Kalamazoo Water System Capacity Study

Section C—Managerial Capacity

Project No. 201542
April 27, 2022

APPLIED ASSET MANAGEMENT

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Introduction

The City of Kalamazoo (City) Water System has the largest groundwater-based drinking water system in the state of Michigan. The system is very complex, consisting of 96 available supply wells, 16 well pump stations, 20 booster/bleeder stations, and 11 pressure districts. The City manages water quality and demands between the pressure districts using the supply wells, the pump stations (some of which provide treatment), and booster/bleeder stations. The water system has developed over several decades and has some assets that are aged. This warrants intense operational activity, life-cycle delivery, managerial oversight, technical competency, and capital investment. These demands may exacerbate the "gap" between the current capacity and what will be necessary to meet system and regulatory requirements.

On December 21, 2020, City Council approved the Administrative Consent Order (ACO), dated December 3, 2020, between the City and the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The ACO requires the City to submit a Capacity Study for EGLE approval by March 31, 2022. The City requested, and EGLE approved, an extension to submit the study no later than April 30, 2022. The City requested assistance from Fishbeck and Applied Asset Management to complete this Capacity Study.

An outline of the Capacity Study report was submitted to EGLE and approved. Based on this outline, the report is divided into four main sections: Technical Capacity, Financial Capacity, Managerial Capacity, and Gap Analysis and Implementation Plan.

For the Technical Capacity section, existing studies and other documents related to the technical capacity of the water system were reviewed for gaps and deficiencies. The reviewed documents are available upon request.

The Financial Capacity section consists of documentation that demonstrates the City's financial capacity. It includes relevant documents such as the annual budget plan for 5 years, Capital Improvements Plan, water rates and fee structure, and Water Resources Division performance-based budgeting programs.

The Managerial Capacity section contains information identifying the organizational structure and required funding to operate and manage the water system in compliance with Safe Drinking Water Act (PA399) permit requirements. In addition to reviewing existing documentation, interviews were conducted with various City staff and the City's water rate consultant to evaluate gaps and deficiencies.

The Gap Analysis and Implementation Plan section includes the deficiencies identified from a review of the first three sections.

Managerial Capacity

Section C

THE CITY OF Kalamazoo

APPLIED ASSET MANAGEMENT

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Contract or Purchase Agreement

Section C1

Commission Agenda Report

City of Kalamazoo

TO: Mayor Anderson, Vice Mayor Griffin, and City Commissioners

FROM: Clyde J. Robinson, City Attorney

SUBJECT: Approval of Area-Wide Water Services Agreement

DATE: March 4, 2021

RECOMMENDATION

It is recommended that the City Commission approve the proposed 40-year Water Services Agreement with local townships and a village which equalizes rates between in-city and out-city water customers and establishes a formal, collaborative platform for issues pertaining to the regional water system..

BACKGROUND

The City of Kalamazoo provides water service to several surrounding municipalities under agreements entered into years ago and which either had expired or were about to expire. In 2014 the municipalities served by the City brought suit against the City asserting that it had overcharged out-city residents for water and wastewater services. The parties agreed that rather than litigate the matter, an attempt should be made to resolve differences through new service agreements. Negotiations commenced on water services and the lawsuit was voluntarily dismissed subject to a tolling agreement that preserved the claims of the municipalities.

The negotiations began in a context of mistrust by both sides and process was haltingly made and sometimes stymied. However, both sides recognized that each was best served by reaching agreement rather engaging in litigation or severing the relationship to provide/receive water service. The key points in reaching resolution were 1) equalization of rates between in-city and out-city users of water and 2) creation of a Utility Policy Committee composed of four township representatives (and 3 alternates) appointed by the served municipalities and 3 City representatives (and 2 alternates) appointed by the City Commission to receive information on the operation, expansion and costs and make recommendations to City staff and the City Commission on policies and water rates. Regarding later, the proposed Agreement sets forth a detailed method to be employed to ascertain water rates going forward.

The City of Kalamazoo water system is the largest ground-water supply system in the State and has been likened to a plate of spaghetti, which provides the ability to serve a regional

population by moving water from one area to another despite changes in elevation throughout the system. The proposed Agreement is a recognition of this fact and treats the system on a regional basis with the input of those municipalities served by the City.

FISCAL IMPACT

Equalization of rates will require an incremental increase of in-city rates and a corresponding incremental decrease in out-city rates. However, the City in anticipation of rate equalization has over the past three years been moving in this direction to avoid an abrupt re-alignment in water rates. Full equalization of rates will occur in the proposed 2022 water rates and will not adjust the recently approved 2021 rates. Further note should be taken that wastewater rates will still be differentiated between in-city and out-city users.

COMMUNITY ENGAGEMENT

This Agreement was reached by negotiation with representatives of the municipalities served by the City and a City team composed of the City Attorney assisted by outside counsel with water/sewer utility expertise, the City's water/wastewater rate consultant, Deputy City Manager Chamberlain, Public Services Director Baker, and Management Services/CFO Vicenzi and their staffs.

STRATEGIC VISION ALIGNMENT

Resolution of this matter addresses several Strategic Goals of the City. Chiefly it furthers the City's commitment to Good Governance through urban cooperation (and which also makes the area attractive for economic development) and ensuring a Safe Community/Environmental Responsibility through protection of the public health through dependable safe drinking water for the region.

ATTACHMENTS

Proposed Agreement and copies of Resolutions from the other signatory municipalities.

WATER SERVICE AGREEMENT

This Water Service Agreement, ("Agreement"), executed this _____ day of _____, 2020, is made by and between the City of Kalamazoo, a Michigan Municipal Corporation ("City") and the Charter Township of Comstock, Charter Township of Cooper, Charter Township of Kalamazoo, Charter Township of Oshtemo, Township of Pavilion, Township of Richland, Village of Richland, and Charter Township of Texas, each a Michigan Municipal Township or Charter Township, collectively ("Townships") and individually ("Township").

RECITALS

A. The City operates a Public Water Supply System.

B. The City is authorized to sell treated/potable water outside of its territorial limits and the Townships are authorized to contract for the purchase/sale of treated potable water pursuant to MCL 123.141.

C. The City previously entered into long-term Water Service Agreements with each Township.

D. The City and the Townships desire to enter into this Water Service Agreement which shall replace and supersede the previous Water Service Agreements entered into by the City and each Township.

E. The City and the Townships recognize that the supply of treated/potable water is vital to public health, safety and welfare.

F. The City and the Townships desire to establish a representative Utility Policy Committee (UPC) with direct input regarding water financial and rate making activities, and the operations, maintenance, repair, and replacement of the Public Water Supply System.

G. The City and the Townships desire to establish Equivalent Water Rates by Customer Classification, without regard to location (in the City or in the Townships).

Accordingly, the Parties agree as follows:

Article 1 – Definitions

1. ***City***: The City of Kalamazoo.

2. ***City Commission***: The legislative body established by Kalamazoo City Charter to exercise all authorized powers related to governance of the City.

3. ***City Customers***: Each Customer located within the geographic boundary of the City, the City of Portage, and the City of Parchment.

4. ***City Distribution Facilities***: Water Distribution Mains, infrastructure and appurtenances designed and used primarily for the purpose of distributing treated/potable water to the City Customers.

5. ***Customer Class***: Each category of customer defined as Residential, Commercial, Industrial, and Other receiving water or water services from the Public Water Supply System as part of this Agreement.

6. ***Customer***: A person or entity receiving water or water services from the Public Water Supply System as part of this Agreement.

7. ***Direct Contribution***: A contribution of Production, Distribution and/or Transmission Facilities, goods, materials and/or services, or combination thereof, required of Developer(s) or Customer(s) connecting to the Public Water Supply System, designed to reduce the system-wide costs of expanding Production, Distribution and/or Transmission Facilities beyond the Existing Service Area.

8. ***Existing Service Area***: The geographic area receiving and scheduled to receive as of December 31, 2019 treated/potable water from the Utility Plant In-Service, as defined in **Appendix A**.

9. ***Historical Investment***: The purchase price of the Capital Asset.

10. ***Net Book Value***: An asset's Purchase Price less Accumulated Depreciation.

11. ***New Customers***: Any Customer added after the execution of this Agreement except City Customers and Township Customers and Customers located within the geographic boundaries of the City and/or the Townships.

12. ***Production Facilities***: Water Wells, Pumps, and Treatment Facilities used primarily for the purpose of obtaining and producing treated/potable water for the Customers.

13. ***Public Water Supply System***: The assets, liabilities, revenues and expenses necessary to provide treated/potable water to the City Customers and Township Customers.

14. ***Public Water Supply System Capital Assets***: Property and property rights of the Public Water Supply System as identified in the Schedule of Public Water System Current Capital Assets, (**Appendix B**.).

15. ***Rate Year***: An annual period for which rates are being set.

16. ***Related Water Services***: Services related to the production, transmission and distribution of water provided to or for the Customers of the Public Water Supply System (**Appendix C**).

17. ***Retail Service Assets in the City***: The Utility Plant In-Service Used and Useful only to City Customers as further described in the Schedule of Public Water System Current Capital Assets. (**Appendix B**).

18. ***Retail Service Assets in the Townships***: The Utility Plant In-Service Used and Useful only to the Township Customers as further described in the Schedule of Public Water Supply System Current Capital Assets. (**Appendix B**).

19. ***System Connection Fee***: A fee assessed to Developer(s) or Customer(s) connecting to the Public Water Supply System designed to defray the system wide costs of expanding Production, Distribution and/or Transmission Facilities beyond the Existing Service Area.

20. ***Township Customers***: Each customer located within the geographic boundary of the Township(s).

21. ***Townships***: Charter Township of Comstock, Charter Township of Cooper, Charter Township of Kalamazoo, Charter Township of Oshtemo, Township of Pavilion, Township of Richland, Village of Richland, and Charter Township of Texas.

22. ***Township Distribution Facilities***: Water Distribution Mains, infrastructure and appurtenances designed and used primarily for the purpose of distributing treated/potable water to the Township Customers.

23. ***Transmission Facilities***: Water Transmission Mains, Booster Pumps, infrastructure and appurtenances, designed and used primarily for the purpose of transporting treated/potable water to Customers of the Public Water Supply System, including "City Transmission Facilities" constructed at the expense of the City and "Township Transmission Facilities", constructed at the expense of the Townships and identified in **Appendix B**.

24. ***Utility Plant In-Service***: The land, facilities and equipment currently used to generate, transmit, and/or distribute water and/or water service(s) to the Customers of the Public Water System as identified in the Schedule of Public Water Supply System Current Capital Assets, (**Appendix B**).

25. ***Used and Useful***: A test to determine those Assets of the Utility Plant In-Service applicable to the Rate Base. The Utility Plant In-Service which is "in use" (not under construction or standing idle) and "useful" (actively engaged in providing service to Customers).

26. ***Wholesale Service Assets***: The Utility Plant In-Service, Used and Useful to both City Customers and Township Customers as further described in the Schedule of Public Water Supply System Current Capital Assets. (**Appendix B**).

Article 2 – Public Water Supply

2.1 - Exclusive Right to Provide Public Water

The Townships grant the City the exclusive right to provide treated/potable water to the Township Customers. Except in the case of breach or violation, inability to perform or termination of this Agreement, no Township shall contract nor grant authority to any other person or entity to supply treated/potable water within the geographic boundaries of the Townships. This exclusivity provision shall not apply to those sections of Pavilion Township provided water by the City of Portage or those sections of Comstock Township provided water by City of Galesburg. Further, upon request from Richland Township, the UPC will decide whether those sections of Richland Township not provided treated/potable water by the City, may be provided treated /potable water by the Gull Lake Sewer and Water Authority. The UPC will make this decision based upon practical considerations which may include, but are not limited to, the cost of infrastructure, cost of providing water services and the overall impact on Water Rates. Further, nothing herein precludes the wholesale/bulk sale of water from the City to the Gull Lake Sewer and Water Authority.

2.2 – Duty to Provide Public Water

The City shall deliver treated/potable water consistent with applicable federal and Michigan standards/regulations to all Customers at substantially similar pressure and quality. The City shall not be liable in damages for any temporary interruption or disruption of service, water quality or pressure. The City and Townships agree that the provision of Water Services under this Agreement is a governmental function and nothing in this Agreement shall be construed as a waiver of any defense at law or equity, common law or statute, including, but not limited to the defense of governmental immunity.

Article 3 – Utility Policy Committee

3.1 – Creation of the Utility Policy Committee

The Parties to this Agreement establish a Utility Policy Committee (UPC) which consists of seven members who shall exercise the authority granted herein. All members and alternate members of the UPC have a duty to act in the best interest of the Public Water Supply System.

3.2 – Appointment

The City shall appoint three members and two alternate members to the Utility Policy Committee. The Townships shall appoint four members and three alternate members to the Utility Policy Committee. The members appointed by the City serve at the pleasure of the City Commission and may only be removed by the City. The members appointed by the Townships serve at the pleasure of the Townships and may only be removed by the Townships. Alternate members may deliberate and vote only in the absence of a member. The City and the Townships shall each appoint at least one individual with background in engineering, utilities management, public works, finance,

accounting, rate making, planning, law or a related field. The City and the Townships shall notify each other of their respective appointments and each subsequent appointment/replacement. The Utility Policy Committee shall meet, organize, and operate in accordance with rules, procedures and bylaws established by vote of the Utility Policy Committee which shall not conflict with the provisions of this Agreement.

3.3 – Voting Rights

Each appointed member, or in their absence a duly appointed alternate, of the Utility Policy Committee shall be assigned one (1) vote. Committee action, approval, and/or recommendations shall require the presence of a quorum consisting of four or more of the appointed Utility Policy Committee members or their alternate and a majority vote (at least 51%) of the Utility Policy Committee members present.

3.4 - Meetings

The Utility Policy Committee shall meet no less than four times per year (once in each quarter). The Committee Chair (who shall be elected by majority vote of the Committee members) may call a special or additional meeting of the Utility Policy Committee. All meetings of the Utility Policy Committee shall be open to the public and conducted in a place available to the general public in the City of Kalamazoo or any Township, which is a party to this Agreement. The regularly scheduled meetings of the Utility Policy Committee shall be posted by the Utility Policy Committee for each calendar year stating the dates, times, and places of each regular meeting for the calendar year. Rescheduled regular meetings and/or special meetings shall be noticed and posted at least eighteen hours before the meeting in a prominent and conspicuous place at the principal office of the City and each Township which is party to this Agreement and by electronic posting on City and Township websites in compliance with the Michigan Open Meetings Act, MCL 15.261 *et seq.*

3.5 – Utility Policy Committee Costs

All costs incurred by the Utility Policy Committee shall be paid by and deemed an operating expense of the Public Water Supply System and allocated to each Customer Class as described in Article 8. Except as otherwise provided in this Agreement, services for the performance of Utility Policy Committee functions, including contracts with consultants retained by the Utility Policy Committee shall be executed and entered by the City and treated as an operating expense of the Public Water Supply System.

3.6 – Utility Policy Committee Function

A. Utility Policy Committee – Regular Meetings with City Officials

The Rate Consultant (unless the City and Utility Policy Committee agree that a Rate Consultant will not be used in a particular Rate Year or the Utility Policy Committee determines that the Rate Consultant shall not appear at any particular meeting), City Manager (or his/her designee), City Management Services Director, City Public Services Director, and other pertinent City Department

Heads and/or other City consultants shall meet, not less than four times per year with the Utility Policy Committee to review, discuss, and confer regarding matters affecting the Public Water Supply System, the Capital Improvement Plan, Operations, Maintenance, Repair and Replacement of Infrastructure, Water Services, Financial Policy, Water Rates, the Components set forth at Section 8.4 and Appendix E, and the following Factors:

1. The Utility Financial Policy
2. The Capital Improvement Plan
3. All Levels of Reserves – Capital Reserves, Capital Replacement Reserves, Operating Reserves and Emergency Reserves
4. Reserve Fund Deposits and Withdrawals
5. The Transfer of Revenues to Specific Sub-Funds to cash finance Capital Improvements
6. The Levels of Debt and Debt Financing of Capital Improvements
7. Cost of Operation, Maintenance, Repair and Replacement Costs, Administrative and Indirect Costs, OPEB and Pension Costs, Depreciation and PILOT
8. The Cost of Service Study and frequency of the Cost of Service Study
9. Water Rate Adjustments and the frequency of Water Rate adjustments

The Rate Consultant (unless the City and UPC agree that a Rate Consultant will not be used in a particular Rate Year), City Manager (or his/her designee), and City Department Heads upon request of the Utility Policy Committee shall provide the Utility Policy Committee with all books, records, plans, documents and supporting data regarding Water Rates and the Components set forth at Section 8.4 and Appendix E, and the Factors set forth in this Section, consistent with Article 10.

B. Utility Policy Committee – Retaining Consultants

Each Rate Year the Utility Policy Committee may, in its discretion, select one or more consultants to review and analyze the Water Rate Making process, the Components set forth at Section 8.4 and Appendix E, and the Factors set forth in Section 3.6A, and provide advice and recommendations to the Utility Policy Committee. The consultant(s) shall report his/her findings and recommendations to the Utility Policy Committee and the City and provide the Utility Policy Committee and the City access to all supporting records and data.

The City will contract with the consultant(s) selected by the Utility Policy Committee to perform the tasks/services directed by the Utility Policy Committee. The consultant(s) fees and costs, which do not exceed $75,000.00 per Rate Year, adjusted annually by the rate of inflation identified in the June Municipal Cost Index as published by *American City & County*, shall be an Operating Expense of the Public Water Supply System and allocated to each Customer Class as described in Article 8. Any portion of the consultant(s) fees and costs which exceed $75,000.00 per annum, adjusted annually for inflation, shall be the sole responsibility of the Townships.

The Utility Policy Committee shall select its consultants from a list of pre-qualified contractors maintained by the City's Purchasing Department. Consultants who meet the City's written purchasing standards and guidelines shall be added to the list of pre-qualified contractors.

The consultant(s) shall provide the Utility Policy Committee and the City with a scope of services, applicable fees and costs, prior to contracting with the City.

The consultant(s) shall conduct his/her work in a timely manner to conform with the City's Annual Budget Approval Process and the Rate Making Process for the Rate Year. In no event shall the consultants' work delay the City's Annual Budget or Rate Making Process.

C. Utility Policy Committee – Process Regarding Water Rate Approval

Unless the City and the Utility Policy Committee agree on the proposed Water Rate Schedules for the Rate Year, the Rate Consultant and the Utility Policy Committee, shall meet with the City Manager (or his/her designee), City Management Services Director, City Public Services Director, and other pertinent City department heads at one or more UPC meetings to review and discuss proposed Water Rates and the Factors and Components set forth at Sections 3.6A, 8.4 and Appendix E. Prior to the City Commission taking action to establish the Water Rate Schedules for the Rate Year, the Rate Consultant (unless the City and the UPC agree that a Rate Consultant shall not be used in a particular Rate Year) and the Utility Policy Committee shall appear before the City Commission to present recommendations to the City Commission regarding the Water Rate Schedules and the Factors and Components set forth at Sections 3.6A, 8.4 and Appendix E. The City Manager (or his/her designee) shall forward the Rate Consultant's and Utility Policy Committee's recommendations to the City Commission and any recommendation from the City Administration, with supporting rationale.

Unless the City and the Utility Policy Committee have agreed to Water Rate Schedules in advance of the Rate Year, the Kalamazoo City Commission shall adopt and implement the Rate Consultant's recommended Water Rate Schedules or reject the proposed Water Rate Schedules and direct the Rate Consultant to prepare revised Water Rate Schedules for City Commission consideration after consultation with and input from the Utility Policy Committee.

If the Utility Policy Committee disagrees with the Kalamazoo City Commission's decision regarding the Water Rate Schedules, the Utility Policy Committee may invoke the dispute resolution process set forth Article 20.

D. Utility Policy Committee – Authority

The Utility Policy Committee shall have authority to perform each of the following functions by a majority vote of its Members:

1. Select the Rate Consultant for contract with the City and extend the Rate Consultant's contract in two (2) year increments consistent with Section 7.2.

2. Review and analyze the Rate Consultant's work product, and all data used to formulate the recommended Water Rates.

3. Review and analyze the data, documents, records, plans and materials, regarding the Factors set forth in Section 3.6A and Components set forth in Section 8.4 and Appendix E.

4. Review and analyze the annual reports provided by the City regarding Operation, Maintenance and Repair Costs, Administrative and Indirect Costs, OPEB and Pension Costs, Depreciation Costs, PILOT and the Utility Basis and Cash Basis Revenue Requirements.

5. Meet and consult with the Rate Consultant regarding every aspect of the formulation of recommended Water Rates.

6. Select one or more consultants consistent with Section 3.6B.

7. Conduct a periodic review of Water Services and the Cost of Services and approve the selection of an outside independent consultant, consistent with Section 3.6F.

8. Conduct a periodic review of Billing and Collection Services and the Cost of Billing Services, consistent with Section 3.6F.

9. Establish and determine whether an assessment or surcharge on Water Rates, a System Connection Fee or Direct Contribution is appropriate, consistent with Sections 5.1 and 6.1.

10. Provide approval and consent to proposed revisions to the List of Related Water Services, consistent with Section 4.3.

11. Establish the frequency of the Cost of Service Study and the frequency of Water Rate Adjustments consistent with Section 8.3.

12. Recommend for City Commission and UPC's approval, revisions to or simplifications to the formulation of Water Rates to conform to the intent of this Agreement.

13. Perform all other functions and acts specifically described in this Agreement and necessary thereto.

E. Utility Policy Committee – Input

Prior to taking action affecting any of the following, the City shall consult with and obtain input from the Utility Policy Committee, and the position of the Utility Policy Committee regarding the proposed action shall be communicated to the City Commission:

1. The long-term policies, plans, and goals for the Public Water System.

2. The early retirement of debt for the Public Water Supply System.

3. All Billing and Collection methods employed for the Public Water Supply System.

4. All requests to expand the Public Water Supply System, Production, Transmission and/or Distribution Facilities beyond the geographic boundaries of the City and the Townships.

5. The Michigan Department of Environment, Great Lakes, and Energy required Asset Management Plan, the City's Reliability Study and Capital Improvement Plan.

6. The amendment of the existing Wellhead Protection Program and Ordinance.

F. Utility Policy Committee – Periodic Review of Services and Costs of Services

The Utility Policy Committee may review the services and costs of services provided by the City, including, but not limited to those, described in (1) through (5) below.

1. Operation, Maintenance, Repair and Replacement of the City's and Townships' Distribution Facilities as described in Article 4, § 4.2;
2. Related Water Services as described in Article 4, § 4.3;
3. Water Meter Installation and Replacement as described in Article 4, § 4.4.
4. Water Main and Hydrant Repair and Replacement as described in Article 4, § 4.5.
5. Water Billing and Collection Services as described in Article 9, § 9.1.

Not more frequently than every fourth Rate Year the City, at the request of the Utility Policy Committee, will retain an independent outside consultant, approved by the Utility Policy Committee, to conduct a Benchmark Study regarding the services and costs of service provided by the City, including, but not limited to those described in (a) through (e) above. The study shall compare the cost, quality and efficiency of the services provided by the City to the cost, quality and efficiency of the services provided by other Michigan peer municipalities who own and/or operate a Public Water Supply System serving a population of 50,000 or more. The study shall also examine whether services are equitable, adequately, and properly provided to all Customers of the Water Supply System. If the study demonstrates that services are not equitably, adequately, or properly provided, or that the cost of providing services is not reasonable or reasonably related to the services provided, or that the quality or efficiency of providing the services may be substantially improved, the UPC, in its discretion, may petition the City to remedy the inequity, or inadequacy, to improve the services, to equitably or adequately provide the services, or to reduce the cost of service. If the City disagrees or refuses the UPC's request or fails to remedy the inequity, inadequacy, or efficiency improvement, then the UPC, in its discretion, may determine whether the matter should be submitted to mediation, and, after mediation, then to binding arbitration consistent with the terms of Article 20.

If a matter is submitted to binding arbitration, the arbitrator shall consider, among other factors, the following:

1. The adequacy of the services provided;

2. The adequacy and cost of comparable services provided by a Michigan peer municipality who owns or operates a Public Water Supply System serving a population of 50,000 or more;
3. Whether the services are provided equitably in the City and in the Township(s) in accordance with standard operating procedures;
4. The cost of providing these services;
5. The adequacy and cost of providing comparable services through an outside provider actually providing services to/for a Michigan peer municipality who owns or operates a Public Water Supply System serving a population of 50,000 or more;
6. The City's ability to control or regulate services and the cost and quality of services.

Article 4 – Water Services

4.1 – Operation, Maintenance, Repair and Replacement – Public Water Supply System

(a) With input provided by the Utility Policy Committee, the City shall operate, maintain, repair, and replace the Public Water Supply System Capital Assets.

(b) The actual cost incurred by the City to operate, maintain, repair, and replace the Public Water Supply System Capital Assets shall be allocated to each Customer Class as described in Article 8.

4.2 – Operation, Maintenance, Repair and Replacement – Distribution Facilities

(a) With input provided by the Utility Policy Committee, the City shall operate, maintain, repair and replace the Wholesale Service Assets and Retail Service Assets in the City and Townships. The City shall apply the same standards of operation, maintenance, repair, and replacement for the Wholesale Service Assets and Retail Service Assets in the Townships as applied to the Wholesale Service Assets and Retail Service Assets in the City.

(b) The actual costs incurred by the City to operate, maintain, repair and replace the Retail Service Assets in the City and Townships shall be allocated to each Customer Class as described in Article 8.

4.3 – Related Water Services

(a) With input provided by the Utility Policy Committee, the City shall provide all Related Water Services to all Customers, including those Related Water Services identified in **Appendix C,** which may be amended with the approval of the Utility Policy Committee. The City shall provide Related Water Services to all Customers at the same level, frequency, and quality of service.

(b) The Reimbursable Cost Schedule is set forth in **Appendix D**. The costs set forth in the Reimbursable Cost Schedule shall be recaptured from the Customers benefiting from the services provided and/or their contractors. The Reimbursable Cost Schedule shall

be identical (same type and amount) for all Customers within each Customer Class and may be amended by agreement between the City and the Utility Policy Committee.

(c) The actual costs incurred by the City providing Related Water Services shall be allocated to each Customer Class as described in Article 8.

4.4 – Water Meters

(a) With input provided by the Utility Policy Committee, the City will inspect install, repair and replace water meters for all Customers. Water meters will be inspected, maintained, tested, repaired and replaced in accordance with the guidelines established by the American Water Works Association or the then current industry standard unless required sooner. The City shall apply the same standards of installation, repair, and replacement of water meters to all Customers.

(b) The actual costs incurred by the City to install, repair and replace water meters shall be allocated to each Customer Class as described in Article 8.

4.5 – Water Mains and Hydrants

(a) With input provided by the Utility Policy Committee, the City shall relocate and/or replace water mains and fire hydrants at the request of each Township and/or the governmental entity having jurisdiction over the roadway or right-of-way in which the water mains and/or fire hydrant is located in accordance with applicable industry standards. The City shall apply the same standard for the maintenance, repair and replacement of water mains and fire hydrants in the Townships as applied in the City.

(b) The actual costs incurred by the City to relocate and/or replace fire hydrants shall be allocated to each Customer Class as described in Article 8.

Article 5 – Expansion Within the Geographic Boundaries of the City and the Townships

5.1 – Expansion of Distribution Facilities

(a) The City and the Township(s) may, in its/their discretion, expand the Distribution Facilities within or beyond the City/Township's Existing Service Area to any area designated as low-, medium-, or high-density, residential; commercial; or industrial land use (or similar comparable classifications should these classifications change) in a manner consistent with the City/Township's Master Plan, adopted or amended in conjunction with the Michigan Planning Enabling Act, MCL 125.3801 *et seq.* (as amended).

On or before December 31, 2023, each Township shall submit a Public Water Utility Master Plan to the Utility Policy Committee. Each Township shall review and update its plan every seven years thereafter and submit a copy to the UPC.

(b) The cost of expansion may be recaptured, in whole or in part, for the benefit of all Customers of the Public Water Supply System by one or any combination of any of the following methods:

1. A Direct Contribution of Infrastructure or the assessment of infrastructure costs to or from the developer/proponent of the expansion or the Customer(s) who are provided water or improved water services as a result of the expansion.
2. A System Connection Fee assessed to the developer/proponent of the expansion or Customer(s) provided water or improved water services as a result of the expansion.
3. An assessment or surcharge on Water Rates charged to the Customer(s) provided water or improved water services as a result of the expansion.

(c) The Utility Policy Committee will determine whether a Direct Contribution of Infrastructure, assessment of costs for infrastructure, System Connection Fee, or assessment or surcharge on Water Rates (or some combination thereof) shall be assessed, who shall be assessed and the amount/cost to be assessed to cover or recapture the cost of expansion. The Direct Contribution of Infrastructure or assessment of costs for infrastructure, the System Connection Fee, and the assessment or surcharge on Water Rates shall be reasonable, based on established industry standards, and designed solely to recapture the cost of expanding the Distribution, Production and/or Transmission Facilities which the Utility Policy Committee, determines shall not be allocated to the Rate Base. The remaining costs of expansion (which are not recaptured by Direct Contribution of Infrastructure or assessment of costs for infrastructure, a System Connection Fee, and/or an assessment or surcharge on Water Rates) shall be added to the Rate Base, allocated to the Customer Classes as described in Article 8 and accounted for in the City's Reliability Study and Capital Improvement Plan.

(d) The City and/or Township(s) in which the expansion is occurring, shall prepare all drawings, plans and specifications for the proposed expansion. The plans shall be prepared by a registered professional engineer. The plans shall be submitted to the City Engineers and the Michigan Department of Environment, Great Lakes and Energy (EGLE)(or its successor regulating agency) for review/inspection and for compliance with the specifications for water main and service installations as required by EGLE (or its successor regulating agency), the "Ten States Standards" and written City Standard Specifications. The City or Township(s) in which the expansion is occurring shall provide as-built drawings to the City Engineers and the City shall make available electronic as-built drawings for all existing Water Mains, Infrastructure, and Appurtenance.

5.2 – Expansion of Production and/or Transmission Facilities

(a) The City, as required by sound engineering practice, will expand its Production and/or Transmission Facilities to provide new service, increased capacity, and/or to improved reliability/redundancy of water services and will construct production, storage, transmission, booster, and bleeder facilities to accommodate expansion of the City/Township(s)' Distribution Facilities. The cost of expanding the Production and/or

Transmission System to accommodate expansion may be recaptured for the benefit of all Customers of the Public Water Supply System, in whole or in part, by a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, System Connection Fee, and/or an assessment or surcharge on Water Rates, or any combination thereof, if the Utility Policy Committee, determines that a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates is appropriate. Otherwise, the cost of expanding the Production and/or Transmission System to accommodate expansion (which is not recaptured through a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates) shall be added to the Rate Base, allocated to the Customer Classes as described in Article 8 and accounted for in the City's Reliability Study and Capital Improvement Plan.

(b) The City, as required by sound engineering practice, will increase the size/capacity of the other Township(s)' Distribution Facilities to provide transmission services to accommodate expansion of the City/Township(s)' Distribution Facilities or to provide new service, increased capacity, and/or to improve reliability/redundancy of the water services to New Customers created from the expansion. The cost of expanding the City/Township(s)' distribution facilities to provide transmission services for expansion, may be recaptured in whole or in part for the benefit of all Customers of the Public Water Supply System through a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates, or any combination thereof, if the Utility Policy Committee determines that a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates is appropriate. Otherwise, the cost of expanding the City/Township(s)' Distribution Facilities to provide transmission services for expansion (which is not recaptured through a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates) shall be added to the Rate Base, allocated to the Customer Classes as described in Article 8 and accounted for in the City's Reliability Study and Capital Improvement Plan.

Article 6 – Expansion Outside the Geographic Boundaries of the City/Township(s)

6.1 – Expansion of Distribution, Production, and/or Transmission Facilities

(a) The City, with input and comment from the Utility Policy Committee, may expand the Distribution, Production and/or Transmission Facilities to provide water and water services to New Customers located outside the geographic boundaries of the City and Townships. The cost of acquiring or assuming liability of the New Customers Infrastructure, as well as the cost of expanding Distribution, Production and/or Transmission Facilities to provide water and/or water services to these New Customers, may be recaptured, in whole or in part, for the benefit of all Customers of the Public

Water Supply System by one or any combination of and/or all of the methods set forth in Section 5.1(b).

(b) The Utility Policy Committee, will determine whether the costs of acquiring or assuming liability of the New Customers Infrastructure and/or expansion of the Distribution, Production and/or Transmission Facilities of the existing system will require a Direct Contribution of Infrastructure, assessment of costs for infrastructure, System Connection Fee, or assessment or surcharge on Water Rates, or some combination thereof, to be assessed, including who shall be assessed and the amount/cost to be assessed. The Direct Contribution of Infrastructure or assessment of costs for infrastructure, the System Connection Fee, and the assessment or surcharge on Water Rates shall be reasonable, based on established industry standards, and designed solely to recapture the cost of acquiring or assuming liability of the New Customers Infrastructure and expanding the Distribution, Production and/or Transmission Facilities which the Utility Policy Committee, determines shall not be allocated to the Rate Base. The remaining costs of expansion (which are not recaptured by Direct Contribution of Infrastructure or assessment of costs for infrastructure, a System Connection Fee, and/or an assessment or surcharge on Water Rates) shall be added to the Rate Base, allocated to the Customer Classes as described in Article 8 and accounted for in the City's Reliability Study and Capital Improvement Plan.

(c) The City, shall prepare all drawing, plans and specifications for the proposed expansion. The plans shall be prepared by a registered professional engineer. The plans shall be submitted to the City Engineers and the Michigan Department of Environment, Great Lakes and Energy (EGLE)(or its successor regulating agency) for review/inspection and for compliance with the specifications for water main and service installations as required by EGLE (or its successor regulating agency), the "Ten States Standards" and written City Standard Specifications. The City shall provide as-built drawings to the City Engineers and the City shall make available electronic as-built drawings for all existing Water Mains, Infrastructure, and Appurtenance.

6.2 Water Rates for New Customers

New Customers located outside the geographic boundary of the City and/or Township(s) who are provided water and/or water services through expansion, shall be assessed and pay Equivalent Water Rates to those assessed and paid by the then-current Customers of the Public Water Supply System plus any additional Direct Contribution of Infrastructure or assessment of costs for infrastructure, System Connection Fee, and/or an assessment or surcharge on Water Rates as established by the Utility Policy Committee.

Article 7 – Water Rate Consultant

7.1 - Rate Consultant

Except as agreed by the City and the Utility Policy Committee, Water Rates under this Agreement shall be calculated by a Rate Consultant. The Water Rate shall be derived from the "Actual Cost of Service" using the "Utility Basis of Rate Making" as described in Article 8.

7.2 - Selection of Rate Consultant

A. Selection Committee

The retention of a Rate Consultant by the City for purposes of this Agreement will be filled by an advertisement, interview, and selection process. The position shall be advertised nationally in sources applicable to the profession. The advertisement shall identify the minimum qualifications for the position and the proposed/anticipated scope of service. Candidates shall be vetted and interviewed by a "selection committee" made up of three City-appointed members of the Utility Policy Committee or their alternates and four Township-appointed members of the Utility Policy Committee or their alternates. Each member of the selection committee shall rate each candidate using a scale approved by the selection committee based on the candidate's knowledge of the ratemaking process, knowledge of the Utility Basis of Ratemaking, experience in water ratemaking, knowledge and experience in the scope of services to be provided and the candidate's anticipated cost of providing services and/or hourly rate and other factors established by agreement of the Selection Committee. The City will contract with the candidate rated highest (in total) by the selection committee in accordance with City purchasing policies and terms for professional service contracts.

B. Contract Term and Renewal

The contract with the Rate Consultant will be for a term of two (2) years with the option of extending the contract for additional two (2) year terms. The Utility Policy Committee shall determine whether the Rate Consultant's contract shall be extended for additional two (2) year terms. The contract term shall expire in April. The Utility Policy Committee shall make the determination whether to extend the Rate Consultant's contract within sixty (60) days after the end of the previous two (2) year term. At the termination of the contract, including any extension, the advertisement, interview and selection process set forth in this Article shall be repeated. Nothing in this Article shall be construed to prohibit the City from terminating the contract with the Rate Consultant for a material breach of the terms of the contract prior to the end of its 2-year term or any extension of its term.

7.3 – Rate Consultant's Fees

The Rate Consultant's costs and fees shall be treated as an Operating Expense of the Public Water Supply System and allocated to each Customer Class as described in Article 8.

7.4 – Rate Consultant's Record Maintenance

The Rate Consultant shall maintain complete and accurate records regarding the formulation of Water Rate Schedules, all records and data provided by the City to the Rate Consultant and all records and data which support the Rate Consultants recommendations to the Kalamazoo City

Commission. The Rate Consultant shall provide these records and data to the Utility Policy Committee upon request.

Article 8 – Water Rates

8.1 – General Principle

Water Rates for each Customer Class shall be established based on the "Actual Cost of Service", applying the 'Utility Basis of Rate Making", adjusted to achieve "Rate Equivalence" as defined by the "Rate Making Process" set forth in this Article and Appendix E, and the "Process Regarding Water Rate Approval" set forth in Section 3.6 C.

8.2 – Equivalent Water Rates

A. Rate Equalization

Effective Rate Year 2022, and each Rate Year thereafter, City Customers and Township Customers within each Customer Class shall be assessed the same Water Rates. Water Rates may vary between Customer Classes based on the cost of service for each Customer Class. However, the Customers within each Customer Class shall be assessed the same Water Rates.

B. Phased Equivalence

Water Rates charged to City Customers and to Township Customers in 2021 shall be incrementally adjusted to achieve rate equivalence for Rate Year 2022, pursuant to the methodology established in the 2021 Water Rate Report (Table 19), **Appendix F**.

8.3 – Rate Making Process

A. Cost of Service Study

For each Rate Year beginning January 1, 2022, unless otherwise agreed by the City and the Utility Policy Committee, the Rate Consultant shall conduct a Cost of Service Study identifying the Annual Revenue Requirements of the Public Water Supply System and the cost of service for each Customer Class for the upcoming Rate Year.

The Cost of Service Study shall allocate the Annual Revenue Requirements to each Customer Class in a manner that, as closely as practical, reflects each Customer Classes' proportional use of the Public Water Supply System. The allocation methodology will follow industry standards for proportional use, including using average water sales, peak (maximum day and hour) water demand, and the number and size of connections to the Public Water Supply System. The allocation methodology will differentiate between Customer Classes not between City Customers and Township Customers within Customer Classes.

For purposes of allocating the Annual Revenue Requirements, the Cost of Service Study will express those revenue requirements on the Utility Basis, as set forth in **Appendix E.**

8.4 – Annual Revenue Requirements - Defined

The Annual Revenue Requirements for the Public Water Supply System recaptured through Water Rates shall be the aggregate sum of each of the following Components, each of which is described herein:

- Direct Operation, Maintenance and Repair Costs;
- Administrative and Indirect Operating Costs;
- Debt Service Principal and Interest Requirements;
- Payment In Lieu Of Taxes ("PILOT");
- Revenue Financed Capital;
- Reserve Fund Deposits and Withdrawals;
- **Reduced** By: the sum of the Other Water System Revenues

A. Direct Operation, Maintenance and Repair Costs

The direct/actual costs of personnel, materials, utilities, and contractual services for the annual Operation, Maintenance, and Repair of the Public Water Supply System Capital Assets. Operation, Maintenance, and Repair Costs shall not include any other revenue requirement; Administrative and Indirect Costs, Debt Service Principal and Interest, Depreciation, PILOT, Revenue Financed Capital or Reserve Fund Deposits or Withdrawals.

B. Administrative and Indirect Operating Costs

1. Administrative and Indirect Cost Allocations

Every year, a qualified independent Cost Allocation Consultant shall conduct an Indirect Cost Allocation Study specific to the City of Kalamazoo and the Public Water Supply System to determine the appropriate annual Administrative Costs and the Indirect Costs to be allocated to and from the Public Water Supply System. The Study shall be conducted in compliance with the Standards required for Federal Grant Agreements designed to replicate actual costs incurred. The Administrative and Indirect Cost allocation to the Public Water Supply System may also include an appropriate allocation from the City Commission as determined by the Cost Allocation Study, which the City and Township Customers recognize as a cost pool that would not typically be allocable under the Standards for Federal Grant Agreements. Upon agreement between the City and Utility Policy Committee, aggregate departmental cost increases arising out of reorganization or unanticipated expenditures may be allocated in advance of the Cost Allocation Plan.

2. Other Post-Employment Benefits ("OPEB") and Pension Costs

The annual cash payment made by the City to fund pensions and OPEB shall be allocated to the Public Water Supply System based on the percentage of the present value of future benefits for eligible pension system participants who are employed in or retired from the City's Water Department.

C. Debt Service Principal and Interest Requirement

The Debt Service/Principal and Interest shall consist of the Annual Principal and Interest Payments required on bonds issued to finance Capital Improvements to the Public Water Supply System – consistent with the City's bond ordinances. The City's bond ordinances shall be adopted by the Kalamazoo City Commission consistent with the Utility Financial Policy and the bond coverage requirements. The Debt Service/Principal and Interest requirements may be amended by agreement between the City and the Utility Policy Committee or by the Kalamazoo City Commission upon recommendation from the Rate Consultant and the Utility Policy Committee using the "Process Regarding Water Rate Approval" set forth in 3.6 C.

D. Payment In Lieu Of Taxes ("PILOT")

The City may, in its discretion, assess a Payment In Lieu of Taxes ("PILOT") to the Public Water Supply System. In no case shall the annual PILOT exceed $300,000.

E. Revenue Financed Capital

The Revenue Financed Capital shall consist of the Annual Revenues assigned to Cash Finance Capital Improvements for the Public Water Supply System. The Annual Revenues assigned to Cash Finance Capital Improvements will be established by agreement between the City and the Utility Policy Committee or by the Kalamazoo City Commission upon recommendation from the Rate Consultant and the Utility Policy Committee using the "Process Regarding Water Rate Approval" set forth in 3.6 C.

F. Reserve Fund Deposits and Withdrawals

The Reserve Fund Deposits and Withdrawals shall consist of the annual sum required to create and maintain Reserve Fund Levels consistent with Bond Covenants requirements and the City Utility Financial Policy. The Annual Reserve Fund Deposits and Withdrawals, and Reserve Fund Levels will be established by agreement between the City and the Utility Policy Committee or by the Kalamazoo City Commission upon recommendation from the Rate Consultant and the Utility Policy Committee using the "Process Regarding Water Rate Approval" set forth in 3.6 C.

G. Other Water System Revenues

The Annual Other Water System Revenues for the Public Water Supply System shall consist of the following:

1. The sale of water and water services to Customers who are not party to this Agreement.

2. System Connection Fees, Assessments and Surcharges on Water Rates and every other fee, charge penalty and assessment which is not a Direct Contribution of Infrastructure;

3. The sale, lease, rental, use or sale of Public Water Supply System assets, facilities, equipment, tools, and/or materials;

4. Non-paid use of Public Water Supply System assets;

5. Refunds, grants and contributions;

6. Investment Income.

8.5 – Annual Revenue Requirements – Tracking

A. Direct Operation, Maintenance, Repair Costs – Tracking

The City shall implement a Work Order and Cost Tracking System which shall track, record, and report the direct/actual costs of personnel, materials, utilities and contractual services expended annual for the Operation, Maintenance and Repair of the Public Water Supply System Capital Assets in the City and in the Townships. The City shall provide an annual report detailing the Actual Cost of Operations, Maintenance and Repair to the Utility Policy Committee.

B. Administrative and Indirect Costs Component – Tracking

The City shall track, document and report all costs allocated to and from the Public Water Supply System and delineate any change in the cost allocation methodology used to allocate the actual costs in an annual report to the Utility Policy Committee.

C. Other Revenue Requirements – Tracking

The City shall track, document and report all Annual Revenue Requirements including OPEB and pension costs, PILOT, Debt Service/Principal and Interest, Revenue Financed Capital, and Reserve Fund Deposits and Withdrawals and provide an annual report to the Utility Policy Committee detailing the actual costs of each component.

8.6 – Revenue – Tracking

A. Revenues from Rates and Charges to Customers – Tracking

The City shall track and record, to the extent practicable, projected and actual Sales of water and water services and all revenues derived therefrom for each Customer Class, and for City Customers and Township Customers and provide an annual report detailing Revenues and the source of Revenues from Rates and Charges to the Utility Policy Committee.

B. Other Water System Revenues – Tracking

The City shall track and record all Other Water System Revenues and provide an annual report detailing Other Water System Revenues to the Utility Policy Committee.

Article 9 - Billing and Collections

9.1 – Water Bills

(a) The City shall bill each Customer for water and water services directly. Bills shall be sent monthly or quarterly depending on classification and paid on or before the due date. Unpaid bills shall constitute a lien on the property to which water and water services have been provided pursuant to Section 2 of Public Act 178 of 1939, as amended, being MCL 123.161 *et seq*.

(b) Water bills shall be paid to the City. The City shall make every effort to collect delinquent and unpaid water bills using the same collection practices and collection efforts for unpaid water bills, both inside and outside of the City. The City shall provide each Township a list of delinquent accounts to be placed on the Township(s) tax roll. The Township(s) shall pay the City all delinquent funds which are subsequently collected. The City and/or Townships may discontinue service after failed collection efforts in accordance with the City's ordinance.

(c) The actual cost of Billing and Collection for water services shall be assessed and allocated to the Customer Classes as a cost of operating the Public Water Supply System as described in Article 8.

Article 10 - Records

10.1 – Record Maintenance

The City of Kalamazoo shall maintain complete and accurate records regarding the formulation of Water Rates and all records which support the recommended Water Rates and the Operation and Maintenance of the Public Water Supply System, consistent with the City's record retention schedule, including all data provided to the Rate Consultant and every internal and external record, report, study and survey (by any name, designation or title) which supports, defines, explains, or clarifies the data, documents, and/or information which provides any basis for the Water Rate Making Methodology or any Component of the Water Rate Making Methodology described in Appendix E, Operation and Maintenance Costs, Administrative General Fund Costs, Depreciation Costs, Rate of Return, PILOT and Water Revenue Components described in Article 8 and all records required to perform the Utility Policy Committee Functions defined in Article 3.

10.2 - Availability of Records

The records outlined above shall be maintained by the City of Kalamazoo in a manner which is easily available and transferable to the members of the Utility Policy Committee and each Township.

10.3 – Township Records

Any Township which charges or collects a water surcharge must comply with the requirements of Section 10.1 regarding the sources and detailed uses of the surcharge. The Township shall make such records available to the Utility Policy Committee and City consistent with Section 10.2.

Article 11 – Annual Audit

11.1 – Fiscal Year

The fiscal year for budget and accounting purposes shall be January 1 through December 31 of each year, or as otherwise set by amendment of the Kalamazoo City Charter.

11.2—Audit Records

An audit of the Public Water Supply System shall be conducted annually by a certified public accountant in conjunction with the City's audit. The City shall make the audit results available to the Utility Policy Committee. If the audit reveals any discrepancy in accounting methods or record keeping, the discrepancy shall be cured immediately.

Article 12 – Restriction/Discontinuance of Water Supply

12.1 – Temporary Discontinuance

If, due to circumstances beyond the control of the City, the capacity of the Public Water Supply System becomes temporarily inadequate to meet demands for short periods of time, then the City may impose restrictions on water use and the Township(s) shall impose and enforce like restrictions on Water Customers.

12.2 – Emergency Discontinuance

The Parties have the right to temporarily discontinue the supply of water to mains or pipes without notice in times of emergency and with notice upon a determination of necessity for purposes of testing, repairing, or replacing water mains, meters, and facilities serving the Water Supply System. No claim for damages during such period of discontinuance shall be made by these Parties as long as the discontinuance is for a proper purpose and the City responds within a reasonable time and with reasonable methods to restore service.

Article 13 – Protection Against Contamination

13.1 – Contamination

For the protection of all consumers of water, the Parties agree to take reasonable efforts to guard against all forms of contamination. Should contamination be detected at any time, the area or areas affected shall immediately be shut off and isolated and remain so until the condition is abated, and

the water has been declared safe and fit for human consumption. The decision of the City in this respect shall be final.

13.2 – Right to Inspect – Cross Connections

The Townships shall allow the City to enforce Kalamazoo's Cross Connection Program for the Public Water Supply System. The City shall have the right, at any time, deemed necessary, to inspect the water service equipment within the Townships, to review construction and chlorination and protective devices, and to perform all other things necessary to protect the quality of the water supply. The City shall provide, and the Townships shall approve, a written cross-connection inspection program. In the event that any Party detects contamination, it shall promptly notify the other.

13.3 – Wellhead Protection

The City shall establish, and the Townships shall approve, a wellhead protection program and adopt corresponding Wellhead Protection Ordinances subject to Utility Policy Committee input as to form and content.

13.4 – Emergency Contacts

The City and Townships agree to abide by any requirements as established by the state or federal governments in emergency situations. The Townships shall inform the City on an annual basis, or more frequently if changes occur, of appropriate contact information for designated Township emergency management officials. Each Party is responsible for providing and maintaining up to date emergency contact information.

Article 14 – Water Quality

14.1 – Responsibility for Water Quality

The City shall deliver treated/potable water to each Customer of water in conformance with applicable federal and Michigan regulations. The City shall sample and monitor the water quality per applicable federal and Michigan monitoring requirements. The City shall not be liable for temporary water quality or pressure fluctuations.

14.2 – Water from Other Sources

The Parties will not permit water from any other source or supply to mix or comingle with the supply from the City's Water Treatment facilities, except in cases of emergency where the water from other sources meets all applicable federal and Michigan regulations and the use has been approved by the Michigan Department of Environment, Great Lakes and Energy (EGLE) (or its successor agency) to relieve the emergency. The City's Emergency Response Plan will take precedence in cases where the emergency impacts the Public Water Supply.

14.3 – Operating Liability

The City will attempt to provide and maintain regular and uninterrupted water service under this Agreement, but shall not be liable for any injuries or damages to any Party or any Customer of water caused by contamination, interruptions, main breaks, water damage, loss of supply or pressure, construction, electrical, or supervisory control and data acquisition (SCADA) malfunctions or any other cause except as provided by law. The Parties agree that the water facilities and services provided under this Agreement are a governmental function, as defined by Public Act No. 170 of 1964, as amended.

Article 15 – Operation of the Public Water Supply System

15.1 – Operation of the Public Water Supply System

During the Term of this Agreement, and any extension therefore, the City shall continue to operate the Public Water Supply System for the benefit of all Customers and continue to have the exclusive right to provide potable water to each Customer. Neither the City nor the Townships shall take any action to impede or harm the delivery of potable water to any Customer.

Article 16 – Other Services

16.1 – Other Services

The City will perform additional services for the Townships as may, from time-to-time, be agreed between the City and The Utility Policy Committee.

16.2 – Water Exploration and Production Services

The City may continue to conduct water exploration and production services, including but not limited to, soil borings, construction of test Wells, use of water level meters, and all other necessary projects to determine the availability of water for the continued and efficient supply of water through the Public Water Supply System. The cost of water exploration and production shall be assessed and allocated to all Customers as described in Article 8. Each Township grants the City consent during the term of this contract to conduct water exploration and production evaluation testing and will permit the City to use its streets, alleys, and public rights of way for these purposes.

Article 17 – Term of Agreement

17.1 – Term of Agreement

This Agreement shall remain in effect for forty (40) years unless terminated earlier by written agreement executed by the City and all of the Townships. At any time prior to twelve months before the termination of the Agreement, the Townships, at their option, may extend the Agreement for an additional 20 years by providing written notice of their intention to exercise this option to the City. If the Townships do not exercise their option to renew for an additional 20 years, this Agreement shall automatically renew in five (5) year increments, unless the City or any Township(s) provide(s) written notice of its/their intent to terminate or amend the Agreement.

Article 18 – Termination and Division of Water System Assets

18.1 - Reserve Funds

Upon termination of this Agreement, the City and the Townships shall discuss a possible amicable division of reserve funds taking into consideration the City Customers' and Township Customers' contributions to the reserve funds as described in Article 8, as well as the City's ownership and operation of the Water Supply System. Any portion of the reserve funds allocated to the City shall be held for the benefit of the City Customers who contributed thereto. Any portion of the reserve funds allocated to the Townships shall be held for the benefit of the Township Customers who contributed thereto.

18.2 - Capital Assets

Upon termination of this Agreement the Retail Service Assets in the City and Parchment shall be the property of the City. The Retail Service Assets in the Townships shall be the property of the Township in which the asset is located. Upon termination of this Agreement the Wholesale Service Assets shall become shared assets of the City and the Townships which shall not be separated or divided but used for the benefit of all Customers unless the City and the Townships agree otherwise by separate agreement. The City and/or Township(s) in which Retail Service Assets are located shall assume all debt directly related to that Retail Service Asset. The City and the Townships shall each assume a portion of the debt associated with the Wholesale Service Assets which become shared Assets of the City and the Townships in a manner that, as closely as practicable reflects the City Customers and Township Customers' proportional use of the Public Water Supply System applying the applicable share of Assets/Costs Methodology defined in Section 8.5 of this Agreement to and between the City Customers and the Township Customers (not to the Customer Classes as described in Section 8.5).

Article 19 – Assignment

19.1 - Assignment

The City and the Township(s) shall not, without prior written consent from the other, assign, transfer, or convey its rights or interests under this Agreement, except that the City and the Township(s) shall each retain the right to assign its/their rights, obligations, and duties under this Agreement by intergovernmental agreement to a water authority or similar entity. If the City or Township(s) are merged into or succeeded by another governmental entity, the successor shall be bound by the terms and conditions of this Agreement.

Article 20 – Remedies

20.1 – Dispute Resolution Process

Any dispute under the terms or conditions of this Agreement, including a challenge to the water rates and/or the assessment or allocation of water charges and/or any action taken by the City, the Township(s) or the Utility Policy Committee shall be resolved by the following methodology: First, the aggrieved party shall serve a written Notice of Dispute on all other parties to this Agreement. The written Notice of Dispute shall contain the following information:

1. The factual basis for the dispute;
2. The term or condition of the Agreement which has been violated;
3. The adverse effect on the aggrieved party.

Second, within thirty (30) days after receipt of the written Notice, the City and the Utility Policy Committee will convene in an attempt to resolve the dispute. If the dispute is not resolved or the party serving written Notice is not satisfied with the recommendation of the City or the Utility Policy Committee, the matter shall be subject to mediation as follows:

1. Within thirty (30) days after the City and Utility Policy Committee have met, the aggrieved party shall provide written Notice seeking mediation.

2. The City and the Utility Policy Committee shall select an independent mediator who shall convene a meeting of the parties within thirty (30) days. The mediator shall attempt to resolve the dispute and to reach a mutual understanding/agreement between the parties.

3. If mediation is successful, the Agreement between the parties shall be reduced to writing. If mediation is unsuccessful, the mediator shall render his recommendation regarding the outcome. However, the recommendation of the mediator is non-binding and each party is free to pursue all other remedies provided by this Agreement, at law, and in equity.

20.2 – Remedies

The Parties to this Agreement retain all rights, remedies and actions as defined under State and Federal law. The Parties may seek to enforce this Agreement in any court of competent jurisdiction and/or by alternative dispute resolution as agreed upon by the Parties hereto. The terms of this Agreement and any dispute resolution provision contained herein shall not be construed as a waiver of any right or remedy available in law and/or equity.

20.3 – Arbitration

The Parties, by agreement, may stipulate to arbitration of the dispute at issue. However, arbitration is not mandatory, except as expressly provided in Article 3.6F of this agreement. If the Parties agree to arbitration, the following process shall be followed:

1. The Parties to the dispute may agree to a single arbitrator. Otherwise, there shall be three arbitrators with each Party to the dispute selecting an arbitrator and the two arbitrators selecting the third.

2. The arbitration shall be conducted no later than sixty (60) days after receipt of written demand for arbitration unless agreed upon otherwise by the Parties. The arbitration hearing shall take place at a mutually agreeable time and place within the County of Kalamazoo. Seven (7) days before arbitration, each Party shall serve the arbitrator and all other Parties with an arbitration brief containing a concise statement of issues to be arbitrated, supporting arguments, and a list of witnesses that each Party intends to call, including experts and the topic or subject matter about which each witness or expert will testify. The arbitration hearing shall be conducted in accordance with the rules and procedures established by the American Arbitration Association.

3. Within fifteen (15) days of completion of arbitration, the arbitrator(s) shall submit a written determination regarding the matter in dispute. The arbitrator's decision shall be conclusive and binding on the Parties to the arbitration. The scope of the arbitrator's review shall be limited to a review of the contractual provisions contained in this contract as applied under law.

4. Each Party to the arbitration shall pay its own costs and attorney fees.

Article 21 – Notices

21.1 – Notices

All written notices and other documents to be delivered or transmitted hereunder shall be addressed to the respective Parties at such address or addresses as shall be specified by the Parties from time to time. Written notices or other documents may be delivered in person, transmitted electronically or by facsimile, or by ordinary or certified mail, properly addressed with sufficient postage.

Article 22 – Miscellaneous

22.1 – Miscellaneous

(a) Waiver. The waiver by any Party of a breach or violation of any provision of this Agreement shall not be a waiver of any subsequent breach or violation of the same or any other provision of this Agreement.

(b) Unenforceability. If any paragraph or provision of the Agreement is unenforceable for any reason, the unenforceability thereof shall not impair the remainder of this Agreement, which shall remain in full force and effect.

(c) Entire Understanding. This Agreement represents the entire understanding and agreement between the Parties hereto.

(d) Captions. The captions in this Agreement are for convenience only and shall not be considered as part of this Agreement or in any way to amplify or modify the terms and provisions hereof.

(e) Modification. This Agreement may be changed or modified only by a written document signed by all the Parties.

(f) Interpretation of Agreement. The Parties acknowledge that each Party has had the opportunity to participate in the drafting of this Agreement. As a result, in the event of any ambiguity in this Agreement, it shall not be interpreted for or against any Party on account of the drafting by any Party.

Article 23 – Effective Date of Agreement

23.1 – Effective Date of Agreement

This Agreement will become effective upon the approval of all of the legislative bodies of the Parties when duly executed by the City Manager and the Supervisor of each Township.

Article 24 – Execution in Counterparts

24.1 – Execution in Counterparts

This Agreement may be executed in several counterparts and when so executed will be considered to be an original.

Dated: 9/1 2021, ~~2020~~

CITY OF KALAMAZOO

By: _____

Its: City Manager

TOWNSHIP OF _____

Dated: _____, 2020

By: _____

Its: _____

Dated: February 8, 2021

CHARTER TOWNSHIP OF TEXAS

By: _____
Nick Loeks
Its: Supervisor

Dated: February 8, 2021

VILLAGE OF RICHLAND

By: _____
Dave Greve
Its: President

Dated: February 8, 2021

CHARTER TOWNSHIP OF TEXAS

By: _____
Nick Loeks
Its: Supervisor

Dated: February 8, 2021

VILLAGE OF RICHLAND

By: _____
Dave Greve
Its: President

Dated: March 1, 2021

CHARTER TOWNSHIP OF COMSTOCK

By: _____
Randy Thompson
Its: Supervisor

Dated: February 8, 2021

COOPER CHARTER TOWNSHIP

By: _____
Jeff Sorensen
Its: Supervisor

Dated: February 22, 2021

KALAMAZOO CHARTER TOWNSHIP

By: _____
Don Martin
Its: Supervisor

Dated: February 9, 2021

OSHTEMO CHARTER TOWNSHIP

By: _____
Libby Heiny-Cogswell
Its: Supervisor

Dated: February 8, 2021

TOWNSHIP OF PAVILION

By: _____
John Speeter
Its: Supervisor

Dated: February 16, 2021

TOWNSHIP OF RICHLAND

By: _____
Lysanne Harma
Its: Supervisor

Dated: March 1, 2021

CHARTER TOWNSHIP OF COMSTOCK

By: _____
Randy Thompson
Its: Supervisor

Dated: February 8, 2021

COOPER CHARTER TOWNSHIP

By: _____
Jeff Sorensen
Its: Supervisor

Dated: February 22, 2021

KALAMAZOO CHARTER TOWNSHIP

By: _____
Don Martin
Its: Supervisor

Dated: February 9, 2021

OSHTEMO CHARTER TOWNSHIP

By: _____
Libby Heiny-Cogswell
Its: Supervisor

Dated: February 8, 2021

TOWNSHIP OF PAVILION

By: _____
John Speeter
Its: Supervisor

Dated: February 16, 2021

TOWNSHIP OF RICHLAND

By: _____
Lysanne Harma
Its: Supervisor

Dated: March 1, 2021

CHARTER TOWNSHIP OF COMSTOCK

By: _____
Randy Thompson
Its: Supervisor

Dated: February 8, 2021

COOPER CHARTER TOWNSHIP

By: _____
Jeff Sorensen
Its: Supervisor

Dated: February 22, 2021

KALAMAZOO CHARTER TOWNSHIP

By: _____
Don Martin
Its: Supervisor

Dated: February 9, 2021

OSHTEMO CHARTER TOWNSHIP

By: _____
Libby Heiny-Cogswell
Its: Supervisor

Dated: February 8, 2021

TOWNSHIP OF PAVILION

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John Speeter
Its: Supervisor

Dated: February 16, 2021

TOWNSHIP OF RICHLAND

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Lysanne Harma
Its: Supervisor

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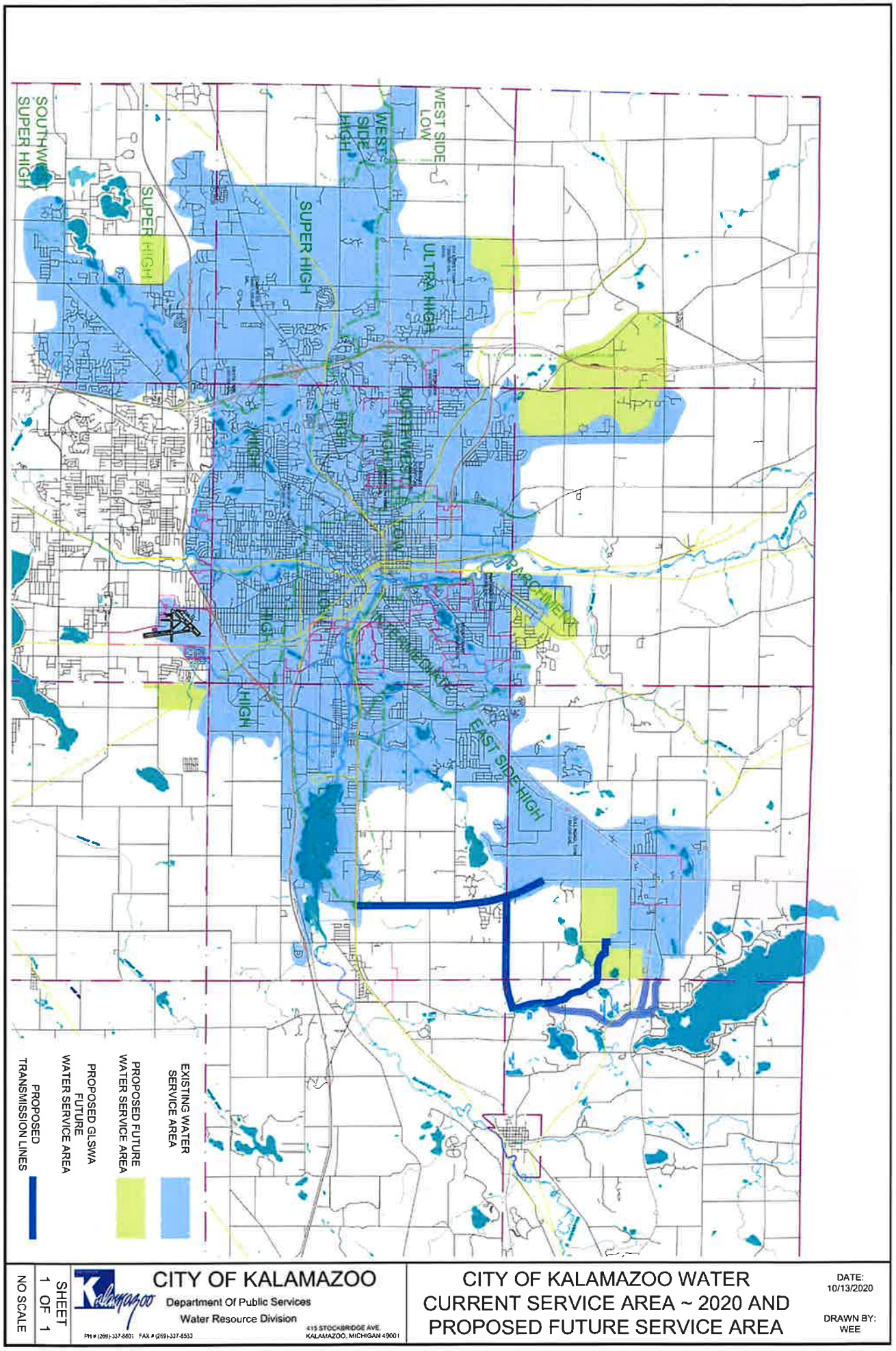
By: _____
Lysanne Harma
Its: Supervisor

Appendix A



CITY OF KALAMAZOO

Department Of Public Services

Water Resource Division

415 STOCKBRIDGE AVE.
KALAMAZOO, MICHIGAN 49001

PH # (269)-337-8601 FAX # (269)-337-8553

CITY OF KALAMAZOO WATER CURRENT SERVICE AREA ~ 2020 AND PROPOSED FUTURE SERVICE AREA

DATE: 10/13/2020

DRAWN BY: WEE

SHEET 1 OF 1

NO SCALE

APPENDIX B

Public Water Supply System Capital Assets

The Public Water Supply System Capital Assets are summarized in the attached schedule as Retail Service Assets in the City, Retail Service Assets in the Townships, and Wholesale Service Assets. Further, the attached schedule identifies the Net Book Value of the Public Water Supply System Capital Assets in-service, Used and Useful, as of the 2019 annual audit. The attached schedule shall be amended annually following each annual audit to incorporate the cost of the Capital Improvements made during the audited period, less additional accumulated depreciation, the Net Book Value of Contributed and Grant Funded Capital Assets and capital asset disposals during the audited period. The attached schedule shall also identify the Depreciation Expense on capital assets during the audited period utilizing the straight-line method of depreciation.

