply of treated water from wells and from GLWA, as well as some distribution system maintenance and administrative overhead. It also includes basic maintenance of the sewer collection system and charges for sewer treatment.
- **Capital Expenses are accounted for within Fund 488.** Capital expenses represent the repairs and replacements needed to the City's water and sewer system to ensure the continued provision of safe and reliable water and sewer service.

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<sup>1</sup>Well (west side) customers are generally those west of Letica Drive. GLWA (east side) customers are generally those east of Letica Drive.



The use of these separate funds allows the City to track costs at a detailed level and set rates which fairly recover the cost of water and sewer service from customers in proportion to their use of the utility systems.

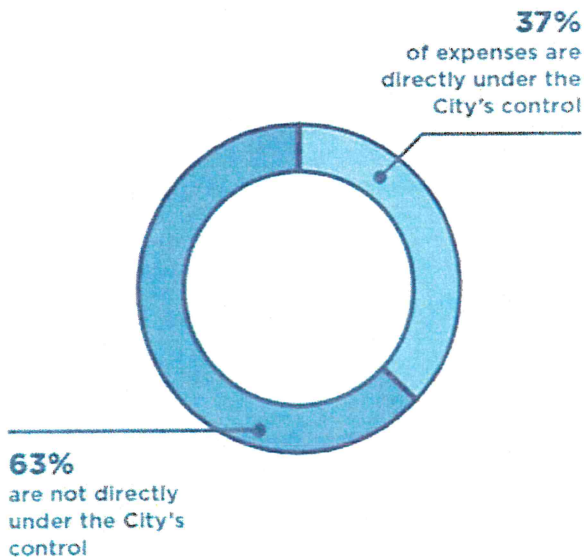
### Cost Structure

**Not all costs that the City incurs to provide water and sewer service are created equal.** For example, much of the cost of providing water and sewer service is not directly under the City's control. These non-controllable costs place upward pressure on water and sewer rates, even as City staff work to influence that costs that can be controlled by the City. The cost of water purchased from GLWA and sewer treatment service provided by OMID represent a large proportion of the cost of providing service, but the rates paid for these services are set by the providers and must be passed on residents. While it is theoretically possible for the City to provide these services in-house, avoiding the need to purchase these services, it would likely be much more expensive.

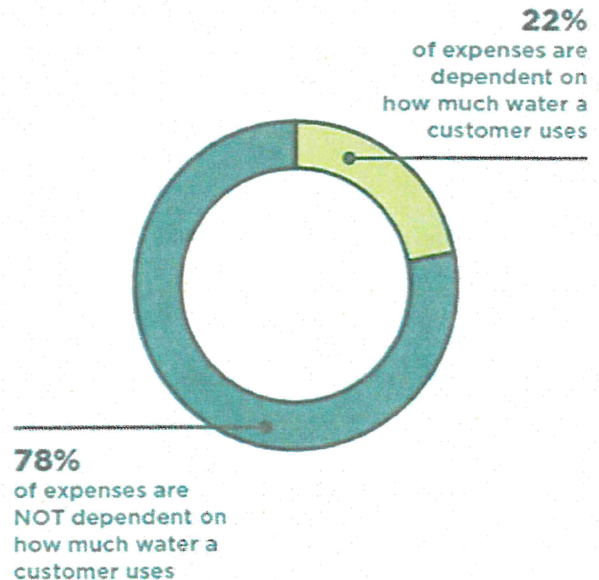
**Most of the cost of providing water and sewer service is fixed, which means it is not dependent on how much water a customer actually uses.** Most the City's costs are incurred to make service available to customers 24 hours a day, 7 days a week, 365 days a year, regardless of how much water customers use on a given day. The City cannot stop maintaining the system when water is not being used and start again when it is. This concept is known as *readiness to serve*.

“Most the City's costs are incurred to make service available to customers 24 hours a day, 7 days a week, 365 days a year, regardless of how much water customers use on a given day. This concept is known as *readiness to serve*.”

### CONTROLLABLE VS. NON-CONTROLLABLE COSTS



### FIXED VS. VARIABLE COSTS



## Rate Structure

The City's current rates include "Usage Charges," which are based on how much water a customer uses each quarter and "Ready to Serve" charges, which are the same amount each quarter regardless of use. The Usage Charges are applied to the number of hundred cubic feet (also known as Ccf) of water a customer uses each quarter. One Ccf is equal to 748 gallons. The average residential customer uses around 30 Ccf per quarter, which is equivalent to 22,440 gallons, or around 62 gallons per person, per day for a 4-person household. While this may seem like a lot, it is important to remember that most of the water a customer uses is not for drinking. Bathing, showering, clothes washing, dishwashing and lawn watering all contribute to the amount of water a customer uses each quarter. That said, the City's usage charges do provide customers a measure of control over their quarterly bill, because—the lower the quarterly usage—the lower the Usage Charge component of the bill.

The second component of the City's rate structure, the Ready to Serve charge, recognizes the fact that the majority of the cost of providing water and sewer service is not dependent on how much water a customer uses. The City's Ready to Serve charges help ensure that the revenues received from customers are sufficient to cover these fixed costs, even if customer usage declines. For example, a year with significantly more rain in the summer might mean less usage for customers, due to reduced lawn watering, but it does not mean less cost, due to the readiness to serve concept described above. The Ready to Serve charges, which do not vary by usage, help ensure that sufficient revenues are available to make safe and reliable service available, even in years where usage is lower.

“...the City's usage charges do provide customers a measure of control over their quarterly bill, because—the lower quarterly usage—the lower the Usage Charge component of the bill.”

## STUDY PROCESS

Raftelis worked closely with City staff and the City's Infrastructure Committee to conduct the rate study. This included bi-weekly meetings with City staff and regular meetings with Infrastructure Committee to review and refine our analysis. The study focused on answering the following 2 questions:

1. Are current revenue levels adequate to fund the provision of safe and reliable water and sewer service?
2. Is the City's rate structure fair? In other words, does it recover revenue from customers in proportion to the costs they cause the City to incur.

To answer the first question, Raftelis worked closely with City staff to review operating budgets and future capital expenses, ensuring that the financial needs of the City would be met in the coming years. Raftelis investigated the second question via a cost of service analysis which is described in detail in the body of the report.

# Findings, Recommendations and Next Steps

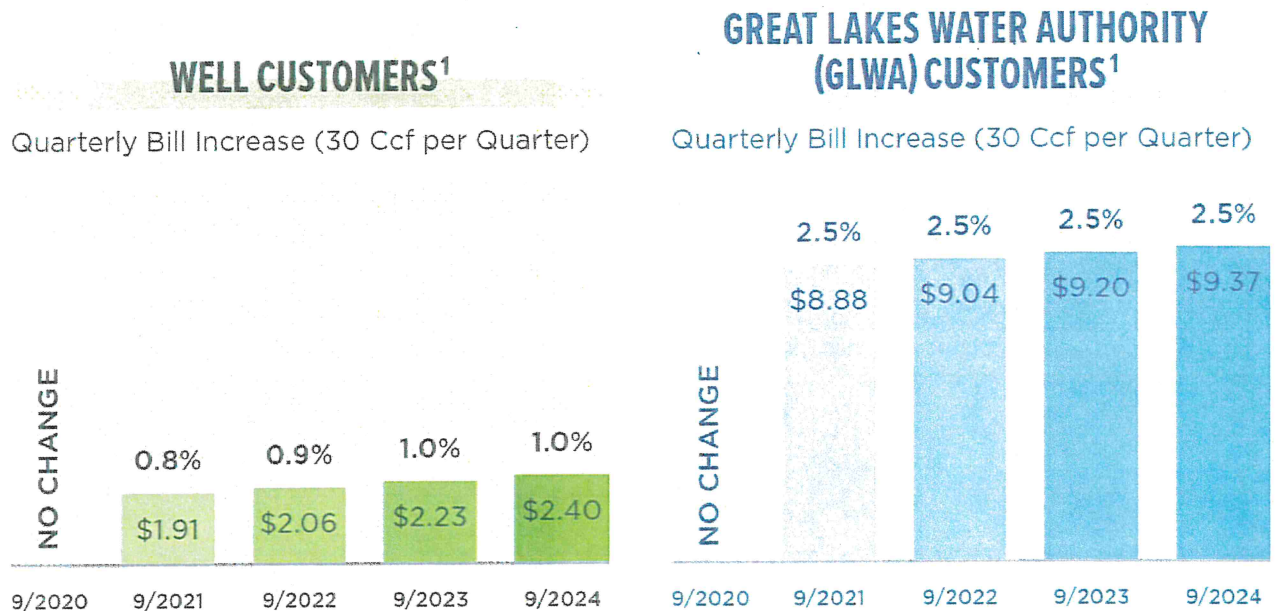
## FINDINGS

**Current rates are adequate to fund the provision of safe and reliable water and sewer service.** Accordingly, due to the impact of COVID-19 and the City's ability to efficiently manage its financial resources, no rate increases are proposed for this year (September 2020 to August 2021). Nominal increases will likely be needed beginning in September 2021, with modest increases occurring over the next four (4) years.

**The City's current rate structure is sound, but small changes could be made to improve the equity of the water and sewer rates.** For example, the cost to purchase water from GLWA is significantly more expensive than the cost to produce and treat water from the City's wells. Though current rates are different for GLWA customers and Well customers, they do not adequately reflect the difference in costs. Since all customers receive the same level of service, Raftelis recommends charging all customers the same fixed charge, and reflecting the differences in supply cost in the volumetric rates. This change could be phased in over five years to minimize customer impacts.

“Due to the impact of COVID-19 and the City's ability to efficiently manage its financial resources, no rate increases are proposed for this year...”

The impact of the proposed revenue adjustments and phase-in are shown in the graphic below. Note that the amounts shown represent the dollar change in the quarterly bill. For example, in September of 2021 a well customer using 30 Ccf would see an increase of \$1.91 per quarter. A GLWA customer with 30 Ccf would see an increase of \$8.88 per quarter.



<sup>1</sup> Well customers are generally WEST of Leticia Drive. GLWA Customers are generally EAST of Leticia Drive.



## RECOMMENDATIONS

**Raftelis recommends no rate adjustment this year (September 2020 to August 2021), with modest adjustments each year thereafter if and as needed.** This will ensure that the City will have the ability to maintain safe and reliable drinking water and sewage disposal systems while fairly recovering costs from the customers who cause the City to incur them. While this report includes recommended rate adjustment for September 2021 and beyond, the need for these adjustments should be evaluated annually by City staff.

**Raftelis recommends that staff continue their efforts to control costs.** Part of this project included analysis of how to fund required OMID assessments, a process that staff has carefully considered in the past. Staff is also holding conversations with Shelby Township about ways to reduce costs for GLWA water. The cost to purchase GLWA water is the primary driver of the difference in rates between the two systems. There are a number of ways which this cost could potentially be controlled including:

- Becoming a direct customer of GLWA, which would eliminate the additional cost paid to Shelby township for wheeling water to Rochester.
- Investing in storage to reduce Rochester's peak demand
- Implementing demand management measures which shift customer usage to off-peak periods

It is important to recognize that these potential cost saving measures will require careful evaluation including a weighing of the potential costs and benefits of each to ensure that the ultimate decision will not only benefit customers from a financial perspective, but also ensure the continued provision of safe and reliable service over the long-term.

## NEXT STEPS

This fall, staff will lead a public engagement program to inform the City's residents of the results of the study, including townhall meetings, bill inserts, a page on the City's website, and posts on social media. Next fall, staff will confirm the need for modest rate adjustments based on the latest information as capital and repair/replacement needs continue to be evaluated. Following this report, Raftelis has included drafts of materials that can be used to communicate the results of this study to customers, including an infographic, frequently asked questions (FAQ) document. In addition a walk-through of a customer bill is included in the PowerPoint presentation which accompanies this report.

# Introduction

The City of Rochester engaged Raftelis Financial Consultants, Inc. (Raftelis) to develop water and sewer financial plans and develop rate structure alternatives to meet the City's objectives.

## FINANCIAL PLAN

The general objective of the financial planning process is to arrive at the level of rate revenue required to provide for the financial sustainability of the utilities into the future. For this study, the financial plan was developed for a five-year forecast period. The forecast period uses the City's fiscal year, which runs from July 1 to June 30. Each year shown in the forecast refers to the year ending June 30. Separate financial plans for the water and sewer utilities, as well as Funds 592 and 488, were developed to provide each with the resources that are needed to operate self-sustainingly. The report also presents two options for the water infrastructure fund related to the funding of the East Side Booster Station.

## COST OF SERVICE ANALYSIS

While the financial planning process determines the overall level of rate revenue necessary to sustain each utility, the cost of service analysis determines how that revenue should be recovered from City customers. The primary driver of differences in the cost of service for Rochester is the difference in supply costs; water purchased from Shelby Township is significantly more expensive than water produced by the City from its system of wells.

For the water utility, costs are allocated on the basis of average and peak demand. Average demand represents water consumption on an average day, while peak demand represents the highest usage day and hour. To serve both types of demand, the water utility system must be built to provide water for both the average days and the peak days and hours. Consequently, customers who use water *more* consistently (those with lower peak demand to average demand ratio) cause the utility to incur *less* costs to provide service than customers who use water *less* consistently (those with higher peak demand to average demand ratio) cause the utility to incur *more* costs to provide service.

The City's cost to provide sewer service to different types customers does not vary significantly. For example, the largest cost, the payments to Oakland County for sewer treatment service, is not dependent on the usage and wastewater strengths of individual City sewer customers. The remaining costs, which relate to maintaining the City's sewer collection system, are also not dependent on customer wastewater strength, which is the primary differentiator for sewer cost of service. Accordingly, the City's existing rate structure, which charges all customers the same fixed and volumetric charges is appropriate and a detailed sewer cost of service analysis was not required.

## RATE DESIGN

Once revenue requirements were identified and costs of operating the system properly allocated to customers, Raftelis developed a five-year rate schedule designed to more accurately recover costs from those who cause the utility to incur them, while phasing in significant changes to minimize impacts on customers. The rate recommendations assume that the proposed adjustments will be made effective in September of each year, which is consistent with the City's process for rate adjustments. No rate increase is being proposed for this coming September, which falls within the City's fiscal year 2021 (i.e., July 1, 2020 to June 30, 2021). City staff will evaluate the need for an increase next September (i.e. FY 2022) and each year thereafter.

## Financial Planning Methodology

The primary objective of financial planning involves comparing forecast utility revenues under existing rates to forecast expenditures and determining what annual adjustments to revenues are necessary to ensure the financial viability of the water and sewer utilities. This involves three steps:

First, a forecast of revenue under existing rates forms the baseline against which any revenue adjustments will be made. Second, a forecast of operating and capital expenses establishes the costs which will need to be recovered from utility rates. The final step involves a detailed cash flow forecast and an evaluation of what rate revenue adjustments are needed for ongoing financial sustainability. Evaluating financial sustainability involves several key principles.

The utility should maintain the ability to deal with unanticipated declines in revenue or emergency expenditures without reducing service quality or dramatically increasing rates. While typical liquidity measures include operating expenses only, we recommend evaluating liquidity with debt service included as this remains an obligation of the utility, regardless of any unforeseen events. While the number of days a utility will seek to maintain will vary by utility, this financial plan targets 120 days. This can be used for working capital (timing differences in revenues and expenditures), temporary revenue shortfalls, or emergency capital repairs.

When possible, rates should also be set to maintain a program of gradual, modest increases to avoid large increases to deal with future expenses. For example, the City must ensure the ability to make debt service payments on existing bonds expected to come due by 2022 and build the capacity to pay for the bonds proposed in this study. Slowly building to the levels of revenue required to make these payments is fairer to the City and its customers than postponing increases and requiring large adjustments.

# Water Financial Plan

## Forecast Revenue at Existing Rates

**Figure 1** indicates the forecast of water revenue at existing rates. To establish a baseline of water demand, Raftelis reviewed account and water usage data from the previous three years. The forecast uses data from FY 2019, the lowest year in this period, and assumes a conservative 0% growth through the forecast period.

Figure 1: Water Revenue at Existing Rates

| Existing Revenue        | 2020                | 2021                | 2022                | 2023                | 2024                | 2025                |
|-------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Fund 592 Revenue</b> |                     |                     |                     |                     |                     |                     |
| Fixed Charge            | \$ 158,064          | \$ 158,064          | \$ 158,064          | \$ 158,064          | \$ 158,064          | \$ 158,064          |
| Commodity Charge        | 1,912,636           | 1,912,636           | 1,912,636           | 1,912,636           | 1,912,636           | 1,912,636           |
| <b>Subtotal:</b>        | <b>\$ 2,070,700</b> | <b>\$ 2,070,700</b> | <b>\$ 2,070,700</b> | <b>\$ 2,070,700</b> | <b>\$ 2,070,700</b> | <b>\$ 2,070,700</b> |
| <b>Fund 488 Revenue</b> |                     |                     |                     |                     |                     |                     |
| Fixed Charge            | \$ 522,558          | \$ 522,558          | \$ 522,558          | \$ 522,558          | \$ 522,558          | \$ 522,558          |
| Commodity Charge        | 148,983             | 148,983             | 148,983             | 148,983             | 148,983             | 148,983             |
| <b>Subtotal:</b>        | <b>\$ 671,541</b>   | <b>\$ 671,541</b>   | <b>\$ 671,541</b>   | <b>\$ 671,541</b>   | <b>\$ 671,541</b>   | <b>\$ 671,541</b>   |
| <b>Total:</b>           | <b>\$ 2,742,240</b> | <b>\$ 2,742,240</b> | <b>\$ 2,742,240</b> | <b>\$ 2,742,240</b> | <b>\$ 2,742,240</b> | <b>\$ 2,742,240</b> |

## Forecast of Expenses

### OPERATING EXPENSES

Operating expenses are those which the utility incurs on a consistent day to day basis and which generally do not involve the construction of a capital asset. The operating expenses used in the forecast for FY 2020 through FY 2024 were provided by City staff. A significant portion of expenses from Fund 592 is the purchase of GLWA water from Shelby Township. This cost is calculated based on our forecast of water usage on the east side of the City and includes an estimated rate increase of 4% per year. **Figure 2** shows the forecast of Fund 592 expenses.

Figure 2: Forecast of Water O&M

| O&M Expenses                | 2020                | 2021                | 2022                | 2023                | 2024                | 2025                |
|-----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Distribution                | \$ 474,388          | \$ 373,242          | \$ 420,665          | \$ 429,034          | \$ 437,571          | \$ 450,698          |
| Plant                       | 132,515             | 155,627             | 136,234             | 138,958             | 151,738             | 156,290             |
| Purchased Water             | 1,318,984           | 1,397,386           | 1,453,281           | 1,511,412           | 1,571,869           | 1,634,743           |
| Administration              | 36,798              | 37,587              | 38,372              | 39,118              | 39,878              | 41,074              |
| Cross Charge                | 83,340              | 87,302              | 86,707              | 88,441              | 90,210              | 92,916              |
| <b>Total: Water O&amp;M</b> | <b>\$ 2,046,025</b> | <b>\$ 2,051,144</b> | <b>\$ 2,135,259</b> | <b>\$ 2,206,963</b> | <b>\$ 2,291,265</b> | <b>\$ 2,375,722</b> |

### CAPITAL EXPENSES

Capital expenses are incurred to make improvements to water system assets. Many of the projects involve the replacement of City water mains. A major project included in the financial plan is the construction of the East Side Booster station in FY 2022. **Figure 3** indicates the capital improvement program (CIP), as provided by City staff. Financing for these projects will be discussed in detail below.



Figure 3: Water Capital Improvement Program

| Capital Projects          | 2020               | 2021              | 2022                | 2023              | 2024              | 2025                |
|---------------------------|--------------------|-------------------|---------------------|-------------------|-------------------|---------------------|
| New Meters                | \$ 10,240          | \$ 10,435         | \$ 10,000           | \$ 10,000         | \$ 10,000         | \$ 10,000           |
| Water Main Projects       | 6,205,000          | 500,000           | 160,000             | 160,000           | 160,000           | 160,000             |
| East Side Booster Station | -                  | -                 | 1,000,000           | -                 | -                 | -                   |
| Griggs Street             | -                  | -                 | -                   | -                 | -                 | 350,000             |
| Terry Ave                 | -                  | -                 | -                   | -                 | -                 | 820,000             |
| Taylor Ave                | -                  | -                 | -                   | -                 | -                 | 960,000             |
| Roselawn Drive            | -                  | -                 | -                   | -                 | -                 | 150,000             |
| E University Drive        | -                  | -                 | -                   | -                 | -                 | 210,000             |
| Service Line Replacement  | -                  | 250,000           | -                   | -                 | -                 | -                   |
| <b>Total:</b>             | <b>\$6,215,240</b> | <b>\$ 760,435</b> | <b>\$ 1,170,000</b> | <b>\$ 170,000</b> | <b>\$ 170,000</b> | <b>\$ 2,660,000</b> |

## Cash Flow Forecast

The final step in the financial planning process involves compiling a cash flow forecast which identifies the revenue adjustments necessary to ensure financial sustainability. Expenses in Fund 592 include operating and maintenance expenses related to treating water, operating the distribution system, purchasing water from Shelby Township, and administrative overhead. As indicated by **Figure 4**, water revenues in Fund 592 are barely sufficient to meet current expenses. The rate revenue adjustments indicated below will ensure revenues continue to cover expenses and maintain a balance above the minimum target.

Figure 4: Water Fund 592 Cash Flow Forecast

| Fund 592                     | 2020                | 2021                | 2022                | 2023                | 2024                | 2025                |
|------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Rate Revenue Increase</b> |                     | 0.00%               | 2.00%               | 2.00%               | 2.00%               | 2.00%               |
| <b>Revenues</b>              |                     |                     |                     |                     |                     |                     |
| Rate Revenue                 | \$ 2,070,700        | \$ 2,070,700        | \$ 2,105,211        | \$ 2,147,316        | \$ 2,190,262        | \$ 2,234,067        |
| Other Revenue                | 63,200              | 64,401              | 65,753              | 67,068              | 68,409              | 68,409              |
| <b>Total:</b>                | <b>\$ 2,133,900</b> | <b>\$ 2,135,101</b> | <b>\$ 2,170,964</b> | <b>\$ 2,214,384</b> | <b>\$ 2,258,671</b> | <b>\$ 2,302,476</b> |
| <b>O&amp;M Expenses</b>      | <b>\$ 2,046,025</b> | <b>\$ 2,051,144</b> | <b>\$ 2,135,259</b> | <b>\$ 2,206,963</b> | <b>\$ 2,291,265</b> | <b>\$ 2,375,722</b> |
| <b>Surplus/Deficit</b>       | <b>\$ 87,875</b>    | <b>\$ 83,957</b>    | <b>\$ 35,705</b>    | <b>\$ 7,421</b>     | <b>\$ (32,594)</b>  | <b>\$ (73,245)</b>  |
| <b>Operating Reserve</b>     |                     |                     |                     |                     |                     |                     |
| Beginning Balance            | \$ 727,334          | \$ 815,209          | \$ 899,166          | \$ 934,871          | \$ 942,293          | \$ 909,698          |
| Surplus/Deficit              | 87,875              | 83,957              | 35,705              | 7,421               | (32,594)            | (73,245)            |
| <b>Ending Balance</b>        | <b>\$ 815,209</b>   | <b>\$ 899,166</b>   | <b>\$ 934,871</b>   | <b>\$ 942,293</b>   | <b>\$ 909,698</b>   | <b>\$ 836,453</b>   |
| <i>Minimum</i>               | <i>672,666</i>      | <i>674,349</i>      | <i>702,003</i>      | <i>725,577</i>      | <i>753,293</i>      | <i>781,059</i>      |

Expenses in Fund 488 include some administrative overhead, but primarily consist of capital spending and debt service payments. The scenario presented assumes the City will cash finance the construction of the East Side Booster

Station in 2022 and a service line replacement program in 2021. It also includes repayment of the 2020 DWRF loan beginning in FY 2022 and an additional \$2.8 million DWRF loan in FY 2025.