The City shall maintain and annually provide the Utility Policy Committee with a detailed Capital Asset List supporting the attached schedule.

Appendix B - Schedule of Public Water System Current Capital Assets

Total Asset Value	6/30/2019 Data Original Cost	Accumulated Depreciation	Net Book Value	Annual Depr Expense
Category				
Water Pumping	39,505,397	22,438,197	17,067,200	801,266
Elevated Storage Tank	8,077,412	3,784,152	4,293,259	194,513
Transmission Mains	11,930,082	4,702,353	7,227,729	228,667
Dist Mains - City	20,979,690	6,811,713	14,167,977	357,595
Dist Mains - Twp	42,464,150	17,272,628	25,191,522	804,875
Service Conn - City	18,472,885	5,784,963	12,687,922	332,538
Service Conn - Twp	26,072,252	9,437,366	16,634,887	473,834
Water Metering Devices	8,886,854	6,354,950	2,531,904	402,309
Hydrants - City	3,513,394	1,133,925	2,379,469	66,435
Hydrants - Twp	6,796,844	2,364,818	4,432,027	132,052
Water General	7,819,876	4,778,150	3,041,726	320,352
Administration	197,592	193,195	4,397	20,539
Total	194,716,429	85,056,410	109,660,019	4,134,975
Wholesale Service Assets	67,530,359	35,896,047	31,634,312	1,565,337
Retail Service Assets - City *	47,409,396	16,908,076	30,501,321	957,723
Retail Service Assets - Twps *	79,776,674	32,252,287	47,524,387	1,611,915
Total	194,716,429	85,056,410	109,660,019	4,134,975

** Assumes a 50/50 split of Water Metering Devices, which are not tracked by location*

Contributed Asset Value	6/30/2019 Data Original Cost	Accumulated Depreciation	Net Book Value	Annual Depr Expense
Category				
Water Pumping	1,124,471	667,069	457,402	17,421
Elevated Storage Tank	0	0	0	0
Transmission Mains	7,641,345	2,982,443	4,658,903	146,889
Dist Mains - City	8,884,748	2,845,984	6,038,764	152,651
Dist Mains - Twp	39,060,365	15,874,739	23,185,626	742,477
Service Conn - City	11,127,825	4,412,874	6,714,951	176,112
Service Conn - Twp	24,283,987	9,005,764	15,278,224	439,186
Water Metering Devices	0	0	0	0
Hydrants - City	1,449,363	457,053	992,310	27,476
Hydrants - Twp	6,016,080	2,165,506	3,850,573	115,015
Water General	0	0	0	0
Administration	0	0	0	0
Total	99,588,184	38,411,432	61,176,752	1,817,227
Wholesale Service Assets	8,765,816	3,649,511	5,116,304	164,310
Retail Service Assets - City *	21,461,936	7,715,911	13,746,025	356,239
Retail Service Assets - Twps *	69,360,432	27,046,009	42,314,423	1,296,678
Total	99,588,184	38,411,432	61,176,752	1,817,227

** Assumes a 50/50 split of Water Metering Devices, which are not tracked by location*

Appendix B - Schedule of Public Water System Current Capital Assets

Net Local Asset Value	6/30/2019 Data			
	Original Cost	Accumulated Depreciation	Net Book Value	Annual Depr Expense
Category				
Water Pumping	38,380,926	21,771,128	16,609,798	783,845
Elevated Storage Tank	8,077,412	3,784,152	4,293,259	194,513
Transmission Mains	4,288,737	1,719,910	2,568,826	81,778
Dist Mains - City	12,094,942	3,965,729	8,129,213	204,944
Dist Mains - Twp	3,403,785	1,397,890	2,005,896	62,397
Service Conn - City	7,345,060	1,372,089	5,972,971	156,426
Service Conn - Twp	1,788,265	431,602	1,356,663	34,648
Water Metering Devices	8,886,854	6,354,950	2,531,904	402,309
Hydrants - City	2,064,031	676,871	1,387,159	38,959
Hydrants - Twp	780,765	199,311	581,453	17,037
Water General	7,819,876	4,778,150	3,041,726	320,352
Administration	197,592	193,195	4,397	20,539
Total	95,128,246	46,644,978	48,483,267	2,317,748
Wholesale Service Assets	58,764,543	32,246,536	26,518,007	1,401,027
Retail Service Assets - City *	25,947,460	9,192,164	16,755,296	601,484
Retail Service Assets - Twps *	10,416,242	5,206,278	5,209,964	315,237
Total	95,128,246	46,644,978	48,483,267	2,317,748

** Assumes a 50/50 split of Water Metering Devices, which are not tracked by location*

APPENDIX C

Related Water Services

In addition to the Direct Operation, Maintenance, Repair and Replacement Services defined in Article 4.1, the Water Meters Services defined in Article 4.4 and the Water Mains and Hydrants Services defined in Article 4.5, the City shall provide the additional Related Water Services described in Article 4.3, including the following:

1. All related engineering services, including but not limited to:

    a. Infrastructure design
    b. Construction standards review
    c. Project implementation and monitoring

2. All related environmental service, including but not limited to:

    a. Sampling
    b. Flow measuring
    c. Cross connection enforcement
    d. Emergency response
    e. Lead and copper monitoring
    f. Well head protection
    g. Surface and ground water monitoring
    h. DEQ regulation compliance and reporting

3. All related field services, including but not limited to:

    a. Emergency response for watermain breaks
    b. 24 hours response to customer complaints
    c. Traffic control
    d. Service line repair
    e. Stop box repair
    f. Ms. Dig compliance and monitoring
    g. Water service installation and tap in services
    h. Meter installation
    i. Meter replacement
    j. Water meter reading
    k. Valve exercising

4. All related field supply, field distribution and fleet services

APPENDIX D

Reimbursable Cost Schedule

The following Reimbursable Costs for materials and services provided by the City shall be recaptured from the customer requesting the service and/or their contractors as follows:

1. New water service line installations less than two inches will be charged at $5,500.00 for a "full service-street plus yard connection" and $2,500.00 for a "partial service-yard connection".

2. New water service line installation two inches or greater and water main and appurtenance, which the City installs, shall be charged at time and material costs based on actual labor hours and unit pricing. The 2020-unit pricing for materials is set forth below:

2020 Pricing

Tapping Valve and Sleeve			
	DESCRIPTION	PART NO	UNIT
2.00	Block, 24" MH	1004951	$2.08
Valve Box	Box, CI, BVC 22, LG	1000894	$130.50
4X4	Sleeve 4X4MJ Tapw/v	0085120	$1,195.00
6X4	Sleeve 6X4MJ Tapw/v	0085130	$921.00
6X6	Sleeve 6X6 MJ Tapw/v	0085135	$1,525.00
8X4	Sleeve 8X4 MJ Tapw/v	0085142	$903.00
8X6	Sleeve 8X6 MJ Tapw/v	0085154	$941.00
8X8	Sleeve 8X8 MJ Tapw/v	0085155	$2,125.00
10X4	Sleeve 10X4 MJ Tapw/v	0085170	$975.00
10X6	Sleeve 10X6 MJ Tapw/v	0085178	$1,208.00
10X8	Sleeve 10X8 MJ Tapw/v	0085190	$1,518.00
10X10	Sleeve 10X10 MJ Tapw/v	0085191	$3,762.00
12X4	Sleeve 12X4 MJ Tap w/v	0085196	$2,594.00
12X6	Sleeve 12X6 MJ Tapw/v	0085202	$2,784.00
12X8	Sleeve 12X8 MJ Tapw/v	0085214	$3,228.00
12X10	Sleeve 12X10 MJ Tapw/v	1085220	$4,075.00
12X12	Sleeve 12X12 MJ Tapw/v	0085215	$4,862.00

16X4	Sleeve 16X4 MJ Tapw/v	0085216	$6,062.00
16X6	Sleeve 16X6 MJ Tapw/v	0085221	$6,366.00
16X8	Sleeve 16X8 MJ Tapw/v	0085222	$6,737.00
16X10	Sleeve 16X10 MJ Tapw/v		

Tapping Valve and Sleeve			
	DESCRIPTION	**PART NO**	**UNIT**
16X12	Sleeve 16X12 MJ Tapw/v	0085250	$7,994.00
16X16	Sleeve 16X16 MJ Tapw/v		
20X4	Sleeve 20X4 MJ Tapw/v	0085227	$7,741.00
20X6	Sleeve 20X6 MJ Tapw/v	0085225	$7,931.00
20X8	Sleeve 20X8 MJ Tapw/v	1085224	$8,028.00
20X12	Sleeve 20X12 MJ Tapw/v	1085226	$9,583.00
24X6	Sleeve 24X6 MJ Tapw/v	1085230	$9,594.00
24X8	Sleeve 24X8 MJ Tapw/v	1085228	$10,080.00
24X12	Sleeve 24X12 MJ Tapw/v	1095232	$11,239.00

1.00	Meter, 5/8" T10 P/C USG NEPTUNE	1059000	$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	$0.00

1" SVC off of Fire			
	DESCRIPTION	**PART NO**	**UNIT**
1.00	Valve, Apollo 1"	0096300	$11.00
2.00	Connec, 1 Brass Meter	0017968	$11.25
1.00	METER, 1" T10	1059010	$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	$0.00

11/2" off of Fire			
	DESCRIPTION	**PART NO**	**UNIT**
1.00	Valve, Ball 11/2"	0096333	$25.80
1.00	Nipple-cpr, 11/2X51/2	0060510	$17.14
1.00	Flange, Mtr 6m 11/2in	0030920	$34.84

1.00	METER, 1 1/2" T10 MTR P/C USG*X NEPTUNE	1059015	$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	0.00
1.00	Cplg, 11/2" Pack Joint	0020808	60.35
1.00	Bushing, 2X1 1/2	0011140	$12.01

2" SVC off of Fire			
	DESCRIPTION	PART NO	UNIT
1.00	Valve, Ball 2"	0096400	$36.50
1.00	Nipple-cpr, 2X51/2	0060687	$21.98
1.00	Flange, Mtr 7m 2in	0030960	$46.50
1.00	METER, 2" COMPOUND PROCODER	1059022	$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	$0.00
1.00	Cplg, 2 Pack Joint	0018596	$68.77

2" SVC - Residential in Floor, Basement			
	DESCRIPTION	PART NO	UNIT
1.00	Saddle, 4"X2"	0016086	$22.15
1.00	Saddle, 6"X2"	0016116	$26.00
1.00	Saddle, 8"X2"	0016146	$28.75
1.00	Saddle, 10"X2"	0016176	$37.90
1.00	Saddle, 12"X2"	0016206	$45.95
1.00	Saddle, 16"X2"	0016240	$80.20
2.00	Nipple-cpr, 2X51/2	0060687	$21.98
1.00	Valve, 2" Curb Stop	0097053	$180.10
1.00	Box, Valve Complete	1000896	$130.50
1.00	Valve, Ball 2"	0096400	$36.50
1.00	Meter, 2" T10 MTR P/C USG*X NEPTUNE	1059020	$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	$0.00
1.00	Cplg, 2 Pack Joint	0018596	$68.77

2" SVC - Residential in Pit			
	DESCRIPTION	PART NO	UNIT
1.00	Saddle, 4"X2"	0016086	$22.15
1.00	Saddle, 6"X2"	0016116	$26.00
1.00	Saddle, 8"X2"	0016146	$28.75

2" SVC - Residential in Pit			
	DESCRIPTION	PART NO	UNIT
1.00	Saddle, 10"X2"	0016176	$37.90
1.00	Saddle, 12"X2"	0016206	$45.95
1.00	Saddle, 16"X2"	0016240	$80.20
2.00	Nipple-cpr, 2X51/2	0060687	$21.98
1.00	Valve, 2" Curb Stop	0097053	$180.10
1.00	Box, Valve Complete	1000896	$130.50
1.00	Valve, Ball 2"	0096400	$36.50
1.00	METER, 2" T10 P/C R900I PIT	1059021	$0.00
1.00	Cplg, 2 Pack Joint	0018596	$68.77

2" SVC - Commercial - in Floor, Basement, Pit			
	DESCRIPTION	PART NO	UNIT
1.00	Saddle, 4"X2"	0016086	$22.15
1.00	Saddle, 6"X2"	0016116	$26.00
1.00	Saddle, 8"X2"	0016146	$28.75
1.00	Saddle, 10"X2"	0016176	$37.90
1.00	Saddle, 12"X2"	0016206	$45.95
1.00	Saddle, 16"X2"	0016240	$80.20
2.00	Nipple-cpr, 2X51/2	0060687	$21.98
1.00	Valve, 2" Curb Stop	0097053	$180.10
1.00	Box, Valve Complete	1000896	$130.50

1.00	Valve, Ball 2"	0096400	$36.50
1.00	METER, 2" COMPOUND PROCODER	1059022	$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	$0.00
1.00	Cplg, 2 Pack Joint	0018596	$68.77

1-1/4" SVC		
DESCRIPTION	PART NO	UNIT
Saddle, 4"X1"	0016212	$12.50
Saddle, 6"X1"	0016218	$14.50
Saddle, 8"X1"	0016224	$16.45
Saddle, 10"X1"	0016228	$19.40
Saddle, 12"X1"	0016244	$20.85
1"X1-1/4" Corp	0017131	$61.25
1-1/4" Curb Stop	0017282	$118.60
94 E Box	0007370	$70.00

INSIDE		
DESCRIPTION	PART NO	UNIT
Clamp, 2 Ground	0015985	$6.47
Clamp, 3/4"Ground BLBJ BRNZ	0015972	$3.81
Connect, 1 Brass Meter	0017968	$11.25
Valve, Apollo 1"	0096300	$11.00
METER, 1" T10 MTR P/C 8*X NEPTUNE	1059010	$0.00
METER, R900 V4 WALL UNIT M10	1058999	

PIT		
1-1/4" Meter Yoke	08400	$128.90
Meter Tile	8090	$90.00
Cast Lid	08201	$112.00
Cast Ring	08285	$122.00
Cast Frost Lid	08060	$40.00
Cast Riser	8772	$90.00
Pipe, Copper, 1-1/4"	0070242	$4.75
METER, 1" T10 MTR P/C R900I USG PIT NEPTUNE	1059011	$0.00

3" SVC

	DESCRIPTION	PART NO	UNIT
1.00	METER, 3" COMPOUND	1059026	$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	$0.00
1.00	Adaptor, 3" HyMax Flange Cplg	0019854	$266.41
2.00	Rod5/8Threaded - 36	0078070	$3.80
1.00	Spool,3"X8 1/2" thru 18"	0086860	$88.68

	3" SVC DESCRIPTION	PART NO	UNIT
1.00	Valve, 3" FLG RW OL w/Wheel	0096640	$320.00
3.00	1/8"X3" Gasket	0033548	$1.16
8.00	5/8"X3" Bolts	0006610	$0.64
16.00	5/8" Nuts	0063240	$0.17

	4" SVC DESCRIPTION	PART NO	UNIT
1.00	METER, 4" COMPOUND	1059031	$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	$0.00
1.00	Adaptor, 4" HyMax Flange Cplg	0019875	$330.00
2.00	Rod5/8Threaded - 36	0078070	$3.80
1.00	Spool, 4"X1'0" FlgXPE DI	0086870	$108.25
1.00	Valve, 4" FLG Wheel	96442	$360.00
3.00	1/8"X4" Gasket	0033578	$1.78
16.00	5/8"X3" Bolts	0006610	$0.64
24.00	5/8" Nuts	0063240	$0.17

	6" SVC DESCRIPTION	PART NO	UNIT
1.00	METER, 6" COMPOUND	1059036	$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	$0.00
1.00	Adaptor, 6" Flange Cplg	0019893	$270.66

2.00	Rod3/4Threaded - 36	0078075	$6.55
1.00	Spool, 6"X6" FlgXPE DI	0031180	$278.00
1.00	Valve, 6" FLG Wheel	96754	$450.00
3.00	1/8"X6" Gasket	0033608	$3.39
16.00	3/4"X3" Bolts	0006700	$1.03
24.00	3/4" Nuts	0063243	$0.30

8" SVC			
1.00	METER, 8" HP TURBINE PROCODER NEPTUNE		$0.00
1.00	METER, R900 V4 WALL UNIT M10	1058999	$0.00
1.00	FLG &SPGT 8x6'	31224	$355.87
1.00	CPLG, 8" FLG ADPT	19895	$364.79
1.00	Valve, 8" FLG Wheel	96756	$1,117.37
3.00	1/8"X8" Gasket	33638	$5.72
2.00	Rod3/4Threaded - 36	0078075	$6.55
16.00	3/4"X3" Bolts	0006700	$1.03
24.00	3/4" Nuts	0063243	$0.30

APPENDIX E

Water Rate Making Methodology

E.1 Method

The Annual Revenue Requirements of the Public Water Supply System are reflected within the Water Service Agreement using the Cash Basis. (Article 8.4). To achieve Rate Equalization as defined in Article 8.2A, for Rate Year 2022, and each subsequent Rate Year, the Cash Basis Revenue Requirements identified in Article 8.4 shall be converted to the Utility Basis Revenue Requirements and allocated to each Customer Class as part of the Cost of Service Study identified in Article 8.3A using the methodology set forth in this Appendix.

E.2 Utility Basis Revenue Requirements

The Annual Utility Basis Revenue Requirements shall include the following components, each of which is described herein:

- Direct Operation, Maintenance and Repair Costs;
- Administrative and Indirect Operating Costs;
- Payment in Lieu of Taxes ("PILOT");
- Depreciation Expense;
- Return on Rate Base (expressed in dollars).

a) Direct Operation, Maintenance and Repair Costs – Component (as defined in Article 8.4A)

b) Administrative and Indirect Operation Cost – Component (as defined in Article 8.4B)

c) Payment in Lieu of Taxes ("PILOT") – Component (as defined in Article 8.4D)

d) Depreciation Expense – Component

A Depreciation Expense shall be charged on the Capital Asset Element of the Rate Base Component in accordance with generally accepted accounting principles utilizing the straight-line method of depreciation. Construction completed prior to the beginning of each Rate Year shall be added to the Capital Asset Element of the Rate Base Component and depreciated according to the assets' Useful Life. Depreciation on Contributed Capital Assets or Grant Funded Capital Assets shall not be included in the Depreciation Expense Component.

e) Return on Rate Base – Component

The Return on Rate Base shall be the aggregate sum of the total Annual Revenue Requirement for the Public Water Supply System as defined in Article 8.4 less the sum of the Utility Basis Revenue Requirement components established in (a) through (d) above.

(Annual Cash Basis Revenue Requirement – Direct Operation, Maintenance and Repair Costs – Administrative and Indirect Operating Costs - PILOT – Depreciation Expense = Return on Rate Base)

E.3 Annual Utility Basis Non-Revenue Requirement – Components

The following Utility Basis Non-Revenue Requirements support the development of the Depreciation Expense Component and the Return of Rate Base Component of the Utility Basis Revenue Requirements:

- Rate Base
- Rate of Return

a) Rate Base – Component

The Rate Base shall be aggregate sum of the Capital Asset Element plus the Working Capital Element.

(Capital Asset Element + Working Capital Element = Rate Base)

1) Capital Asset Element

The Capital Asset Element of the Rate Base shall be the Net Book Value of the Public Water Supply System Capital Assets, In-Service, Used, and Useful, at the end of the most recently audited year as identified in Appendix B, plus the Construction Work-In-Progress at the end of the most recently audited year, plus the projected Cost of the Capital Improvements made subsequent to that date through the end of the Rate Year, less the projected Net Book Value of Contributed and Grant Funded Capital Assets as of the end of the Rate Year.

2) Working Capital Element

The Working Capital Element shall be the stated value of the current Non-Capital Assets of the Public Water Supply System as determined by the annual City Audit including inventories which shall not exceed ninety (90) days of Operating Expenses.

3) Rate of Return

The Rate of Return shall be the product of the Return on Rate Base divided by the Rate Base. Effective Rate Year 2022, and each Rate Year thereafter, the Rate of Return used to allocate Utility Basis Revenue Requirements to all Customers shall be identical.

(Return on Rate Base ÷ Rate Base = Rate of Return)

E.4 Equivalent Water Rates

Effective Rate Year 2022, and each Rate Year thereafter, City customers and Township customers within each Customer Class shall be assessed the same Water Rates based on the same Rate of Return.

E.5 Annual Utility Basis Revenue Requirement – Tracking

a) Depreciation Expense Component – Tracking

The Rate Consultant and the City shall maintain a schedule of Public Water Supply System Current Capital Assets and shall track and report the annual Depreciation Expense related to each Capital Asset in the City and the Townships and provide an annual report regarding the Depreciation Expense to the Utility Policy Committee.

b) Rate Base Component – Tracking

The Rate Consultant and the City shall maintain a Schedule of Public Water Supply System Current Capital Assets (Appendix B). The Schedule shall identify each Public Water Supply System Capital Asset which is Used and Useful to the Customers of the Public Water Supply System ("Utility Plant In-Service"), the Net Book Value and Annual Depreciation Expense of each Capital Asset, the location of each Capital Asset, the date of purchase, the useful life, historical investment and Accumulated Depreciation of each Capital Asset. The Rate Consultant and the City shall annually amend the Schedule to identify, value and categorize newly constructed Capital Assets, and to remove Capital Assets no longer In-Service, Used and Useful, and to add Annual Depreciation to the Accumulated Depreciation of each Capital Asset. The Schedule shall also track Contributed or Grant Funded Capital Assets.

APPENDIX F

This Appendix contains "Table 19-Development of 2021 Water Rates (3) pages" from the City of Kalamazoo "Report on 2021 Water Rates", dated December 16, 2020.

- Column 1 of Table 19 entitled "Existing Rates" identifies the current Water Rates paid by City Customers per customer class, meter size and device (inside City) and by Township Customers per customer class, meter size and device (outside City).

- Column 2 of Table 19 entitled "Indexed Adjustment for 2021" identifies the proposed rate adjustment from the "Existing Rates" identified in Column 1 of Table 19 for City Customers (inside City) and Township Customers (outside City) to the "Proposed 2021 Rates" identified in Column 3 of Table 19. The same "Indexed Adjustment" is proposed from the "Proposed 2021 Rates" identified in Column 3 of Table 19 to the "Projected Test Year 2022 Rates" identified in Column 4 of Table 19.

- Column 4 of Table 19 entitled "Projected Test Year 2022 Rates" identifies the Projected Equivalent Water Rates proposed for Rate Year 2022 for the City and Township Customers. The "Projected Test Year 2022 Rates" identified in Column 4 are projected Water Rates and the Water Rates adopted may vary from the projected Water Rates.

Regardless, for Rate Year 2022 and each Rate Year thereafter the City and Township Customers shall pay the same Water Rates as described in Article 8.2A.

Table 19
Water Utility
Development of 2021 Water Rates

Line No.		(1) Existing Rates $/unit	(2) *Indexed Adjustment for 2021* *1/2 of Adj from Table 17*	(3) **Proposed 2021 Rates** $/unit *[1] * (1+[2])*	(4) *Projected* Test Year 2022 Rates *from Table 17*
	Commodity Charges - $/cu mtr				
	Inside City				
1	Single Family	0.496	*24.4%*	**0.617**	0.767
2	Multi Family	0.405	*18.9%*	**0.482**	0.573
3	Commercial	0.454	*19.1%*	**0.541**	0.644
4	Seasonal	0.741	*18.3%*	**0.877**	1.037
	Outside City				
5	Single Family	0.660	*7.8%*	**0.711**	0.767
6	Multi-Family	0.465	*11.0%*	**0.516**	0.573
7	Commercial	0.522	*11.1%*	**0.580**	0.644
8	Seasonal	0.988	*2.4%*	**1.012**	1.037
	Fire Protection Detector Checks				
9	Inside City	0.449	*19.9%*	**0.539**	0.646
10	Outside City	0.518	*11.7%*	**0.578**	0.646

Table 19
Water Utility
Development of 2021 Water Rates

Line No.		(1) Existing Rates $/unit	(2) *Indexed Adjustment for 2021* *1/2 of Adj from Table 17*	(3) **Proposed 2021 Rates** $/unit *[1] * (1+[2])*	(4) *Projected* Test Year 2022 Rates *from Table 17*
	Meter Service Charges - $/bill				
	Inside City - Quarterly				
11	5/8"-3/4"	30.70	*15.5%*	**35.45**	40.94
12	1"	41.19	*15.3%*	**47.48**	54.73
13	1-1/2"	51.70	*15.1%*	**59.52**	68.53
14	2"	80.54	*15.0%*	**92.60**	106.46
15	3"	271.86	*19.1%*	**323.86**	385.81
16	4"	355.85	*17.3%*	**417.27**	489.28
17	6"	531.46	*17.3%*	**623.16**	730.69
18	8"	732.14	*17.3%*	**858.47**	1,006.59
	Inside City - Monthly				
19	5/8"-3/4"	13.18	*16.7%*	**15.38**	17.95
20	1"	16.69	*16.2%*	**19.40**	22.54
21	1-1/2"	20.19	*15.9%*	**23.41**	27.14
22	2"	29.82	*15.5%*	**34.45**	39.79
23	3"	100.65	*14.9%*	**115.66**	132.90
24	4"	126.89	*14.9%*	**145.74**	167.39
25	6"	188.10	*14.8%*	**215.92**	247.86
26	8"	258.03	*14.8%*	**296.12**	339.83
	Outside City - Quarterly				
27	5/8"-3/4"	33.51	*10.5%*	**37.04**	40.94
28	1"	45.30	*9.9%*	**49.79**	54.73
29	1-1/2"	57.09	*9.6%*	**62.55**	68.53
30	2"	89.52	*9.1%*	**97.62**	106.46
31	3"	326.53	*8.7%*	**354.93**	385.81
32	4"	414.47	*8.7%*	**450.32**	489.28
33	6"	619.67	*8.6%*	**672.89**	730.69
34	8"	854.18	*8.6%*	**927.26**	1,006.59
	Outside City - Monthly				
35	5/8"-3/4"	13.86	*13.8%*	**15.77**	17.95
36	1"	17.79	*12.6%*	**20.02**	22.54
37	1-1/2"	21.72	*11.8%*	**24.28**	27.14
38	2"	32.53	*10.6%*	**35.98**	39.79
39	3"	112.13	*8.9%*	**122.07**	132.90
40	4"	141.60	*8.7%*	**153.96**	167.39
41	6"	210.38	*8.5%*	**228.35**	247.86
42	8"	288.99	*8.4%*	**313.38**	339.83

Table 19
Water Utility
Development of 2021 Water Rates

Line No.		(1) Existing Rates $/unit	(2) *Indexed Adjustment for 2021* *1/2 of Adj from Table 17*	(3) **Proposed 2021 Rates** $/unit *[1] * (1+[2])*	(4) *Projected* Test Year 2022 Rates *from Table 17*
	Fire Protection				
	Quarterly Detector Checks - Service Charges - $/bill				
43	Inside City				
44	4"	51.76	*21.5%*	**62.87**	76.37
45	6"	62.57	*27.8%*	**79.96**	102.19
46	8"	88.72	*32.7%*	**117.70**	156.14
47	10"	253.70	*25.8%*	**319.19**	401.58
	Outside City				
48	4"	64.16	*9.1%*	**70.00**	76.37
49	6"	85.45	*9.4%*	**93.45**	102.19
50	8"	129.26	*9.9%*	**142.07**	156.14
51	10"	328.70	*10.5%*	**363.32**	401.58
	Monthly Detector Checks - Service Charges - $/bill				
52	Inside City				
53	4"	34.16	*16.7%*	**39.85**	46.49
54	6"	41.64	*15.0%*	**47.90**	55.10
55	8"	56.83	*13.4%*	**64.44**	73.08
56	10"	120.80	*13.2%*	**136.79**	154.89
	Outside City				
57	4"	39.88	*8.0%*	**43.06**	46.49
58	6"	48.10	*7.0%*	**51.48**	55.10
59	8"	64.71	*6.3%*	**68.77**	73.08
60	10"	133.52	*7.7%*	**143.81**	154.89
	Fire Hydrants - $/hydrant/year				
61	Public	0.00		0.00	0.00
62	Private	40.00	*0.0%*	**40.00**	40.00

Table 19
Water Utility
Development of 2021 Water Rates

Line No.		(1) Existing Rates $/unit	(2) *Indexed Adjustment for 2021* *1/2 of Adj from Table 17*	(3) **Proposed 2021 Rates** $/unit *[1] * (1+[2])*	(4) *Projected* Test Year 2022 Rates *from Table 17*
	Fire Protection				
	Quarterly Detector Checks - Service Charges - $/bill				
43	Inside City				
44	4"	51.76	*21.5%*	**62.87**	76.37
45	6"	62.57	*27.8%*	**79.96**	102.19
46	8"	88.72	*32.7%*	**117.70**	156.14
47	10"	253.70	*25.8%*	**319.19**	401.58
	Outside City				
48	4"	64.16	*9.1%*	**70.00**	76.37
49	6"	85.45	*9.4%*	**93.45**	102.19
50	8"	129.26	*9.9%*	**142.07**	156.14
51	10"	328.70	*10.5%*	**363.32**	401.58
	Monthly Detector Checks - Service Charges - $/bill				
52	Inside City				
53	4"	34.16	*16.7%*	**39.85**	46.49
54	6"	41.64	*15.0%*	**47.90**	55.10
55	8"	56.83	*13.4%*	**64.44**	73.08
56	10"	120.80	*13.2%*	**136.79**	154.89
	Outside City				
57	4"	39.88	*8.0%*	**43.06**	46.49
58	6"	48.10	*7.0%*	**51.48**	55.10
59	8"	64.71	*6.3%*	**68.77**	73.08
60	10"	133.52	*7.7%*	**143.81**	154.89
	Fire Hydrants - $/hydrant/year				
61	Public	0.00		0.00	0.00
62	Private	40.00	*0.0%*	**40.00**	40.00

COMSTOCK CHARTER TOWNSHIP
KALAMAZOO COUNTY, MICHIGAN

RESOLUTION APPROVING WATER SERVICES AGREEMENT AND AMENDED APPENDICES A THROUGH F

Adopted: March 1, 2021

Effective: March 2, 2021

WHEREAS, on December 21, 2020 the Comstock Charter Township Board approved a Water Services Agreement with the City of Kalamazoo, subject to the finalization of certain information in Appendices B through F therein within 60 days; and

WHEREAS, on February 8, 2021 the Charter Township of Comstock received from its consultants the Water Services Agreement and final Appendices A through F, as recommended by the Regional Water & Wastewater consultants that were instrumental in the formulation and finalization of the agreement and its appendices with indication that it was in form for final approval; and

WHEREAS the Township Board of Comstock Charter Township wishes to approve the final Water Services Agreement and Appendices A through F and to allow the Township Supervisor and Clerk to sign said agreement on behalf of the Township.

NOW THEREFORE IT IS HEREBY RESOLVED, that the Charter Township of Comstock Board hereby approves the City of Kalamazoo Water Services Agreement dated February 16, 2021 including Appendices A through F; agrees to be bound by the terms therein; and authorizes the Township Supervisor and Clerk to sign said agreement on behalf of the Charter Township of Comstock.

BE IT FURTHER RESOLVED that the signatures of the Supervisor and Clerk on the final agreement shall serve to effectuate the replacement of the December 21, 2020 Water Services Agreement with the final-form authorized Water Services Agreement and Appendices A through F therein.

Motion was made by Trustee Knight and seconded by Treasurer Padgett, to adopt the foregoing Resolution.

Upon roll call vote the following voted "aye":

Trustee Sherwood	Trustee McIver
Trustee Amos	Trustee Knight
Supervisor Thompson	Treasurer Padgett
Clerk Beauchamp	

The following voted "nay":

The Supervisor declared the motion carried and the Resolution duly adopted.

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of a Resolution adopted at a regular meeting of the Comstock Charter Township Board held via permitted ZOOM video conference during COVID-19 public health crisis as authorized by PA 254 of 2020 on March 1, 2021 which meeting was preceded by required notices under the Michigan Open Meetings Act, being 1976 PA 267; that a quorum of the Board was present and voted in favor of said Resolution; and that minutes of said meeting were kept and will be or have been made available as required by said Open Meetings Act.

Nicole Beauchamp

Nicole Beauchamp, Clerk
Charter Township of Comstock

Attest:

Randy L Thompson

Randy Thompson, Supervisor

COOPER CHARTER TOWNSHIP
RESOLUTION No. 21-186 APPROVING WATER SERVICES AGREEMENT

Adopted: February 8,2021

IT IS HEREBY RESOLVED that the Charter Township of Cooper adopts and approves the attached Water Service Agreement and its Amended Appendices A – F.

Motion was made by Frederick and seconded by DeHaan, to adopt the foregoing Resolution.

Upon roll call vote the following voted "aye":

Frederick, Janssen, Sorensen, DeHaan, Tuinstra, Vlietstra, Williams

The following voted "nay":

none

The Resolution passed and was duly adopted.

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of a Resolution adopted at a regular meeting of the Cooper Township Board held on this 8th day of February, 2021 preceded by required notice under the Michigan Open Meetings Act, PA 267 1976; that a quorum of the Board was present and voted in favor of said Resolution; and that minutes of said meeting were kept and will be made available as required by the Open Meetings Act.

DeAnna Janssen, Clerk
Township of Cooper

KALAMAZOO CHARTER TOWNSHIP
KALAMAZOO COUNTY, MICHIGAN

RESOLUTION APPROVING WATER SERVICES AGREEMENT AND AMENDED APPENDICES A THROUGH F

Adopted: February 22,2021

Effective: February 22,2021

WHEREAS, on December 14, 2020 the Kalamazoo Charter Township Board approved a Water Services Agreement with the City of Kalamazoo, subject to the finalization of certain information in Appendices B through F therein within 60 days; and

WHEREAS, on February 8, 2021 the Kalamazoo Charter Township received from its consultants the Water Services Agreement and final Appendixes A through F, as recommended by the Regional Water & Wastewater consultants that were instrumental in the formulation and finalization of the agreement and its appendices with indication that it was in form for final approval; and

WHEREAS the Township Board of Kalamazoo Charter Township wishes to approve the final Water Services Agreement and Appendices A through F and to allow the Township Supervisor and Clerk to sign said agreement on behalf of the Township.

NOW THEREFORE IT IS HEREBY RESOLVED, that Kalamazoo Charter Township hereby approves the City of Kalamazoo-Water Services Agreement dated February 16, 2021, including Appendices A through F; agrees to be bound by the terms therein and authorizes the Township Supervisor and Clerk to sign said agreement on behalf of Kalamazoo Charter Township.

BE IT FURTHER RESOLVED that the signatures of the Supervisor and Clerk on the final agreement shall serve to effectuate the replacement of the December 14, 2020 Water Services Agreement with the final-form authorized Water Services Agreement and Appendices A through F therein.

Motion was made by Clerk Miller and seconded by Supervisor Martin to adopt the foregoing Resolution.

Upon roll call vote the following voted "Aye": Supervisor Donald D. Martin, Clerk Mark E. Miller, Treasurer Sherine M. Miller, Trustees Ashley M. Glass, Steven C. Leuty, Lisa Moiaery, and Clara D. Robinson.

The following voted "nay": None.

The Supervisor declared the motion carried and the Resolution duly adopted.

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of a Resolution adopted at a regular meeting of the Kalamazoo Charter Township Board held via permitted ZOOM video conference during COVID-19 public health crises as authorized by PA 254 of 2020 on February 22, 2021, which meeting was preceded by required notices under the Michigan Open Meetings Act, being 1976 PA 267; that a quorum of the Board was present and voted in favor of said Resolution; and that minutes of said meeting were kept and will be or have been made available as required by said Open Meetings Act.

Mark E. Miller, Clerk
Charter Township of Kalamazoo

Attest:

Donald D. Martin, Supervisor

OSHTEMO CHARTER TOWNSHIP
KALAMAZOO COUNTY, MICHIGAN

RESOLUTION APPROVING WATER SERVICES AGREEMENT

Adopted: February 9, 2021

Effective: February 9, 2021

WHEREAS, the City of Kalamazoo operates a Public Water Supply System and is authorized to contract for the purchase/sale of treated potable water pursuant to MCL 123.141; and

WHEREAS the Kalamazoo Regional Water & Wastewater Commission has negotiated a long-term Water Services Agreement with the City of Kalamazoo for the continued provision of water to the service area which includes the Charter Township of Oshtemo and for other necessary provisions thereto; and

WHEREAS the Oshtemo Charter Township Board has had an opportunity to review the Water Services Agreement and Amended Appendices A-F with its consultants and attorneys; and wishes to approve the same as provided to the Township at its meeting of February 9, 2021, upon recommendation of the Regional Water & Wastewater Commission consultants and attorney.

NOW THEREFORE IT IS HEREBY RESOLVED, that the Charter Township of Oshtemo hereby approves the City of Kalamazoo-Water Services Agreement including amended Appendices A through F.

Motion was made by Zak Ford and seconded by Cheri Bell, to adopt the foregoing Resolution.

Upon roll call vote the following voted "aye":

Elizabeth Heiny-Cogswell, Dusty Farmer, Clare Buszka,
Kristin Cole, Kizzy Bradford, Cheri Bell and Zak Ford

The following voted "nay": None

The following were absent: None

The Supervisor declared the motion carried, and the resolution duly adopted.

Dusty Farmer, Clerk
Oshtemo Charter Township

****

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of a Resolution adopted at a regular meeting of the Oshtemo Charter Township Board held via permitted ZOOM video conference during COVID-19 public health crises as authorized by PA 228 of 2020 on February 9, 2021 which meeting was preceded by required notices under the Michigan Open Meetings Act, being 1976 PA 267; that a quorum of the Board was present and voted in favor of said Resolution; and that minutes of said meeting were kept and will be or have been made available as required by said Open Meetings Act.

Dusty Farmer, Clerk
Oshtemo Charter Township

Attest:

Libby Heiny-Cogswell, Supervisor

RESOLUTION APPROVING WATER SERVICES AGREEMENT

Adopted: February 8, 2021

Effective: February 8, 2021

IT IS HEREBY RESOLVED that Pavilion Township adopts and approves the attached Water Service Agreement and its Amended Appendices A – F.

Motion was made by John Speeter and seconded by Robyn MAXSON, to adopt the foregoing Resolution.

Upon roll call vote the following voted "aye":
John Speeter
ED Cagney
Robyn Maxson
Greg Thomas

The following voted "nay": KAREN SIEGWART

The Resolution passed and was duly adopted.

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of a Resolution adopted at a regular meeting of the Pavilion Township Board held on this 8th day of February, 2021 preceded by required notice under the Michigan Open Meetings Act, PA 267 1976; that a quorum of the Board was present and voted in favor of said Resolution; and that minutes of said meeting were kept and will be made available as required by the Open Meetings Act.

Karen Siegwart, Clerk
Township of Pavilion

Attest:

John Speeter, Township Supervisor

RICHLAND TOWNSHIP

7401 North 32nd Street • Richland, Michigan 49083-9701
(269) 629-4921 • FAX (269) 629-5993

RICHLAND TOWNSHIP
KALAMAZOO COUNTY, MICHIGAN

RESOLUTION # 21-02-11

RESOLUTION APPROVING WATER SERVICES AGREEMENT AND AMENDED APPENDICES A THROUGH F

Adopted: February 16, 2021

Effective: February 16, 2021

WHEREAS, on December 15, 2020 the Richland Township Board approved a Water Services Agreement with the City of Kalamazoo, subject to the finalization of certain information in Appendices B through F therein within 60 days; and

WHEREAS, on February 8, 2021 the Township of Richland received from its consultants the Water Services Agreement and final Appendixes A through F, as recommended by the Regional Water & Wastewater consultants that were instrumental in the formulation and finalization of the agreement and its appendices with indication that it was in form for final approval; and

WHEREAS the Township Board of Richland Township wishes to approve the final Water Services Agreement and Appendices A through F and to allow the Township Supervisor and Clerk to sign said agreement on behalf of the Township of Richland.

NOW THEREFORE IT IS HEREBY RESOLVED, that the Township of Richland hereby approves the City of Kalamazoo-Water Services Agreement dated Feb. 18, 2021, including Appendices A through F; agrees to be bound by the terms therein and authorizes the Township Supervisor and Clerk to sign said agreement on behalf of the Township of Richland.

BE IT FURTHER RESOLVED that the signatures of the Supervisor and Clerk on the final agreement shall serve to effectuate the replacement of the December 15, 2020 Water Services Agreement with the final-form authorized Water Services Agreement and Appendices A through F therein.

Motion was made by Drouin and seconded by Foust, to adopt the foregoing Resolution.

Upon roll call vote the following voted "aye":
Wendzel, Foust, Peter, Drouin, Harma, Priest, Eldridge

The following voted "nay":

RICHLAND
TOWNSHIP

7401 North 32nd Street • Richland, Michigan 49083-9701
(269) 629-4921 • FAX (269) 629-5993

RESOLUTION # 21-02-11

The Chairman declared the motion carried and the Resolution duly adopted.

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of a Resolution adopted at a regular meeting of the Richland Township Board held via permitted ZOOM video conference during COVID-19 public health crises as authorized by PA 228 of 2020 on February 16, 2021 which meeting was preceded by required notices under the Michigan Open Meetings Act, being 1976 PA 267; that a quorum of the Board was present and voted in favor of said Resolution; and that minutes of said meeting were kept and will be or have been made available as required by said Open Meetings Act.

Bear Priest, Clerk
Township of Richland

Attest:

Lysanne Harma

Lysanne Harma, Supervisor

RESOLUTION APPROVING WATER SERVICES AGREEMENT

Adopted: 2/8/2021

Effective: 2/8/2021

IT IS HEREBY RESOLVED that the Village of Richland adopts and approves the attached Water Service Agreement and its Amended Appendices A – F.

Motion was made by Kim Lewis and seconded by Anthony Brenner, to adopt the foregoing Resolution.

Upon roll call vote the following voted "aye":

Greve, Smith, Koporetz, Lewis, Brenner, & Austin

The following voted "nay":

none.

The Resolution passed and was duly adopted.

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of a Resolution adopted at a regular meeting of the Richland Village Board held on this 8th day of February, 2021 preceded by required notice under the Michigan Open Meetings Act, PA 267 1976; that a quorum of the Board was present and voted in favor of said Resolution; and that minutes of said meeting were kept and will be made available as required by the Open Meetings Act.

Brooke Jamieson, Clerk
Village of Richland

Attest: 2-8-21

_____, Village President

RESOLUTION NO. 21-07
CHARTER TOWNSHIP OF TEXAS

RESOLUTION APPROVING WATER SERVICES AGREEMENT

Adopted: February 8, 2021

Effective: February 8, 2021

IT IS HEREBY RESOLVED that the Charter Township of Texas adopts and approves the attached Water Service Agreement and its Amended Appendices A – F.

Motion was made by Loeks and seconded by Hammon, to adopt the foregoing Resolution.

Upon roll call vote the following voted:

YEAS: Beutel, Boven, Hammon, Kerr, Loeks, Mazer and Roberts

NAYS: None

The Resolution passed and was duly adopted.

CERTIFICATE

I hereby certify that the foregoing constitutes a true and complete copy of a Resolution adopted at a regular meeting of the Township Board of the Charter Township of Texas held on this 8th day of February, 2021 preceded by required notice under the Michigan Open Meetings Act, PA 267 1976; that a quorum of the Board was present and voted in favor of said Resolution; and that minutes of said meeting were kept and will be made available as required by the Open Meetings Act.

Texas Township Clerk

Attest:

Township Supervisor

Commission Agenda Report

City of Kalamazoo

TO: Mayor Hopewell, Vice Mayor Knott, and City Commissioners

FROM: Clyde J. Robinson, City Attorney

DATE: 3/1/2019

SUBJECT: City of Parchment Water & Wastewater Agreements

RECOMMENDATION

It is recommended that the City Commission approve the proposed agreements for the City of Kalamazoo to acquire the Parchment water system and a new wastewater service agreement which will convert Parchment from a wholesale customer to a retail customer.

BACKGROUND

On July 29, 2018 Lt. Governor Brian Calley declared a State of Emergency owing to the fact that the City of Parchment water supply greatly exceeded acceptable levels of PFAS due to contamination impacting that City's wellfields. Fortunately, the City of Kalamazoo water system exists in close proximity to Parchment and a temporary connection was made so as to provide the City of Parchment with potable water while a long term solution is considered and implemented.

Following discussions between officials of both municipalities, it was agreed that the best solution would be for the City of Kalamazoo to acquire the Parchment water system. The proposed agreement to implement this solution would amount to the City of Kalamazoo acquiring the assets of the Parchment water system for the amount of $492,137 and Parchment water customers would become and be treated as Kalamazoo in-city water customers. Because the Parchment system also serves a portion of Cooper township, those customers would continue to be served, but would be treated as out-city customers, similar to Cooper Township customers currently served by the City of Kalamazoo.

Because the City of Kalamazoo would take over the billing of Parchment residences and businesses for both water and sewer services, the wastewater service contract which currently treats Parchment as a wholesale customer (wherein the amount of wastewater is measured and billed to the City of Parchment who in turn bill residents and businesses) to a retail customer wherein residents and businesses are billed directly by the City of Kalamazoo.

FISCAL IMPACT

The cost of acquisition of the Parchment water system would be $492,137 to be paid over two years, plus the audited value of accounts receivable, and the expense of additional future costs to maintain the acquired infrastructure. However, the future maintenance costs would be recouped from water service billings from the system as a whole. It should be noted that Kalamazoo is not acquiring the Parchment wastewater system; Kalamazoo would provide ordinary maintenance to that system, but any capital expenses of the wastewater system would remain the responsibility of the City of Parchment.

ALTERNATIVES

The City Commission could decline to approve the proposed contracts, but this is not recommended.

ATTACHMENTS:

	Type	Description
D	Agreement	Parchment Wastewater Service Agreement
D	Agreement	Parchment Water Service Agreement

Borling, Scott

From: Nancy Stoddard <manager@parchment.org>
Sent: Friday, March 8, 2019 8:23 AM
To: Borling, Scott; 'Robert Soltis'; Robinson, Clyde
Cc: 'Rob Britigan'; 'Wheat, Tom'
Subject: [EXTERNAL EMAIL] RE: Final Water Agreement

Hi Scott,

Yes, and copies, with the Mayor's signature have been sent to the COK Attorney and James Baker as of Monday, March 4, 2019. Attorney Robinson has requested that 2 original contracts with signatures are to be signed and picked up by a person from his office for the COK. We will have those ready by 1:30pm today.

Nancy R. Stoddard
City Manager
City of Parchment MI
269.492.3263 Direct
269.349.3785 Office

-----Original Message-----
From: Borling, Scott [mailto:BorlingS@kalamazoocity.org]
Sent: Thursday, March 7, 2019 2:24 PM
To: Robert Soltis <rsoltis@fordkriekard.com>; Robinson, Clyde <robinsonc@kalamazoocity.org>
Cc: Manager Parchment <manager@parchment.org>; Rob Britigan <rbritigan@midlink.com>; Wheat, Tom <TWheat@preinnewhof.com>
Subject: RE: Final Water Agreement

As the person responsible for document execution following City Commission meetings, I am wondering if the City of Parchment has already signed the water and wastewater agreements?

Scott A. Borling, City Clerk
City of Kalamazoo
241 W. South St.
Kalamazoo, MI 49007
269.337.8791 (v)
269.337.8494 (f)
www.kalamazoocity.org

From: Robert Soltis <rsoltis@fordkriekard.com>
Sent: Monday, March 04, 2019 9:00 AM
To: Robinson, Clyde <robinsonc@kalamazoocity.org>
Cc: Borling, Scott <borlings@kalamazoocity.org>; Manager Parchment <manager@parchment.org>; Rob Britigan <rbritigan@midlink.com>; Wheat, Tom <TWheat@preinnewhof.com>
Subject: [EXTERNAL EMAIL] RE: Final Water Agreement

Clyde,

I've been told that the net book value of the River Reach Boulevard assets, not previously considered, is $167,074.87. Together with the previous amount of $356,886 equals $523,960.87. I'm not a mathematician, so I would appreciate the a double check.

Thanks. Bob

Robert A. Soltis
Ford, Kriekard, Soltis & Wise, P.C.
8051 Moorsbridge Road
Portage, MI 49024
(269) 323-3400 (phone)
(269) 323-3418 (fax)

From: Robinson, Clyde
<robinsonc@kalamazoocity.org<mailto:robinsonc@kalamazoocity.org>>
Sent: Friday, March 1, 2019 3:34 PM
To: Robert Soltis
<rsoltis@fordkriekard.com<mailto:rsoltis@fordkriekard.com>>
Cc: Borling, Scott
<BorlingS@kalamazoocity.org<mailto:BorlingS@kalamazoocity.org>>
Subject: Final Water Agreement

Attached is what I hope is the absolutely final version of the water agreement. Note the changes at Section 1 C. which increase the amount of the sale and spreads the payment into two equal amounts due by the end of June this year and next.

Confidentiality: Think before you Print. The information contained in this electronic mail message and any attachments is intended only for the use of the individual or entity to which it is addressed and may contain legally privileged, confidential information or work product. If the reader of this message is not the intended recipient, you are hereby notified that any use, dissemination, distribution, or forwarding of the Email message is strictly prohibited. If you have received this message in error, please notify me by Email reply, and delete the original message from your system.

WASTEWATER SERVICE AGREEMENT

THIS AGREEMENT is entered into March 4, 2019 between the City of Kalamazoo ("Kalamazoo"), 241 W. South St, Kalamazoo, MI 49007, and the City of Parchment, ("Parchment"), 650 S. Riverview Dr. Parchment, MI 49004, collectively referred to as the "Parties" or individually as a "Party", pursuant to the authority granted by 1951 Public Act 35, MCL 124.51 et seq.

Recitals

Whereas each of the Parties pursuant to authority granted by law, operate and maintain wastewater collection systems; and

Whereas the Parties in pursuit of achieving the water pollution goals which have been established for them previously entered a 30 year Agreement dated July 23, 1985 whose terms continue on a year-to-year basis, and for which Parchment compensates Kalamazoo on the basis of metered wastewater flow at a common connection point of each Party's system; and

Whereas given that the Parties desire for Kalamazoo to acquire and operate the Parchment water system and as part of that takeover, each Parchment water customer can be individually billed for wastewater services,

Now therefore, in consideration of the promises and mutual covenants contained herein, the Parties agree as follows:

Terms & Conditions

1. This Agreement replaces all previous Agreements between these parties relating to the transportation and treatment of wastewater, and any said previous Agreements are of no further force or effect.

2. DEFINITIONS: As used in this Agreement the following terms are defined as follows:

"Collection System" means all sanitary sewers, trunks, interceptors, pumping stations, appurtenances, instrumentalities, or properties of the wastewater system used or useful in the collection and conveyance of wastewater, excluding service leads.

"Domestic Waste" means human wastes and other wastes related to personal or residential sanitation, including haul the septage wastes.

"Nondomestic Waste" means any waste generated from an industrial or commercial process or other means but which is not domestic waste.

"Service Lead" means an instrumentality that connects an affected property, including a structure, fixture, or improvement on the property, to the collection system and is neither owned nor maintained by a governmental agency.

"Treatment Facilities" means all piping, pumps, force mains, structures, equipment, appurtenances, instrumentalities, or properties used or useful in the treatment and disposal of wastewater.

"Wastewater System" means the facilities of Kalamazoo for collection, transportation, storage, piping, treatment and final disposition of domestic and nondomestic wastewater; the wastewater collection system of any municipality, including Parchment, served by Kalamazoo; and any temporary connection authorized by the Director of the Kalamazoo Department of Public services or the designee or authorized representative thereof.

"Wastewater" mean the liquid-and water-carried domestic and nondomestic wastes from dwellings, commercial buildings, industrial facilities and institutions, together with any groundwater, surface water, and storm water that may be present, whether treated or untreated, which is contributed into or permitted to enter the wastewater system.

3. CONVEYANCE OF WASTEWATER: Parchment agrees to convey its wastewater to the Kalamazoo Treatment Facilities at established points. No flow rate in excess of levels permitted by the Michigan Department of Environmental Quality (or its successor agency) shall be discharged by the Parchment Collection System to the Kalamazoo Wastewater System at any point without prior approval of Kalamazoo.

4. ACCEPTANCE AND TREATMENT: Kalamazoo agrees to accept wastewater to the best of its ability, in accordance with its NPDES permit, from the Parchment service area, into its Treatment Facilities, and to provide for the treatment and disposal thereof.

5. WASTEWATER CONTROL: As long as the wastewater of Parchment is treated by Kalamazoo, Parchment shall have in effect a plumbing code and such other ordinances, rules, and regulations as may be necessary to maintain standards for the construction, maintenance, repair, and use of the Collection System equal to those then in effect in Kalamazoo, and shall provide for the strict enforcement thereof.

At the request of Kalamazoo, Parchment agrees to terminate service to any premises which fails to comply with ordinances, rules, and regulations maintaining standards for the construction, maintenance, repair, or use of the Collection System. Kalamazoo shall have the right to inspect the Parchment Collection System and premises connected thereto for the purpose of enforcement of this Agreement.

The Parchment ordinances, rules, and regulations governing construction, maintenance, repair, and use of the Collection System shall be as stringent as those of Kalamazoo, including but not limited to pertinent provisions of the Kalamazoo City Code pertaining to the Wastewater System, as such exists at present or as may from time to time be amended. Any changes in Federal or State law or regulations or in the Kalamazoo City Code which sets stricter standards shall automatically become part of this Agreement.

The Parchment collection system shall be used for only such waste waters as are permitted under those laws, ordinances, rules, and regulations as are in effect at the time of the given use.

6. MUNICIPAL COLLECTION SYSTEM: It is understood that the sewers and appurtenances which are part of the Collection System as defined, except such facilities as have been, are, or will be constructed at Kalamazoo expense, are the property of Parchment and shall be constructed by Parchment. In the event that another political entity desires service therefrom or connection with the Parchment Collection System, such service shall be rendered or such connection made only with the written approval of Kalamazoo.

7. COLLECTION SYSTEM CONSTRUCTION: Parchment agrees to construct, at its expense, its Wastewater Collection System. Any Parchment Collection System construction (such as new sewers, reconstruction of existing sewers, etc.) shall be designed by a Registered Professional Engineer and the design, plans, and specifications therefor shall be subject to prior review and approval by Kalamazoo acting through its Director of Public Services (or designee thereof) , and shall equal or exceed Kalamazoo standards for materials and construction. Any construction of the Parchment Collection System shall be inspected by qualified personnel under the supervision of the Professional Engineer.

Detailed records of Parchment Collection System additions or modifications shall be maintained by Parchment, and copies of as-built drawings and records pertaining to service connections and property service leads shall be furnished to Kalamazoo. No system extensions beyond the Parchment corporate limits or the areas being presently served shall be made without prior written approval from Kalamazoo.

8. COMPENSATION FOR TREATMENT: Kalamazoo agrees to provide and maintain, pursuant to its ordinance and water service contracts, the proper water meters for properties connected to the Kalamazoo water system and collect individual water consumption data and bill individually metered customers of the Parchment wastewater collection system, according to the rates set forth in the Kalamazoo Code of Ordinances, as may be amended from time to time, for out-city customers of the Wastewater System.

One or 2-family residential customers not connected to the public water system may be charged pursuant estimates made by the Kalamazoo Director of Public Services in accordance with standards set in the Kalamazoo City Code. Such estimated charge procedures shall be at the option of Kalamazoo.

User charges for operation, maintenance, and replacement shall conform with guidelines established by the United States Environmental Protection Agency or other regulatory agency, as may be amended from time to time. Such charges shall generate sufficient revenue to pay all costs of operation, maintenance, and replacement of the Wastewater System. The system of user charges shall be reviewed at least once every 2 years and revised as required. Such charges shall ensure that every user and user class pays his proportionate share of the operation, maintenance, and replacement costs. The system of capital charges shall be reviewed at least once every 2 years and revised is required to ensure that every user and user class pays its proportionate share of such charges.

The Parties may use a rate expert selected by Kalamazoo to assist them in reviewing the charges, and the costs of such expert shall be charged to the Wastewater System.

All wastewater service charges shall be collected by Kalamazoo. The rates and charges shall constitute a lien on the properties located in Parchment as provided for by MCL 123.161 *et seq.*, as amended. It is agreed that such liens may be enforced by Kalamazoo in the same manner that mechanics liens are enforced under the provisions of the laws of the State of Michigan. It is also agreed that Kalamazoo has the power to effect collection of water service charges which remain due and unpaid for more than 30 days by any means permitted by law.

9. ADDITIONAL MUNICIPAL CHARGES: Parchment may make additional charges for wastewater collection and disposal services over and above those which are billed, collected and retained by Kalamazoo under the provisions of this Agreement. Such additional charges may be billed and collected by Kalamazoo in conjunction with the other charges and accounted for by the Kalamazoo to Parchment. Kalamazoo shall be entitled to be reimbursed by Parchment for any additional administrative costs involved in billing and collecting such additional charges.

10. INDUSTRY: Parchment agrees to permit Kalamazoo to establish, bill for, and collect charges directly against industrial users of the Parchment Collection System so as to require such pretreatment of industrial wastes and to execute contracts with industrial users as may be required to comply with federal regulations established as a condition of approval of federal grants for Kalamazoo or Parchment.

Any industry desiring to use the Parchment Collection System for industrial wastes, shall apply in writing to Kalamazoo's Director of Public Services and the appropriate Parchment official for permission to connect to the Parchment Collection System and no discharge of any

such industrial waste into that System in the service area shall be permitted unless and until all of Kalamazoo's lawful requirements have been met, including, where required, the pretreatment of industrial wastes as required by Federal or State regulation and approved by Kalamazoo.

11. MAINTENANCE: Kalamazoo agrees to provide ordinary and regular maintenance of the Parchment wastewater collection system which shall include periodic cleaning of the sanitary sewers, as well as ordinary maintenance and operation of any wastewater pumping stations. Construction, reconstruction or repair of the Parchment collection system or any part thereof shall be the responsibility of Parchment and is not part of the ordinary maintenance service provided by Kalamazoo; nor shall maintenance of service leads, house connections or house sewers be part of the maintenance service. If services which are not required under this contract are performed by Kalamazoo, the charges therefor will be based on the actual cost of labor and materials, inclusive of administrative and overhead charges.

12. CONSTRUCTION BY KALAMAZOO WITHIN PARCHMENT: In the event Kalamazoo needs to use streets, highways, alleys or easements in Parchment to construct, maintain or operate wastewater system facilities to adequately serve Parchment and other areas, Parchment agrees to consider such need and to not unreasonably withhold consent to the use of said streets, highways, alleys, or easements and Parchment agrees not to make any charge therefor to Kalamazoo. Parchment shall however be entitled to place reasonable conditions on its such use of said streets, highways, alleys, or easements, including but not limited to a request to restore all real and personal property to a condition comparable to that existing immediately prior to the work, or at Kalamazoo's option provide a replacement of comparable quality and Kalamazoo's agreement to plan and construct such facilities in a manner so as to minimize disruption of vehicular traffic. All facilities constructed by or at the expense of Kalamazoo shall be the property and remain under the exclusive control of Kalamazoo.

13. CONNECTION TO PARCHMENT SYSTEM: It is mutually understood and agreed that the Parchment Collection System may be utilized to serve areas of Kalamazoo or other communities with the consent of both Kalamazoo and Parchment, which consent will not be unreasonably withheld by either Party. No connection will be made that is not in accordance with accepted waste water system collection practices. If the connection or service results in the use of collection system by any other political entity, Parchment shall be entitled to compensation from that entity proportional to such use. Such charge shall not exceed charges which are levied against users of Parchment's collection system within the City of Parchment.

14. HOLD HARMLESS: Parchment agrees pay Kalamazoo for any liability, claim, fine, cost, or penalty of whatever form or kind, including but not limited to personal injury or property

damage because of any act or omission of Parchment or one of or more of its officers, agents, employees or departments.

Parchment further agrees to pay Kalamazoo, for any liability, claim, find, cost or penalty of whatever form or kind, including but not limited to fines, costs, fees, or penalties imposed upon Kalamazoo by any court or administrative agency, including but not limited to the United States Environmental Protection Agency or the Michigan Department of Natural Resources, because of any act or omission of Parchment or one or more of its officers, agents, employees or departments, if the act or omission constitutes a violation of, or places Kalamazoo in violation of, any environmental statute, ordinance, rule, or regulation.

Kalamazoo agrees to pay Parchment, for any liability, claim, fine, cost or penalty of whatever form or kind, including but not limited to personal injury or property damage because of any act or omission of Kalamazoo or one or more of its officers, agents, employees or departments.

15. OPERATING LIABILITY: Kalamazoo use reasonable diligence but does not guarantee uninterrupted service and shall not be liable for injuries or damages caused by such interruptions whether caused by defects in original construction, cave-ins, accidents, repairs, or other causes, nor shall Kalamazoo be liable to Parchment or any customer or any other person firm or corporation for injuries or damages of any nature caused by a sewage disposal system event as defined by MCL 691.1416, the use of the treatment facilities of Kalamazoo or the Parchment collection system, or by interruptions thereto. This paragraph does not modify paragraph 14.

16. TERMINATION: This Agreement shall remain in full force and effect for an indefinite period of time, but for at least a period of 30 years unless sooner terminated by consent of the Parties hereto or by either Party because of a breach by the other Party of a material provision or undertaking or failure to make a payment required; provided, however that no termination shall be made because of such breach until after the expiration of 6 months following a written notice of such breach to the offending Party by the other Party, which notice shall specify how, in the opinion of the non-offending Party the breach can be corrected. After the expiration of the 30 year period, either Party may terminate your Agreement upon one year's written notice to the other Party.

Notwithstanding the above, the Parties understand that the City of Kalamazoo and the Kalamazoo Regional Water and Wastewater Commission may negotiate a new comprehensive wastewater service agreement for non-City of Kalamazoo municipal retail customers. In the event that Kalamazoo and other municipal retail customers enter into a new comprehensive wastewater service agreement, Kalamazoo and Parchment agree that this Agreement may be

terminated upon 90 days written notice by either Party and that Parchment will be permitted to become a signatory to that Agreement, or that Kalamazoo and Parchment will enter into a new Wastewater Service Agreement upon the same terms and conditions as other non-City of Kalamazoo municipal retail customers. At that point, this Agreement shall be terminated and shall no longer be in force and effect.

17. ASSIGNMENT: Kalamazoo shall at all times have the right and may at any time exercise that right to assign all of his rights, obligations and liabilities to a wastewater authority created for the Kalamazoo area.

18. SAVING CLAUSE: Should any part of this Agreement be held by a court of competent jurisdiction to be illegal or unenforceable, such event shall not be deemed automatically affect the validity of any other portion year of, but if the ruling deprives a Party of one or more rights under this agreement, this Agreement may be suspended upon 10 days written notice to the other Party. The Parties would then negotiate for the purpose of revising this Agreement.

IN WITNESS WHEREOF, this Agreement is signed and delivered the day and year first above written by authority of the City Commission of Kalamazoo given the 4th day of March 2019, and the City Commission of Parchment, given the 4th day of March 2019.

CITY OF KALAMAZOO

By: James K. Ritsema

Its: City Manager

CITY OF PARCHMENT

By: Robert D. Britigan III

Its: Mayor

WATER SYSTEM AGREEMENT

This Agreement is entered into March 4, 2019 between the City of Kalamazoo ("Kalamazoo"), 241 W. South St., Kalamazoo, MI 49007 and the City of Parchment ("Parchment"), 650 S. Riverview Dr., Parchment, MI 49004, collectively referred to as the "Parties" or individually as a "Party", pursuant to the authority granted them by 1951 Public Act 35, MCL 124.1 et seq. and 1917 Public Act 34, MCL 123.141 et seq.

Recitals

Whereas, the City of Parchment owns and operates a municipal water system that services its residents and a portion of Cooper Township and which pursuant to a Water Supply Agreement dated August 14, 2018 has used potable water supplied by the City of Kalamazoo; and

Whereas, the City of Parchment desires that the City of Kalamazoo take over the ownership and operation responsibilities of the Parchment municipal water system;

Now therefore, in consideration of the mutual covenants and agreements contained herein, the Parties agree with each other according to the provisions contained within this Agreement and as set forth as follows.

Terms & Conditions

Section 1. Grant of Title

A. Parchment grants title to Kalamazoo to all accessory equipment, appurtenances, and appliances, including, but not limited to all water mains, pipes, fittings, valves, storage tank, fire hydrants, and any property rights, whether recorded or unrecorded, and all notes and audited accounts receivable (excluding cash on hand and bad debt), which comprise the assets and liabilities of the Parchment municipal water system, as set forth in Attachment A to this Agreement, and which are used for the purpose of transmitting and distributing water throughout the City of Parchment and a portion of Cooper Township, Kalamazoo County, Michigan.

B. It is agreed between the Parties that Kalamazoo is not acquiring the Parchment wellfield property located off of 20th St. in Cooper Township which includes associated wellfield equipment, appliances and appurtenances, including but not limited to Wells, well houses, well pumps, water treatment plant, laboratory, backwash lagoons, and all related equipment, structures and real property.

It is also agreed that the water storage tower located in Kindleberger Park is an asset that will be acquired by Kalamazoo, however, the real property containing the tower remains titled to Parchment, subject to a right of access by Kalamazoo which is granted by the terms of this Agreement.

It is further agreed that Kalamazoo is not acquiring any present or future liability in tort or contract for any claim of injury to person or property as a result of PFOS/PFOA/PFAS, lead, or any other contaminant discovered to have been present in the Parchment water system prior to August 1, 2018 or directly related to the change in water source subsequent to August 1, 2018.

C. Kalamazoo agrees to pay Parchment the sum of $492,137.00 as consideration for said accessory equipment, appurtenances, appliances, property rights, assets and liabilities being acquired. This sum shall paid in two equal payments, the first due on or before June 28, 2019 and the second payment due on or before June 30, 2020. Kalamazoo also agrees to pay Parchment the amount of accounts receivable determined as of March 15, 2019, less any bad debt. As used throughout this Section 1, "bad debt" means any accounts more than 90 days in arrears.

Section 2. Grant of Authority

A. Parchment grants Kalamazoo the power and authority access all public streets, avenues and alleys, rights-of-way and public places now existent or which may hereafter come into existence to do all things necessary to operate a municipal water system and in carrying out the delivery of potable water throughout the City of Parchment.

B. Parchment grants to Kalamazoo its irrevocable consent to use such highways streets and alleys, rights-of-way, and other public places as may be reasonably necessary to permit Kalamazoo to service the areas of Parchment and agrees to execute and deliver to Kalamazoo any easements or other consents in recordable form as may from time to time be requested by Kalamazoo, provided however, that any easements for the exclusive use of establishing water mains within Parchment and which must be acquired by eminent domain or purchase, shall not be required to be furnished to Kalamazoo at the expense of Parchment.

Section 3. Acceptance and Performance Obligations; Indemnification

A. In exchange for the grants of authority provided by this Agreement Kalamazoo shall take title to the Parchment municipal water system and by acceptance thereof, faithfully perform all manner of services required to deliver potable water; such performance by Kalamazoo shall be in lieu of all licenses, fees, taxes or charges which Parchment might otherwise levy and impose.

B. Parchment agrees to assume all liability and expense to pay for and defend any claim of personal injury or property damage sounding in tort or contract asserted to be the result of its acts or omissions in the operation of the Parchment water system against Kalamazoo prior to the effective date of this Agreement. Kalamazoo agrees to provide Parchment five (5) business days' notice of any claim received that Parchment may be obligated to defend or resolve.

Section 4. Operation of System

Kalamazoo will operate and maintain the water system in the same manner as water is furnished within the City of Kalamazoo and agrees to keep the water system in good repair including the maintenance and painting of fire hydrants, the repair of leaks and defects and items of a similar nature usually associated with the maintenance and operation of a public water supply system.

Section 5. Service Connections & Meters

A. Any customer service connection shall be installed under the same conditions, rules, regulations, and charges as are now or may hereafter be in effect within the City of Kalamazoo. Kalamazoo will provide at its expense all necessary meters for measuring water used by customers.

B. The Parties understand and agree that Lead Service Lines (LSL) served by the Parchment water system are required to be replaced up to the meter. Kalamazoo agrees to perform or contract for the performance of the LSL replacement work in accordance with applicable State-mandated deadlines.

Section 6. Identity as Kalamazoo Water System; Water Storage Tank

A. Upon execution of this Agreement by the authorized representatives of Kalamazoo and Parchment, the Parchment municipal water system shall become and be considered, in whole and in part, as the Kalamazoo municipal water system.

B. Kalamazoo agrees that so long as the water storage tank in Kindleberger Park remains used and useful, it may, at the request and expense of Parchment, be painted to reflect the identity of the City of Parchment. The Parties further agree that neither Party shall permit third-party privately owned and controlled telecommunication antennas or similar equipment to be located on the water storage tank.

C. The parties agree that future water quality and hydraulic optimization goals may require that the Parchment water storage tank be taken out of service. This decision will be made solely by Kalamazoo as permitted and authorized by the Michigan Department of Environmental Quality. It is further understood that taking the water storage tank out of service could be intermittent,

seasonal or permanent. Should the water storage tank be taken out of service permanently, such would require its demolition and disposal. The cost to demolish and dispose the water storage tank is a utility cost absorbed by Kalamazoo water system, and cannot be prevented by Parchment.

Section 7. Hydrants

Kalamazoo, from time to time and upon request in writing from Parchment, will install, move and remove fire hydrants at locations upon mains then laid or being laid, as requested by Parchment. The installation and removal cost of fire hydrants will be at the expense of the water system and become the property of Kalamazoo.

Section 8. Construction and Maintenance

Kalamazoo agrees to maintain the mains, and all appurtenances subject to this Agreement, however Parchment shall reimburse Kalamazoo for the cost of all changes in or damages to the distribution system and service connections as may be incurred by street redevelopment programs, street grading programs, or other public works by the City of Parchment, its contractors or agents, other than damage caused by activities of Kalamazoo or its contractors and agents. Kalamazoo agrees to save Parchment free from all liability cost and expense to which it might be subject by reason of construction and maintenance activities conducted by Kalamazoo. The liability which Kalamazoo accepts under this paragraph applies only to new construction and maintenance work and is not to be confused with operating liability addressed by Section 9 of this Agreement.

Section 9. Operating Liability

Kalamazoo will use reasonable diligence to provide and maintain regular and uninterrupted water service, but such does not guarantee uninterrupted service and shall not be liable for damages caused by accident, repairs or other causes; nor shall Kalamazoo be liable for injuries or damages of any nature caused by the use of the water so furnished. The Parties agree that the provision of water services pursuant to this Agreement is a governmental function and that nothing in this Agreement shall be deemed or construed as a waiver of the defense of governmental immunity as recognized by Michigan common law and statute.

Section 10. Water Service Rates

The rates to be charged by Kalamazoo for water service to former Parchment water system customers shall be identical to the rates charged by Kalamazoo to users of water service within the City of Kalamazoo as from time to time established by ordinance or resolution.

All water service charges shall be collected by Kalamazoo. The rates and charges shall constitute a lien on the properties located in Parchment as provided for by MCL 123.161 *et seq.*, as amended. It is agreed that such liens may be enforced by Kalamazoo in the same manner that mechanics liens are enforced under the provisions of the laws of the State of Michigan. It is also agreed that Kalamazoo has the power to effect collection of water service charges which remain due and unpaid for more than 30 days by any means permitted by law.

Section 11. Assignment

Parchment assigns to Kalamazoo all rights and responsibilities Parchment has in the Renewed Parchment/Cooper Water Service Agreement dated December 18, 2001 which extends the terms of the November 4, 1968 Water Service Agreement between Parchment and Cooper Township, both agreements being Attachment B to this Agreement. Parchment agrees to secure the consent of Cooper Township to assign its rights and responsibilities under these agreements to the City of Kalamazoo prior to or contemporaneous to entering this Agreement. Attachment C shall reflect the consent by Cooper Township to the water system transfer contemplated by this Agreement.

Section 12. Cooperation

A. Parchment agrees to cooperate with Kalamazoo by adopting and promoting any and all measures of aid and assistance to permit the prompt and efficient accomplishment of the objectives of this Agreement and the operation of the water system, including the adoption of ordinances and enforcement of applicable codes, laws, or regulations to such end. Parchment further agrees to amend or repeal any and all ordinances, rules, regulations which have been previously adopted and which are in conflict with the provisions of this Agreement or contrary or burdensome to the objectives stated herein. Additionally, Parchment commits itself to cooperate fully in assisting in the collection of charges, including the taking of appropriate action on Kalamazoo's behalf and at its request in order to effectuate collection of water service charges.

B. Parchment agrees to transfer its water service customer billing and collection records to Kalamazoo and provide the necessary assistance to Kalamazoo to facilitate said transfer upon execution of this Agreement.

C. All rules, regulations, and services as provided within the City of Kalamazoo, for the administration of its water utility, except as otherwise provided within this agreement, shall be considered to apply to Parchment water service customers. Kalamazoo agrees to faithfully administer such rules in an impartial manner to all its customers.

13. Effective Date

Upon execution by the authorized representatives of the Parties, this Agreement is deemed effective March 4, 2019.

Authorized Signatures

The authority of the official on behalf of the City of Kalamazoo to execute this agreement as evidenced by the authority of the City Commission given on the 4th day of March, 2019 and reflected in the minutes of said meeting.

The authority of the official on behalf of the City of Parchment to execute this agreement as evidenced by the authority of the City Commission given on the 4th day of March, 2019 and reflected in the minutes of said meeting.

CITY OF KALAMAZOO

James K. Ritsema

City Manager

CITY OF PARCHMENT

Robert D. Britigan III

Mayor

ATTACHMENT A

City of Kalamazoo Acquisition of Parchment Distribution System 1/1/2019

ASSET DESCRIPTION	ACQUISTION COST	ACQUISTION DATE	LIFE	Net Book Value
EQUIPMENT				
Meter Read System	6,545	2007	25	3,599
Confined Space gas detector	1,468	2007	25	795
2 Sensus Meter Readers	9,000	2018	10	
EQUIPMENT TOTALS	17,013			4,394
HYDRANTS				
ONE HYDRANT	695	1,983	50	231
86 HYDRANTS	43,000	1,956	50	0
HYDRANTS	3,261	1,987	50	1,373
Two Hydrants	2,130	2,002	50	1,459
Hydrant	8,050	2,007	10	0
HYDRANT TOTALS	57,136			3,063
WATER MAINS				
ORIGINAL	130,000	1,935	100	21,450
1955 ADDITION	60,700	1,955	100	22,760
1960 ADDITION	13,000	1,960	100	5,525
1965 ADDITION	7,000	1,965	100	3,255
1968 ADDITION	51,000	1,968	100	25,240
1972 ADDITION	90,000	1,972	100	48,150
1992 ADDITION (DDA)	83,528	1,991	100	61,396
Watermain Extension	70,572	2,003	50	49,287
River Reach Watermain Extension	198,898	2,003	50	135,251
MAINS TOTALS	704,698			372,314
METERS				
4" METER @ JAMES RIVER	821	1,986	25	0
1" METERS (2)	229	1,986	25	0
5/8" METERS (20)	1,231	1,986	25	0
3/4" METERS(6)	504	1,986	25	0
3/4" METERS	267	1,985	25	0
1" SR METER	100	1,985	25	0
5/8" METERS	265	1,985	25	0
1" METER	115	1,985	25	0
3/4" METERS (3)	252	1,985	25	0
5/8" METERS (20)	1,231	1,985	25	0
5/8" METERS (414)	17,219	1,969	25	0
5/8" METERS (6)	285	1,978	25	0
5/8" METERS (6)	231	1,978	25	0
5/8" METERS (6)	238	1,979	25	0
5/8" METERS (4)	194	1,979	25	0
5/8" SR METER(6) GEN TOP	358	1,980	25	0
5/8" SR METER (6)	259	1,980	25	0

5/8" METERS (10)	425	1,981	25	0
5/8" METERS W/REMOTE(80)	4,321	1,981	25	0
5/8" METERS W/REMOTE(80)	4,431	1,981	25	0
5/8" METERS W/REMOTE (6)	349	1,982	25	0
5/8" METERS W/REMOTE (8)	576	1,983	25	0
5/8" METERS (6)	278	1,984	25	0
5/8" METERS (24)	1,316	1,984	25	0
5/8" METERS (51)	2,774	1,984	25	0
3/4" METERS (113)	6,387	1,969	25	0
3/4" METERS (3)	200	1,982	25	0
3/4" METERS (2)	116	1,978	25	0
3/4" METERS (3)	178	1,979	25	0
3/4" METER	64	1,981	25	0
3/4" METERS W/REMOTE (4)	319	1,982	25	0
3/4" METERS (3)	208	1,984	25	0
3/4" METERS (6)	446	1,984	25	0
1" METERS (3)	299	1,974	25	0
1" METERS (2)	169	1,978	25	0
3" METER	1,000	1,969	25	0
8" METER	4,855	1,969	25	0
5/8" CONVERSION KITS (5)	92	1,980	25	0
1" CONVERSION KITS (3)	54	1,980	25	0
MISC SPARE PARTS	400	1,969	25	0
GROUP OF METERS	9,027	1,988	25	0
3/4" METERS (6)	404	1,989	25	0
5/8" METERS (25)	1,381	1,989	25	0
1" METERS (2)	174	1,979	25	0
1 1/2" METERS (5)	1,313	1,989	25	0
1" SR METER W/GEN TOP	112	1,980	25	0
2" METER (1)	425	1,989	25	0
1" METER W/REMOTE (2)	218	1,982	25	0
OUTSIDE RECORDERS (28)	435	1,969	25	0
1 1/2" METERS (5)	550	1,969	25	0
GROUP OF METERS	3,458	1,987	25	0
1 1/2" METER	263	1,984	25	0
5/8" METERS (48)	2,508	1,989	25	0
1" METERS (25)	6,101	1,969	25	0
1" METERS (3)	295	1,989	25	0
2" METERS (15)	1,875	1,969	25	0
5/8" METERS (18)	1,044	1,989	25	0
4" METERS (2)	2,200	1,969	25	0
1 1/2" METERS (4)	1,050	1,989	25	0
1 TURBO METER	464	1,982	25	0
5/8" METER (20)	1,160	1,990	25	0
3/4" METER (8)	622	1,990	25	0
8" INVERT FLO METER	1,262	1,991	25	0
3" FLG W-350 TURBO METER	510	1,990	25	0
40 5/8" RW METERS 100 CF	2,000	1,991	25	0
63 5/8" SR100CF ECR TR/PIT	5,040	1,992	25	0
5 SR3/4" 100CF W/REM	380	1,992	25	0
6 SR 1" 100CF W/REM	612	1,992	25	0
1 SR 2" 100CF W/REM	366	1,992	25	0

Sensus Meters SR 5/8 100 cu. ft.	1,195	1,993	20	0
w/Remote (17)	696	1,993	25	8
	290	1,993	25	0
Sensus Meter Conv. Kits, 100 cf	1,228	1,994	15	0
with GTR Register; Remote; 15 ft wire				0
15 Sensus SR 5/8"				0
10 Sensus SR 3/4"				0
10 Sensus SR 1"				0
1995/96 Meter purchases	453	1,995	25	49
100 cf sensus w/ecr register and	214	1,995	25	10
touch pad	420	1,995	25	29
25 - 5/8"	147	1,995	25	10
12 - 3/4 "	653	1,995	25	56
1 - 3" Turbo Meter	420	1,995	25	33
100 cf sensus w/gtr register and	180	1,995	25	18
touch pad	3,210	1,995	25	282
36 - 5/8"	300	1,995	5	0
12 - 3/4"	65	1,995	5	0
4 - 1" ECR Conver. kits	732	1,995	25	69
Sensus Meters	306	1,997	25	45
3 Sensus Meters	470	1,997	25	64
3/4" CONVERSION KITS (2)	38	1,982	25	0
Water Meter Additions	3,970	1,998	25	792
Water Meter Additions	2,683	1,999	25	862
5 5/8" & 2 3/4" meters rebuilt	549	1,999	25	142
6 5/8" & 4 3/4" meteres rebuilt	798	2,000	25	209
6 5/8" Mtr 100 cf ECT/TR w/ touchpa	588	2,000	25	142
6 3/4" Mtr 100 cf Conv Kit w/touchpa	354	2,000	25	100
5 5/8" Mtr 100 cf TR/PL Conv w/Tou	405	2,000	10	0
6 1" Mtr 100 cf Conv kit W/touchpad	366	2,000	10	0
2 1" Mtr 100 cf ecr tr/pl w/pit lid asml	380	2,000	10	0
2 " Sensus Meter	620	2,003	10	0
1 1/2" Sensus Meter	860	2,003	10	0
Sensus Meters	906	2,003	10	0
METER TOTALS	121,801			2,920
TOWER				
WATER TOWER	116,000	1,973	50	5,218
RUSTPROOF UNIT	400	1,973	50	36
PRESSURE ALARM	265	1,973	50	30
CONTROL SYSTEM	4,542	1,986	20	0
1 CABLE	551	1,989	10	0
Repaint Water Tower	98,000	1,996	20	0
Low Level Transmitter	1,851	2,001	10	0
Repaint Interior of Water Tower	47,000	2,008	30	31,397
Repaint Water Tower	118,800	2,010	20	72,765
TOWER TOTALS	387,409			109,446
WATER FUND TOTALS	1,288,057			492,137

ATTACHMENT B

STATE OF MICHIGAN

CITY OF PARCHMENT -- TOWNSHIP OF COOPER

WATER SERVICE AGREEMENT

THIS AGREEMENT is entered into this 4th day of November, 1968, by and between the CITY OF PARCHMENT, Michigan (The "City") and the Township of Cooper, Kalamazoo County ("The "Township") WITNESSETH:

WHEREAS: The City owns and operates a water system and has the capacity to serve some of the areas of the Township, and

WHEREAS: The Township is desirous of availing itself of the City's water facilities and service where no provision for such services presently exist, and the City is presently providing such water service to other areas;

NOW THEREFORE, in consideration of the promises and undertakings of the parties hereto, IT IS AGREED AS FOLLOWS:

1. DEFINITIONS. For the purpose of this contract, the terms defined in this section shall have the meanings indicated.

A. COOPER TOWNSHIP: is that territory consisting of and limited to all that portion of the Township of Cooper, of Kalamazoo County, Michigan, described as follows:

Beginning at the Southeast corner of Section Thirty-five (35), T. 1 S., R. 11 W.; thence North along the East line of said Section to a point two hundred (200.0) feet South of the centerline of Mt. Olivet Road; thence Northwesterly and West parallel to the centerline of said Road to its intersection with the centerline of Riverview Drive; thence Northwesterly at right angles to the centerline of said Riverview Drive to the centerline of the C.K. & S. Railroad right-of-way; thence Northeasterly along the centerline of said Railroad right-of-way to a point two hundred (200.0) feet West as measured at right angles to the centerline of Riverview Drive; thence North parallel to the centerline of Riverview Drive to its intersection with the centerline of Spring Brook; thence Westerly along the centerline of said Spring Brook to its intersection with the Easterly shore of the Kalamazoo River; thence Southerly along the Easterly shore of said River to the South line of Section thirty-four (34), T. 1 S., R. 11 W.; thence East along the South line of Sections thirty-four and thirty-five (34 & 35) to the place of beginning.

B. WATER DISTRIBUTION SYSTEM: is the system of water mains, pipes, fittings, valves, fire hydrants, transmission lines and all accessory equipment and appurtenances thereto, for providing, transmitting and distribution potable water.

C. CUSTOMER SERVICE CONNECTIONS: are the pipes from the water mains to the water meters, including all necessary valves and accessories.

D. PRODUCTION FACILITIES: are the wells, pumps, buildings, chemical treatment equipment, collector mains and all appurtenances that together act to supply potable water to the transmission and distribution system.

E. STORAGE FACILITIES: are the elevated or ground tanks and all appurtenances that serve to store a quantity of water for the water system and to establish and maintain an even pressure in an area.

2. UNDERTAKING: The City hereby agrees to faithfully provide water service for the Township districts established as herein provided, and the Township agrees to pay for such water facilities in the manner herein agreed upon; and the Township further grants to the City the exclusive right, power, and authority to provide such water service, for a period of thirty (30) years from and after the date of the acceptance of this agreement by both parties; and such performance by the City of all terms and conditions herein found, shall be considered to be in lieu of all licenses, fees, rentals, taxes or charges which the Township or district, or other governmental units, might otherwise levy and impose.

3. TOWNSHIP WATER SYSTEM.

A. SYSTEM DESIGN. All plans and specifications for the construction, alteration or addition to this system shall be prepared by the City's Utilities Engineer or other registered professional engineer, and with the cooperation and assistance of the Township Engineer, and shall be subject to the approval of the City, acting through its Director of Public Utilities, as well as that required by any duly authorized state regulatory agency.

B. INSTALLATION: The necessary water distribution system is to be furnished, installed, and connected to the City's water distribution system without capital expense on the part of the City, except for water meters, production and normal storage facilities. Storage facilities to meet normal customer needs may be provided by the City when, in its opinion, sound engineering practices indicate such service is warranted, and the economic analysis justifies the investment; abnormal needs, such as large fire protection storage other than such storage as is normally included within any normal water tank, shall be paid for by the Township and the areas benefitting. After installation, all portions of this system shall be deemed to be the property of the City for the life of this agreement.

The water system, or any part thereof may be installed, at its option, by the City, provided however, that it has submitted a proposal based on the reasonable costs thereof which is acceptable to the Township; in the event that this

proposal is not accepted, then the City's proposal shall be withdrawn, and the Township may get proposals from any other person or entity as is agreeable to both the Township and the City. An inspector is to be provided by the City if any other person or entity installs such system, and the costs of such inspectors are to be borne by the Township. The presence of any inspector on the job shall not relieve the contractor, if any, of any liability or responsibility for which he would otherwise be liable, without an inspector. In the case of design or construction by anyone other than the City, detailed plans and records of the proposed and completed construction, alterations, addition or relocation of the water system shall be kept, and furnished to the City.

C. CONSTRUCTION QUALITY. The installation and construction of all mains, and other appurtenances for this system and its districts, shall be done in a reasonable and workmanlike manner under the supervision and control of, and according to the specifications of the City, and shall be performed in accordance with the same policies as adopted from time to time by the City for such installations within the boundaries of the City of Parchment.

D. FINANCING. Each project for the installation, relocation, or removal of all water system facilities and appurtenances, including fire hydrants, shall be accompanied by the payment of the costs thereof in full. However, the City will assume that portion of the cost of large water mains and their installation which exceeds the cost of a 12-inch main and

installation, subject to reimbursement by the Township therefore, out of surplus funds derived from revenues or assessments received from water districts established by the Township hereunder. Where water mains of greater capacity are installed in order to provide water service to areas beyond this Township, or where mains are installed abutting another unit of government which are useable by that unit of government, the Director of Public Utilities of the City shall determine the added cost of said greater capacity, or the proportionate cost which should be borne by such adjoining connector, and the Township shall be entitled to recover such added or proportionate costs from such adjoining entity or connector, before the connection is made.

E. OPERATION. After the distribution system has been installed and connected as provided above, the City will operate said system, furnishing water service to the districts accepted as hereinafter provided, in a manner used in distributing water within the City of Parchment, except as hereinafter provided.

The City agrees as part of its operation, to keep the water distribution system in said districts in good repair, including the maintenance and painting of fire hydrants, the repair of leaks and items of similar nature usually associated with the routine maintenance and operation of a public water supply system.

F. CUSTOMER SERVICE CONNECTIONS. The customer service connections shall be installed under the same conditions, rules, regulations and charges as are now or may hereafter be in effect within the City of Parchment.

G. CUSTOMER METERS. The City will provide at its expense all necessary meters for measuring water used by customers.

H. HYDRANTS. The City, from time to time, and upon request in writing from the Township will install fire hydrants at such locations upon mains then laid or being laid, and within the aforesaid district or districts, as requested by the Township. Installation costs of such fire hydrants will be at the expense of the Township.

I. CHANGES AND DAMAGES. While the City agrees to maintain the mains, and all appurtenances subject to this contract, the Township shall reimburse the City for the cost of all changes in, or damages to the distribution system and service connections as may be incurred by highway redevelopment programs, street grading programs, sewer construction, or other public works, other than damage caused by activities of the City of Parchment or its contractors.

4. CONSTRUCTION AND MAINTENANCE LIABILITY. If the Water System is actually installed by the City, whether at the expense of the Township or of developers or frontage owners, the City shall save the Township free from all liability cost and expense to which it might be subject by reason of such

construction activities. The liability which the City accepts under this paragraph is to apply to new construction and maintenance construction only and is not to be confused with Section 5 which is relative to operating liability, nor to Section 3 which is relative to the costs of the projects.

5. OPERATING LIABILITY. The City will use reasonable diligence to provide and maintain regular and un-interrupted service, but it does not guarantee un-interrupted service, and it shall not be liable for damages caused by accident, repairs or other causes; nor shall the City be liable for injuries or damages of any nature caused by the use of the water furnished by the City.

6. RATES. The rates to be charged by the City for water service shall be one hundred fifty (150%) per cent of the rates so charged by the City to users of water service within the City of Parchment, and shall be applied to the various classes of customers, domestic, industrial, fire protection and others, in the same manner as they are applied to the various classes of customers within the City.

7. COLLECTIONS. Water service charges shall be collected by the City of Parchment. The rates and charges as established herein shall constitute a lien on the properties located in an established Township water district or receiving water services of the same type and character as provided for water and sewer charges by the provision of Sec. 21, Act 94, Public Acts of Michigan, 1933, as amended, and it is agreed that said lien may be enforced by the City in the same manner that mechanic's liens are enforced under the provisions of the laws of the State of Michigan. It is also hereby agreed that the City shall have the power to effect direct collection of the charges set forth h erein, which remain due and unpaid more than 30 days, by any means permitted by law.

8. TOWNSHIP WATER DISTRICTS. In order to provide for the orderly and gradual extension of water service to Township areas, the Township shall give written notice to the City Superintendent of Public Works whenever it proposes to establish a district, defining the district and submitting with said notice all data in its possession regarding area, anticipated population and character. The Township shall take no further steps to establish the district until the City has had a reasonable time in which to indicate to the Township in writing its willingness to accept said district into the Water System. The City shall be under no obligation to accept any district or districts under the terms of this contract if, in so doing, it would overtax the existing capacity of its present water production or if it will thereby overload existing or reasonably anticipated peak load demands within the City and districts already accepted under this or any other contract it may have entered into.

The official establishment of a water district under this contract shall be by the adoption, by the Township Board, of a written resolution so declaring, describing the district and reciting the receipt of the written acceptance by the City and a certified copy of such resolution shall be delivered to the City Clerk within 7 days after its adoption and shall constitute official notice to the City Superintendent of Public Works.

In the event the City determines it cannot accept a proposed water district or districts under the terms of the within contract, within 30 days following receipt of written notice from the Township concerning the establishment of such District, as herein required; or that either party determines that it is economically infeasible for the City to provide water service to that district; or in the event that the City does not, within 6 months after deposit of necessary construction money therefore by the Township pertaining thereto, commence construction of such water service facility, the Township

shall then have the right and authority to obtain or furnish water service for such rejected district, from any other established public system, notwithstanding any of the other provisions and limitations contained in the within Agreement; and such water system improvement will not then be considered a part of the water system contemplated by the within contract. Any delay beyond the control of either party shall not be included as a part of the 6-months' period.

9. RIGHTS OF WAY. The Township hereby agrees to acquire by purchase, gift, condemnation or otherwise, such right of way as may be required or usable for construction and operation of an efficient water system. It hereby grants to the City its irrevocable consent to the use of such highways, streets, alleys, rights-of-way and other public places as may be reasonably necessary to permit the City to service other areas beyond the borders of the Township herein, and will on request execute and deliver to the City easements, rights-of-way, and consents in recordable form as may from time to time be requested by the City; provided, however, that any easements or rights-of-way for the exclusive use of establishing water mains beyond the borders of the Township, and which must be acquired by condemnation or purchase, shall not be required to be thus furnished to the City at the expense of the Township.

10. OTHER AUTHORITIES. Said Township hereby accepts the responsibility for obtaining such permits, consents or other required approvals as may be necessary for the installation or maintenance of the water system within its borders from such board, commission, unity or entity as may have jurisdiction over the same.

11. TOWNSHIP COOPERATION. The Township hereby agrees to cooperate with the City by adopting and promoting any and

all measures of aid and assistance to the prompt and efficient accomplishment of the objectives of this contract, and the operation of the water system herein contemplated including the adoption of ordinances and the enforcement of all codes, laws or regulation to such end.

The Township further agrees to amend or repeal any and all ordinances, rules, regulations or laws which may have been adopted and which are in conflict with the provisions of this contract or contrary or burdensome to the objectives thereof. In addition the Township hereby commits itself to cooperate fully in assisting in the collection of charges, including the taking of any appropriate action on the City's behalf and at its request in order to effectuate collection.

12. CITY COMMITMENT. All rules, regulations, and services as provided within the City of Parchment, for the administration of its own water utility except as otherwise provided herein, shall be considered to apply to the water districts herein contemplated. The City hereby agrees to faithfully administer such rules in an impartial manner to all its customers.

13. WATER EXPLORATION AND PRODUCTION. The Township hereby grants to the City its irrevocable consent during the period of this contract to conduct exploration and production projects anywhere within the Township, including but not limited to the taking of borings, the construction of test wells, establishing and reading water-level meters, and similar projects designed to determine the availability of water for water supply or other purposes; it hereby grants its further irrevocable consent during the period of this contract to the development of any water well or field and the connection thereof to the water system of the City and to the use of any street, alley or public right-of-way for such purpose. The

within provisions for water exploration and production shall pertain to the area described in Section one, Paragraph A of this Agreement.

14. TERMINATION. This agreement shall cease and be of no effect after thirty (30) days from the date of its signing, unless, within said period, said agreement is ratified and adopted by the Township at a legally called and constituted Board Meeting, and by the City Commission at a legally called and constituted Commission Meeting. Upon the mutual acceptance and confirmation thereof, this agreement shall constitute a legal contract between said Township and said City for a period of thirty (30) years from the date of acceptance. The acceptance upon adoption shall be filed in writing with the Clerks of each party by the other party.

This agreement shall be irrevocable during the term hereof, except that it may be terminated by the City, if any other governmental unit takes jurisdiction of any part, or all of any water district, including the creation of any new city, or annexation to any other city.

Upon termination of this agreement, the control and ownership of said distribution system, mains and all appurtenances paid for by the Township shall revert to the Township subject to the options and rights hereinafter set forth. At such time the water meters in use in any of the districts may be purchased by the Township at the then reasonable, depreciated cost.

The ownership, control, and use of the production and storage facilities paid for by the City, may at its option be retained by the City. Major transmission lines connecting any of these items to the City's distribution system, or connecting the City's system to any customers, Townships, cities, districts,

or areas, beyond the Township may be retained by the City. In this case, the City shall purchase the Township's vested interest, at a reasonable depreciated cost, based on a fifty (50) year useful life. Customers connected to these lines may remain connected to these lines.

Such storage and production facilities and their appurtenances usable to the Township, that the City does not elect to keep after such termination will be purchased by the Township, at a reasonable depreciated cost, based on a fifty (50) year useful life.

Both the City and the Township hereby warrant that they will not perform any act that may at any time prejudice or harm the rights of the other to the use and control of their facilities after the termination of this agreement.

The exercise of the foregoing options and rights shall be established, in writing, within six (6) months after the termination of the within Agreement.

15. EXCLUSIVENESS. Except as provided in Section 8 the rights, powers and authority herein granted by the Township to the City shall be for the exclusive use and benefit of said City during the term of this agreement, and the period of any extension thereof, it being intended hereby that the Township shall not grant like rights, powers, or authority as herein granted, to any other person, firm, corporation or governmental unit during said period, and shall not directly or indirectly allow, permit or consent to the use of any public places within the boundaries, hereinbefore defined in any manner inconsistent or competitive with the terms, conditions, and purposes of this agreement.

16. SUCCESSORS. This agreement, is hereby mutually understood and declared to be binding upon all successor governmental units

of the Township which may, during the term hereof, become vested by law with the right to control the use of the public street, avenues, boulevards, alleys, rights-of-way, and public places hereinbefore described, and also all successor governmental units of the City.

17. CASUALTY. The parties hereto shall be excused from any material breach of this contract and from any liability or damage caused by riots, strikes, disaster, war, act of God, or causes beyond their reasonable control.

IN WITNESS WHEREOF, this contract is signed and delivered the day and year first above written by authority of the City Commission given November 4th, 1968, and of the Township Board given October 7th, 1968.

WITNESSES:

CITY OF PARCHMENT, MICHIGAN
Municipal Corporation

Carolyn VanderWeele
City Clerk

R C. Germanson
Mayor

FORM APPROVED: John H. Kirkbride
City Attorney

TOWNSHIP OF COOPER
A Michigan body corporate

Alice Curtis
Alice Curtis - Clerk

John C. Welborn
Jack Welborn - Supervisor

FORM APPROVED: Robert J. Barber
Robert J. Barber
Township Attorney

AGREEMENT TO RENEW PARCHMENT/COOPER WATER SERVICE AGREEMENT

THIS AGREEMENT entered into the 18th day of December, 2001, 2000, by and between the CITY OF PARCHMENT, Kalamazoo County, Michigan (CITY), and COOPER TOWNSHIP, Kalamazoo County, Michigan (TOWNSHIP),

WITNESSETH

WHEREAS, the CITY and TOWNSHIP entered into a 30 year Agreement on November 4, 1968, entitled "CITY OF PARCHMENT – TOWNSHIP OF COOPER WATER SERVICE AGREEMENT"; and

WHEREAS, the Water Service Agreement has expired by its own terms; and

WHEREAS, the parties wish to renew that Agreement;

NOW, THEREFORE, in consideration of the promises and undertakings of the parties hereto, it is agreed as follows:

1. Renewal. The City of Parchment – Township of Cooper Water Service Agreement dated November 4, 1968, is hereby renewed and extended for a period of 30 years from the date set forth above.

2. Terms. Except as specifically modified herein, the parties do refer to, renew, readopt and incorporate herein by reference each and every term and provision of the City of Parchment – Township of Cooper Water Service Agreement dated November 4, 1968.

3. Notices. All notices, requests, demands or other communications required or permitted to be given hereunder shall be in writing and shall be deemed to have been given if delivered personally, or if sent by facsimile transmission or by first-class mail,

postage prepaid, to the address of the parties as set forth below, or such other address as shall be furnished by the respective parties after the execution of this contract:

CITY: Curt Flowers, City Clerk
City of Parchment
650 South Riverview Drive
Parchment, MI 49004

TOWNSHIP: Jeffrey Sorensen, Township Supervisor
Bonnie Sytsma, Township Clerk
Cooper Charter Township
1590 West D Avenue
Kalamazoo, MI. 49009

4. Non-Assignability. This contract shall not be assignable except with prior written approval of all parties.

5. Non-Modification. This contract may not be modified except in writing signed by all parties. Any purported oral modification by practice shall be deemed null, void and of no force and effect.

6. Severability. Should any term, provision, clause, or part of this contract be held void, illegal or unenforceable by a court of competent jurisdiction, such holding shall only affect that term, provision, clause or part held void, illegal or unenforceable and shall not affect in any way the validity or enforceability of any term, provision, clause or part of this contract.

7. Integration Clause. This contract contains the entire agreement and understanding of the parties in respect to the subject matter of this contract shall be deemed fully integrated.

8. Effective Date. This contract shall take force and effect on December 19, 2001 , ~~2000~~

IN WITNESS WHEREOF, the undersigned do hereby affirm and represent that they have been authorized by the Parchment City Commission and the Cooper Township Board of Supervisors, respectively, to enter into this Agreement and bind the CITY and TOWNSHIP, respectively.

WITNESSED BY:

CITY OF PARCHMENT

By: Daniel DeGraw
Its: Mayor

WITNESSED BY:

CITY OF PARCHMENT

By: Curt Flowers
Its: Clerk

WITNESSED BY:

TOWNSHIP OF COOPER

By:
Its: Supervisor

WITNESSED BY:

TOWNSHIP OF COOPER

By:
Its: Clerk

APPROVED AS TO FORM:

Robert A. Soltis (P31252)
Attorney for City of Parchment

James W. Porter (P38791)
Attorney for Cooper Township

ATTACHMENT C

Cooper Charter Township
1590 West D Avenue
Kalamazoo, Michigan 49009-6321
(269) 382-0223

January 25, 2019

To Whom It May Concern,

Cooper Township hereon referred to as (Cooper) is served municipal water to residents of the Township by the City of Parchment hereon referred to as (Parchment) and the City of Kalamazoo hereon referred to as (Kalamazoo).

Thus being two separate systems with each city, Parchment and Kalamazoo performing its own billing and maintenance.
As of July 26th, 2018 Parchment was notified of PFAS/PFOS contamination in their water system that serves residents in Parchment and Cooper. Immediate action was implemented to protect the health safety and welfare of the citizens of Parchment and Cooper.

The very next day Kalamazoo came forward with a plan to protect the citizens of Parchment and Cooper residents on the municipal water system owned and operated by Parchment. The plan was to connect the Kalamazoo system in three different locations to the Parchment system and decommission the 3 wells in Cooper that supplied Parchment's system.

This has been completed and Parchment has agreed to not be in the business of providing water to their city or Cooper residents any longer.
Cooper has no issues with Parchment transferring ownership of their water mains and all appurtenances to Kalamazoo. Therefore all Cooper residents that are or will be connected to a municipal water system will be customers of the City of Kalamazoo.

This letter will be acted upon by the Cooper Township Board of Trustees on February 11th 2019 regular Board Meeting at 7pm.

Respectfully Submitted,

Date, 3-13-19

Jeffrey R. Sorensen
Supervisor, Cooper Charter Township

THE CHARTER TOWNSHIP OF COOPER
Township Board Meeting
February 11, 2019

The regular meeting of the Cooper Charter Township Board was held, on Monday, February 11, 2019 at the Cooper Charter Township Hall, 1590 West D. Avenue, Kalamazoo MI.

MEMBERS PRESENT:
Supervisor, Jeff Sorensen
Treasurer, Carol DeHaan
Clerk, DeAnna Janssen
Trustee, Jim Frederick
Trustee, Fred Vlietstra
Trustee, Brenda Buiskool
Trustee, Bob Schiedel

MEMBERS ABSENT:
None

Also present was Chief Emig and approximately 8 interested people. Supervisor Sorensen called the meeting to order at 7:00 pm and all joined in the Pledge of Allegiance.

CONSENT AGENDA:
Items on the consent agenda were:

a. Minutes of January 11, 2019 Special Board Meeting
b. Minutes of January 14, 2019 Meeting
c. Assessor's Year in Review Report
d. Constellation Trust 4th Quarter Report
e. 4th Quarter HHW Newsletter

The board and citizens were asked if they wanted any items removed from the consent agenda. Motion by Schiedel, supported by Vlietstra to approve the consent agenda. Motion carried 7-0.

ADDITIONS OR DELETIONS TO AGENDA:
Motion by Frederick, supported by Schiedel to approve the agenda. Motion carried 7-0.

CITIZEN COMMENTS ON NON-AGENDA ITEMS: There were none.

FIRE DEPARTMENT REPORTS:

a. Chiefs Report
b. Assistant Chiefs Report

Motion by Janssen, supported by Vlietstra to accept these reports. Motion carried 7-0.

RIVERVIEW (G TO BRACKETT) ROAD/SEWER PROJECT DISCUSSION:
Discussion with Paul Schram from Wightman and John Crumb from Gull Lake Sewer & Water regarding the need, timeline, cost sharing, and process of moving forward with Riverview (G to Brackett) Road/Sewer Project. Plans for an informational meeting with the affected property owners is being planned for March. Prior to the Road Commission awarding the bid in April, the Township will need to formally approve/disapprove the project.

ACCEPT CERTIFICATE OF APPRECIATION FROM THE US COAST GUARD AUXILIARY
Motion by DeHaan, supported by Buiskool to accept the certificate. Motion carried 7-0.

CONSIDER RESOLUTION NO. 19-134 ADOPTING ORDINANCE NO. 250, AN ORDINANCE PROHIBITING MARIHUANA ESTABLISHMENTS UNDER INITIATED LAW 1 OF 2018, THE MICHIGAN REGULATION AND TAXATION OF MARIHUANA ACT:
Motion by Schiedel, supported by Frederick to Adopt Resolution 19-134.
Roll Call Vote:
Yes: Vlietstra, Frederick, Janssen, Sorensen, DeHaan, Schiedel, Buiskool
No: none
Absent: none
Motion carried 7-0.

CONSIDER RESOLUTION NO. 19-135 ADOPTING THE 2019 POVERTY EXEMPTION GUIDELINES:
Motion by Frederick, supported by Buiskool to Adopt Resolution 19-135.
Roll Call Vote:
Yes: Vlietstra, Frederick, Janssen, Sorensen, DeHaan, Schiedel, Buiskool
No: none
Absent: none
Motion carried 7-0.

CONSIDER RESOLUTION NO. 19-136 ADOPTING THE NEW FOIA GUIDELINES:
Motion by Vlietstra, supported by Buiskool to Adopt Resolution 19-136.
Roll Call Vote:
Yes: Vlietstra, Frederick, Janssen, Sorensen, DeHaan, Schiedel, Buiskool
No: none
Absent: none
Motion carried 7-0.

APPOINT KAT'S POLICY COMMITTEE ALTERNATE:
Motion by Janssen, supported by DeHaan to appoint Jim Frederick to serve as the alternate member of the KAT's Policy Committee. Motion carried 7-0.

KALAMAZOO COUNTY HOUSEHOLD HAZARDOUS WASTE CONTRACT FOR 2019:
Motion by DeHaan, supported by Buiskool to accept the contract and set Cooper Townships monetary participation limit at $8000.00. Motion carried 7-0.

PUBLIC HEARING ON THE 2019/2020 FISCAL YEAR GENERAL FUND BUDGET:
Motion by Janssen, supported by Vlietstra to open the Public Hearing. Motion carried 7-0.

The Public Hearing on the 2019/2020 General Fund Budget was called to order.

The Clerk presented to the board the Notice of Public Hearing & Proof of Publication. No written comments were received by the Clerk. The Supervisor asked for public comments, there were none.

Motion by Frederick, supported by Buiskool to close the Public Hearing on the 2019/2020 General Fund Budget for the fiscal year ending on March 31, 2020 at the highest functioning level in the amount of $1,720,726.00 for revenues and $1,720,726.00 for expenditures, and

Furthermore, be it moved that the total millage to be levied in the 2019-2020 fiscal year is expected to generate approximately $234,000.00 in revenues of which $200,000.00 will be used for the purpose of funding road maintenance and construction and the balance to offset the expenses incurred in the other departments, and

Furthermore, be it moved that this budget be compared with actual expenditures on a periodic basis throughout the budget year that the budget be amended as necessary to prevent the expenditure of funds in excess of the budgeted amount. Also, that the Supervisor and the Clerk be authorized to transfer up to $50,000.00 between functions if necessary.

And finally, be it moved to adopt the Budget and Appropriations Act Resolution of Cooper Charter Township for the fiscal year ending March 31, 2020.

Roll Call Vote:
Yes: Vlietstra, Janssen, Sorensen, DeHaan, Schiedel, Frederick, Buiskool
No: None
Absent:
Motion Carried 7-0.

ADOPTION OF SPECIAL FUNDS FOR THE 2019-2020 FISCAL YEAR:
The clerk request one change. Because of a last-minute change to the quote for the road/sewer project in 2019/2020, please add a revision to the budget to reflect the $30,000 increase to those line items in the Water & Sewer Fund.
Motion by Schiedel, supported by Buiskool to adopt the 2019-2020 Public Improvement, Fire Capitol Improvement, Water & Sewer, Street Light, Collingwood & G Avenue Special Assessment Sewer, Building Department, Retiree Health, Capital Project, and Solid Waste & Recycling Fund budgets as amended.

There were no other comments from the board or public.

Roll Call Vote:
Yes: Vlietstra, Janssen, Sorensen, DeHaan, Schiedel, Frederick, Buiskool
No: None
Absent:
Motion carried: 7-0

CONSIDER LETTER OF SUPPORT FOR TRANSFER OF PARCHMENT WATER MAIN OWNERSHIP TO KALAMAZOO CITY:
Motion by DeHaan, supported by Vlietstra to approve this letter of support. Motion carried 7-0.

TRUSTEE COMMENTS:

There being no further business to come before the board, the meeting was adjourned at 8:00 pm.

DeAnna Janssen, Clerk

Attested by: Jeff R. Sorensen, Supervisor

I, the undersigned DeAnna Janssen, the duly qualified and elected Clerk for the Charter Township of Cooper, Kalamazoo County, Michigan, DO HEREBY CERTIFY that the foregoing is a true and complete copy of certain proceedings taken by the Township Board of said Township at a regular board meeting held on the 11th day of February 2019.

DeAnna Janssen, Clerk
Cooper Charter Township

CITY OF KALAMAZOO – CITY OF PORTAGE

WATER SERVICE AGREEMENT

THIS WATER SERVICE AGREEMENT (the "Agreement") is entered into this 1st day of October 2013 between the City of Kalamazoo, a Michigan municipal corporation, Kalamazoo, Michigan ("Kalamazoo") and the City of Portage, a Michigan municipal corporation, Portage, Michigan ("Portage").

WHEREAS, Kalamazoo owns and operates a Water System and has the capacity to serve some of the areas of Portage, and

WHEREAS, Portage desires to enter into an agreement with Kalamazoo pursuant to which Kalamazoo agrees to provide water service to customers within the jurisdictional boundaries of Portage and Kalamazoo is willing to provide such service in accordance with the terms of this Agreement.

NOW THEREFORE, in consideration of the promises and undertakings of the parties hereto, it is agreed:

1. Definitions.

"Customer Service Connections": are the pipes from the water mains to the water meters, including all necessary valves and accessories.

"Emergency": is any situation due to natural or man-made causes that results in the loss of water pressure, quantity or quality of the water being provided by Kalamazoo.

"Force Majeure": Neither party shall be liable in damages or have the right to terminate this Agreement for any delay or default in performing hereunder if such delay or default is caused by conditions beyond its control including, but not limited to, Acts of God, Government restrictions, wars, insurrections and/or any other cause beyond reasonable control of the party whose performance was affected.

"Imbedded cost of water utility debt": is that cost associated with the debt Kalamazoo has incurred as a result of implementing capital improvements to the Kalamazoo water system.

"Production Facilities": are Kalamazoo's wells, pumps, building, chemical treatment equipment, wellfield collector mains and all appurtenances that together act to supply potable water to the system.

"Ratemaking Process": is the process used by Kalamazoo to determine the price charged by Kalamazoo to its customers which shall be at a rate which is based on the actual cost of service as determined under the utility basis of ratemaking per MCL 123.141 (as amended.)

"Service Area": The area currently served by Kalamazoo within Portage, plus the areas to be served in the future, as depicted in the Strategic Plan, and any other areas to which service may be expanded pursuant to Section 10, provided however, that the Service Area shall always be defined to end at the West Fork of Portage Creek, and not I-94, and the Trade Center on the north side of I-94 shall not be included within the Service Area.

"Storage Facilities": are Kalamazoo's elevated or ground tanks and all appurtenances that store water for the Water System, and establish and maintain an even pressure in an area.

"Strategic Plan": is the City of Kalamazoo's "Water System Strategic Plan" as developed by Fishbeck, Thompson, Carr, & Huber, Inc. dated January 2005 and as periodically updated and amended.

"Water System": is a system of water mains, pipes, fittings, valves, fire hydrants, transmission lines and all accessory equipment and appurtenances thereto, for providing, transmitting and distributing potable water within the jurisdictional boundaries of Portage.

2. Undertaking.

Kalamazoo agrees to faithfully provide water service to customers in the Service Area as described in this Agreement and Portage agrees that water customers within the Service Area shall pay for service in the manner and as described in this Agreement. Portage grants to Kalamazoo the exclusive power, right, and authority to provide water service to the Service Area, for a period of thirty (30) years from the date of acceptance of this Agreement by both parties, unless the parties agree otherwise. Kalamazoo agrees to perform all the terms and conditions as set forth in this Agreement.

3. Service Area Water System.

A. **System Design:** All plans and specifications for the construction, alteration or addition to the system shall be prepared by Kalamazoo's City Engineer or other registered professional engineer in accordance with the Great Lakes Upper Mississippi River Board of State Public Health and Environmental Managers Recommended Standards For Water Works (Ten States Standards) as may be amended from time to time and with the cooperation and assistance of the Portage Director of Utilities and Transportation or designee, and shall be subject to the approval of Kalamazoo, acting through its Director of Public Services, as well as that required by any duly authorized state regulatory agency.

B. **Installation:** Any necessary improvements to the Water System will be furnished, installed, and connected to the Water System without capital expense on the part of Kalamazoo, except for water meters, and production and storage facilities. Storage facilities to meet customer needs shall be provided by Kalamazoo when, in its opinion, sound engineering practices indicate such service is warranted, and the economic analysis justifies the investment. After installation, all portions of the Water System paid for by Kalamazoo shall be deemed to be the property of Kalamazoo for the term of this Agreement. Ownership, control and use of facilities after termination of this Agreement are subject to Section 16.

Improvements to the Water System, or any part thereof may be installed by Kalamazoo, provided however, that Kalamazoo shall have submitted a proposal based on the reasonable costs thereof which is acceptable to Portage. In the event that a proposal is not accepted, then Portage may get proposals from any other person or entity as is agreeable to both Portage and

Kalamazoo. An inspector will be provided by Kalamazoo if any other person or entity installs any part of the Water System and the cost of such inspector will be borne by Portage. The presence of an inspector on the job shall not relieve the person or entity making the installation of any liability or responsibility for which he or she would otherwise be liable, without an inspector.

In the case of design or construction by anyone other than Kalamazoo, detailed plans and records of the proposed and completed construction, alteration, addition, or relocation shall be kept, and furnished to Kalamazoo.

C. **Construction Quality:** The installation and construction of all mains, and other appurtenances of the Water System, shall be done in a reasonable and workman like manner under the supervision and control of, and according to the specifications of Kalamazoo, and shall be performed in accordance with the same policies as adopted from time to time by Kalamazoo for such installations within the boundaries of Kalamazoo.

D. **Financing:** The cost of each project for the installation of Water System facilities and appurtenances by Kalamazoo shall be paid in full by Portage, except as provided in this paragraph, and subject to Section 10. Portage and Kalamazoo agree that new customers shall pay their proportionate share of costs incurred by the Water System because of such project. Accordingly, in the event of expansion, or the installation of new storage facilities, pressure reduction stations, or production facilities, Kalamazoo shall determine the cost thereof, by pressure district, service area, jurisdictional boundaries, or otherwise, in accordance with Kalamazoo's rate making process. Where water mains larger than 12 inches in diameter are installed in order to provide water service to customers outside of Portage, or where water main is installed abutting more than one unit of government, Kalamazoo's City Manager or his/her designee shall determine the added cost of this greater sized water main and provide Portage with the basis for such determination which added costs Kalamazoo shall pay.

E. **Operation:** After the Water System facilities have been installed and connected, Kalamazoo will operate the system, and furnish water service to customers in the Service Area in Portage in the same manner at the same level and quality of service as provided customers within Kalamazoo, except as hereinafter provided.

Kalamazoo agrees to keep the Water System in good repair, including the maintenance and painting of fire hydrants, the repair of leaks and items of similar nature typically associated with the routine maintenance and operation of a public water supply system.

F. **Customer Service Connections:** Individual residential water service connections for new construction may be installed by a person or entity other than Kalamazoo. New water main installed by another person or entity can also be tapped and service run to the property line at time of the water main installation.

Residential water service connections installed by a person or entity other than Kalamazoo are subject to the inspection requirements in Subsections 3.B. and 3.C. above. Such other person or entity shall have a licensed plumber install the residential water service connections. When a water main is tapped for a service installation, persons with appropriate Michigan Department of Environmental Quality, or its successors, certifications to make such installation shall be present at all times.

G. **Customer Meters:** Kalamazoo will provide, at its expense, all meters necessary for measuring water used by customers.

H. **Hydrants and Mains:** Kalamazoo, as it may determine by established and good engineering practices, or upon written request by Portage or others, will install or relocate fire hydrants and related water mains. The cost of any such installation or relocation will be at the expense of Portage or others making the request.

Installation of new fire hydrants associated with new water mains must be constructed to meet the requirements of Sections 3.B. and 3.C. above, without capital expense to Kalamazoo.

I. **Changes and Damages:** The parties agree that Kalamazoo is to be reimbursed by the appropriate responsible party or the cost of all changes in, or damages to the Water System and service connections as may be incurred by road redevelopment programs, street grading programs, sewer construction or other public works, other than changes or damage caused by activities of Kalamazoo or its contractors.

4. Construction and Maintenance Liability.

The City of Kalamazoo, its contractors, employees, subcontractors and volunteers agree to save, defend, indemnify and hold harmless the City of Portage, its board, officers and employees (the indemnified party) from and against all claims, damages, demands, expenses, liabilities and losses (including, but not limited to, fines, costs, fees and penalties imposed by any court administrative agency), injury or damage to persons or property relating to the design, installation, construction, placement, maintenance and/or repair of the Water System. Provided, however if such injury or damages are caused in whole or in part by the acts or omissions of the indemnified party, the indemnification obligation shall be reduced in proportion to the indemnified parties' percentage of responsibility for such injury or damage. The indemnification obligation provided herein shall include the payment of all reasonable attorney fees and other expenses not covered through insurance relating to any of the above-referenced claims, damages and losses. This indemnification does not constitute nor should be interpreted as providing any benefit to a third party and shall not be construed as a waiver of any claim of governmental immunity by Kalamazoo which it may assert under law, except such claim of governmental immunity shall not be asserted against the City of Portage.

5. Operating Liability.

Kalamazoo will use reasonable diligence to provide and maintain regular and uninterrupted service, but it does not guarantee uninterrupted service. Kalamazoo shall not be liable to Portage, nor shall this Agreement create any rights on the behalf of persons not a party to this Agreement, for damages of any nature caused by the service or use of the potable water meeting requirements as established by the State of Michigan furnished by Kalamazoo.

6. Rates and Annual Report.

Kalamazoo shall establish rates applicable to Portage businesses and residents and directly bill such users for water service. The rates charged by Kalamazoo shall be reasonable and based on the actual cost of service as determined under the utility basis of ratemaking.

The parties acknowledge that establishment of separate customer classes are inherent in developing cost of service water rates and that the physical location within and without the Kalamazoo City limits is an important customer class differentiator. For purposes of this section, Portage businesses and

residents shall be referred to as outside Kalamazoo, non-owner customers. Business and residents located within the Kalamazoo city limits shall be referred to as inside Kalamazoo, owner customers.

The utility basis of ratemaking shall be utilized to determine water rates for non-owner customers, as set forth in the following Subsections A through G:

A. The Operation and Maintenance Expense element of the utility basis revenue requirements shall be allocated to customers on a proportional use basis, regardless of ownership status of Water System.

B. The Depreciation Expense element of the utility basis revenue requirements shall exclude depreciation on assets contributed by Portage and other non-Kalamazoo sources. This element shall also be allocated to customers on a proportional use basis, regardless of ownership status of Water System.

C. The Rate Base element used to formulate the utility basis revenue requirements shall be stated on an original cost less depreciation basis. Water System assets contributed by Portage and other non-Kalamazoo sources shall be excluded from the rate base. This element shall be allocated to customers on a proportional use basis, regardless of ownership status of Water System.

D. Kalamazoo may include a Working Capital element in the rate base as part of the ratemaking process. Such element shall be a reasonable allowance and shall not exceed 180 days of budgeted operation and maintenance expense.

E. The Rate of Return on Kalamazoo investment as an element of the utility basis revenue requirement for rates to outside Kalamazoo customers shall be calculated based on the imbedded cost of the water utility debt.

F. Kalamazoo may include a Payment in Lieu of Taxes (PILOT) element in the utility basis revenue requirements. If Kalamazoo elects to do so, such PILOT shall be limited to a level computed by applying the Kalamazoo millage rate to water utility property located within Kalamazoo City limits. This element shall also be allocated to customers on a proportional use basis, regardless of ownership status of Water System.

G. Kalamazoo may include an administrative fee for general fund services provided to the water utility as a component of the operating expense element of the utility basis revenue requirements. If Kalamazoo elects to do so, the administrative fee shall be limited to a level computed by application of an industry standard allocation procedure, and shall be supported by a study of such administrative fees made available to Portage in accordance with this Section.

Nothing in this Section shall preclude Kalamazoo from establishing water rates in a manner that reflects the geographic location of specific facilities and services, and assigns such costs to benefitting customers accordingly.

The parties acknowledge that the methodology set forth above will likely result in a differential between rates charged to inside Kalamazoo and outside Kalamazoo customers, including the Portage users. This Agreement does not set any limitation on such differential.

Kalamazoo shall give written notice of any changes in the rates. Not less than 60 days prior to the Kalamazoo City Commission formally adopting any changes in the rates, Kalamazoo shall provide Portage with a written notice of a proposed rate and the underlying data used to calculate the rate and calculation of the rate. Kalamazoo shall meet with Portage to review the rate and the data. At the convenience of either party, such notice and review of the proposed rate and data may be conducted with all other municipalities in which Kalamazoo provides water services to customers within such municipalities at a mutually agreed location and time.

Kalamazoo agrees to provide to Portage a written Annual Report regarding the Water System by April 1 of each year for the previous year beginning the first full year after this agreement is approved. This report shall include, as a minimum, the following items: summary data related to the operation of the Water System (such as the financial status of the Water System, need for adjustments in rates, total water pumped, number of water mains and services, ongoing maintenance of the Water System); major capital projects completed; major capital projects planned for the next year; long-term planning issues and concerns; compliance status with state and federal regulations; summary of customer complaints and responses; and any other data related to the overall operation of the Water System.

Not more than 90 days and not less than 30 days prior to each five year anniversary date of this agreement or any successful extension of this agreement by either party, the parties shall meet to review the water rates along with the most recent annual report and true up report. Either party believes that rate adjustments are necessary, the parties shall submit a proposal in accordance with Article 17.

If the parties cannot agree on any water rate amendment, resolution shall be in accordance with applicable State of Michigan law

7. True-Up.

Kalamazoo shall, at least every two years, review actual costs of providing water service, and actual revenue received from customers, and adjust for imbalances in the prospective rates. However, if the imbalance amounts to less than 1% of the total System Operations and Maintenance budget for the years for which the review is conducted, no such adjustment will be made.

8. Water Tower Leases.

Portage agrees that Kalamazoo may, at its sole discretion, establish and collect rents for lease space on water towers owned by Kalamazoo, and retain such rents in Kalamazoo's general fund.

9. Collections of Delinquent Accounts.

Water service charges shall be billed and collected by Kalamazoo, and shall constitute a lien on the properties receiving water services as provided by the provision of Sec. 21, Act 94, Public Acts of Michigan, 1993, as amended.

Kalamazoo will provide a list of potential liens to be placed on property to Portage on a quarterly basis. The list will be sent out on or about January 15, April 15, July 15, and November 15 each year.

Kalamazoo will also provide a list of all utility customers within Portage on an annual basis.

Kalamazoo will annually provide a list of liens to be placed by Portage on such properties. This list will be provided by October 1 of each year or on a mutually determined date. Kalamazoo will remove any accounts that have payment arrangements with Kalamazoo and are current or new service customers. If a

customer owing delinquent amounts thereafter returns to the Service Area, Kalamazoo will transfer the amount owing to the new account of the customer and remove that customer from the list of delinquent accounts subject to lien.

Delinquent amounts turned over to Portage for placement of property liens shall be paid by Portage to Kalamazoo within 30 days of Portage's receipt of the lien list. It shall then be the responsibility of Portage to collect such delinquent amounts from the customer. Once the delinquent amounts have been paid by Portage, Kalamazoo will make an appropriate notation and no longer collect such delinquent amounts from the customer. The affected customer will be directed to Portage to pay the delinquent amounts and satisfy the lien.

10. Expansion of Service Area.

In order to provide for the orderly extension of water service beyond the then existing Service Area, Portage shall give written notice to Kalamazoo's City Manager or his/her designee whenever it proposes an expansion to the Service Area. Said notice will contain all relevant data regarding the proposed boundaries of the proposed expansion as well as the anticipated population and desired level of service, including projections of residential, commercial, industrial, medical, and fire usage, as applicable.

Kalamazoo will respond within 30 days. Kalamazoo shall be under no obligation to expand the Service Area if, in Kalamazoo's reasonable judgment, the proposed expansion would overtax the existing capacity of its present water production or if it would overload existing or reasonably anticipated peak load demands within the Water System.

In the event Kalamazoo determines it cannot expand the Service Area as requested by Portage, or in the event that Kalamazoo does not, within 6 months after deposit of necessary construction money by Portage or another entity for the construction of the necessary facilities required to permit the requested expansion, commence construction of such facilities, Portage shall have the right and authority to obtain or furnish water service to such area outside of the Service Area other than pursuant to this Agreement, notwithstanding any of the other provisions and limitations contained within this Agreement; and such Water System improvement will not then be considered a part of the Water System. Any delay beyond the control of either party shall not be included as a part of the 6 month period.

11. Rights-of-Way.

Portage agrees to acquire by purchase, gift, condemnation or otherwise, such rights of way as may be necessary in its opinion for the continued operation of the Water System. Portage shall not unreasonably deny to Kalamazoo, for the term of this Agreement, the use of such highways, streets, alleys, rights-of-way and other public places as may be reasonably necessary to permit Kalamazoo to operate, maintain and repair the Water System in the Service Area. To enable Kalamazoo to operate, repair and maintain the Water System in the Service Area, it may request easements, rights-of-way and consents in recordable form as may, from time to time, be needed, the provisions of which to be mutually agreed upon by the parties. The easements, rights-of-way and consents shall provide for indemnification of Portage by Kalamazoo, release of liability and that Kalamazoo be responsible for the reasonable repair of any damage or loss to any public right-of-way.

12. Other Authorities.

Kalamazoo agrees to and accepts responsibility to obtain any permits, consents or other required approvals from local, state or federal authorities as may be necessary for the construction, installation, operation, maintenance or repair of the Water System within the Service Area. Kalamazoo agrees to annually provide to the Portage City Engineer, a record of as-built drawings of any additions, changes, modifications or

deletions of water mains or associated appurtenances within the City of Portage. Such as-built drawings shall be provided in hard copy and electronically, in a mutually agreed upon format. In the event that Kalamazoo has to conduct emergency repair on the Water system in Portage, Kalamazoo shall notify Portage as soon as feasible of such repair.

13. Ground Water Protection.

Portage agrees to cooperate with Kalamazoo by adopting and promoting measures of aid and assistance to the prompt, safe, and efficient operation of the Water System. Kalamazoo and Portage agree to cooperatively implement their Wellhead Protection programs, on a watershed basis, to support both programs regarding ongoing enforcement and development issues.