Figure 5: Water Fund 488 Scenario 1 Cash Flow Forecast

| Fund 488                           | 2020                | 2021                | 2022                | 2023              | 2024              | 2025                |
|------------------------------------|---------------------|---------------------|---------------------|-------------------|-------------------|---------------------|
| <b>Rate Revenue Increase</b>       |                     | 0.00%               | 1.50%               | 1.50%             | 1.50%             | 1.50%               |
| <b>Revenues</b>                    |                     |                     |                     |                   |                   |                     |
| Rate Revenue                       | \$ 671,541          | \$ 671,541          | \$ 679,935          | \$ 690,134        | \$ 700,486        | \$ 710,993          |
| Other Revenue                      | 37,000              | 37,703              | 38,495              | 39,264            | 40,050            | 40,050              |
| <b>Total:</b>                      | <b>\$ 708,541</b>   | <b>\$ 709,244</b>   | <b>\$ 718,430</b>   | <b>\$ 729,398</b> | <b>\$ 740,536</b> | <b>\$ 751,043</b>   |
| <b>Expenses</b>                    |                     |                     |                     |                   |                   |                     |
| Existing Debt Service              | \$ -                | \$ 40,625           | \$ 391,875          | \$ 391,813        | \$ 391,656        | \$ 391,406          |
| Proposed Debt Service              | -                   | -                   | -                   | -                 | -                 | -                   |
| Rate Funded Capital                | 35,000              | 770,000             | 1,160,000           | 180,000           | 180,000           | 190,000             |
| O&M                                | 83,340              | 87,302              | 86,707              | 88,441            | 90,210            | 92,916              |
| <b>Total:</b>                      | <b>\$ 118,340</b>   | <b>\$ 897,927</b>   | <b>\$ 1,638,582</b> | <b>\$ 660,253</b> | <b>\$ 661,866</b> | <b>\$ 674,322</b>   |
| <b>Surplus/Deficit</b>             | <b>\$ 590,201</b>   | <b>\$ (188,683)</b> | <b>\$ (920,152)</b> | <b>\$ 69,145</b>  | <b>\$ 78,670</b>  | <b>\$ 76,721</b>    |
| <b>Operating Reserve</b>           |                     |                     |                     |                   |                   |                     |
| Beginning Balance                  | \$ 1,196,530        | \$ 1,786,731        | \$ 1,598,048        | \$ 677,896        | \$ 747,041        | \$ 825,711          |
| Surplus/Deficit                    | 590,201             | (188,683)           | (920,152)           | 69,145            | 78,670            | 76,721              |
| <b>Ending Balance</b>              | <b>\$ 1,786,731</b> | <b>\$ 1,598,048</b> | <b>\$ 677,896</b>   | <b>\$ 747,041</b> | <b>\$ 825,711</b> | <b>\$ 902,432</b>   |
| <i>Minimum</i>                     | <i>251,275</i>      | <i>38,906</i>       | <i>295,209</i>      | <i>256,139</i>    | <i>217,070</i>    | <i>217,600</i>      |
| <b>Capital Financing Plan</b>      |                     |                     |                     |                   |                   |                     |
| <b>Sources of Funds</b>            |                     |                     |                     |                   |                   |                     |
| Bond Proceeds                      | \$ 6,185,000        | \$ -                | \$ -                | \$ -              | \$ -              | \$ 2,780,000        |
| Rate Funded Capital                | 35,000              | 770,000             | 1,160,000           | 180,000           | 180,000           | 190,000             |
| <b>Total:</b>                      | <b>\$ 6,220,000</b> | <b>\$ 770,000</b>   | <b>\$ 1,160,000</b> | <b>\$ 180,000</b> | <b>\$ 180,000</b> | <b>\$ 2,970,000</b> |
| <b>Capital Projects (Inflated)</b> | <b>\$ 6,215,240</b> | <b>\$ 760,435</b>   | <b>\$ 1,170,000</b> | <b>\$ 175,253</b> | <b>\$ 180,668</b> | <b>\$ 2,914,280</b> |

# Sewer Financial Plan

Figure 6 indicates the forecast of sewer revenue at existing rates. To establish a baseline of sewer demand, Raftelis reviewed account and usage data from the previous three years. The forecast uses data from FY 2019, the lowest year in this period, and assumes a conservative 0% growth through the forecast period.

Figure 6: Sewer Revenue at Existing Rates

| Existing Revenue        | 2020               | 2021                | 2022                | 2023                | 2024                | 2025                |
|-------------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Fund 592 Revenue</b> |                    |                     |                     |                     |                     |                     |
| Fixed Charge            | \$ 681,140         | \$ 681,140          | \$ 681,140          | \$ 681,140          | \$ 681,140          | \$ 681,140          |
| Commodity Charge        | 2,340,123          | 2,340,123           | 2,340,123           | 2,340,123           | 2,340,123           | 2,340,123           |
| <b>Subtotal:</b>        | <b>\$3,021,263</b> | <b>\$ 3,021,263</b> | <b>\$ 3,021,263</b> | <b>\$ 3,021,263</b> | <b>\$ 3,021,263</b> | <b>\$ 3,021,263</b> |
| <b>Fund 488 Revenue</b> |                    |                     |                     |                     |                     |                     |
| Fixed Charge            | \$ 490,470         | \$ 490,470          | \$ 490,470          | \$ 490,470          | \$ 490,470          | \$ 490,470          |
| Commodity Charge        | 142,690            | 142,690             | 142,690             | 142,690             | 142,690             | 142,690             |
| <b>Subtotal:</b>        | <b>\$ 633,160</b>  | <b>\$ 633,160</b>   | <b>\$ 633,160</b>   | <b>\$ 633,160</b>   | <b>\$ 633,160</b>   | <b>\$ 633,160</b>   |
| <b>Total:</b>           | <b>\$3,654,423</b> | <b>\$ 3,654,423</b> | <b>\$ 3,654,423</b> | <b>\$ 3,654,423</b> | <b>\$ 3,654,423</b> | <b>\$ 3,654,423</b> |

## Forecast of Expenses

### OPERATING EXPENSES

Operating expenses are those which the utility incurs on a consistent day to day basis and which generally do not involve the construction of a capital asset. The operating expenses used in the forecast for FY 2020 through FY 2024 were provided by City staff. A significant portion of expenses from Fund 592 the treatment of sewage by the Oakland-Macomb Interceptor Drainage District (OMID). In addition to regular annual costs of approximately \$2 million for the City, OMID issued an additional assessment on its customers to fund ongoing capital projects. The City's portion of this is approximately \$1.6 million. The Rochester City Council has chosen to finance this payment through OMID over 20 years at an interest rate of approximately 2.25%.

Figure 7: Forecast of Sewer O&M Expenses

| O&M Expenses                | 2020                | 2021                | 2022                | 2023                | 2024                | 2025                |
|-----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Collection                  | \$ 257,353          | \$ 215,123          | \$ 219,496          | \$ 223,886          | \$ 228,363          | \$ 235,214          |
| Treatment                   | 2,897,140           | 2,403,473           | 2,512,628           | 2,571,344           | 2,620,990           | 2,634,038           |
| Administration              | 180,206             | 187,334             | 187,619             | 191,338             | 195,131             | 200,985             |
| <b>Total: Sewer O&amp;M</b> | <b>\$ 3,334,699</b> | <b>\$ 2,805,929</b> | <b>\$ 2,919,743</b> | <b>\$ 2,986,568</b> | <b>\$ 3,044,485</b> | <b>\$ 3,070,237</b> |



## CAPITAL EXPENSES

Capital expenses are incurred to make improvements to sewer system assets. Many of the projects involve the replacement and maintenance of the City's collection system. **Figure 8** indicates the capital improvement program (CIP), as provided by City staff. Financing for these projects will be discussed in detail below.

**Figure 8: Sewer Capital Improvement Program**

| Capital Projects   | 2020              | 2021              | 2022                | 2023              | 2024              | 2025              |
|--------------------|-------------------|-------------------|---------------------|-------------------|-------------------|-------------------|
| Sewer Projects     | \$ 400,000        | \$ 302,000        | \$ 400,000          | \$ 400,000        | \$ 400,000        | \$ 400,000        |
| Ludlow Backup Gen. | 120,000           | -                 | -                   | -                 | -                 | -                 |
| Additional Project | -                 | -                 | 3,000,000           | -                 | -                 | -                 |
| <b>Total:</b>      | <b>\$ 520,000</b> | <b>\$ 302,000</b> | <b>\$ 3,400,000</b> | <b>\$ 400,000</b> | <b>\$ 400,000</b> | <b>\$ 400,000</b> |

## Cash Flow Forecast

Expenses in Fund 592 include operating and maintenance expenses related to the collection and treatment of sewage and administrative overhead.

**Figure 9: Sewer Fund 592 - Cash Flow Forecast**

| Fund 592                     | 2020                | 2021                | 2022                | 2023                | 2024                | 2025                |
|------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Rate Revenue Increase</b> | 0.00%               | 0.00%               | 0.00%               | 0.00%               | 0.00%               | 0.00%               |
| <b>Revenues</b>              |                     |                     |                     |                     |                     |                     |
| Rate Revenue                 | \$ 3,021,263        | \$ 3,021,263        | \$ 3,021,263        | \$ 3,021,263        | \$ 3,021,263        | \$ 3,021,263        |
| Other Revenue                | 54,800              | 55,841              | 57,014              | 58,155              | 59,317              | 59,317              |
| <b>Total:</b>                | <b>\$ 3,076,063</b> | <b>\$ 3,077,104</b> | <b>\$ 3,078,277</b> | <b>\$ 3,079,417</b> | <b>\$ 3,080,580</b> | <b>\$ 3,080,580</b> |
| <b>O&amp;M Expenses</b>      | <b>\$ 3,334,699</b> | <b>\$ 2,805,929</b> | <b>\$ 2,919,743</b> | <b>\$ 2,986,568</b> | <b>\$ 3,044,485</b> | <b>\$ 3,070,237</b> |
| <b>Surplus/Deficit</b>       | <b>\$ (258,637)</b> | <b>\$ 271,175</b>   | <b>\$ 158,534</b>   | <b>\$ 92,850</b>    | <b>\$ 36,095</b>    | <b>\$ 10,342</b>    |
| <b>Operating Reserve</b>     |                     |                     |                     |                     |                     |                     |
| Beginning Balance            | \$ 1,091,002        | \$ 832,365          | \$ 1,103,540        | \$ 1,262,073        | \$ 1,354,923        | \$ 1,391,017        |
| Surplus/Deficit              | (258,637)           | 271,175             | 158,534             | 92,850              | 36,095              | 10,342              |
| <b>Ending Balance</b>        | <b>\$ 832,365</b>   | <b>\$ 1,103,540</b> | <b>\$ 1,262,073</b> | <b>\$ 1,354,923</b> | <b>\$ 1,391,017</b> | <b>\$ 1,401,360</b> |
| <i>Minimum</i>               | <i>1,096,340</i>    | <i>922,497</i>      | <i>959,916</i>      | <i>981,885</i>      | <i>1,000,927</i>    | <i>1,009,393</i>    |

Expenses in Fund 488 primarily include debt service and capital projects. The proposed financial plan includes the an additional \$3 million SRF loan in FY 2022 with repayment beginning in 2024.



Figure 10: Sewer Fund 488 Cash Flow Forecast

| Fund 488                           | 2020                | 2021                | 2022                | 2023                | 2024                | 2025                |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Rate Revenue Increase</b>       |                     | 0.00%               | 7.00%               | 7.00%               | 7.00%               | 7.00%               |
| <b>Revenues</b>                    |                     |                     |                     |                     |                     |                     |
| Rate Revenue                       | \$ 633,160          | \$ 633,160          | \$ 670,095          | \$ 717,001          | \$ 767,191          | \$ 820,895          |
| Other Revenue                      | 118,000             | 120,242             | 50,727              | 53,102              | 54,483              | 54,483              |
| <b>Total:</b>                      | <b>\$ 751,160</b>   | <b>\$ 753,402</b>   | <b>\$ 720,822</b>   | <b>\$ 770,103</b>   | <b>\$ 821,675</b>   | <b>\$ 875,378</b>   |
| <b>Expenses</b>                    |                     |                     |                     |                     |                     |                     |
| Existing Debt Service              | \$ -                | \$ -                | \$ 244,500          | \$ 240,750          | \$ 242,000          | \$ 243,125          |
| Proposed Debt Service              | -                   | -                   | -                   | -                   | 222,953             | 222,953             |
| Rate Funded Capital                | 520,000             | 310,000             | 400,000             | 410,000             | 430,000             | 430,000             |
| O&M                                | 125,010             | 130,952             | 130,060             | 132,661             | 135,314             | 139,374             |
| <b>Total:</b>                      | <b>\$ 645,010</b>   | <b>\$ 440,952</b>   | <b>\$ 774,560</b>   | <b>\$ 783,411</b>   | <b>\$ 1,030,267</b> | <b>\$ 1,035,452</b> |
| <b>Surplus/Deficit</b>             | <b>\$ 106,150</b>   | <b>\$ 312,450</b>   | <b>\$ (53,738)</b>  | <b>\$ (13,308)</b>  | <b>\$ (208,592)</b> | <b>\$ (160,073)</b> |
| <b>Operating Reserve</b>           |                     |                     |                     |                     |                     |                     |
| Beginning Balance                  | \$ 1,794,796        | \$ 1,900,946        | \$ 2,213,396        | \$ 2,159,658        | \$ 2,146,350        | \$ 1,937,757        |
| Surplus/Deficit                    | 106,150             | 312,450             | (53,738)            | (13,308)            | (208,592)           | (160,073)           |
| <b>Ending Balance</b>              | <b>\$ 1,900,946</b> | <b>\$ 2,213,396</b> | <b>\$ 2,159,658</b> | <b>\$ 2,146,350</b> | <b>\$ 1,937,757</b> | <b>\$ 1,777,684</b> |
| <i>Minimum</i>                     | <i>212,058</i>      | <i>144,971</i>      | <i>254,650</i>      | <i>257,560</i>      | <i>338,718</i>      | <i>340,422</i>      |
| <b>Capital Financing Plan</b>      |                     |                     |                     |                     |                     |                     |
| <b>Sources of Funds</b>            |                     |                     |                     |                     |                     |                     |
| Bond Proceeds                      | \$ -                | \$ -                | \$ 3,030,000        | \$ -                | \$ -                | \$ -                |
| Rate Funded Capital                | 520,000             | 310,000             | 400,000             | 410,000             | 430,000             | 430,000             |
| <b>Total:</b>                      | <b>\$ 520,000</b>   | <b>\$ 310,000</b>   | <b>\$ 3,430,000</b> | <b>\$ 410,000</b>   | <b>\$ 430,000</b>   | <b>\$ 430,000</b>   |
| <b>Capital Projects (Inflated)</b> | <b>\$ 520,000</b>   | <b>\$ 302,000</b>   | <b>\$ 3,400,000</b> | <b>\$ 412,360</b>   | <b>\$ 425,102</b>   | <b>\$ 438,238</b>   |

# Cost of Service

Following the development of the revenue requirement for each year of the forecast period, the proportion of the total revenue requirement (i.e. O&M and capital) allocable to each customer class must be determined. This allocation represents the level of revenues that must be recovered from each customer class, given the operational demands that class places on the water utility system. The primary difference in costs between customers is already recognized by the City. Customers who receive their water from a system of wells pay a different fixed charge and volume rate than customers who receive their water from GLWA via Shelby Township. This allocation is performed via the following steps:

- » Cost Functionalization
- » Allocation of Functionalized Costs to Cost Components
- » Determination of Peaking Factors
- » Determination of Units of Service
- » Calculation of Unit Cost of Service
- » Determination of Revenue Requirements by Customer Class

It is important to note that the primary distinction in the cost to serve different customers in Rochester is the cost of supplying water, a difference already recognized in the City's current rates. Customers who receive their water from the system of wells pay a different fixed charge and volume rate than customers who receive their water from GLWA via Shelby Township. Aside from this key difference, customers in these separate systems receive the same level of service from the City and are treated as such in this study.

## DETERMINATION OF WATER UNITS OF SERVICE

The first step in the cost allocation process is to summarize the units of service, which are the basis for the allocation of the total revenue requirement to each of the customer classes. The units are Base units, Maximum Day Extra Capacity units, Maximum Hour Extra Capacity units, Equivalent Meters and Total Bills and are indicated in **Figure 11**.

Base units are the annual consumption for each customer class. Maximum Day Extra Capacity units represent the water demand in excess of that which is used on an average day for that customer class, and is a function of the average daily consumption and the customer class peaking factor determined in the prior step.

As an example, the Residential class in the Well system is forecast to use approximately 270 thousand Ccf on an annual basis in FY 2020. This equates to approximately 735 Ccf per day on an average day. Based on the maximum day peaking factor (discussed in more detail below), residential customers, on their highest consumption day of the year, typically use 2.03 times their average day consumption, or around 1,491 Ccf. The difference between the maximum day and average day, around 755 Ccf, represents that class's Maximum Day Extra Capacity units.

A similar calculation is used to determine the Maximum Hour Extra Capacity Units, which are simply the consumption forecast in the highest hour of FY 2020, less the maximum day demand.

Customer Units are equivalent meters, and customer monthly bills. The number of bills for each customer class was ascertained via an examination of the billing data from the City. The equivalent meters are the number of customer meters at each meter size weighted by the potential water demand each meter can place on the water system. For Rochester, a 1" meter is the current standard for residential services. The number of equivalent meters for sizes larger

than 1” is determined by multiplying the nominal number of meters (the number at each connection size) by a meter factor, which represents the ratio of the flow rate of the larger meter, to that of the standard 5/8” meter. Once the number of equivalent meters which are larger than 1” is determined, this total is added to the number of 1” or smaller meters to arrive at the total number of equivalent meters.

For the purposes of developing peaking factors, all customers of the same class, whether on the GLWA system or Well system, are treated the same.

Figure 11: Units of Service

| Class                 | Base           | Max Day     |              |              | Max Hour    |              |              | Customer      |               |
|-----------------------|----------------|-------------|--------------|--------------|-------------|--------------|--------------|---------------|---------------|
|                       |                | Peak        | Total        | Extra        | Peak        | Total        | Extra        | Bills         | Meters        |
| <b>Well System</b>    |                |             |              |              |             |              |              |               |               |
| Residential           | 268,453        | 2.03        | 1,491        | 755          | 3.04        | 2,236        | 745          | 8,133         | 8,891         |
| Commercial            | 238,956        | 1.88        | 1,234        | 579          | 2.83        | 1,851        | 617          | 1,622         | 2,944         |
| <b>Subtotal: Well</b> | <b>507,409</b> | <b>1.96</b> | <b>2,725</b> | <b>1,334</b> | <b>2.94</b> | <b>4,087</b> | <b>1,362</b> | <b>9,755</b>  | <b>11,835</b> |
| <b>GLWA System</b>    |                |             |              |              |             |              |              |               |               |
| Residential           | 212,266        | 2.03        | 1,179        | 597          | 3.04        | 1,768        | 589          | 6,996         | 7,629         |
| Commercial            | 64,444         | 1.88        | 333          | 156          | 2.83        | 499          | 166          | 256           | 920           |
| <b>Subtotal: GLWA</b> | <b>276,710</b> | <b>1.99</b> | <b>1,511</b> | <b>753</b>   | <b>2.99</b> | <b>2,267</b> | <b>756</b>   | <b>7,252</b>  | <b>8,549</b>  |
| <b>Total: City</b>    | <b>784,119</b> | <b>1.97</b> | <b>4,236</b> | <b>2,088</b> | <b>2.96</b> | <b>6,354</b> | <b>2,118</b> | <b>17,007</b> | <b>20,384</b> |

### Determination of Customer Class Peaking Factors

Maximum day and hour peaking factors are the basis upon which the maximum day and hour cost allocations, determined in the next steps, are allocated to each customer class. In general, the guidelines for determining maximum day and hour peaking factors outlined in American Water Works Association (“AWWA”) publication, “Manual of Water Supply Practices M1, Principles of Rates, Fees and Charges” (“AWWA M1”) were the basis for this component of the analysis.

The maximum day demand for each customer class is estimated as the average consumption per day in the highest consumption quarter, divided by the annual average consumption per day, weighted by the ratio of maximum day demand to the average demand in the maximum quarter for the entire water system. In other words:

- » System Max Day to Average Day in Max Quarter=(System Max Day Demand)/(System Max Quarter/90)
- » Class Maximum Day=[(Class Max Quarter/90)/(Class Annual Total)/365]\*[System Max Day to Average Day in Max Quarter]

The weighting occurs because the exact maximum day by customer class is not known but is assumed to have the same relationship to the average day in the maximum quarter as the entire system. As the exact customer class maximum hour is not known, a similar weighting process occurs to determine the customer class maximum hour demands:

- » System Max Hour to Average Day in Max Quarter=(System Max Hour)/(System Max Quarter/90)
- » Class Maximum Hour=Class Max Day\*System Max Hour to Average Day in Max Quarter

## COST FUNCTIONALIZATION

The second step in determining revenue requirements by customer class involves the allocation of water utility O&M and capital costs to functional categories. These categories relate to the various functions performed by the water utility system and staff in order to provide service to City customers. For this study the functions are:

- » Well Source of Supply
- » GLWA Source of Supply
- » Pumping
- » Storage
- » Transmission and Distribution
- » Customer Service
- » Meters
- » Readiness to Serve
- » General/Administration

## ALLOCATION OF O&M TO FUNCTIONAL CATEGORIES

**Figure 12** below summarizes the functional allocation of the water utility's FY 2020 O&M revenue requirement. These allocations relate to the proportion of expenditures in each cost center that is associated with performing each function. For example, approximately 19% of the City's cross charge transferred to the General Fund is for billing or customer service activities, therefore this amount is allocated to the Customer Service Function. Water revenues other than rate revenue are subtracted from the O&M value to provide a total rate revenue requirement.

**Figure 12: O&M Functionalization**

| Fund 592<br>O&M Item         | Test Year<br>Amount | Well<br>Source    | GLWA<br>Source     | Pumping     | Storage     | Trans.<br>Dist.   | Customer<br>Service | Meters           | Readiness<br>to Serve | General          |
|------------------------------|---------------------|-------------------|--------------------|-------------|-------------|-------------------|---------------------|------------------|-----------------------|------------------|
| Distribution                 | \$ 474,388          |                   |                    |             |             | 72.9%             |                     | 2.1%             | 25.0%                 |                  |
| Plant                        | 132,515             | 100.0%            |                    |             |             |                   |                     |                  |                       |                  |
| Purchased Water              | 1,318,984           |                   | 100.0%             |             |             |                   |                     |                  |                       |                  |
| Administration               | 36,798              |                   |                    |             |             |                   | 0.8%                |                  |                       | 99.3%            |
| Cross Charge                 | 83,340              | 3.3%              | 0.0%               | 0.0%        | 0.0%        | 59.1%             | 19.1%               | 3.3%             | 0.0%                  | 15.2%            |
| <b>Subtotal: Expenses</b>    | <b>\$2,046,025</b>  | <b>\$ 135,251</b> | <b>\$1,318,984</b> | <b>\$ -</b> | <b>\$ -</b> | <b>\$ 395,042</b> | <b>\$ 16,214</b>    | <b>\$ 12,736</b> | <b>\$ 118,597</b>     | <b>\$ 49,199</b> |
| <b>Adjustments</b>           |                     |                   |                    |             |             |                   |                     |                  |                       |                  |
| Non-Rate Revenues            | \$ (63,200)         |                   |                    |             |             |                   |                     |                  |                       | 100.0%           |
| Contribution to Reserves     | 87,875              |                   |                    |             |             |                   |                     |                  |                       | 100.0%           |
| <b>Subtotal: Adjustments</b> | <b>\$ 24,675</b>    | <b>\$ -</b>       | <b>\$ -</b>        | <b>\$ -</b> | <b>\$ -</b> | <b>\$ -</b>       | <b>\$ -</b>         | <b>\$ -</b>      | <b>\$ -</b>           | <b>\$ 24,675</b> |
| <b>Total: O&amp;M</b>        | <b>\$2,070,700</b>  | <b>\$ 135,251</b> | <b>\$1,318,984</b> | <b>\$ -</b> | <b>\$ -</b> | <b>\$ 395,042</b> | <b>\$ 16,214</b>    | <b>\$ 12,736</b> | <b>\$ 118,597</b>     | <b>\$ 73,874</b> |

Fund 488 is responsible for paying all debt service and capital improvement costs. These costs are allocated on the basis of existing utility assets. **Figure 13** shows the allocation of assets and Fund 488 expenses.



Figure 13: Capital Functionalization

| Fund 488<br>Capital Cost     | Test Year<br>Amount | Well<br>Source | GLWA<br>Source | Pumping         | Storage         | Trans.<br>Dist.   | Customer<br>Service | Meters          | Readiness<br>to Serve | General          |
|------------------------------|---------------------|----------------|----------------|-----------------|-----------------|-------------------|---------------------|-----------------|-----------------------|------------------|
| Debt Service                 | \$ -                | 0.0%           | 0.0%           | 0.2%            | 0.6%            | 19.8%             | 0.0%                | 0.0%            | 79.4%                 | 0.0%             |
| PAYGO                        | 35,000              | 0.0%           | 0.0%           | 0.2%            | 0.6%            | 19.8%             | 0.0%                | 0.0%            | 79.4%                 | 0.0%             |
| Cross Charge                 | 83,340              |                |                | 0.0%            | 0.0%            | 61.1%             | 19.8%               | 3.4%            | 0.0%                  | 15.7%            |
| <b>Subtotal: Expenses</b>    | <b>\$ 118,340</b>   | <b>\$ -</b>    | <b>\$ -</b>    | <b>\$ 66</b>    | <b>\$ 205</b>   | <b>\$ 57,866</b>  | <b>\$ 16,480</b>    | <b>\$ 2,829</b> | <b>\$ 27,773</b>      | <b>\$ 13,121</b> |
| <b>Adjustments</b>           |                     |                |                |                 |                 |                   |                     |                 |                       |                  |
| Non-Rate Revenues            | (37,000)            | 0.0%           | 0.0%           | 0.2%            | 0.6%            | 19.8%             | 0.0%                | 0.0%            | 79.4%                 | 0.0%             |
| Contribution to Reserves     | 590,201             | 0.0%           | 0.0%           | 0.2%            | 0.6%            | 19.8%             | 0.0%                | 0.0%            | 79.4%                 | 0.0%             |
| <b>Subtotal: Adjustments</b> | <b>\$ 553,201</b>   | <b>\$ -</b>    | <b>\$ -</b>    | <b>\$ 1,044</b> | <b>\$ 3,233</b> | <b>\$ 109,744</b> | <b>\$ -</b>         | <b>\$ -</b>     | <b>\$ 438,974</b>     | <b>\$ 205</b>    |
| <b>Total: Capital Costs</b>  | <b>\$ 671,541</b>   | <b>\$ -</b>    | <b>\$ -</b>    | <b>\$ 1,110</b> | <b>\$ 3,438</b> | <b>\$ 167,610</b> | <b>\$ 16,480</b>    | <b>\$ 2,829</b> | <b>\$ 466,748</b>     | <b>\$ 13,326</b> |

| Asset Category          | Test Year<br>Amount | Well<br>Source | GLWA<br>Source | Pumping          | Storage          | Trans.<br>Dist.     | Customer<br>Service | Meters      | Readiness<br>to Serve | General         |
|-------------------------|---------------------|----------------|----------------|------------------|------------------|---------------------|---------------------|-------------|-----------------------|-----------------|
| Machinery and Equipment | \$ 2,139            |                |                |                  |                  |                     |                     |             |                       | 100.0%          |
| Mains and Ext           | 5,723,606           |                |                |                  |                  | 20.0%               |                     |             | 80.0%                 |                 |
| Wells and Pumping       | 10,894              |                |                | 100.0%           |                  |                     |                     |             |                       |                 |
| Storage Tanks           | 33,724              |                |                |                  | 100.0%           |                     |                     |             |                       |                 |
| <b>Total: Assets</b>    | <b>\$ 5,770,363</b> | <b>\$ -</b>    | <b>\$ -</b>    | <b>\$ 10,894</b> | <b>\$ 33,724</b> | <b>\$ 1,144,721</b> | <b>\$ -</b>         | <b>\$ -</b> | <b>\$ 4,578,885</b>   | <b>\$ 2,139</b> |
|                         |                     | 0.00%          | 0.00%          | 0.19%            | 0.58%            | 19.84%              | 0.00%               | 0.00%       | 79.35%                | 0.04%           |

## ALLOCATION OF O&M, CAPITAL COSTS AND NON-RATE REVENUE TO COST COMPONENTS

Once the O&M and capital costs have been allocated to the functional categories, the totals allocated to each functional category must be further allocated based on the operational need each function is designed to fulfill.