Portage agrees to provide Kalamazoo with information related to any proposed development in Portage within of any of Kalamazoo's Wellhead Protection Areas (WHPAs). Such areas shall correspond to areas designated by Portage as "Area A" under Portage's Storm Water Design Criteria. Kalamazoo agrees to communicate, in a timely fashion, any concerns to Portage regarding any such proposed development.

Portage shall allow Kalamazoo to enforce Kalamazoo's Cross Connection Program within the Service Area per Section R 345.431 – R 325.440 of the Michigan Administrative Code, Kalamazoo's Cross Connection Ordinance and Kalamazoo's approved cross connection program as amended from time to time.

14. Kalamazoo Commitment.

All rules, regulations, and services as provided within Kalamazoo, for the administration of its own water utility system, except as otherwise provided herein, shall be considered to apply to the Service Area. Kalamazoo agrees to administer such rules in an impartial manner with respect to all its customers both within and outside its boundaries.

15. Water Exploration and Production.

Portage grants to Kalamazoo its consent during the period of this contract to conduct exploration and production projects within Kalamazoo's current wellfields located within Portage. This consent includes, but is not necessarily limited to, rehabilitation of existing wells, drilling of new production wells, installation of monitoring wells, and other associated work that will enhance the Water System.

16. Termination and Renewal of Water Service Agreement.

The initial term of this Agreement is for a period of thirty (30) years from its effective date. The effective date of this Agreement shall be the date that this Agreement is approved by the Kalamazoo City Commission and the Portage City Commission, whichever is later. Not more than 90 days and not less than 30 days prior to each successive 10 year anniversary date of the initial term of this Agreement or any extension of the initial term of this Agreement, Portage and Kalamazoo agree to consider the approval of a 10 year extension of the term of this Agreement on the same terms and provisions or other mutually agreeable terms and provisions.

17. Amendments, Ensuring Equality of Agreement Terms.

The parties may from time to time consider it in their best interest to change, modify, or extend a term, condition, or covenant of this Agreement. Any such change, or extension, shall be incorporated in a written amendment to this Agreement signed by the parties. Such amendments shall not invalidate this Agreement nor relieve or release either party of any of its respective obligations under this Agreement unless so stated in the amendment. The party desiring to amend this Agreement shall submit the proposed amendment language to the other party, in writing. The other party shall respond as promptly as possible, and the parties if agreeable to an amendment, will then have 180 days to mutually agree to amendment language. If no

agreement on the proposed amendment is reached, there shall be no such amendment. The effective date of any amendment to this Agreement shall be the date that the amendment is approved by the Kalamazoo City Commission or the Portage City Commission, whichever is later. No amendment to this Agreement shall be effective and binding upon the parties unless it expressly makes reference to this Agreement, is in writing, and is approved by both the Kalamazoo City Commission and the Portage City Commission and signed by an authorized representative of both Kalamazoo and Portage.

If Kalamazoo enters into any agreement with another municipality or customer, and the terms of such an agreement are more favorable than the terms of this Agreement, Portage may elect to adopt all of such other agreement's terms. However, Portage shall be required, at the same time, to accept all differing terms of the other agreement in their entirety and may not be selective among the various terms contained in the agreements.

Except as provided in Section 3 above the rights, powers and authority herein granted by Portage to Kalamazoo shall be for the exclusive use and benefit of Kalamazoo during the term of this Agreement; it being intended that Portage shall not grant like rights, powers, or authority as herein granted, to any other person, firm, corporation or municipality, and shall not directly or indirectly allow, permit or consent to the use of any public places within the boundaries, hereinbefore defined in any manner inconsistent or competitive with the terms, conditions, and purposes of this Agreement.

18. Successors.

This Agreement is binding upon any successor of Portage which may, during the term hereof, become vested by law with the right to control the use of the public street, avenues, boulevards, alleys, rights-of-way, and public places hereinbefore described, and also all successor municipalities, if any of Kalamazoo.

19. Casualty.

Each Party hereto shall be excused from any breach of this Agreement and from any liability or damage caused by any force majeure event.

20. Emergency, Commingling, and Water Rationing Notifications.

For the protection of the health of all customers served by the Water System, the parties agree to guard against all forms of contamination. Should contamination occur, the area or areas affected shall immediately by shut off and isolated, and shall remain so until such conditions have been abated, and the water declared safe and fit for human consumptions based upon approved state and federal analytical testing methodologies. Portage shall immediately notify Kalamazoo and Kalamazoo shall immediately notify Portage, of any emergency or condition that may affect the quality of water in the Water System.

Portage shall not permit water from any other source of supply to be mixed or mingled with the water from the Water System, without prior written approval of Kalamazoo. In cases of emergency, sources of water that are used other than from Kalamazoo shall meet the requirements of the State of Michigan Department of Environmental Quality, or its successors, and then only in such quantities as shall be necessary to relieve the emergency.

Any customer within Portage that has a private well and continues to use a private well after connection to the Water System shall adequately isolate the private well from the Water System. Any private well that is abandoned by the customer after connection to the Water System shall be adequately and completely abandoned according to established state and federal procedures and regulations. A customer within Portage that has had a private well prior to connection to the Water System shall be subject to inspection and/or enforcement by Kalamazoo and Kalamazoo County, to ensure that prior isolation or abandonment has

properly occurred.

From time to time, based on emergency conditions or temporary periods of scarcity within the Kalamazoo water supply system, water rationing may be required within Service Area. The need for water rationing shall be reasonably determined by Kalamazoo at its sole discretion. Upon determining the need for such water rationing, Kalamazoo shall notify Portage verbally and in writing of the type of required rationing within Portage. Kalamazoo will also provide adequate notice to appropriate media outlets to inform Portage's customers of the need for and requirements of any water rationing. Kalamazoo will endeavor to mitigate any circumstances that may require any water rationing and will endeavor to abate any such circumstances at the earliest possible time. Portage agrees to enforce any water rationing requirements within the Service Area for the duration of any such water rationing period. Kalamazoo will provide Portage with written updates every 7 calendar days regarding the status of the circumstances requiring the water rationing and when such circumstances are anticipated to be abated. Upon lifting of water rationing requirements by Kalamazoo, Kalamazoo will promptly inform Portage in writing. Kalamazoo will also utilize all available local media outlets to inform Service Area residents of the termination of any water rationing requirements.

Kalamazoo and Portage agree to abide by any requirements as established by the state or federal governments in emergency situations. Portage shall inform Kalamazoo on an annual basis, or more frequently if changes occur, of appropriate contact information for designated Portage emergency management officials. Each party is responsible for providing and maintaining up to date emergency contact information regarding the other. The failure of Portage to provide and maintain designated Portage emergency contact information shall not obviate Portage's obligations as set forth above.

21. Dispute Resolution.

A. The parties agree that it is in their collective best interest to establish a dispute resolution procedure to allow for faster resolution of problems, reduce expenses for attorneys, fees and costs and to improve their working relationship. Any and all claims, counterclaims, disputes and other matters in question between the parties alleging a breach of or arising under this Agreement, except claims requiring immediate relief to prevent irreparable harm to a party, the public health or environment, or seeking specific performance of the terms of this Agreement shall be submitted to the alternative dispute resolution process set forth herein. No litigation, other than a suit in equity seeking immediate relief to prevent irreparable harm to a party, the public health or environment or seeking specific performance of the terms of this Agreement may be brought by the parties to this Agreement.

B. **Negotiation by Parties:** If any party has a dispute with another regarding the meaning, operation, or enforcement of any provision of this Agreement, the parties agreed to meet and confer to negotiate a resolution of the dispute. Either party may initiate negotiations by providing written notice to the other party, setting forth the subject of the dispute and the relief requested. The recipient of such notice shall respond in writing within 30 business days with a statement of its position on and its recommended solution to the dispute. If the dispute is not resolved by this exchange of correspondence the representatives of each party shall meet at a mutually agreeable time and place within 28 days of the date of the response in order to exchange relevant information and perspectives, and attempt to resolve the dispute. The time frame for conducting negotiations to resolve the dispute shall not exceed 72 days from the date of issuance of the written notice, unless the parties agree to a longer informal negotiation timeframe. If

the dispute is not resolved by these negotiations, the matter shall be submitted to facilitated mediation.

C. **Facilitated Mediation:** If the parties are unable to resolve the dispute themselves and before formally instituting any other dispute resolution mechanism, they shall utilize the services of a mutually acceptable neutral mediator, who meets the qualifications of MCR 2.411, to bring the parties together in at least one mediation session. Either party may initiate the facilitated mediation process by providing notice in writing to the other party.

The parties shall select a qualified facilitator within 30 days of the notice initiating the facilitated mediation process. The cost for the facilitator shall be shared equally by the parties. The facilitator shall be neutral and impartial, with no conflict of interest with either party in no significant financial or personal interest in the outcome of the dispute. If no mutually acceptable facilitator can be identified and selected within the 30 day period, then the dispute resolution under this paragraph shall be terminated.

The facilitator shall be free to meet and communicate separately as he or she deems appropriate with each party, but will schedule joint meetings of all parties with the time, place, and agenda to be established by the facilitator in consultation with the parties. No stenographic, video or record will be made of the meetings conducted by the facilitator, and formal rules of evidence and civil procedure will not apply to the materials presented and discussed.

The facilitation process may be terminated by the facilitator to any time if he or she determines that one or more parties is not acting in good faith, or if the facilitator concludes that further dispute resolution efforts would not be useful in achieving a resolution. The facilitation process will automatically terminate after 90 days from the date the facilitator is retained, unless the time period is extended by agreement of all parties and the facilitator.

If a settlement is reached, a preliminary Memorandum of Understanding shall be prepared and signed or initials before the parties separated. Thereafter, either the facilitator or the parties themselves, will promptly and not later than 30 days following the execution of the Memorandum of Understanding draft a written settlement document incorporating the terms of the settlement. This draft document shall be circulated, amended as necessary and then formally executed by the parties. It is recognized that in some cases, formal execution of the settlement agreement may be deferred pending review and consideration of the document by the governing bodies of the parties.

D. **Arbitration:** If the parties are unable to resolve the dispute through facilitated mediation, the dispute shall be decided by final and binding arbitration by an arbitrator agreed upon by the parties. Unless a longer time is agreed upon by the parties, either party must demand arbitration of the claim or dispute within 30 days after the facilitation process is terminated either by the facilitator or by expiration from the first notice of the claim or dispute and, if not, the claim is deemed waived.

The facilitated mediator may serve as arbitrator by agreement of the parties. If the parties are unable to agree upon the arbitrator, they shall apply to the presiding judge of the Kalamazoo County Circuit Court for the selection of the person to serve as arbitrator. The

person chosen as arbitrator by the court shall have experience in arbitration of commercial disputes. The selection by the presiding circuit judge shall be binding upon the parties and no challenge may be made to that selection.

The dispute shall not be submitted to the American Arbitration Association (AAA) for administration, but the arbitrator selected may nevertheless conduct the arbitration in accordance with the latest published commercial arbitration rules promulgated by the AAA. The arbitrator may utilize whatever rules he or she may deems most effective and efficient for the arbitration process to take place. The arbitrator may also determine if the expense of the arbitrator shall be shared equally or may be assumed partially by one party if it is determined that the issue arbitrated is frivolous without merit. The parties agree that time is of the essence and as such the arbitrator shall proceed asked expeditiously without interfering in the further performance of the parties under this Agreement. Judgment upon the award rendered by the arbitrator may be entered in Kalamazoo County Circuit Court.

E. **Venue:** All meetings, hearings and actions to resolve the dispute shall be held in Kalamazoo County.

F. **Notice:** Written notice of a claim or dispute under this agreement shall be given to the other party not later than 90 days after the occurrence giving rise to the dispute becomes known or should have become known. Any claim or dispute not timely noticed in writing is deemed waived.

CITY OF KALAMAZOO

By: _____

Its: ~~Mayor~~ City Manager

CITY OF PORTAGE

By: _____

Its: Mayor

Form Approved
Sept 19, 2012
CJR
City Attorney

APPROVED AS TO FORM
DATE 9/21/12
_____
CITY ATTORNEY

CITY OF KALAMAZOO, MICHIGAN

RESOLUTION NO. 12-83

WATER SERVICE AGREEMENT WITH CITY OF PORTAGE, MICHIGAN

Minutes of a special meeting of the City Commission of the City held on October 1, 2012, at or after 7:00 o'clock p.m., local time, at City Hall.

PRESENT, Commissioners: Anderson, Bell, Cinabro, Cooney, Miller, Mayor Hopewell

ABSENT, Commissioners: Vice Mayor McKinney

The following preamble and resolution was offered by Commissioner Miller and supported by Commissioner Anderson.

WHEREAS, the City Commission deems it advisable and necessary to enter into a Water Service Agreement with the City of Portage.

WHEREAS, the City of Kalamazoo and the City of Portage have enjoyed a long and mutually beneficial history of the City of Kalamazoo providing water to portions of the City of Portage.

WHEREAS, this single, new agreement replaces two previous agreements, executed in 1974 and 1980, and the term for this new agreement is for 30 years.

BE IT RESOLVED that the City Manager is directed to sign the attached agreement on behalf of the City of Kalamazoo.

The above resolution was offered by Commissioner Miller and supported by Commissioner Anderson.

AYES, Commissioners: Anderson, Bell, Cinabro, Cooney, Miller, Mayor Hopewell

NAYS, Commissioners: None

ABSTAIN, Commissioners: None

RESOLUTION DECLARED ADOPTED.

CERTIFICATE

The foregoing is a true and completed copy of a resolution adopted by the City Commission of the City of Kalamazoo at a regular meeting held on October 1, 2012. Public notice was given and the meeting was conducted in full compliance with the Michigan Open Meetings Act (PA 267, 1976). Minutes of the meeting will be available as required by said Act.

Scott A. Borling, City Clerk

Rules and Regulations

Section C2

Rules and Regulations

The City has a water ordinance and water policies, including the rules and regulations, within the master Water Service Agreement. An excerpt from the master Water Service Agreement is included within Section C12, Water System Policies.

Refer to Section D3, Managerial Capacity Gap Analysis, for the gaps and recommendations.

Water Resources Division Organizational Structure

Section C3

WATER RESOURCES DIVISION

- Water Resources Division Manager
  - Adminstrative Assistant
  - Water Superintendent
    - Water O & M Manager
      - Water Operations Supervisor
        - Water Operator/ Maintainer
        - Water Operator/ Maintainer
        - Water Operator/ Maintainer
        - Water Operator/ Mainrtainer
        - Water Operator/ Maintainer
        - Water Operator/ Maintainer
      - Water Maintenance Supervisor
        - Water Operator/ Maintainer
        - Water Operator/ Maintainer
        - Water Operator/ Maintainer
        - Well Driller
          - Well Maintainer
  - Water Distribution Manager
    - Water Distribution Supervisor
      - Water Dispatcher
      - Maintenance Mechanic
    - Distribution Field Supervisor
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
    - Distribution Field Supervisor
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
    - Distribution Field Supervisor
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
    - Distribution Field Supervisor
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
      - Municipal Worker
  - Water Programs Manager
    - Environmental Support Specialist
  - Assistant City Engineer - Water
    - Sr. Civil Engineer
    - Sr. Civil Engineer
    - Sr. Civil Engineer
    - Engineering Associate
    - Engineering Associate
  - Asset and Records Manager
    - Lead Dafter
    - GIS Specialist
    - Engineering Tech
    - Engineering Tech
    - Engineering Tech
    - Engineering Tech

Support Units

- Laboratory (Wastewater)
- Process Control (Wastewater)
- Environmental Services Supervisor and Tech IIIs (Wastewater)
- Support Services Division
- Public Services Administration

Job Descriptions

Section C4

Public Services Administrative Coordinator

Class Code: N2008

Bargaining Unit: Non-Bargaining Unit

CITY OF KALAMAZOO
Established Date: Mar 3, 2020
Revision Date: Mar 4, 2020

SALARY RANGE

$36,000.00 - $48,000.00 Annually

This description applies to the WRD Administrative Assistant position

DESCRIPTION/DISTINGUISHING FEATURES:

The **Administrative Support Coordinator** is responsible for performing administrative support activities for internal and external customers. The incumbent may oversee scheduling meetings, making travel arrangements, and organizing any other work-related events in addition to writing letters and emails, answering calls, and dealing with in-person visitors.

EXAMPLES OF DUTIES:

- Provides administrative support for Public Services. Prepares City Commission, City Manager and inter-office memos, requisitions, various reports, change orders, travel arrangements, memberships/subscriptions, FOIA requests, media releases, work orders for various public service functions, and provides administrative back-up for various divisions.
- Ensures customer service needs are met within the City's policies, program guidelines, and City Ordinances. Schedules and coordinates meetings and communication for the department.
- Drafts and prepares a variety of documents such as letters, memos, and reports, and by collecting information and compiling and entering data via several platforms.
- Answers, screens and directs telephone calls to include taking messages, providing requested information and responding to citizen concerns and complaints.
- Prepares office financials including purchase orders, change orders, p-cards, and vouchers and manages travel requests and arrangements.
- Coordinates various departmental events and meetings.
- Assisting with entering items into our asset management system for proper recording.
- Receives all incoming mail for the Directors Office and Division Managers and maintains inventory of office supplies.
- Performs other related duties, as assigned.

ESSENTIAL QUALIFICATIONS:

- High School Diploma required with some college course work preferred.
- Minimum of five (5) years of administrative office support experienced is required.
- General knowledge of Microsoft Office applications.
- Ability to learn multiple database platforms to perform duties.
- Ability to develop and nurture strong, productive relationships with all levels within the organization, respecting established processes and fostering an environment of mutual respect.
- Excellent organizational, multi-tasking and prioritizing skills.
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with the general public and all levels within the organization.
- Ability to maintain the highest level of confidentiality in daily contact with sensitive business intelligence, financial, and protected health information is required.
- Proactive and positive customer service skills with both internal and external customers.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.

ACCEPTABLE TRAINING AND EXPERIENCE:

The City of Kalamazoo is an Equal Opportunity Employer. We strive to be a diverse, equitable, inclusive employer by creating an environment where different perspectives and experiences are welcomed and encouraged. This approach will give each current and potential employee the opportunity to learn, grow and contribute to the City of Kalamazoo.

ADDITIONAL REQUIREMENTS:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions; may occasionally perform work outside.
- Exposed to temperature conditions common at the time.
- Noise level is usually moderate/conversational.

PHYSICAL REQUIREMENTS:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 100 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear/listen.
- Required to stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

REVISIONS:

03/04/2020

Asset and Records Manager (P2)

Class Code: N1411

Bargaining Unit: Non-Bargaining Unit

CITY OF KALAMAZOO
Established Date: May 31, 2017
Revision Date: Oct 13, 2020

SALARY RANGE

$62,000.00 - $88,000.00 Annually

DESCRIPTION/DISTINGUISHING FEATURES:

The **Asset and Records Manager** is responsible for the management and oversight of all records and databases in the Public Services Department. Performs project management and administrative work using principles and industry methodologies in asset management and preventative/predictive maintenance techniques to improve the overall reliability for the assets, equipment, and systems operated and maintained by the Department of Public Services (i.e. water system, sanitary system, stormwater system, and public works infrastructure) in full compliance of State of Michigan regulations and meeting other Department of Public Services asset management objectives. Updates and maintains engineering drawings/records related to water, wastewater, storm water, street and plant facilities. Coordinates departmental use and participation in IT department's city-wide Geographic Information Systems (GIS) and City's overall data/records management system.

EXAMPLES OF DUTIES:

A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Works closely with the Geographic Information (GIS) Administrator, Division Managers and Supervisors, and the Engineering Section to ensure that all mandated asset management programs requirements are fulfilled, and Department goals and objectives are addressed as assigned.
- Responsible for the organization and documentation of Public Service records including maps, asbuilts, construction contract, drawings, correspondence and files both paper and electronic. Continuing development of a file management system that promotes a culture of reliable and accessible records.
- Provides utility information in the form of Information Requests to employees, other divisions within the City of Kalamazoo, other government units, private utility companies, architecture, engineering firms and the general public.
- Responsible for administration of the Lucity System; works closely with IT to add asset management segments to established asset system; oversees asbuilts, construction plans, entering of new assets into the system, and the flow of current project paperwork including reporting.
- Maintains water base maps, detailed drawings of storm water, sanitary collection system and traffic signal system.

- Assists with records filing, scanning, hyperlinking and naming. Produces maps so techs can GPS new assets within water and sanitary systems.
- Supervises the state mandated Miss Dig System and oversees software provider for ticket delivery system. Provides reports to Road Commission of Kalamazoo County and six townships.
- Produces maps and graphics for Public Services departmental divisions and other City departments. Assists Community Planning and Development with walk-in customers regarding utility questions and information.
- Performs other related duties, as assigned.

ESSENTIAL QUALIFICATIONS:

- Bachelor's degree in Public Administration, Geography, Information Technology, Engineering, Computer Science, or related field required.
- Minimum of five(5) years experience working with asset databases and GIS in municipal utility environment and three (3) years of supervisory experience.
- Knowledge of the mandated State of Michigan Asset Management Program designed to properly operate and maintain all Public Services utility facilities as defined in part in Part 41 of Act 451, 1994 as amended, and control systems.
- Knowledge of geographical area of Kalamazoo required
- Knowledge of file management, computer usage, utility and street construction and mapping principles required.
- Water distribution system and waste water collection system knowledge preferred.
- Must possess a valid and current State of Michigan driver’s license.
- General knowledge of Microsoft Office applications.
- Knowledge and experience with AutoCAD, ArcMap and ArcGIS software.
- Ability to develop and nurture strong, productive relationships with all levels within the organization, respecting established processes and fostering an environment of mutual respect.
- Excellent organizational, multi-tasking and prioritizing skills.
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with the general public and all levels within the organization.
- Proactive and positive customer service skills with both internal and external customers.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.

ACCEPTABLE TRAINING AND EXPERIENCE:

The City of Kalamazoo is an Equal Opportunity Employer. We strive to be a diverse, equitable, inclusive employer by creating an environment where different perspectives and experiences are welcomed and encouraged. This approach will give each current and potential employee the opportunity to learn, grow and contribute to the City of Kalamazoo.

ADDITIONAL REQUIREMENTS:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions.
- Exposed to temperature conditions common at the time.
- Noise level is usually moderate/conversational.

PHYSICAL REQUIREMENTS:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

REVISIONS:

Issued: 6/01/2017
Revised 10/14/2020

Position Description

Job Title:	Assistant City Engineer - Water		
Department:	Public Services	Grade:	
Reports To:	Water Resources Division Manager		
Approved By / Date:			
Supervisory Responsibilities:	Yes	FLSA Status:	Exempt / Salary

Description/Distinguishing Features: The **Assistant City Engineer - Water** is an advanced professional and administrative civil engineering position in the investigation, design, development, construction, and maintenance of water, storm water, and bridge capital improvement projects, including work of an administrative nature in directing a subdivision of the Water Resources Division of the City. The employee services as and assistant to the City Engineer under the direction of the Water Resources Division Manager and assists in the formulation of policies. Primary responsibilities include managing the execution of engineering design and development or the construction of the City's water resources capital improvement projects. Supervision is exercised over and direction provided to professional and sub-professional engineering personnel engaged in water resources development and engineering design or construction.

Examples of Duties: A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Prepares program applications for federally funded projects.
- Reviews, approves and professionally seals plans, specifications, bids and engineering reports.
- Coordinates utility upgrades.
- Oversees construction projects by consulting with inspectors, contractors, and/or consultants; approves invoices, schedules and methods of construction.
- Conducts technical investigations and analyses for water and storm water system performance by completing comprehensive performance evaluations, investigating options for improved performance, and recommending operational modifications.
- Works with townships and developers on water main and system upgrades and extensions including estimating costs, coordinating franchise agreements, and acquiring required permits.
- Designs and prepares a variety of engineering reports.
- Prepares annual budget and provides technical input and leadership for new capital improvement projects; evaluates equipment condition, generates costs for upgrading or replacing existing operating systems, and screens alternatives or replacement technology.
- Acts as designated Project Engineer for all water, storm water, or federally funded bridge projects.
- Supervises and evaluates staff including the delegation of work, performance reviews, training and development, and discipline in accordance with City policies, procedures and union contracts.
- Performs other related duties, as assigned.

Essential Qualifications:

- Bachelor's Degree in Civil Engineering required.
- Minimum of eight (8) years of experience in Civil Engineering with respect to water, bridge, roadway, storm sewer, and sanitary sewer.
- Minimum of two (2) years of progressively responsible supervisory/management experience.
- Licensed Professional Engineer in State of Michigan.
- S-~~43~~/D-~~4~~3 Water Operator License or ability to obtain within 1 year.
- Valid Michigan driver's license required.

- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with the public and all levels within the organization.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Strong organizational and multi-tasking and skills.

Physical Requirements:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

Work Environment:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions.
- Frequently exposed to outdoor work environment.
- May be exposed to extreme temperature conditions.
- May be subjected to electrical currents, vibrations, fumes, odors, dusts, gases, and work space restrictions.

Created By: HRM Innovations

Date: 5/16/2017

Revision Date:

Water Distribution Manager (M)

Class Code: N1645

Bargaining Unit: Non-Bargaining Unit

CITY OF KALAMAZOO
Established Date: May 31, 2017
Revision Date: Oct 6, 2020

SALARY RANGE

This description applies to the Distribution Field Supervisor position

$70,000.00 - $100,000.00 Annually

DESCRIPTION/DISTINGUISHING FEATURES:

The **Water Distribution Manager** is responsible for managing specialized projects and supervising field operations and inspections staff. Manages and plans field services activities.

EXAMPLES OF DUTIES:

A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Participates in the development and implementation of policy and budget for operations maintenance activities.
- Maintains positive public relations with emphasis on customer service. Handle customer issues effectively and courteously.
- Coordinates the daily function of water and storm water CIP.
- Coordinates the daily functions for field operations maintenance of water distribution and storm water.
- Performs planning, scheduling, inspecting and validating; prepares related reports for productivity standards.
- Ensures compliance with local, state and federal safety regulations.
- Works on special projects including overseeing safety programs for personnel; works with contractors, engineering, maintenance, and process control to plan system shut downs or system upgrades.
- Prepares the order cards for water main CIP / Maintenance functions.
- Prepares a list of equipment to be replaced or used for maintenance / construction functions.
- Assists in the development of employee training programs / union issues.
- Supervises and evaluates staff including the delegation of work, performance reviews, training and development, and discipline in accordance with City policies, procedures and union contracts.
- Attend and participate in professional trainings; stay abreast of new trends and innovations in the field of water distribution system construction, maintenance and repair.
- Performs other related duties, as assigned.

ESSENTIAL QUALIFICATIONS:

- Bachelor's degree in Business, Engineering or related field required.
- Minimum of six (6) years of comprehensive operational and maintenance experience in wastewater, storm sewers and street supervision or related field required.
- Minimum of three (3) years of previous supervisory experience required.
- Knowledge of local, state and federal regulations regarding industrial to sanitary sewer system or field services.
- Ability to read and interpret blueprints and engineering drawings.
- State of Michigan S1 and D3 Water Operator Certification required.
- State of Michigan Storm Water Management – Construction Site Certification required.
- Valid State of Michigan driver's license as well as Class B license (CDL).
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with the public and all levels within the organization.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Strong organizational and multi-tasking and skills.

ACCEPTABLE TRAINING AND EXPERIENCE:

The City of Kalamazoo is an Equal Opportunity Employer. We strive to be a diverse, equitable, inclusive employer by creating an environment where different perspectives and experiences are welcomed and encouraged. This approach will give each current and potential employee the opportunity to learn, grow and contribute to the City of Kalamazoo.

ADDITIONAL REQUIREMENTS:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions.
- Frequently exposed to outdoor work environment.
- May be exposed to extreme temperature conditions.
- May be subjected to electrical currents, vibrations, fumes, odors, dusts, gases, and work space restrictions.

PHYSICAL REQUIREMENTS:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.

- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.

Regularly speaks clearly, using the English language.

REVISIONS:

Issued: 6/01/2017
Revised: 07/2020

Position Description

Job Title:	Engineering Associate - Water		
Department:	Water Resources	Grade:	P1n
Reports To:	Assistant City Engineer - Water		
Approved By / Date:			
Supervisory Responsibilities:	No	FLSA Status:	Non-Exempt / Hourly

Description/Distinguishing Features: The **Engineering Associate - Water** is responsible for inspecting the installation of water main and water services to ensure City of Kalamazoo specifications and Michigan Department of Environmental Quality regulations are followed. This role completes accurate as-builts for water projects including water main maps, water service cards, gate valve cards, and fire hydrant cards. The position assists with the training of new employees, assists the Water Engineers with water plan review, writing of specifications, and other functions as needed. In addition, the position assists the Sewer Engineer, when needed~~,~~. The Engineering Associate – Water assists field services, when needed, and observes for cross connections in the system.

Examples of Duties: A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Performs inspection on the installation of water main and water services to ensure City of Kalamazoo specifications and the Michigan Department of Environmental Quality regulations are followed.
- Completes accurate as-builts for water projects including water main maps, water service cards, gate valve cards, and fire hydrant cards.
- Assists with the training of new employees.
- Assists the Water Engineers with water plan review, writing of specifications, and other functions as needed.
- Coordinates and schedules work when field services is required to perform work in conjuction with contractors.
- Assists the Sewer Engineer, when needed.
- Assists field services, when needed.
- Observes for cross connections within the system.
- Performs other related duties, as assigned.

Essential Qualifications:

- Associate Degree in Engineering or related field preferred.
- Minimum of five (5) years of water distribution installation and maintenance is required.
- MDEQ Water Operator S-2 certification or ability to obtain within 2 years.
- Ability to communicate rules and regulations to contractors.
- Ability to take contractor field notes and convert them to accurate as-builts for recording.
- Ability to handle public relations during water main construction and water shut-downs.
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with all levels within the organization.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Valid State of Michigan Driver's License.

Physical Requirements:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 100 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

Work Environment:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions; constantly performs outdoor work.
- Exposed to temperature conditions common at the time.
- Noise level is usually moderate/conversational. Occasionally works in industrial/construction noise conditions.

Created By: HRM Innovations

Date: 6/26/2017

Revision Date:

Engineering Technician I (S-32)

Class Code: K8082

Bargaining Unit: Kalamazoo Municipal Employee Association

CITY OF KALAMAZOO
Established Date: Mar 31, 1987
Revision Date: Oct 26, 2011

SALARY RANGE

$18.56 - $22.26 Hourly

DESCRIPTION/DISTINGUISHING FEATURES:

The employee in this position performs engineering related tasks in the field or in the office to develop and maintain the City of Kalamazoo's Water, Sanitary, Storm, and Traffic Systems. The employee will spend a considerable amount of time fulfilling the staking and locating responsibilities for our participation in the State of Michigan mandated Miss Dig System. In addition, the employee collects and records "as-built" data of existing and newly constructed Water, Sanitary and Storm Systems. This position is required to be "on-call" on a rotating basis to respond to after hours Miss Dig emergencies. The Engineering Technician I's work vehicle is equipped with a GPS locator and is monitored.

EXAMPLES OF DUTIES:

- Duties include field locating, flagging and marking of the Water, Sanitary, Storm and Traffic control systems as well as some underground electrical.
- Ability to monitor the Miss Dig software System
- Collection and recording of Engineering "as-built" field data as it relates to the Water, Sanitary, Storm and Traffic Control Systems thru use of either manual or C.A.D.
- Assisting the City Engineers in the completion of any of their field work or projects utilizing Engineering techniques including surveying.
- Assisting the Records Supervisor in the collection and maintenance of our records both paper and electronic

ESSENTIAL QUALIFICATIONS:

- Knowledge of construction practices as it relates to Water, Sanitary and Storm Systems.

- Skill in reading and understanding Engineering blueprints, maps and construction notes.
- Skill in using drafting, surveying and any other related electronic instruments.
- Ability to understand and implement technical instructions, both written and oral.
- Ability to assist in research projects, site inspections and other related assignments to aid civil engineers in the field or in the office.
- Some knowledge of MDOT testing methods and documentation.
- Physical ability to work out-of-doors under adverse conditions

ACCEPTABLE TRAINING AND EXPERIENCE:

- Completion of coursework or general training in field surveying, manual and computer aided drafting, street and underground construction methods, civil engineering;
- Skill in using computers and the ability to learn and use the various software programs used in engineering;
- Or any equivalent combination of experience and training which provides the essential knowledge and skills, and abilities.

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ADDITIONAL REQUIREMENTS:

- Possession of a valid vehicle operator's license issued by the State of Michigan.
- Stand by work is required.

REVISIONS:

Issued: 4/87
Revised: 8/18/91
Revised: 5/04/92
Revised: 1/03/95
Revised: 11/01/05
Revised: 3/10/10
Revised: 12/4/12
Revised: 2/6/17

Environmental Support Specialist

Class Code: N1690-010

Bargaining Unit: Non-Bargaining Unit

CITY OF KALAMAZOO
Established Date: Feb 26, 2020
Revision Date: Feb 26, 2020

SALARY RANGE

$54,000.00 - $77,000.00 Annually

DESCRIPTION/DISTINGUISHING FEATURES:

Provides assistance to the Environmental Programs Manager to complete all necessary work associated with the Wellhead Protection Program (WHPP), the Phase II Stormwater NPDES Permit Program, City liability sites, Site Plan Review, and other environmental related work as assigned.

EXAMPLES OF DUTIES:

- Provides assistance to the Environmental Programs Manager (Manager) and designated staff for the WHPP, including maintaining the www.protectyourwater.net website, participating in WHPP grant projects and educational events, WHPP 6 Elements support, and other groundwater related work as assigned.
- Provides assistance to the Manager for the Phase II Stormwater Program (Stormwater Program), including public education and outreach, site plan review, field investigations and treatment system verifications, and other surface water related work as assigned.
- Provides assistance to the Manager with the Site Plan Review process.
- Prepares reports, with associated maps, figures, spreadsheets, etc. as assigned. Provides assistance to prepare and provide presentations
- Responds to informational requests from internal staff, and external customers and general public.
- Performs field verification of stormwater pre-treatment structures pursuant to Site Plan Review requirements to determine compliance. Ensures that the structure meets New Jersey DEP standards.
- Determines most appropriate public education and outreach approach and material dissemination for scheduled tours and other events.
- Determines website protectyourwater.net content currency and efficiency,and performs trouble-shooting and updates content and links as needed.

ESSENTIAL QUALIFICATIONS:

- Bachelor's Degree in Geography, Geology, Water Resources Management, Environmental Science or related field.
- 4 years in related environmental field (water resources related preferred).
- 4 years experience with Project Management.
- 4 years experience working with Microsoft Office or equivalent (spreadsheets, word processing, etc.).

ACCEPTABLE TRAINING AND EXPERIENCE:

- Must have ability to research and work with data to prepare maps, figures, graphs, spreadsheets (G.I.S. experience preferred).
- Must be good organizer of information.
- Must have good verbal skills, writing skills, and computer applications and database management skills.
- Preferred knowledge of hydrogeologic and hydrologic principles, geographic and cartographic principles, and water quality issues.
- Ability to work well with other staff, and complete assignments in an effective and timely manner.

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ADDITIONAL REQUIREMENTS:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions; may occasionally perform outdoor work.
- Exposed to temperature conditions common at the time.
- Noise level is usually moderate/conversational.

PHYSICAL REQUIREMENTS:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 100 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

REVISIONS:

Issued: 02/27/2020

Public Services GIS Specialist (P1)

Class Title

Public Services GIS Specialist (P1)

Class Code

N1411

Salary

$51,000.00 - $73,000.00 Annually

Description/Distinguishing Features

The **Public Services GIS Specialist** is responsible for supporting all Public Service Department GIS needs. The specialist reports directly to the Records and Asset Manager works closely with the GIS Senior System Analyst and who verify edits and are responsible for versioning and mapping software. The Public Services GIS Specialist updates and maintains Public Services GIS feature layers including hyperlinks to engineering drawings and/or records related to traffic signal, water, wastewater, storm water, street, and plant facilities. Works with Assets and Records Manager to coordinate departmental use and participation in IT department's city-wide Geographic Information Systems (GIS) and City's overall data/records management system.

Examples of Duties

A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Works closely with the Geographic Information (GIS) Administrator, Records and Asset Manager, Division Managers and Supervisors, and the Engineering Section to ensure that all GIS and mapping needs are fulfilled, and asset updates are sent to the GIS Administrator in a timely manner.
- Responsible for the collection and maintenance of georeferenced Public Service assets including public services feature datasets, hyperlinked records, and GIS networks.
- Support street, sanitary, and water engineers with GIS needs for CIPs.
- Work with GIS Senior System Analyst and Senior System Analyst - Program Manager on Lucity/GIS integration.
- Work with GIS Senior System Analyst to create data collection standards, and train engineering techs, water and sewer operators, inspectors, interns, and all others who will be collecting georeferenced assets.
- Work with engineering techs (locators) to capture data on large projects.
- Work with sanitary and storm administration on GIS needs for current and future grant funded projects.
- Create orthorectified image layers using drone survey techniques and photogrammetry software for base maps and special project needs.
- Produce maps and graphics for Public Services departmental divisions as well as water boil advisory, detour, and other emergency mapping needs.
- Perform other related duties, as necessary.

Essential Qualifications

- Bachelor's degree in Public Administration, Geography, Information Technology, Engineering, Computer Science, or related field required.
- Minimum of five (5) years' experience working with asset databases and GIS in municipal utility environment.
- Knowledge of the mandated State of Michigan Asset Management Program designed to properly operate and maintain all Public Services utility facilities as defined in part in Part 41 of Act 451, 1994 as amended, and control systems.
- Knowledge of geographical area of Kalamazoo required.
- Knowledge of file management, computer usage, utility and street construction and mapping principles required.
- Water distribution system and wastewater collection system knowledge preferred.
- Must possess a valid and current State of Michigan driver's license.
- General knowledge of Microsoft Office applications.
- Knowledge and experience with AutoCAD, ArcMap and ArcGIS software.
- Ability to develop and nurture strong, productive relationships with all levels within the organization, respecting established processes and fostering an environment of mutual respect.
- Excellent organizational, multi-tasking and prioritizing skills.
- Strong, clear communicator with excellent interpersonal skills; proven ability to effectively and positively communicate with the general public and all levels within the organization.
- Proactive and positive customer service skills with both internal and external customers.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Occasionally performs emergency mapping duties.

Additional Requirements

- Frequently in the general office environment, lighting and temperature are adequate, and there are no hazardous conditions.
- Exposed to temperature conditions common at the time.
- Noise level is usually moderate/conversational.

Physical Requirements

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing, or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

Revisions

Issued:

Lead Drafter (S-36)

Class Code: K1025

Bargaining Unit: Kalamazoo Municipal Employee Association

CITY OF KALAMAZOO
Established Date: Mar 1, 1971
Revision Date: Sep 8, 2011

SALARY RANGE

$20.54 - $24.44 Hourly

DESCRIPTION/DISTINGUISHING FEATURES:

This is semi professional engineering in the preparation of engineering plans, maps, and related drawings. The employee is responsible for preparing any of a variety of engineering plans, maps, and detailed drawings; uses City's GIS software (ESRI); maintains CADD drawing file directories; updates engineering records with as-built data; determines the parceling of drafting work for other drafters; provides utility data or map/photo copies to customers; does related work as required. The employee must also perform duties of the Engineering Technician I (Miss Dig staking) when needed and monitor Miss Dig Irthnet on occasion.

Work involves the skilled use of computer aided design software AutoCAD to prepare detailed plans and working drawings of engineering projects and records. The employee works from preliminary sketches, field data collector, typical cross sections, field notes, and from oral and written instructions. Employee reviews incoming work for priority purposes and distributes same to other drafters on basis of skill and availability.

EXAMPLES OF DUTIES:

Uses computer aided drafting and design software AutoCAD in drawing road and utility design plans and capital improvement plans and maps to standard engineering scale; uses ESRI Geographic Information Software. Operates CAD plotters, printers and large format copy machines; determines proper distribution of incoming work based upon backload, drafter availability, and individual skill; may perform lead duties on occasion relating to department drafting standards and workload flow; prepares plans and sectional drawings of street or utility projects and capital improvement projects showing details of construction; works from field notes, engineering preliminary plans, field data collector, survey notes and other reference material in preparation of completed drawings; prepares, maintains and updates detailed engineering records on the location and depth of underground facilities such as storm and sanitary sewers, inlets, streetholes, and connections, water mains, services and hydrants and pump stations; records data on location of mains or sewers and related data; performs related work as required; Miss Dig Irthnet on occasion; substitution for the Engineering Tech I utility location duties as needed.

ESSENTIAL QUALIFICATIONS:

Extensive knowledge, skill and experience in the use of AutoCAD design software and skill in the preparation of road design plans, utility design plans and capital improvement plans required. Knowledge, experience and skill in the use of ESRI Geographic Information Software desirable; knowledge of principles, practices, techniques, instruments of engineering drawing; knowledge of mathematics and trigonometry; some knowledge of practices and techniques of field surveying; some knowledge of construction practices and ability to relate this knowledge to the preparation of engineering plans; skill in the use of engineering drafting instruments; capable of drafting or designing all varieties of work assigned; ability to make basic supervisory decisions relating to drafting methods and productivity.

ACCEPTABLE TRAINING AND EXPERIENCE:

Completion of the core curriculum for an Associates Degree in a C.A.D. related program. In addition, experience in civil engineering drafting utilizing C.A.D.; including some experience in field surveying, or any combination of experience and training which provides the essential knowledge, skills and abilities.

ADDITIONAL REQUIREMENTS:

Possession of a valid motor vehicle operator's license. Stand by work may be required.

REVISIONS:

Issued: 03/01/71
Revised: 10/16/90
Revised 08/05/91
Revised: 05/05/
Revised: 03/07/00
Revised: 6/01/01
Revised: 6/21/04
Revised: 11/01/05

Lead Maintenance Mechanic (H-38)

Class Code: A7030

Bargaining Unit: American Federation of State, County and Municipal Employees

CITY OF KALAMAZOO
Established Date: Dec 31, 1980
Revision Date: Nov 17, 2011

SALARY RANGE

$20.19 - $22.34 Hourly

DESCRIPTION/DISTINGUISHING FEATURES:

Performs various skilled trades tasks on the masters level; this person will be a maintenance crew leader; does related work as required.

This is highly skilled building and mechanical maintenance work. Performs difficult and complex maintenance tasks. The work is performed under general supervision, through much independent action and judgment are usually expected. Supervision may be exercised over Maintenance Mechanics, Maintenance Repairers, and Laborers.

EXAMPLES OF DUTIES:

Installs and repairs heating and air-conditioning air movement equipment; maintains water and lavatory facilities; installs, makes extensions, additions, or changes in electrical wiring fixtures and equipment; performs highly complex building maintenance work such as carpentry, masonry, painting, plastering, welding, and plumbing; may supervise the moving and installing of replacement machines and auxiliary apparatus; inspects equipment to determine repair costs and salvages parts or disposes of worn out equipment; operates light or heavy equipment as required; troubleshoots, repairs and installs mechanical and electrical equipment such as controllers, motors, pumps, compressors, evaporation clarifiers, aerators, and related Wastewater Treatment equipment; assists in the feeding of chemicals and maintenance of the equipment; installs, repairs, and sets recording instruments; prepares reports and maintains work records; installs, repairs, and replaces motors, pumps, gears, drive trains, boilers, and hydraulic systems; threads pipe through 8" diameter pipe; operates large lathe, large pipe threader, boring machines, pipe cutters, and saws; installs and repairs loader buckets and pipe and accessory equipment.

ESSENTIAL QUALIFICATIONS:

Good working knowledge and extensive experience of trade practices, materials and tools; thorough knowledge of occupational hazards and safety precautions; ability to do skilled and complex building or mechanical maintenance work; ability to work from sketches, drawings, and blueprints; ability to train semi-skilled mechanics in this work; ability to establish and maintain effective working relationships with other employees; ability to prepare reports. Ability to lift 50 lbs on a routine basis and up to 75 lbs on an intermittent basis.

ACCEPTABLE TRAINING AND EXPERIENCE:

Considerable experience in building or mechanical maintenance work and graduation from a standard high school or vocational school or any equivalent combination of experience and training which provides the essential knowledge, skills, and abilities. Two years' experience as a Maintenance Mechanic.

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ADDITIONAL REQUIREMENTS:

Possession of a valid drivers license and when assigned to the Water Division, a C.D.L. with Group A designation required.

REVISIONS:

Issued: 1/81
Revised: 6/91
Revised: 1/94
Revised: 3/05

Apprentice Municipal Water (H-24)

Class Code: A6058w

Bargaining Unit: American Federation of State, County and Municipal Employees

CITY OF KALAMAZOO
Established Date: Dec 31, 2016
Revision Date: May 15, 2018

SALARY RANGE

$18.48 - $20.23 Hourly

DESCRIPTION/DISTINGUISHING FEATURES:

This is an apprentice level work involving the maintenance and construction of the water distribution system and performs related work as required. Operates one or more types of automotive equipment and performs a variety of manual tasks; does related work as required.

Work involves acquiring knowledge and skill in various activities of the water distribution system. Employees in this class are responsible for the safe and efficient operation of several types of vehicles and equipment. The position requires possession of a CDL either upon hire or within 6 months of employment. Ability to promote to a higher class for new employees is required within three years of hire. Work will be inspected by a Supervisor for quality and efficiency.

EXAMPLES OF DUTIES:

Works with Public Services staff to learn operations such as the water distribution system; operation and maintenance procedures; Public Works operation and maintenance; performs manual labor relating to hydrants and other water system connections; reads maps and makes emergency system shutdowns; operates trucks in connection with the transportation of sand, stone, gravel and supplies; operates trucks in carrying tools, equipment, parts, and materials/supplies to and from a job site; performs minor repairs on vehicle equipment; repairing water lines and mains; operating road compactor and various other pieces of equipment; performs maintenance on streets, structures, and storm sewers, cemetery, water mains, manual labor operations; performs minor equipment repairs; reads water meters on an assigned route and recording readings; checks to see that meters are functioning properly; uses hand held computers, preparing simple work reports; performs snow removal and street sweeping operations as needed.

ESSENTIAL QUALIFICATIONS:

Some knowledge of municipality construction and maintenance principles; some knowledge of traffic laws and regulations; ability to make minor equipment repairs; some knowledge of the Public Services Department activities; must be able to lift, push, and pull 90 pounds periodically; must have good oral and written communication skills; ability to establish and maintain effective working relationships with the general public; must have the ability and skills necessary to complete the apprenticeship and obtain an S-4 certification (Water Distribution Operator S-4) within three years of appointment; possession of a valid motor vehicle operator's license and certified driver's license CDL "B" endorsement with air brakes; completion of a high school diploma or GED.

ACCEPTABLE TRAINING AND EXPERIENCE:

Any equivalent combination of experience and training which provides the essential knowledge, skills and abilities.

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ADDITIONAL REQUIREMENTS:

Possession of a valid motor vehicle operator's license issued by the State of Michigan and certified driver's license (CDL) "B" endorsement with air brakes within 6 months of hire.

REVISIONS:

Issued: 1/01/2017

Position Description

Job Title:	Senior Civil Engineer - Water		
Department:	Public Services	Grade:	
Reports To:	Assistant City Engineer - Water		
Approved By / Date:			
Supervisory Responsibilities:	Yes	FLSA Status:	Exempt / Salary

Description/Distinguishing Features: The **Senior Civil Engineer - Water** is responsible for supervising and managing capital improvement projects, contracts, budget and design.

Examples of Duties: A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Supervises and manages projects, contracts, budgets and schedules.
- Plans, organizes, coordinates, and manages long-range and short-range planning of projects and capital improvements.
- Prepares and approves designs for Public Services/Water Resources projects in accordance with general engineering principals and City standards; determines the scope, designs, prepares drawings, specifications, bidding documents, contracts and cost estimates; conducts and coordinates design and construction surveying.
- Provides analysis and recommendations and designs, and investigates situations.
- Conducts construction inspections, reviews and approves contractor pay requests, reviews and processes construction change orders.
- Prepares legal descriptions, documents, and draft agreements for the City right of way acquisitions; meets with property owners to discuss right of way purchases for roadway projects; selects and works with real estate appraisers and consultants to determine market value of right of way acquisitions.
- Conducts Water Resources division review and approval of project plans and construction drawings; ensures compliance with codes and standards.
- Models parts or all of the water system to analyze the impact of new projects or upgrades to existing infrastructure.
- Determines selection criteria for securing Water Resources consultants and contractors; specifies parameters and determines scope of work for consultants and contractors.
- Attends meetings, addresses customer questions and complaints.
- Performs other related duties, as assigned.

Essential Qualifications:

- Bachelor's Degree in Civil Engineering.
- Minimum of two (2) years of experience in Water Resources Engineering.
- Professional Engineer's License is preferrred.
- S-4/D-4 Water Operator Licence or ability to obtain within 1 year.
- Valid Michigan Driver's License.
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with all levels within the organization; excellent customer service skills.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Demonstrated experience with Microsoft Office applications.

Physical Requirements:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 10 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

Work Environment:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions; frequently performs outdoor work.
- Exposed to temperature conditions common at the time.
- Noise level is usually moderate/conversational. Occasional work in industrial/construction noise conditions.

Created By: HRM Innovations

Date: 6/26/2017

Revision Date:

Public Services Dispatcher

Class Code: N1622-001

Bargaining Unit: Non-Bargaining Unit

CITY OF KALAMAZOO
Established Date: Jun 10, 2020
Revision Date: Jun 10, 2020

SALARY RANGE

This description applies to the Water Dispatcher position

$50,000.00 - $71,000.00 Annually

DESCRIPTION/DISTINGUISHING FEATURES:

The **Public Services Dispatcher** is responsible for assisting in the planning and implementation of activities involved in a functional area of the Public Services Department. This role supervises, plans, schedules and prioritizes work assignments and service work orders, performs recordkeeping duties and prepares paperwork, as needed. The incumbent will provide technical advice to public callers and City staff using a computerized system to dispatch crews and equipment to handle issues, provide information to crews in the field, and perform other duties as needed.

EXAMPLES OF DUTIES:

- Receives variety of calls from the public and 311 explains policies, rules and regulations, and services provided.
- Keeps various operational records and retrieves electronic data from a variety of sources.
- Enters work orders including information obtained from callers into a computerized work order/asset management system.
- Assigns calls to crews and coordinates staff and equipment on field jobs through supervision or personally if the appropriate supervisor is not available.
- Consults computerized maps, valve books, index cards, and other records to provide requested information to individuals and field crews.
- Operates a variety of office equipment such as personal computer with standard and customized business software, printer, photocopier, facsimile, and scanner.

- Contacts KDPS and other jurisdictions provided water by Public Services in the event of water main or hydrants out of service or streets temporarily blocked.
- Assists in training alternate dispatchers.
- Performs other related duties, as assigned.

ESSENTIAL QUALIFICATIONS:

- Associate's Degree in a related field preferred.
- Minimum of three (3) years of progressively responsible supervisor and related work experience; or, an equivalent combination of education and experience sufficient to successfully perform the essential duties of the job.
- Previous knowledge and experience with plumbing practices, electrical systems grounding, hydraulics, meter design and function, safety rules, regulations and practices.
- Demonstrated experience with trenching and shoring techniques, sanitary and storm systems, leaf collection, asphalt applications and mix designs.
- Strong knowledge of maintenance, construction and repair techniques, commercial and residential water service connections.
- Radio and dispatch communications equipment
- City's 311-CSR (customer service request) system
- State of Michigan S4 Certification required with the ability to obtain an S3 within three (3) years of employment and S2 preferred and recommended.
- Valid Michigan Driver's License.
- Must possess a valid and current CDL B License with tanker and air brake endorsements.
- Ability to read maps and blueprints.
- Excellent problem solving and troubleshooting skills.
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with all levels within the organization; excellent customer service skills.
- Ability to remain calm and exercise considerable judgment while making decisions when emergency situations arise.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Demonstrated experience with Microsoft Office applications and ability to learn additional systems.

ACCEPTABLE TRAINING AND EXPERIENCE:

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PHYSICAL REQUIREMENTS:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

REVISIONS:

06/11/2020 [A.D]

Water Distribution Manager (M)

Class Code: N1645

Bargaining Unit: Non-Bargaining Unit

CITY OF KALAMAZOO
Established Date: May 31, 2017
Revision Date: Oct 6, 2020

SALARY RANGE

$70,000.00 - $100,000.00 Annually

DESCRIPTION/DISTINGUISHING FEATURES:

The **Water Distribution Manager** is responsible for managing specialized projects and supervising field operations and inspections staff. Manages and plans field services activities.

EXAMPLES OF DUTIES:

A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Participates in the development and implementation of policy and budget for operations maintenance activities.
- Maintains positive public relations with emphasis on customer service. Handle customer issues effectively and courteously.
- Coordinates the daily function of water and storm water CIP.
- Coordinates the daily functions for field operations maintenance of water distribution and storm water.
- Performs planning, scheduling, inspecting and validating; prepares related reports for productivity standards.
- Ensures compliance with local, state and federal safety regulations.
- Works on special projects including overseeing safety programs for personnel; works with contractors, engineering, maintenance, and process control to plan system shut downs or system upgrades.
- Prepares the order cards for water main CIP / Maintenance functions.
- Prepares a list of equipment to be replaced or used for maintenance / construction functions.
- Assists in the development of employee training programs / union issues.
- Supervises and evaluates staff including the delegation of work, performance reviews, training and development, and discipline in accordance with City policies, procedures and union contracts.
- Attend and participate in professional trainings; stay abreast of new trends and innovations in the field of water distribution system construction, maintenance and repair.
- Performs other related duties, as assigned.

ESSENTIAL QUALIFICATIONS:

- Bachelor's degree in Business, Engineering or related field required.
- Minimum of six (6) years of comprehensive operational and maintenance experience in wastewater, storm sewers and street supervision or related field required.
- Minimum of three (3) years of previous supervisory experience required.
- Knowledge of local, state and federal regulations regarding industrial to sanitary sewer system or field services.
- Ability to read and interpret blueprints and engineering drawings.
- State of Michigan S1 and D3 Water Operator Certification required.
- State of Michigan Storm Water Management – Construction Site Certification required.
- Valid State of Michigan driver's license as well as Class B license (CDL).
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with the public and all levels within the organization.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Strong organizational and multi-tasking and skills.

ACCEPTABLE TRAINING AND EXPERIENCE:

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ADDITIONAL REQUIREMENTS:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions.
- Frequently exposed to outdoor work environment.
- May be exposed to extreme temperature conditions.
- May be subjected to electrical currents, vibrations, fumes, odors, dusts, gases, and work space restrictions.

PHYSICAL REQUIREMENTS:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.

- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.

Regularly speaks clearly, using the English language.

REVISIONS:

Issued: 6/01/2017
Revised: 07/2020

Public Services Supervisor (S)

Class Code: N1641

Bargaining Unit: Non-Bargaining Unit

CITY OF KALAMAZOO
Established Date: May 31, 2017
Revision Date: Aug 7, 2017

SALARY RANGE

This description applies to the Water Distribution Supervisor position

$52,000.00 - $75,000.00 Annually

DESCRIPTION/DISTINGUISHING FEATURES:

The **Public Services Supervisor** is responsible for assisting in the planning and implementation of activities involved in a functional area of Public Services This activities include Water, Wastewater Collections, Forestry, Asphalt, and Stormwater/Concrete throughout Kalamazoo County.

EXAMPLES OF DUTIES:

A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Supervises and evaluates personnel; plans, schedules, and prioritizes work assignments and service orders; reviews field work performed; establishes, modifies, and evaluates employee performance and safety standards; motivates and trains personnel; and, resolves personnel issues.
- Schedules the installation, repair, and maintenance of Public Services equipment and services; prepares and reviews plans, work orders, records, and detailed diagrams; checks availability and orders parts.
- Assists in the coordination of special projects, programs, and services; prepares plans; coordinates personnel; attends meetings; provides assistance and advice to parties involved.
- Performs record keeping duties and prepares paperwork including time-sheets, work orders, service requests, daily production reports, weekly accomplishments, damage reports, and employee performance reviews.
- Investigates and answers customer inquiries and complaints by gathering facts, providing explanations and solutions, and distributing information.
- Performs other related duties, as assigned.

ESSENTIAL QUALIFICATIONS:

- High School Diploma with a minimum of three (3) years of technical experience in a related field required.
- Previous supervisory experience required.
- Must possess a valid and current CDL B License with Air Brakes and Tanker endorsements.
- General knowledge of Microsoft Office applications.
- Ability to develop and nurture strong, productive relationships with all levels within the organization, respecting established processes and fostering an environment of mutual respect.
- Excellent organizational, multi-tasking and prioritizing skills.
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with the general public and all levels within the organization.
- Proactive and positive customer service skills with both internal and external customers.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.

- Previous knowledge and experience with plumbing practices, electrical systems grounding, hydraulics, meter design and function, safety rules, regulations and practices.
- Demonstrated experience with trenching and shoring techniques, sanitary and storm systems, leaf collection, asphalt applications and mix designs.
- Strong knowledge of maintenance, construction and repair techniques, commercial and residential water service connections.
- MIOSHA certification.
- Storm Water Certification (DEQ).
- Confined space training.
- Trenching and Shoring/Competent Person Certification.
- Traffic Regulation Certification.
- Ability to gather, analyze and interpret data.
- Ability to read maps and blueprints.
- Any additional certification as required by the respective focus area group

ACCEPTABLE TRAINING AND EXPERIENCE:

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ADDITIONAL REQUIREMENTS:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions.
- Frequently exposed to outdoor work environment.

- May be exposed to extreme temperature conditions.

May be subjected to electrical currents, vibrations, fumes, odors, dusts, gases, and work space restrictions.

- May be required to wear Personal Protective Equipment (PPE).

PHYSICAL REQUIREMENTS:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

REVISIONS:

Issued: 06/01/2017

Position Description

This description applies to the Water Maintenance Supervisor position

Job Title:	Water Operations & Maintenance Supervisor		
Department:	Public Services	**Grade:**	
Reports To:	Water Resources Division Manager		
Approved By / Date:			
Supervisory Responsibilities:	Yes	**FLSA Status:**	Exempt / Salary

Description/Distinguishing Features: The **Water Operations & Maintenance Supervisor** is responsible for supervising the operation and maintenance of all water supply facilities including pumping stations, well fields, booster stations, pressure reducing stations, water storage reservoirs and elevated water towers. Supervises the daily operation and maintenance of chemical feed for water treatment and lab testing. Supervises all Water Operator/Maintainers, Well Drilling, and Pump Installer staff.

Examples of Duties: A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Prepares and submits Monthly Operation Reports (MORs) to the Michigan Department of Environmental Quality (MDEQ).
- Coordinates wellfield work with pre-qualified contractors.
- Coordinates and reviews the project plan for assigned operations and customer services and activities; assigns work activities and projects; monitors work flow; reviews and evaluates work products, methods and procedures; meets with staff to identify and resolve problems.
- Inspects water meters, pump stations, reservoirs and pressure control stations.
- Maintains the water distribution SCADA system and make programming changes to data acquisition computers.
- Ensures high quality service is given to water services customers; quickly resolve service complaints, including water quantity, quality, and pressure issues.
- Coordinates water operations and customer service activities with those of other divisions and outside agencies and organizations.
- Maintaining compliance with existing and keeping current with upcoming federal and state regulations, and staying abreast of new trends and innovations in the field of water supply system operation, maintenance, and treatment, and customer service.
- Performs other related duties, as assigned.

Essential Qualifications:

- Associate's Degree in Business, Mathematics, Engineering, Chemistry, or a related field. Bachelor's Degree preferred.
- Minimum of five (5) years' experience in mechanical or utility maintenance and water technology experience is required.
- Previous supervisory experience.
- Knowledge of International Plumbing Code.
- Possession of valid State of Michigan driver's license.
- Possession of a D-1 and S-2 Waterworks System Operator Certification.
- Ability to obtain MDEQ/CWEA Maintenance Level II certification within three years.
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with the public and all levels within the organization.

- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Strong organizational and multi-tasking and skills.

Physical Requirements:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Frequently required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

Work Environment:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions.
- Frequently exposed to outdoor work environment.
- May be exposed to extreme temperature conditions.
- May be subjected to electrical currents, vibrations, fumes, odors, dusts, gases, and work space restrictions.

Created By: HRM Innovations

Date: 5/16/2017

Revision Date:

Water Operator/Maintainer I (H-30)

Class Code: A8050

Bargaining Unit: American Federation of State, County and Municipal Employees

CITY OF KALAMAZOO
Revision Date: Sep 18, 2012

SALARY RANGE

$18.09 - $19.76 Hourly

DESCRIPTION/DISTINGUISHING FEATURES:

Under general supervision, performs a variety of moderately difficult operations and maintenance tasks associated with the water supply system; does related work as required.

An employee in this classification works under the general supervision of Water Division supervisory staff and/or under the direction of higher classification personnel within the Water Division. An employee in this classification is expected to have a working knowledge of water systems operations and maintenance procedures and is responsible for carrying out the duties and tasks associated with the operation and maintenance of the water supply system. Promotion to the Public Services Operator and Maintenance II classification is contingent upon successful completion of a probationary period, successful completion of the D-2 and S-3, and Maintenance Level II tests resulting in certification by the Michigan Department of Public Health (MDEQ), and successful completion of an in-house Public Services Operator/Maintenance II competency test.

EXAMPLES OF DUTIES:

- Operates and monitors SCADA system and analyzes data to assure proper operation of the water system
- Makes appropriate changes in the computer control logic to meet varying seasonal and daily changes in pressure and demand, with consideration to on-peak/off-peak energy usage requirements, emergency and non-routine operational situations which may require manual override of the operations control system
- Maintains operation and maintenance records; performs moderately difficult tasks related to the maintenance and repair of water system facilities, equipment, distribution system, and appurtenances
- Effects emergency start-up and shut-down, as necessary
- Responds to and assists staff in emergency and non-routine situations related to the water system
- Inspects, monitors, and services treatment/pumping facilities, analyzes problems, makes repairs and/or refers repairs to appropriate personnel
- Participates in the training of lower classification employees
- Responds to customer calls concerning the public water supply system
- Performs routine janitorial and grounds maintenance duties at the water stations

ESSENTIAL QUALIFICATIONS:

- Considerable knowledge of math and science
- Considerable knowledge of occupational hazards and safety procedures
- Good knowledge of the functions and servicing requirements of mechanical and electrical equipment
- Good knowledge of mechanical maintenance and repair practices
- Good knowledge of hydraulics and of the procedures and processes of water pumping, storage, treatment, and distribution
- Good skills in the operation of tools and equipment related to the water industry
- Good skill in keeping records and communicating in written form
- Good computer skills
- Ability to perform duties such as those listed in the Examples of Work section

ACCEPTABLE TRAINING AND EXPERIENCE:

- A minimum of one year of experience in mechanical or utility maintenance work
- Completion of vocational or college level course work in mathematics, biology, chemistry, or related sciences
- Prefer completion of a two year technical degree in water technology
- And/or any equivalent combination of experience and training which provides the essential knowledge, skills, and abilities.

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ADDITIONAL REQUIREMENTS:

- Possession of a valid motor vehicle operator's license issued by the State of Michigan
- Commercial Driver License, Group A, with Hazardous Materials Endorsement issued by the State of Michigan
- Successful completion of a MDEQ Maintenance Level I certificate and the in-house competency level I exam, and possession of a D-3 and S-4 Waterworks System Operator Certification issued by the Michigan Department of Environmental Quality

Apprentice Water Operator/Maintainer (H-24)

Class Code: A8051

Bargaining Unit: American Federation of State, County and Municipal Employees

CITY OF KALAMAZOO
Established Date: Dec 31, 1995
Revision Date: Oct 18, 2011

SALARY RANGE

$16.71 - $18.09 Hourly
$34,890.48 - $37,771.92 Annually

DESCRIPTION/DISTINGUISHING FEATURES:

This is an entry level training position. Work involves acquiring knowledge and skill in the operation and maintenance of the municipal water system. An employee in this classification works under the direct supervision of Water Division supervisory staff and/or under the direction of higher classification personnel within the Water Division. As skill and knowledge is acquired, employee will be assigned shift operation or maintenance responsibilities. Promotion to the Water Operations and Maintenance I classification is contingent upon successful completion of the probationary period, successful completion of the D-3 and S-4 tests resulting in certification by the Michigan Department of Public Health, and successful completion of an in-house Operations and Maintenance Level I competency test. The Water Operations and Maintenance Apprentice will be allowed to remain in this classification for a maximum of three years in order to advance to the Water Operations and Maintenance classification. Employee must, as a condition of continued employment, pass the D-4 and S-4 Waterworks System Operator Certification offered by the Michigan Department of Public Health after they are determined eligible to take the exam. The employee will be given two opportunities to pass the test, if their first score equals or exceeds eighty percent of the passing score for the test.

EXAMPLES OF DUTIES:

- Works with Water Division personnel to learn distribution, pumping, storage, treatment, operations, and maintenance procedures which are part of the operation and maintenance of the municipal water system;
- Assists in operating and monitoring the water supply SCADA system to assure proper operation of the ware system;
- Assists in maintaining operation and maintenance records;
- Learns to and assists in the inspecting, monitoring, and servicing of treatment/pumping facilities, analyzes problems, makes repairs and/or refers repairs to appropriate personnel, works with staff called in to do work;
- Learns principles and procedures related to making emergency start-up and shut-down;
- Learns to identify and respond to potential or identified problems in pumping by analysis of SCADA system information and visual inspection; responds to customer

calls concerning the public water supply system.

ESSENTIAL QUALIFICATIONS:

- Good knowledge of occupational hazards and safety procedures;
- Good knowledge of math and science;
- Some knowledge of the functions and servicing requirements of mechanical and electrical equipment;
- Some knowledge of mechanical maintenance and repair practices;
- Preferably some knowledge of hydraulics and of the basic procedures and processes of water pumping, storage, treatment, and distribution;
- Some skills in the operation of tools and equipment related to the water industry; some skill in keeping records and communication in written form; some computer skills;
- Good mechanical ability.

ACCEPTABLE TRAINING AND EXPERIENCE:

- Completion of a high school diploma or G.E.D.
- Some experience in mechanical and electrical equipment operation and maintenance;
- Completion of standard high school course work in math, biology, chemistry, or the related sciences, plus ability to pass in-house competency test;
- And/or any equivalent combination of experience and training which provides the essential knowledge, skills, and abilities.

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ADDITIONAL REQUIREMENTS:

- Possession of a valid motor vehicle operator's license issued by the State of Michigan;
- Commercial Driver License, Group B, with Hazardous Materials Endorsement issued by the State of Michigan.

PHYSICAL REQUIREMENTS:

- Expected to perform the following or is a critical part of the position: Standing, sitting, walking, lifting (15 to 75 lbs.), pushing or pulling, climbing, bending, squatting, reaching,

grasping, reading, writing, seeing, (clear vision near or far), using the telephone, working alone or as a team, overtime, inside and outside.

REVISIONS:

Issued: 01/01/96
Revised: 03/03/03
Revised: 10/19/11

Position Description

This description applies to the Water Operations Supervisor position

Job Title:	Water Operations & Maintenance Supervisor		
Department:	Public Services	**Grade:**	
Reports To:	Water Resources Division Manager		
Approved By / Date:			
Supervisory Responsibilities:	Yes	**FLSA Status:**	Exempt / Salary

Description/Distinguishing Features: The **Water Operations & Maintenance Supervisor** is responsible for supervising the operation and maintenance of all water supply facilities including pumping stations, well fields, booster stations, pressure reducing stations, water storage reservoirs and elevated water towers. Supervises the daily operation and maintenance of chemical feed for water treatment and lab testing. Supervises all Water Operator/Maintainers, Well Drilling, and Pump Installer staff.

Examples of Duties: A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.

- Prepares and submits Monthly Operation Reports (MORs) to the Michigan Department of Environmental Quality (MDEQ).
- Coordinates wellfield work with pre-qualified contractors.
- Coordinates and reviews the project plan for assigned operations and customer services and activities; assigns work activities and projects; monitors work flow; reviews and evaluates work products, methods and procedures; meets with staff to identify and resolve problems.
- Inspects water meters, pump stations, reservoirs and pressure control stations.
- Maintains the water distribution SCADA system and make programming changes to data acquisition computers.
- Ensures high quality service is given to water services customers; quickly resolve service complaints, including water quantity, quality, and pressure issues.
- Coordinates water operations and customer service activities with those of other divisions and outside agencies and organizations.
- Maintaining compliance with existing and keeping current with upcoming federal and state regulations, and staying abreast of new trends and innovations in the field of water supply system operation, maintenance, and treatment, and customer service.
- Performs other related duties, as assigned.

Essential Qualifications:

- Associate's Degree in Business, Mathematics, Engineering, Chemistry, or a related field. Bachelor's Degree preferred.
- Minimum of five (5) years' experience in mechanical or utility maintenance and water technology experience is required.
- Previous supervisory experience.
- Knowledge of International Plumbing Code.
- Possession of valid State of Michigan driver's license.
- Possession of a D-1 and S-2 Waterworks System Operator Certification.
- Ability to obtain MDEQ/CWEA Maintenance Level II certification within three years.
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with the public and all levels within the organization.

- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Strong organizational and multi-tasking and skills.

Physical Requirements:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Frequently required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

Work Environment:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions.
- Frequently exposed to outdoor work environment.
- May be exposed to extreme temperature conditions.
- May be subjected to electrical currents, vibrations, fumes, odors, dusts, gases, and work space restrictions.

Created By: HRM Innovations

Date: 5/16/2017

Revision Date:

Environmental Services Program Manager (M)

Class Code: N1610

Bargaining Unit: Non-Bargaining Unit

CITY OF KALAMAZOO
Established Date: May 31, 2017
Revision Date: Feb 9, 2022

SALARY RANGE

This description applies to the Water Program Manager position

$73,000.00 - $105,000.00 Annually

DESCRIPTION/DISTINGUISHING FEATURES:

The **Environmental Services Program Manager** is responsible for providing environmental program/project planning, development, implementation, management, administration, resource allocation/budgeting and employee management for regulatory sampling and analysis programs mandated by the U.S. Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality (MDEQ) as directed by the Public Services Division Manager for the programs of Wastewater Treatment and Water Supply & Distribution.

EXAMPLES OF DUTIES:

- Manages wastewater sampling and analysis programs; provides environmental project planning, development, implementation, management, administration, resource allocation/budgeting, data reporting and employee management for all sampling/analysis/reporting programs required as part of the National Pollution Discharge Elimination System (NPDES).
- Manages Drinking Water sampling and analysis of programs; provides environmental project planning, development, implementation, management, administration, resource allocation/budgeting, data reporting and employee management for all sampling/analysis/reporting programs required per the Federal Safe Drinking Water Act and the Michigan Safe Drinking Water Act.
- Manages analytical laboratories to ensure compliance with Federal & State regulatory requirements; provides program oversight, guidelines, and interpretation of regulatory language to employees; schedule's program requirements, evaluates data, provides appropriate delegation and scheduling of activities to the Laboratory Supervisor and Sampling Supervisor to support compliance mandates and provides accurate data; sets goals and objectives and performs staff evaluations.
- Manages Technical Samplings staff to ensure compliance with Federal and State water and wastewater regulatory sampling requirements; provides sampling program oversight, guidelines, and interpretation of regulatory language to employees; schedules sampling events, evaluates data, provides appropriate delegation and scheduling of activities that support certification mandates and provides support to other departments; manages extra sampling required for in-house monitoring support of water and wastewater operations; sets goals and objectives for samplers and interprets bargaining unity contracts of Union employees.

- Provides technical support to the public regarding water quality questions; participates in public outreach opportunities for educating customers and the media on water quality issues; performs problem resolution to customer concerns and manages sampling issues and requests.
- Provides data input and interpretation for monthly billing and wastewater determinations; compiles a monthly report of the laboratory data results from industrial samplings; reviews data for accuracy and industrial flows for industrial billings.
- Provides program and project management for the City-wide SARA Title III Program; manages the City laboratory generated hazardous materials; performs appropriate interpretation of Local/MDEQ/EPA regulations and guidelines; completes formal responses to regulatory agencies and inter-governmental agencies.
- Provides technical support for environmental issues to other Public Services Divisions and other departments; determines the level of participation necessary and appropriate; determines the necessary information to be collected and evaluated; provides support to the Emergency Responses Plan objectives and Vulnerability Assessments for the Water/Wastewater utilities.
- Performs other related duties, as assigned.

ESSENTIAL QUALIFICATIONS:

- Bachelor’s degree in applicable area of physical or environmental science/engineering (e.g., drinking water, wastewater, stormwater, solid and hazardous waste management.
- Minimum of (5) five years of experience in the following: environmental program management, project management, personnel supervision, code and ordinance interpretation & preparation and/or enforcement, one or more public utilities (i.e., water, wastewater or stormwater), inter-organizational cooperation and contract and grant administration.
- Knowledge of Federal and State environmental regulatory program development, administration, and compliance procedures and policies impacting Public Services operations.
- Experience with general environmental program, plan, and project management.
- Knowledge of municipal ordinances, policies, and procedures.
- Demonstrated experience with report and technical writing; ability to apply scientific methodologies and principles.
- Experience with budget development and effective management of such.
- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with all levels within the organization.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Demonstrated experience with Microsoft Office applications.

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ACCEPTABLE TRAINING AND EXPERIENCE:

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ADDITIONAL REQUIREMENTS:

- **Work Environment:**
- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions; may occasionally perform outdoor work.
- Exposed to temperature conditions common at the time.
- Noise level is usually moderate/conversational.

PHYSICAL REQUIREMENTS:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 100 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

REVISIONS:

Issued: 6/1/2017
Revised 02/9/2022

Position Description

Job Title:	Water Resources Division Manager		
Department:	Public Services	**Grade:**	D
Reports To:	Deputy Public Services Director		
Approved By / Date:			
Supervisory Responsibilities:	Yes	**FLSA Status:**	Exempt / Salary

Description/Distinguishing Features: The **Water Resources Division Manager** is responsible for managing the second largest ground-water based Public Water Supply System in Michigan, serving 10 units of municipal government. Areas of responsibility include Water Engineering and Records, Water Operations and Maintenance, Water Distribution, Stormwater Collections, and Environmental Programs Management.

Examples of Duties: A qualified individual must be able to perform the essential functions of the position with or without reasonable accommodation.

- Oversees the development and implementation of regulatory and organizational objectives including Safe Drinking Water Act (SDWA) and Clean Water Act (CWA) requirements; monitors applicable laws and regulations and ensures departmental adjustments are made when necessary.
- Assists in the development of departmental plans, policies and objectives including a Water Emergency Response Plan, Source Development, Well Maintenance and Replacement Program, City property contamination liabilities, and Standard Operating Procedures.
- Develops and monitors departmental budget and assists in the development of the multi-million dollar Capital Improvement Program (CIP) and Operations and Maintenance (O & M) budget.
- Works with governmental, industrial, commercial and residential water customers on various informational requests and to address water quality and quantity issues.
- Leads the Water Management Group, Lead and Copper Program Project Team, Cross-Connection Program Project Team, Illicit Discharge Elimination (IDEP) Team, and other program and project teams as needed.
- Prepares, reviews and approves memos and other correspondence to the City Commission, City Manager, City Attorney, Purchasing, and other departmental and divisional managers on a variety of water related subjects and issues.
- Supervises and evaluates staff including the delegation of work, performance reviews, training and development, and discipline in accordance with City policies, procedures and union contracts.
- Performs other related duties, as assigned.

Essential Qualifications:

- Bachelor's Degree in Water Resources Management, Hydrogeology/Geology, Geography or a related field. Master's degree preferred.
- Minimum of six (6) years of drinking water industry experience with five years of stormwater related experience.
- Valid Michigan Driver's License.
- Minimum of five (5) years of progressively responsible supervisory/management experience.
- Substantial knowledge of groundwater and stormwater management.
- "D1" Drinking Water Limited Treatment License required.
- "S1" Water Distribution License required.
- Industrial Storm Water Operator Certification and/or Soil Erosion and Sedimentation Certification preferred.

- Strong, clear communicator and excellent interpersonal skills; proven ability to effectively and positively communicate with the public and all levels within the organization.
- Demonstrates a sense of urgency, prioritizes well, shows energy, responds to opportunities, instills urgency in others, and meets deadlines.
- Strong organizational and multi-tasking and skills.

Physical Requirements:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Occasionally required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

Work Environment:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions.
- Exposed to temperature conditions common at the time.
- Noise level is usually moderate/conversational.
- Must be available to respond to concerns at any time day or night

Water Superintendent (M)

Class Code: N-1629

Bargaining Unit: Non-Bargaining Unit

CITY OF KALAMAZOO
Established Date: May 31, 2020
Revision Date: Dec 1, 2021

SALARY RANGE

$70,000.00 - $100,000.00 Annually

DESCRIPTION/DISTINGUISHING FEATURES:

Incumbents are responsible for program development, planning, and ongoing evaluation of all operational and maintenance functions of a 45 MGD capacity Groundwater Supply System.

EXAMPLES OF DUTIES:

- Interviews, hires, promotes, disciplines, trains, and evaluates water system personnel;
- Assists in the development, updates, and implementation of the Water System Strategic Plan (which includes infrastructure improvements), Water Reliability Study, Water Vulnerability Assessment, and Emergency Response Plan;
- Monitors all appropriate federal legislation to insure the water system is upgraded to comply with changes in all applicable regulations;
- Routinely evaluates operations to incorporate advances in treatment technology to ensure optimal treatment in a cost-effective manner;
- Assists in the preparation and management of multimillion dollar O&M budgets;
- Manages all aspects of water system operation and overall water distribution system
- Provides oversight to water system asset management, telemetry and Supervisor Control and Data Acquisition (SCADA) systems;
- Reports directly to Water Resources Division Manager;
- Supervises Water Operations and Maintenance Supervisor, and confers daily with Assistant City Engineer – Water, Process Controls Supervisor, Water Distribution Field Services Manager, and Laboratory personnel;
- Coordinates start-ups and shut-downs of major water stations and systems;
- Evaluates and confirms operational changes requested by Water Operations and Maintenance Supervisor and staff;
- Reviews and develops recommendations for system improvements and replacements;
- Responsible for review of system and treatment data to ascertain compliance with Federal, State, and local requirements and submittal of official compliance reports and documents;
- Serves as back-up operator in charge.

ESSENTIAL QUALIFICATIONS:

- Bachelor's Degree in Science, Engineering, or related field preferred. Associates required;
- Five years of progressively responsible supervisory, management, water treatment and distribution experience;
- State of Michigan Class "S1" Distribution operator's certificate and Class "D1" Water operator's certificate issued by the State of Michigan;
- Comprehensive knowledge of the principles, practices, techniques, equipment, maintenance, and operating procedures of a water system;
- Considerable skill in planning and monitoring a budget;
- Considerable knowledge of competitive purchasing practices, and dealing with regulatory agencies;
- Directing major water supply and distribution related emergency events;
- Monitoring activities of multiple operations;
- Monitoring and evaluating employees;
- Communication, interpersonal skills as applied to interaction with coworkers, supervisor, general public, and regulatory agencies sufficient to exchange or convey information

ACCEPTABLE TRAINING AND EXPERIENCE:

- Or any equivalent combination of education and experience sufficient to successfully perform the essential duties of the job such as those listed above.

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ADDITIONAL REQUIREMENTS:

Work Environment:

- Frequently in the general office environment; lighting and temperature are adequate, and there are no hazardous conditions.
- Frequently exposed to outdoor work environment.
- May be exposed to extreme temperature conditions.
- May be subjected to electrical currents, vibrations, fumes, odors, dusts, gases, and work space restrictions.

PHYSICAL REQUIREMENTS:

- Frequently required to use hands and fingers to handle, feel or operate equipment and reach with hands and arms.
- Frequently required to lift, move, carry, pull and push files/objects up to 20 pounds while sitting, standing, climbing or walking.
- Required to regularly talk and hear.
- Required to occasionally stand and walk.
- Specific vision abilities required include: close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.
- Regularly speaks clearly, using the English language.

REVISIONS:

Issued: 6/4/2018

Water Well Driller I (H-30)

Class Code: A8017

Bargaining Unit: American Federation of State, County and Municipal Employees

CITY OF KALAMAZOO
Established Date: Feb 28, 1971
Revision Date: Nov 20, 2011

SALARY RANGE

$18.09 - $19.76 Hourly

DESCRIPTION/DISTINGUISHING FEATURES:

Performs skilled work in the revitalization and maintenance of wells; does related work as required.

This is the entry level for well drillers. An employee in this class performs skilled work in the servicing and cleaning of wells, evaluating water quality and quantity, and installing pumps. Direction is received from the Well Driller II who checks work closely while in process and at completion. General assignments are received from the supervisor in charge; some independent judgment is essential. Some supervision over other workers.

EXAMPLES OF DUTIES:

Transports to and sets up drilling rig and equipment at well site; transports to and unloads well column piping and other supplies at well site; operates well drilling rig; drives casing sections and welds on additional sections; collects and carries earth samples to laboratory for evaluation; connects well to water treatment plant intake mains; cleans and tests wells for water quality and quantity; revitalizes older wells including operation of auto surge equipment; designs and builds special use tools and equipment; participates in on the job training of other employees.

ESSENTIAL QUALIFICATIONS:

Some knowledge of well drilling equipment and techniques; good knowledge of well cleaning procedures and techniques, good knowledge of well column and pump installation; good knowledge of local geological strata; some knowledge of water presence indicators; some knowledge of the water distribution system; some skill in the use of drilling rigs and related equipment; ability to learn to recognize and classify earth strata samples; ability to keep

records and make appropriate reports; ability to follow written and oral instructions; ability to teach job related knowledge and skills; ability to establish and maintain good working relationships with other workers and the public; ability to perform heavy physical work under varying weather conditions; ability to lift 50 lbs on a routine basis and up to 75 lbs on an intermittent basis.

ACCEPTABLE TRAINING AND EXPERIENCE:

Some experience in water well maintenance or related drilling operations and completion of a standard high school degree; or any equivalent combination of experience and training which provides the essential knowledge, skills, and abilities.

The City of Kalamazoo is an Equal Opportunity Employer. We strive to be a diverse, equitable, inclusive employer by creating an environment where different perspectives and experiences are welcomed and encouraged. This approach will give each current and potential employee the opportunity to learn, grow and contribute to the City of Kalamazoo.

ADDITIONAL REQUIREMENTS:

Possession of a valid motor vehicle operator's license issued by the State of Michigan including a CDL with a Class "A" endorsement. Must pass State of Michigan Well Driller's certification test within four (4) years of entering the Well Driller I classification.

REVISIONS:

Issued: 3/71
Revised: 8/91
Revised: 3/93
Revised: 1/98
Revised: 3/11

Well Maintenance Technician (H-34)

Class Code: A8018

Bargaining Unit: American Federation of State, County and Municipal Employees

CITY OF KALAMAZOO
Established Date: Apr 30, 2019
Revision Date: May 8, 2019

SALARY RANGE

$19.75 - $21.75 Hourly

DESCRIPTION/DISTINGUISHING FEATURES:

Performs skilled work in the revitalization, maintenance, and testing of wells; does related work as required.

An employee in this class performs skilled work in the servicing and testing of wells, pumps and motors, evaluating water quality and quantity, collection of water level data, and related work. Routine work also includes the removal and reinstallation of line shaft vertical turbine pumps. May work with Well Driller II or Water Operator/Maintainers. General assignments are received from the supervisor in charge; some independent judgment is essential. Some supervision over other workers may be necessary on occasion.

EXAMPLES OF DUTIES:

Mobilizes, sets up and operates pump hoist, auto-surge tank, and related equipment and materials at well site; loads/unloads, and transports well column piping, shafting, pumps, motors, and other supplies to and from wellsite; performs cleaning, inspection, repair, and replacement of well pump and motors and associated parts and materials; operates auto-surge tank under general supervision of Well Driller II; collects well water samples as assigned; performs well flow tests for water quality, quantity, and efficiency characterization; may assist in-house or contractual driller as assigned by supervisor; uses and occasionally designs and builds special use tools and equipment; participates in the job training of other employees

ESSENTIAL QUALIFICATIONS:

Some knowledge of well drilling, rehabilitation, and testing equipment, and techniques, and materials; **good** knowledge of pump and motor maintenance; some knowledge of water

quality, disinfection, and sampling principles; some knowledge of the water distribution system; ability to keep records and make appropriate reports; ability to follow written and oral instructions; experience with or ability to efficiently learn to operate the well pump hoist or drilling rig to effectively remove and re-install line shaft vertical turbine pumps; ability to teach job related knowledge and skills; ability to establish and maintain good working relationships with other workers and the public; ability to perform heavy physical work under varying weather conditions; ability to lift 50 lbs on a routine basis and up to 75 lbs on an intermittent basis.

ACCEPTABLE TRAINING AND EXPERIENCE:

Some experience in water well related drilling and/or rehabilitation operations, pump removals and re-installations, and general well maintenance and testing; completion of a standard high school degree; or any equivalent combination of experience and training which provides the essential knowledge, skills, and abilities.

ADDITIONAL REQUIREMENTS:

Possession of a valid motor vehicle operator's license issued by the State of Michigan; possession of a CDL Class A License. Must currently have or obtain within 2 years a State of Michigan Pump Installers Certification (a State of Michigan Well Driller's Certification fulfills this requirement).

REVISIONS:

Issued: 3/01/7

Revised: 8/19/91

Revised: 3/26/93

Revised: 1/20/98

Revised: 3/25/11

Revised: 4/5/2019

Support for Continuing Operator Training

Section C5

Support for Continuing Operator Training

The Water Resources Division has 30 licensed operators; the current list is included in this section. There are five licensed engineers working within the Water Resources Division.

The City provides financial assistance to employees for schooling, which may contribute to improved job performance, increase promotional possibilities, or improve the overall standard of City service. Tuition reimbursement applies to both undergraduate and graduate courses taken at an accredited institution. The tuition reimbursement application and the policy are included in this section.

To meet individual and organizational needs, the City provides training and development opportunities through the City University. The classes offered prepare employees for new or increased responsibilities, promotion, and development. The City and its managers endeavor to allow employees to attend trainings by adjusting schedules whenever possible. Additionally, the City offers a municipal worker program; details are included in this section.

The City also offers compensation for Water and Wastewater Public Services personnel who hold certifications in water, sewage treatment, and/or distribution system operations. This extra compensation is considered bonus pay and is a fixed rate addition to the base salary.

The City's Training Officer is responsible for developing standardized documentation for training and certifications.

Refer to Section D3, Managerial Capacity Gap Analysis, for gaps and recommendations related to support for training and professional development.

Water Distribution

Name		Certifications	License #	Exp. Date
Ayers	Terrell	S-4	18196	4/15/2023
Blades	Charles	S-3	18197	1/15/2024
Carrillo	Esmeralda	S-3	18236	7/15/2024
Glenn	Ronald	S-4	22022	1/15/2024
Hoskin	Lorenzo	S-3	9022	1/15/2024
Jayne	Zebedee	S-4	18234	1/15/2024
Judy	Chad	S-4	21733	1/15/2024
Jung	Shawn	S-3	14069	1/15/2025
Leversee	James	S-4	18602	4/15/2024
Shive	Anthony	S-4	21393	7/15/2022
Smelker	Pamela	S-1	20052	1/15/2024
Smith	William	S-4	21691	1/15/2024
Tazaleer	George	S-4	18235	4/5/2024
Urrego	Francisco	S-4	22381	1/15/2025

Water Supply

Name		Certifications	License #	Exp. Date
Barrows	Kyle	D-4	22342	1/15/2025
Bell	Tracy	S-3 D-3	17629	7/15/2024
Jones	Martin	D-1	20751	7/15/2024
Kimp	Brandon	D-4	21278	1/15/2023
Klebba	Brian	D-4	21695	1/15/2024
Lee	William (Ted)	S-3 D-3	12588	10/15/2024
Spitzner	Thomas	S-1 D-1	1885	1/15/2025
VanDyken	Brock	S-3 D-1	20130	7/15/2024
Walker	Kristen	S-3 D-2	21290	1/15/2025

Engineering

Name		Certifications	License #	Exp. Date
Aiello	Lawrence	S-1	4879	7/15/2024
Buska	Tom	S-2	5536	1/15/2025
Crandall	JoAnna	S-1 D-1	18035	7/15/2024
Ferguson	Trevor	S-2	18859	4/15/2023
Skalski	Stephen	S-1 D-2	17983	1/15/2024

Management

Name		Certifications	License #	Exp. Date
Baker	James	S-1 D-1	18452	1/15/2025
Bonhomme	Joseph	S-1 D-2	4457	7/15/2024

CITY OF KALAMAZOO
Tuition Refund Application

INSTRUCTIONS: Please read the Tuition Reimbursement Policy on the back of this application before completing this form. This application is for one semester or term only. It must be completed and returned to the Human Resources Department at least two weeks prior to the beginning of the class. To qualify for reimbursement, your supervisor must sign the form and you must receive pre-approval from Human Resources.

Name	Date	Hire Date
Employee #	Job Title	
Department	Work Phone Home Phone Cell Phone	School Attending

Name of Course(s) and Course #(s)	Date		Credit Hours	Day and Time of Class	Tuition Cost
	Start	End			

Are above course(s) part of a degree or certification program for which you have been accepted?
No___ Yes ___ If "Yes" what program? _____

Number of credits completed _____

State briefly how you believe the above course(s) may be of value to your current position with the City or some other City position. Please be specific.

_____

_____

Will you receive financial assistance for the above course(s) from any other agency? No ____ Yes____
From _____ Amounting to $_____

_____ I am requesting an **advance** reimbursement of tuition. (Please attach course registration and tuition costs.)

_____ I am **not** requesting an advance

After completion of the approved course(s), send your Tuition Receipt and Grade Report to the Human Resources Department within 30 days. If you receive a reimbursement advance and *do not* successfully complete a course(s), your signature below gives the City authorization to deduct the repayment from any monies due you.

_____ _____

Employee's Signature Supervisor's Signature

DO NOT WRITE BELOW THIS LINE

_____ Application is approved and employee is eligible for a reimbursement in the amount of $_____ for the above course(s).

_____ Application not approved for the following reason _____

_____ _____

Human Resources Representative Date

HR 19

Employee Tuition Reimbursement Policy

Sec. 1 **Purpose:** To financially provide the opportunity for a City employee to receive schooling which may contribute to improved performance of his/her present job, increase his/her promotional possibilities, or improve the overall standard of City service.

Sec. 2 **Eligibility:** Regular full-time employees who complete six months of service and meet the requirements as set forth in this policy.

Sec. 3 **Approval of Courses:** the Tuition Reimbursement Policy applies to undergraduate and graduate courses taken from an accredited institution which are determined to be related to (1) the occupation in which the employee is presently working, or (2) provide development for a future position available within the organization.

Sec. 4 **Amount of Reimbursement:** The reimbursement will be 100% of actual tuition for all approved courses, up to a maximum of $600 cumulative total for courses taken during one calendar year. Employees may request tuition reimbursement in advance up to the $600 maximum. The $600 maximum amount, and/or the tuition cost per course, shall be reduced, dollar for dollar, if an employee receives outside financial assistance for the expressed or implied purpose of paying tuition expenses. Reimbursement will <u>not</u> include the cost of books, supplies, special fees or other expenses.

Sec. 5 **Administration:** The Tuition Reimbursement Policy shall be administered as follows:

A. The application for tuition reimbursement must be completed by the employee and signed by the employee's supervisor or department director before being submitted to the Human Resources Department for approval.

B. The application must be submitted to the Human Resources Department at least two weeks prior to the beginning of the class. Human Resources will notify employees of the approval or disapproval of their request within seven working days after receipt of the application.

C. Reimbursement (including advances) will be granted only when the employee has:

(1) Secured written approval for the course(s) as listed on this form.
(2) Submitted documentation to the Human Resources Department showing course registration and tuition costs.
(3) Submitted documentation to the Human Resources Department showing successful completion of the course(s) with a grade "C" or better.

D. Reimbursement will be granted only when there are sufficient funds in the City Budget.

Water Resources Division – Municipal Worker Program
Water Distribution Focus Area

I. Newly hired employees must obtain an S-4 license during their Apprenticeship. The employee will have a maximum of three (3) years to obtain the S-4 license. The employee will not be eligible to advance from the Apprentice Classification unless they have obtained an S-4 license. If the employee fails to obtain the S-4 license within three years of starting the Program they will be released from employment.

II. The Employer will reimburse the Employee for the cost of the S-4 Certification Test for up to two attempts to initially pass the test. The employee is responsible for the cost of the test in excess of the first two attempts. The employer will reimburse the employee for the cost of renewing the certification.

III. The Employer will reimburse the employee for applicable certifications upon their successful completion.

IV. Newly hired employees that already possess required certifications and that can demonstrate previously acquired competence training in the equipment and other abilities stated in the sections below, and serving as a Municipal Worker apprentice for a minimum of six (6) months, may progress to the Municipal Worker level that aligns with certifications, qualifications, and all common requirements.

V. Employees bidding into Water Distribution are required to obtain an S-4 license within three (3) years of entering program. If the employee fails to obtain an S-4 license within three (3) years of starting the Program they will be removed from the Program and reassigned under the terms and conditions of the labor agreement.

VI. Current grandfathered employees in the program do not require the S-4 license to retain their position. Current grandfathered employees must obtain the S-4 license to promote past Municipal II worker in the program.

VII. Current employees that already possess required certifications and that can demonstrate previously acquired competence training in the equipment and other abilities stated in the sections below, and serving as a Municipal Worker, may be placed at the Municipal Worker level that aligns with certifications, qualifications, and all common requirements and will be red-lined in their current pay grade only if the placement is lower.

VIII. **Water Distribution - Municipal Worker Apprentice**

a. Placement in position.

b. Requirements necessary for advancement to Level I

i. Within first six (6) months of entering the Apprentice classification

1. Obtain CDL B with Air Brakes endorsement.
2. Pass AASHTO equipment maintenance, proper plowing techniques, and de-icing.
3. Pass internal written and practical examination concerning:
    a. Dump Truck
    b. Backhoe
    c. Front End Loader
    d. Small Roller
    e. Bobcat
    f. Brush Chipper
    g. Broom Tractor
    h. Under body snowplow
    i. Repair broken water line (main break clamp)
    j. Properly flare copper water line

ii. Demonstrate ability to climb ladders, enter and work in confine spaces and hand shovel for Utilities.

iii. Within three (3) years of entering the Apprentice assignment
1. Obtain S-4 license.
2. Pass in house practical examination on the following activities:
a. Set sidewalk forms
b. Finish cement
c. Repair of a manhole and the inlet to a manhole
d. Loot asphalt
e. Get asphalt from plant in dump truck
f. Small tap (3/4" and 1 ¼")
g. Practical knowledge of the proper use and placement of traffic control devices to protect workers.
3. Attend, participate in and pass all required safety classes.
4. Pass written Apprentice Municipal Worker Test.

IX. **Water Distribution - Municipal Worker I**

a. Placement in position.
b. Requirements for advancement to Level II i. Minimum time in Level I position of one (1) year.
ii. Obtain CDL-B with Tanker and Air Brakes endorsements.
iii. Pass in-house written and/or practical tests concerning:
1. Street Sweeper
2. Vactor Truck
3. Hydrant Truck and Gate Truck
4. Pipe Truck
5. Stump Grinder
6. DC Welder
7. Reading Blue Prints and Specifications
8. Cut in section of water main
9. Rebuild fire hydrant
10. Install new fire hydrant
11. Shoot missile.
iv. Pass written Municipal Worker I Test.

X. **Water Distribution - Municipal Worker II**

a. Placement in position.
b. Requirements for advancement to Level III
i. Minimum time in Level II position of one (1) year.
ii. Obtain CDL-A with Tanker and Air Brakes endorsements.
iii. Obtain MDEQ Storm Water Construction Management certification.
iv. Pass in-house written and/or practical tests concerning:
1. Mini Excavator
2. Laser Dial Grade
3. Repair storm/sewer line
4. Welder
v. Pass written Municipal Worker II Test.

XI. **Water Distribution - Municipal Worker I11**

a. Placement in position.
b. Requirements for advancement to Level IV
i. Minimum time in Level III of one (1) year.
ii. Pass the following in-house written and/or practical examinations:

1. Dozer
2. Road Grader
3. Large Excavator
4. Pass Municipal Worker III Test
5. Obtain S-3 license

XII. **Water Distribution - Municipal Worker IV**

a. Placement in position.

b. Maintain all qualifications for position.

Safety Program and Procedures for Employees

Section C6

Safety Program and Procedures for Employees

The City's Water Resources Division Safety Officer develops and conducts division-wide safety protocols and provides training to staff.

The labor contact document within the City's website (https://www.kalamazoocity.org/hrbenefits/7944-afscme-labor-agreement-2019-2022/file) indicates a Safety Committee. However, the safety committee has not yet been formed.

Refer to Section D3, Managerial Capacity Gap Analysis, for identified gaps and recommendations.

Customer Complaint Response Procedures

Section C7

Customer Complaint Response Procedures

The City has a 311 system for submitting or reporting customer complaints. This reporting system can be accessed by dialing 311 from inside the City limits or via 269.337.8000 from outside City limits. Complaints can also be submitted via the City website (https://www.kalamazoocity.org/contact)

The City maintains over 50 scripts on various water system issues for attending to 311 calls. The scripts lay out step-by-step procedures for employees to effectively handle and resolve customer complaints in a timely manner. These scripts are available upon request.

Shutoffs for non-payment have been discontinued due to the pandemic. The City is working on applying unpaid bills to property taxes.

Refer to Section D3, Managerial Capacity Gap Analysis, for identified gaps and recommendations.

Historical Water Main Breaks

Section C8

Burke Acres
Westwood
Douglas
Blakeslee Reservoir
Northside
Eastside
Stuart
CBD
West Main Hill
Arcadia
WMU/KRPH
Vine
Edison
Knollwood
Southside
Oakland/Winchell
Westnedge Hill
Colony Farm
Oakwood
Parkview Hills
Hill N' Brook
South Westnedge
Milwood

LEGEND

Number of Breaks

- 0 (<20 yrs old)
- 0
- 1
- 2-3
- >3

- Water Tower
- Pump Station
- Reservoir Tank
- Kalamazoo_Neighborhoods

City of Kalamazoo
Kalamazoo County, Michigan

Water Distribution System

Main Breaks in Neighborhoods

Prein&Newhof

August 2021
2180207

Annual Miles of Water Main Capital Replacement from 2015 to 2021 and Forecasted

Section C9

Annual Miles of Water Main Replacements

A summary of the annual miles of water main replacements for the years 2015 through 2020 and the projected replacements for 2021 through 2025 are provided in the following table.

Annual Miles of Water Main Replacement

Year	Miles
2015	0.4
2016	0.0
2017	0.56
2018	0.28
2019	0.56
2020	3.45
2021 (projected)	1.15
2022 (projected)	0.91
2023 (projected)	3.09
2024 (projected)	2.30
2025 (projected)	0.25

Lead Service Line Replacement Program

Section C10

Lead Service Line Replacement Program

In approximately 1950, the City of Kalamazoo stopped using lead water lines. To address the lead service lines in existence, the City has had a proactive annual capital improvement program in place for over 20 years. Efforts were accelerated in 2016 after it was determined there were still about 10,000 non-copper service lines in the system. Since 2017, the City has been replacing an average of approximately 500 non-copper water service lines to residences and businesses per year. In 2021, the City replaced 940 water services lines.

The City conducts an inventory of lead service lines throughout the year and any updates are listed in future Water Quality Reports. All customers whose service lines are undefined or contain lead have been notified. As homes and buildings change ownership, the City's new customers are notified if a lead or undefined service line serves the home/business. Any service line that is undefined will be excavated to verify material, and non-copper service lines replaced prior to 2037 as part of the City's capital improvement program.

The lead service line replacement project has multiple funding sources. It is being funded in part by the Michigan Department of Environment, Great Lakes, and Energy's Drinking Water State Revolving Fund, which provides low-interest funding for investments in water utilities. Part of the work is funded through the City's capital improvement budget. In addition, the Kalamazoo Foundation for Excellence has identified lead service lines as a safety issue and has provided $500,000 per year since 2017.

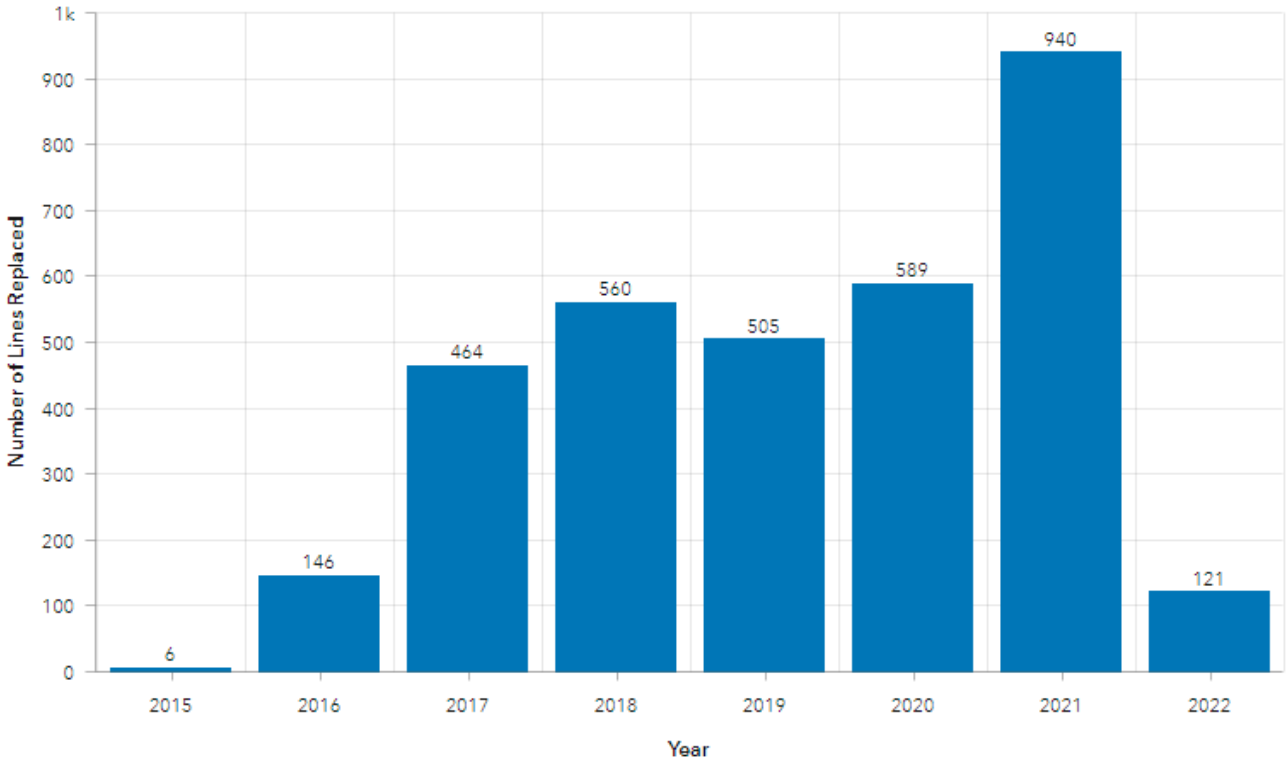
The City maintains information pertaining to water quality, replacement of lead service lines, and health effects due to lead on its website: https://www.kalamazoocity.org/lead.

The City's website also has a dashboard summarizing lead service line replacements that have been made since 2015: https://cityofkalamazoo.maps.arcgis.com/apps/dashboards/765de573218b406d8a9062d67286e0e3. This dashboard provides a bar chart indicating the replacements made on a yearly basis; a pie-chart indicating replacements completed by City staff versus private contractors; and a map displaying areas completed by year and planned project areas for the next fiscal year. The following pages include excerpts from the dashboard as of April 25, 2022.

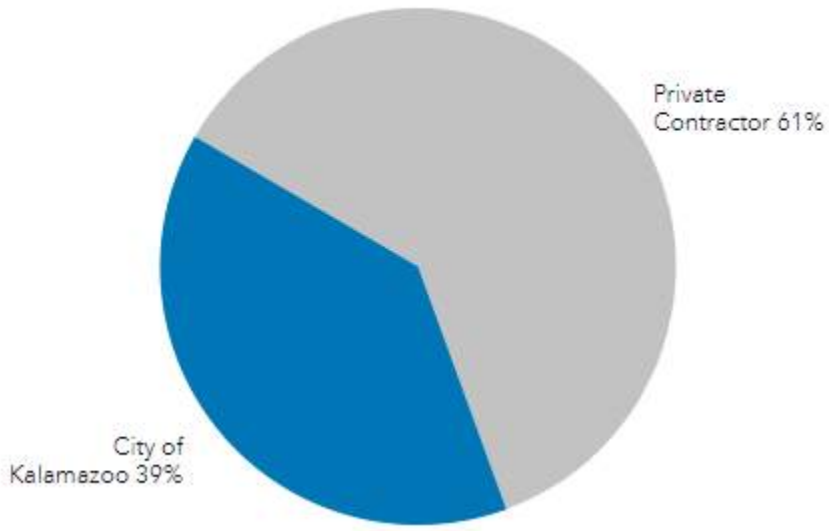
City of Kalmazoo Lead Service Line Replacement Project

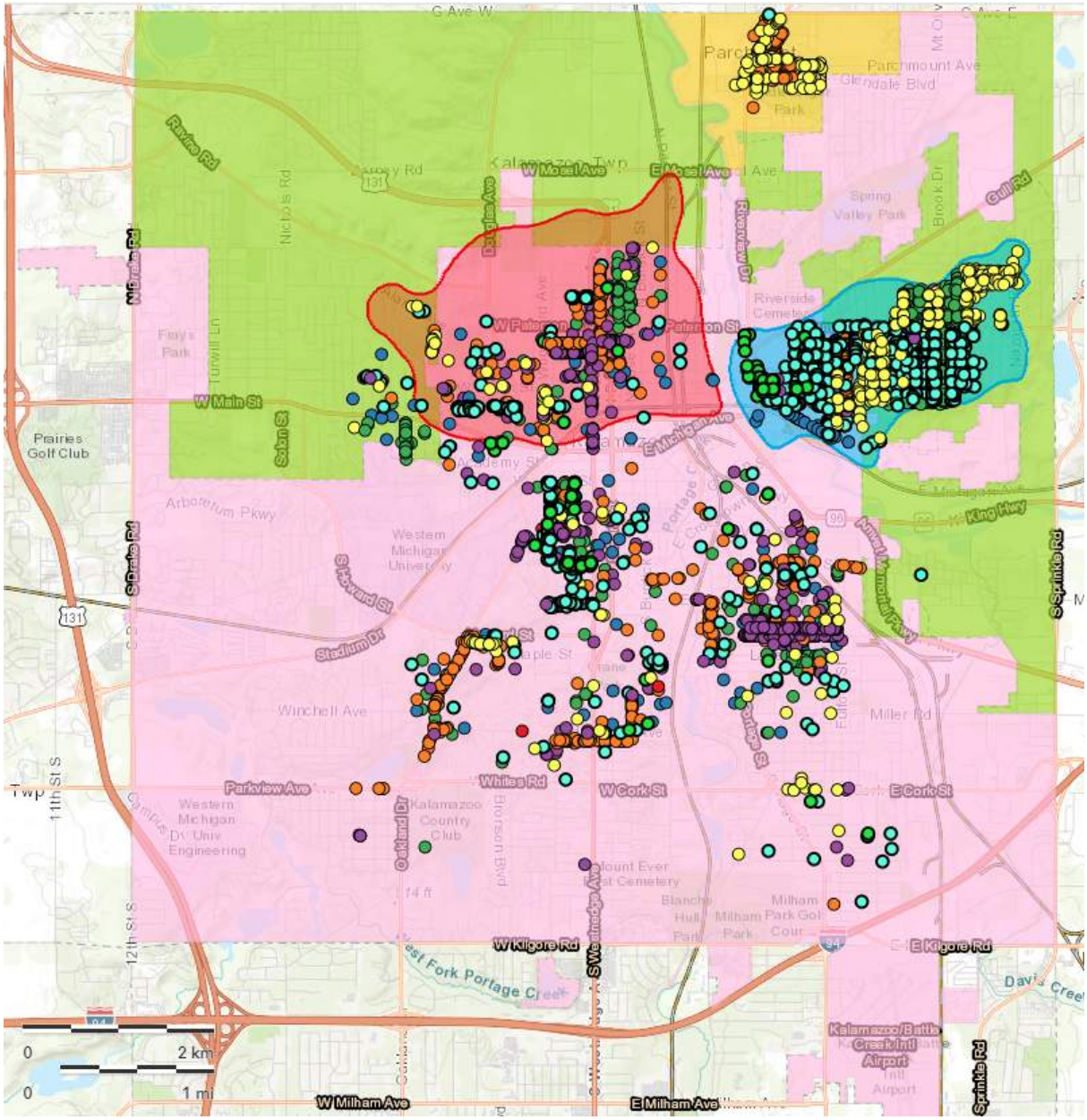
A summay dashboard of lead water line replacements to date.

Replacements per Year



Lines replaced by...





Service Line Replacements by Year

Year

- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022

Municipalities

Municipality

- City of Kalamazoo
- City of Parchment
- Kalamazoo Township

August 2020 to May 2022 Project Area

April 2022 to November 2023 Project Area

Water System Metering Policy

Section C11

Water System Metering Policy

The City inspects installations, repairs, and replaces water meters for all customers based on the input provided by the Utility Policy Committee. The water meters are inspected, maintained, tested, repaired, and replaced in accordance with the guidelines established by the American Water Works Association or the then-current industry standard.

The actual costs incurred by the City to install, repair, and replace water meters is allocated to each Customer Class in accordance with the Water Service Agreement.

Water System Policies

Section C12

Water System Policies

The water system policies excerpts from the water services agreement are included in this section.

There is also a Utility Policy Committee created pursuant to the Water Service Agreements between the City of Kalamazoo and Townships of Comstock, Cooper, Kalamazoo, Oshtemo, Pavilion, Richland, and Texas and the Village of Richland.

For private developments, the developer pays for all work to extend the water system. This includes City-provided services such as water main tapping and inspection of the installation. The cost of a full water service line installation is provided at a flat rate of $5,500. This applies to cases where a service line needs to be run from the main to the meter. It is a flat rate of $2,500 when the portion of the water service line between the main and curb stop was previously installed, and only the curb stop to residence/building needs to be installed. the 2022 utility rates are included this section. There is no specific hydrant rental, but a backflow preventor can be rented to be installed on a hydrant for $200 per month.

Article 4 – Water Services

4.1 – Operation, Maintenance, Repair and Replacement – Public Water Supply System

(a) With input provided by the Utility Policy Committee, the City shall operate, maintain, repair, and replace the Public Water Supply System Capital Assets.

(b) The actual cost incurred by the City to operate, maintain, repair, and replace the Public Water Supply System Capital Assets shall be allocated to each Customer Class as described in Article 8.

4.2 – Operation, Maintenance, Repair and Replacement – Distribution Facilities

(a) With input provided by the Utility Policy Committee, the City shall operate, maintain, repair and replace the Wholesale Service Assets and Retail Service Assets in the City and Townships. The City shall apply the same standards of operation, maintenance, repair, and replacement for the Wholesale Service Assets and Retail Service Assets in the Townships as applied to the Wholesale Service Assets and Retail Service Assets in the City.

(b) The actual costs incurred by the City to operate, maintain, repair and replace the Retail Service Assets in the City and Townships shall be allocated to each Customer Class as described in Article 8.

4.3 – Related Water Services

(a) With input provided by the Utility Policy Committee, the City shall provide all Related Water Services to all Customers, including those Related Water Services identified in **Appendix C,** which may be amended with the approval of the Utility Policy Committee. The City shall provide Related Water Services to all Customers at the same level, frequency, and quality of service.

(b) The Reimbursable Cost Schedule is set forth in **Appendix D**. The costs set forth in the Reimbursable Cost Schedule shall be recaptured from the Customers benefiting from the services provided and/or their contractors. The Reimbursable Cost Schedule shall

be identical (same type and amount) for all Customers within each Customer Class and may be amended by agreement between the City and the Utility Policy Committee.

(c) The actual costs incurred by the City providing Related Water Services shall be allocated to each Customer Class as described in Article 8.

4.4 – Water Meters

(a) With input provided by the Utility Policy Committee, the City will inspect install, repair and replace water meters for all Customers. Water meters will be inspected, maintained, tested, repaired and replaced in accordance with the guidelines established by the American Water Works Association or the then current industry standard unless required sooner. The City shall apply the same standards of installation, repair, and replacement of water meters to all Customers.

(b) The actual costs incurred by the City to install, repair and replace water meters shall be allocated to each Customer Class as described in Article 8.

4.5 – Water Mains and Hydrants

(a) With input provided by the Utility Policy Committee, the City shall relocate and/or replace water mains and fire hydrants at the request of each Township and/or the governmental entity having jurisdiction over the roadway or right-of-way in which the water mains and/or fire hydrant is located in accordance with applicable industry standards. The City shall apply the same standard for the maintenance, repair and replacement of water mains and fire hydrants in the Townships as applied in the City.

(b) The actual costs incurred by the City to relocate and/or replace fire hydrants shall be allocated to each Customer Class as described in Article 8.

Article 5 – Expansion Within the Geographic Boundaries of the City and the Townships

5.1 – Expansion of Distribution Facilities

(a) The City and the Township(s) may, in its/their discretion, expand the Distribution Facilities within or beyond the City/Township's Existing Service Area to any area designated as low-, medium-, or high-density, residential; commercial; or industrial land use (or similar comparable classifications should these classifications change) in a manner consistent with the City/Township's Master Plan, adopted or amended in conjunction with the Michigan Planning Enabling Act, MCL 125.3801 *et seq.* (as amended).

On or before December 31, 2023, each Township shall submit a Public Water Utility Master Plan to the Utility Policy Committee. Each Township shall review and update its plan every seven years thereafter and submit a copy to the UPC.

(b) The cost of expansion may be recaptured, in whole or in part, for the benefit of all Customers of the Public Water Supply System by one or any combination of any of the following methods:

1. A Direct Contribution of Infrastructure or the assessment of infrastructure costs to or from the developer/proponent of the expansion or the Customer(s) who are provided water or improved water services as a result of the expansion.
2. A System Connection Fee assessed to the developer/proponent of the expansion or Customer(s) provided water or improved water services as a result of the expansion.
3. An assessment or surcharge on Water Rates charged to the Customer(s) provided water or improved water services as a result of the expansion.

(c) The Utility Policy Committee will determine whether a Direct Contribution of Infrastructure, assessment of costs for infrastructure, System Connection Fee, or assessment or surcharge on Water Rates (or some combination thereof) shall be assessed, who shall be assessed and the amount/cost to be assessed to cover or recapture the cost of expansion. The Direct Contribution of Infrastructure or assessment of costs for infrastructure, the System Connection Fee, and the assessment or surcharge on Water Rates shall be reasonable, based on established industry standards, and designed solely to recapture the cost of expanding the Distribution, Production and/or Transmission Facilities which the Utility Policy Committee, determines shall not be allocated to the Rate Base. The remaining costs of expansion (which are not recaptured by Direct Contribution of Infrastructure or assessment of costs for infrastructure, a System Connection Fee, and/or an assessment or surcharge on Water Rates) shall be added to the Rate Base, allocated to the Customer Classes as described in Article 8 and accounted for in the City's Reliability Study and Capital Improvement Plan.

(d) The City and/or Township(s) in which the expansion is occurring, shall prepare all drawings, plans and specifications for the proposed expansion. The plans shall be prepared by a registered professional engineer. The plans shall be submitted to the City Engineers and the Michigan Department of Environment, Great Lakes and Energy (EGLE)(or its successor regulating agency) for review/inspection and for compliance with the specifications for water main and service installations as required by EGLE (or its successor regulating agency), the "Ten States Standards" and written City Standard Specifications. The City or Township(s) in which the expansion is occurring shall provide as-built drawings to the City Engineers and the City shall make available electronic as-built drawings for all existing Water Mains, Infrastructure, and Appurtenance.

5.2 – Expansion of Production and/or Transmission Facilities

(a) The City, as required by sound engineering practice, will expand its Production and/or Transmission Facilities to provide new service, increased capacity, and/or to improved reliability/redundancy of water services and will construct production, storage, transmission, booster, and bleeder facilities to accommodate expansion of the City/Township(s)' Distribution Facilities. The cost of expanding the Production and/or

Transmission System to accommodate expansion may be recaptured for the benefit of all Customers of the Public Water Supply System, in whole or in part, by a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, System Connection Fee, and/or an assessment or surcharge on Water Rates, or any combination thereof, if the Utility Policy Committee, determines that a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates is appropriate. Otherwise, the cost of expanding the Production and/or Transmission System to accommodate expansion (which is not recaptured through a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates) shall be added to the Rate Base, allocated to the Customer Classes as described in Article 8 and accounted for in the City's Reliability Study and Capital Improvement Plan.

(b) The City, as required by sound engineering practice, will increase the size/capacity of the other Township(s)' Distribution Facilities to provide transmission services to accommodate expansion of the City/Township(s)' Distribution Facilities or to provide new service, increased capacity, and/or to improve reliability/redundancy of the water services to New Customers created from the expansion. The cost of expanding the City/Township(s)' distribution facilities to provide transmission services for expansion, may be recaptured in whole or in part for the benefit of all Customers of the Public Water Supply System through a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates, or any combination thereof, if the Utility Policy Committee determines that a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates is appropriate. Otherwise, the cost of expanding the City/Township(s)' Distribution Facilities to provide transmission services for expansion (which is not recaptured through a Direct Contribution of Infrastructure or assessment of costs for the infrastructure, a System Connection Fee, or an assessment or surcharge on Water Rates) shall be added to the Rate Base, allocated to the Customer Classes as described in Article 8 and accounted for in the City's Reliability Study and Capital Improvement Plan.

Article 6 – Expansion Outside the Geographic Boundaries of the City/Township(s)

6.1 – Expansion of Distribution, Production, and/or Transmission Facilities

(a) The City, with input and comment from the Utility Policy Committee, may expand the Distribution, Production and/or Transmission Facilities to provide water and water services to New Customers located outside the geographic boundaries of the City and Townships. The cost of acquiring or assuming liability of the New Customers Infrastructure, as well as the cost of expanding Distribution, Production and/or Transmission Facilities to provide water and/or water services to these New Customers, may be recaptured, in whole or in part, for the benefit of all Customers of the Public

Water Supply System by one or any combination of and/or all of the methods set forth in Section 5.1(b).

(b) The Utility Policy Committee, will determine whether the costs of acquiring or assuming liability of the New Customers Infrastructure and/or expansion of the Distribution, Production and/or Transmission Facilities of the existing system will require a Direct Contribution of Infrastructure, assessment of costs for infrastructure, System Connection Fee, or assessment or surcharge on Water Rates, or some combination thereof, to be assessed, including who shall be assessed and the amount/cost to be assessed. The Direct Contribution of Infrastructure or assessment of costs for infrastructure, the System Connection Fee, and the assessment or surcharge on Water Rates shall be reasonable, based on established industry standards, and designed solely to recapture the cost of acquiring or assuming liability of the New Customers Infrastructure and expanding the Distribution, Production and/or Transmission Facilities which the Utility Policy Committee, determines shall not be allocated to the Rate Base. The remaining costs of expansion (which are not recaptured by Direct Contribution of Infrastructure or assessment of costs for infrastructure, a System Connection Fee, and/or an assessment or surcharge on Water Rates) shall be added to the Rate Base, allocated to the Customer Classes as described in Article 8 and accounted for in the City's Reliability Study and Capital Improvement Plan.

(c) The City, shall prepare all drawing, plans and specifications for the proposed expansion. The plans shall be prepared by a registered professional engineer. The plans shall be submitted to the City Engineers and the Michigan Department of Environment, Great Lakes and Energy (EGLE)(or its successor regulating agency) for review/inspection and for compliance with the specifications for water main and service installations as required by EGLE (or its successor regulating agency), the "Ten States Standards" and written City Standard Specifications. The City shall provide as-built drawings to the City Engineers and the City shall make available electronic as-built drawings for all existing Water Mains, Infrastructure, and Appurtenance.

6.2 Water Rates for New Customers

New Customers located outside the geographic boundary of the City and/or Township(s) who are provided water and/or water services through expansion, shall be assessed and pay Equivalent Water Rates to those assessed and paid by the then-current Customers of the Public Water Supply System plus any additional Direct Contribution of Infrastructure or assessment of costs for infrastructure, System Connection Fee, and/or an assessment or surcharge on Water Rates as established by the Utility Policy Committee.

WASTEWATER COMMODITY CHARGES
(Rate Schedules "E" & "F")

Rate per cubic meter on all water used (see section on limitations below). Commodity charges are determined by Operating, Maintenance, and Replacement cost (OM&R) plus Capital expense. The components and total commodity charge for each customer class for accounts in the City and Outside the City are detailed below.

Customer Class	OM&R	Capital	Total Commodity Charge
City			
Residential	.653	.104	.757
Commercial	.653	.104	.757
Industrial	.653	.104	.757
Dewatering	.653	.104	.757
Outside City			
Residential	.653	.413	1.066
Commercial	.653	.413	1.066
Industrial	.653	.413	1.066
Dewatering	.653	.413	1.066

Monitored Industrial and Municipal: Refer to the City of Kalamazoo ordinance No. 1921 for current fixed monthly charges or quality/quantity rates.

Limitation on Wastewater Commodity Charges:

Establishment of Sewer Base:

***Small Users Quarterly:** Any quarterly wastewater customer that uses less than 200m; of water during the "winter quarter" (Nov. – Mar.) shall be given a sewer base during the remaining three quarters. The sewer base will be based on the actual usage during the winter quarter however, the maximum quantity billed for shall not exceed 120% of the sewer base established in the winter quarter.

***Small Users Monthly:** Any wastewater customer whose maximum monthly metered water consumption is less than 66m; during the winter months (Nov. – Apr.) shall be given a sewer base during the remaining six months. The sewer base will be based on the actual usage during the winter months however, the maximum quantity billed for shall not exceed 120% of the sewer base established in the winter months.

Large Users: Customers whose metered water consumption exceeds the above limits shall be billed based on actual metered water for all water used.

Special Sewer Metering: Customers with their own water supply require special metering or billing arrangements by ordinance. "Large users" disposing of some wastewater by other than the City wastewater system need special metering arrangements to correctly bill the sewer service. These arrangements are the responsibility of the customer and are subject to prior approval of the Wastewater Division.

How a Bill is Calculated:

The amount shown on the bill for water and for sewer includes an availability fee and a commodity charge.

Sample Billing Calculation

Quarterly residential customers inside the city with 5/8" meter using 70m of water, Schedule "A".

Water

Availability Fee, 5/8"	=	$44.47
Residential Commodity Charge City = .734 per m3 51.3m X .734	=	$37.65
Total Water	=	$82.12

Wastewater

Availability Fee, 5/8" meter	=	$13.21
Residential Commodity Charge City = .757 per m3 51.3m X .757	=	$38.83
Total Sewer	=	$52.04
Total Charge Water & Wastewater	**=**	**$134.16**

Water Service Installation Charges

The cost of a full water service line installation is $5,500. This Is the full connection from the water main to the meter setting.

The cost of a partial or yard service is $2,500. This is the connection from an existing curb valve to the meter setting.

Customers should call 269-337-8000 to determine if they will need a full or partial installation. Unless confirmed, installations will be considered full, and the customer will be required to pay the total due or sign a payment agreement prior to installation. The difference will be refunded if only a partial connection is needed.

Collection Policies: Charges for water and sewer are due 21 days after the billing date. After the due date the "gross" amount shown on the bill must be paid, which includes a 5% penalty. Accounts become delinquent 45 days after billing, and service may be discontinued until the bill and $60 collection fee are paid.

Availability Fee & Minimum Charge: This is a fee charged to all active accounts, even if there is no usage. It covers the cost to read and maintain the meter and to process the utility bill, while the service is on and available for use. This charge will be discontinued only when the customer responsible for the account requests the water to be turned off.

Meters: Meters for water customers are furnished and maintained by the City Utilities without charge. Only one customer's name is permitted on a single service. The size of the meter is determined by the Utility, based on peak demand flow required by the customer.

Township Surcharges: A township may elect to impose a Utility Improvement Surcharge. The City of Kalamazoo is contractually obligated to collect and forward the fee to the township office. Any questions regarding this improvement surcharge should be directed to the township office.

Surcharges: Wastewater of unusual strengths and characteristics will be charged special surcharges, according to ordinance. Questions on the application and interpretation of surcharges should be referred to the Wastewater Division, (269) 337-8157.

Billing Units

Kalamazoo's water meters measure in metric units. The billing unit is the cubic meter (m), which is equal to 264.2 gallons. Conversions to other measurements are shown below:

1 cubic meter (m)	=	1,000 liters
1 cubic meter (m)	=	.3531 x 100 cubic feet
1,000 gallons	=	3.785 cubic meters
100 cubic feet	=	2.832 cubic meters

Form No. 557 (Rev. 2/24/2022)

THE CITY OF

Kalamazoo

DEPARTMENT OF PUBLIC UTILITIES

Water and Wastewater Rate Schedules
March 4, 2022

General Office, Billing, and Customer Service:

City Hall
241 W. South Street
Kalamazoo, MI 49007
Phone: (269) 337-8149

Department of Public Services
415 E. Stockbridge Avenue
Kalamazoo, MI 49001
Phone: (269) 337-8660

WATER RATES

The charge for water service is the sum of the availability fee (determined by the size of the water meter) plus the commodity charge (determined by the amount of water used). Commodity rates vary depending on customer class (residential, multi-family, and commercial industrial).

Rates Outside the City of Kalamazoo

Customers outside the corporate limits of the City of Kalamazoo are charged the rates identified "outside city" in the following schedules:

Township Surcharges – Water
Oshtemo – 4%
Comstock – 3%
Kalamazoo – 3%

QUARTERLY WATER AVAILABLITY FEES (Rate Schedule "A")

For all small general and residential customers, billed every three months. Rates are based on a 90-day period.

Meter Size	City	Outside City
5/8-3/4"	$44.47	$44.47
1"	59.71	59.71
1-1/2"	74.95	74.95
2"	116.86	116.86
3"	323.86	354.93
4"	417.27	450.32
6"	623.16	672.89
8"	858.47	927.26

MONTHLY WATER AVAILABILITY FEES (Rate Schedule "B")

For commercial and other users large enough to warrant monthly billing. Rates are based on a 30-day period.

Meter Size	City	Outside City
5/8 – 3/4"	$19.06	$19.06
1"	24.14	24.14
1-1/2"	29.22	29.22
2"	43.19	43.19
3"	146.08	146.08
4"	184.18	184.18
6"	273.10	273.10
8"	374.71	374.71

WATER COMMODITY CHARGES (Rate Schedules "A" & "B")

Rates per cubic meter on all water used.

Customer Class	City	Outside City
Residential (1-3 dwelling units, includes mobile home parks)	$0.734	$0.734
Multi-Family Residential (4 or more Dwelling units)	0.540	0.540
Commercial/ Industrial (Includes institutional)	0.612	0.612

FIRE PROTECTION (Schedule "C")

For water service to accounts with fire protection systems.

Monthly Availability Fee

Rates are based on a 30-day period

Detector Check Size	City	Outside City
4"	$45.20	$45.20
6"	59.76	59.76
8"	87.77	87.77
10"	186.79	186.79

Commodity Charge

Per cubic meter

	City	Outside City
First 15m/month	$0.612	$0.612
Over 15m/month	1.834	1.834

Quarterly Availability Fee

Rates are based on a 90-day period

Size of Detector Check (inches)	City	Outside City
4"	$82.81	$82.81
6"	126.49	126.49
8"	210.51	210.51
10"	507.56	507.56

Fire Hydrants (all areas)**:**
$40.00 per year for each private fire hydrant maintained in service.

SEASONAL USE (Schedule "D")

For those water service accounts that are primarily seasonal in nature and demand, such as lawn sprinkling and air conditioning.

Monthly and Quarterly Availability Fees

Fees under this schedule are based on meter size and service area the account is in and are the same as in Schedules "A" and "B".

Commodity Charge

Rate per cubic meter on all water used.
City: $1.193 per cubic meter
Outside City: $1.193 per cubic meter

WASTEWATER RATES

The charge for wastewater treatment service is the sum of the availability fee (determined by the size of the water meter), plus the commodity charge, (determined by the amount of water used*). Commodity rates vary depending on customer class (residential, multi-family residential, commercial, and industrial).

Rates Outside the City

Wastewater treatment customers outside the City of Kalamazoo are charged the rates identified "outside city" in the following schedules.