For this allocation, Raftelis has utilized the “Base Extra Capacity” method described in AWWA M1. The Base Extra Capacity Method involves allocating each of the functionalized O&M costs in accordance with operational need that function was designed to satisfy. The cost components can be generalized as pertaining to either the volumetric, customer service, or fire protection demand of water utility customers.

The volumetric cost components are base demand (also known as average day demand), which relates to the water demand of City customers on an average day; max day extra capacity, or the level of demand in excess of base demand, demonstrated by customers on the highest consumption day of the year, and maximum hour extra capacity, the theoretical demand, in excess of maximum day demand, demonstrated by customers in the highest consumption hour. The study also includes separate cost drivers for the GLWA and Well systems to recognize the difference in water supply costs.

The customer service related cost components are readiness to serve, customer meters, and bills. These components relate to—at a minimum—the cost of reading customer meters and processing customer bills. Additionally, readiness to serve costs may also relate to the fixed investment in water utility assets associated with providing water service which is available (virtually at all times) regardless of how much water is consumed by City customers.

Figures 14 and 15 show the allocation of functionalized costs to cost components based on actual system historical demand.

Figure 14: O&M Allocations

| Fund 592<br>Function  | Test Year<br>Amount | Well<br>Base      | GLWA<br>Base       | Base             | Maximum<br>Day    | Maximum<br>Hour   | Readiness<br>to Serve | Bills            | Meters           |
|-----------------------|---------------------|-------------------|--------------------|------------------|-------------------|-------------------|-----------------------|------------------|------------------|
| Well Source           | \$ 135,251          | \$ 135,251        |                    |                  |                   |                   |                       |                  |                  |
| GLWA Source           | 1,318,984           |                   | 1,318,984          |                  |                   |                   |                       |                  |                  |
| Pumping               | -                   |                   |                    | -                | -                 | -                 | -                     | -                | -                |
| Storage               | -                   |                   |                    | -                | -                 | -                 | -                     | -                | -                |
| Transmission          | 49,666              |                   |                    | 23,207           | 26,459            | -                 | -                     | -                | -                |
| Distribution          | 345,377             |                   |                    | 64,562           | 73,609            | 207,205           | -                     | -                | -                |
| Customer Service      | 16,214              |                   |                    | -                | -                 | -                 | -                     | 16,214           | -                |
| Meters                | 12,736              |                   |                    | -                | -                 | -                 | -                     | -                | 12,736           |
| Readiness to Serve    | 118,597             |                   |                    | -                | -                 | -                 | 118,597               | -                | -                |
| General               | 73,874              |                   |                    | 11,950           | 13,624            | 28,211            | 16,147                | 2,208            | 1,734            |
| <b>Total: O&amp;M</b> | <b>\$ 2,070,700</b> | <b>\$ 135,251</b> | <b>\$1,318,984</b> | <b>\$ 99,719</b> | <b>\$ 113,693</b> | <b>\$ 235,416</b> | <b>\$ 134,744</b>     | <b>\$ 18,422</b> | <b>\$ 14,470</b> |

Figure 15: Capital Allocations

| Fund 488<br>Function  | Test Year<br>Amount | Well<br>Base | GLWA<br>Base | Base             | Maximum<br>Day   | Maximum<br>Hour  | Readiness<br>to Serve | Bills            | Meters          |
|-----------------------|---------------------|--------------|--------------|------------------|------------------|------------------|-----------------------|------------------|-----------------|
| Well Source           | \$ -                | \$ -         |              |                  |                  |                  |                       |                  |                 |
| GLWA Source           | -                   |              | -            |                  |                  |                  |                       |                  |                 |
| Pumping               | 1,110               |              |              | 519              | 592              | -                | -                     | -                | -               |
| Storage               | 3,438               |              |              | 1,606            | 1,831            | -                | -                     | -                | -               |
| Transmission          | 21,072              |              |              | 9,846            | 11,226           | -                | -                     | -                | -               |
| Distribution          | 146,538             |              |              | 27,393           | 31,231           | 87,914           | -                     | -                | -               |
| Customer Service      | 16,480              |              |              | -                | -                | -                | -                     | 16,480           | -               |
| Meters                | 2,829               |              |              | -                | -                | -                | -                     | -                | 2,829           |
| Readiness to Serve    | 466,748             |              |              | -                | -                | -                | 466,748               | -                | -               |
| General               | 13,326              |              |              | 797              | 909              | 1,780            | 9,450                 | 334              | 57              |
| <b>Total: Capital</b> | <b>\$ 671,541</b>   | <b>\$ -</b>  | <b>\$ -</b>  | <b>\$ 40,161</b> | <b>\$ 45,789</b> | <b>\$ 89,694</b> | <b>\$ 476,197</b>     | <b>\$ 16,813</b> | <b>\$ 2,886</b> |

## DETERMINATION OF UNIT COST OF SERVICE

Once each component of the revenue requirement (i.e. O&M and Capital) has been allocated to each of the cost components (i.e. base, max day etc.), the unit cost of service can be determined. The unit cost of service is the basis by which costs are allocated to each customer class. **Figure 16** shows the determination of the unit cost of service.

The total system units are the sum of all of the units from **Figure 11**. Base units represent all retail customer use on an annual basis. Max day units represent the daily use, in excess of that which is used on an average day for all customer classes. Max hour use is that which is used in excess of max day consumption. Equivalent meters are the nominal number of retail customer meters multiplied by an equivalent meter factor.

Also shown is each of the revenue requirements, as they have been allocated to the cost components, and the unit cost for each component. As an example, the total O&M costs allocated to the “Well” cost component is approximately \$135 thousand. Since there are 507 thousand Well base units, the cost per unit is \$0.27. This calculation is repeated for each of the cost components and revenue requirements to arrive at a total system unit cost for each cost component. These are the basis by which costs are allocated to customer classes.

Figure 16: Unit Cost of Service

| Customer Class            | Well Base  | GLWA Base    | Base      | Maximum Day | Maximum Hour | Readiness to Serve | Bills     | Meters    |
|---------------------------|------------|--------------|-----------|-------------|--------------|--------------------|-----------|-----------|
| <b>Well System</b>        |            |              |           |             |              |                    |           |           |
| Residential               | 268,453    |              | 268,453   | 755         | 745          | 8,891              | 8,133     | 8,891     |
| Commercial                | 238,956    |              | 238,956   | 579         | 617          | 2,944              | 1,622     | 2,944     |
| <b>Subtotal: Well</b>     | 507,409    | -            | 507,409   | 1,334       | 1,362        | 11,835             | 9,755     | 11,835    |
| <b>GLWA System</b>        |            |              |           |             |              |                    |           |           |
| Residential               |            | 212,266      | 212,266   | 597         | 589          | 7,629              | 6,996     | 7,629     |
| Commercial                |            | 64,444       | 64,444    | 156         | 166          | 920                | 256       | 920       |
| <b>Subtotal: GLWA</b>     | -          | 276,710      | 276,710   | 753         | 756          | 8,549              | 7,252     | 8,549     |
| <b>Total: City</b>        | 507,409    | 276,710      | 784,119   | 2,088       | 2,118        | 20,384             | 17,007    | 20,384    |
| <b>Fund 592 Expenses:</b> | \$ 135,251 | \$ 1,318,984 | \$ 99,719 | \$ 113,693  | \$ 235,416   | \$ 134,744         | \$ 18,422 | \$ 14,470 |
| <b>Unit Cost:</b>         | 0.27       | 4.77         | 0.13      | 54.46       | 111.15       | 6.61               | 1.08      | 0.71      |
| <b>Fund 488 Expenses:</b> | \$ -       | \$ -         | \$ 40,161 | \$ 45,789   | \$ 89,694    | \$ 476,197         | \$ 16,813 | \$ 2,886  |
| <b>Unit Cost:</b>         | -          | -            | 0.05      | 21.93       | 42.35        | 23.36              | 0.99      | 0.14      |

### DETERMINATION OF REVENUE REQUIREMENTS BY CUSTOMER CLASS

To determine the allocation of the revenue requirements to each of the customer classes, the total unit cost of service is multiplied by the units of service for that class. **Figure 17** provides a summary of the revenue requirements for City. For example, \$71 thousand in well base demand costs are allocated to residential Well customers only, which is equal to the cost per unit of the base demand for residential well customers multiplied by the projected annual consumption for those customers.

Figure 17: Fund 592 Revenue Requirement

| Fund 592 Customer Class | Well Base  | GLWA Base    | Base      | Maximum Day | Maximum Hour | Readiness to Serve | Bills     | Meters    | Total        |
|-------------------------|------------|--------------|-----------|-------------|--------------|--------------------|-----------|-----------|--------------|
| <b>Well System</b>      |            |              |           |             |              |                    |           |           |              |
| Residential             | \$ 71,557  | \$ -         | \$ 34,140 | \$ 41,123   | \$ 82,841    | \$ 58,774          | \$ 8,810  | \$ 6,312  | \$ 303,556   |
| Commercial              | 63,694     | -            | 30,389    | 31,547      | 68,577       | 19,460             | 1,757     | 2,090     | 217,515      |
| <b>Subtotal: Well</b>   | \$ 135,251 | \$ -         | \$ 64,529 | \$ 72,669   | \$ 151,419   | \$ 78,235          | \$ 10,567 | \$ 8,402  | \$ 521,071   |
| <b>GLWA System</b>      |            |              |           |             |              |                    |           |           |              |
| Residential             | \$ -       | \$ 1,011,801 | \$ 26,995 | \$ 32,516   | \$ 65,503    | \$ 50,428          | \$ 7,578  | \$ 5,415  | \$ 1,200,236 |
| Commercial              | -          | 307,183      | 8,196     | 8,508       | 18,495       | 6,081              | 277       | 653       | 349,393      |
| <b>Subtotal: GLWA</b>   | \$ -       | \$ 1,318,984 | \$ 35,190 | \$ 41,023   | \$ 83,997    | \$ 56,509          | \$ 7,855  | \$ 6,069  | \$ 1,549,629 |
| <b>Total: City</b>      | \$ 135,251 | \$ 1,318,984 | \$ 99,719 | \$ 113,693  | \$ 235,416   | \$ 134,744         | \$ 18,422 | \$ 14,470 | \$ 2,070,700 |



Figure 18: Fund 488 Revenue Requirement

| Fund 488 Customer Class | Well Base | GLWA Base | Base      | Maximum Day | Maximum Hour | Readiness to Serve | Bills     | Meters   | Total      |
|-------------------------|-----------|-----------|-----------|-------------|--------------|--------------------|-----------|----------|------------|
| <b>Well System</b>      |           |           |           |             |              |                    |           |          |            |
| Residential             | \$ -      | \$ -      | \$ 13,750 | \$ 16,562   | \$ 31,563    | \$ 207,713         | \$ 8,040  | \$ 1,259 | \$ 278,886 |
| Commercial              | -         | -         | 12,239    | 12,705      | 26,128       | 68,775             | 1,604     | 417      | 121,868    |
| <b>Subtotal: Well</b>   | \$ -      | \$ -      | \$ 25,989 | \$ 29,267   | \$ 57,691    | \$ 276,488         | \$ 9,644  | \$ 1,676 | \$ 400,754 |
| <b>GLWA System</b>      |           |           |           |             |              |                    |           |          |            |
| Residential             | \$ -      | \$ -      | \$ 10,872 | \$ 13,095   | \$ 24,957    | \$ 178,217         | \$ 6,916  | \$ 1,080 | \$ 235,138 |
| Commercial              | -         | -         | 3,301     | 3,426       | 7,046        | 21,492             | 253       | 130      | 35,649     |
| <b>Subtotal: GLWA</b>   | \$ -      | \$ -      | \$ 14,173 | \$ 16,522   | \$ 32,003    | \$ 199,709         | \$ 7,169  | \$ 1,210 | \$ 270,787 |
| <b>Total: City</b>      | \$ -      | \$ -      | \$ 40,161 | \$ 45,789   | \$ 89,694    | \$ 476,197         | \$ 16,813 | \$ 2,886 | \$ 671,541 |

**COST OF SERVICE CONCLUSIONS**

Figures 19 and 20 compare the cost of service to revenues under current rates. Overall, the Well system is overpaying by approximately \$100 thousand, and the GLWA system underpaying by a similar amount. This difference is due to a misalignment of rates and supply costs.

Figure 19: Fund 592 COS Comparison

| Fund 592 Customer Class | Cost of Service | Current Revenue | COS Recovery |
|-------------------------|-----------------|-----------------|--------------|
| <b>Well System</b>      |                 |                 |              |
| Residential             | \$ 303,556      | \$ 348,579      | 114.83%      |
| Commercial              | 217,515         | 272,136         | 125.11%      |
| <b>Subtotal: Well</b>   | \$ 521,071      | \$ 620,715      | 119.12%      |
| <b>GLWA System</b>      |                 |                 |              |
| Residential             | \$1,200,236     | \$1,117,599     | 93.11%       |
| Commercial              | 349,393         | 332,386         | 95.13%       |
| <b>Subtotal: GLWA</b>   | \$1,549,629     | \$1,449,985     | 93.57%       |
| <b>Total: City</b>      | \$2,070,700     | \$2,070,700     | 100.00%      |



Figure 20: Fund 488 Comparison

| Fund 488<br>Customer Class | Cost of<br>Service | Current<br>Revenue | COS<br>Recovery |
|----------------------------|--------------------|--------------------|-----------------|
| <b>Well System</b>         |                    |                    |                 |
| Residential                | \$ 278,886         | \$ 270,438         | 96.97%          |
| Commercial                 | 121,868            | 132,648            | 108.85%         |
| <b>Subtotal: Well</b>      | <b>\$ 400,754</b>  | <b>\$ 403,086</b>  | <b>100.58%</b>  |
| <b>GLWA System</b>         |                    |                    |                 |
| Residential                | \$ 235,138         | \$ 228,923         | 97.36%          |
| Commercial                 | 35,649             | 39,532             | 110.89%         |
| <b>Subtotal: GLWA</b>      | <b>\$ 270,787</b>  | <b>\$ 268,455</b>  | <b>99.14%</b>   |
| <b>Total: City</b>         | <b>\$ 671,541</b>  | <b>\$ 671,541</b>  | <b>100.00%</b>  |

Raftelis does not recommend the City adopt separate rates for residential and commercial customers. Since the City bills customers on a quarterly basis, we do not believe peaking data is available at a detailed enough level to justify different rates. However, rates for the Well and GLWA systems should be adjusted to bring those revenues in line with costs.

# Rates and Customer Impacts

## Water Rates

Once the overall level of revenue recovery was determined and the cost of service completed, Raftelis examined rate structure options to recover the revenue as well as meet the objectives of the City.

Since customers of each system receive the same level of service from the City, particularly in customer service and maintaining constant readiness to serve, Raftelis recommends adjusting the City's fixed charges to be the same for all customers and reflect the difference in supply costs in the volumetric charges. The volume charge also includes costs related to base delivery and peaking, described in the cost of service above.

This rate structure would have a larger impact on GLWA customers by increasing their fixed charge at a greater rate than for Well customers. For this reason, we recommend phasing in this change so that the targeted rates are achieved in FY 2025. Note that the adjustments shown are assumed to be effective on September 1 of each year. For example, the first increase shown would be effective on September 1 of 2021, 3 months into the City's fiscal year 2022 which runs from July 2021 to June 2022.

Figure 21: Proposed Water Fund 592 Operating Charges

| Fund 592 Well System        | Current 2020 | Forecast 2021 | Forecast 2022 | Forecast 2023 | Forecast 2024 | Forecast 2025 |
|-----------------------------|--------------|---------------|---------------|---------------|---------------|---------------|
| <b>Fixed Charge</b>         |              |               |               |               |               |               |
| 1" and Smaller              | \$ 8.47      | \$ 8.47       | \$ 8.63       | \$ 8.78       | \$ 8.94       | \$ 9.10       |
| 1.5"                        | 19.06        | 19.06         | 18.55         | 18.04         | 17.53         | 17.02         |
| 2"                          | 33.88        | 33.88         | 32.04         | 30.20         | 28.37         | 26.53         |
| 3"                          | 76.23        | 76.23         | 71.33         | 66.43         | 61.54         | 56.64         |
| 4"                          | 135.52       | 135.52        | 126.89        | 118.26        | 109.64        | 101.01        |
| 5"                          | 304.92       | 304.92        | 264.64        | 224.36        | 184.08        | 143.80        |
| <b>Volumetric (per Ccf)</b> | 1.01         | 1.01          | 0.98          | 0.96          | 0.93          | 0.90          |

| Fund 592 GLWA System        | Current 2020 | Forecast 2021 | Forecast 2022 | Forecast 2023 | Forecast 2024 | Forecast 2025 |
|-----------------------------|--------------|---------------|---------------|---------------|---------------|---------------|
| <b>Fixed Charge</b>         |              |               |               |               |               |               |
| 1" and Smaller              | \$ 5.54      | \$ 5.54       | \$ 6.43       | \$ 7.32       | \$ 8.21       | \$ 9.10       |
| 1.5"                        | 12.47        | 12.47         | 13.60         | 14.74         | 15.88         | 17.02         |
| 2"                          | 22.16        | 22.16         | 23.25         | 24.34         | 25.44         | 26.53         |
| 3"                          | 49.86        | 49.86         | 51.55         | 53.25         | 54.94         | 56.64         |
| 4"                          | 88.64        | 88.64         | 91.73         | 94.82         | 97.92         | 101.01        |
| 5"                          | 199.44       | 199.44        | 185.53        | 171.62        | 157.71        | 143.80        |
| <b>Volumetric (per Ccf)</b> | 5.06         | 5.06          | 5.24          | 5.42          | 5.60          | 5.79          |

Figure 22: Proposed Water Fund 488 Infrastructure Charges

| Fund 488<br>All Customers   | Current<br>2020 | Forecast<br>2021 | Forecast<br>2022 | Forecast<br>2023 | Forecast<br>2024 | Forecast<br>2025 |
|-----------------------------|-----------------|------------------|------------------|------------------|------------------|------------------|
| <b>Fixed Charge</b>         |                 |                  |                  |                  |                  |                  |
| 1" and Smaller              | \$ 24.00        | \$ 24.00         | \$ 24.36         | \$ 24.73         | \$ 25.10         | \$ 25.47         |
| 1.5"                        | 54.00           | 54.00            | 54.81            | 55.63            | 56.47            | 57.31            |
| 2"                          | 96.00           | 96.00            | 97.44            | 98.90            | 100.39           | 101.89           |
| 3"                          | 216.00          | 216.00           | 219.24           | 222.53           | 225.87           | 229.25           |
| 4"                          | 384.00          | 384.00           | 389.76           | 395.61           | 401.54           | 407.56           |
| 5"                          | 864.00          | 864.00           | 876.96           | 890.11           | 903.47           | 917.02           |
| <b>Volumetric (per Ccf)</b> | 0.19            | 0.19             | 0.19             | 0.20             | 0.20             | 0.20             |

Figures 23 presents a forecast of typical water bills at varying levels of usage, including both operating and infrastructure charges.

Figure 23: Water Bill Impacts

| Combined Funds Quarterly Water Bill |          |          |          |          |          |          |
|-------------------------------------|----------|----------|----------|----------|----------|----------|
| Well Customers                      | 2020     | 2021     | 2022     | 2023     | 2024     | 2025     |
| 5/8" Meter, 10 Ccf                  | \$ 44.47 | \$ 44.47 | \$ 44.75 | \$ 45.04 | \$ 45.33 | \$ 45.63 |
| 5/8" Meter, 30 Ccf                  | 68.47    | 68.47    | 68.28    | 68.09    | 67.92    | 67.75    |
| 5/8" Meter, 50 Ccf                  | 92.47    | 92.47    | 91.81    | 91.15    | 90.50    | 89.86    |
| 2" Meter, 188 Ccf                   | 313.48   | 313.48   | 308.02   | 302.57   | 297.15   | 291.75   |

| Combined Funds Quarterly Water Bill |          |          |          |          |          |          |
|-------------------------------------|----------|----------|----------|----------|----------|----------|
| GLWA Customers                      | 2020     | 2021     | 2022     | 2023     | 2024     | 2025     |
| 5/8" Meter, 10 Ccf                  | \$ 82.04 | \$ 82.04 | \$ 85.13 | \$ 88.23 | \$ 91.34 | \$ 94.45 |
| 5/8" Meter, 30 Ccf                  | 187.04   | 187.04   | 193.82   | 200.61   | 207.41   | 214.21   |
| 5/8" Meter, 50 Ccf                  | 292.04   | 292.04   | 302.51   | 312.99   | 323.47   | 333.97   |
| 2" Meter, 188 Ccf                   | 1,063.16 | 1,063.16 | 1,099.73 | 1,136.33 | 1,172.94 | 1,209.58 |

## Sewer Rates

For both Fund 592 and 488, Raftelis recommends across the board rate increases for all customers. Note that the adjustments shown are assumed to effective on September 1 of each year. For example, the first increase shown would be effective on September 1 of 2021, 3 months into the City's fiscal year 2022 which runs from July 2021 to June 2022.

Figure 24: Proposed Sewer Fund 592 Operating Charges

| Fund 592            | Current<br>2020 | Forecast<br>2021 | Forecast<br>2022 | Forecast<br>2023 | Forecast<br>2024 | Forecast<br>2025 |
|---------------------|-----------------|------------------|------------------|------------------|------------------|------------------|
| <b>Fixed Charge</b> |                 |                  |                  |                  |                  |                  |
| 1" and Smaller      | 33.33           | 33.33            | 33.33            | 33.33            | 33.33            | 33.33            |
| 1.5"                | 74.99           | 74.99            | 74.99            | 74.99            | 74.99            | 74.99            |
| 2"                  | 133.32          | 133.32           | 133.32           | 133.32           | 133.32           | 133.32           |
| 3"                  | 299.97          | 299.97           | 299.97           | 299.97           | 299.97           | 299.97           |
| 4"                  | 533.28          | 533.28           | 533.28           | 533.28           | 533.28           | 533.28           |
| 5"                  | 1,199.88        | 1,199.88         | 1,199.88         | 1,199.88         | 1,199.88         | 1,199.88         |
| <b>Volumetric</b>   | 3.28            | 3.28             | 3.28             | 3.28             | 3.28             | 3.28             |

Figure 25: Proposed Sewer Fund 488 Infrastructure Charges

| Fund 488            | Current<br>2020 | Forecast<br>2021 | Forecast<br>2022 | Forecast<br>2023 | Forecast<br>2024 | Forecast<br>2025 |
|---------------------|-----------------|------------------|------------------|------------------|------------------|------------------|
| <b>Fixed Charge</b> |                 |                  |                  |                  |                  |                  |
| 1" and Smaller      | 24.00           | 24.00            | 25.68            | 27.48            | 29.40            | 31.46            |
| 1.5"                | 54.00           | 54.00            | 57.78            | 61.82            | 66.15            | 70.78            |
| 2"                  | 96.00           | 96.00            | 102.72           | 109.91           | 117.60           | 125.84           |
| 3"                  | 216.00          | 216.00           | 231.12           | 247.30           | 264.61           | 283.13           |
| 4"                  | 384.00          | 384.00           | 410.88           | 439.64           | 470.42           | 503.35           |
| 5"                  | 864.00          | 864.00           | 924.48           | 989.19           | 1,058.44         | 1,132.53         |
| <b>Volumetric</b>   | 0.20            | 0.20             | 0.21             | 0.23             | 0.25             | 0.26             |

Figure 26 presents a forecast of typical sewer bills at varying levels of usage, including both operating and infrastructure charges.