Township & City Surcharges - Sewer
Oshtemo – 16%
Comstock – 25%
Kalamazoo – 18% (4/1/2021)
Parchment – 155% (10/1/2021)
Texas – 15% (1/1/2021)
Pavilion – 20% (12/1/2021)

WASTEWATER CHARGES

All wastewater availability fees, inside and outside the City and both quarterly and monthly, contain a billing cost of $7.85 which is a portion of the operating, maintenance, and replacement (OM&R) fee. In addition to that amount, there is also a capital expense charge. These charges are determined by the meter size and are detailed for accounts in the City and Outside the City as follows:

CITY QUARTERLY BILLING (Rate Schedule "E")

Based on a 90-day period

Meter Size	OM&R	Capital	Total Minimum Charge
5/8"	$12.75	$0.46	$13.21
3/4"	13.17	0.50	13.67
1"	14.43	0.65	15.08
1 ½"	16.12	0.83	16.95
2"	20.76	1.33	22.09
3"	54.91	5.04	59.95
4"	67.56	6.41	73.97
6"	97.07	9.63	106.70
Flat Rate	69.13	8.65	77.78

OUTSIDE CITY QUARTERLY BILLING

Based on a 90-day period

Meter Size	OM&R	Capital	Total Minimum Charge
5/8"	$12.75	$4.07	$16.82
3/4"	13.17	4.48	17.65
1"	14.43	5.71	20.14
1 ½"	16.12	7.33	23.45
2"	20.76	11.81	32.57
3"	54.91	44.79	99.70
4"	67.56	57.01	124.57
6"	97.07	85.52	182.59
Flat Rate	69.13	38.50	107.63

CITY MONTHLY BILLING (Rate Schedule "E")

Based on a 30-day period

Meter Size	OM&R	Capital	Total Minimum Charge
5/8"	$9.94	$0.15	$10.09
3/4"	10.08	0.17	10.25
1"	10.50	0.21	10.71
1 ½"	11.06	0.28	11.34
2"	12.61	0.44	13.05
3"	23.99	1.68	25.67
4"	28.21	2.14	30.35
6"	38.04	3.21	41.25
Dewatering	7.85	0.00	7.85

OUTSIDE CITY MONTHLY BILLING

Based on a 30-day period

Meter Size	OM&R	Capital	Total Minimum Charge
5/8"	$9.94	$1.35	$11.29
3/4"	10.08	1.49	11.57
1"	10.50	1.90	12.40
1 ½"	11.06	2.44	13.50
2"	12.61	3.93	16.54
3"	23.99	14.93	38.92
4"	28.21	19.00	47.21
6"	38.04	28.51	66.55
Dewatering	7.85	0.00	7.85
Septage Haulers	7.85	0.00	7.85

Public Education Programs

Section C13

Public Education Program

The City of Kalamazoo has the largest groundwater system in Michigan. The City offers public education and outreach programs for both stormwater and drinking water, which are administered through the Water Resources Division.

To disseminate stormwater related public education information, the Water Resources Division utilizes the Environmental Services section of the City's website (https://www.kalamazoocity.org/environment). The drinking water system related public education information is provided on the Water Resources section of the City's website (https://www.kalamazoocity.org/water). The City also has a website, https://protectyourwater.net/, focused on educating the community about protecting groundwater and preventing contamination. This website includes information about the City's water system, how groundwater becomes drinking water, tips for what individuals in the community can do to protect groundwater, and other resources for both kids and adults.

Public education information is also conveyed through radio ads, movie ads, Facebook, and Instagram to reach different demographics and a large audience. A list of the public education topics covered, delivery method, and status and evaluation methods is included within this section.

To comply with the Safe Drinking Water Act, the City publishes a yearly Water Quality Report, which is mailed to water customers and is also available on the Water Resources section of the City's website. The report published in 2020 is included within this section.

The Water Resources section of the City's website also includes information on several other key topics such as compliance with the Safe Drinking Water Act Lead & Copper Rule, annual lead and copper service replacement program, water system upgrades, water system fixed asset reports, water system advisory council, how to flush plumbing, hydrant flushing information, and boiled water advisory. Excerpts from the website on these individual items are also included within this section.

Refer to Section D3, Managerial Capacity Gap Analysis, for the assessment and recommendations.

TABLE 3: Stormwater Public Education Plan - Revised 8-2016, Updated 6-2021

Column >	1	2	3	4	5	6	7	8
Row	Public Education Topic	Key Messages	Target Audiences	Delivery Mechanism or Activity	Timeline for Development	Timeline for Implementation	Responsible Party	Evaluation Method
1	**Public Responsibility and Stewardship in Watershed**	Definition of a watershed; education on specific watershed(s) that public can affect; purpose for protecting watershed; ways human activities can affect watersheds.	Broad Audience: Residents, visitors, public employees, students; businesses, institutions, construction contractors, and developers.	City's protectyourwater.net (PYW) website; classroom/club presentations and demonstrations; facility tours; event presentations/model demonstrations (EnviroScape), static displays; material distribution (e.g. "Storm Watch," "Brown Water, Green Weeds" brochures, sponges). KVCC Ref. B, C, E, G, H & I	Continue operation and maintenance (O & M) of PYW Website. Annual review and O & M of classroom presentation materials and models, static display; and distribution materials.	2019-21 significant upgrades to PYW Website. Minimum once annually - presentation/model demonstration. Material distribution.	City of Kalamazoo (COK) Water Resources Division (WRD) staff. Other participants may include: Kalamazoo River Watershed Council (KRWC); Total Maximum Daily Load (TMDL) Steering Committee; the Environmental Concerns Committee (ECC); the Kalamazoo Area MS4 Collaborative Stormwater Group (KSWG-MS4 Group); and Wellhead Protection Program (WHPP) Committee.	Enhancements to, O & M of, and visits to City's website; number of presentations/facility tours; materials distributed; events participated in; general feedback received from community. 2022 - 4th Community Water Resources Public Survey. KVCC Reference F
2	**Ultimate Stormwater Discharge Location and Potential Impacts**	Discharges to surface water and potential water quality impacts.	Residents, visitors, public employees, students, businesses, construction contractors, and developers.	Maintain stormwater asset markers, and consider additional locations. online GIS shows stormwater assets, including outfalls. Site Plan Review meetings. Distribution of IDEP Brochure. KVCC Reference D	Already developed and implemented stormwater asset marker plan, and online GIS and will continue updating periodically. Will continue to communicate to contractors during the Site Plan Review process the importance of understanding ultimate discharge locations and potential impacts.	Completed - Implemented approximately 420 markers to selected catch basins/inlets; O & M and additional markers to continue based on need and resources. 55 read "No Dumping Drains to Lake" and the rest read "No Dumping Drains to River." 2020 additional markers installed. Quarterly updates to online GIS stormwater map. Weekly communication with contractors during the Site Plan Review process RE: the importance of understanding ultimate discharge locations and potential impacts.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	Number of markers installed and maintained. Continued availability of online GIS; and website; continued presentations and model demonstrations; distribution of IDEP Brochure. 2022 - 4th Community Water Resources Public Survey. KVCC Reference F
3	**Public Reporting of Illicit Discharges**	Definition of illicit discharges/connections; illicit discharges can adversely impact surface and groundwater; importance of, and how to detect and report known and suspected illicit discharges to County, City and/or EGLE; City ordinances.	Residents, visitors, public employees, students, businesses, construction contractors, and developers.	City's main website & PYW website; City's annual CCR; View from the Curb; classroom/club presentations and demonstrations; facility tours; event presentations/model demonstrations, static displays; material distribution (e.g. "Storm Watch," "Brown Water, Green Weeds" brochures, sponges). Internal communication / protocol regarding roles & responsibilities in handling reports (e.g. Hazmat Team and staff support). 2020 development of 311 call center includes IDEP reporting. Updated IDEP Brochure for citizens, and staff training.	Already developed: websites; CCR; View from the Curb; classroom presentation format and models; static display; staff training, IDEP Brochure, and some materials for distribution (e.g., handouts, sponges); use the P & A slogan "What gets to the street, gets to the creek!"; and IDEP tracking system (from 2017).	Completed: IDEP recording tracking system. Annually (one minimum) classroom presentations and/or model demonstrations, P & A slogan "What gets to the street, gets to the creek!" on PYW website. Annually - Training for new staff within 1 -year; all staff training within permit period. 2020 initiated 311 call center. View from the Curb.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	Existence of a public reporting system. Number of reports received/logged; number of responses to calls; number of, and variety of strategies to inform public on the importance of and how to report illicit discharges and connections. Implementation of staff training. 2022 - 4th Community Water Resources Public Survey .
4	**Promote Preferred Cleaning Materials and Procedures for Car, Pavement, and Power Washing**	Environmentally friendly cleaning materials, and procedures for washing cars, pavement, and power washing.	Residents, visitors, public employees, students, businesses, construction contractors, and developers.	City's websites; movie ads, radio ads, social media campaign, CCR, KSWG-MS4 Group; View from the Curb; classroom presentation format and models; static display; staff training. Internal communication/protocol regarding use of BMPs; distribution and/or reference of EGLE guide for Power Washing KVCC Ref. C, G, H & I	Already developed: websites; movie ads, radio ads, social media campaign, CCR; A View from the Curb; classroom presentation format and models; static display; staff training, IDEP Brochure, and some materials for distribution (e.g., handouts, sponges); use the P & A slogan "What gets to the street, gets to the creek!".	2019-21 significant upgrades to PYW Website. Annually in March - Renewal of pre-movie theatre ads (Kalamazoo 10, AMC Portage 10 (closed 11-2020) and Celebration Cinema) or online streaming with NCM. Annually in September - Review & renewal of radio ad campaign. March and/or September - View from the Curb; Annually CCR; KSWG-MS4 Group outreach. Minimum once annually - presentation/model demonstration. Material distribution. As opportunity exists - City will continue to mention issue during presentations, model demonstrations, and facility tours.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	O & M, enhancements and analytic metrics for engagements of the City's website; pre-movie ads; radio ads; social media campaign; number of presentations/facility tours; materials distributed; events participated in; general feedback received from community. 2022 - 4th Community Water Resources Public Survey . KVCC Reference F
5	**Inform and Education the Public on Proper Application and Disposal of Pesticides, Herbicides, and Fertilizers**	Improper disposal of chemicals can adversely impact surface water/ importance of using the Kalamazoo County Household Hazardous Waste Center; best management practices (BMPs) can prevent adverse impacts to surface water.	Residents, visitors, public employees, students, businesses, construction contractors, and developers.	City's PYW website; pre-movie theater ads/online streaming; radio ads; social media campaign; City's annual CCR; classroom/club presentations and demonstrations; facility tours; event presentations/model demonstrations (Groundwater Simulator and EnviroScape), static displays; material distribution. KVCC Ref. C & I	Already developed: websites; movie ads, radio ads, social media campaign, CCR, KSWG-MS4-Group; View from the Curb; classroom presentation format and models; static display; staff training, IDEP Brochure, and some materials for distribution (e.g., handouts, sponges); use the P & A slogan "What gets to the street, gets to the creek!". City added new website links in 2019.	Annually - Disposal contract with Kalamazoo County Household Hazardous Waste Center. As opportunity exists - Distribute materials (e.g., "Storm Watch" and "Brown Water, Green Weeds" brochures, sponges), and use the P & A slogan "What gets to the street, gets to the creek!" 2019-21 significant upgrades to PYW Website. Annually in March - Renewal of pre-movie theatre ads (Kalamazoo 10, AMC Portage 10 (closed 11-2020) and Celebration Cinema) or online streaming with NCM. Annually in September - Review & renewal of radio ad campaign. March and/or September - View from the Curb; Annually CCR. Minimum once annually - presentation/model demonstration. Material distribution. As opportunity exists - City will continue to mention issue during presentations, model demonstrations, and facility tours.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	Number of website visitors; continued contract with Kalamazoo County for Household Hazardous Waste Collection Center use; number of educational presentations and demonstrations discussing stormwater; number and type of material distribution; O & M, enhancements and analytic metrics for engagements of the City's movie theatre ads, radio ads, social media campaign; new or enhanced website links. 2022 - 4th Community Water Resources Public Survey . KVCC Reference F
6	**Promote Proper Disposal Practices for Grass Clippings, Leaf Litter, and Animal Wastes that May Enter the MS4**	Keep yard and pet waste from getting to the street/storm inlets to prevent negative impact to surface waters.	Residents, visitors, public employees, students, businesses, construction contractors, and developers.	City's PYW website; pre-movie theater ads/online streaming; radio ads; social media campaign; City's annual CCR; classroom/club presentations and demonstrations; facility tours; event presentations/model demonstrations (Groundwater Simulator and EnviroScape), static displays; material distribution. KVCC Ref. C & I	Already developed: websites; movie ads, radio ads, social media campaign, CCR, KSWG-MS4 Group; View from the Curb; classroom presentation format and models; static display; staff training, IDEP Brochure, and some materials for distribution (e.g., handouts, sponges); use the P & A slogan "What gets to the street, gets to the creek!". City added new website links in 2019.	2019-21 significant upgrades to PYW Website. Annually in March - Renewal of pre-movie theatre ads (Kalamazoo 10, AMC Portage 10 (closed 11-2020) and Celebration Cinema) or online streaming with NCM. Annually in September - Review & renewal of radio ad campaign. March and/or September - View from the Curb; Annually CCR. Minimum once annually - presentation/model demonstration. Material distribution. As opportunity exists - City will continue to mention issue during presentations, model demonstrations, and facility tours.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	Decrease in debris in streets/collected by street sweeper. O & M, enhancements and analytic metrics for engagements of the City's website; pre-movie ads/online streaming; radio ads; social media campaign; number of presentations/facility tours; materials distributed; events participated in; general feedback received from community. 2022 - 4th Community Water Resources Public Survey . KVCC Reference F

TABLE 3: Stormwater Public Education Plan - Revised 8-2016, Updated 6-2021

Column >	1	2	3	4	5	6	7	8
Row	Public Education Topic	Key Messages	Target Audiences	Delivery Mechanism or Activity	Timeline for Development	Timeline for Implementation	Responsible Party	Evaluation Method
7	**Identify and Promote the Availability, Location, and Requirements of Facilities for Collection or Disposal of Household Hazardous Wastes, Travel Trailer Sanitary Wastes, Chemicals, and Motor Vehicle Fluids**	Improper disposal of chemicals and solid waste can adversely impact surface water; availability of and importance of using the Kalamazoo County Household Hazardous Waste Center and the City's solid waste collection services (e.g., leaf, brush, bulk trash, and recyclables).	Residents, visitors, public employees, students; businesses, institutions, construction contractors, and developers.	Contract with Kalamazoo County for Household Hazardous Waste Center use; City's PYW website; City's pre-movie theater ads/online streaming; radio ads; social media campaign; City's annual CCR; classroom/club presentations and demonstrations; facility tours; event presentations/model demonstrations (Groundwater Simulator and EnviroScape), static displays; material distribution **KVCC Ref. C & I**	Already developed: contract with Kalamazoo County; websites; two pre-movie theatre/online streaming ad specifically addresses issue; radio ads; social media campaign; View from the Curb; presentation material; use of models; material distribution.	Annually - Disposal contract with Kalamazoo County Household Hazardous Waste Center. Annually - O & M Solid Waste Management Program (4 parts). 2019-21 significant upgrades to PYW Website. Annually in March - Renewal of pre-movie theatre ads (Kalamazoo 10, AMC Portage 10 (closed 11-2020) and Celebration Cinema) or online streaming with NCM. Annually in September - Review & renewal of radio ad campaign. March and/or September - View from the Curb; Annually CCR. Minimum once annually - presentation/model demonstration. Material distribution. As opportunity exists - City will continue to mention issue during presentations, model demonstrations, and facility tours.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	Number of website visitors; continued contract with Kalamazoo County for Household Hazardous Waste Collection Center use; continued City Solid Waste Collection Program; number of City residents using collection services; volume of materials collected; number of educational presentations and demonstrations discussing stormwater; O & M, enhancements and analytic metrics for engagements of the City's movie theater ad; radio ad social media campaign. 2022 - 4th Community Water Resources Public Survey . **KVCC Reference F**
8	**Septic Tank Care and Maintenance**	Proper septic system O & M; how to recognize system failure and its potential impact on water quality; proper disposal of pumped waste; where to get information; existing ordinances.	Septic system owners; septage haulers.	City's ordinances; PYW website; pre-movie theater ads/online streaming; radio ads; social media campaign; City's annual CCR; View from the Curb; KSWG-MS4 Group; classroom/club presentations and demonstrations; facility tours; event presentations/model demonstrations (Groundwater Simulator and EnviroScape), static displays; material distribution.	Since there are only two short sections of streets within the City that are not serviced by sanitary sewer and have storm sewers, we largely defer this issue to Kalamazoo County Environmental Health, other than our general education campaign.	2019-21 significant upgrades to PYW Website. Annually in March - Renewal of pre-movie theatre ads (Kalamazoo 10, AMC Portage 10 (closed 11-2020) and Celebration Cinema) or online streaming with NCM. Annually in September - Review & renewal of radio ad campaign. March and/or September - View from the Curb; Annually CCR. Minimum once annually - presentation/model demonstration. Material distribution. As opportunity exists - City will continue to mention issue during presentations, model demonstrations, and facility tours.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	Since there are only two short sections of streets within the City that are not serviced by sanitary sewer and have storm sewers, we largely defer this issue to Kalamazoo County Environmental Health. However, we will continue to use the PYW website to promote this topic. Maintain and enhance message and links regarding septic tank care and maintenance. 2022 - 4th Community Water Resources Public Survey .
9	**Educate the Public on and Promote the Benefits of Green Infrastructure and Low Impact Development**	Using native vegetation is usually beneficial, especially for surface water buffers since they typically are relatively low maintenance (do not need chemicals), they effectively absorb stormwater, decrease the need for mowing, and improve wildlife habitat. Benefits of green infrastructure and LID.	Property owners; City employees, especially Parks & Recreation staff; site plan applicants; contractors; general citizens.	Communicate the benefits to City decision makers; incorporate native vegetation into as many vegetative projects to the maximum extent practical. Maintain and enhance existing website links regarding topics. Encourage incorporation of green infrastructure and Low Impact Development (LID) measures into site plans where applicable. View from the Curb. **KVCC Ref. A & D**	Already have several good links on website regarding benefits of native plants; added more links in 2021; will continue to research and modify/add more as appropriate.	2019-21 significant upgrades to PYW Website. Annually in March - Renewal of pre-movie theatre ads (Kalamazoo 10, AMC Portage 10 (closed 11-2020) and Celebration Cinema) or online streaming with NCM. Annually in September - Review & renewal of radio ad and social media campaign. March and/or September - View from the Curb; Annually CCR. Minimum once annually - presentation/model demonstration. Material distribution. As opportunity exists - City will continue to mention issue during presentations, model demonstrations, and facility tours. Weekly - City will promote during Site Plan Meetings.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	Existence of website links; number of events that discuss benefits of using native plants; material made available to general citizens; communication to select City staff and contractors; participation with collaborative grant projects implementing green strategies. **KVCC Reference F**
10	**Management of Riparian Lands to Protect Water Quality**	Importance of riparian corridors; issues/challenges associated with water quality; BMPs for riparians.	Property owners; riparians; developers/contractors; lake & stream associations; golf courses; City employees, especially Parks & Recreation staff.	Communicate issue to general citizens via website, and pre-movie ad/online streaming; discuss issue at presentations/demonstrations regarding water quality; View from the Curb; incorporate BMPs into City policy as appropriate and practical. **KVCC Reference J**	Added more links & resources in 2019-21. Will continue research for additional links for informational sources via website and research for potential handout material for presentations or website downloads. Distribute educational brochures.	Weekly - Use new Performance Standards to incorporate buffer requirements for Site Plan Review. 2019-21 significant upgrades to PYW Website. Annually in March - Renewal of pre-movie theatre ads (Kalamazoo 10, AMC Portage 10 (closed 11-2020) and Celebration Cinema) or online streaming with NCM. Annually in September - Review & renewal of radio ad and social media campaign. March and/or September - View from the Curb; Annually CCR. Minimum once annually - presentation/model demonstration. Material distribution. As opportunity exists - City will continue to mention issue during presentations, model demonstrations, and facility tours. Weekly City will promote during Site Plan Meetings.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	Maintaining existing and adding new or enhanced website links; number of events that discuss importance of and BMPs for riparian properties; materials distributed; communication to select City staff and contractors; participation with collaborative grant projects implementing vegetative strategies.
11	**Identify and Educate Entity Specific Contributors of Stormwater Pollutants**	Importance of proper management of chemicals and disposal practices; existing City ordinances/regulations.	Business specific sectors; City-wide operations & maintenance; City Environmental Managers.	Target social media to selected business and residential sectors; available website links/information; communication to business owners/managers/operators RE: relevant issues; discussion of issue at presentations/model demonstrations; explore opportunities to communicate issue with businesses during City business (IPP, Cross-Connections, etc.); IDEP brochure. **KVCC Ref. C, E & I**	Already completed two targeted mailings to commercial business sectors (pressure washing and waste haulers); enhanced website links and new section in 2019; update IDEP brochure. Already have demonstration models. 2017 communicated with Purchasing Manager regarding new opportunities for green supplies and 2019 elimination of glyphosate.	As opportunities exist - Continue to discuss issue during presentations/model demonstrations; 2017 - Integrated objectives with ongoing WHPP Chemical Storage/Inventory Project and 2017 Contaminant Source Inventory added to the City's internal GIS. 2022 update to Chemical Storage/Inventory Project. 2019-21 significant upgrades to PYW Website. 2017 communicated with Purchasing Manager regarding new opportunities for green supplies and 2019 elimination of glyphosate.	COK WRD staff. Other participants may include: KRWC, TMDL Steering Committee, the ECC, the KSWG-MS4 Group, the WHPP Committee, private organizations and citizens.	Continued and enhanced website links; additional website links, text and graphics; material made available to general citizens; number of presentations/model demonstrations that issue was discussed; collaboration with Fire Marshal; collaborative efforts with other organizations; specific contacts with businesses. **KVCC Reference F**

BMP = Best Management Practices
COK = City of Kalamazoo
CCR = Consumers Confidence Report/Water Quality Report
ECC = Environmental Concerns Committee
EGLE = Michigan Department of Environment, Great Lakes & Energy
GIS = Geographic Information System
IDEP = Illicit Discharge Elimination Program
KRWC = Kalamazoo River Watershed Council

KVCC = Kalamazoo Valley Community College
KSWG-MS4 Group = Kalamazoo Stormwater Working Group - MS4 Collaborative Stormwater Group
NCM = National CineMedia
O & M = Operation and Maintenance
PYW = ProtectYourWater.net
TMDL = Total Maximum Daily Load
WHPP = Wellhead Protection Program
WRD = Water Resources Division

NOTE: Since 2018, the COK recognized the importance of social media. Our existing website, radio ads, movie ads, Facebook and Instagram accounts help us to reach out to different demographics and reach larger targeted audiences. By purchasing all media outreach avenues from one vendor we have an advantage of having interconnected marketing tools to "boost posts". The COK can geographically target the audiences within the urbanized zone and ensure consistent messaging to the residents within the area of Kalamazoo County and all COK jurisdictions. The COK will continue to annually support the purchase of paid posts for all our media outreach avenues and track the results using metric analytics. Social media has proven to be an effective tool for outreach communication, and the COK has the responsibility of creating and sharing content related to the Required Topic Areas indicated by the "social media" Delivery Mechanism on Table 3.

THE CITY OF Kalamazoo

2020 Water Quality Report

The City of Kalamazoo provides its customers with information about the quality of our drinking water each year in a Water Quality Report (sometimes referred to as a Consumer Confidence Report). Much of the information provided in this report, along with the additional monitoring and testing conducted throughout the year, is beyond what is required by the Safe Drinking Water Act and is provided as an extra service to our customers.

The 2020 water quality data in this report demonstrates that the water we provide to our customers exceeds the standards established by federal and state regulations.

ON THE COVER

Award Winning Water Storage Facility Project!

See page 2 for details.

The Kalamazoo Water Supply System

Kalamazoo's New Award Winning Storage Facility

DID YOU KNOW that the Kalamazoo Water Supply System is the Largest Groundwater System in Michigan?

Your Drinking Water Source

The City of Kalamazoo Public Water Supply System is the largest groundwater-based drinking water system and the fifth largest water utility in Michigan. It is also ranked among the lowest for water rates out of the 50 largest systems within the state.

Our system utilizes limited treatment through chlorine, fluoride, and phosphate additives. Two stations are equipped with water purification and iron removal capabilities.


The City of Kalamazoo's new 2.5-million gallon water storage facility was recognized as the 2020 project of the year by the Southwest Branch of the Michigan Chapter of the American Public Works Association (APWA), and the 2021 Project of the Year by the Michigan Chapter of the APWA. The project was a joint effort between the City of Kalamazoo, Jones & Henry Engineers, Ltd, McDermott – CB&I, and Hoffman Bros. Inc. The tower's artwork celebrates the Kalamazoo Promise, which covers college tuition for graduates of Kalamazoo Public Schools.

THIS REPORT summarizes our efforts and commitment to provide safe, reliable, and affordable drinking water. Our facilities operate 24 hours a day, 7 days a week and are monitored continuously both on and off site by qualified, trained and licensed personnel.

2020 Kalamazoo Water Facts

STORAGE: 10 water storage facilities with 17.8 million gallons of treated water storage capacity

SOURCES:

- 13 active wellfields
- 13 point of entry treatment facilities
- 94 wells
- 19 million gallons per day produced on average
- 38 million gallons per day maximum in 2020
- 46 million gallons per day of treatment capacity

DISTRIBUTION:

- 196,292 customers served
- Service in 11 jurisdictions
- 838 miles of water main
- Approximately 7000 hydrants
- 11 pressure service districts

Upcoming Improvements for 2021

The City of Kalamazoo has planned a systematic Multi-Year Capital Improvement Program to continue our mission of providing high quality drinking water in compliance with all regulatory requirements. This program will include upgrades to existing pipes, new water main construction, new water storage facilities, additional lead service replacements, and new iron and PFAS removal capabilities.

Protecting OUR Water

Nearly half of the U.S. population depends on groundwater for its drinking water supply.

Kalamazoo's Groundwater

In Kalamazoo County, the source of drinking water is groundwater. Groundwater exists underground in pore spaces between sand and gravel particles. Groundwater is relatively abundant, easy to extract, and generally lacks harmful bacteria. However, it can also be vulnerable to contamination from spills, leaks, or dumping of harmful substances to the ground.

Wellhead Protection

The City of Kalamazoo has a Michigan Department of Environment, Great Lakes, and Energy (EGLE) approved Wellhead Protection Program. The City was awarded the national Exemplary Source Water Protection Award by the American Water Works Association, the Michigan Wellhead Protection Program Award multiple times, and the Michigan "Richard Husby Public Awareness Award" for its Wellhead Protection Program education efforts. Since 1998, the Groundwater Foundation has designated Kalamazoo as a Groundwater Guardian Community.

Kalamazoo's Wellhead Protection website www.protectyourwater.net has specific educational information about its Water System, related ordinances, fun activities, links to other websites, and resources for groundwater and other resource water issues.

EGLE performed Source Water Assessments to assess the susceptibility of all public water supply sources to contamination. The susceptibility rating is on a six-tiered scale from "very low" to "high" based primarily on geologic sensitivity, water chemistry, well construction and contaminant sources. The susceptibility rating of the City's (current) 13 wellfields is: Moderate (2 wellfields), Moderate High (10 wellfields) and High (3 wellfields). For more information contact the Public Services Programs Manager at 311 or (269) 337-8000.

Stormwater Management

The City of Kalamazoo has separate sewer systems for sanitary and stormwater. Stormwater is rainwater or snowmelt runoff from streets and parking lots that collects in open grated catch basins and inlets, and drains directly to the Kalamazoo River, creeks, lakes or ponds. It is important to keep oils, grease, fuels, chemicals, lawn fertilizer, grass clippings, trash and debris from getting on our streets and parking lots. Remember – what gets to the street, gets to the creek!

Since groundwater and surface water are generally interconnected, your efforts to protect one may positively impact the other. Visit www.protectyourwater.net/stormwater or contact the Public Services Programs Manager at 311 or (269) 337-8000 to learn more regarding stormwater quality.

The City's Performance Standards for groundwater and stormwater can be found at **www.kalamazoocity.org/environment and https://protectyourwater.net/**

Protecting OUR Water *continued*

CROSS-CONNECTIONS

A backflow in the water system can be created in areas that experience a sudden loss of pressure.

As a City of Kalamazoo drinking water supply customer, you can help ensure that the water you are drinking within your home and business remains safe. Prevent cross-connections with the City of Kalamazoo's water supply by ensuring that all backflow prevention devices are installed, inspected and properly maintained by licensed and certified plumbers as required by state and local plumbing codes.

What is a "cross-connection"?

Cross-connections are arrangements of piping or appurtenances through which a backflow of undesirable material could enter the potable (drinking) water system.

What is a "backflow"?

Backflow is water flowing in the opposite direction of its normal flow. Backflow can allow contaminants to enter the drinking water system through cross-connections.

The undesirable material may come from sources connected to your own home or facility's internal or external plumbing. A backflow in the water system can be created in areas that experience a sudden loss of pressure. Pressure changes can occur as a result of water main breaks, fire department usage, or during times of hydrant flushing.

If any of these conditions occur in your area, you should flush your lines before using the water to minimize iron particles and other undesirable impurities that may be present. Flush your taps by starting in your restroom facility or utility sink and working out towards your food service area.

Help prevent cross-connections:

- Do not submerge hoses in buckets, pools, tubs, sinks or process tanks.
- Do not use spray attachments without a back-flow prevention device. The chemicals used on your lawn are toxic and can be fatal if ingested.
- Do buy and install backflow prevention devices (hose bib vacuum breakers) for all threaded faucets around your home or business. They are inexpensive and available at hardware stores and home-improvement centers.
- Never install sprinkler systems, fire suppression systems, or boilers with chemical additives without proper backflow prevention devices.
- Ensure that your softener drain line has an air gap between the drain line and the receiving drain.
- Residential and Commercial establishments connected to the municipal water system must properly abandon all water wells onsite and provide abandonment information to the City of Kalamazoo and the Kalamazoo Environmental Community Health Department.

Learn more about PFAS at www.protectyourwater.net/pfas/

Hazardous Materials

A toxic product dumped on the ground or down a storm drain can contaminate our drinking water and surface waters and is strictly prohibited by law.

Help prevent pollutants from entering groundwater or surface water features by taking unused hazardous household chemicals to the Kalamazoo County Household Hazardous Waste Collection Center, located at 1301 Lamont Avenue, off Lake Street next to the Kalamazoo County Fairgrounds. Contact the center at (269) 373-5211 or view their website at www.kalcounty.com/hhw for more information. Unused prescription drug disposal locations and hours are listed at www.kalcounty.com/hhw/med-disposal.htm.

EDUCATIONAL MARKERS

The City of Kalamazoo partnered with Kalamazoo County and community members to place 100 new educational markers on public storm drains within the City of Kalamazoo. The City of Kalamazoo stormwater sewer system discharges directly to local water bodies. The goal of the project is to bring community awareness to the stormwater municipal drainage system in an effort to stop preventable pollutants from getting into local surface water.

PFAS Tests for Kalamazoo Municipal Drinking Water Continue to Show Results Within Safe Drinking Water Guidelines

PFAS levels at water pumping stations serving the Kalamazoo municipal drinking water have been consistently within the safe drinking water guidelines, set by the Environmental Protection Agency, and Michigan Department of Environment, Great Lakes and Energy. The City of Kalamazoo will continue to conduct routine PFAS testing at each pumping station in addition to any state or federal mandated monitoring to maintain oversight of the water supply system and ensure public health.

2020 WATER QUALITY DATA

Regulated Contaminant	MCL	MCLG	Level Detected	Results Range	Violation Yes/No
Nitrate (ppm)	10	10	1.6	ND - 1.6	No
Barium (ppm) (2019) Selenium (ppm) (2019)	2 0.05	2 0.05	0.13 0.002	0.09-0.13 ND - 0.002	No

Regulated Contaminant	MCL	MCLG	Highest Annual Average	Results Range	Violation Yes/No
Arsenic (ppb)	10	NA	8.4	ND - 8.4	No
Fluoride (ppm)	4	4	0.85	0.29 - 0.96	No
Trichloroethene (ppb)	5	0	0.70	ND - 0.76	No
Cis-1,2- Dichloroethylene (ppb) 1.2- Dichloroethane (ppb)	70 5	70 0	0.62 0.25	ND - 1.3 ND - 0.7	No No

Regulated Contaminant	MRDL	MRDLG	Highest Running Annual Average	Results Range	Violation Yes/No
Chlorine (ppm)	4	4	1.2	ND - 3.14	No
Haloacetic Acids (HAA5) (ppb) Total Trihalomethanes (ppb)	60 80	NA NA	23.9 38.5	12.7 - 29 12 - 41	No No

Special Monitoring and Unregulated Contaminant*	Highest Level Detected	Results Range	Average Result 2020
Sodium (ppm)*	100	6.1 - 100	34

Contaminant subject to AL	Action Level	90th Percentile	Sample Date	Number of Samples above AL	Range of Results
Lead (ppb)**	15	8 5	Jan 1-June 30, 2020 July 1-Dec 31, 2020	4 2	0-45 0-73
Copper (ppm)	1.3	0.7 0.5	Jan 1-June 30, 2020 July 1-Dec 31, 2020	3 2	0-1.9 0-2.2

UCMR TESTING 2018 & 2019

Analyte	Units	Lowest	Highest	Average	Violation Yes/No
Germanium µg/L	µg/L	ND	0.370	0.122	N
Manganese µg/L	µg/L	ND	261	256	N
o-Toluidine µg/L	µg/L	ND	0.562	0.036	N
Total Haloacetic Acids (5) µg/L	µg/L	10.60	18.82	15.01	N
Total Haloacetic Acids (6) µg/L	µg/L	12.98	21.60	17.62	N
Total Haloacetic Acids (9) µg/L	µg/L	16.70	26.80	22.23	N

* Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

Typical Source of Contamination
Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits
Discharge of drilling wastes; discharge from metal refineries and coal-burning factories; discharge from electrical aerospace and defense industries

Typical Source of Contamination
Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Dishcharge from metal degreasing sites and other factories
Discharge from industrial chemical factories

Typical Source of Contamination
Water additive used to control microbes
By-product of drinking water disinfection

Typical Source of Contamination
Erosion of natural deposits

Typical Source of Contamination
Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Corrosion of household plumbing systems; erosion of natural deposits

The City of Kalamazoo was in compliance for all treatment techniques in 2020

2020 PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) MONITORING

Regulated Contaminant	MCL, TT, or MRDI	MCLG or MRDLG	Highest Running Annual Average	Results Range	Violation Yes/No	Typical Source of Contaminant
Perfluorobutane sulfonic acid (PFBS) (ppt)	420	N/A	9.8	ND-13	NO	Discharge and waste from industrial facilities; stain-resistant treatments
Perfluorohexane sulfonic acid (PFHxS) (ppt)	51	N/A	4	ND-4	NO	Firefighting foam; discharge and waste from industrial facilities
Perfluorohexanoic acid (PFHxA) (ppt)	400,00	N/A	3.8	ND-4	NO	Firefighting foam; discharge and waste from industrial facilities
Perfluorooctane sulfonic acid (PFOS) (ppt)	16	N/A	5	ND-8	NO	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities
Perfluorooctanoic acid (PFOA) (ppt)	8	N/A	4	ND-4	NO	Discharge and waste from industrial facilities; stain-resistant treatments

Water Quality Data Table

ABBREVIATIONS & TERMS

More than 30,000 tests were performed on our drinking water in 2020, and the City of Kalamazoo met or exceeded all state and federal drinking water standards.

DEFINITIONS

The City of Kalamazoo monitors for contaminants in your drinking water according to federal and state laws. The table is based on analyses conducted in 2020 and those tests conducted less frequently than once per year. The Water Quality Data Table lists only the contaminants that were detected. If the test was not performed in 2020, then the most recent analysis is listed. The City of Kalamazoo's state certified laboratory analyzes for the absence of microorganisms and levels of limited treatment chemicals (hexametaphosphate, orthophosphate, fluoride, and residual chlorine) in the City's water supply at several locations three to five days per week. All limited treatment chemicals are on automated feed control systems that are monitored 24/7 by City of Kalamazoo staff.

AL (Action Level) – The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

Contaminant – A biological, chemical, physical, or radiological substance or matter in water.

MCLG (Maximum Contaminant Level Goal) – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

MCL (Maximum Contaminant Level) – The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible using the best available treatment technology.

MRDL (Maximum Residual Disinfectant Level) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal) – The level of a drinking water disinfection below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

ND – Non-detected

pCi/L (Picocuries per Liter) – A measure of radioactivity.

PPB – Part per billion; the equivalent of one microgram per Liter.

PPM – Part per million; the equivalent of one milligram per Liter.

Trihalomethanes – Compounds formed during the chlorination (disinfection) of drinking water.

NA – Not Applicable

Monitoring for Unregulated Contaminants – The U.S. Environmental Protection Agency (EPA) federal regulations affecting monitoring of unregulated contaminants at public water systems are known as the Unregulated Contaminants Monitoring Rule (UCMR). The purpose of monitoring for unregulated contaminants in drinking water is to provide data to support the EPA administrator's decisions concerning whether or not to regulate these contaminants in the future for the protection of public health.

MEETING EPA STANDARDS

While your drinking water meets EPA's standards for arsenic, it does contain low levels. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

ADDITIONAL HEALTH INFORMATION – Sources of drinking water for both tap water and bottled water can include rivers, lakes, streams, pond reservoirs, springs and wells.

As water travels over the surface of the land or through the ground, it dissolves naturally – occurring minerals and, in some cases, radioactive material, and can pick-up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses
- Organic chemical contaminants, including synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses health risks. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection are available from the EPA's Safe Drinking Water Hotline at 800-426-4791.

Water Quality Reports from previous years

are available on the City of Kalamazoo's website at www.kalamazoocity.org/waterqualityreport.

THE CITY OF KALAMAZOO'S

Lead and Copper PROGRAM

Congratulations to our Lead Service Replacement Team for their hard work in 2020.

The City of Kalamazoo is committed to providing safe and reliable drinking water to Kalamazoo and its surrounding communities and has been consistently in compliance with the 1991 Safe Drinking Water Act Lead and Copper Rule and all revisions of the rule.

Kalamazoo Drinking Water

The City of Kalamazoo does not have lead in its water mains or wells. However, lead can enter drinking water when it is in contact with pipes, solder, home/building interior plumbing, fittings and fixtures that contain lead.

Safe Water Treatment

The City has utilized a corrosion control program since 1956 that works to reduce water corrosiveness to pipes, fittings and fixtures containing lead and copper. To ensure an optimized strategy, the City of Kalamazoo performs routine monitoring of corrosion control parameters within the water distribution system and testing for lead and copper in customers' homes. Our Public Services Department periodically evaluates the most effective corrosion control methods available and additional ways to further enhance this program.

Lead Service Replacement

A proactive annual capital improvement program has been in place for over twenty years to address lead service replacements. In 2020 Kalamazoo replaced 589 non-copper services with funding from the Foundation for Excellence, Michigan's Drinking Water Revolving Fund Program, and the City of Kalamazoo's Capital Improvements Projects program. Lead service replacements are continuing in 2021 and beyond.

Lead and Copper Monitoring

The City of Kalamazoo conducted two lead and copper monitoring programs in 2020 to comply with federal and state lead and copper regulations. These programs target homes that are likely to have the highest concentrations of lead in their drinking water and include those with lead service lines as well as homes with copper plumbing built before lead solder was outlawed in the late 1980s. Kalamazoo did not exceed the EPA Action level of 15 parts per billion (ppb) for lead or 1300 ppb for copper. Results of the testing can be found in the 2020 Water Quality Data table on pages 6-7.

There are currently 3,017 known lead services, 5,860 service lines of unknown material, and 41,669 total service lines. The City of Kalamazoo is conducting a thorough inventory throughout the year and any updates to these numbers will be listed in future Water Quality Reports.

Our Commitment to Service

Kalamazoo has provided free lead and copper testing to customers for over 25 years. Lead filters are also provided at no charge to homes with a lead or un-defined service line.
Call (269) 337-8550 if you have any questions about these services.

Contact (269) 337-8550 to arrange for free lead sampling

For help finding out if you have lead service lines in your home, you can contact the City's Department of Public Services Field Services Division at 311 or (269) 337-8000.

Health Effects

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Kalamazoo is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components. If you have a service line that is lead, galvanized previously connected to lead, or unknown but likely to be lead, it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. If you are concerned about lead in your water, you may wish to have your water tested. Please contact the City of Kalamazoo Laboratory Supervisor at (269) 337-8550 for testing. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/lead.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

If you have a service line that is lead, galvanized previously connected to lead, or unknown but likely to be lead, it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line.

CONTACTS

Printed copies of this report are available upon request at (269) 337-8000

Customer Views Welcome

If you are interested in learning more, have questions on the contents of the report or would like to comment on water issues, please feel free to contact the Public Services Programs Manager at 311 or (269) 337-8000. Contact information is listed below for issues related to water.

If you would like to address issues in a public forum, the City of Kalamazoo Commission meetings are held on the 1st and 3rd Monday of each month at 7:00 p.m. in City Hall at 241 West South Street, Kalamazoo, Michigan 49007. We will update this report annually and keep you informed of any new developments or significant issues that occur throughout the subject-reporting year.

Utility Customer Service

311 or (269) 337-8000
opening or closing accounts, billing, payments, meter readings, leaks, or other related questions

Water Testing for Lead & Copper

(269) 337-8550
arrange to have your home or businesses water tested for free

Public Services Programs Manager

311 or (269) 337-8000
questions regarding the Water Quality Report and laboratory data pertaining to water quality

Field Services Section

311 or (269) 337-8000
report a water main break, get assistance determining if your property has lead plumbing components, report clogged catch basins or inlets
[call (269) 337-8148 after business hours]

24/7 Water/Sewer Emergency

311 or (269) 337-8000
report an emergency outside of normal business hours

Illicit Discharge Elimination Hotline

311 or (269) 337-8000
report illegal dumping of chemical or hazard materials

Water Operations

311 or (269) 337-8000
report any issues with water quality
(call (269) 337-8148 after business hours)

EPA Safe Drinking Water Hotline

(800) 426-4791
information and guidelines from the Envrionmental Protection Agency

Boil Water Advisories & Orders

Boil Water Advisories (BWAs) are most commonly issued when a significant temporary loss of pressure to a defined area occurs or had a reasonable potential to have occurred due to a water infrastructure break, repair, or replacement. BWAs may be issued before a planned/scheduled repair or infrastructure replacement, or issued under emergency conditions, such as a water main break or when other water infrastructure is severely damaged.

Although rare, BWAs can be issued under a variety of other situations, such as an act of vandalism, terrorism, or a known or unknown source of contamination in the water system. Please note that the BWA will always describe the specific area affected, contact numbers, and any appropriate directions, such as boiling your water. The vast majority of these BWAs are precautionary and issued without any evidence of contamination.

More information on Boil Water Advisories and customer communications is available at:
https://www.kalamazoocity.org/bwa

Consumer Confidence Report 2020

	Organization	2021 Date Delivered
EAST SIDE AREA		
1	Lakeview Apartments - 1928 Colgrove Office 115	6/3/2021
2	Big Bend Apartments - 2220 Gull Road	6/3/2021
3	New Village Park - Heather Garden Apartments - 2400 St Albans Way	6/3/2021
4	Country Meadow Apartments - 2024 Sunnyside (S. Off Gull)	6/3/2021
5	Coopers Landing Apartments - 5001 G Ave. West of Sprinkle	6/3/2021
6	Savannah Trace Apts. - G Ave E of Sprinkle - 5066 Meadows Blvd	6/3/2021
7	Gull Prairie Apartments - 4350 G Ave.	6/3/2021
8	Gull Run Apartments - 4495 Gull Road (Shared Office with Gull Prairie)	6/3/2021
9	Comstock Village Apts.- 5437 East H Ave. (Shared Office with Comstock Tower)	6/3/2021
10	Comstock Tower Apts. - 5285 East H Ave. (Main Office at Comstock Village)	6/3/2021
11	Eastside Neighborhood Assoc. - 1301 E. Main	6/3/2021
RICHLAND AREA		
12	Forest Glen Apts. - 9545 East D Ave. - Richland	6/2/2021
13	Rolling Pines Apts. - 9621 East D Ave. Apt 1 - Richland (Shared Office with Forest Glen Apts)	6/2/2021
14	Richland Country Apts. - 9659 East D Ave. - Richland	6/2/2021
15	Arbor Terrace Apts. - M-43 & M-89 North of Richland (Shared Office with Richland Country Apts.	6/2/2021
SOUTH SIDE AREA		
16	Vine Street Neighborhood Association - 814 South Westnedge	6/5/2021
17	City View in the Square - 710 Collins East of Portage Road	6/5/2021
18	Edison Neighborhood Association - 816 Washington Avenue	6/5/2021
19	Skyrise Apts. - 525 S. Burdick, S of Lovell	6/7/2021
20	Ridgewood Apts. - 24 Ridgewood, S. Burdick & Ridgewood	6/7/2021
21	Hilltop Apts. - 3000 S. Burdick, N.of Cork (shared office w/ Northwind)	6/7/2021
22	Candlewyck Apts. - 100 Candlewyck Drive, Kilgore & S. Burdick	6/7/2021
23	Kensington Place Apts. - 740 W. Kilgore	6/7/2021
24	Deer Run Apts. - 4307 Duke St. North of Kilgore	6/7/2021
25	Denway Circle Apts. - 544 Denway Circle, West of Westnedge	6/7/2021
26	611 Regency Way Apts. - 611 Whites Rd. & Duke Street	6/7/2021
27	Mediera Apartments -1610 E. Cork Street, East of Portage	6/7/2021
28	Emerald Park Apartments - 2210 E. Cork St., Near Emerald	6/7/2021
29	Waverly Place Apts. - 1412 Banbury Road, West of Portage Street	6/7/2021
	Oakwood Community Assoc. - 3320 Laird Ave, Entrance N of Oakwood Elementary	6/7/2021
30	Parkview Hills - 3707 Greenleaf Circle, S. Off Parkview	6/7/2021
31	Winchell Way Apts. - 3740 Winchell Avenue, West End of Winchell	6/7/2021
NORTHWEST AREA		
32	Walbridge Common Apts. - Nomi - 714 Walbridge Street	6/3/2021
32	Northside Association for Community Development - 612 North Park	6/3/2021

	Organization	2021 Date Delivered
33	Gladeshire Apt. - 1801 Shire Lane, N. Westnedge & Hopkins	6/3/2021
34	Douglas Community Association - 1000 West Paterson	6/3/2021
35	Douglas Apts. - 1211 Douglas Douglas @ Paterson	6/16/2021
36	Maple Grove Village - 735 Summit Park Ct., Douglas N. of North St.	6/3/2021
37	Northwind Apts. - 1004 Douglas, S. of Paterson	6/3/2021
38	Ravine Apts. - 3510 N. Drake Road, Ravine Road @ N. Drake	6/3/2021
	CAMPUS AREA	
39	Greenhill Apts. - 200 Lake Forest Blvd., S. Off W Main E. of Kendall	6/3/2021
40	The Landing - 3306 W. Main St., at Nichols	6/3/2021
41	Haven on Main - 3420 W. Main West of Nichols (Main Office at Element on Main)	6/3/2021
42	Cherokee Westlawn Apts. - 522 Cherokee St. Office #314	6/3/2021
43	Pinewood Glen Apts. - 4139 Valley Ridge Dr., Between S. Turwill and Sage	6/3/2021
44	Sage Terrace Apts. - 318 North Sage Street	6/3/2021
43	Aspen Ridge Apts. - Sage Street - 129 North Sage Street	6/3/2021
44	Aspen Ridge Apts. - Sage St (Shared Office w/ Ramblewood)	6/3/2021
45	Westland Meadows Apts. - Off Sage Street - 4300 Leisure Lane	6/3/2021
46	Element on Main - 4525 W. Main, East of Drake (Shared Office Haven on Main)	6/3/2021
47	Drakes Pond Apts. - 555 S. Drake Rd., Between Drake Rd. & Sage St.	6/4/2021
48	Dover Hills Apts. - 4520 Dover Hills Drive, Drake Road N. of KL	6/4/2021
49	Clayborne Court - 4651 Clayborne Drive, Drake Rd. N. of KL	6/4/2021
50	Parkway Flats - Off Arboretum Parkway - 807 Central, Park Circle Dr.	6/4/2021
51	Westchester Woods Apts. - KL Ave East of Drake (1230 Little Drive)	6/4/2021
52	A2 Apts. - 4346 Hidden Hills Dr, Off Emajean	6/4/2021
53	Hunter's Ridge Apts. - 4130 W. Michigan Avenue, Off Emajean	6/4/2021
54	The Arboretum Apartments - 1010 Emajean Circle	6/4/2021
55	West Campus Village - 4121 W. Michigan, E of Drake (Office at Hillside Village Apts)	6/9/2021
56	Western Pines Apartments - 3824 Pine Terrace Blvd., KL East of Drake	6/4/2021
57	Bronco Club Townhouses & Apt - KL to Fraternity to 3201 Michigamme Woods Dr.	6/4/2021
58	Campus Court at Knollwood - 1701 Knollwood Ave., Between Lafayette & Knollwood	6/4/2021
59	Arcadia Grove - 1324 Lafayette Avenue	6/4/2021
60	Main Street Apts -Redwood @ Greenwood, Office @ 2701 W Mich Ave	6/4/2021
61	University Village Apts. - 1228 California Ave., Main Office on California St.	6/9/2021
62	Whitegate Apartments - University Village Office on California Street	6/9/2021
63	Park Terrace Apartments - University Village Office on California Street	6/9/2021
64	Bayberry Pointe Apartments - University Village Office on California St.	6/9/2021
65	Bronco Apartments - University Village Office on California Street	6/9/2021
66	California West Apts. - University Village Office on California Street	6/9/2021
	Office for University Village also serves California West Apts., Bronco Apts., Park Terrace Apts., White Gate Apts. and Bayberry Pointe Apts.	
67	SOHO - 700 South Howard St. North of W. Michigan	6/4/2021
68	White Hall Apts. - 322 S. Kendall Ave. South of W. Main	6/4/2021
69	Kendall Village Townhouses -313 S. Kendall Ave. South of W. Main	6/9/2021

	Organization	2021 Date Delivered
70	Kendall Manor Apts. - 125 S. Kendall Ave. South of W. Main	6/9/2021
71	Mansard House Apts. - 222 S. Kendall Ave. South of W. Main	6/9/2021
72	Hillside Village Apts . - 105 N. Kendall Ave. Shared Office W. Campus Apt	6/9/2021
	WEST SIDE AREA	
73	Maple Brook Apt. - 4632 Beech Ave., east of Drake north of W.Main	6/14/2021
74	The Wyatt Student Living(Campus Advantage) - 5200 Croyden W of Drake	6/14/2021
75	The Fountains at Bronson Place - 1700 Bronson Way (Off Maple Hill Dr.)	6/16/2021
76	Summer Ridge Apts. - 5545 Summer Ridge (Off Maple Hill Dr.)	6/16/2021
77	Evergreen North Apartments - 5700 Vintage Lane, Off Maple Hill Drive	6/16/2021
78	Country Club Park Apts. - 320 S. Drake Rd., S. of W. Main	6/16/2021
79	Canterbury House Apts. - Green Meadow W. off Drake to 690 Dragonfly	6/14/2021
80	Nottingham Place Apts. - 704 S. Drake Rd., N. of KL	6/11/2021
81	Seville Apts. - 5050-1D Beckley Road, Drake Rd. N. of KL	6/11/2021
82	Mount Royal Apartments - Shares office with Seville	6/11/2021
83	Concord Place Apts. - 1548 Concord Place Dr., Off KL Avenue	6/11/2021
84	Peppertree Apartments - 1842 S. 11th Street, North of W. Michigan	6/11/2021
85	58 West - 58 Jefferson Commons Dr., KL Ave. West of 11th Street	6/11/2021
86	The Paddock - 5900 Copper Beech Blvd., KL Ave. West of 11th Street	6/11/2021
87	Fountain Springs - 1410 S. 9th Street (Formerly Clayton Estates)	6/11/2021
88	Village Square Apts. - 2890 S. 9th Street	6/11/2021
89	Mill Creek Apts. - 3080 Mill Creek Dr., 9th St. & Stadium (Behind Mangia)	6/11/2021
90	Pinehurst - 6740 Stadium, West of 9th Street	6/11/2021
91	Tall Oaks Apts. - 6675 Tall Oaks Dr. - Off 9th St, S. of Stadium	6/11/2021
92	Saddle Creek at the Preserve Apts. - 5935 S. 9th Street Near KVCC	6/11/2021
93	Evergreen South Apts. - 2900 Crystal Lane, Parkview & 11th St. - N. on 11th St.	6/11/2021
94	Rosewood - 4774 Horton Drive, 12th Street, south of Parkview	6/11/2021
95	Foxwood Apartments - 4805 Fox Valley Avenue	6/16/2021
96	Danford Creek Apts. - 2930 Danford Creek Dr., Stadium Dr. W. of 11th St.	6/11/2021
97	Chestnut Hills Apts. - 2487 Chestnut Hills Dr., Stadium Dr. W of 11th St.	6/11/2021
98	Hope Woods Apartments - 5749 Stadium Drive	6/11/2021
99	Cedar Trail Apartments - 4412 Ridgeway Circle, Drake Rd. S of W. Michigan	6/14/2021
100	Forest Hills Apartments - 4600 Forest Hills Ln., Off Drake Rd. S of W. Michigan	6/14/2021
101	Lilac Hills Apartments - 4411 Lilac Ln. Off Drake S. of W. Michigan	6/14/2021
102	Stadium Drive Apts. - 4249 Lakesedge Dr. Stadium Dr. E of Drake Rd	6/16/2021
	ASSOCIATED BUSINESS	
103	Gardener Group - 5770 Venture Park, N of Stadium	6/2/2021
104	Lockhart Management & Consulting - 2725 Airview Blvd, Suite 202	6/2/2021
105	Kalamazoo County Health Department - 311 East Alcott Street (Signature Sheet)	6/14/2021
106	WMU - Environmental Office	6/17/2021
107	Kalamazoo Valley Community College - Maintenance Office	6/3/2021

	Organization	2021 Date Delivered
108	Kalamazoo College - Maintenance Office	6/9/2021
109	City of Kalamazoo - City Hall - 241 West South Street	6/15/2021
110	City of Kalamazoo - Stockbridge Commercial Office - 415 E. Stockbridge Ave.	6/15/2021
111	City of Parchment - 650 South Riverview Drive	6/15/2021
112	Kalamazoo Township - 1720 Riverview Drive	6/15/2021
113	Comstock Township - 6138 King Highway	6/4/2021
114	Village of Richland - 8985 Gull Road	6/15/2021
115	Richland Township - 7401 North 32nd Street	6/9/2021
116	Cooper Township - 1590 West D Avenue	6/15/2021
117	Oshtemo Township - 7275 West Main Street	6/9/2021
118	Texas Township - 7110 West Q Avenue	6/9/2021
119	Pavilion Township - 7510 East Q Avenue - Scotts, MI	6/9/2021
120	Alamo Township - 7901 North 6th Street	6/9/2021
121	City of Portage - 7719 South Westnedge Avenue - Portage, MI	6/9/2021
122	Gull Lake Sewer & Water Authority -7722 N 37th Street	6/9/2021
CITY OF PARCHMENT		
124	Parchment Family Practice - 2350 East G Avenue	
125	Little Treasures Preschool at Haven Reformed Church - 5350 N. 25th St	
126	Parchment Central Elementary - 516 North Orient Street	
127	Parchment ECDD - 516 North Orient Street	
128	Parchment High School - 1916 East G Avenue	
129	Parchment Methodist Co-op Preschool - 225 Glendale Blvd.	
130	Parchment Middle School - 307 North Riverview Drive	
131	Parchment North Elementary - 5535 Keyes Drive	
132	Parchment Northwood Elementary School - 600 Edison Street	
133	Parchment Early Learning Center - 600 Edison Street	
134	Parchment School District - 520 North Orient Street	
135	Happy Kidz DayCare - 2217 Glendale Blvd.	
136	Lisa Nichols - 314 North Riverview Drive	
137	Sherry VanMaaren - 2417 Spartan Drive	
138	Spring Valley Peep GSRP - 3520 Mt. Olivet Road	
139	Margot Mielke - 2832 Glenhaven Avenue	
140	Desiree's Darlings - 3326 Sunfield Street	
141	New Life Head Start - 1912 Birch Avenue	
142	Lola Appelgren - 5310 Lindenwood	
143	Carrie Bockstanz - 5166 Sharon Street	
144	Miss Patty's Daycare - 2330 Mt. Olivet	
145	Tam's Sunshine House - 861 East G Avenue	
146	Parchment Community Library - 401 South Riverview Drive	
147	Parchment United Methodist Church - 225 Glendale Blvd.	

	Organization	2021 Date Delivered
148	Tabernacle Church of God in Christ - 3210 Virginia Avenue	
149	St Ambrose Catholic Church - 1628 East G Avenue	
150	United General Baptist Church - 2772 Roosevelt Avenue	
151	Parchment Christian Church - 1615 East G Avenue	
152	Parchment Trinity Temple Seventh-Day Adventist Church - 1615 E G Ave.	
153	Faith Life Church - 310 South Riverview Drive	

2020 Water Quality Report for the City of Parchment

The City of Kalamazoo provides its customers with information about the quality of our drinking water each year in a Water Quality Report (sometimes referred to as a Consumer Confidence Report). Much of the information provided in this report, along with the additional monitoring and testing conducted throughout the year, is beyond what is required by the Safe Drinking Water Act and is provided as an extra service to our customers. The 2020 water quality data in this report demonstrates that the water we provide to our customers exceeds the standards established by federal and state regulations.

Water Source:

The City of Kalamazoo Public Water Supply System is the largest groundwater-based drinking water system and the fifth largest water utility in Michigan. It is also ranked among the lowest for water rates out of the 50 largest systems within the state. Our system utilizes limited treatment through chlorine, fluoride, and phosphate additives. Two stations are equipped with water purification and iron removal capabilities.

This report summarizes our efforts and commitment to provide safe, reliable, and affordable drinking water. Our facilities operate 24 hours a day, 7 days a week and are monitored continuously both on and off site by qualified, trained and licensed personnel.

2020 Kalamazoo Water Facts:

SOURCES:

- 13 active wellfields
- 13 point of entry treatment facilities
- 94 wells
- 19 million gallons per day produced on average
- 38 million gallons per day maximum in 2020
- 46 million gallons per day of treatment capacity

DISTRIBUTION:

- 196,292 customers served
- Service in 11 jurisdictions
- 838 miles of Water Main
- Approximately 7,000
- 11 pressure service districts

STORAGE:

- 10 water storage facilities with 17.8 million gallons of treated water storage capacity

Printed copies of this report are available at (269) 337-8000.

If you are interested in learning more, have questions on the contents of the report or would like to comment on water issues, please feel free to contact the Public Services Programs Manager at 311 or 337-8000, or go to protectyourwater.net

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) performed Source Water Assessments to assess the susceptibility of all public water supply sources to contamination. The susceptibility rating is on a six-tiered scale from "very low" to "high" based primarily on geologic sensitivity, water chemistry, well construction and contaminant sources. The susceptibility rating of the City's (current) 13 wellfields is: Moderate (2 wellfields), Moderate High (10 wellfields) and High (3 wellfields). For more information contact the Public Services Programs Manager at 311 or (269) 337-8000.

Contaminants and their presence in water: Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline 800-426-4791.

Vulnerability of sub-populations: Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline 800-426-4791.

Sources of drinking water: The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Monitoring Data for Regulated Contaminants

Regulated Contaminant	MCL, TT, OR MRDL	MCLG OR MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contamination
*Nitrate (ppm)	10	10	1.6	1.3-1.6	2020	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
*Fluoride (ppm)	4	4	0.79	0.29-0.79	2020	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
*Sodium[1] (ppm)	N/A	N/A	41	10-41	2020	No	Erosion of natural deposits
*TTHM Total Trihalomethanes (ppb)	80	N/A	18	N/A	2020	No	Byproduct of drinking water disinfection
*HAA5 Haloacetic Acids (ppb)	60	N/A	7	N/A	2020	No	Byproduct of drinking water disinfection
Chlorine[2] (ppm)	4	4	0.95	ND-1.06	2020	No	Water additive used to control microbes
Inorganic Contaminant Subject to Action Levels (AL)	**Action Level**	**MCLG**	**Your Water[3]**	**Range of Results**	**Year Sampled**	**Number of Samples Above AL**	**Typical Source of Contaminant**
Lead(ppb)	15 15	0 0	8 1	ND-54 ND-3	1/1/20-6/30/20 7/1/20-12/31/20	1 0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3 1.3	1.3 1.3	1.0 0.9	ND-1.2 ND-1.0	1/1/20-6/30/20 7/1/20-12/31/20	0 0	Corrosion of household plumbing systems; Erosion of natural deposits

[1] Sodium is not a regulated contaminant.
[2] The chlorine "Level Detected" was calculated using a running annual average.
[3] Ninety (90) percent of the samples collected were at or below the level reported for our water.

UCMR TESTING 2018 & 2019

The City of Kalamazoo was in compliance for all treatment techniques in 2020.

Analyte	Units	Lowest	Highest	Average	Violation Yes/No
Germanium µg/L	µg/L	ND	0.370	0.122	N
Manganese µg/L	µg/L	ND	261	256	N
o-Toluidine µg/L	µg/L	ND	0.562	0.036	N
Total Haloacetic Acids (5) µg/L	µg/L	10.60	18.82	15.01	N
Total Haloacetic Acids (6) µg/L	µg/L	12.98	21.60	17.62	N
Total Haloacetic Acids (9) µg/L	µg/L	16.70	26.80	22.23	N

* Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.
** A lead level of 2 ppb was detected at a pumping station in 2014.

2020 PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) MONITORING

Regulated Contaminant	MCL, TT, or MRDI	MCLG or MRDLG	Highest Running Annual Average	Results Range	Violation Yes/No	Typical Source of Contaminant
Perfluorobutane sulfonic acid (PFBS) (ppt)	420	N/A	9.8	ND-13	NO	Discharge and waste from industrial facilities; stain-resistant treatments
Perfluorohexane sulfonic acid (PFHxS) (ppt)	51	N/A	4	ND-4	NO	Firefighting foam; discharge and waste from industrial facilities
Perfluorohexanoic acid (PFHxA) (ppt)	400,00	N/A	3.8	ND-4	NO	Firefighting foam; discharge and waste from industrial facilities
Perfluorooctane sulfonic acid (PFOS) (ppt)	16	N/A	5	ND-8	NO	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities
Perfluorooctanoic acid (PFOA) (ppt)	8	N/A	4	ND-4	NO	Discharge and waste from industrial facilities; stain-resistant treatments

While your drinking water meets EPA's standards for arsenic, it does contain low levels. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Water QUALITY DATA

More than 30,000 tests were performed on our drinking water in 2020!
All were within state and federal drinking water standards.

The table (left) lists all the drinking water contaminants that we detected during the 2020 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2020. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All the data is representative of the water quality, but some are more than one year old.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the levels of certain contaminants in water provided by public water systems. Federal Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

Definitions of terms and abbreviations:

- Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- N/A: Not applicable
- ND: not detectable at testing limit
- ppb: parts per billion or micrograms per liter
- ppm: parts per million or milligrams per liter
- pCi/l: picocuries per liter (a measure of radioactivity).
- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Lead and Copper PROGRAM

The City of Kalamazoo has removed all lead and galvanized service lines in the City of Parchment, and 2020 lead and copper monitoring programs indicate Parchment is no longer in exceedance of the lead action level! See page 3 for full details.

Information about lead: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Kalamazoo is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Infants and children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

The City of Kalamazoo Performance Standards for groundwater and stormwater can be found at: www.kalamazoocity.org/environment and https://protectyourwater.net/stormwater-regulations/

If you would like to address issues in a public forum, the City of Kalamazoo Commission meetings are held on the 1st and 3rd Monday of each month at 7:00 p.m. in City Hall at 241 West South Street, Kalamazoo, Michigan 49007.

By April of 2020, the City of Kalamazoo identified Parchment's unknown service lines and replaced ALL lead and galvanized service lines with copper. There are currently no lead or galvanized service lines remaining in the Parchment distribution system.