Figure 26: Sewer Bill Impacts

| Combined Funds Quarterly Sewer Bill |          |          |          |          |          |           |
|-------------------------------------|----------|----------|----------|----------|----------|-----------|
| All Customers                       | 2020     | 2021     | 2022     | 2023     | 2024     | 2025      |
| 5/8" Meter, 10 Ccf                  | \$ 92.13 | \$ 92.13 | \$ 93.95 | \$ 95.90 | \$ 97.98 | \$ 100.21 |
| 5/8" Meter, 30 Ccf                  | 161.73   | 161.73   | 163.83   | 166.08   | 168.48   | 171.05    |
| 5/8" Meter, 50 Ccf                  | 231.33   | 231.33   | 233.71   | 236.26   | 238.98   | 241.90    |
| 2" Meter, 188 Ccf                   | 883.56   | 883.56   | 892.91   | 902.92   | 913.63   | 925.08    |



Figure 27: Total Utility Bill Impacts

| Total Quarterly Utility Bill |             |             |             |             |             |             |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Well Customers               | 2020        | 2021        | 2022        | 2023        | 2024        | 2025        |
| 5/8" Meter, 10 Ccf           | \$ 136.60   | \$ 136.60   | \$ 138.70   | \$ 140.93   | \$ 143.31   | \$ 145.84   |
| 5/8" Meter, 30 Ccf           | \$ 230.20   | \$ 230.20   | \$ 232.11   | \$ 234.17   | \$ 236.40   | \$ 238.80   |
| 5/8" Meter, 50 Ccf           | \$ 323.80   | \$ 323.80   | \$ 325.52   | \$ 327.41   | \$ 329.48   | \$ 331.76   |
| 2" Meter, 188 Ccf            | \$ 1,197.04 | \$ 1,197.04 | \$ 1,200.93 | \$ 1,205.49 | \$ 1,210.77 | \$ 1,216.83 |

| Total Quarterly Utility Bill |             |             |             |             |             |             |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| GLWA Customers               | 2020        | 2021        | 2022        | 2023        | 2024        | 2025        |
| 5/8" Meter, 10 Ccf           | \$ 174.17   | \$ 174.17   | \$ 179.08   | \$ 184.13   | \$ 189.32   | \$ 194.66   |
| 5/8" Meter, 30 Ccf           | \$ 348.77   | \$ 348.77   | \$ 357.65   | \$ 366.69   | \$ 375.89   | \$ 385.26   |
| 5/8" Meter, 50 Ccf           | \$ 523.37   | \$ 523.37   | \$ 536.22   | \$ 549.24   | \$ 562.46   | \$ 575.86   |
| 2" Meter, 188 Ccf            | \$ 1,946.72 | \$ 1,946.72 | \$ 1,992.65 | \$ 2,039.25 | \$ 2,086.57 | \$ 2,134.66 |

## Bill Comparisons

The following tables display a comparison of 30 Ccf quarterly water and sewer bills in Rochester to other relevant communities in the area. Light blue bars indicate a community using GLWA water, while dark blue bars show communities using well water.

Numerous factors impact the differences in water and sewer rates between communities. Each community is unique, so comparisons are not apples to apples. One reason is density (the number of customers per square mile of service area) because the cost of providing water and sewer service decreases as more customers are served in the same area. The source of water supply also matters. The City purchases water from Shelby Township rather than buying it directly from Great Lakes Water Authority (GLWA). This means that the cost of purchasing the water includes the GLWA cost, plus the Shelby Township cost. It is also important to compare bills, rather than rates. A community with a higher monthly fixed charge, for example, might have lower usage charge with the end result being a bill that is similar between the two communities.

Finally, it is important to recognize that lower rates are always a “point in time” comparison. This means that a community that has lower rates now may not have lower rates in the future. Water and sewer services are very capital intensive. Water and sewer pipes must be continually repaired and replaced to ensure that safe and reliable service can continue to be provided uninterrupted. Doing so requires a significant amount of labor, heavy machinery, steel and concrete. Deferring this repair and replacement can allow a community to have lower rates, but this cannot go on indefinitely. Eventually these replacements will be needed and rates will need to be increased to cover the costly repairs.

Figure 28: Water Bill Comparison



Figure 29: Sewer Bill Comparison



Figure 30: Combined Bill Comparison





# Pere Marquette Charter Township, MI

Water and Sewer Financial Projections, Benchmarking, and  
Rate Study





Stantec Consulting Services Inc.  
1168 Oak Valley Drive Suite 100  
Ann Arbor, MI 48108-9200

August 2nd, 2024

Attention:  
Ms. Rachelle Enbody,  
Township Clerk  
Pere Marquette Charter Township  
1699 South Pere Marquette Hwy.  
Ludington, MI 49431

Reference: Request for Proposals  
for Water and Sewer Financial  
Projections and Rate Study

**Dear Members of the Selection Committee:**

Overall, the Stantec community unites more than 31,000 employees working in over 450 locations across the globe. Our local strength, knowledge, and relationships, coupled with our world-class expertise, have allowed us to go anywhere to meet our clients' needs in more creative and personalized ways. With long-term commitment to the people and places we serve, Stantec has the unique ability to connect on a personal level and advance the quality of life in communities across the globe.

**National & Local Expertise.** Stantec's financial management consulting practice is home to an impressive amount of experience and knowledge, including over **45 specialized consultants with over 500 years of combined experience conducting thousands of rate studies for nearly 300 agencies** in Michigan and across the country. The senior members of our practice teach classes on water resources ratemaking and are contributing authors to the manuals of practice published by the American Water Works Association (AWWA) and Water Environment Federation (WEF) that provide guidance on how to set rates, fees, and charges.

Moreover, our practice has **strong roots in Michigan and is a trusted source to 25+ local governments across the state** for independent and objective financial management support for their utilities. We have served the Cities of Jackson, Ann Arbor, Midland, Battle Creek, Kalamazoo, Farmington Hills, Detroit, Manistee, and Imlay City, as well as the Townships of Summit, Leoni, Pittsfield, Alpena, Chesterfield, Pere Marquette, and Sylvan, and Oakland and Livingston Counties to name a few. As such, we have significant knowledge of local utility systems, as well as local economic conditions, recent and relevant legal precedent, regulations, and current/proposed state legislation.

**Summary.** Summary. Our understanding of local practices, breadth of Michigan and national ratemaking experience with similar systems, our interactive modeling process, and communication skills are a unique combination. In short, our team provides the Township with an unmatched value proposition:

- ✓ Dedicated rate consulting project team and industry experts
- ✓ Nationally recognized stature in utility ratemaking
- ✓ Experience with rate & financial management practices within Michigan
- ✓ A powerful and friendly Microsoft Excel-based modeling system
- ✓ Excellence in stakeholder education and communication
- ✓ Municipal utility operations experience

We look forward to the opportunity to assist the Township in developing a sound financial plan for the management of its water and sewer utility systems. Please do not hesitate to contact us with any questions regarding our proposal.

Regards,

**Stantec Consulting Services Inc.**

**James Bearman**  
Principal, Project Manager  
Direct: (517) 755-7502  
james.bearman@stantec.com

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# 1. Project Approach

We understand Pere Marquette Charter Township's (Township) interest in retaining a qualified professional management consultant to perform a utilities rate study (Study) for the water and sewer utility systems that provide service to your residents/customers. The provision of utility services is complex and attention to rate management and benchmarking of costs is growing. The Township needs to establish rates and charges at sufficient levels to satisfy the current and future costs associated with providing these critical services. In addition, we will examine alternative rate structures for the Township's consideration as well as create a benchmarking of key cost components. To complete the requested analyses, Stantec will utilize the following approach:

Our study approach is consistent with the industry's long-standing practice that consists of 1) performing a revenue sufficiency analysis including developing a financial management plan that identifies revenue requirements and associated rate revenue adjustments, 2) a cost assignment

analysis that benchmarks costs components to other similarly situated municipalities and further appropriately allocates costs to systems and functional components, and 3) designing rates to generate sufficient revenues with consideration of customer impacts, revenue stability, and local practices and ordinances, recognizing state laws and regulations, including the development of two alternative rate structures for each utility for the Township's consideration. To complete your requested rate study for the water and sewer systems, the following tasks will be completed by the Stantec team with Township staff input and validation.

**We will perform the work based upon our experience with and understanding of applicable federal, state and local accounting rules, EGLE regulations, and Bolt v Lansing decision.**

## Task 1: Project Initiation & Data Collection

The study will begin with a kick-off meeting with Township staff to meet the project team, confirm objectives and key issues, review data requirements, and finalize a project schedule. A SharePoint site will be dedicated to this project where the Township will securely upload data according to a formal data request.

| Task 1: Project Initiation & Data Collection |  |
|--|--|
| <b>Deliverables</b>                          | Data Request List  |
| <b>Meeting</b>                               | Project Kick-off Meeting (Virtual) & Follow-up Conference Calls as Necessary |

## Task 2: Revenue Sufficiency Analysis, Benchmarking, & Interactive Work Sessions

### Revenue Sufficiency

Using our dynamic Financial Analysis Management System (FAMS), we will develop a 10-year financial management plan, inclusive of projected annual revenue requirements to support utility operations including capital spending, expected revenues, particularly those from Michigan Power, and required rate adjustments. We will examine operating expenses with a particular attention to City of Ludington costs, consumption trends impacted by weather and economic conditions, Michigan Power revenues, capital spending, including any effects of the likely water reliability study, and funding levels, debt service coverage ratios, levels of reserves, and other financial policies/goals that affect future revenue requirements.



We will develop a capital funding plan, including the identification of available sources and optimal mix of cash and debt funding including amount, timing, and type of borrowing required as may be necessary. FAMS allows us to in real-time confirm that the financial management plan results in long-term financial sustainability, while minimizing rate adjustments to the greatest extent possible.

**FAMS compares the impacts of scenarios on rates in real-time** (i.e., debt vs. cash funding, timing of CIP, grants/loans, wholesale costs, regulatory impacts, etc.).

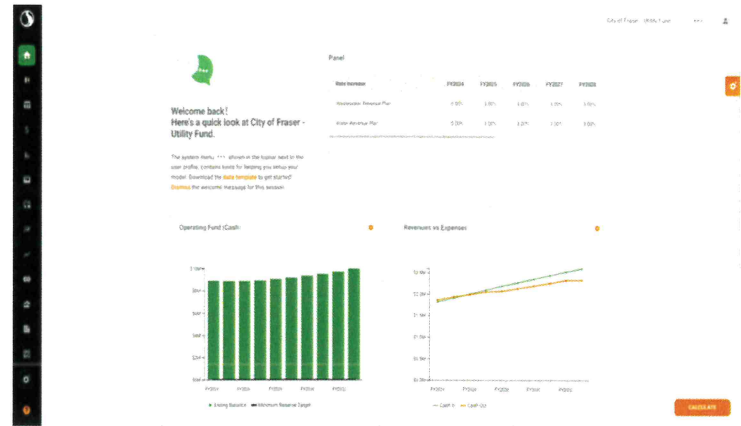


Photo. Example of Stantec's Financial Analysis Management System (FAMS).

### Cost Benchmarking

Once the expected operating costs are developed, Stantec will benchmark key cost categories against those for other similarly situated municipalities and identify any concerns. Due to our extensive work in Michigan and across the country, Stantec maintains an extensive database of operating cost detail for many municipal utilities.

### Rate Review

To initiate the rate review analysis, we will review the Township's current rate structure and identify if any alternatives may better serve the City's objectives relating to long-term financial adequacy, local and regional comparability, and fair and equitable cost recovery. Other considerations may include appropriate level of fixed and variable cost recovery, ease of administration, conservation, revenue stability, affordability, legal precedent, and terms of any service agreements.

Our project team will identify at least two alternatives that the Township may want to consider based on pricing goals and objectives. We are well versed in the range of rate structures that could be implemented and will review the pros and cons of each rate structure including the ability of the Township to implement. Based upon the annual revenue requirements identified above, we will develop recommended rates for the water and sewer systems.

| Objective                                     | Rate Structure 1 | Rate Structure 2 | Rate Structure 3 |
|---|------------------|------------------|------------------|
| Customer Affordability                        | ✘                | ✘                | ✔                |
| Revenue Stability                             | ✔                | ✔                | ✘                |
| Correlation between Cost of Service and Usage | ✔                | ✘                | ✘                |
| Billing System Compatibility                  | ✔                | ✔                | ✔                |
| Conformance to Local Practice                 | ✘                | ✔                | ✔                |

| Task 2: Revenue Sufficiency Analysis, Benchmarking, & Interactive Work Sessions |  |
|---|--|
| <b>Deliverables</b>   | <ul style="list-style-type: none"> <li>Detailed Supporting Schedules for the 10-year Financial Management Plan</li> <li>Detailed Schedules for the Cost Benchmarking Results</li> <li>Output Schedules of Recommended Rates/Alternative rate structures</li> </ul> |
| <b>Meeting</b>  | <ul style="list-style-type: none"> <li>At least 3 virtual Interactive Work Sessions (Virtual/may be combined)</li> </ul>   |

## Task 3: Presentations

Stantec will provide 2 in-person presentations regarding the results of the analysis to the water and sewer committee and to the Township board at dates mutually agreed upon. During these sessions, we will also respond to all questions regarding the results of the study.

| Task 3: Presentations |   |
|-----------------------|---|
| <b>Deliverables</b>   | Presentation of Results   |
| <b>Meeting</b>        | 2 In-Person Presentations to the Water and Sewer Committee and Township Board |

## Task 4: Reports

The Township will gain long-term value in a written report that clearly and comprehensively documents the results and recommendations of the study. The report provides an understandable synopsis of the analysis, and consists of a series of graphs, charts, and tables that provide the supporting details of each element of the rate study. We apply a carefully crafted standard of care to our reports and will submit a draft report for review by Township staff and other Township officials, potentially the Water and Sewer Committee. Upon receipt of comments, we will make appropriate revisions and prepare a final report.

Support from the public and elected officials for rate changes depends on whether they are perceived as fair and justified. Minor misunderstandings of the underlying rationale can cause disproportionate dissatisfaction with proposed rates and charges even if justified. This magnifies the importance of a clear presentation at the conclusion of the study, where we will present to the Township Board to explain the findings and recommendations of the study and to support the adoption of any rate modifications.

| Task 4: Reports     |                               |
|---------------------|-------------------------------|
| <b>Deliverables</b> | Draft Report and Final Report |
| <b>Meeting</b>      | Virtual (if necessary)        |

## 2. Experience

### Firm's Experience

Design with community in mind, Stantec unites more than 31,000 employees working in over 450 locations worldwide. Our local strength, knowledge, and relationships, coupled with our world-class expertise, have allowed us to go anywhere to meet our clients' needs in creative and personalized ways. With long-term commitment to the people and places we serve, Stantec has the unique ability to connect on a personal level and advance the quality of life in communities across the globe. Founded in 1954, Stantec offers a wide range of services.

# 500+

Combined years of  
experience

# >30%

Percentage of the U.S.  
population served

# >500

Communities in our  
benchmarking database

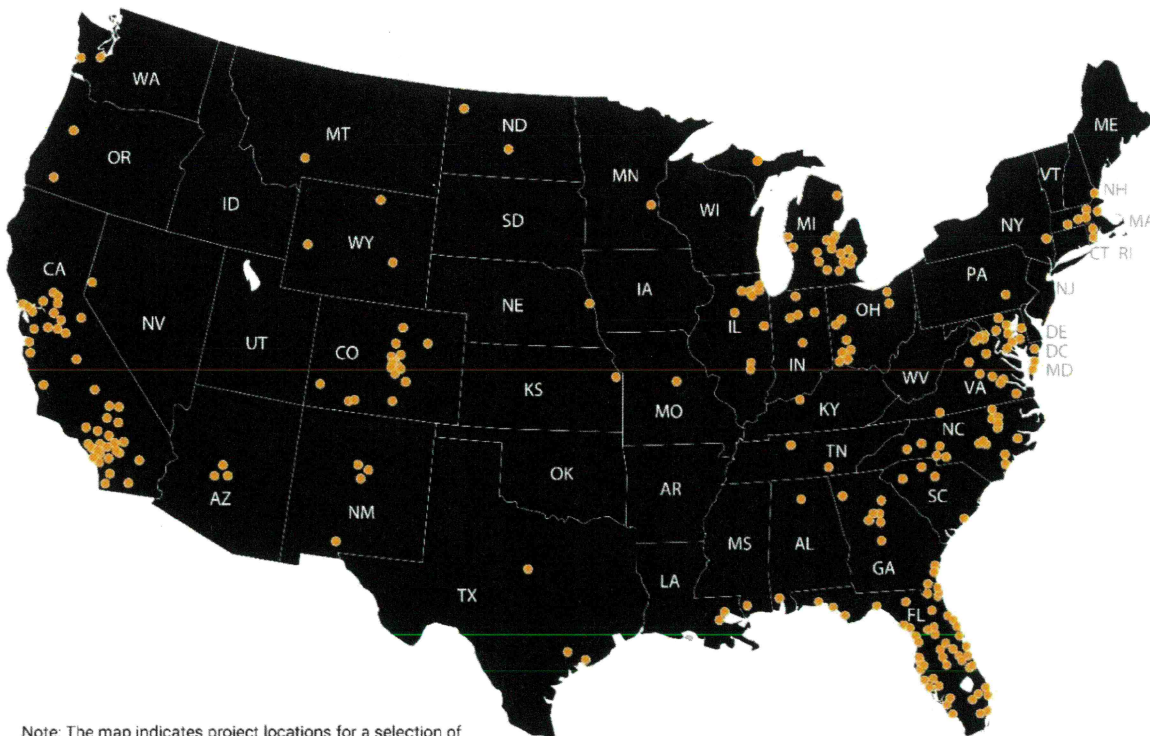
# \$4B+

Debt issued for  
communities in the last 5  
years

### Municipal Utilities Experience

Stantec provides comprehensive rate and financial management consulting services for our clients, and we have performed the requested services in Michigan. In just the last 10 years, we have completed more than 1,500 financial and rates studies for municipal utilities in Michigan and across North America. Additionally, we have completed more than 75 studies for several local governments in Michigan, many of which are listed in the table on the following page .

Our **expertise** helped communities across the globe—including nearly **350+** diverse locations in the US alone.



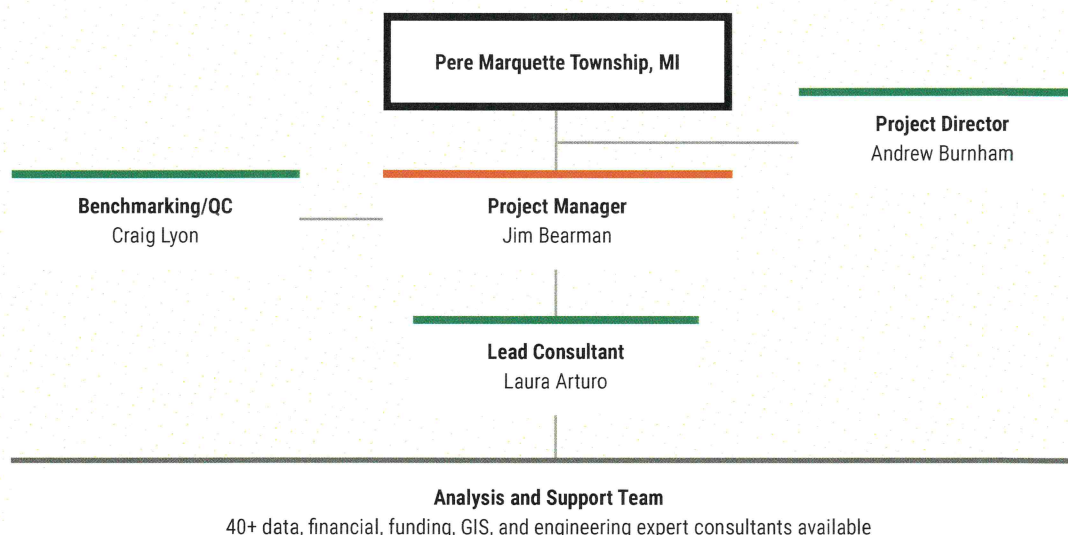
Note: The map indicates project locations for a selection of communities served. Not all communities are shown.

This table presents a selection of our experience in providing a **full-suite of financial consulting services** to clients throughout Michigan.

|    |                                     | Revenue Requirements | Cost of Service | Rate Structure Development | Wholesale/Bulk Rate Analysis | Capacity Charges/Impact Fees | Miscellaneous Fees | Affordability Analysis/WARI | Debt Issuance Support | Litigation Support/Expert Testimony | Capital Project Funding | Grant and Loan Funding | Custom Model & Tool | Financial Policies & Reserves | Public/Stakeholder Engagement | Utility Valuation Analysis | Demand Forecasting | Regional Cost Allocation | Special Assessments | Financial Sustainability | Ordinance & Agreements | Stormwater Feasibility | Asset Management Services | Real Estate Advisory Services | Population Served |
|----|-------------------------------------|----------------------|-----------------|----------------------------|------------------------------|------------------------------|--------------------|-----------------------------|-----------------------|-------------------------------------|-------------------------|------------------------|---------------------|-------------------------------|-------------------------------|----------------------------|--------------------|--------------------------|---------------------|--------------------------|------------------------|------------------------|---------------------------|-------------------------------|-------------------|
| MI | Adrian Township                     | •                    | •               | •                          | •                            |                              |                    |                             |                       | •                                   |                         |                        | •                   |                               |                               |                            |                    |                          |                     |                          |                        |                        |                           |                               | 6,401             |
| MI | Alpena Township                     | •                    | •               | •                          | •                            |                              |                    |                             |                       | •                                   |                         |                        | •                   |                               |                               |                            |                    |                          |                     |                          |                        |                        |                           |                               | 9,116             |
| MI | Bridgeport Charter Township         | •                    |                 |                            |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  |                          |                     |                          |                        | •                      |                           |                               | 10,104            |
| MI | Carrollton Township                 | •                    | •               |                            |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             |                               |                            | •                  |                          |                     |                          |                        |                        |                           |                               | 5,750             |
| MI | Chesterfield Township               | •                    |                 |                            | •                            |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  |                          |                     |                          |                        |                        |                           |                               | 45,376            |
| MI | City of Ann Arbor                   | •                    | •               | •                          | •                            | •                            | •                  | •                           | •                     | •                                   | •                       | •                      | •                   | •                             | •                             | •                          | •                  | •                        |                     |                          | •                      | •                      |                           |                               | 123,851           |
| MI | City of Battle Creek                | •                    | •               | •                          | •                            |                              |                    |                             |                       |                                     | •                       |                        |                     | •                             | •                             |                            | •                  |                          | •                   |                          |                        |                        |                           |                               | 51,069            |
| MI | City of Carson City                 | •                    |                 |                            |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             | •                          | •                  | •                        |                     |                          | •                      | •                      |                           |                               | 1,111             |
| MI | City of Detroit                     |                      |                 | •                          |                              |                              | •                  |                             | •                     | •                                   |                         |                        |                     |                               | •                             |                            |                    |                          |                     |                          | •                      |                        |                           | •                             | 639,111           |
| MI | City of Farmington Hills            | •                    |                 | •                          |                              | •                            | •                  |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  |                          |                     |                          |                        |                        |                           |                               | 83,986            |
| MI | City of Imlay City                  | •                    | •               | •                          |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  |                          |                     |                          |                        |                        | •                         |                               | 3,569             |
| MI | City of Jackson                     | •                    | •               | •                          | •                            | •                            |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  | •                        |                     |                          |                        |                        |                           |                               | 31,309            |
| MI | City of Kalamazoo                   | •                    | •               | •                          |                              | •                            | •                  | •                           |                       |                                     |                         |                        |                     |                               | •                             | •                          |                    |                          |                     |                          |                        |                        |                           |                               | 72,873            |
| MI | City of Mainstee                    | •                    | •               | •                          | •                            | •                            | •                  |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  |                          |                     |                          |                        | •                      |                           |                               | 6,259             |
| MI | City of Midland                     | •                    | •               | •                          | •                            | •                            | •                  | •                           |                       |                                     | •                       |                        |                     | •                             | •                             |                            | •                  |                          |                     |                          | •                      | •                      |                           |                               | 47,701            |
| MI | City of Wyoming                     | •                    | •               | •                          | •                            |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  |                          |                     |                          |                        |                        |                           |                               | 76,726            |
| MI | Consumers Energy Company            | •                    | •               | •                          | •                            | •                            | •                  |                             |                       |                                     |                         |                        | •                   |                               | •                             |                            | •                  |                          |                     |                          |                        |                        |                           |                               | 6,700,000         |
| MI | Detroit Water & Sewerage Department | •                    | •               | •                          | •                            |                              | •                  | •                           |                       | •                                   | •                       |                        | •                   | •                             | •                             |                            |                    |                          |                     |                          |                        |                        |                           | •                             | 639,111           |
| MI | Lenoi Township                      | •                    |                 |                            |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            |                    |                          |                     |                          |                        |                        |                           |                               | 13,847            |
| MI | Livingston County                   | •                    | •               | •                          | •                            |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  |                          |                     |                          |                        | •                      |                           |                               | 196,161           |
| MI | Marquette Charter Township          | •                    |                 |                            |                              |                              |                    | •                           |                       |                                     | •                       |                        | •                   | •                             |                               |                            | •                  |                          |                     |                          | •                      |                        |                           |                               | 3,945             |
| MI | Monitor Charter Township            | •                    | •               | •                          |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  |                          |                     |                          |                        |                        |                           |                               | 10,687            |
| MI | Oakland County WRC                  |                      |                 |                            |                              |                              |                    | •                           |                       |                                     |                         |                        |                     |                               |                               |                            |                    |                          |                     |                          |                        |                        |                           |                               | 1,269,431         |
| MI | Pere Marquette Township             | •                    | •               | •                          | •                            | •                            | •                  |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            | •                  |                          |                     |                          |                        | •                      |                           |                               | 2,416             |
| MI | Pittsfield Township                 | •                    |                 | •                          |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             | •                             |                            |                    |                          |                     |                          |                        |                        |                           |                               | 39,147            |
| MI | Saginaw Charter Township            | •                    |                 |                            |                              |                              |                    |                             |                       |                                     |                         |                        |                     |                               |                               |                            |                    |                          |                     |                          |                        |                        |                           |                               | 41,679            |
| MI | Sidney Township                     | •                    |                 |                            |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             |                               | •                          |                    |                          |                     |                          |                        |                        |                           |                               | 2,676             |
| MI | Summit Township                     | •                    | •               |                            |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             |                               | •                          |                    |                          |                     |                          |                        |                        |                           |                               | 22,920            |
| MI | Village of Ashley                   | •                    |                 |                            |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             |                               | •                          |                    |                          |                     |                          |                        |                        |                           |                               | 545               |
| MI | Village of New Lothrop              | •                    | •               |                            |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             |                               | •                          |                    |                          |                     |                          |                        |                        |                           | •                             | 554               |
| MI | Village of Perrinton                | •                    | •               |                            |                              |                              |                    |                             |                       |                                     | •                       |                        | •                   | •                             |                               | •                          |                    |                          |                     |                          |                        |                        | •                         |                               | 392               |



## Key Personnel Organizational Chart



## Meet Your Project Team

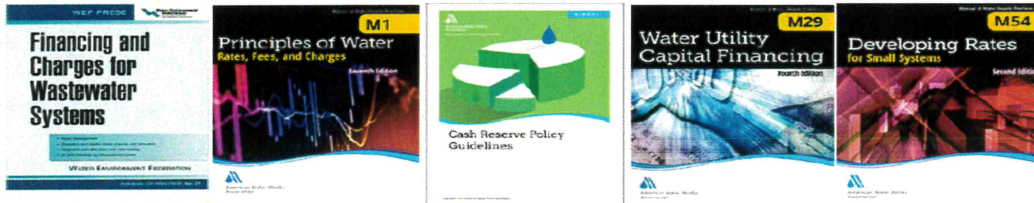
Our proposed project team is committed to the Township and possesses the qualifications, expertise, and availability to provide the requested scope of services. **Conducting rate studies for utilities throughout Michigan and across North America is what we do every day.** As such, we have structured our team with experienced consultants who work with municipal utilities throughout the state and who are experienced in addressing the important rate consulting services that the Pere Marquette Charter Township seeks. We are not proposing to utilize any sub-contractors on this project.

**Our Ann Arbor-based Project Manager, Jim Bearman,** is a life-long Michigan resident, and has worked previously with Township utility system financial issues. Jim manages water resources rate consulting services for many of our Michigan clients, including the Cities of Jackson, Imlay City, New Lothrop, Farmington Hills, Manistee, Midland, Ann Arbor, Battle Creek, Wyoming, and Kalamazoo; Township customers such as Leoni, Summit, Saginaw, Pere Marquette, and Marquette Charter; and Oakland and Livingston Counties, as well as Detroit Water Sewerage Department (DWSD). Jim has on multiple occasions provided expert testimony on financial plans for utilities. As such, Jim is well versed in understanding wholesale water and sewer providers' rate structures and integrating their effects into sustainable rate studies for our Michigan clients.

While Jim is currently involved with client needs in Kalamazoo, Wyoming, and Ann Arbor, he has capacity to be the Project Manager on this project. Moreover, we have a deep bench of highly qualified resources to support Jim and he has authority to execute any agreements with the Township and bring in additional resources as necessary to support the timely delivery of the study.

**Our project team will be guided by our Project Director, Andrew Burnham,** also a Michigan native, is a recognized industry leader in AWWA and other industry groups and has more than 22 years of experience working with utilities in Michigan and throughout North America. Andy regularly participates in industry forums and has authored modifications and new chapters in industry rate making publications for AWWA and WEF, including sections on appropriate reserve policies, affordability, cost allocation, rate structures, and calculation methods to determine levels of revenue requirements. Like Jim, he is also an expert witness and has been called upon numerous times to provide expert testimony in litigation proceedings as to appropriate rate making methodologies. Andy has been a Project Director on almost all Michigan projects, working closely with Jim to provide financial solutions to our many Michigan clients.. His extensive experience will provide support to Jim and the Stantec project team for all issues that may arise during the analysis.

↓ Our team of experts routinely contribute to industry manuals of practice and publications. It's really not a stretch to say **our team literally "writes the books" on rate setting.**



**Craig Lyon will serve as our Benchmarking and Quality Control (QC) Advisor**, providing an independent review of all technical analyses and deliverables prior to issue. Craig has over 22 years of experience, working for Stantec and within Michigan municipalities and is based in Stantec's Ann Arbor office. During his career in engineering and with Michigan Municipalities, Craig has designed and led municipal utility operations, developed utility financial plans, and presented those recommendations to the respective municipal governing bodies. At Stantec, he has provided services to GLWA, City of Ann Arbor, and other Michigan based municipal clients on various matters and is well suited to the Stantec project team because of his operational knowledge of municipal operations and costs and the development of benchmarking and financial plans to support those operations.

**Laura Arturo will be the Lead Consultant** on the project team. She has worked with Jim on Michigan projects (Carson City and Kalamazoo) and is very skilled in populating and customizing financial planning and rate models for a wide range of utility systems. She will lead, under Jim's direction, our analytical support team in populating and customizing the tools used to perform the study.

Resumes for the project teams are presented in Section 3 of this proposal. Please note that Stantec has over 45 plus financial consultants and, as such, we have a deep bench of experienced personnel to call upon on any issue (operational or financial) that may arise as we build sustainable water and sewer rate plans for the Township.

## References

Following, you will find relevant Michigan reference projects similar to the scope of services requested by the Township. Each study was completed consistent with our experience with and understanding of applicable local practices and legal considerations. We encourage the Township to reach out to the client contacts provided to ask about the quality of our work and value of our services. If the Township desires further Michigan client references, please reach out.

### City of Manistee

Mr. Edward Bradford  
(231)398-2804  
[ebradford@manisteemi.gov](mailto:ebradford@manisteemi.gov)

### City of Kalamazoo

Mr. James Barker  
(269)337-8768  
[bakerj@kalamazoocity.org](mailto:bakerj@kalamazoocity.org)

### City of Midland

Mr. Peter Schwarz  
(989)357-3515  
[pschwarz@midland-mi.org](mailto:pschwarz@midland-mi.org)



# 3. Firm Qualifications

Stantec’s management consulting practice specializes in providing financial management services for local government, with a strong emphasis in ratemaking and financial consulting services for utilities, including a wide range of expertise and services as depicted in the table to the right. We are home to an impressive amount of experience and offer 45+ professional consultants with over 500 years of combined experience and value to share with the Township. As a group, we work together and learn from each other’s experiences. This combination of diverse backgrounds and experiences has made us who we are today – a trusted source to our local government and utility clients in providing independent and objective financial rate and management consulting services to local governments and utilities through the country. Our team will utilize experience gained with similar communities to provide the right financial, rate, and management consulting solutions to support your long-term sustainability goals and overall vision.

### Rate Studies

- Water/Sewer/Reclaimed
- Electric & Natural Gas
- Stormwater
- Solid Waste & Recycling

### Cost-of-Service Analysis

- Wholesale/Outside-City Rates
- Interlocal Agreements
- Regionalization Studies
- Customer Class Allocations

### Financial Planning & Capital Funding

- Policies, Targets & KPI’s
- Bond Feasibility Studies
- Demand Forecasting
- Project Funding Strategies

### Benchmarking

- Database of 500+ Entities
- Audited Financials & Rates
- Key Financial Metrics
- Custom Group Comparisons

### Affordability

- Actual Bills & Incomes
- Multiple Metrics & Thresholds
- Regulatory Support
- Assistance Programs

### Economic Analysis

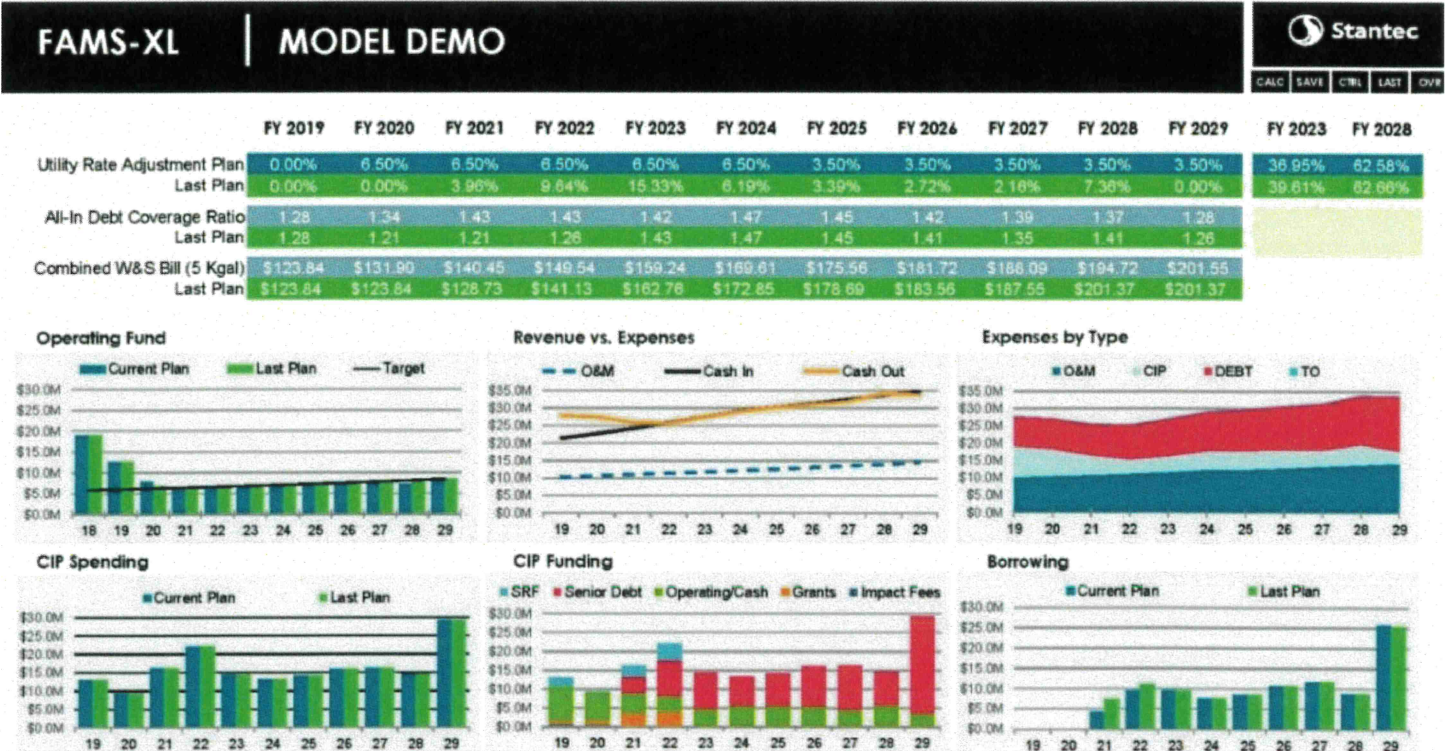
- Regional Impact Assessments
- Cost-Benefit
- Economic Development
- Forecasting

### Economic Impact Assessments

- Water Resources
- Community Development
- Environmental Services
- Transportation

### Strategy & Management

- IT Planning & Implementation
- Strategic Plans
- Assessment Management
- Business Process Mapping
- O&M and CIP Optimization
- Performance Measures
- Level of Service Development
- Real Estate Advisory Services





## James Bearman

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### Project Manager

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Total years of experience: 46

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Years with Stantec: 10

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Bachelor of Science, Accounting, Lake Superior State University, Sault Ste, Marie, Michigan

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Jim has 46 years of regulatory experience addressing revenue requirements, cost allocation, pricing, and tariff development topics for water, sewer, electric, and natural gas utilities. Prior to joining Stantec in 2013, he was employed for over 35 years by a major Michigan-based electric and gas transmission and distribution utility, serving over 3 million customers. He directed the development of the utility's revenue requirement needs; electric time-of-use pricing for residential, small and large commercial, and industrial customers; and administered all related tariff provisions. Also, he developed and administered special contract provisions for large commercial and industrial customers with price sensitive situations. Jim addressed subsidy issues between customer classes. In addition, he testified on a number of occasions before the Michigan Public Service Commission on the above matters. He also prepared testimony and exhibits addressing wholesale electric and transmission issues before the Federal Energy Regulatory Commission. In addition, he led numerous cost allocation/cost separation studies to properly assign costs to respective customer groups and/or specific customers themselves, including elimination or modification of customer subsidies.

### **Pere Marquette Township - Water and Wastewater Rate Analysis | Pere Marquette Township, Michigan, United States | Project Manager**

Jim served as Project Manager in negotiating wholesale water supply rates with the Township's provider. After lengthy negotiations, the parties agreed to a rate structure which reduced the Township's purchased water costs and provided incentive for the attachment of a major user to the Township's system. Once purchased water costs were finalized, expected revenues reflecting the new customer addition, operating, debt, and capital costs were developed for the Township. This allowed the Township to examine the future sustainability of their operations.

### **City of Manistee - Water and Sewer Rate Study | Michigan | Project Manager**

Jim served as Project Manager for a comprehensive water and sewer cost-of-service rate study for the City (which had no record of having ever conducted a formal rate study). A detailed cost-of-service allocation to determine the proper allocation of costs between 1) the water and sewer systems, and 2) the users of each system located within and outside of the City (which ultimately reflected the use of the utility basis of ratemaking for outside city users) was conducted. In addition, he participated in the development of revised connection charges for new customers. Multiple presentations were made to various customer groups.

### **Water and Wastewater Rate Study, Cost Allocation, and Rate Design | City of Battle Creek | Battle Creek, MI | Project Manager**

Led the team to develop revenue sufficiency analysis, cost allocation for both retail and wholesale customers, and rate design for the City's water and wastewater retail and wholesale customers. Also developed new customer connection fees. Lastly, he presented Stantec's recommendations in a presentation to City Council.

### **Water and Wastewater Rate Study | City of Midland, MI | Midland, MI | Project Manager**

Led team to develop revenue requirements, cost allocation, pricing, capital charges, and miscellaneous fees for the City's retail and wholesale customers, including two large industrial customers, which required attention to customer contract details. He also presented interim and final results in two sessions before City Council.





## Andrew Burnham

### Project Director

Total years of experience: 22

Years with Stantec: 20

Bachelor of Business Administration, Lake Superior State University, Sault Ste. Marie, Michigan

Andy is the Vice President and Leader of Management & Technology Consulting. He has extensive experience in conducting and overseeing cost of service allocations, long-term financial planning analyses, and development of alternative rate structures for a variety of utility systems, including water, wastewater, reclaimed water, stormwater, solid waste, recycling, electric, and natural gas. He has been recognized as an industry expert as part of providing testimony in utility rate-related regulatory proceedings in multiple states and territories (FL, MI, AZ, and the United States Virgin Islands), and before the Federal Energy Regulatory Commission. He has led over 500 studies for 150+ local governments and has supported our clients in the issuance of \$4 billion of bonds for projects in the past 5 years. Andy serves on multiple AWWA and WEF Committees and was actively involved in the recent update to AWWA Manual M1 – Principles of Water Rates, Fees, and Charges, notably regarding outside-city retail rates, wholesale rates, and reuse rates.

### **Water and Sewer Rate Study and Financial Feasibility Services, Detroit Water and Sewerage Department (DWSD) | Detroit, MI | Project Director**

Andy directed the Stantec Team to develop water and sewer revenue sufficiency analyses and detailed cost allocation studies, utilizing industry accepted cost allocation factors for both utility systems. Utilizing the cost allocation results, detailed analysis was completed to establish the appropriate levels of fixed cost recovery, while recognizing affordability considerations for DWSD's customer base, with the establishment of a water lifeline rate structure, which was implemented by DWSD.

### **Water and Sewer Cost Allocation Studies | Ann Arbor, MI | Project Director**

Andy directed the development of the revenue requirement needs of the City's water, wastewater, and stormwater enterprise funds. Once developed these revenue needs were allocated to respective functions and ultimately customer classes. Utilizing these results and the use of detailed billing data, rate structure changes were developed, including the establishment of a new multi-family class of customers, particularly important with the University of Michigan located within City boundaries and the potential season use of utility services. Andy was involved in numerous stakeholder presentations to support and answer questions regarding Stantec recommendations.

### **Water and Sewer Rate Studies | Battle Creek, MI | Project Director**

Andy led the development of the water and sewer revenue needs, cost allocation amongst the City's retail and wholesale customers, and appropriate tariff development. Particular attention was required to adhere to service agreements and large industrial customers, like Kellogg.

### **Pere Marquette Township - Water and Wastewater Rate Analysis | Pere Marquette Township, Michigan, United States | Project Manager**

Andy served as Project Director in negotiating wholesale water supply rates with the Township's provider. After lengthy negotiations, the parties agreed to a rate structure which reduced the Township's purchased water costs and provided incentive for the attachment of a major user to the Township's system. Once purchased water costs were finalized, expected revenues reflecting the new customer addition, operating, debt, and capital costs were developed for the Township. This allowed the Township to examine the future sustainability of their operations.



## Craig Lyon

### Benchmarking/QC

Total years of experience: 22

Years with Stantec: 2

Bachelor of Science Engineering Technological University, Southfield, Michigan

Craig is a strategic leader with 22 years of management and hands-on government experience. He has served local government in capacities such as Executive Director for Department of Public Services, Director of Municipal Services and City Engineer. Divisions of local government within these departments include: Water and Sewer, Engineering, Planning, Building, Roads, Solid Waste/Compost, Grounds, Code Enforcement and Call Center. Lessons learned through his successful planning, management, and oversight of municipal operations, provided communities he served with affordable rates without sacrificing needed revenue for everyday operation and maintenance and capital improvements. Budgets totaling over \$30 million, Craig understands what it takes to ensure a well thought out and balanced budget which yields affordable rates for the community.

Craig combines his municipal operating experience and his engineering expertise to provide client solutions. With his extensive knowledge in Utilities and municipal infrastructure, his experience provides first hand insight into the level of detail required today to provide affordable water. In his short time at Stantec, Craig's intimate knowledge with government operations has provided great value to existing clients such as the City of Ann Arbor, Great Lakes Water Authority and Washtenaw County Parks to name a few.

### Various Projects - Operations of Municipal Departments | Taylor, MI

The City of Taylor (City) is a 24-square mile community with a population of ~70,000. Craig was responsible for the City's Department of Public Service a combined departments budget of \$23 million and the department's 60 team members in the following teams: departments of Water and Sewer, Public Works, Engineering, Planning, Building, Code Enforcement, Animal Control, Solid Waste/Compost, Vehicle Maintenance, and Call Center. His responsibility encompassed not only the operations of these municipal departments but also the overall vision for the community and ensuring the infrastructure was ready to serve the population's current needs and those projected for the future—at an affordable cost to community members.

### Various Projects | Pittsfield Charter Township | Pittsfield, MI

Adjacent to Ann Arbor, Michigan, Pittsfield Charter Township is a 28-square-mile community with a population nearing 40,000. During Craig's time as Director of Utilities and Municipal Services, the departmental budget was \$17.2M with 25 team members. During his nearly 11-year tenure, Craig was involved in the following: Steering Committee Member for new wholesale sanitary sewer treatment rate structure model; creation and oversight of Capital Improvement program to maintain system integrity and operation; implemented new FLEXNET meter read billing system resulting in cost savings and reduced labor needed for utility billing data collection and reduction in water loss; developed Local Road Improvement Program repaving 60 plus miles (\$16 Million) of residential roadway throughout community; developed sanitary sewer replacement program (est. cost \$14 Million) replacing four miles of 36-inch trunk line sewer along Michigan Ave. and elimination of three sanitary sewer lift stations; oversaw State awarded \$1.3M SAW Grant and self-performed with staff; annually manage on average \$2 – \$4 Million of infrastructural capital improvements; negotiated community solid waste contracts; Board member of Washtenaw Regional Resource Management Authority; created and negotiated with vendor of community wide voucher program for solid waste and recycle drop--resulting in \$50,000 of saving on a \$60,000 initial program; annually recommended, set and advised administration and customers on utility rate structure; managed design and construction of more than miles of miles of non-motorized pathway.





## Laura Arturo

### Lead Consultant

Total years of experience: 4

Years with Stantec: 3

Bachelor of Science in Finance, University of Florida, Warrington College of Business, Gainesville, Florida

Laura is a Lead Consultant with a background in finance. Laura has three and a half years of experience at Stantec developing and customizing financial forecasting models, cost of service allocations, rate structure and benchmarking analysis, impact fee models, and bond feasibility studies. Through her experience with financial models and data analysis, she has assisted our clients with strong financial solutions based upon sound financial and economic concepts.

### **City of Kalamazoo | Kalamazoo, MI | Water, Financial Planning | Lead Consultant**

Laura served as the Lead Consultant and developed a 10-year financial model for the City's Water fund. This project involved numerous iterations and comparisons between past rate studies and levels of capital spending.

### **Carson City | Carson City, MI | Water and Sewer, Financial Planning | Lead Consultant**

Laura served as the Lead Consultant. In this role she facilitated the development of the City's water and wastewater utility financial sustainability models, performed annual revenue sufficiency analyses, helped develop a 10-year financial management plan for the utility, and identified needed rate adjustments.

### **Northeast Ohio Regional Sewer District, OH | Water & Sewer, Financial Planning | Lead Consultant**

Laura was responsible for developing and updating financial planning models for the District. Specifically, financial planning models were developed to evaluate multiple capital, operating, and financing scenarios within the District to determine the impact on debt financing and necessary rate increases. Laura was also responsible for helping develop a cost-of-service model and rate structures.

### **Orange Water and Sewer Authority, NC | Bond Feasibility and Revenue Sufficiency Analysis, Financial Planning | Lead Consultant**

Laura served as the Lead Consultant who helped develop a bond feasibility study to support the issuance of a revenue bond in 2021 for the Authority's Water and Sewer Enterprise Systems. Laura used the financial model to create a multi-year financial forecast for the Authority, in which the analysis provided a detailed look at the impacts of issuing new debt to support large-scale capital projects.

### **Anne Arundel Department of Public Works | Anne Arundel County, MD | Financial Planning | Lead Consultant**








Laura has served as the Lead Consultant for multiple financial planning, cost of service and rate studies for the Anne Arundel County Department of Public Works. She has been assisting the County and maintains financial planning models for the County's water and sewer systems. She also developed a 15-year financial model to better evaluate the system's financial health and plan the funding to support large-scale projects.

### **City of Fort Lauderdale | Fort Lauderdale, FL | Integrated Financial Planning | Lead Consultant**

Laura serves as the Lead Consultant facilitating the integrated financial sustainability analysis including its General Fund and seven separate major funds (Water/Sewer, Regional Wastewater, Stormwater, Sanitation, Airport, Parking, and Building funds). The City utilizes these analyses to be used for real-time evaluation and understanding for its key services decision processes, as well as annual rate adjustments and financial plan analysis for the funds. She customized individual models for each fund and linked each model together to evaluate and understand a variety of decision alternatives and their current and future consequences to each fund. As part of the City's annual budget process, we perform simultaneous updates to all the models.

# 4. Schedule

This section contains a proposed project schedule by task based upon an anticipated notice to proceed date of August 10, 2024. It is assumed that the Township would want to implement any new rates, effective January 1, 2025. In Stantec’s experience, a study of the scope as requested by the Township would typically take 100-130 days from award, recognizing the timely receipt of requested data from the Township. If selected for the study, the project schedule would be discussed, potentially modified, and agreed upon during the kick-off meeting.

| Tasks   | 2024  |   |   |   |   |
|---|---|---|---|---|---|
|   | AUG   | SEPT  | OCT   | NOV   | DEC   |
| Task 1: Project Initiation & Data Collection                                    |  |   |   |   |   |
| Task 2: Revenue Sufficiency Analysis, Benchmarking, & Interactive Work Sessions |  |  |  |   |   |
| Task 3: Presentations   |   |   |   |   |   |
| Task 4: Reports   |   |   |   |   |  |

**Legend:**



Conference Call/Online Virtual Meeting



In-Person OnSite Meeting



In-Person OnSite Meeting

# 5. Fee Schedule

Based on our review of the RFP and our experience in completing these types of studies, Stantec proposes to complete the requested scope of services (water and sewer rate studies and financial plans, benchmarking of costs, and rate design and alternative rate structures for a total, **not-to-exceed fee of \$23,310, inclusive of all labor, travel, and other expenses for the water utility and \$22,420 for the sewer utility. This fee proposal assumes multiple virtual client interactives with the Township and 2 in-person presentations to the Water/Sewer Board and the Township Board at a regularly scheduled meeting.**

| Water Analysis Benchmarking & Rate Evaluation                                   |            |                 |
|---|------------|-----------------|
| Tasks   | Hours      | Cost            |
| Task 1: Project Initiation & Data Collection                                    | 14         | \$2,310         |
| Task 2: Revenue Sufficiency Analysis, Benchmarking, & Interactive Work Sessions | 87         | \$15,150        |
| Task 3: Presentations   | 19         | \$4,100         |
| Task 4: Reports   | 10         | \$1,750         |
| <b>Totals</b>   | <b>130</b> | <b>\$23,310</b> |

| Sewer Analysis Benchmarking & Rate Evaluation                                   |            |                 |
|---|------------|-----------------|
| Tasks   | Hours      | Cost            |
| Task 1: Project Initiation & Data Collection                                    | 13         | \$2,295         |
| Task 2: Revenue Sufficiency Analysis, Benchmarking, & Interactive Work Sessions | 87         | \$15,620        |
| Task 3: Presentations   | 13         | \$2,740         |
| Task 4: Reports   | 10         | \$1,765         |
| <b>Totals</b>   | <b>125</b> | <b>\$22,420</b> |





**PERE MARQUETTE**  
CHARTER TOWNSHIP

## **Pere Marquette Charter Township**

Water and Wastewater Cost of Service,  
Financial Projection & Rate Study

August 2, 2024



Corporate location:

Utility Financial Solutions, LLC

185 Sun Meadow Court

Holland, MI USA 49424

(616) 393-9722

Fax (888) 566-4430

Submitted Respectfully by:

Dawn Lund, Vice President

Utility Financial Solutions, LLC

[dlund@ufswb.com](mailto:dlund@ufswb.com)

(231) 218-9664

August 2, 2024

Pere Marquette Charter Township Clerk  
1699 S. Pere Marquette Hwy.  
Ludington, MI 49431

Utility Financial Solutions, LLC (UFS) is pleased to submit a proposal to provide water and wastewater cost of service, financial projection, and rate design for Pere Marquette Charter Township. Our proposal is based on years of experience navigating complex financial challenges for municipal utilities around the United States.