Information on Boil Water Advisories and customer communications is available at: https://www.kalamazoocity.org/bwa

Additional copies of this report are available at https://www.kalamazoocity.org/waterqualityreport,
We invite public participation in decisions that affect drinking water quality. For specific concerns about drinking water, contact the City of Kalamazoo at (269) 337-8000. If you need more information about your water or the contents of this report, contact the City of Kalamazoo at (269) 337-8000 or 311.
For more information about safe drinking water, visit the U.S. EPA at http://www.epa.gov/safewater/.

The City of Kalamazoo
241 West South Street | Kalamazoo, MI 49007
hello@kalamazoocity.org | www.kalamazoocity.org

THE CITY OF Kalamazoo

CONSUMER CONFIDENCE REPORT 2020		
	Organization	**2021 Date Delivered**
City of Parchment		
1	City of Parchment - 650 South Riverview Drive	6/17/2021
2	Little Treasures Preschool at Haven Reformed Church - 5350 N. 25th St	6/17/2021
3	Parchment Central Elementary - 516 North Orient Street	6/17/2021
4	Parchment ECDD - 516 North Orient Street	6/17/2021
5	Parchment High School - 1916 East G Avenue	6/17/2021
6	Parchment Methodist Co-op Preschool - 225 Glendale Blvd.	6/17/2021
7	Parchment Middle School - 307 North Riverview Drive	6/17/2021
8	Parchment North Elementary - 5535 Keyes Drive	6/17/2021
9	Parchment Northwood Elementary School - 600 Edison Street	6/17/2021
10	Parchment Early Learning Center - 600 Edison Street	6/17/2021
11	Parchment School District - 520 North Orient Street	6/17/2021
12	Happy Kidz DayCare - 2217 Glendale Blvd.	6/17/2021
13	Lisa Nichols - 314 North Riverview Drive	6/17/2021
14	Sherry VanMaaren - 2417 Spartan Drive	6/17/2021
15	Spring Valley Peep GSRP - ~~3520~~ 3530 Mt. Olivet Road	6/17/2021
16	Margot Mielke - 2832 Glenhaven Avenue	6/17/2021
17	Desiree's Darlings - 3326 Sunfield Street	6/17/2021
18	New Life Head Start - 1912 Birch Avenue	6/17/2021
19	Lola Appelgren - 5310 Lindenwood	6/17/2021
20	Carrie Bockstanz - 5166 Sharon Street	6/17/2021
21	Miss Patty's Daycare - 2330 Mt. Olivet	6/17/2021
22	Tam's Sunshine House - 861 East G Avenue	6/17/2021
23	Parchment Community Library - 401 South Riverview Drive	6/17/2021
24	Parchment United Methodist Church - 225 Glendale Blvd.	6/17/2021
25	Tabernacle Church of God in Christ - 3210 Virginia Avenue	6/17/2021
26	St Ambrose Catholic Church - 1628 East G Avenue	6/17/2021
27	United General Baptist Church - 2772 Roosevelt Avenue	6/17/2021
28	Parchment Christian Church - 1615 East G Avenue	6/17/2021
29	Parchment Trinity Temple Seventh-Day Adventist Church - 1615 E G Ave.	6/17/2021
30	Faith Life Church - 310 South Riverview Drive	6/17/2021

Water Resources

This page is about the City of Kalamazoo Water Supply System and Water Resources Division. For water & utility service information, please visit www.kalamazoocity.org/utilities.

The City of Kalamazoo Public Water Supply System is the second largest groundwater-based drinking water system in Michigan and is ranked one of the lowest for water rates out of the twelve largest systems within the state. The City has a **Michigan Department of Environment, Great Lakes, and Energy (EGLE) approved Wellhead Protection Program**, and in 2014 was awarded the Exemplary Source Water Protection Award by the American Water Works Association. Kalamazoo has also been designated a Groundwater Guardian Community by the **Groundwater Foundation** every year since 1998. Kalamazoo's water system provides 19 million gallons of water on an average day to nearly 200,000 customers within 11 jurisdictions. The system includes approximately 831 miles of watermain and 6,225 hydrants.

Every year, the City of Kalamazoo publishes a **Water Quality Report** in compliance with the Safe Drinking Water Act. However, much of the information provided in this report, along with additional monitoring and testing conducted throughout the year, are provided as an extra service to our customers. The City is also in compliance with the Safe Drinking Water Act Lead & Copper Rule and has had a proactive annual lead and copper service replacement program for over twenty years. The City's laboratory also offers free lead & copper testing for concerned customers by calling (269) 337-8550.

The Water Resources Division also oversees the City's **Environmental Services** programs.

- Water System Upgrades (2020)
- Water Quality
- Water System Fixed Asset Reports
- Water System Advisory Council
- Lead & Copper Program
- Flushing Your Property's Plumbing
- Hydrant Flushing
- Boil Water Advisories

Water Quality Reports

- Water Quality Report, Parchment, 2020 (pdf, 514 KB) (651 downloads) Popular
- Water Quality Report, Kalamazoo, 2020 (pdf, 1.23 MB) (1424 downloads) Popular
- Water Quality Report, Parchment, 2019 (pdf, 424 KB) (1507 downloads) Popular
- Water Quality Report, Kalamazoo, 2019 (pdf, 1.09 MB) (4011 downloads) Popular
- Water Quality Report, 2018 (pdf, 735 KB) (7727 downloads) Popular
- Water Quality Report, 2017 (pdf, 847 KB) (4899 downloads) Popular
- Water Quality Report, 2016 (pdf, 7.16 MB) (4353 downloads) Popular
- Lead and Copper Report, 2016 (pdf, 9.65 MB) (3157 downloads) Popular
- Water Quality Report, 2015 (pdf, 9.84 MB) (2518 downloads) Popular
- Water Quality Report, 2014 (pdf, 5.22 MB) (2317 downloads) Popular
- Water Quality Report, 2013 (pdf, 5.25 MB) (2342 downloads) Popular

Lead and Copper Program

Keeping Kalamazoo's Drinking Water Safe from Lead

The City of Kalamazoo is pleased to report that the most recent Kalamazoo Lead and Copper Monitoring Results **continue to be below** Federal and State Action Levels. The following table summarizes the lead and copper data collected during the most recent monitoring period between July 1 and December 31, 2021:

Action Level	90th Percentile Value
Lead 15 parts per billion (ppb)	**13 ppb**
Copper 1.3 parts per million (ppm)	0.7 ppm

The action level is a measure of corrosion control effectiveness and is not a health-based standard. To meet the requirements of the Lead and Copper Rule, 90 percent of the samples collected must be below the action level. **The City of Kalamazoo currently meets these requirements**, and the vast majority of customers tested were at or below the lowest level of detection for lead.

If you would like more information, contact the City of Kalamazoo at (269) 337-8000 or 311. Information on lead in drinking water can be found at http://www.epa.gov/safewater/lead. A second monitoring program began in July 2020 and will be completed in December 2020. Results of the program will be reported in 2021.

Kalamazoo Water

The City of Kalamazoo Public Water Supply System is the largest groundwater -based drinking water system in Michigan and **does not** have lead in its water mains or wells. However, lead can enter drinking water when it is in contact with pipes, solder, home/building interior plumbing, fittings and fixtures that contain lead. The City of Kalamazoo is committed to providing safe and reliable drinking water to Kalamazoo and its surrounding communities and remains in compliance with the Michigan Department of Environment, Great Lakes and Energy's (EGLE) strict 2018 Lead and Copper Rule revisions.

Safe Water Treatment

The City has utilized a corrosion control program since 1956 that works to reduce water corrosiveness to pipes, fittings and fixtures containing lead and copper. To test the effectiveness of our program, the City of Kalamazoo performs routine monitoring of corrosion control parameters within the water distribution system and testing for lead and copper in customers' homes. Our Public Services Department periodically evaluates the most effective corrosion control methods available and additional ways to further enhance this program.

Lead Service Replacement

A proactive annual capital improvement program has been in place for over twenty years to address lead service replacements. In 2020, the City of Kalamazoo is on track to meet our goal of replacing over 500 non-copper water services to residences and businesses. This work is made possible by water utility rate payers, the Foundation for Excellence, and the State of Michigan Drinking Water Revolving Fund.

There are currently more than 8,400 non-copper services which require replacement. The City of Kalamazoo is conducting a thorough inventory throughout the year and any updates to these numbers will be listed in future **Water Quality Reports**. Customers whose service lines are undefined or contain lead have been notified. New customers are notified if a lead or undefined service line serves their home at the time of connection. If you are not sure what your water service is made of, please call 311 or (269) 337-8000 for help, or you can use this online tool: **https://apps.npr.org/find-lead-pipes-in-your-home/en/#intro**.

Lead and Copper Monitoring

Lead and copper monitoring programs target homes that are likely to have the highest concentrations of lead in their drinking water. This includes those with lead service lines as well as homes with copper plumbing built before lead solder was outlawed in the late 1980's. EGLE added more rigorous monitoring and testing methods in 2018 to the revised Lead and Copper Rule. Even with these changes, **the City of Kalamazoo has not exceeded the state and federal action levels for lead and copper since monitoring began in 1972.**

Our Commitment to Service: Lead and Copper Testing, Filters, and Lead Service Line Replacements

Kalamazoo has provided free lead and copper testing to customers for over 25 years. NSF Certified point of use filters are also provided at no charge to homes with a lead or un-defined service line to safely remove lead. Call (269) 337-8550 if you have any questions about these services, or to arrange for free lead sampling. For help finding out if you have lead service lines in your home, you can call 311 or (269) 337-8000. Prioritized lead service line replacement is provided for any home testing above the action level.

View lead service replacements since 2015

Health Effects

Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead could experience delays in their **physical or mental development. Children could show slight deficits in attention span and learning abilities.** Adults who drink this water over many years could develop kidney problems or high blood pressure.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Kalamazoo is responsible for providing high quality drinking water but cannot control the variety of materials used in household plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Please contact the City of Kalamazoo Laboratory Supervisor at (269) 337-8550 for testing. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/lead.

Copper

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Reduce Your Risk

To reduce exposure to lead and copper in drinking water:

- Run your water before drinking . The more time water has been sitting in your home's pipes, the more lead it may contain. Therefore, if your water has not been used for several hours, run the water before using it for drinking or cooking. This flushes lead-containing water from the pipes. Additional flushing may be required for homes that have been vacant or have a longer service line.
    - If you do not have a lead service line, run the water for 30 seconds to two minutes until it becomes cold or reaches a steady temperature.
    - If you do have a lead service line, run the water for at least five minutes to flush water from both the interior building plumbing and lead service line.
- Use cold water for cooking and preparing baby formula . Do not cook with or drink water from the hot water tap; lead dissolves more easily in hot water.
- Do not boil water to remove lead . Boiling water will not reduce lead levels.
- Consider using a filter to reduce lead in drinking water. Read the package to be sure the filter is NSF 53 certified to reduce lead or contact NSF International at 800-NSF-8010, or www.nsf.org for more information.
- Consider purchasing bottled water. The bottled water standard for lead is 5 ppb
- Identify if your plumbing fixtures contain lead . New faucets, fittings, and valves, may contain up to 8 percent lead including those advertised or labeled as "lead-free" and may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions.
- Clean your aerator. As part of routine maintenance, the aerator should be removed at least every six months to rinse out any debris that may include particulate lead.
- Get your child tested. Contact your local health department or healthcare provider to find out how you can get your child tested for lead if you are concerned about exposure

Although the primary sources of lead exposure for most children are deteriorating lead-based paint, lead- contaminated dust, and lead-contaminated soil, the U.S. EPA estimates that 10 to 20 percent of human exposure to lead may come from drinking water. Infants who consume mostly mixed formula can receive 40 percent to 60 percent of their exposure to lead from drinking water.

For more information on reducing lead exposure around your home and the health effects of lead, visit the U.S. EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

For more information on copper, visit the United States Center for Disease Control website at www.atsdr.cdc.gov/index.html, or contact your health provider.

Current State Managerial Capacity

Section C14

Managerial Capacity Current State

Overview of Study Scope

Applied Asset Management assessed and interviewed a total of 12 staff whose role consists of managerial or supervisory capacity overseeing direct reports and activities within the Water Resources Division (WRD). These positions included:

- WRD Manager
- Water Superintendent/Assistant City Engineer
- Water Distribution Manager
- Asset & Records Manager
- Environmental Services Programs Manager (ESPM) – Water
- Water Operations and Maintenance Supervisor, now Water Operations & Maintenance Manager
- Water Distribution Supervisor
- Two Water Field Supervisors
- Three Senior Water Civil Engineers

We also administered to each manager and supervisor a written time assessment that provided invaluable input during individual interviews and enabled us to verify their time allocation to specific activities and respective job description. This information aided in creating the current and future state opinions of time allocated over the course of a calendar year for activities in comparison to respective job description. This evaluation was not meant to be an exact science; however, it was intended to provide a high-level view of the current gaps in managerial and certain staffing capacity levels within the WRD organizational chart.

Our assessment period was from June – December of 2021. During this period, Public Services senior leadership and the WRD were diligently working to fill remaining vacant positions along with adding critical positions necessary for its business operations.

The Public Services Director and Deputy Director are senior managers over the Water, Wastewater, Public Works, and Support Services divisions under the Public Services Department span of control. We did not assess the current allocation of their respective time spent on activities per division since they hold each Water, Wastewater, Public Works, and Support Services division manager accountable for operational, employee, and activity management within their respective infrastructure systems and organizational charts. More appropriately, we interviewed the Public Services Director and Deputy Director as part of the U.S. Environmental Protection Agency (USEPA) Managerial Capacity Assessment. The results are presented in Section C15.

We interviewed the Environmental Services Program Manager whose role oversees laboratory testing for drinking water. Even though this position is under the Wastewater Division organizational chart, it is responsible for administrating and reporting PA399 testing requirements for drinking water and is responsible for the Standard Operating Procedures (SOPs) related to drinking water testing. This position provides crucial insight into water regulations that dictate water quality sampling and recording by the Water Supply operations and maintenance (O&M) functional unit operators.

We also interviewed the Process Control Engineering Supervisor, a position responsible for water operations instrumentation, process controls and implementation of the new water supervisory control and data acquisition (SCADA) system. The person in this position also provided valuable insight to the challenges in transitioning from an old operating system to the new SCADA technology within water supply operations. The Instruments Records Specialist also reports to the Process Control Engineering Supervisor and is responsible for water and wastewater facility (stations for Water) records management. Both positions report within the Wastewater Division organizational structure.

An FTE portion of the Environmental Services Program Manager, Process Controls Engineering Supervisor, and Instrument Records Specialist are financially supported from the Water System Fund.

We also interviewed the Water Distribution Field Supervisor and the Support Services Division Manager prior to their exit from the organization at the time of this assessment. Their position summaries were not prepared or included in this report, but we believe their testimony provided institutional value related to practices, culture, and challenges impeding WRD activity health and productivity in the context of Managerial Capacity and PA399.

The following current state analysis is supported by other key findings from the Asset Management Maturity Assessment and the USEPA Managerial Capacity Assessment located in Section C15.

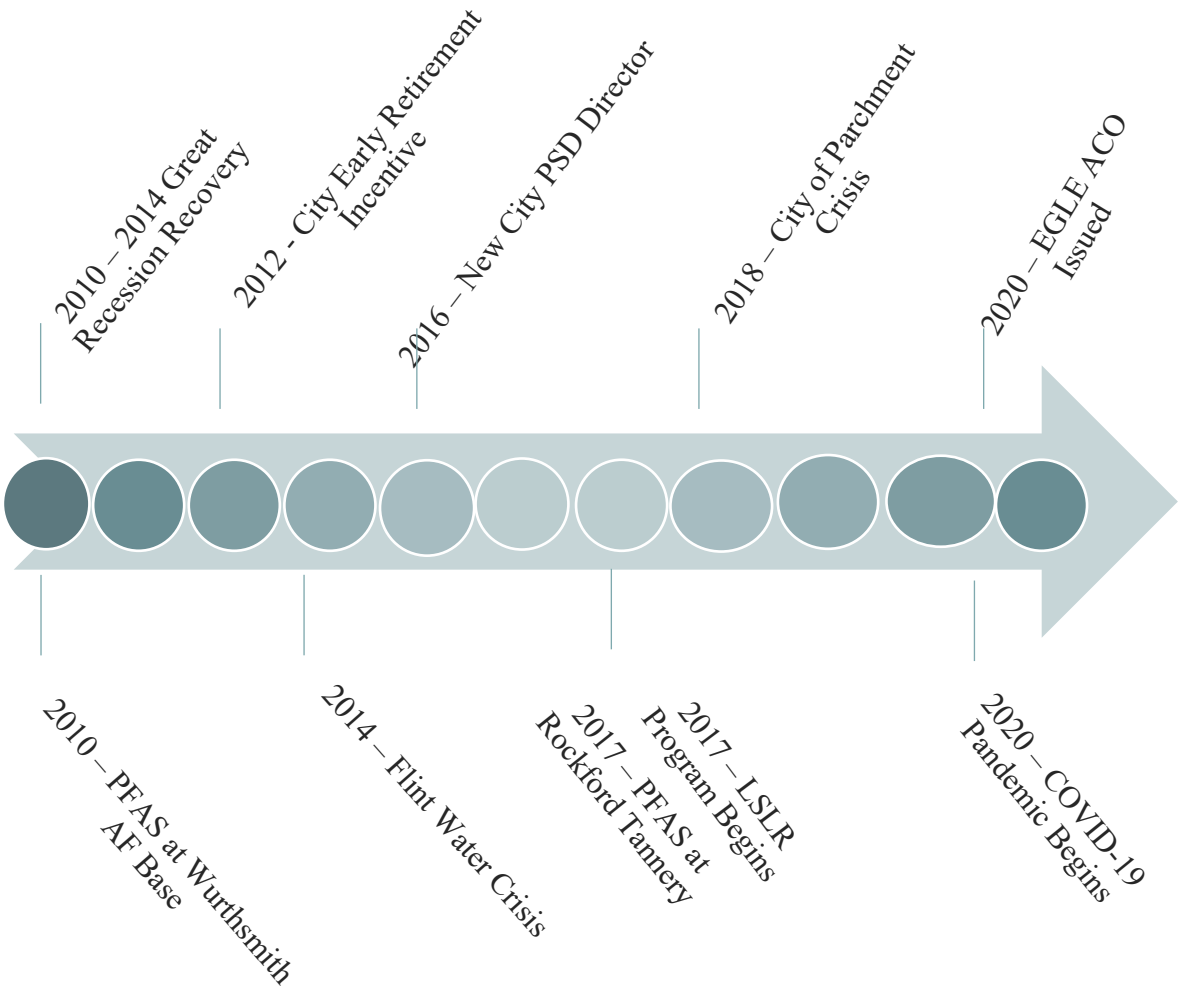
The proceeding section is organized by first providing the current state over-arching divisional managerial capacity followed by a current state managerial capacity summary within each functional unit. Each functional unit is responsible delivering effective results from water programs, processes, or activities in accordance with PA399, the WRD Strategic Asset Management Plan, and the City's Imagine Kalamazoo 2025 Community Master Plan (IK2025).

Historical Context

Historical Context

The 2008 Great Recession and subsequent events since then (Figure 1) have had long-lasting impacts to the City of Kalamazoo municipal organization and its infrastructure divisions under the umbrella of the Public Services Department. In 2012, City of Kalamazoo implemented an Early Retirement Incentive (ERI) strategy to contract its organizational human assets and address several fiscal liabilities and financial resiliency issues facing the City. Over the next two years, the Public Services Department reduced its staffing levels from 287 full-time equivalent (FTE) employees to 177. The ERI effects are still felt today in which this Administrative Consent Order and ensuing WRD Capacity Study response presents an opportunity for institutional and business transformation.

Figure 1 – City of Kalamazoo Water Resources Division Timeline 2010 - 2022



Decade of Change

National, state, and local events in public drinking water systems have altered the direction and approach to water quality, testing, and reliability. The water industry pace of change requires flexible, responsive, and adaptable operations. The United States Environmental Protection Agency is leading an Asset Management approach and transformation across the country in managing water infrastructure. State regulatory agencies are implementing this change, and almost simultaneously, must address aged water distribution systems and water quality issues like lead, copper, and the "forever" chemicals of PFAS. Figure 1 highlights some of the recent historical events in Michigan, especially the Flint water crisis, that have forever changed the water regulatory environment for state municipal drinking water systems. The national narratives on water infrastructure and water quality were very different pre- and post-Great Recession, with the latter focusing on increasing water capital investment and dealing with lead levels in drinking water. This caused the WRD to re-examine the City's level of service for delivering safe drinking water in the context of their own:

- Aging water infrastructure which needed an ambitious capital investment program.

- Increasing water maintenance with an aging system.
- Replacing outdated SCADA technology for operations of a complex water asset system.
- Executing an aggressive Lead Service Line Replacement (LSLR) program.
- Increasing regulatory water testing requirements.

Recognizing these demands, the Public Services Department and WRD responded by ramping up its human and financial investment capacities beginning in 2016. This ACO and Capacity Study response presents an opportunity to formally capture those initiatives and implement a transformative plan that establishes future state staffing levels toward a sustainable path in the context of the historical events.

Organizational Contraction

Depending on size of municipality, financial resiliency, and other factors, many municipal recovery periods ranged between 2-4 or more years post Great Recession. Other major historical events occurred at the same time frame as the Great Recission recovery period, particularly in the regulatory arena. One of the greatest historical regulatory events was the City of Flint water crisis which had lasting effects throughout the municipal drinking water industry.

Due to a combination of annual revenue impacts and long-term financial liabilities resulting from the Great Recession, the City implemented an ERI in 2012 to all eligible employees. The mathematical result throughout the department and WRD was disproportionate. As a result, Public Services indicated that 110 FTEs separated from the department. More importantly, the average employee experience level in their respective position dropped from 24-25 years to 3 years or less. This Capacity Study notes evidence of new WRD managers, superintendents and supervisors challenged by limited experience levels in managerial skillsets whose responsibilities are to oversee people and processes in their new manager role.

Organization Structural Changes

In 2016, James Baker became the Public Services Director while Teresa Johnson joined as Deputy Director. Mr. Baker exhibits strong technical skills as a S-1 and D-1 licensed operator and registered professional engineer registered in the state of Michigan. Ms. Johnson has strong skills in human capital, purchasing, and finance. Together, they bring senior leadership and complimentary skillsets to the Public Services Department and WRD.

The new departmental senior leadership implemented structural changes to the Public Services Department creating four distinct divisions with respective managers. Hence, the WRD was established with its principal manager. Please refer Section C3 for the current WRD organizational chart.

Responding to Evolving Demands

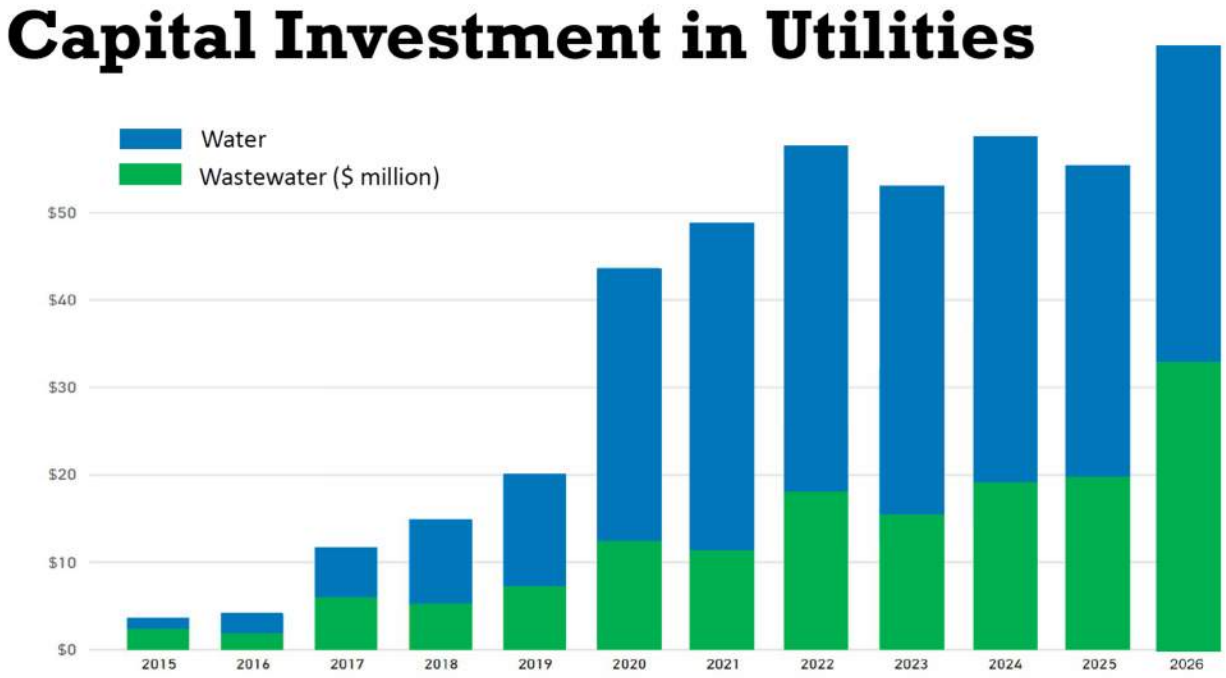
Events in other Michigan Communities precipitated an increase in regulatory testing for chemicals like PFAS, and the from Michigan Lead and Copper Rule. The latter impacted the pace of LSLR within all Michigan communities. Locally, City of Parchment PFAS detection in the public drinking water system resulted in changing water sources to the City of Kalamazoo. The institutional agility between the Public Services Department and WRD enabled this transfer to the City's water system in a relatively seamless manner.

Realizing in 2017 that the current $1.5–$3.0 million annual capital investment rate for the water asset system and the reduced FTE resources from the ERI was unsustainable, coupled with the regulatory effects from the Flint water crisis, Public Services and WRD began to chart a new course. Beginning in 2016, Public Services senior leadership and the WRD began an ambitious water capital investment program (as shown in Figure 2) to replace aging water mains and outdated pumping stations, and equipping facilities with new treatment systems, technology, and testing appliances for the evolving regulatory landscape. This also included new elevated water

storage tanks for capacity needs throughout the system. From 2016-2020, water capital investment levels have increased to a $30–$40 million annual water Capital Improvement Program (CIP).

The City's increased laboratory investment for water quality monitoring with newer testing apparatus, equipment, and updated SOPs to adapt to regulatory demands. Prior to 2017 the laboratory consisted of 11 staff that included the Environmental Services Manager, 5 Technicians, 4 Technician II positions, and 1 Sampling Technician I. Beginning in 2017, staffing levels were supplemented with an additional Laboratory Supervisor position, 2 additional Technician positions (in response to the Parchment PFAS incident), and an additional Laboratory Sampling Supervisor position.

Figure 2 – City of Kalamazoo Water Capital Investment



WRD Transformation

The Michigan Department of Environmental, Great Lakes, and Energy (EGLE) issued an Administrative Consent Order to the City requiring a Capacity Study be performed on its public drinking water system business operations among other applicable scopes of work. Public Services Department and WRD have embraced this formalized and structured approach that validated prior initiatives that began in 2016 and will recommend resources to support a transformation for a future state of sustainable business operations rooted in Water Asset Management best practices. This Capacity study enables the WRD to grow smart and consider future staffing levels as the future state recommends.

Water Resources Division

Service Package Description

The WRD is responsible for managing a 45 MGD capacity Groundwater Supply System, the second largest groundwater based Public Water Supply System in Michigan, serving 11 units of municipal government. Individual functional units are responsible for Water Engineering and Records, Water Operations and Maintenance, Water Distribution, Stormwater Collections, and Environmental Programs Management. (Please refer to Section C4.) The WRD is also responsible for the development and implementation of regulatory and organizational objectives

including Safe Drinking Water Act (PA399) and Clean Water Act requirements; monitors applicable laws and regulations and ensures divisional adjustments are made when necessary. Other related divisional responsibilities include but are not limited to:

- Divisional plans, policies and objectives including a Water Emergency Response Plan, Groundwater Source Development, Well Maintenance and Replacement Program, City property contamination liabilities, and SOPs.
- Developing and monitoring departmental budget and assisting in the development of the multi-million-dollar CIP and O&M budget.
- Leading the Water Management Group, Lead and Copper Program Project Team, Cross-Connection Program Project Team, Illicit Discharge Elimination Team, and other program and project teams as needed.
- Participation on various external committees like the state Drinking Water Committee, Utility Policy Committee, or County-wide Emergency Planning Committee.
- Public outreach and education.

Management Composition & Structure

The WRD Manager directly reports to the Public Services Deputy Director. The WRD Manager has four (4) direct reports:

- Water Distribution Manager
- Water Superintendent/Water Assistant City Engineer
- Asset & Records Manager
- Environmental Services Program Manager – inclusive of Water and Storm Water

Secondary or tertiary levels of supervisors are illustrated in the WRD organizational chart in Section C3. As a collective water management group, this study acknowledges the following attributes and challenges:

- Water Management Positives:
  - Technically competent
  - Dedicated
  - Practical understanding of water asset system
  - Voracious learners
  - Coachable
  - Focus on growing a shared knowledgebase across multiple functional units
- Water Management Challenges:
  - Gaining experience and acquiring managerial skillsets that focus on managing and developing people. Due to the ERI effects and subsequent recent attrition, many WRD manager and supervisors overseeing direct reports have zero to three years' experience in their current positions.
  - Learning and growing interpersonal skillsets
  - Transitioning from "Managing Assets" to practicing Asset Management

Current State – Managerial Capacity Levels

Applied Asset Management conducted an FTE evaluation of the WRD managerial positions to compare actual manager/supervisor activity with their current job description (Section C4) and competency requirements for practicing Asset Management (See Sections C and D) within their functional area and level of managerial supervision. The intent of this approach was to identify gaps in managerial capacity against best management practices in Asset Management.

Traditionally, accounting practices refer to an FTE of 1.0 for any employee performing 40 hours of work within a 40-hour work week in their respective job position. Performance and workload management challenges arise

when employees are consistently and excessively exceeding 40 hours of work week activity, and the degree to which this occurs has not been documented until this assessment. Normally it would be acceptable if actual employee activity was routinely less than an FTE of 1.25. An FTE of around 1.25 – 1.50 should trigger a closer examination of resource allocation while a consistent FTE value of greater than 1.50 would indicate a need for additional staffing to support business demands.

Our evaluation is based on a net 1,752 hours available for municipal employee activity in a calendar year. We have determined this based on the following assumptions that are traditionally realistic for a municipal agency:

1. Possible hours in a calendar year are 2080 hours.
2. 4 weeks paid vacation.
3. 13 recognized public holidays per Congress.

We recognize that staff cover for each other when paid leave is used and someone must assume the additional workload. Beyond this principle, actual duties may begin to stray from job descriptions when activity demands fluctuate, and roles become ambiguous. Therefore, in our professional opinion, an FTE evaluation based on possible available hours is more realistic for determining business continuity and sustainability within the context of PA399.

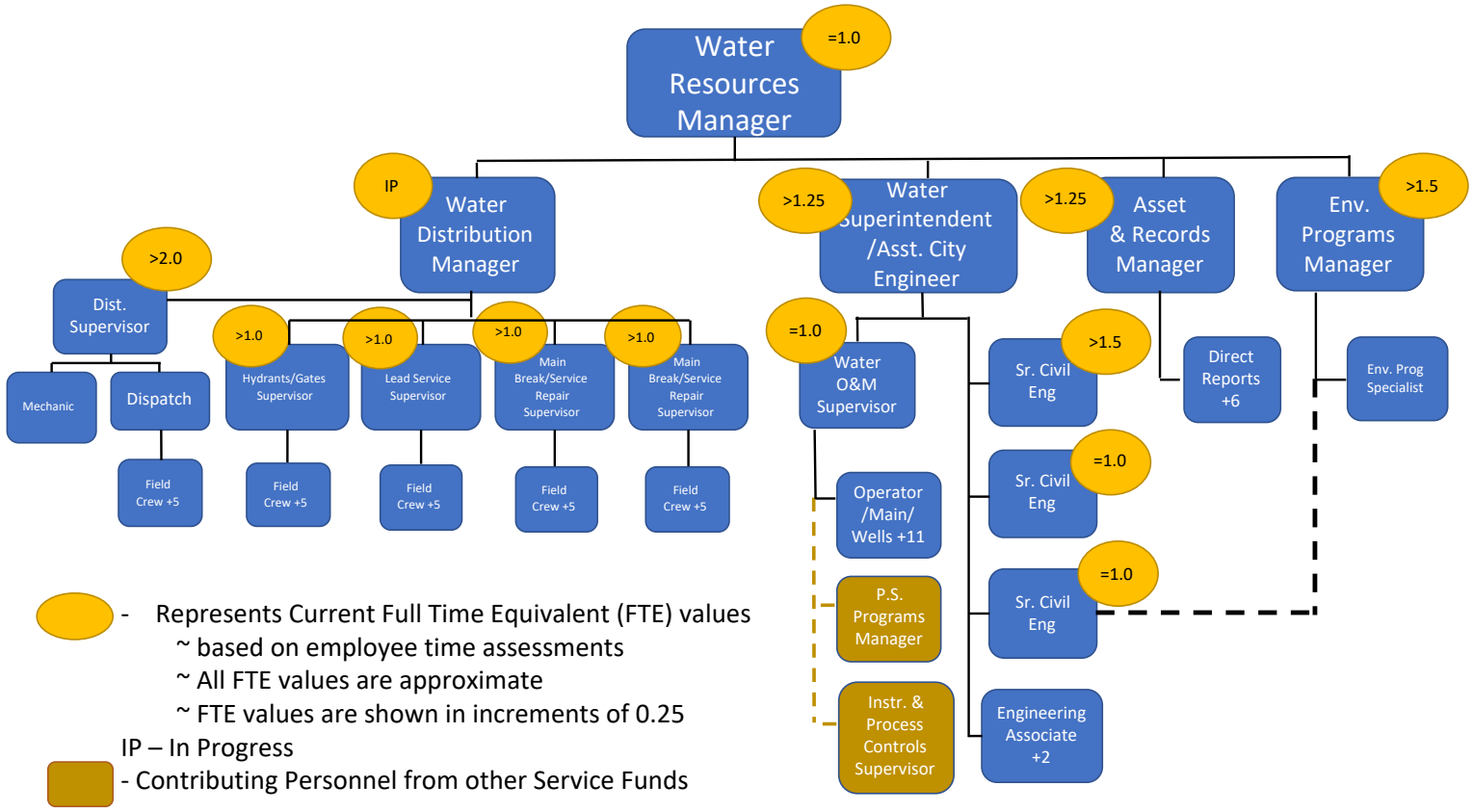
Figure 3 illustrates a current state FTE value of 61.0 for the most recent WRD organizational structure. Our observations inform the following current state environment that translate into managerial capacity gaps, including but not limited to:

1. Skewed FTE values representing new managers and supervisors for they are still learning and growing into their positions. This is normal and will eventually refine itself to a consistent FTE value, at which point, may need to be evaluated if too excessive.
2. The Water Distribution Manager FTE value is undetermined at this time since this position has been most recently filled and is evolving as this individual adapts to the duties, activities, and direct reports. We have no available information from this position predecessor to gauge an FTE value. We are currently working with the Water Distribution Manager and Supervisor with workload forecasting of field programs to improve their understanding of field supervisor and field crew staffing levels.
3. The Asset & Records Manager has an FTE greater than 1.25 due to her newness to the position and performing activities that should be assigned to a lower-level employee, which is unavailable and indicates a staffing deficiency. Additional detail is provided in the individual functional unit summary within this section.
4. FTE's requiring a closer business examination include the Water Distribution Supervisor, Water Senior Civil Engineer, and Environmental Service Programs Manager. A combination of process optimization, resourcing strategies, managerial skillsets, technology, and removal of non-value creating activity may reduce the FTE values to near acceptable levels. We recommend mapping and evaluating workflows of primary processes within these functional units as part of this Capacity Study implementation plan as an approach to "right-sizing" staffing levels with optimized workflows. Other tools that may improve their managerial capacity include developing resourcing strategies associated with both the WAMP and Capital Improvement Planning, forecasting program and activity workload to improve individual assignments and monitoring, learning time management skills, leveraging technology to improve workflow efficiency, and adopting a practice of continuous improvement to annually revisit these positions and render decisions at that time for any staffing level adjustments. For the Water Engineering functional unit, this is important to assess as the City's Water Capital Investment Program is very aggressive and staffing challenges exist to deliver it efficiently and effectively.
5. Water Distribution Field Supervisors may always exceed an FTE of 1.0 or more. Their workload is dictated by field program and regulatory demands such as the LSLR program, hydrant flushing, incident response, and other planned and unplanned activities. The ability to balance internal and external resources in delivering field programs is considered the managerial gap. Also noted is identifying planned versus unplanned field

services and the ability to better mitigate unplanned work. Managerial capacity gaps are evident in the lack of using best management practices like workload forecasting which improve the balance between internal and external resources. Using the Lean A3 modeling tool to analyze and assess unplanned work may help reduce these disruptions while improving continuity and effectiveness of planned work.

6. Water O&M Supervisor FTE value is less than what is recommended as compared to the future state (refer to Section D3) due to of several managerial capacity gaps that exist within the functional unit. We examine this functional unit in further detail within this section of the report.

Figure 3 – Existing Managerial Capacity



Managerial responsibility is highest at the WRD Manager position and decreases as positions become more programmatic. In any manager, superintendent, or supervisor position, core managerial skillsets are required.

"Managing Assets" versus Practicing Asset Management

Our assessment discovered the WRD current state mode of operations as being reactive as opposed to being proactive. The Institute of Asset Management refers this type of current state as "Managing Assets" rather than practicing "Asset Management". Managing Assets are things people do to assets and may be done with or without a structured organizational strategy and context. An organization gains more value from Managing Assets over their entire lifecycle within a context of organizational purpose and strategy that steers this activity and becomes a best practice management style for its infrastructure called Asset Management. Hence, Asset Management is an organization's coordinated activity to realize value from its assets. This Managerial Capacity Study evaluated the WRD current state in this context and analyzed the gaps that exist in attaining a future state with recommendations that assist in implementing the practice of Asset Management to achieve long-term strategic community objectives.

Lifecycle Delivery is referenced multiple times within this study and is considered a managerial capacity gap. Infrastructure assets have a service life over a defined period called a cycle. The phases of an asset's lifecycle may appear like:

Figure 4 – Lifecycle Phases of an Asset

Asset infrastructure value may be realized over its entire lifecycle, where costs may be associated at each step of the asset service life. In this case, the total expenditure (TotEx) of owning, operating, maintaining, and disposing an asset over its entire lifecycle may be measured and compared. In Asset Management, this process is called Lifecycle Value Realization or understanding the quantifiable value associated with an asset or portfolio of assets over their entire lifecycle. The TotEx is the sum of the Capital Expenditure (CapEx) and the Operating/Maintenance/Disposal (OpEx) costs associated with asset infrastructure. For example, up to 20% of infrastructure asset TotEx may be expended during the acquisition, design, and construction (CapEx) of an asset while up to 80% may be associated with the operation, maintenance, and eventual disposal (OpEx) of an asset. During the operations and maintenance phase, regular condition assessments on asset infrastructure are extremely important since they help predict deterioration curves, estimate the remaining residual life, or may extend the service life of an asset. Similarly, decisions on products and materials during asset design may influence the operating labor and energy costs and preventive maintenance interventions and expenditures. Design decisions may also influence not only remote components but also entire systems along with upstream and downstream impacts. Therefore, it is important for any organization to understand impacts and risks associated with an asset's lifecycle and their TotEx in the context of decision-making. From a business operations perspective, each step of an asset infrastructure's lifecycle contains many field activities and administrative processes that dictate the overall expense. Hence, a Lean Thinking approach may also reduce the TotEx associated with an asset's lifecycle. Preventive maintenance is discussed throughout this study with significant emphasis, because without practicing this concept, organizations may become trapped in a reactive and corrective mode of operation that impacts an asset's TotEx and risk. Increased risk may challenge the pace of attaining long-term organizational objectives, and when they occur, may impact an asset infrastructure portfolio financial resiliency. For more information on this topic, and related subjects, please refer to the Asset Management Gap Analysis and 'Roadmap' in Section D3.

The current state demonstrates a reactive mode of operations as observed from symptoms discovered in our assessments, including but not limited:

- Troubleshooting problems.
- Consumed with meetings, electronic correspondence, or frequently responding to emails and voicemails.
- Attending to frequent internal and external stakeholder inquiries.
- Oversight of functional units due to health, performance, and productivity matters.
- Addressing position vacancies.

We understand the nature of the WRD business requires personnel to be available for customer inquiries, to effectively communicate, deliver multiple projects, and address problems; however, this appears as commonplace resulting in a reactive mode of operation in which its root cause is evident in the following examples, but not limited to:

1. 311 and water customer inquiries that are good indicators of the current level of service experienced by water customers; however, they appear very frequent in number and consume much personnel time in troubleshooting daily issues.
2. Aged water infrastructure and a complex water asset system lacking in a comprehensive lifecycle preventive maintenance delivery program, and instead, are resulting in greater operational and maintenance attention that also precipitates more frequent issues leading to customer inquiries, like water quality (discoloration) from services such as:
    a. Moving water around the system to achieve desired pressure and flow.
    b. Water main break repairs.
    c. Bi-annual hydrant flushing (which is good preventive maintenance practice).
    d. Valve exercising program.
3. Activity intensive services within each functional unit that emphasizes responding to unplanned incidents rather than planned preventative maintenance actions. The effect causes disruptions in business continuity, with examples like:
    a. Response to incidents of severed water mains due to lack of practicing due diligence by contractors. The result pulls WRD field crews from planned activities to repair a negligent water main break.
    b. Responses to unplanned incidents to a water main break due to aged water infrastructure and freeze-thaw action in cold weather months.
    c. Overdue system gate valve exercising/repair/replacement program.
4. Under-utilized technology and long-overdue optimization of activities and processes that consume substantial resources of labor, time, and funding. Older processes are long over-due for evaluation and optimization. Our assessment indicates opportunities for improvement to field activities and administrative processes exist in all service areas. Please refer to the functional unit summaries for further explanation.
5. Under-utilized potential in the City's Computerized Maintenance and Management System (CMMS), Lucity. This area is under- planned and understaffed to program manage implementation and develop subject matter experts in the WRD, see below discussion.
6. Over-utilization of staff to deliver programs, and specifically, the managerial capacity to adequately oversee the capital project delivery process within best project management practices of scope, schedule, and budget.
7. Talent Acquisition Process, see below discussion.
8. Succession Planning, see below discussion.
9. Coordination between functional units. At the time of this assessment, there were symptoms of "siloed" operations related to sharing knowledge, successes, or challenges with each other. As a critical success factor, the WRD Manager expressed an intention that each divisional functional unit understand and learn from the effects of each other's role. This may be considered a cultural and philosophical managerial gap with a greater

need to practice more reliance on being Asset Managers of the public drinking water system by combining practical 'hands-on' institutional and technical (engineering and scientific) knowledge collectively amongst the water management team for the benefit of the water asset system and water customer. As this Capacity Study progressed and discoveries were conveyed to the water management team, there has been evidence of each functional unit better understanding each other through regular team and individual meetings with direct reports by the WRD Manager. This is recommended as an on-going effort.

10. Asset Management Competency – Please see Section D3, Asset Management Gap Analysis & 'Roadmap' for a current state assessment. The gap analysis shows an opportunity to increase competency in critical areas in transitioning from managing assets to a focus on stakeholders and long-term strategic objectives by practicing Asset Management.

Our assessment recognizes that the WRD relentlessly delivers its annual LSLR program, as well as other activities not mentioned in this study. Many of those activities are focus on caring for water asset infrastructure, and in several instances within a reactive context.

Organizational – Talent Acquisition Process

The talent acquisition process consists of workflow ownership from both the City of Kalamazoo Human Resources Department and WRD. During our assessment, WRD managers and supervisors informed of their challenges during the hiring process. Additionally, effects like the Coronavirus Pandemic, labor shortage, and societal generational differences only exacerbate concerns related to this workflow. Some perceptions of the hiring process include, but are not limited to:

1. Concerns regarding the length of time to fill vacant positions.
2. Unclear understanding of the steps within the entire process.
3. Ambiguity with roles and responsibilities throughout the process.
4. Unsustainable applicant pool.

WRD management employees expressed the lack in understanding of the entire process from beginning to end and the number of steps in the process. These same employees also expressed concern about their level of effort in the process that takes away time from their regular duties. They also state unclear roles and responsibilities associated with the process. Although we do not have process time data available or any comparison to other municipal organizations, we can only state from a Lean Management perspective that a gap in understanding of the entire workflow and clear roles and responsibility may exist within the workflow. Lastly, an unsustainable applicant pool, for a variety of reasons including a long City hiring process, candidates who wait too long in the pool become discouraged and begin looking elsewhere in the marketplace.

These challenges place burdens elsewhere until vacancies are filled such as but not limited to:

1. Managers and senior staff up the value chain assuming additional duties for an extended period of time until vacancies are filled.
2. Senior staff within a functional unit assuming an acting position or extra duties, for which they may already have insufficient experience or knowledge of the vacant position.
3. Staff with limited competency to cover vacant positions having only a few years of employment with the City, Public Services, WRD, water infrastructure, or in a municipal environment.

The effect of this is over-utilization of remaining staff in which there may be an elevated risk on the efficiency and effectiveness of activities performed in accordance with PA399. It also influences staff morale. Therefore, it is our professional opinion that continuous improvement opportunities may exist in the current state of the City's talent acquisition process. We recommend mapping the workflow with an appropriate internal stakeholder group and evaluating opportunities to increase the efficiency by resolving these and other issues that may exist.

Succession Planning

Succession planning is a unique managerial duty regularly performed at the manager and second and third tier of managers, superintendents, and supervisors. A comprehensive and thorough Succession Plan is critical to an effective talent acquisition program and developing human capital from within the organization. Within WRD, inadequate succession planning has enabled 4 of the top 7 management positions being filled by individuals for which managerial and leadership skillsets require development. Additionally, competency gaps exist in Asset Management skillsets (please refer to the Asset Management Gap Analysis and 'Roadmap' in Section D3). Recent new managerial hires within the past 1-2 years include:

1. Water Resources Manager
2. Water Superintendent
3. Water Distribution Manager
4. Asset & Records Manager
5. Various Water Field Supervisors

Most hires were internal candidates that never served in positions requiring interpersonal skillsets to manage direct reports. We consider this a managerial capacity gap for the City's success in implementing an approved ACO set of recommendations will require interpersonal skillsets to understand and manage change. While we understand this round of filling vacancies is complete, both professional development planning and growing interpersonal skillsets for these individuals is necessary as is ongoing succession planning to assure that future appointments are better prepared. Effective succession planning is critical to sustain business continuity upon mass attrition or abrupt losses of institutional knowledge. Case in point is the 2014 ERI that ushered several retirements, senior management changeover, and challenges with employee retention. All of these scenarios have created vacancies in which institutional knowledge abruptly left the City without its transfer to remaining staff. Its effect has the potential to disrupt activities that serve water customers and increases the strains on PA399 compliance.

At the time of our assessment, a lack of WRD succession planning has challenged business continuity within functional units due to issues related to but not limited to:

1. Transferring institutional knowledge.
2. Completing professional development plans (PDPs) for the water management team and personnel in non-field related activities.
3. Completing annual employee performance evaluations.
4. Developing employee retention strategies.
5. Building and communicating a vertical 'line of sight' within WRD and Public Services to align WRD purpose, priorities, and direction with the needs and innovations for efficient and effective programmatic activities and processes through best management tools.

Our assessment acknowledges the stipulated training requirements for employee promotion for union operators, maintainers, and the municipal worker program within their respective union contractual handbooks. However, our assessment discovered issues with transferring institutional knowledge within and across functional units necessary to grow and retain employees from within. At times, this may be analogous to a horizontal "line of sight" within the WRD and City organization where employees have opportunities to become well-developed and steep in broad institutional expertise across multiple types of infrastructure assets. The current state is challenged by a combination of under-staffed units, manager preferences with experienced senior personnel, and unpredictable vacancies in field personnel in achieving this strategy.

Our assessment informed that PDPs are not available for several managers, superintendent, and supervisors. We discuss this in further detail within this section, however, developing, transferring, and retaining institutional knowledge necessary to maintain the industry pace of change is paramount for growing employees from within

the organization. Best management practices normally would see evidence of these items captured within succession and change management plans.

WRD acknowledges that key documents do exist such as SOPs, a defined Municipal Worker Program, and job descriptions as indicated in Section C4 of this study. However, at the time of this assessment, there is considerable 'learning curve' with a newness of recently appointed managers that are learning their managerial duties to coordinate and implement these instruments.

Employee retention is a challenge at the Water Field Crew and Water Operator positions. These positions perform various asset management activities in sustaining a safe and reliable water infrastructure system in accordance with PA399. Our assessments informed challenges in the talent acquisition process, generational gaps, and current pandemic and economic burdens impair employee retention. Generational gaps are considered differences in behavior and outlook between groups of people who were born at distinctly different times. Furthermore, prior to key employee retirements, WRD undervalued the succession planning process which would typically outline a schedule for capturing and transferring their institutional knowledge. The result was new hires being poorly prepared and trained to fulfill those duties. This has occurred at both WRD management and field activity levels. It has been observed some attrition has occurred abruptly for several preventable organizational reasons. For field crews and operators, it is hiring an entire group of new, young, and inexperienced apprentices. Hence, there is an opportunity to create strategies in developing and retaining human capital from within the division through comprehensive succession planning.

Training, Certifications, Licensure, and Professional Development

The WRD currently has 30 licensed operators. A list of individual positions and their current license status is in Section C5.

Employee advancement, training, certification, and licensure are required for job positions at the field and operator level. We understand the WRD records and monitors a list of advancement progress for all certification and license requirements for eligible water employees. The City also has a tuition reimbursement program (please refer Section C5) and advocates for industry memberships in professional development, like AWWA, NSPE, ASCE for employee competency enhancement required for City career advancement. Training, certifications, and professional development are also line items within the Water System Fund.

This study acknowledges strong managerial capacity in the types of training that are offered and made available to field and operator level positions. WRD closely monitors specific license and certification prerequisites within the Municipal Worker Program and Water Operations and as part of employee advancement, state laws, and regulatory requirements (please refer Section C5). The Municipal Workers Program indicates the required certification for each employee position level in addition the license requirements for operating equipment or commercial vehicles associated with the position level, and any other requirements necessary to fulfill the next position level for advancement.

Based on our assessment, the Water Distribution and Water Supply O&M functional units indicated training assistance from various vendors on current or new equipment or appliances. This has been historically the case, paused during the pandemic; however, WRD anticipates restarting this program as a training tool.

At the WRD management level (the WRD Manager and immediate direct reports), the current state of training and professional development is considered moderate. Our assessment indicated PDPs lacking within the management and supervisory level positions. PDPs were not referenced with annual employee performance reviews. PDPs are documented plans outlining and scheduling a roadmap for professional development built in consensus fashion between the managing supervisor and direct report. Completed PDPs may also include an appropriate cost for agreed upon training and certifications for accurate reflection in the annual Water System Fund operations budget. Lack of PDPs at the management level has the effect of leaving a managerial capacity

gap in necessary skillsets between exiting and new employees, particularly when there may be a delay in filling the vacancy. Our assessment indicates recently filled positions in which certain job description duties and managerial skillsets require development while working in their new positions. The managerial capacity summaries in this report substantiate these learning curves or challenges. Historically, this has been an acceptable practice in the municipal industry; however, this practice leaves gaps in position competency and continuity based on the reality. These gaps may take years of development in both training and on-the-job experience. Yet commonplace, is the lack of time due to several factors, hence, positions are challenged in reaching their full potential until well after assuming duties. The downstream effect is with employees who directly report to these managers and supervisors that may experience the same situation. This study indicates an opportunity for managers to focus on developing and completing several 'soft' skill responsibilities that may help realize the value-added business potential in processes like succession planning and talent acquisition.

We understand a new Training Officer position has been filled during the Fall of 2021 under the purview of the Public Services Department. Public Services leadership informs that the Training Officer will be responsible for assisting WRD in its training efforts. However, PDPs for managers and supervisors will remain the responsibility of the manager and his/her direct report.

Other competence training in areas of Asset Management or other best practices are discussed in each functional unit as appropriate in this section. The USEPA Managerial Capacity Assessment in Section C15 also discusses this topic.

Technology and Activity Optimization

Lucity is the water asset system's metadata platform and Geographic Information System (GIS) is the geospatial repository for its physical location. Both are considered critical tools for records management under PA399. The City has had their CMMS, Lucity, for at least a decade. Lucity usage has been very limited until the last 2 years during which more deployment has been demonstrated. Lucity and GIS have the capability to interface with each other; and the City is diligently working to upload water data to enable this relationship and maximize their benefits. In the current state however, the deployment is understaffed, under-planned, and underutilized in relation to its cost and potential benefits. There are approximately 61 FTEs in WRD of which 30%-50% who are potential Lucity users and whose performance and efficiency would greatly increase. This type of CMMS and size workforce warrants a programmatic approach for implementation which includes, but is not limited to:

1. Introduce Lucity potential capacity available for WRD.
2. Build subject matter experts within WRD functional units.
3. Spread the knowledgebase of Lucity and integrating technologies.
4. Optimize workflow and develop ensuing resourcing strategies to support Lucity implementation for all primary processes and activities across all functional units.

Other issues include, but are not limited to:

1. Field internet connectivity.
2. Lucity web-based versus server-based platforms.
3. Interface with other software solutions.
4. Internal and external access.
5. Available field notebooks.
6. Rules of engagement.

The above highlights programmatic and technological gaps in the successful use of Lucity. The largest gap exists in the need for a City program manager to develop the necessary scope, schedule, budget, and resources to execute Lucity across multiple water asset activities and functional units. The current state has evidence of a "grass roots" approach of Lucity users, but without a top-down programmatic plan consisting of a water asset data and

information strategy. Secondary and equally as important are workflow optimization, asset data hierarchy structure consistency, and resources to implement such a programmatic plan. Workflows must be mapped and optimized before migrating to Lucity, otherwise, the City risks inefficient workflows being configured into Lucity. Inefficient workflows may lead to ineffective outcomes, particularly in sustainably achieving PA399 and the City's long-term strategic objectives (IK2025). Data relationships within Lucity are inconsistent in both its hierarchal structure and terminology, and its correlation to both the service package and division organizational structure. The effects include but are not limited to:

1. Less than accurate data translated into informational displays for decision-making purposes.
2. Inability to pivot operations based on available information.
3. Challenges with accounting practices such as operations and maintenance budgets.

Please refer to the Asset Management Gap Analysis and 'Roadmap' in Section D3 that discusses the key elements of an asset data and information strategy to support efficient and effective CMMS implementation.

In 2021 and under a separate contract, Applied Asset Management assisted the WRD in optimizing the Water Main Break Repair activity by using Lean Thinking techniques to map the entire process for efficiency and effectiveness improvements. A final report with current state and future state processes along with recommendations for overall process improvement were summarized in a report to the WRD. This report was critical in guiding the migration of the optimized process into Lucity in addition to identifying some past key challenges to overcome as mentioned above.

Technology may optimize workflow with the concept of customer value as its core. All WRD activities must pull the product of delivering safe drinking water through their processes with the least amount of resistance. Business operational excellence is a measure of Good Governance (IK2025) and is strongly recommended for sustainable, affordable, and accessible safe drinking water to the public. Please refer to the below summaries for specific opportunities related to technology integration within individual business operational units.

Water Supply Operations & Maintenance Functional Unit

Current State Overview

Between the time of our assessment and the Capacity Study deliverable response, structural changes to the functional unit will have occurred. Two new Water Supply Operations Supervisor and Water Supply Maintenance Supervisor positions will be created and filled. Each of these two positions will oversee distinct operations and maintenance arms of within the functional unit. In addition, there will be an attrition event at the Water Supply O&M and the Operator/Maintenance III positions within the next 12 months. The existing Water Superintendent/Water Assistant City Engineer position and duties will also be separated into two positions. The Water Superintendent will manage the Water Supply O&M functional unit while the Water Assistant City Engineer position will manage the Water Engineering functional unit. The current Water Superintendent is a S-1, D-2 licensed operator for the City of Kalamazoo and a registered professional engineer in the State of Michigan. The Water Superintendent is scheduled to take the D-1 exam Spring of 2022.

Our assessment supports this action since there were pre-existing performance and productivity challenges within the functional unit. Therefore, the purpose of this current state assessment is to establish a benchmark for which a transformation and continuous improvement efforts may be measured and referenced. Many of the challenges remain and will require implementation of the recommendations in this study to rectify.

Structure & Composition

We understand that EGLE views the Water O&M Supervisor as the "Operator-in-Charge" for water operations within the City of Kalamazoo WRD. The current state assessment indicates opportunities to improve and increase areas of team dynamics, managerial skillsets, and Asset Management competency within the functional unit. The

core functions and framework for the Water Operations are shown in Figure 5. Water Supply O&M is comprised of well fields, wells, well pumps, transmission collector pipes to various stations, stations and treatment, transmission piping to storage tanks, and storage tanks located throughout the system geographical footprint.

The Public Services Director position is ultimately responsible for water supply asset operations and infrastructure lifecycle delivery. Full state regulatory licenses for water operations are held by the Director, Water O&M Manager, and one of the Senior Civil Engineers. Please see Section C5 for a full list of current license status and progression to attain one.

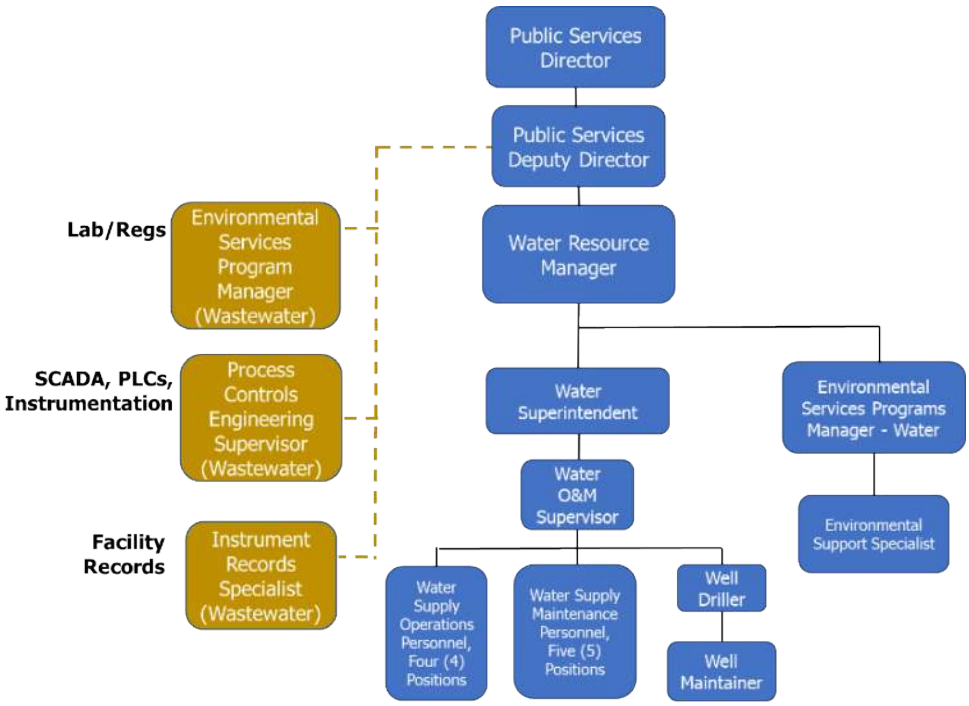
The WRD informed that Water Supply O&M is a collaborative team effort by various contributors as indicated in Figures 5 and 6. The Environmental Services Program Manager, Process Control Engineering Supervisor, and Instrument Records Specialist are two auxiliary functional units that provide support to water supply operations. Both are beyond the WRD organizational chart, yet within the Wastewater Division of Public Services' span of control. Figure 6 displays the integration with the current WRD organizational structure under the Public Service Department.

Our assessment indicates multiple coordinated efforts under the Water Supply O&M that involve operations, maintenance, wells and well pumps, and the well and wellhead protection program (WHPP) as illustrated in Figure 5. Additionally, the current state structure illustrates a separation between the WHPP under the Environmental Services Programs and Water Supply O&M functional units. This separation also indicates a greater effort upon the respective managers on maintaining a flow of critical information relative to knowledge, technical, regulatory, and policy matters. It is the responsibility of the WRD Manager to assure that this working relationship is always present for the wellfields, wells, well pumps, booster stations, and remaining water supply infrastructure such that risks, and decisions are made in the interest of one holistic system.

Figure 5 – City of Kalamazoo Water Operations Framework

The Environmental Services Program Manager (Wastewater) is responsible for the City's laboratory testing operations for water and wastewater asset systems. Internal testing, external contractor testing, compilation of laboratory test results and reporting to the regulatory agencies are some of the responsibilities under the managerial capacity of the ESPM. This position also is responsible for conducting the required training to operators within Water Operations that perform monitoring, sampling, and recording for regulatory water testing.

Figure 6 – Current State Water Operations – Collaborative Organizational Structure



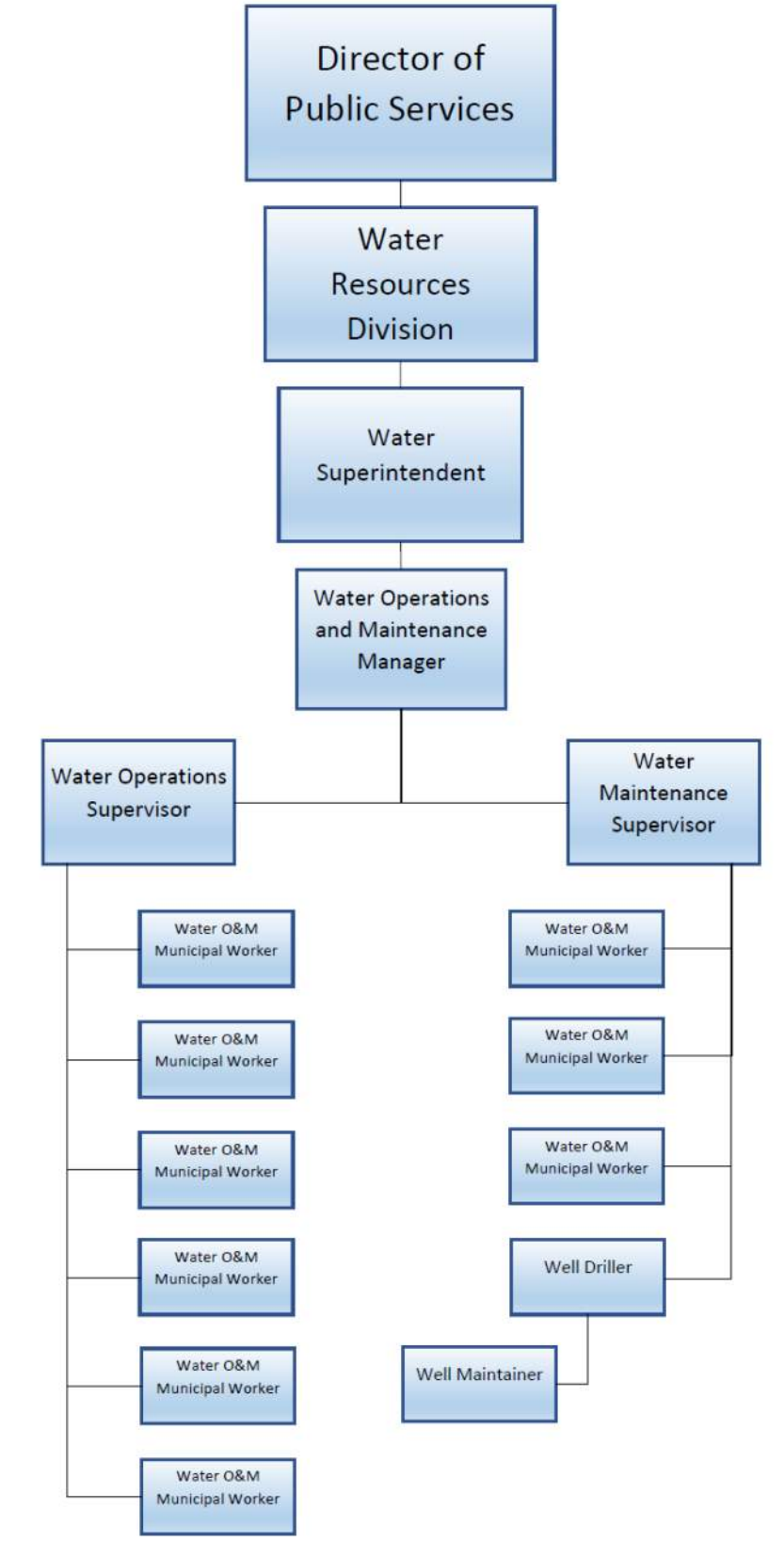
The Process Control Engineering Supervisor oversees and manages direct reports responsible for the SCADA system, Programmable Logic Controls, Radio Controls, instrumentation, hardware, and software related infrastructure that supports the previously mentioned systems and controls. This Supervisor provides this scope of work to both water and wastewater operations. WRD is well into installation of a new SCADA system with related PLCs, radio controls, instrumentation, and infrastructure hardware and software. The Instrumentation Records Specialist is responsible for the station facility asset records management.