**We approach challenges strategically**, partnering with your team to understand your goals before using innovative processes and in-depth research to determine the best solution to suit your needs. We stay on top of industry trends and anticipate challenges to help you solve existing problems and prepare your utility for long-term success. Our methodology and educational components have earned us a reputation as the preferred provider of rate studies in the United States.

**Our project team members** are experts in their respective fields and instruct or speak for leading utility groups including the American Public Power Association, Southern Gas Association, and American Water Works Association. Our specialized team of accountants, engineers, and economists have years of industry-specific experience to help ensure that you reach your goals. UFS was incorporated in 2001 and brings decades of experience to your utility.

**For your project**, UFS will complete the studies and provide an executive report detailing the process to help communicate with members of your governing body and community. The goal of these efforts is to:

- Establish and maintain long-term financial stability.
- Educate on principals of cost of service and financial planning.
- Earn positive engagement from members of government.

We appreciate the opportunity to submit this proposal and look forward to discussing it with you. If you have questions or need additional information, please contact me at (231) 218-9664.

Sincerely,

A handwritten signature in black ink, appearing to read "Dawn Lund", written in a cursive style.

Dawn Lund  
Vice-President, Utility Financial Solutions, LLC



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## Project Approach

### Summary of Services for Water and Wastewater Utilities

*Described below is an overview of the services UFS will provide. Greater detail is included within the detailed scope of service section. The list below includes sections not directly identified within the proposal but are critical in meeting the needs of the community and the utility department.*

1. **Development of Long-Term Financial Projections** – These studies are included as part of the UFS scope and are critical in development of a long-term rate strategy. Our study incorporates the strategic plan, funding of long-term capital plans, amount, and timing of any financing needs, and balances the financial stability of the departments. The long-term financial projection and development of key financial targets is discussed in the detailed work plan of our proposal.
2. **Cost of Service Study** – This study identifies the cost of providing services to each class of customer. Our studies identify the cost by customer class for general rate components including variable charges (commodity/volume), capacity related costs (demand), and facilities charges for each customer based on meter sizes or service level. The cost of service study will breakout each rate component. Examples of these breakouts include identification of supply costs and distribution/collection costs by service level.
3. **Customer Rate Designs** – The cost of service study provides solid empirical input on sustainable long-term rate structures, however, rate impacts on customers and achieving goals and objectives of each community is a significant factor in proper design of utility rates. UFS' rate design study identifies impacts on customers at various levels of usage/volume. This function assists the governing body in making informed decisions and understanding the impacts on customers and the community.
4. **Presentation to Staff & Governing Body** – The presentation to staff and the governing body serves two purposes:
  - i. Obtain approval of rate adjustments, rate designs, and to obtain guidance during the rate design process.
  - ii. Equally important is the education provided to the governing body to understand the importance of maintaining financial stability, how rates are used to achieve community goals and objectives, and why certain components such as a customer charge are used by utilities. UFS staff are skilled at obtaining guidance needed to develop rates and providing education to allow the governing body to make informed decisions during this process.
5. **Reports (PDF)**
  - i. **Executive Summary Report** –
    - ~ Summarization of the financial projection results, key financial targets and recommended long term rate track needed to achieve financial stability for the utility.
    - ~ Summarization of the cost of service results and cost-based rate structures for consideration in design of utility rates.
    - ~ Description of the major assumptions used in development of the financial projection and cost of service study.
    - ~ Considerations on future rate adjustments and movement toward cost of service
    - ~ The executive summary is used to obtain input from the governing body prior to designing utility rates.
  - ii. **Rate Design Report** –
    - ~ Summary of anticipated revenue to be received from the rate design and impacts on customers at various usage levels.



## Summary of Ability

*A summary of the firm's ability to achieve the Utility's project goals.*

### **Introduction**

The Utility is requesting a Cost of Service Study and Financial Plan to assess and evaluate the existing rates to ensure the utility operations and maintenance, capital improvement program, depreciation, and debts are adequately funded, while rate impacts are minimized. UFS has the staff available to complete the project in the Utility's desired timeframe. UFS' ability to achieve the Utility's project goals is best demonstrated by our references (noted in a later section) and our organized and well thought out processes outlined below.

### **Project Set Up**

After project award, if selected, UFS will conduct a kick-off meeting to review the information request and confirm the project schedule and deliverables. As data is gathered by the Utility, UFS will process and enter it into the study. Progress calls will be scheduled to address any questions and to review outstanding data requests. UFS will analyze revenues by completing a revenue "proof" to ensure that the monthly billing units provided calculate out to the reported sales revenue when multiplied by current rate schedules.

### **Revenue Requirements**

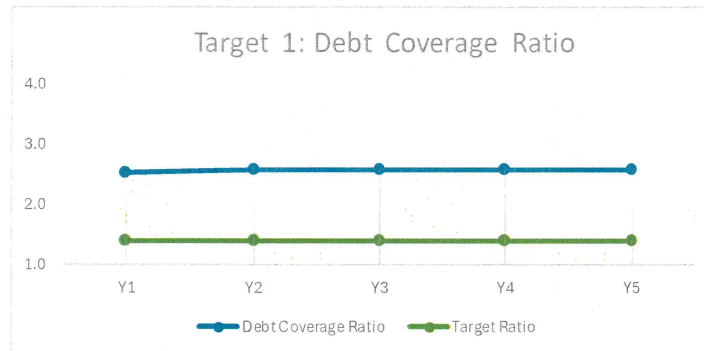
We will analyze operating expenses and test year budgets. Expenses are itemized at the finest level of detail available from the Utility and forecasted for the test year. Expenses are then categorized such that appropriate allocations can be applied, and costs distributed to the contributing rate class. A similar approach is applied to the Utility's fixed asset net book value and depreciation costs and incorporates the capital improvement program for interim and test years. Together, the expenses, depreciation and a rate of return comprise the revenue requirements of the system. These revenue requirements will flow through to both the cost of service study and the financial projection study.

## Financial Projection Studies

UFS' financial analysis and the subsequent cost of service studies are unique in their ability to easily change from cash basis revenue requirements to Utility Basis revenue requirements. The financial analysis includes both cash basis targets such as cash reserves and debt coverage; and accrual basis targets such as rate of return. UFS studies also include a review of secondary financial matrices such as debt to equity ratios, age of system, days cash on hand and working capital requirements as part of the overall assessment of the financial health of the utility. The financial projection will incorporate assumptions such as inflation, anticipated changes in expenses, debt issuances, and capital improvements. The financial projection incorporates targets to help ensure the long-term financial stability of the Utility is maintained or improved and develop a plan for rate adjustments.

**Target One: Debt Coverage Ratio**

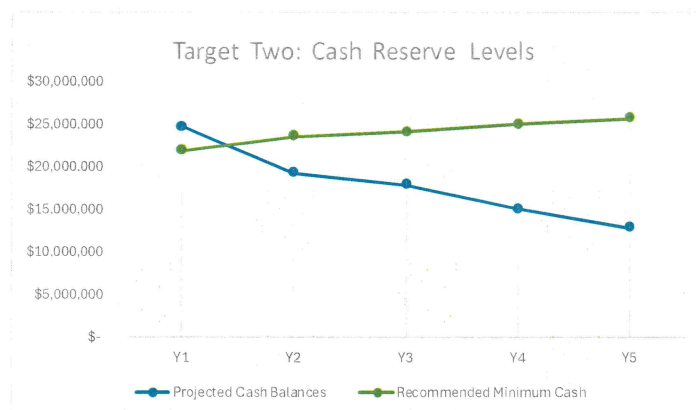
Based on review of bond issues and debt service schedules, the principal and interest expense will be identified and incorporated into the analysis.



| Description                                      | Projected Y1        | Projected Y2        | Projected Y3        | Projected Y4        | Projected Y5        |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|
| Net Income                                       | \$ 996,826          | \$ 997,462          | \$ 945,213          | \$ 826,113          | \$ 758,497          |
| Add Depreciation/Amortization Expense            | 2,565,601           | 2,609,101           | 2,732,859           | 2,921,523           | 3,057,531           |
| Add Interest Expense                             | 764,408             | 726,408             | 688,408             | 648,408             | 606,408             |
| <b>Cash Generated from Operations</b>            | <b>\$ 4,326,835</b> | <b>\$ 4,332,971</b> | <b>\$ 4,366,480</b> | <b>\$ 4,396,044</b> | <b>\$ 4,422,436</b> |
| Debt Principal and Interest                      | \$ 1,714,408        | \$ 1,676,408        | \$ 1,688,408        | \$ 1,698,408        | \$ 1,706,408        |
| <b>Projected Debt Coverage Ratio (Covenants)</b> | <b>2.52</b>         | <b>2.58</b>         | <b>2.59</b>         | <b>2.59</b>         | <b>2.59</b>         |
| <b>Minimum Debt Coverage Ratio</b>               | <b>1.40</b>         | <b>1.40</b>         | <b>1.40</b>         | <b>1.40</b>         | <b>1.40</b>         |

**Target Two: Minimum Cash Reserve Calculation**

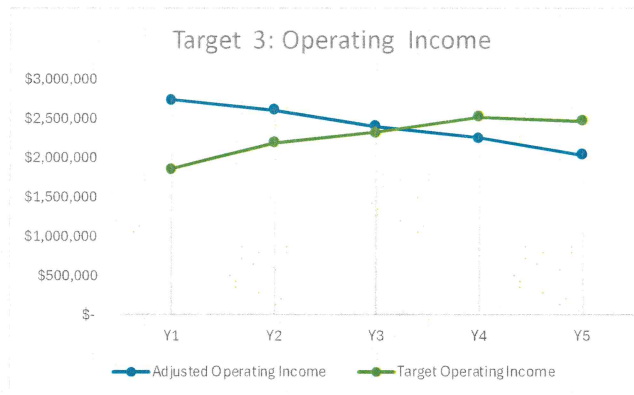
To help ensure timely completion of capital improvements and enable the utility to meet requirements for large, unexpected expenditures and risk factors, the recommended minimum level of cash reserves will be identified.



| Description   | Projected Y1         | Projected Y2         | Projected Y3         | Projected Y4         | Projected Y5         |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Minimum Cash Reserve Allocation</b>                |                      |                      |                      |                      |                      |
| Operation & Maintenance Less Depreciation Expense     | 25%                  | 25%                  | 25%                  | 25%                  | 25%                  |
| Supply Expense  | 25%                  | 25%                  | 25%                  | 25%                  | 25%                  |
| Historical Rate Base                                  | 2%                   | 2%                   | 2%                   | 2%                   | 2%                   |
| Current Portion of Debt Service Payment               | 83%                  | 83%                  | 83%                  | 83%                  | 83%                  |
| Five Year Capital Improvements - Net of Bond Proceeds | 20%                  | 20%                  | 20%                  | 20%                  | 20%                  |
| % Plant Depreciated                                   | 56%                  | 54%                  | 55%                  | 55%                  | 59%                  |
| <b>Calculated Minimum Cash Level</b>                  |                      |                      |                      |                      |                      |
| Operation & Maintenance Less Depreciation Expense     | \$ 6,589,952         | \$ 6,762,400         | \$ 6,941,318         | \$ 7,153,036         | \$ 7,281,393         |
| Supply Expense  | 8,381,482            | 9,722,132            | 9,982,984            | 10,548,544           | 11,075,971           |
| Historical Rate Base                                  | 1,527,454            | 1,689,254            | 1,769,511            | 1,877,918            | 1,877,918            |
| Current Portion of Debt Service Payment               | 1,391,419            | 1,401,379            | 1,409,679            | 1,416,319            | 1,462,799            |
| Five Year Capital Improvements - Net of Bond Proceeds | 3,939,646            | 3,939,646            | 3,939,646            | 3,939,646            | 3,939,646            |
| <b>Minimum Cash Reserve Levels</b>                    | <b>\$ 21,829,953</b> | <b>\$ 23,514,811</b> | <b>\$ 24,043,138</b> | <b>\$ 24,935,463</b> | <b>\$ 25,637,727</b> |
| <b>Projected Cash Reserves</b>                        | <b>\$ 24,692,803</b> | <b>\$ 19,224,903</b> | <b>\$ 17,829,253</b> | <b>\$ 15,047,239</b> | <b>\$ 12,790,153</b> |

**Target Three: Operating Income**

The optimal target for setting rates is the establishment of a target operating income to consistently fund capital improvements and replacements.



| Description                                 | Projected Y1        | Projected Y2        | Projected Y3        | Projected Y4        | Projected Y5        |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Target Operating Income Determinants</b> |                     |                     |                     |                     |                     |
| Net Book Value/Working Capital              | \$ 33,525,928       | \$ 38,888,526       | \$ 39,931,938       | \$ 42,194,174       | \$ 38,927,644       |
| Outstanding Principal on Debt               | \$ 18,160,200       | \$ 17,210,200       | \$ 16,210,200       | \$ 15,160,200       | \$ 14,060,200       |
| System Equity                               | \$ 15,365,728       | \$ 21,678,326       | \$ 23,721,738       | \$ 27,033,974       | \$ 24,867,444       |
| <b>Target Operating Income Allocation</b>   |                     |                     |                     |                     |                     |
| Interest on Debt                            | 4.21%               | 4.22%               | 4.25%               | 4.28%               | 4.31%               |
| System Equity                               | 7.06%               | 6.73%               | 6.87%               | 6.90%               | 7.48%               |
| <b>Target Operating Income</b>              |                     |                     |                     |                     |                     |
| System Equity                               | \$ 1,085,106        | \$ 1,459,590        | \$ 1,629,338        | \$ 1,864,944        | \$ 1,859,437        |
| <b>Target Operating Income</b>              | <b>\$ 1,849,514</b> | <b>\$ 2,185,998</b> | <b>\$ 2,317,746</b> | <b>\$ 2,513,352</b> | <b>\$ 2,465,845</b> |
| <b>Projected Operating Income</b>           | <b>\$ 2,728,770</b> | <b>\$ 2,599,641</b> | <b>\$ 2,394,956</b> | <b>\$ 2,247,337</b> | <b>\$ 2,037,669</b> |
| <b>Rate of Return in %</b>                  | <b>5.5%</b>         | <b>5.6%</b>         | <b>5.8%</b>         | <b>6.0%</b>         | <b>6.3%</b>         |

**Five-Year Projection Summary**

The projections will be summarized, and development of alternative rate tracks will be reviewed and compared to each financial target to help ensure the future financial stability of the utility. We will work with Management and the Governing body in review and development of five-year strategies and rate track.

**Projected Summary Financial before Rate Adjustments**

| Fiscal Year | Projected Rate Adjustments | Adjusting Operating Income | Target Operating Income | Projected Cash Balances | Recommended Minimum Cash | Capital Improvements Plan | Debt Coverage Ratio |
|-------------|----------------------------|----------------------------|-------------------------|-------------------------|--------------------------|---------------------------|---------------------|
| Year 1      | 0.0%                       | \$ 2,728,770               | \$ 3,038,480            | \$ 16,392,621           | \$ 18,099,160            | \$ 6,065,000              | 1.10                |
| Year 2      | 0.0%                       | 2,711,845                  | 3,019,772               | 14,592,541              | 19,169,551               | 2,175,000                 | 1.11                |
| Year 3      | 0.0%                       | 2,622,411                  | 3,061,319               | 10,964,992              | 19,674,886               | 4,012,870                 | 1.11                |
| Year 4      | 0.0%                       | 2,473,225                  | 3,149,568               | 5,938,354               | 20,516,844               | 5,420,360                 | 1.12                |
| Year 5      | 0.0%                       | 2,380,491                  | 3,098,229               | 4,959,247               | 20,862,261               | 1,380,000                 | 1.12                |

**Projected Summary Financials with Rate Adjustment and \$5.0 Million Bond Issuance**

| Fiscal Year | Projected Rate Adjustments | Adjusting Operating Income | Target Operating Income | Projected Cash Balances | Recommended Minimum Cash | Capital Improvements Plan | Debt Coverage Ratio |
|-------------|----------------------------|----------------------------|-------------------------|-------------------------|--------------------------|---------------------------|---------------------|
| Year 1      | 2.0%                       | \$ 3,350,054               | \$ 3,038,480            | \$ 17,013,904           | \$ 18,099,160            | \$ 6,065,000              | 1.26                |
| Year 2      | 2.0%                       | 3,972,613                  | 3,019,772               | 22,477,689              | 19,169,551               | 2,175,000                 | 1.44                |
| Year 3      | 2.0%                       | 4,216,200                  | 3,061,319               | 21,453,355              | 19,674,886               | 4,012,870                 | 1.53                |
| Year 4      | 2.0%                       | 4,407,444                  | 3,149,568               | 21,578,377              | 20,516,844               | 5,420,360                 | 1.62                |
| Year 5      | 2.0%                       | 4,662,614                  | 3,098,229               | 21,908,593              | 20,862,261               | 1,380,000                 | 1.71                |



## Cost of Service Studies

The development of the cost of service study incorporates the revenue requirement identified as part of the financial projection. This section describes the additional procedures used in development of the cost of service study and sample outputs from previous studies.

**Load Profile Information** – Load profile information identifies how customers use utilities during different seasons and is critical to ensure the cost of service study is accurate and defensible. UFS works with utility staff in identification of the appropriate sources of load research information.

**Development of Allocators** – A critical part of the cost of service study is the development of allocation factors from customer’s usage patterns. These allocators are used to allocate the fixed capacity costs, semi-variable operating costs, variable costs, and customer related costs. An example for water is the identification of peak ratios (max month, max day, max hour). There are over 40 allocation factors often developed as part of a UFS cost of service study. Allocation factors are developed for each season and developed for specific expenses.

**Prepare Cost of Service Analysis** – Customer classes are typically established based on differences in load and usage patterns. How customers use the utility dictates the cost of providing many utility services.

The cost of service portion of the study will determine the following:

**Rate Adjustments** – Adjustments necessary to meet financial targets such as target operating income, minimum cash reserves, and debt coverage ratio.

**Cost to Serve** – Actual costs compared with projected revenues by class and adjustments necessary to meet requirements.

**Charges by Class** – Monthly customer charge, usage charge, and demand charge (for demand metered customers) broken down by customer class.

A summary of the cost of service analysis is developed similar to the following table:

| Customer Class             | Cost of Service | Projected     |          |
|----------------------------|-----------------|---------------|----------|
|                            |                 | Revenues      | % Change |
| Residential                | \$ 3,581,760    | \$ 2,749,223  | 30.3%    |
| Non Residential            | 5,327,113       | 4,249,812     | 25.3%    |
| Meter Charges              | 3,642,412       | 3,632,903     | 0.3%     |
| Fire Protection            | 250,429         | 374,501       | -33.1%   |
| Wholesale                  | 4,628,057       | 4,640,963     | -0.3%    |
| Sprinkling Residential     | 358,037         | 103,156       | 247.1%   |
| Sprinkling Non Residential | 374,795         | 208,350       | 79.9%    |
|                            | \$ 18,162,603   | \$ 15,958,908 | 13.8%    |

The cost of service column from the table above identifies the cost to provide service to each class of customers and is compared with the projected revenues from each class. The percent change is the rate adjustment necessary for each class to achieve cost of service. We typically do not recommend rates move fully to cost of service, but as part of the discussions with staff and the governing body we develop a plan to move classes toward cost of service to minimize rate impacts on any specific customer class.

### Water Cost of Service

Consistent with AWWA’s “Manual of Water Supply Practices” we will conduct an analysis to isolate cost by customer class. Peak usage ratios will be established using the following information:

- Review of pumping statistics of the wells over the past five years
- Review of peak loadings on water production wells for each month
- Review of monthly usage for each customer class and meter size (billing statistics)

The peak day and peak hour usage factors will be estimated based on average monthly usage compared to peak monthly usage with adjustments made for the monthly billing cycles. The calculated peak is compared with the actual peaks from the production statistics and adjusted to balance.

We then apply the peak to average ratio by customer class to further determine the base, max day, and max hour factors.

| Customer Class      | Base             |              | Maximum Day     |                |                | Maximum Hour    |                |                |
|---------------------|------------------|--------------|-----------------|----------------|----------------|-----------------|----------------|----------------|
|                     | Annual Use       | Average Rate | Capacity Factor | Total Capacity | Extra Capacity | Capacity Factor | Total Capacity | Extra Capacity |
| 5/8" Meter          | 794,576          | 1.6          | 1.47            | 2.4            | 0.8            | 1.47            | 2.4            | 0.77           |
| 3/4" Meter          | 43,620           | 0.1          | 1.67            | 0.1            | 0.1            | 1.67            | 0.1            | 0.06           |
| 1" Meter            | 434,796          | 0.9          | 2.02            | 1.8            | 0.9            | 2.02            | 1.8            | 0.91           |
| 1-1/2" Meter        | 190,019          | 0.4          | 2.03            | 0.8            | 0.4            | 2.03            | 0.8            | 0.40           |
| 2" Meter            | 606,089          | 1.2          | 1.67            | 2.1            | 0.8            | 1.67            | 2.1            | 0.84           |
| 3" Meter            | 135,166          | 0.3          | 1.77            | 0.5            | 0.2            | 1.77            | 0.5            | 0.21           |
| 4" Meter            | 188,509          | 0.4          | 1.23            | 0.5            | 0.1            | 1.23            | 0.5            | 0.09           |
| 6" Meter            | 439,040          | 0.9          | 1.59            | 1.4            | 0.5            | 1.59            | 1.4            | 0.54           |
| <b>Total System</b> | <b>2,831,815</b> | <b>5.80</b>  |                 | <b>9.60</b>    | <b>3.80</b>    |                 | <b>9.60</b>    | <b>3.82</b>    |

### Wastewater Cost of Service

Wastewater allocation factors will be developed based on cost causation and allocated to each billing parameter. The allocation factors developed include peaking factors, flow characteristics, and customer related costs. In addition, industrial pre-treatment costs will be reviewed to determine allocation factors for Industrial Waste Discharge Fees.

Example COS Summary Table

| Customer Type | Cost of Service Rates | Projected Revenues  | Percentage Adjustment |
|---------------|-----------------------|---------------------|-----------------------|
| 5/8"          | \$ 3,543,212          | \$ 3,045,073        | 16%                   |
| 3/4"          | \$ 100,929            | \$ 93,713           | 8.0                   |
| 1"            | \$ 813,759            | \$ 770,611          | 6.0                   |
| 1-1/2"        | \$ 432,333            | \$ 371,866          | 16.0                  |
| 2"            | \$ 1,457,418          | \$ 1,265,868        | 15.0                  |
| 3"            | \$ 270,158            | \$ 245,673          | 10.0                  |
| 4"            | \$ 412,630            | \$ 370,115          | 11.0                  |
| 6"            | \$ 303,145            | \$ 300,426          | 1.0                   |
| Flat Rate     | \$ 190,341            | \$ 171,035          | 11.0                  |
| <b>Total</b>  | <b>\$ 7,523,925</b>   | <b>\$ 6,634,380</b> | <b>13.4%</b>          |

Example Monthly Customer Charge Cost of Service Results

|                     | Current Unit Charge    |                   |                          | COS Monthly Customer Charge | COS Unit Charge |
|---------------------|------------------------|-------------------|--------------------------|-----------------------------|-----------------|
|                     | Current Monthly Charge | 1st and 2nd Block | Current Charge 3rd Block |                             |                 |
| <b>In-City</b>      |                        |                   |                          |                             |                 |
| 5/8"                | \$ 9.45                | \$ 2.18           | \$ 2.05                  | \$ 10.53                    | \$ 2.08         |
| 1"                  | 16.00                  | 2.18              | 2.05                     | 22.34                       | 2.08            |
| 2"                  | 52.25                  | 2.18              | 2.05                     | 72.16                       | 2.08            |
| 3"                  | 106.00                 | 2.18              | 2.05                     | 150.68                      | 2.08            |
| 4"                  | 168.00                 | 2.18              | 2.05                     | 270.92                      | 2.08            |
| 6"                  | 240.00                 | 2.18              | 2.05                     | 586.42                      | 2.08            |
| <b>Outside City</b> |                        |                   |                          |                             |                 |
| 5/8"                | \$ 14.50               | \$ 3.68           | \$ 2.89                  | \$ 17.15                    | \$ 2.93         |
| 1"                  | 26.00                  | 3.68              | 2.89                     | 34.77                       | 2.93            |
| 2"                  | 78.25                  | 3.68              | 2.89                     | 105.06                      | 2.93            |
| 4"                  | 158.00                 | 3.68              | 2.89                     | 385.31                      | 2.93            |
| 6"                  | 248.00                 | 3.68              | 2.89                     | 821.48                      | 2.93            |

### Rate Design

A five-year rate track will be provided with the financial projection, along with a rate design for the requested number of years. Design of utility rates uses input from the cost of service study as guidance on changes to rate classes and the rate components for each rate class. Cost of service results are one factor in design of rates for customers. Other factors must be considered such as impact on customers, social and environmental issues, and philosophy of the utility's governing body.

The rate design identifies the impacts on customers at various usage levels and is listed by rate class, meter size and usage level.

UFS will develop and recommend a schedule of water and wastewater rates designed to generate adequate revenues and reflect or move toward the recommended rate adjustment. Rate designs for the existing rate structure will be provided for five years. An example of one year is listed below.

### Summary of Overall Rate Adjustments – Water and Wastewater

|                                     | Water Utility  |                        |           | Wastewater Utility |                        |           |
|-------------------------------------|----------------|------------------------|-----------|--------------------|------------------------|-----------|
|                                     | Current Charge | Proposed Charge Year 1 | COS Rates | Current Charge     | Proposed Charge Year 1 | COS Rates |
| <i>Charged per thousand gallons</i> |                |                        |           |                    |                        |           |
| Commodity Charge - Inside City      | \$ 4.57        | \$ 4.66                | \$ 5.01   | \$ 7.87            | \$ 8.00                | \$ 7.88   |
| Commodity Charge - Outside City     | 9.14           | 9.09                   | 6.85      | 15.74              | 15.60                  | 11.39     |
| 3/4" Meter Inside                   | 12.00          | 13.00                  | 13.95     | 14.00              | 14.50                  | 11.39     |
| 1" Meter Inside                     | 12.00          | 13.00                  | 22.36     | 14.00              | 15.00                  | 15.18     |
| 2" Meter Inside                     | 48.00          | 53.00                  | 61.10     | 56.00              | 56.50                  | 40.83     |
| 4" Meter Inside                     | 192.00         | 202.00                 | 138.97    | 224.00             | 224.00                 | 116.28    |
| 6" Meter Inside                     | 432.00         | 432.00                 | 213.53    | 504.00             | 504.00                 | 187.33    |
| 3/4" Meter Outside                  | 24.00          | 25.35                  | 15.12     | 28.00              | 28.28                  | 17.48     |
| 1" Meter Outside                    | 24.00          | 25.35                  | 24.20     | 28.00              | 29.25                  | 26.30     |
| 2" Meter Outside                    | 96.00          | 96.00                  | 92.66     | 102.00             | 110.18                 | 136.44    |
| 4" Meter Outside                    | 384.00         | 384.00                 | 230.61    | 425.70             | 436.80                 | 297.85    |
| 6" Meter Outside                    | 864.00         | 842.40                 | 463.12    | 956.70             | 982.80                 | 520.40    |
| Total Revenue                       | \$ 1,772,678   | \$ 1,861,311           |           | \$ 2,418,218       | \$ 2,514,946           |           |
| Proposed Rate Change                |                | 5.0%                   |           |                    | 4.0%                   |           |



## Experience

UFS was established in September 2001. Our experience includes completion of rate studies in 43 states, Guam, several Caribbean Islands and Canada. This provides UFS with the experience and knowledge to provide creative solutions.

## Resumes

The next section consists of resumes of UFS team members along with additional team members available to assist with the project.

### **Name and title of primary contact person:**

Dawn Lund, Vice-President, Utility Financial Solutions, LLC

Email – [dlund@ufswest.com](mailto:dlund@ufswest.com)

Cell – (231) 218-9664

### **Additional available UFS team members including titles:**

Dan Kasbohm – Manager

Mike Johnson – Manager

Chris Lund – Business and Technology Manager

Jillian Jurczyk – Manager

Robert Blank – Financial Analyst

Janel Albrecht – Financial Analyst

|   |  |
|---|--|
|  | <b>Mark Beauchamp, CPA, CMA, MBA</b><br>President, Utility Financial Solutions, LLC                  |
|   | <i>Email:</i> mbeauchamp@ufsweb.com<br><i>Cellular:</i> 616-403-5450<br><i>Location:</i> Holland, MI |

**Education**

- AAS Water Purification Technology
- ABA Business Administration
- BBA Major – Accounting
- MBA Master’s Degree in Business

**Expert Witness Service**

- Detroit Edison vs. Ameritech – Provided expert witness services for Detroit Edison on development of Pole Attachment Rates for Ameritech
- Nebraska State Unicameral – Served as an expert witness before the State of Nebraska Unicameral on proper rate setting and credits to provide customer installed renewable generation
- Dayton Power & Light – Provided expert witness services on pole attachment rates. Case was resolved prior to Court appearance
- Coldwater Board of Public Works – Provide expert witness services on rate challenge by large industrial customer. Case was dropped after deposition was provided
- Smethport PA – Provided deposition and responses to Pennsylvania Public Service Commission on Rate Filing for Smethport

**Industry Involvement**

- Member of the American Public Power Association
- Member of the American Water Works Association
- Member of the Institute of Management Accountants
- Speaker at national conferences on Financial Planning for Municipal Utilities, Pricing for Water Utilities, Pricing Fiber Optic backbone systems, Unbundling Electric Rates, and Ways to Attract and Retain Customers
- Author of articles appearing in national magazines and newsletters regarding pricing fiber optics, training electric rates, and designing water rates

**License and Qualifications**

- Class “A” license in wastewater treatment from the State of Michigan
- (CPA) Certified Public Accountant – Wisconsin
- (CMA) Certified Management Accountant – Institute Certified Management Accountants

**Course Instructor**

- **American Public Power Association (APPA)**
  - Advanced Cost of Service Course (Cash Basis & Utility Basis of Ratemaking)
  - Intermediate Cost of Service (Cash Basis & Utility Basis of Ratemaking)
  - Basic Cost of Service (Cash Basis & Utility Basis of Ratemaking)
  - Financial Planning for Municipal Utilities
  - Financial Planning for Board & Councils
  - Financial Planning and Rate Setting for Managers (Part of Managers Certificate Program)
- **American Municipal Power (AMP)**
  - Financial Planning and Rate Designs for Electric Utilities
- **Michigan State University**
  - Advanced Issues in Cost Allocation (Utility Basis of Rate Making)
  - Retail Costing and Pricing of Electricity
  - Wholesale Costing and Pricing of Electricity
- **Southwest American Water Works Association**
- **Michigan Rural Water Association**
  - Cost of Service & Rate Making for Water Utilities
- **Michigan Finance Government Officers Association**
  - Cost of Service & Rate Making for Water & Wastewater Utilities

**Dawn Lund**

Vice-President, Utility Financial Solutions, LLC



Dawn has utility energy experience pricing and marketing utility services for electric, water and wastewater beginning in 1996. Dawn has worked with UFS since 2006 and previously worked with a large utility and held positions as Cost and Rate Specialist and Marketing and Communications Specialist. Dawn works with utilities across the country teaching financial concepts and is also the instructor for Financial Planning courses for the American Public Power Association. She is also a regularly requested speaker for various regional and national organizations.

*Email:* dlund@ufsweb.com

*Cellular:* 231-218-9664

*Location:* Traverse City, MI

**Cost of Service (COS)**

- Completed electric, water, and wastewater cost of service and rate design studies for utilities across the country, Guam, the Caribbean, and Canada
- Determining appropriate allocations of overhead costs between utility services

**Long-term Financial Analysis**

- Development of long-term sales and expense projections for electric, water, and wastewater utilities
- Development of long-term financial plan and rate track for electric, water, and wastewater

**Presentation & Training**

- Presentations to City Councils and Boards for approval of utility rates and proposed rate tracks
- Instructor for APPA’s Financial Planning and Basic Cost of Services courses
- Monthly presentations to various organizations on topics such as: cost of service, financial planning, key financial targets, cash policies, and how to explain rate increases to the end user, cost of services challenges/solutions, and introduction to allocation studies

**Rate Design**

- Development of equitable rates between inside-city and outside-city customers
- Development of wholesale contract rates
- Development of special rates; Economic and Time of Use
- Development of Connection Fees
- Development of rate designs to meet financial objectives of utility

**Other Professional Involvement**

- Member of AWWA Finance, Accounting, Management and Controls Committee
- Member of AWWA Rates and Charges Committee
- Member of MI-AWWA Education Committee
- Developing MI-AWWA Water Academy material for Cost of Service and Financial Planning
- Developed the Basic Cost of Service and Financial Planning courses for APPA
- Preferred consulting firm for Hometown Connections Financial Planning, Cost of Service, and Rate Design



|  |   |
|--|---|
| <p><b>Joan Bakenhus</b><br/>Senior Financial Analyst, Utility Financial Solutions, LLC</p> |   |
|           | <p>Joan has experience working with municipal utilities from 1986-1996 and came back to industry in 2006. Joan has a degree in Business Administration. Joan has worked as a Rate Analyst for one of the largest public power systems in the nation (Lincoln Electric System) and for Utility Financial Solutions, LLC since 2006. Joan is experienced in development of long-term financial plans, rate design models and cost of service studies for electric, water, and wastewater utilities.</p> <p><i>Email:</i> jbakenhus@ufsweb.com<br/><i>Cellular:</i> 402-483-2542<br/><i>Location:</i> Nebraska</p> |

**Cost of Service (COS)**

- Working with Utilities to identify information requirements to complete cost of service and financial plans
- Set up and develop utility revenue requirements, cost of service program and utility revenue proof
- Balancing and set up of models for development of cost of service for water, wastewater, and electric utilities to determine commodity and customer charges
- Responsible for analysis, preparation and updating cost of service models for several electric, water utilities

**Long-term Financial Analysis**

- Development of long-term financial forecasts for water, wastewater, and electric utilities to determine the amount of timing of rate adjustments

**Rate Design**

- Balancing and set up of models for development rate design for water, wastewater, and electric utilities to determine commodity and customer charges
- Development of rate design models for electric, water utilities
- Development of rate surveys

**Other Utility Tools**

- Balancing of sales with revenue to help ensure proper billing statistics are used in cost of service models

## References

### **Holland Board of Public Works – Holland, MI**

*Client Contact:* Dave Koster  
*Phone:* 616-355-1562  
*Email:* dkoster@hollandbpw.com



**Holland Board of Public Works**

From 2009 to present, UFS has provided electric, water, wastewater, and telecommunications cost of service studies for the Holland Board of Public Works. The initial water study was completed in 2009 and updated in 2016 and 2017. The water department provides services to the City of Holland and wholesale water services to the City of Zeeland and Park Township. UFS completed the cost of service analysis for the retail and wholesale rates based on wholesale water contracts. The study included development of long-term financial projections, minimum cash reserves, monitoring debt coverage ratios and identification of appropriate amounts of revenue financed capital included in customer rates. UFS updated the water, wastewater, and electric cost of service studies in 2017 using the initially developed model.

### **Zeeland Board of Public Works – Zeeland, MI**

*Client Contact:* Kevin Plockmeyer  
*Phone:* 616-772-6212  
*Email:* kplockmeyer@ci.zeeland.mi.us



UFS has completed comprehensive cost of service studies, and independently assess and evaluate existing water rates to provide recommendations on the amount and structure of future rate designs. Many components of the financials of the utility are combined, and professional judgment was needed to separate into two utilities. The financial objectives of the study were to adequately fund water utility operations, capital costs, bonded debt, and develop a strategy to ensure the current and future financial stability of the utility while minimizing rate impacts on customers.

### **Knoxville Utilities Board – Knoxville, TN**

*Client Contact:* Sherri Ottinger, Manager, Rates & Analytical Services  
*Phone:* 865-594-7274  
*Email:* sherri.ottinger@kub.org



UFS completed the electric, water, wastewater, and gas cost of service models for Knoxville Utilities Board between 2017 and present. UFS recently completed development of residential demand and time of use pilot rates for all customer classes.

- Analysis of “non-standard” customers with pass through power or gas supply cost
- Accounted for a reclassification of non-standard customers during cost of service analysis that took place through the power provider in the interim year
- Data analytics on electric and gas usage patterns for use in the cost of service models
- UFS provided on-site cost of service training
- UFS staff worked closely with KUB staff on assistance with model throughout the project
- Incorporated wholesale gas rates for services to governmental units outside the city of Knoxville
- UFS reviewed each portion of the studies with KUB staff using a web-based application
- UFS and KUB staff worked closely on design of electric and natural gas rates including development of a PILOT residential time of use rate
- UFS provided responses to intervenors on rate recommendations

## Qualifications

UFS has assisted municipalities with cost of service and financial analysis for utilities and are recognized as national experts in the field. UFS' reputation has resulted in industry leading status shown by the number of clients we serve, our frequent requests to instruct classes and speak at conferences around the nation and our frequent requests to serve as expert witnesses on rate related issues.

**UFS is the industry leader in electric, water, and sewer studies. Our national experience is summarized below:**

**In Demand** → UFS has completed numerous rate studies for electric, water, sewer, gas, telecommunications, and solid waste.

**Diverse** → UFS is the preferred provider of rate services for municipalities, electric cooperatives, and members of Joint Action Agencies.

**Innovative** → UFS is leading the industry in development of Time of Use rates including variations of Variable Peak Pricing, Dynamic Pricing and Real Time Pricing.

**Reliable** → Our methodologies on establishing financial targets and cash reserve policies have become industry standards and have assisted utilities in improving bond ratings with Fitch, S&P and Moody's.

**Supported** → Our establishment of rates for customers located outside city limits have been accepted in State Courts and resulted in UFS becoming expert witnesses and arbitrators on rate disputes across the United States.

**Experienced** → UFS has provided electric, gas, water, wastewater, and telecommunications services to some of the largest utilities in the country including Nashville TN, Knoxville TN, Sacramento Municipal Utility District, Rochester MN, Imperial Irrigation District CA, Austin TX, Huntsville AL, Columbia MO, and Lansing MI.

**Knowledgeable** → We are frequent speakers on special rate topics around the United States including APPA's National Conference, APPA's Educational Institutes, E&O Workshop, Legal Conferences, Business and Financial Workshop, numerous webinars topics and state conferences in over 15 states.

**Teachers** → UFS personnel are the instructors on cost of service and financial planning courses offered through the American Public Power Association (APPA), American Water Works Association (AWWA), and the National Association of Regulatory Utility Commissioners (NARUC), EUCL, and Southern Gas Association. UFS' industry leading status has resulted in courses on distributed generation to the US Department of Energy.

**UFS holds a commitment to the following:**

- **Quality Control** – Proper quality control and management help ensure the accomplished work is in alignment with the project scope, is completed timely, within budget and the results are accurate and defensible. The quality controls developed by UFS are specific to utility rate studies and are based on our prior experience working with electric utilities.
- **Timeliness of Studies** – Part of the quality control includes the timely completion of the rate studies. UFS experience in completing studies provides us the ability to complete the studies as requested and discussed in the initial kick-off meeting.
- **Financial Strength** – UFS has the highest financial rating by Dunn and Bradstreet.
- **Independence** – UFS maintains its independence throughout its engagements to help ensure unbiased recommendations to the governing bodies. We do not provide services that could impair our independence such as engineering, accounting, or auditing services.
- **Diverse Staff Backgrounds** – Proper development of rate studies require knowledge in accounting, finance, economics, and engineering. UFS staff has diverse backgrounds that include degrees in accounting (CPA), engineering, finance, economics, information technology and degrees in Water Purification Technology.



## Project Schedule

Our experience with cost of service and rate design studies allows us to conduct a cost effective and efficient study. The following is the tentative project schedule for completion of the cost of service and rate design. This schedule will be finalized during the initial project kick-off meeting with management.

**\* UFS understands the final report to be delivered to the township by December 1, 2024.**

| Task   | Expected Completion – Twelve Weeks |
|--|------------------------------------|
| Initial Meeting – Preparation of Information Request | Week One                           |
| Completion of Information Request by Client          | Week Two                           |
| Planning/Set-up Study                                | Week Three – Five                  |
| Development of Revenue Requirements                  | Week Six – Seven                   |
| Cost of Service Analysis Component/Functional Costs  | Week Eight - Nine                  |
| Review Rate Design and Alternatives                  | Week Ten                           |
| Report, Recommendations & Presentation of Draft      | Week Eleven                        |
| Final Report   | Week Twelve                        |

*The completion of the project on the proposed schedule is dependent on the cooperation of various departments within the Utility to prepare the information request in a timely manner.*

## Meetings, Reports and Deliverables

### Meetings

The following meetings are anticipated (**conducted virtually**):

- Kickoff meeting – Clarify scope of services and expectations of management.
- Data Verification – Verify data collected.
- Status Review – Review of any additional data required and/or provide an update on the status of project.
  - *If required, two meetings with the Board/Committee can be provided to obtain input from the Township*
- Financial Review – Review assumptions used in the long-term projections.
- Review draft reports with management.
- Presentation as requested by management such as review report with Governing body.

### Format of Reports

UFS reports are typically separated into the reports listed below:

- **Power Point Summary** – A concise presentation of study results that is shared with management and staff. This summary will include graphs, charts, tables, and findings.
- **Executive Summary Report (PDF)** – An overview that identifies the objectives, process, and results of the rate study in a clear and concise format.
  - UFS will provide 5 copies of a preliminary report to review and provide input and comments.
  - UFS will provide 7 copies of the final report, along with an electronic copy in MS Word format or PDF.
- **Rate Design** – The rate design includes a comparison of the current and proposed rates, expected revenues generated from proposed rates, and the impact on customer classes at various usage levels or load factors within each rate class.

### Presentation of Cost of Service and Rate Design Study

A critical aspect of the study is the clear and concise presentation to the Governing body of the utility. UFS professionals are skilled at explaining and working with advisory and governing bodies to ensure decisions are based on information they can understand and apply to their community.

## Proposed Professional Services Agreement

Prices, terms, and conditions are good for a period of 90 days from this proposal date of August 2, 2024. Payment will be made through submission of invoice which itemizes the work performed.

**Water Cost of Service, Financial Projection, 5-Year Rate Design ..... \$19,900**  
**Wastewater Cost of Service, Financial Projection, 5-Year Rate Design..... \$19,900**

*Totals above do not include onsite meetings, out of pocket travel expenses, or travel time.*

**Anticipated Meetings (Online Platform):**

- Project kickoff
- Data collection summary
- Status review(s)
- Financial review summary
- Draft Report to management (5 copies)
- Final Report to management (7 copies + MS Word or PDF)
- Presentation to the Township Board & members of the public at a regular board meeting

**Deliverables (for all utilities):**

- 1) Long-term financial projection and rate track
- 2) Minimum cash reserve determination
- 3) Debt service ratio
- 4) Target operating income (rate of return)
- 5) Cost of service analysis
- 6) Five-year rate design

**Out of Scope Pricing**

Out of scope items and work hours will be billed at the hourly rates listed on this page. Onsite meetings, if requested and agreed upon, will be billed as out of scope.

All rate designs outside of the current rate structure or additional years of rate design will be charged hourly.

**Hourly Rates (travel is discounted at 50%)**

|                 |                   |
|-----------------|-------------------|
| Mark Beauchamp  | \$ 360.00         |
| Dawn Lund       | \$ 325.00         |
| Dan Kasbohm     | \$ 290.00         |
| Mike Johnson    | \$ 290.00         |
| Chris Lund      | \$ 290.00         |
| Jillian Jurczyk | \$ 250.00         |
| Joan Bakenhus   | \$ 175.00         |
| Support Staff   | \$ 65.00 – 165.00 |

We look forward to exceeding your expectations. Please sign, date, and return to [clund@ufswest.com](mailto:clund@ufswest.com) at your earliest convenience.

Sincerely,



Dawn Lund  
 Vice-President, Utility Financial Solutions, LLC

**Date:** \_\_\_\_\_

**Accepted By:** \_\_\_\_\_  
 Pere Marquette Charter Township



# PERE MARQUETTE

CHARTER TOWNSHIP

1699 SOUTH PERE MARQUETTE HWY. • LUDINGTON, MICHIGAN 49431  
(231) 845-1277 • FAX (231) 843-3330

**Memo**

**August 9, 2024**

**To: Township Board**

**From: Kelly Smith, Supervisor**

**Re: Water Reliability Study Proposals**

---

I have received two proposals for a Water Reliability Study. The water and sewer committee met to go through each proposal and discussed the differences each company has laid out within their respective proposals.

Most notable were the timeline to complete the project and the professional fees.

The water and sewer committee recommends entering into an agreement with Fleis & Vandenbrink at a total lump sum fee of \$12,500 for the services of providing a Water Reliability Study which includes but is not limited to water system mapping and a hydraulic model and hydrant testing.





April 16, 2024

Via email: supervisor@pmtwp.org

Mr. Kelly Smith - Supervisor  
Pere Marquette Charter Township  
1699 S. Pere Marquette Hwy  
Ludington, MI 49431

**RE: Proposal for Water Reliability Study**

Dear Kelly:

As requested, we have prepared a work plan and budget to complete a Water Reliability Study for the Township. We understand that Mason County Road Commission is planning a road extension project to connect South Jebavy Drive to Pere Marquette Highway. In our recent meeting, you mentioned that this may be an opportunity to loop water main along the proposed route. In addition, we discussed various potential water system improvement projects throughout the Township. To best determine the size, flow capacities, and benefits of the improvements, it would be advantageous to have the Township's water system modeled using WaterCAD.

We also understand that Michigan Rural Water Association completed the Township's previous Water Reliability Study in 2020 without any computer modeling. EGLE requires a reliability study be performed every five years or as significant improvements are made to the system to satisfy the requirements of Public Act 399.

The computer model will simulate the hydraulics of the existing system, and our analysis will provide the pertinent information relating to the recommended size of water mains and available flows for these areas. The computer model could then be used to evaluate any future extensions, improvements, or fire flows.

We propose to complete the Water Reliability Study and hydraulic analysis as outlined in the work plan below.

## Project Understanding

A water reliability study evaluates your system's supply, storage, and distribution to ensure a continuous and ample supply of water to your community. This study will develop a computer model to simulate the hydraulics of the system and develop recommendations to plan, budget and prioritize future improvements.

## Work Plan

### Review and Compile Existing Data and Operations

- A. Meet with Township Staff and review scope of work and schedule for the study:
  1. Collect data on existing water use and pump records.
  2. Review service area and identify any known system expansions.
  3. Review fire flow objectives for the proposed watermain projects.

2960 Lucerne Dr SE  
Grand Rapids, MI 49546  
P: 616.977.1000  
F: 616.977.1005  
www.fveng.com

- B. Review and inventory the existing water system components:
  - 1. Review data on the water storage tanks.
  - 2. Review the pump data, well capacity and well houses.
  - 3. Review chemical analysis of the water.
  - 4. Review the water distribution system and its overall condition.
- C. Review current water use and pumping records. Calculate the ten-year projections.
- D. Review the most recent Insurance Services Organization (ISO) evaluation of the system.

### Create Water Map & Hydraulic Model

- A. Create/update the Township's water map in AutoCAD.
- B. Review mapping with Township staff to solicit input from those with a working knowledge of the system.
- C. Create hydraulic model of the Township's water system.
- D. Utilize current water map created in GIS format.
- E. Update our computer model of the system and setup hydraulic analysis.
- F. Complete computer runs, identifying static pressures and flows at key locations.

### Hydrant Testing

- A. Perform hydrant flow testing at key locations throughout the system. F&V will identify locations, provide test equipment and trained staff to take readings, in cooperation with Township DPW staff.

### Model Calibration & Simulations

- A. Calibrate the computer model to reflect conditions recorded during the hydrant testing.
- B. Perform fire flow and maximum day simulations of water system.
- C. Simulate proposed improvements to the water system.
- D. Simulate projected water demands. Identify deficiencies where the system cannot produce the desired flows. Evaluate improvements to the water system.
- E. Identify short and long-range improvements that are needed to meet the 10-year needs.

### Project Deliverables

- F. Prepare draft report summarizing the findings and outlining the recommendations.
- G. Submit draft report to the Township. Meet with the staff to review.
- H. Update the report after receiving review comments.
- I. Submit revised report to the Department of Environment, Great Lakes and Energy (EGLE).
- J. Receive comments from EGLE and finalize the water reliability study.

## Professional Fees

We propose to complete the Scope of Work identified above for a lump sum fee of **\$12,500**. A further breakdown of these costs is included in the table below.

| Task   | Fee             |
|--|-----------------|
| Review and Compile Existing Data and Operations            | \$1,200         |
| Update Water System Mapping                                | \$1,400         |
| Develop Computer Model                                     | \$3,200         |
| Hydrant Testing  | \$1,000         |
| Model Calibration and Simulations                          | \$3,200         |
| Draft Report, Review with Township & EGLE, Finalize Report | \$2,500         |
| <b>Total Lump Sum Fee</b>                                  | <b>\$12,500</b> |

Fleis & VandenBrink will schedule the work to commence within 2 weeks of authorization. We will complete the field work and provide deliverables within six weeks of project commencement. (weather permitting for hydrant flow testing)

This hydraulic model will aid the Township in any future water reliability studies and future watermain projects.

We look forward to working with the Township on this important project for water system improvements. We specialize in long-term partnerships with communities to assist with infrastructure planning, design, and construction, and are eager to continue this partnership with Pere Marquette Charter Township.

Please let us know if you have any questions on the fee or work scope listed above. If this proposal is acceptable, please sign the authorization below and we will get started. If you have any questions, feel free to contact me at: [speterson@fveng.com](mailto:speterson@fveng.com), or (810) 623-3944. Many thanks for the opportunity to support Pere Marquette Charter Township.

Sincerely,

FLEIS & VANDENBRINK



Shane Peterson, P.E.  
Project Manager



Don DeVries, P.E.  
Principal

#### WORK AUTHORIZATION

*Fleis & VandenBrink Engineering, Inc. (F&V) is hereby authorized to perform Services as detailed in this proposal dated April 16, 2024 and authorized under the existing General Consultation Professional Services Agreement with F&V dated December 28, 2022.*

\_\_\_\_\_  
**Kelly Smith, Supervisor**

\_\_\_\_\_  
**Date**





**Stantec Consulting Michigan Inc.**  
1168 Oak Valley Drive, Suite 100, Ann Arbor MI 48108

July 31, 2024  
File: 173485328

**Attention: Mr. Kelly Smith, Township Supervisor**  
Pere Marquette Charter Township  
1699 South Pere Marquette Hwy  
Ludington, Michigan 49431

Dear Supervisor Smith,

**Reference: Proposal for Professional Engineering Services - Water Reliability Study (WRS)**

As discussed, please find below a proposal for Review and Updating Pere Marquette Township's (Township) 2020 Water Reliability Study (WRS).

**BACKGROUND AND PROJECT UNDERSTANDING**

The Township self-performed in 2020 a WRS utilizing the Michigan Rural Water Association's standard template. As of this date it is understood the township is serviced by the following:

- Three (3) 12-inch wells at a depth of 220' installed in 2006. Each well providing 400 gpm at 358 feet TDH, for a total firm capacity of 800 GPM.
- One (1) 500,000-gallon water tower described as 6<sup>th</sup> St. Water Tower.
- Network of piping ranging in sizes from 6-inch to 12-inch for an estimated total of 80,296 liner footage.

Stantec Consulting Michigan Inc. (Stantec) understands that the Township is seeking professional engineering services to prepare a hydraulic system model and update the self-performed 2020 WRS. The general scope of the services sought is aimed at meeting the criteria of the Michigan Safe Drinking Water Act 399, Part 12.

The proposed scope of work will include:

**WRS Updates:**

- Confirmation of the existing water piping network and inclusion of any water mains that have been constructed since the last update,
- Reviewing and updating existing/future system demands,
- Preparing and calibrating a water system model with field flow tests,
- Identifying areas of concern (deficient fire flows, high/low pressures, etc.), and
- Providing recommendation for system wide improvements.

*Design with community in mind*

Reference: Proposal for Professional Engineering Services - Water Reliability Study (WRS)

## SCOPE OF SERVICES

In order to satisfy the Township's needs, Stantec proposes the following scope of services:

### Task 1: Data Collection and Review

- Review the existing water distribution system network map with the Township to confirm completeness to date.
- Coordinate with the Township to collect historical data on water flows and pressures.
- Identify historical Township system operations through staff interviews.
- Collect and review historical water use and existing billing data.
- Collect and review the demands from the top 20 water users within the Township (if needed).
- Collect and review existing land use studies and master plans.
- Compile and review existing population data and projections.
- Review recently performed condition assessment of water tower, if available.

### Task 2: Model Build

- Digitize water system network using the latest information from sources such as, distribution system maps, as-builts, pump curves, digital elevation models, etc.
- Review billing data versus meter data to determine water loss impacts.
- Identify existing average day, maximum day, peak hour, and fire flow demands.
- Estimate future water usage requirements based on 5-year and 20-year population projections.
  - If available, review the latest water distribution hydraulic model.
- Evaluate the water distribution system under present average day, maximum day, peak hour, and fire flow conditions.

### Task 3: Model Calibration

- Identify locations and perform field flow tests with the assistance of Township personnel (assume 8 hydrant tests).
- Collect recorded information from the well pumps and storage tank that corresponds to the field flow tests.
- Calibrate model utilizing field flow test information.

### Task 4: System Evaluation

- Analyze the water distribution system under present and future average day, maximum day, peak hour and fire flow conditions to identify system deficiencies.
- Analyze improvements to the system (storage and distribution) to correct deficiencies and maintain operation of the distribution system.
- Analyze improvements to the system to address growth and Township planning initiatives.
- Meet with Township personnel to:
  - Identify and document areas of frequent breaks, if any.
  - Discuss overall system operation and maintenance needs.
  - Discuss delivery point pressures and challenges, if any.

Reference: Proposal for Professional Engineering Services - Water Reliability Study (WRS)

#### Task 5: Report

- Review improvement alternatives with the Township (no action taken, system optimization, replacement/additions, etc.).
- Develop system recommendations based on a short-term (0-5 yr.), and long-term (20 yr.) basis.
- Develop an opinion of probable construction cost for all short-term recommendations.
- Identify and flag improvements that may be eligible for funding, if any.
- Develop report summarizing development, assumptions, evaluation, and findings of the study.

### SIGNIFICANT ASSUMPTIONS

This proposal assumes the following:

- The Township's GIS or equivalent (asset map) is up to date on the distribution system since the last update.
- Township will provide information concerning supplied demands, delivery pressures, and operational impacts.
- The Township's staff will perform the field flow testing for calibration. Coordination and data collection will occur in advance of the notice to proceed for Stantec. System information (water tower level, pumping rates, etc.) will be provided for the period of the hydrant flow testing.
- Stantec will attend up to four virtual meetings (project kick-off, data collection, modelling results and findings review, and recommendations/presentations).
- The Township will provide historical pumping/demand/billing information for the previous 3 years.
- The Township will coordinate the electronic delivery of the water billing data per parcel.
- The current land use and zoning density information will be provided electronically.
- Stantec will utilize InfoWater for modelling the water system.
- Tank Condition Assessment will be provided by others, if needed.
- Up to eight model scenarios will be prepared including average day, maximum day, and peak hour for both existing and future time frames, and up to two alternates for long-term planning.

### SCHEDULE AND FEES

Stantec can begin work in August and/or upon township approval, and we expect these efforts will be completed within 20 weeks from the start date. We propose to complete the tasks above on a time and material basis for a not-to-exceed fee of **\$39,750.00**.

If the above proposal meets your approval, please sign this proposal letter along with the attached professional services agreement and return a copy to our office.

We appreciate this opportunity to provide professional services to the Township. If you have any questions regarding the above information, please do not hesitate to contact us.



July 31, 2024  
Mr. Kelly Smith, Township Supervisor  
Page 4 of 4

Reference: Proposal for Professional Engineering Services - Water Reliability Study (WRS)

Regards,

**Stantec Consulting Michigan Inc.**



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**Spencer Cain** PE  
Project Manager, Associate  
Phone: 734 546 6694  
Spencer.Cain@stantec.com



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**Craig Lyon**  
Senior Account Manager  
Phone: 734 277 9802  
Craig.Lyon@stantec.com

Attachments: Professional Services Agreement  
2024 Rate Sheet

**ACKNOWLEDGED AND ACCEPTED:**

**PERE MARQUETTE CHARTER TOWNSHIP**

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Mr. Kelly Smith  
Township Supervisor

\_\_\_\_\_, 2024



The following Terms and Conditions are attached to and form part of a proposal for services to be performed by Consultant and together, when the Client authorizes Consultant to proceed with the services, constitute the Agreement. Consultant means the Stantec entity issuing the Proposal.

**DESCRIPTION OF WORK:** Consultant shall render the services described in the Proposal (hereinafter called the "Services") to the Client.

**TERMS AND CONDITIONS:** No terms, conditions, understandings, or agreements purporting to modify or vary these Terms and Conditions shall be binding unless hereafter made in writing and signed by the Client and Consultant. In the event of any conflict between the Proposal and these Terms and Conditions, these Terms and Conditions shall take precedence. This Agreement supercedes all previous agreements, arrangements or understandings between the parties whether written or oral in connection with or incidental to the Project.

**COMPENSATION:** Payment is due to Consultant upon receipt of invoice. Failure to make any payment when due is a material breach of this Agreement and will entitle Consultant, at its option, to suspend or terminate this Agreement and the provision of the Services. Interest will accrue on accounts overdue by 30 days at the lesser of 1.5 percent per month (18 percent per annum) or the maximum legal rate of interest. Unless otherwise noted, the fees in this agreement do not include any value added, sales, or other taxes that may be applied by Government on fees for services. Such taxes will be added to all invoices as required. The Client will make payment by Electronic Funds Transfer when requested by Consultant.

**NOTICES:** Each party shall designate a representative who is authorized to act on behalf of that party. All notices, consents, and approvals required to be given hereunder shall be in writing and shall be given to the representatives of each party.

**TERMINATION:** Either party may terminate the Agreement without cause upon thirty (30) days notice in writing. If either party breaches the Agreement and fails to remedy such breach within seven (7) days of notice to do so by the non-defaulting party, the non-defaulting party may immediately terminate the Agreement. Non-payment by the Client of Consultant's invoices within 30 days of Consultant rendering same is agreed to constitute a material breach and, upon written notice as prescribed above, the duties, obligations and responsibilities of Consultant are terminated. On termination by either party, the Client shall forthwith pay Consultant all fees and charges for the Services provided to the effective date of termination.

**ENVIRONMENTAL:** Except as specifically described in this Agreement, Consultant's field investigation, laboratory testing and engineering recommendations will not address or evaluate pollution of soil or pollution of groundwater. Consultant is entitled to rely upon information provided by the Client, its consultants, and third-party sources provided such third party is, in Consultant's opinion, a reasonable source for such information, relating to subterranean structures or utilities. The Client releases Consultant from any liability and agrees to defend, indemnify and hold Consultant harmless from any and all claims, damages, losses and/or expenses, direct and indirect, or consequential damages relating to subterranean structures or utilities which are not correctly identified in such information.

**PROFESSIONAL RESPONSIBILITY:** In performing the Services, Consultant will provide and exercise the standard of care, skill and diligence required by customarily accepted professional practices normally provided in the performance of the Services at the time and the location in which the Services were performed.

**INDEMNITY:** The Client releases Consultant from any liability and agrees to defend, indemnify and hold Consultant harmless from any and all claims, damages, losses, and/or expenses, direct and indirect, or consequential damages, including but not limited to attorney's fees and charges and court and arbitration costs, arising out of, or claimed to arise out of, the performance of the Services, excepting liability arising from the sole negligence of Consultant.

**LIMITATION OF LIABILITY:** It is agreed that, to the fullest extent possible under the applicable law, the total amount of all claims the Client may have against Consultant under this Agreement, including but not limited to claims for negligence, negligent misrepresentation and/or breach of contract, shall be strictly limited to the lesser of professional fees paid to Consultant for the Services or \$50,000.00. No claim may be brought against Consultant more than two (2) years after the cause of action arose. As the Client's sole and exclusive remedy under this Agreement any claim, demand or suit shall be directed and/or asserted only against Consultant and not against any of Consultant's employees, officers or directors.

Consultant's liability with respect to any claims arising out of this Agreement shall be absolutely limited to direct damages arising out of the Services and Consultant shall bear no liability whatsoever for any consequential loss, injury or damage incurred by the Client, including but not limited to claims for loss of use, loss of profits and/or loss of markets.

In no event shall Consultant's obligation to pay damages of any kind exceed its proportionate share of liability for causing such damages.

**DOCUMENTS:** All of the documents prepared by or on behalf of Consultant in connection with the Project are instruments of service for the execution of the Project. Consultant retains the property and copyright in these documents, whether the Project is executed or not. These documents may not be used for any other purpose without the prior written consent of Consultant. In the event Consultant's documents are subsequently reused or modified in any material respect without the prior consent of Consultant, the Client agrees to defend, hold harmless and indemnify Consultant from any claims advanced on account of said reuse or modification.

Any document produced by Consultant in relation to the Services is intended for the sole use of Client. The documents may not be relied upon by any other party without the express written consent of Consultant, which may be withheld at Consultant's discretion. Any such consent will provide no greater rights to the third party than those held by the Client under the contract and will only be authorized pursuant to the conditions of Consultant's standard form reliance letter.

Consultant cannot guarantee the authenticity, integrity or completeness of data files supplied in electronic format ("Electronic Files"). Client shall release, indemnify and hold Consultant, its officers, employees, Consultant's and agents harmless from any claims or damages arising from the use of Electronic Files. Electronic files will not contain stamps or seals, remain the property of Consultant, are not to be used for any purpose other than that for which they were transmitted, and are not to be retransmitted to a third party without Consultant's written consent.



**FIELD SERVICES:** Consultant shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with work on the Project, and shall not be responsible for any contractor's failure to carry out the work in accordance with the contract documents. Consultant shall not be responsible for the acts or omissions of any contractor, subcontractor, any of their agents or employees, or any other persons performing any of the work in connection with the Project. Consultant shall not be the prime contractor or similar under any occupational health and safety legislation.

**GOVERNING LAW/COMPLIANCE WITH LAWS:** The Agreement shall be governed, construed and enforced in accordance with the laws of the jurisdiction in which the majority of the Services are performed. Consultant shall observe and comply with all applicable laws, continue to provide equal employment opportunity to all qualified persons, and to recruit, hire, train, promote and compensate persons in all jobs without regard to race, color, religion, sex, age, disability or national origin or any other basis prohibited by applicable laws.

**DISPUTE RESOLUTION:** If requested in writing by either the Client or Consultant, the Client and Consultant shall attempt to resolve any dispute between them arising out of or in connection with this Agreement by entering into structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. The Parties agree that any actions under this Agreement will be brought in the appropriate court in the jurisdiction of the Governing Law, or elsewhere by mutual agreement. Nothing herein however prevents Consultant from any exercising statutory lien rights or remedies in accordance with legislation where the project site is located.

**ASSIGNMENT:** The Client shall not, without the prior written consent of Consultant, assign the benefit or in any way transfer the obligations under these Terms and Conditions or any part hereof.

**SEVERABILITY:** If any term, condition or covenant of the Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions of the Agreement shall be binding on the Client and Consultant.

**FORCE MAJEURE:** Any default in the performance of this Agreement caused by any of the following events and without fault or negligence on the part of the defaulting party shall not constitute a breach of contract, labor strikes, riots, war, acts of governmental authorities, an unusually severe weather conditions or other natural catastrophe, disease, epidemic or pandemic, or any other cause beyond the reasonable control or contemplation of either party. Nothing herein relieves the Client of its obligation to pay Consultant for services rendered.

**COVID-19:** The parties acknowledge the ongoing COVID-19 pandemic and agree that the fee and schedule in the proposal is based on what is currently understood. Where conditions change, the parties may have further discussions to manage and mitigate the impact of this evolving situation on the Project.

**CONTRA PROFERENTEM:** The parties agree that in the event this Agreement is subject to interpretation or construction by a third party, such third party shall not construe this Agreement or any part of it against either party as the drafter of this Agreement.

**BUSINESS PRACTICES:** Each Party shall comply with all applicable laws, contractual requirements and mandatory or best practice guidance regarding improper or illegal payments, gifts, or gratuities, and will not pay, promise to pay or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a government official or private individual) or entity for the purpose or illegally or improperly inducing a decision or obtaining or retaining business in connection with this Agreement or the Services.

**FLORIDA CONTRACTS: PURSUANT TO FLORIDA STATUTES CHAPTER 558.0035 AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR DAMAGES RESULTING FROM NEGLIGENCE.**



| Title   | Hourly Rate                        | Description  |
|---|------------------------------------|--|
| Construction Technician<br>CAD Technician   | \$109 - \$133                      | <ul style="list-style-type: none"> <li>Junior-level position</li> <li>Independently carries out assignments of limited scope using standard procedures, methods, and techniques</li> <li>Assists senior staff in carrying out more advanced procedures</li> <li>Completed work is reviewed for feasibility and soundness of judgment</li> <li>Graduate from an appropriate post-secondary program or equivalent</li> <li>Generally, four years' work experience</li> </ul>   |
| Engineering Assistant<br>Engineer-In-Training<br>Construction Technician<br>Administrative Support  | \$138 - \$152                      | <ul style="list-style-type: none"> <li>Fully qualified professional position</li> <li>Carries out assignments requiring general familiarity within a broad field of the respective profession</li> <li>Makes decisions by using a combination of standard methods and techniques</li> <li>Actively participates in planning to ensure the achievement of objectives</li> <li>Works independently to interpret information and resolve difficulties</li> <li>Graduate from an appropriate post-secondary program, with credentials or equivalent</li> <li>Generally, six years experience</li> </ul>  |
| CAD Manager<br>Designer<br>Process Designer<br>Project Engineer<br>Senior Project Engineer<br>Survey Manager<br>Construction Technician<br>Senior Civil Engineer<br>Environmental Engineer<br>Survey Crew Chief | \$163 - \$181                      | <ul style="list-style-type: none"> <li>First level supervisor of first complete level of specialization</li> <li>Provides applied professional knowledge and initiative in planning and coordinating work programs</li> <li>Adapts established guidelines as necessary to address unusual issues</li> <li>Decisions accepted as technically accurate, however may on occasion be reviewed for soundness of judgment</li> <li>Graduate from an appropriate post-secondary program, with credentials or equivalent</li> <li>Generally, nine years' experience</li> </ul>   |
| Associate<br>Senior Associate<br>Project Manager<br>Field Services Manager<br>Landscape Architect   | \$187 - \$205                      | <ul style="list-style-type: none"> <li>Highly-specialized technical professional or supervisor of groups of professionals</li> <li>Provides multidiscipline knowledge to deliver innovative solutions in related field of expertise</li> <li>Participates in short and long range planning to ensure the achievement of objectives</li> <li>Makes responsible decisions on all matters, including policy recommendations, work methods, and financial controls associated with large expenditures</li> <li>Reviews and evaluates technical work</li> <li>Graduate from an appropriate post-secondary program, with credentials or equivalent</li> <li>Generally, ten years' experience with extensive, broad experience</li> </ul>   |
| Principal<br>Senior Principal<br>Vice President   | \$231 - \$263<br><br>\$272 - \$278 | <ul style="list-style-type: none"> <li>Senior level consultant or management function</li> <li>Recognized as an authority in a specific field with qualifications of significant value</li> <li>Provides multidiscipline knowledge to deliver innovative solutions in related field of expertise</li> <li>Independently conceives programs and problems for investigation</li> <li>Participates in discussions to ensure the achievement of program and/or project objectives</li> <li>Makes responsible decisions on expenditures, including large sums or implementation of major programs and/or projects</li> <li>Graduate from an appropriate post-secondary program, with credentials or equivalent</li> <li>Generally, fifteen years' experience with extensive professional and management experience</li> </ul> |
| Survey Crew   | \$173<br>\$242                     | 1 person crew<br>2 person crew   |

First Reading: August 13, 2024

Adopted:

Effective:

## PROPOSED ORDINANCE NO. 157

### AMENDMENT TO WATER SYSTEM RATE AND ADMINISTRATION ORDINANCE

#### AN ORDINANCE TO AMEND ORDINANCE NO. 91, WATER SYSTEM RATE AND ADMINISTRATION ORDINANCE, TO AMEND SECTION 30-27, CONNECTIONS TO SYSTEM, AND TO PROVIDE FOR AN EFFECTIVE DATE OF THIS AMENDING ORDINANCE

THE CHARTER TOWNSHIP OF PERE MARQUETTE, COUNTY OF MASON, STATE OF MICHIGAN, ORDAINS:

#### **SECTION 1. SECTION 30-27 of Ordinance 91, Water System Rate and Administration Ordinance shall be amended to read:**

- **Sec. 30-27. - Connections to system.**

(a) *Connection.* Connection to the system, directly or indirectly, and the use of water therefrom for any purpose, shall only be in compliance with this article, as amended, and in compliance with all rules and regulations of the township applicable thereto, as amended. Connections shall be made Monday through Friday between 8:00 a.m. and 4:30 p.m. The township shall be notified no less than 24 hours in advance of the connection.

(b) *Inspection.* The applicant for a water connection permit shall notify the township when the building water is ready for installation and connection to the public water system. The connection shall be made under the supervision of the township. No backfill shall be placed until the work has been inspected and approved by the township. No inspections will be made on weekends or holidays.

(c) *Mandatory connection.* Any building or structure which is being erected or constructed, and which is to be equipped with plumbing fixtures and is to be utilized for human occupancy or habitation, shall connect to the system if there is a public water main available (as provided in subsection (d) of this section) on or before the date on which an occupancy permit is used for the building or structure or, if an occupancy permit is not required, the date on which construction is complete. **No private water supply system may be permitted, unless approved by the district health department, and unless approved by the township supervisor, who shall consider the poverty exemption guidelines for property taxes and other factors deemed relevant when deciding whether or not to grant approval. The township board shall approve the format of the Application for Waiver of Connection. A decision by the township supervisor may be appealed to the other members of the township board, who shall decide whether to affirm, reverse, or modify the decision of the township supervisor.**

In addition, any existing building or structure which is equipped with plumbing fixtures and is utilized for human occupancy or habitation shall connect to the system if there is a public water

main available, as provided in subsection (d) of this section, if either of the following circumstances exist:

(1) An existing well requires redrilling.

(2) The existing well water supply has been determined to be unsafe for human consumption by the state district health department No. 10.

(d) *Availability*. For purposes of this section, a public water main is available if a public water main is located anywhere within a public right-of-way, easement, highway, street or public way which:

(1) Crosses, adjoins or abuts the parcel of land in question; and

(2) If that public right-of-way, easement, highway, street or public way passes not more than 200 feet at the nearest point from the building or structure which is equipped with plumbing fixtures and is utilized for human occupancy or habitation.

**SECTION 2. SEVERABILITY.** The provisions of this Ordinance are hereby declared to be severable and if any provision, section or part of this Ordinance is declared invalid or unconstitutional by a court of competent jurisdiction, such decision shall only affect the particular provisions, section or part involved in such decision and shall not affect or invalidate the remainder of such Ordinance, which shall continue in full force and effect.

**SECTION 3. EFFECTIVE DATE.** This Ordinance shall become effective eight (8) days after its publication following adoption or as required by law.

**SECTION 4. REPEAL.** All Ordinances or parts of Ordinances in conflict herewith are hereby repealed.

\_\_\_\_\_  
Kelly D. Smith, Township Supervisor

\_\_\_\_\_  
Rachelle D. Enbody, Township Clerk



RESOLUTION TO APPOINT AN OFFICER DELEGATE  
TO THE 2024 MERS ANNUAL MEETING  
#2024-13

WHEREAS, the Municipal Employees' Retirement System (MERS) Annual Meeting will be held on October 10 and 11, 2024; and

WHEREAS, the governing body of each member municipality must appoint an officer delegate of the governing body for the purpose of selecting nominees to the Retirement Board and the transaction of such other business as the Retirement Board deems necessary; and

WHEREAS, MERS requires that the Officer Delegate shall be an officer member who holds a department head position or above, exercises management responsibilities, and is directly responsible to the legislative and /or executive branch of local government;

NOW, THEREFORE, BE IT RESOLVED, that the Pere Marquette Charter Township Board appoints Rachelle Enbody, Township Clerk / Benefit Plan Administrator, as Officer Delegate for the 2024 MERS Annual Meeting.

Resolution declared \_\_\_\_\_.



# PERE MARQUETTE

CHARTER TOWNSHIP

## Memo

**To:** Township Board  
**From:** **Rachelle Enbody, Clerk**  
**Date:** August 9, 2024  
**Re:** Election Inspector Compensation & Early Voting Site Compensation

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The Agreement for Election Services for Early Vote Site, states:

**5. Board of Election Commissioners:** Each Municipalities Board of Election Commissioners will be responsible for approving the consolidated early voting site election inspectors and providing a list to the Early Voting Coordinator #1 (County Clerk) of those inspectors. Clerk from each municipality will also provide a list of Election Inspectors that would be willing to work additional days for other municipalities. The selection of election inspectors will be governed by MCL 168.674. Municipalities understand that the State of Michigan hourly Election Inspector reimbursement is \$15 per hour. Salaries and fringe benefits over this allowed amount are the responsibility of the respective municipality to reimburse.

**11. Budget and Cost Sharing:** The County will be the fiduciary for any reimbursements from the State of Michigan. Municipalities will be required to submit any reimbursable expenses to the County Clerk associated with the respective State/Federal Election within 30 days of the date of the Election.

Note: Subject to change based on information not received from State yet.

a. The County and the Municipalities, respectively, shall be responsible for the payment of salaries, wages, and other compensation due its staff for services they perform under this Agreement and for withholding and payment of all applicable taxes, including, but not limited to, income and social security taxes to the proper Federal, State, and local governments.

b. Any other costs shall be shared equally between the municipalities unless defined under a separate agreement or otherwise agreed to by the parties. Salaries for election inspectors above the allowed State \$15 per hour will be the responsibility of the respective municipalities to compensate.

At a meeting of the Mason County Clerks' Association, the members agreed to uniformly compensate the Early Vote site election inspectors at a rate of \$20.00 per hour.

I am requesting approval of the following compensation amounts for Election Inspectors.

| Elected Officials, Appointed Officials and Employees | Year 2024                      |         |
|--|--------------------------------|---------|
| Election Inspectors                                  | <i>Appointed/<br/>Per Hour</i> | \$20.00 |
| Election Chairperson                                 | <i>Appointed/<br/>Per Hour</i> | \$22.00 |