Figure 7 provides an expanded version of the Water Operations functional unit showing a vertical 'line of sight' to the Public Services Director. The unit is comprised of a Water O&M Supervisor who oversees and manages 9 Operators/Maintainers varying from apprentice to a level III status, a Well Driller II, and one Well Maintainer position. The Water Operations & Maintenance Supervisor reports to the Water Superintendent position. (See Section C3 for the full WRD Organizational Chart.)

The Water O&M functional unit performs both operations and maintenance activities on the water asset system from wellhead to its interface with the distribution system. Additionally, the functional unit performs various water regulatory monitoring, sampling, recording, and reporting for EGLE and the USEPA in accordance with PA399.

Water testing is reportable to regulatory agencies in accordance with EGLE requirements and PA399. Operators/Maintainers conduct a variety of monitoring, sampling, and recording of processed water at several points of entry locations within the system. The City also performs secondary sampling and testing that is self-imposed internally to the WRD as a proactive approach to developing water biological or chemical trends. WRD has supporting documentation as to the type, location, and frequency of water testing at points of entry. WRD has also documented the SOPs associated with each type of laboratory test procedure as provided in Section A9.

Figure 7 – Current State Water Supply Operations & Maintenance Organizational Chart

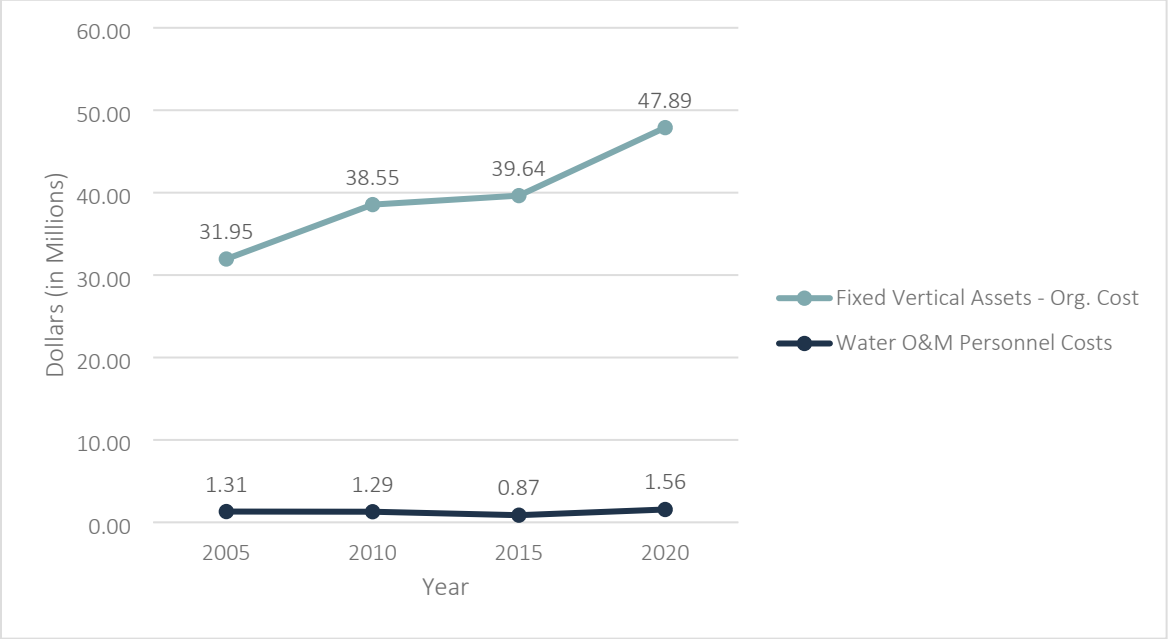


Current State Assessment – Mode of Operations

Applied Asset Management assessed and/or interviewed managerial, supervisory, and contributing personnel to understand the operations of the Water Supply functional unit. We also facilitated two listening sessions with the several employees from the functional unit to discuss current and future state staffing levels.

At the time of our assessment, the current state staffing levels included 9 operators/maintainers in water supply and 2 for well maintenance, for a total of 11 personnel. Prior to the City's ERI in 2013, more than one shift existed with 3 distinct groups, operations, maintenance, wells/well pumps, containing 8-10 individuals on both sides of operations and maintenance, nearly double as compared to the current state. Today, the system is larger with more stations to operate and maintain over a greater geographical area. There is considerable time added due to readings, chemical monitoring, and operational monitoring resulting from the evolving regulatory landscape, new vertical assets to the system, and incorporation of the City of Parchment drinking water system. The WRD also has an ambitious capital investment plan for replacing its aged facilities with new vertical water assets over the next 10-15 years. Figure 8 captures the trend of investment dollars for both fixed vertical assets, like facilities and elevated tanks, and the Water Supply personnel expenses between 2005 – 2020. While the pace of capital investment has substantially increased, the number of personnel to support this investment has remained relatively stagnant.

Figure 8 – Fixed Vertical Asset Value and Water Supply Personnel



Our assessment indicated a 'reactive' mode of operations that is rooted in the daily "managing of assets" rather than practicing Asset Management best practices of measuring functional unit activities that focus on value, stakeholders, reducing water supply asset risk, and attaining long-term organizational objectives. A reactive mode of operations translates into more unplanned work and inhibits the availability to work on planned tasks, which is highly inefficient. At the time of our assessment, the Water O&M Supervisor spent up to 80% of duties focusing on water operations and responding to customer inquiries regarding water quality issues due to the movement of water within the system. Thus, the current state presents an opportunity to develop a 'proactive' mode of operation that optimizes planned activities and minimizes unplanned work. One assigned individual may be assigned to drive a proactive work schedule based on a Lifecycle Preventive Maintenance Delivery program. The WRD anticipates assigning this task to the newly created Water Maintenance Supervisor. Additionally, assigning

troubleshooting and responding to water quality inquiries to the newly created Water Operations Supervisor may be beneficial in reducing the number of distractions to others that are assigned to other planned tasks. At the time of this assessment, both positions are in the hiring process. Winter months allow preventive maintenance work to be more easily performed in preparation for peak demand months during the summer. Water Operations claims to have adequate staff to do what they do now, but it is simply maintaining status quo, hence, their suggestive strategies are plausible in a future state context.

Regarding well/well pump maintenance, the following major work items are managed by the current Well Driller II and Well Maintainer, which include but are not limited to:

1. Performing Well Maintenance - Auto-Surging, Pump/Motor rehabilitation and replacement, especially when contractors are unavailable, or an emergency incident arises.
2. Performing Pump Maintenance - cleaning pumps and motors, machining or purchasing parts for pumps and motors, especially when pumps are pulled to facilitate well inspection and rehabilitation by contractors.
3. Operational Check-Ups - every station receives a daily visual inspection to verify whether motors and pumps are operating or not, leaks, or other observed problems. Staff may service or perform adjustments to well pumps on site as necessary.
4. Daily or as-needed Corrective Maintenance. Performing corrective maintenance work as scheduled in Lucity or by the Water O&M Supervisor.

Unplanned Work consisting of troubleshooting malfunctioning equipment for unknown reasons may consume approximately 15-20% of weekly routine, especially with an aged and complex water asset supply system.

Items being performed in limited capacity due to staffing levels, yet remain as a capacity gap, include but are not limited to:

1. Lifecycle Maintenance Delivery – Work order preventive maintenance as scheduled in Lucity. Our assessment indicated more corrective than preventive action is currently performed.
2. Managing Vendors and Vendor Supply Chain Management - Vendor project controls, contract adherence and Vendor contract health & performance.
3. General Housekeeping – access road restoration or tree trimming, care for the maintenance shop. One strategy may consider having the Public Works Division perform this work; however, there exist other competing interests with City streets and right-of-way needs.
4. Record Documentation - SOPs, O&M Manuals, PM intervention schedules, pictures; accurate and complete field work orders, uploading field data and information. Our assessment indicates little evidence of these tasks.

These above noted tasks are performed on a limited basis since reactive duties are necessary for maintaining well and well pumping operations. With a groundwater based public drinking water system, many stations exist over a large geographical area across the County, which consumes considerable staff time, thus further limiting a ‘proactive’ approach to managing well system activities. Additionally, staff must manage the well maintenance contractors in addition to performing other duties.

Regarding general operations and maintenance for water supply, the following major work items are performed:

1. Water O&M Supervisor Assignments – This task is highly reactive and corrective in nature primarily through a series of work orders generated from of weekly visual operational inspections.
2. Managing Preventive Maintenance Vendors and Vendor Supply Chain Management – Vendor project controls, contract adherence and Vendor contract health and performance.
3. Water Supply Operations – Office Controls, SCADA operations.

4. Customer Inquiries – Assigned on a weekly basis depending on the nature of inquiries, occur daily and expected to be addressed in a timely fashion. Inquiries are primarily related to water discoloration, some pressure issues, due to water stagnation or dirty water within the system.
5. Operational Visual Inspections – Running routes conducted by 2 Operators, 2 days per week verifying water supply system operability. This duty has cross-functional tasks in both stations, station generators, and wells.
6. Planned Work – Performng preventive maintenance work as scheduled in Lucity; although, this is not performed as well as staff would prefer, some preventive maintenance is conducted.

The functional unit has two senior level maintainers that perform maintenance and corrective actions on equipment while lower-level maintainers assist as required. The City's CMMS, Lucity, is primarily used within Water Supply to enter work orders for corrective action on equipment and facilities, followed by weekly assignment to operators and maintainers for completion. Therefore, an opportunity to exists to transform the functional unit to a proactive mode of operation and use Lucity for Lifecycle Preventive Maintenance Delivery on the water supply system. Additionally, record documentation like SOPs, O&M Manuals, PM intervention schedules, pictures, accurate and complete field work orders, uploading field data and information may be captured.

At the time of our assessment, managerial capacity gaps related to the effectiveness of the Water Supply O&M functional unit exist that may jeopardize operational redundancies. Examples of these gaps including but are not limited to:

1. Lack of a risk-based preventive maintenance plan for the wellfield, wells, and well pumps which results in less than effective preventive maintenance program and contractor supply chain management. This is currently being developed within the context of a well and well pump asset management plan under separate contract.
2. Loose coordination between Water Operations and the WHPP, in which the latter is managed by the WRD ESPM.
3. Workload imbalances as to the assignment of duties. The project plan for operations, maintenance, customer services, and other related activities is selectively assigned. Inadequate resource planning with assigning work activities and projects results in a reactive culture to water operations mechanical issues. Workflows are not monitored or reviewed for efficient or effective performance.
4. Longstanding inattention to resource management against an approved water operations and maintenance budget.
5. Functional unit productivity, performance, and quality of work performed varies widely among staff due to the gaps in experience levels within the functional unit. Our assessment indicated that annual performance reviews are infrequently completed resulting in an inability to benchmark or measure employee developmental progress.
6. Absence of a plan for consistent employee development, mentoring, job shadowing, and training despite requests for this investment. Although a prescriptive operator and maintainer development process outlined in the American Federation of State, County, and Municipal Employees contract and handbook, succession plan training and institutional knowledge transfer is challenged within this functional unit. Our assessment indicates that understaffing within the functional unit provides limited time availability to cross-train staff. For example, acquiring sufficient maintenance knowledge requires spending ample quality time under a senior maintenance employee, which is constrained by limited available time away from operator duties. Staffing levels challenge the ability to cover a peer's duties while one is undergoing training. The consequences of this current state situation are a high risk of a sudden and significant loss of knowledge, talent, and experience with the potential of retirement in senior-level personnel, water operations and maintenance positions.

Current State of Asset Management Competency

Many of the lifecycle delivery Asset Management competencies are currently not performed within the functional unit as indicated from the Asset Management Maturity Assessment shown in Section D3. Similar is stated for areas of Strategy & Planning, Operation, Maintenance and Capital Decision-Making, and Risk and Review that pertain to the water supply assets under this functional unit span of control. Within Lifecycle Delivery, several topics around realizing the lifecycle value in water supply critical asset components are acknowledged as wanting to perform but have not been able to afford the time or issues with staffing levels. The current state also reveals an educational gap in learning and understanding the functional potential and applicability of the City's CMMS, Lucity. The consequences of these gaps demonstrate challenges with implementing timely preventive maintenance interventions, realizing lifecycle value of critical components, mitigating unintended risks, and leveraging O&M data for informed fiscal investment decision-making.

Our assessment indicated that approximately 80% of the functional unit's focus is on water supply operations with 20% being maintenance oriented. Highlight activities of operations include but are not limited to:

- Pumping operations.
- New SCADA implementation.
- Chemical Inventory & Purchasing.
- Chemical Feed Operations.
- Water supply operations during bi-annual hydrant flushing exercises.
- Well running & static level data recording.
- Daily pumpage reports.
- Monthly Operations Reports to EGLE.

The above represents strong managerial capacity in water supply operations; however, an opportunity exists to develop a comprehensive approach that involves Asset Management best practices.

Water Engineering Functional Unit

Current State Overview

This section will collectively address the water engineering functional unit. This unit specializes in Water Capital Project Delivery, site plan reviews, private development, and customer community new water main distribution construction, and technical support for all other functional units under the WRD. The water engineering functional unit is also responsible for implementing the LSLR program.

Practicing well-versed project management is an indicator of strong managerial capacity in delivering the capital investment program. However, based on our assessment, the current state managerial capacity to deliver water capital projects exhibits gaps in its workflow efficiency, effectiveness, and project controls. Managerial oversight of the functional unit is limited due to the split duties of the Water Superintendent/Water Assistant City Engineer position over Capital Projects and Water Supply. During our assessment, the WRD has decided to split the original positions into two with the Water Assistant City Engineer managing the Water Engineering functional unit. Until this position is filled, our current state assessment demonstrates an opportunity for managerial capacity improvements in multiple areas of the functional unit with regards to forecasting workload and project management training for municipal agencies.

Organizational Structure & Composition

At the time of our assessment, this functional unit reported to the Water Superintendent/Water Assistant City Engineer and consists of 3 Senior Civil Engineers and two 2 Construction Inspectors. Annual project volume ranges

from $30–$40 million consisting of water main replacement, pumping/booster facility reconstruction, elevated tank construction or other water asset system improvements.

This functional unit executes the following programs:

1. Capital Project Delivery.
2. LSLR program.
3. Site plan reviews, which includes the Contribution-in-Aid projects by private development.
4. Technical support to Water Distribution, Water Supply, Environmental Services Programs functional units.

Current State Assessment

The greatest managerial capacity gap in the functional unit is the lack of project controls and workload forecasting for staff utilization. FTE values range from 1.0-1.59, indicating a significant disparity in utilization across all three water engineers. During our assessment, the civil engineers stated that construction field inspectors are considerably over-utilized and do not afford sufficient time to efficiently perform their duties. Although, the WRD utilizes professional engineering consultants to assist with inspection oversight during capital construction. All three types of services under this functional unit are program intensive. Engineering activities and resources are typically assigned and managed by the Water Superintendent/Assistant City Engineer.

The water capital investment program is aggressive and built to increase the pace of water main replacement within the current aged infrastructure system. The capital project delivery process is at the heart of this program. Our current state assessment reveals that the water engineering functional unit is under-staffed to deliver the pace of an aggressive and ambitious water capital investment program. The managerial capacity for the functional unit's oversight also contains gaps due to it being under the Water Superintendent/Assistant City Engineer position whose responsibilities is also to provide managing oversight to the Water Supply O&M functional unit. The functional unit has workload imbalances that causes staff over-utilization and a lapse in project oversight during all phases of capital project delivery. The primary effects are increases in project risks and project costs.

Capital Project Delivery

The current state of the capital project delivery workflow presents an opportunity to acquire certain skillsets and employ project management best practices to improve project controls of scope, schedule, budget, and risks. Additionally, staff utilization and balancing workload for effective service delivery within the functional unit has also been identified. Based on the current FTE ranges, forecasting a more balanced workload increases the ability to better utilize staffing resources and science in determining alternative internal and external resources to deliver capital projects. Capital project delivery process optimization also presents an opportunity to reduce time and cost associated with delivering capital projects. Costs are monitored by the assistance of the Support Services Division; however, the project cost scheduling controls throughout the design and construction phases are only compared against the total authorized project cost rather than at the project task level, which offers greater controls. Industry cost savings of up to 20% may be realized on an annual capital project delivery program when project management best practices are embraced and consistently engrained within an efficient workflow and appropriate levels of staffing to deliver effective outcomes. Water engineering has considerable influence on project outcomes by making decisions on materials and products during the design phase that impact the entire asset lifecycle expense while assuring the as-built environment confirms to design intent during construction. Therefore, effective outcomes require adequately balanced project workload amongst the water engineers affording sufficient quality assurance and quality controls through best project management practices to minimize the total lifecycle cost of a capital asset. Thus, demonstrating a good value with a solid return-on-investment. The current state indicates that some WRD project managers are often over-utilized, hence, decreasing their ability to perform project controls.

Lead Service Line Replacement Program

The LSLR program is a functional unit primary focus with a dedicated sponsor in water engineering to implement the pace of eliminating lead services lines in the City's public drinking water system. Our assessment indicated that because of the LSLR program's intensity, the delivery of the City's approximately $30–$40 million annual capital construction program competes for project manager availability within the functional unit based on staff utilization and capacity. The same may be stated for the site plan review process and other miscellaneous services. Hence, the disparity in approximate FTE values ranging from 1.0 to 1.59 among only three water senior civil engineers. Since the LSLR program is an annual progressive effort until completed, an opportunity exists to evaluate and optimize the overall process. Cost-efficiencies may be reinvested into the program while time-effectiveness may create time available for staff to be re-deployed on other engineering tasks.

Capital street reconstruction projects are managed by the Public Works Division under the purview of the Public Services Department. Our assessment indicates that a water senior civil engineer may act as the lead project manager on street reconstruction projects where water main replacement is the driving factor. Additionally, water engineers have a role in assuring water main design and construction practices are consistent according to the City's Water Standard Specifications for Construction. Facility or water pumping station projects are managed by the water civil engineers.

Site Plan Review including Contribution-in-Aid Projects

Site plan reviews for private development and Contribution-in-Aid projects consumes upwards of 15-30% of time for each engineer. We understand this effort ebbs and flows based on economic conditions; however, when the there is significant growth in the local and regional economy, this effort consumes a considerable amount of time within the functional unit, and especially during a sustained demand for an aggressive water capital investment program. Currently, the City is experiencing strong economic growth resulting in an increase of this activity. We understand from our assessment that the City plays a considerable role in site plan reviews, including permitting, managing the consultant and construction inspection. Based on our assessments, certain risks, roles, and responsibilities may be unknowingly shifted onto the City for which an evaluation may be warranted. The City may be taking too great of a role within a workflow that is intended for the benefit of external stakeholders. This workflow exhibits a variety of resistance while pulling the product, which is water main installation available for new customers, through its design, approval, permitting, and construction process. An opportunity for process evaluation is warranted.

Miscellaneous Water Engineering Services

Occasionally, there may be troubleshooting issues in water distribution and operations where water engineers may be involved. Examples may be with planned or unplanned events in Water Distribution or Water Supply O&M where specialized technical expertise is warranted. Site plan reviews are closely coordinated with the Water ESPM due to the City's storm water ordinance and environmental issues that may impact the City's groundwater sources. Water Engineering has staff with expertise in environmental remediation which is added value to the City's depth of institutional knowledge for sites with environmental liabilities.

The current state of project oversight illustrates the following opportunities to improve the functional unit's managerial capacity, including but not limited to:

- Acquiring skillsets associated with project controls in formal project management training geared for municipal public works. This will strengthen capital project performance in scope, schedule, budget, and risks, and at times, provide appropriate municipal oversight and accountability for deliverables and cost management.

- Optimizing service processes to exploit value, minimize incidental steps, and eliminate inefficiencies. For example, the capital project delivery process is a "cradle to grave" workflow with several intricate steps. Optimization also strengthens SOPs, which eventually enables migration onto a Project Information Management System for enhanced capital project planning and management integration.
- Learning and practicing resourcing strategies and resource management to determining appropriate delivery methods and balancing resource capacity. Opportunities for improving better strategies with resources exists in the Capital Investment Planning decision-making process, capital project delivery process, and the remaining services in the functional unit. Similar may be stated for the assignment of construction inspectors.
- Linking individual projects to the overall water capital portfolio, and the performance of the portfolio against bond drawdown schedules or long-term strategic objectives.

A project manager has tremendous influence on the total cost of water asset ownership. A project manager's decisions during the design and construction phases impact water asset operations and maintenance interventions over its lifecycle. Hence, an opportunity exists to engrain a cultural understanding that water engineers are water asset managers whose engineering concepts and knowledge contribute to effective delivery of water supply and distribution functional units.

Water Distribution Functional Unit

Current State Overview

The Water Distribution functional unit is responsible for assuring system reliability from elevated storage tanks to the customer. In this case, reliability is measured in the ability to maintain and restore water distribution through planned preventive maintenance and response to unplanned incidents as indicated by the types of planned and unplanned work performed in Table 1. Water Distribution is also instrumental in replacing lead service lines within the system; hence this unit is responsible for water service lines to an occupied unit on private property up to and including the water meter. Water Distribution implements the WRD water meter replacement program consisting of upgrades to the Smart Water Meters to customers. Applicable to all work performed within this functional unit, Water Distribution also performs service requests to water customer inquiries.

Functional Unit Structure & Composition

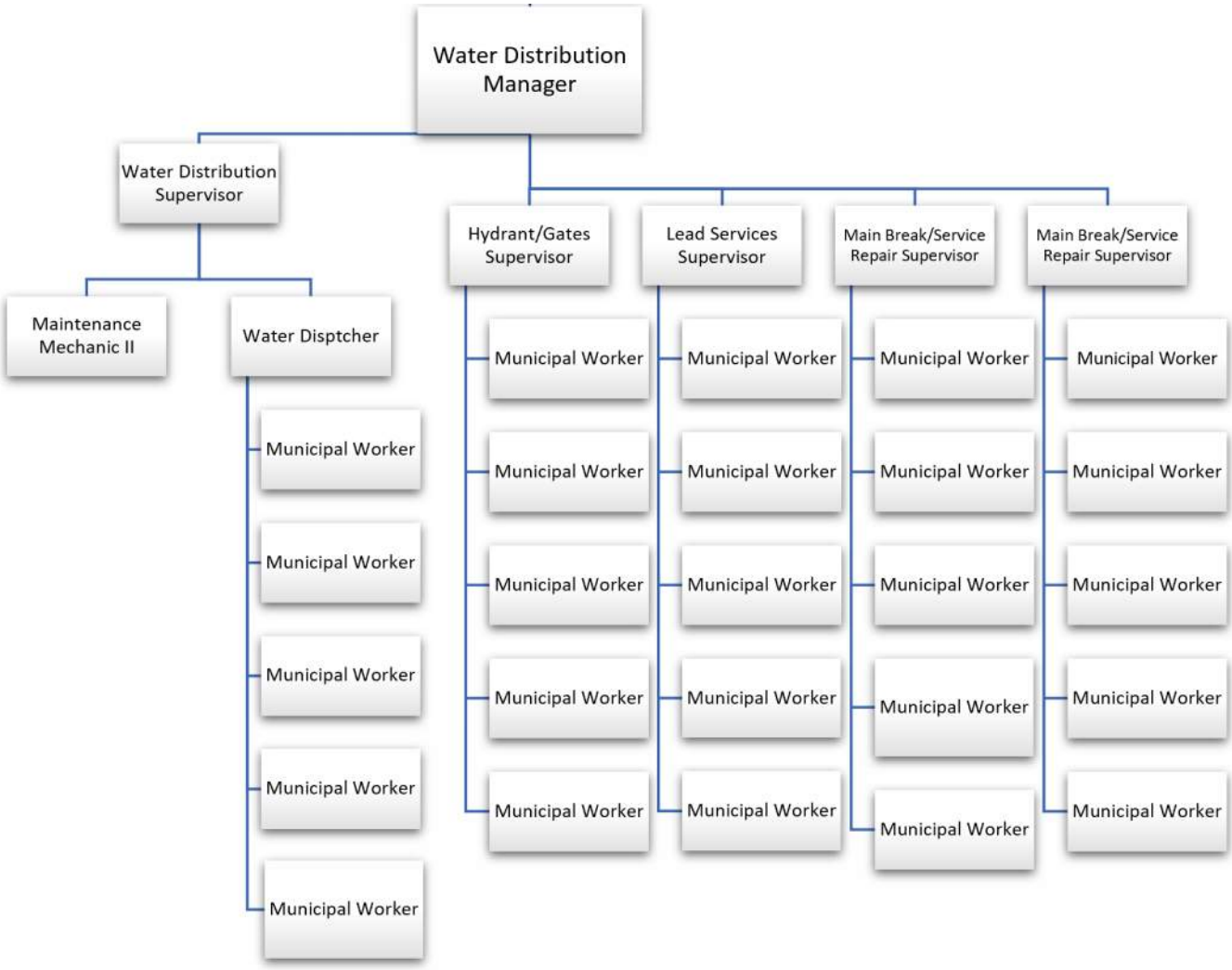
The Water Distribution functional unit is very labor and program intensive. The Water Distribution Manager span of control is shown in the functional unit organizational structure in Figure 9. The Water Distribution Supervisor and each Field Supervisor directly report to the Water Distribution Manager. The combined efforts of the Water Distribution Manager, Water Distribution Supervisor, and Field Supervisors comprise the managerial capacity of the functional unit. The role of the Water Distribution Supervisor is to manage the Water Field Supervisors, their workload, and completion of field programs. This supervisor position also has a significant role in administrative processes and the hiring process with the City's Human Resources Department in filling vacancies with field supervisors or field crew members.

At the time of this assessment, the Water Distribution Manager position was recently filled following an attrition event, and therefore, the FTE value is undefined. After a full year in this position, it is anticipated that the FTE value may be developed and compared to the duties listed in the job description. Adjustments may be made during the annual employee performance review. The newness to the position coupled with the number of services and employee oversight presents an opportunity to strengthen the managerial skillsets and demonstrate assurances that effectively align field activities with the WRD priorities (Customer Service, Water Quality, and Water System Reliability), and long-term infrastructure (SAMP) and organizational (IK2025) objectives.

Based on our assessment, the Water Distribution Supervisor is currently operating at an approximate FTE ranging between 2.0 and 2.10. Processes, technology, and employee hiring are the primary focus of attention in this position; however, there are some administrative activities that currently belong to the Water Distribution

Supervisor which are not core to the position's role and do not contribute value. Additionally, the position has potential for added value in future state recommendations based on the current job description as documented in Section C4. The Field Supervisors are expected to operate at FTE values of greater than 1.0 based on the pace and intensity of field activities as listed in Table 1. At least one crew is dedicated to the LSLR program. Field crews replace lead service lines in areas of the City where it is less cost efficient for a general contractor to perform. In the winter months, incident response to water main breaks consumes several crews with minimizing a main break backlog and maintaining system reliability. We did not assess their time since it will be more appropriate to forecast their workload based on resourcing strategies to maximize utilization, efficiency, and effectiveness using best management practices. Table 1 in this section illustrates the crews and the Water Distribution Manager's opinion on work assignments.

Figure 9 – Water Distribution Functional Unit Organizational Structure



Current State Assessment – Programmatic Services

The current state managerial capacity is responsible for programmatic oversight of all field programs applied to water distribution. These programs are either Planned, Unplanned, or a combination of both as categorized in Table 1.

Table 1 – Planned and Unplanned Assignments

Program Name	Field Supervisor with Crew				
	No. 1	No. 2	No. 3	No. 4	No. 5
Planned Work					
Meter/Valve Replacement					✓
Lead Service Line Replacement (LSLR)		✓	✓	✓	
Water Taps	✓				
Flow Testing	✓				
Hydrant Flushing	✓	✓	✓	✓	✓
Blow Offs	✓				
Gate Valve Turning/Exercising	Program is in Development				
Reads/Remote Meters					✓
Backflow Preventors	✓				
Site Restorations					
Planned Work & Unplanned Incident Response					
Hydrant Repair/Replacement	✓				
Gate Valve Repair/Replacement	✓				
Water Activation/Water Shutoffs					✓
Unplanned Incident Response					
Service Line Repair/Replacement	✓	✓	✓	✓	✓
Contractor Water Main Hits	✓	✓	✓	✓	✓
Water Main Break Incident Repairs	✓	✓	✓	✓	✓
Frozen Pipe Incident Repairs	✓	✓	✓	✓	✓
Total Number of Activities per Supervisor	10	5	5	5	7
Number of Field Staff per Supervisor	6	7	4	4	5
Number of Apprentices	5	7	3	3	5

Due to unavailable artifacts, this assessment assisted the City in developing Table 1 to demonstrate an opinion of the assignment distribution among field supervisors and crews. The current state indicates that forecasting crew assignments is loosely organized. With that said, an opportunity exists to increase the managerial capacity by utilizing a scientific approach of electronic scheduling tools that may aid in developing resourcing strategies and resource management to maximize City crew utilization while effectively balancing available internal and external labor, material, equipment, and supplies. This best management practice may also assist in justifying personnel increases based on stakeholder demands.

There is also an opportunity to register, evaluate, and treat risks associated with unplanned services that disrupt functional unit business continuity. Our assessment indicates highly variable responses to unplanned incidents that detracts field crew resources from planned preventive maintenance services and maintaining pace for LSLR, thus reducing managerial capacity effectiveness. Using Lucity to record certain costs associated with field activities may provide better insight as to the ratio of unplanned disruptive services to planned or scheduled preventive maintenance services.

There are several external demands that influence resourcing strategies in balancing staffing levels for field crews ranging from unplanned services that warrant an immediate incident response to employee retention challenges at the field crew level. The pandemic-related effects of labor shortages challenge the City to be more innovative at retaining and growing employees from within the division and organization. Table 1 indicates a relatively high number of apprentices per crew team of which these individuals may be groomed for greater roles and responsibilities within Water Distribution. The WRD has an opportunity to combine strategic planning, succession planning, and a scientific approach to resourcing and resource management to render employee stability and business continuity.

Current State Assessment – Processes

In the operating continuum of the functional unit, there are several administrative business processes that must occur to support the field program activities in Table 1, including but not limited to:

1. Addressing the backlog of paper and electronic work orders during the early migration efforts to the CMMS, Lucity.
2. Less than efficient methods of handling work orders associated with processes.
3. Efficiency and compatibility challenges with data transfers between Lucity (water asset physical metadata in WRD) and BS&A (water customer billing and address repository at City Hall) software solutions.
4. Roles and responsibilities associated with the hiring process for field supervisors and crew members within the functional unit.
5. Training development plans, coordination, and implementation for field supervisor and crew members.
6. Other miscellaneous roles and related duties.

Based on our assessment, the Water Distribution Supervisor performs these duties which are approximately 66% process-oriented and 34% other job-related roles. Based on this observation, there is an opportunity for the Water Distribution Supervisor to act in a sponsor capacity whose role may lead initiatives for program and process optimization. Acquiring this skillset presents an opportunity to reduce time and cost, thus being able to decrease the FTE values associated with this position to possibly more acceptable levels. Other field programs may be optimized to increase their efficiency, reduce cost and time in performing activities, thus, enabling field crews to be redeployed on other preventive strategies that were previously under-staffed. With the number of new personnel participating in field programs associated with a complex and aged water distribution system, there is an opportunity to re-evaluate and optimize programs and processes to refocus their intent on delivering value to the water customer.

The Water Distribution Manager and functional unit is not currently executing any Water Loss Program except for capital replacement of existing water mains. We understand the City's smart meter program will greatly assist evaluating system water loss, but it will be several years before enough are installed to perform this critical activity. However, measuring unbilled water may be a system performance analytic to monitor and aid in a strategic system gate vale exercising/repair/replacement program. Additionally, the distribution system would greatly benefit from risk assessments that would help mitigate trending effects typically discovered from field and engineering activities. Water Loss is addressed in the USEPA assessment of this report.

Current State Assessment – Technology

The entire functional unit has an opportunity to increase utilization of the City's technological platforms, Lucity, GIS, and BS&A. The current state assessment indicates that various efforts are underway to achieve this objective. Additionally, an opportunity to increase managerial capacity within the functional unit exists with developing an asset information strategy to coordinate data, processes and information used by stakeholders to make decisions and reduce risk. Staff indicates compatibility issues across technologies; however, water asset data terminology and hierarchy inconsistencies are common issues. Initial efforts with developing an asset information strategy

related to the migration of the optimized Water Main Break Repair process to Lucity is showing signs of progress. In this case, several stakeholders are working together to coordinate physical, resource, and financial data and information. More of this coordinated structured effort is recommended for the entire WRD.

Current State Assessment – Asset Management

The Asset Management Maturity Assessment, as referenced in the Asset Management Gap Analysis and 'Roadmap' in Section D3, identifies opportunities to improve managerial capacity in the following areas:

1. Strategy & Planning
2. Operations and Maintenance Decision Making
3. Resourcing Strategies
4. Resource Management
5. Lifecycle Delivery
6. Risk & Review

There are several field programs that may expose trends in the performance of the distribution system rendering critical thinking in strategy and planning for wise programmatic deployment and continuous improvement. This functional unit contains programs carried over generations that have resulted in less than efficient processes with several patches and workarounds which have not been evaluated for their efficiency and effectiveness. This functional unit is currently challenged in "right-sizing" its field crews to maintain the pace of regulatory fluidity, aged system, and employee retention. These challenges are exploited with a lack of the Asset Management areas of focus, thus illustrating a gap in managerial capacity.

Risk review, and continuous improvement are almost non-existent in the current state; therefore, an opportunity exists for the Water Distribution Manager to acquire this competency skillset. Risk criticality is considered in the Water Asset Management Plan (WAMP), but only for the purposes of capital improvement of water main replacement. A credible example is a risk-based approach in developing a strategic implementation for exercising, repairing, and replacing system gate valves. Our assessment informs that this program has been paused due to resourcing constraints but has initiatives underway to reinstate it. The institutional field knowledge gained from program execution is a feedback opportunity that may aid the decision-making processes of operations, preventive maintenance, and capital investment strategies to improve the entire water asset system. Risk, review, and continuous improvement competencies are critical in attaining the managerial capacity for well-informed decision-making that is impactful for PA399 compliance, system sustainability, and water affordability.

In all fairness to this functional unit, many of these process challenges and current state managerial capacity gaps are considered pre-existing cultural conditions. The Asset Management areas of focus have never been formalized let alone required specific training in these areas of competencies. Therefore, the opportunistic recommendations in Section D4 are transformative with a focus on increasing managerial capacity within the functional unit to adequately execute field programs.

Current State Assessment – Clarity of Roles & Responsibilities

Human resource tasks during the hiring process of field personnel are prominent roles for the Water Distribution Supervisor position, although not specifically listed in position's job description. Our assessment indicated challenges in fulfilling supervisory duties with mounting demands and backlogs as issues with employee retention at the field crew level became the impetus of assuming a greater human resource role for water distribution. Example tasks assumed by the Water Distribution Supervisor including, but not limited to:

1. Reviewing resumes
2. Scheduling interviews
3. Contacting candidates for interviews
4. Participating in the interviews

5. Conducting employee orientation
6. Developing appropriate training manuals
7. Monitoring apprentice 6-month performance evaluation milestones
8. Assuring apprentice physicals, Commercial Driver's License, and probational performance evaluations are attained or completed.

These tasks have dominated this position over recent times because of field crew employee retention challenges and the competitive marketplace in attempts to fill vacancies. Confirmation of the latter is beyond the scope of this project; however, this has been a re-occurring opinion from several WRD and Public Services Department staff. WRD acknowledges a certain level of ownership in the hiring process but the overall hiring workflow within the City has pockets of necessary improvement.

An opportunity to increase managerial capacity exists with the recent additions of both Training and Safety Officers under the umbrella of the Public Services Department and the vacant Administrative Assistant position to the WRD Manager available prior to the 2021 organization chart. Our assessment indicates that the Water Distribution Supervisor develops and provides training for Field Supervisors and field crews, consisting of approximately 30 staff. This task is a monthly effort and may be transferred to the future Training Officer. Clear and shared responsibilities in certain aspects of human capital talent acquisition, orientation, training, and other related tasks may increase the effectiveness of leadership positions and managerial capacity within the Water Distribution functional unit.

Asset & Records Functional Unit

Overview

The Asset & Records Manager is responsible for the management and oversight of all records and databases in the Public Services Department. For the WRD, we understand this applies to water base maps and GIS records. This position is also responsible for the administration of the Computerized Maintenance Management System, Lucity and GIS platforms. Utility requests associated with the State 311 program is also under this position. Please refer to the Asset & Records Manager job description in Section C4 and the full A3 business model of the functional unit in Figure 12 in Section D3 for detailed descriptions.

Structure and Composition

At the time of our assessment, the functional unit organization structure is led by the Asset & Records Manager whose direct reports include:

- One lead draftsperson
- One GIS specialist
- Four Engineering Technicians

Current State

The current state of the Asset & Records Manager and functional unit is illustrated in Figure 10. Please refer to the Lean A3 model in Figure 12 in Section D3 for both current and future state discussions. The problem statement is to "Define Managerial Capacity required to sustain Asset & Records to Stakeholders" and in accordance with PA399. Managing a sustainable functional unit refers to the long-term strategic objective for geospatial data, metadata, governance, software, and respective human assets for data maintenance. It also includes translation of geospatial and metadata into information to stakeholders for well-informed decision-making.

Based on our assessment and read of the job description, two important duties of the Asset & Records Manager include:

1. Works closely with the GIS Administrator, Division Managers and Supervisors, and the Engineering Section to ensure that all mandated asset management programs requirements are fulfilled, and Department goals and objectives are addressed as assigned.
2. Responsible for administration of the Lucity System; works closely with IT to add asset management segments to established asset system; oversees as-builts, construction plans, entering of new assets into the system, and the flow of current project paperwork including reporting.

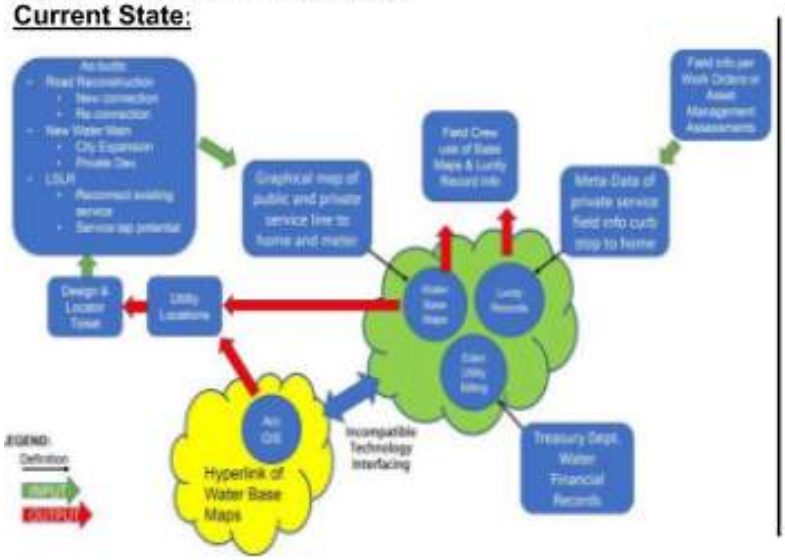
The current state gap in these two duties is that the WAMP is incomplete and the WRD minimally use its WAMP to formulate decisions. Therefore, the ability to fulfill asset management program requirements, like risk profiles or keep performance metrics, is ambiguous. Secondly, Lucity is currently administered by one staff member in the City's IT Department, which is contrary to the Asset & Records Manager job description. Our assessment also indicates unclear roles and responsibilities with Lucity implementation, inadequate asset information strategy, and program management. There is an opportunity for the Asset & Records Manager to program manage and develop the Lucity implementation plan for the WRD and remaining assets within the Public Services Department in conjunction with the IT Department Roles and Responsibilities must be clarified.

Figure 10 – Current State of Asset & Records Managerial Capacity

Problem Statement: Define Managerial Capacity required to sustain Asset & Records to Stakeholders

Background: The Asset & Records function unit comprises of (1) Manager, (1) Lead Draftsperson, (1) GIS Specialist, and (4) Engineering Tech I's. The Manager job description was re-written to transform predecessors. Internal & external stakeholders are served with multiple requests & reports.

Current State:



Water Base Maps Explained

50,000' View – Geospatial location map of WMs (size), Hydrants (ID#s), Valves & Streets(ref)

10,000' View – Detailed as-built of the water system: transmission & distribution lines, gate valves, hydrants, service valves, service lines, & meters

ARC READER

Graphical Information

Graphical Information System - Geospatial location of linear infrastructure

Lots of Data: Better functionality with Lucity, BS&A: for multiple Infrastructure Types

Metadata – Repository for Field Info like New Copper Service Lines or Water Main

Lucity is the City's Computer Maintenance & Management System (CMMS) –Taps

lucity
A CENTRALSQUARE COMPANY

Analysis:

Core Business Objectives

- *Maintain & sustain data quality.*
- *Provide accurate information to stakeholders for well-informed decision-making and safe operations.*

FTE based on Activity = 3.95
Current FTE based on Manager, GIS & Draftsperson Positions = 3.0

1. The unit is data & stakeholder intensive while pivoting to GIS & Lucity best practices.
2. Too many stakeholders are requesting similar information on multiple occasions, which detracts focus from core business objectives, value, and the customer.
3. Water service inquiries is an unnecessary burden for the manager.
4. Utility Location services create value but consume too much time of the entire unit.
5. FTE evaluation supports an additional employee aligned for future GIS needs of the business.
6. A GIS platform is the industry best practice for municipal asset management, which must be the future state emphasis to deliver the business core objective.

The City's Information Technology Department contributes with asset data policy decisions, GIS assistance, Lucity configuration, and certain hardware items, for example, electronic field notebooks and hotspot connectivity for accessing water base maps and metadata.

Since the manager is still new to the position, the FTE evaluation considered the activities between the manager, lead draftsperson, and GIS specialist. The engineering technicians are in the field performing utility locations and do not perform these duties. The current state FTE value for the functional unit is 3.95 with available FTE capacity of 3.0. Our assessment and Lean A3 analysis indicate a functional unit capacity gap primarily due to:

- High demand for utility locations on capital construction projects, private development, LSLR, and other excavations related to the water main asset.
- Water service requests from 311.
- As-built backlog from LSLRs and other water main reconstruction or installation onto the City water base maps and GIS.
- Migration of water assets into GIS.
- GIS expansion for WRD business demands.
- Metadata migration into Lucity.
- Compatibility connections between GIS and Lucity for data sharing.

The A3 illustrates the complex technological platform that must work in harmony to deliver asset information to stakeholders. Geospatial data, metadata, and billing data are core to this functional unit.

GIS and AutoCAD are used for water base maps, but primarily AutoCAD. Water base maps include both public water main and private service line connections to customers or properties. The progression of water base maps over the years has been from paper to AutoCAD, and now transitioning to the GIS platform. GIS is compatible with Lucity, whereas AutoCAD is not. The current state still updates the water base maps from new water main construction or replacement using AutoCAD, but the City is also creating a GIS layer for the same. The full transition from AutoCAD to GIS contains a duplication of efforts until base maps are completely linked to GIS. Currently, there is backlog of as-built record drawings related to the City's LSLR program of which the WRD is addressing by increasing the roster by 1FTE with a Draftsperson position.

Within the above context, our assessment revealed a moderate managerial capacity exhibited by the manager and functional unit. This is primarily due to assuming the point of contact for current utility locations and water service inquiries, which are considered lower-level duties that would normally be assigned to available staff, but this is not the case for there is no staff available. Therefore, direction is reactive when distractions are numerous to the manager position.

Our assessment analyzed the stakeholders to this functional unit and their requests for information. It is evident that similar reports are requested at various times for a variety of stakeholders. At times, GIS operators in other areas of the City are creating multiple data sets of the same data for the purpose of conveying information for their stakeholders. This creates duplicative efforts and data sets which may damaging to the City's overall data integrity. Rules of engagement for any City water data users is not established or documented.

With regards to GIS, the functional unit is conflicted with expanding its GIS capability, implementing Lucity, and migrating water asset data into both platforms. Therefore, the current state is highly reactive, under-staffed, and limited in its thinking for long-term sustainability of water asset data.

The non-critical tasks mentioned above constrain the managerial capacity of this functional unit and the long-term strategies and objectives for managing data and asset records. The Asset & Records Manager has a responsibility to develop strategies that proactively positions water, wastewater, and storm water asset infrastructure beyond the current horizon. Therefore, assuring job description performance as accurately, efficiently, and effectively as possible is paramount for achieving long-term data and asset record objectives.

Environmental Services Programs Manager – Water Functional Unit

Overview

The ESPM for WRD is responsible for managing, administering, planning, and implementing the USEPA and EGLE permitting and reports applicable to the water distribution system and storm water conveyance system. This position is strictly for drinking water and storm water compliance management and is not the ESPM under Wastewater Division within the Public Services Department. Since ground water is the source for the City's drinking water, it claims storm water must be responsibly managed to protect groundwater from infiltrating or conveyed contaminants. This is also consistent with the City's IK2025. This unit manages several programs that influence or support the WRD as shown in Figure 11.

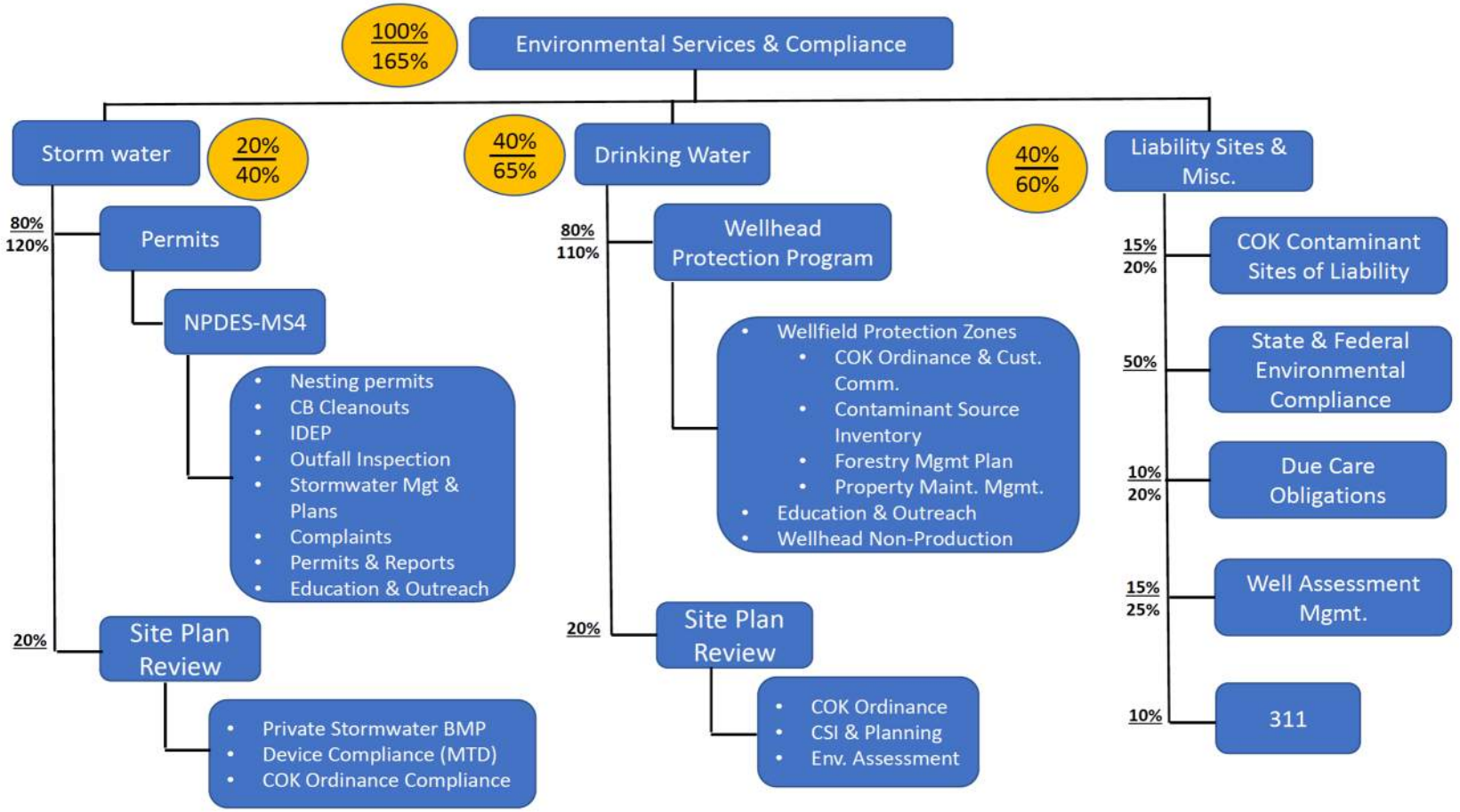
Structure and Composition

Figure 11 is the comprehensive Environmental Services and Compliance service package comprised of three primary categories; stormwater, drinking water, and liability sites/miscellaneous threats, that are managed under the WRD Environmental Services Program Manager. Specific regulatory programs with several elements exist within each category. This illustration also shows estimates for the percentage of time currently spent by only the ESPM on each program (top number) and the percentage that would support moderate to strong managerial capacity if resources were available (bottom number). Also shown are roll up summary percentage splits for each main category.

Current State

In the current state, the ESPM is accounted for a 1.0 FTE, however, in attending to the needs of the business for Environmental Services, an FTE value of as much as 1.65 may be estimated to provide strong managerial capacity. Additionally, there is one FTE of an Environmental Services Specialist that directly reports to the ESPM, whose primary responsibility is managing the requirements under the City's NPDES and MS4 permits. Up to two Senior Civil Engineers from the Water Engineering functional unit perform site plan review for both storm water and drinking water. One of the two water engineers has environmental remediation expertise and experience, and therefore, assists the ESPM on projects that are considered liability sites. This combined expertise addresses both technical and legal elements, respectively, for storm water and environmental reviews related to brownfield development sites and existing private or City-owned liability sites.

Figure 11 – Water Environmental Programs Services Manager Service Package



Historically, the ESPM informs that this service package contained as many as 3-4 FTE's dedicated to its delivery model.

Based on our interviews of the ESPM and the Public Services Director and Deputy Director, the City conducts a vigorous public education and outreach program. The City has a strong managerial capacity in this area. However as noted for the same USEPA Indicator, the City lacks a direct feedback loop from neighborhood associations, businesses, and major economic anchors within its water district.

The WHPP is the only area that we assess as having a range between moderate to strong managerial capacity. The WRD executes a comprehensive WHPP with several activities identified. The current state challenge is that this functional unit is under-staffed and must rely on commitments from other departments or WRD functional units to complete certain activities, such as:

1. Wastewater – Outfall inspections and enforcement
2. Public Works – Storm water outlets, vegetative management, and land management
3. WRD Water Engineering functional unit – Site plan reviews, environmental expertise
4. WRD Water Supply Operations – Well and well pump maintenance management

These units also have competing staffing and resource interests, and therefore, executing specific activities is inconsistent.

As compared to the overall environmental service package, the WHPP percentage constitutes a considerable level of effort. The ESPM reports that the City meets both USEPA and EGLE requirements for a WHPP. However, the current state demonstrates a managerial capacity coordination gap between Water Operations and the WHPP. Water Operations is responsible for the well and well pump operations and maintenance, however the ESPM is responsible for the WHPP. These duties operate in two distinct functional units with little coordination. Particularly absent is the Asset Management coordination between elements of the Environmental Services Program, and wells and well pumps under Water Supply Operations. As a result, we believe a wellhead system exists and must be holistically managed with close coordination between functional units and by the WRD Manager under the umbrella of an Asset Management Plan.

The ESPM is active with the customer communities in assuring their ordinances for new development remains consistent with the City's, especially for the City's new well-define storm water ordinance, as is relates to impacts to wells and well fields. The ESPM reports that areas of additional resources would be beneficial in assisting with the source contaminant inventory, forestry management, and property maintenance management program elements. The ESPM solicits grant funding as available and prepares reports as required.

Typical to most municipal agencies, there is a tendency to perform moderate activity levels to a lot of programs due to the regulatory nature of maintaining forward momentum. This approach is indicative of the ESPM which is indicated by the split in estimated percentages shown in the above illustration. Based on our assessment, the ESPM position for water has moderate managerial capacity. The service package is robust, appears relatively efficient and leverages internal resources well, but remains under-staffed to conduct its business operations. Historical records of the service package indicate a similar conclusion. With the fast pace of evolving regulatory landscape, this service package is not sustainable at the current state FTE levels.

Managerial Capacity in the Context of Financial Capacity

AAM interviewed the City's financial and utility rate consultant, Mr. Bart Foster of the Foster Group to understand the impacts on the WRD managerial capacity from a financial capacity perspective. We understand from Mr. Foster that the WRD has an ambitious $40 million (CIP). We have also read the 25-year Water Capital Improvement Plan as received from the WRD which is intended to be based on recommended projects from the Water Reliability Study. In this same context, the Water Reliability Study is the capital investment strategy that

supports the WAMP. Our assessment also indicates that the capital improvement planning decision-making process is loosely organized. Based on our assessment and our read of the above-mentioned documents, the following current state topics present an opportunity to improve the WRD managerial capacity in delivering the water CIP efficiently and effectively:

1. CIP Content – use the science from an accurate and complete WAMP that is comprehensive of primary water asset systems and components to drive CIP strategies. Gaps exist with recommended project lists between the WAMP and the 25-year CIP. The 25-year CIP is also incomplete to the anticipated period.
2. Process – develop a CIP decision-making tool that documents the process, criteria, and enables stakeholder input as capital projects move through various organizational gates of authority. The Utility Policy Committee is an excellent example of stakeholders whose input would be valued within such a process.
3. CIP delivery – develop resourcing strategies to support the 5-year CIP based on internal and external resource capacity. The health and capacity of the consultant and contractor supply chain must also consider the influx of funding from the recent infrastructure bill.

As indicated in the Water Engineering Functional Unit, challenges exist in over-utilization and workload forecasting that may impact the efficiency and effectiveness of CIP delivery. Additionally, greater volume of annual projects precipitates more projects requiring utility locations. As indicated in the Asset & Records functional unit, their ability to maintain pace with the current volume of utility locations is already at capacity. Also noted is the currently strong economy that increases the volume for site plan reviews and utility locations for water main in private development construction.

USEPA Assessment Summary

Section C15

USEPA Managerial Capacity Assessment

Overview

Applied Asset Management administered the U.S. Environmental Protection Agency (USEPA) guideline document for “Assessing Water System Managerial Capacity” dated March 2012 as acquired from the USEPA website. This document appears to be in cooperation with state regulatory agencies in each USEPA region and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) workbook on assessing municipal water system managerial capacity. The full USEPA assessment tool with definitions to each is available at https://www.epa.gov/sites/default/files/2015-07/documents/epa816k12004.pdf.

We administered the USEPA assessment to Public Services Director, James Baker, Deputy Director Teresa Johnson, and external financial consultant Bart Foster with the Foster Group. The Foster Group is responsible for developing the water rates projections based on the recommended water capital improvement projects from the City's Reliability Study. We deemed the Director and Deputy Director to be at the most appropriate level within the organization to respond to the USEPA assessment, with the Foster Group providing in-depth knowledge of the financial component of the assessment. At the time of this USEPA assessment and based on our managerial time assessments and interviews of the Water Resources Division (WRD) management (manager and direct reports), these individuals are considered new to their positions and limited in their current capacity to knowledgeably respond to the USEPA assessment. Therefore, Applied Asset Management did not include them in administering the USEPA assessment. However, the results of this assessment will be shared with the Water Resources Manager and direct reports so they may become aware, learn, and apply their positions to successfully work toward achieving USEPA managerial capacity.

It is noteworthy to summarize that the WRD scored relatively "Strong" in the USEPA Managerial Capacity indicators; however, we believe these indicators are a high-level glance. We believe the Managerial Capacity Current and Future State summaries in Sections C14 and D3, respectively, contain deeper examinations of underlying capacity gaps and opportunities. Below are the results of each USEPA indicator assessing water system managerial capacity.

Governing Body Transparency and Accountability

The Governing Body is the City of Kalamazoo City Commission. This body approves the following items, but is not limited to:

- water system policies/ordinances,
- water rates and any increases,
- proposed fiscal water system fund budgets,
- 5-year water capital improvement plan,
- award of capital investment contracts for construction,
- State Drinking Water Revolving Fund loan agreements,
- other water system state and federal funding agreements,
- water easements or necessary right-of-way acquisitions, and,
- other necessary approvals for the water asset system as deemed required by law.

Both Director and Deputy Director are considerably involved in frequent communication, seeking approvals, and informational messaging to their Governing Body. They are prepared with a high level of water system competency to field spur of the moment questions from City Commission or the public at these meetings. All sessions are open to the public in accordance with the State of Michigan Open Meetings Act. The Public can inquire and provide input at each session. Presentations and public agenda are prepared by staff and presented at meetings; water rates are read for each proposed calendar year. There are City Commission meetings dedicated to discussing the development of proposed water rates, and if any, reasons for water rate increases with supporting justification. The Director and Deputy Director recommends capital projects that improve water system performance in accordance with technical and regulatory requirements; and accompanying water rates to support those efforts, including the dollar impact per month to the water customer.

The City of Kalamazoo also participates in a Water Advisory Council that comprises of customer community representatives. The Water Advisory Council is mandated by EGLE.

Director and Deputy Director are leading and participating in the newly formed Utility Policy Committee (UPC) comprising of the City and customer community representatives of the surrounding cities townships, and villages that own water distribution mains and components geographically specific to their community and receive

drinking water from the City water system. The Director is forging solid relationships with UPC members while seeking their input and concurrence in advance of City Commission meetings for items including but not limited to:

- Water rates projections,
- Five-year water capital improvement projects,
- Policies, and,
- Fiscal water system fund budget preparation.

Based on our assessment, we believe the City meets or exceeds the minimum level of this USEPA indicator. The Director and Deputy Director have developed and work hard at maintaining transparency including a high level of trust with the City Commission. Similarly, this same trust is being cultivated with the newly formed UPC representation. Below is our assessment of the City for this USEPA indicator.

	Assessment		
Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Customer participation in governing body meetings	✓		
Open meetings held by governing body	✓		
Staff communication with governing body	✓		
Customer communication with governing body	✓		
Open records provided by governing body	✓		

Gap and Recommendation

Based on our interview, we do not observe gaps within this indicator. However, we recommend the WRD Manager participate in the UPC and City Commission meetings to communicate to direct reports system-wide concerns or decisions that affect water operations, distribution, environmental programs, water engineering, and asset records. This communication effort is intended to maintain a clear vertical “line of sight” between the WRD and City Commission and is important to continuously align activity, staff, and processes with City policies and long-term strategic objectives. This is particularly true due to the number of new staff in water management, superintendent, and supervisory positions.

Governing Body Training

In 2015, the City began escalating its capital investment program due to years of inadequate funding levels with respect to system age, increasing regulatory demands, and other specific water quality issues unique to Michigan of the Great Lakes region. Capital investment not only targeted projects for capacity and reliability, but also addressed stakeholder training in public drinking water systems.

Public Services and the WRD informed AAM that EGLE has historically offered municipal officer training, however not often enough, with an emphasis in wastewater, but very limited for drinking water. Historically, EGLE conducted training; however, the American Water Works Association or Michigan Water Environment Association has become the principal promoter for training in public drinking water systems to a variety of municipal agency audiences. The Public Services Director prefers that the UPC representatives attend municipal officer training, and perhaps City Commission, but the latter may be challenging due to term limitations and other City commitments as elected officials. In the past, Public Services provided tours of their stations for elected officials. COVID-19 paused this opportunity, but Public Services seeks to resume tours when permitted. Bases on our understanding, below is our assessment of the Public Services and the WRD as related to the water asset system for this USEPA indicator.

	Assessment		
Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Governing Body Training	✓		

Gap and Recommendation

Based on our assessment, we do not believe gaps exist with this indicator. We believe the Public Services Director and the WRD provide opportunities for their governing body to become more aware of the "high-level" physical and operational aspects of the water asset system. The Public Service Director will encourage the UPC to seek appropriate training to raise their competency level for valued engagement and decision-making ability.

Water System Staff Training

Prior to COVID-19, Water Resources coordinated with union representatives for employee training and to convey vision and direction as it relates to divisional supervisors and field personnel. This effort was paused during the pandemic. The Public Services Director indicated a preference to restart this program with WRD employees, as permitted and after the pandemic matters stabilize. Union level employees have training and certification requirements incorporated into their job positions and within any advancement. In the past, vendors or local contractors are occasionally sought to train operators, maintainers, and field crews on new equipment, machinery or appliances in both Water Distribution and Water Supply. Professional level employees attend industry-leading conferences and training as part of employee professional development such as the American Water Works Association. The City indicated that all training is incorporated into the Water System Fund annual operating budget.

Below is our assessment of the WRD Water System Staff Training for this USEPA indicator.

	Assessment		
Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Staff Training		✔	

Gap and Recommendation

Based on our assessment, aligning, and increasing employee competency levels is challenged due to recent attrition and high employee turn-over rates within the Water Distribution field crews. The WRD continues to be impacted by the Early Retirement Incentive of 2012 that affected staffing levels. There is not an observable connection between training, professional development planning, or probably the most important aspect, supervisor accountability to assure staff is well trained. For example, several staff within the Water Operation & Maintenance functional unit attest to either being trained within operations but not maintenance, or vice versa, despite job description requirements that may exist with employee advancement. However, during the development of the Capacity Study, the WRD has filled critical WRD management and supervisory positions. These individuals have indicated an objective of developing a sustainable conduit of employees trained across multiple functional units within WRD.

Furthermore, we recommend training to close technical and managerial competency gaps that increase activity effectiveness at attaining long-term strategic objectives. A highly variable regulatory landscape has forced the City into a reactive mode of training just to maintain pace of new regulations rather than a long-term view that effectively achieves outcomes and strategic objectives. Case in point is the City's employee union job position developmental programs and Municipal Worker Program within the Water Distribution functional unit which outlines specific training, certifications, and licenses required to advance from an entry level apprentice to a Municipal Work IV (top tier) position. Albeit the City is credited for having a digital dashboard of completed training with respect to these programs; however, progression as functional units and as a division needs better coordination with a schedule and milestones attached to annual performance evaluations and succession planning, and alignment with both strategic and regulatory objectives. Hence, coordinating training with succession planning is paramount.

Based on our assessment, we were not aware of any professional development plans for the Water Distribution Field Supervisors and the Water Engineers stated that no professional development plans exist for them. The Asset & Records functional unit informed that professional development plans are documented, but this cannot be confirmed. We recommend that individual professional development plans be prepared and documented for the following positions:

- Water Operations & Maintenance Manager
- Water Distribution Supervisors
- Water Engineers
- Water Distribution Manager
- Water Superintendent/Water Assistant City Engineer
- WRD Manager
- Water Environmental Program Services Manager (overseeing Water and Storm Water quality permits)

Plans for the aforementioned positions may exist, but we have not observed any that are documented outside their individual job descriptions.

Regarding regulatory requirements, the Environmental Services Program Manager (ESPM) functional unit is the responsible group in remaining abreast of regulations in water quality. Based on our assessment, this functional unit has a comprehensive professional development program for laboratory operations and its individuals. This unit operates within the City's Wastewater Division organizational chart and is responsible for both wastewater and drinking water laboratory testing consistent with state and federal requirements. The ESPM informed the importance of constantly remaining engaged with changing regulations to proactively pivot with acquiring specific training, documenting standard operating procedures, and purchasing appropriate testing apparatus and appliances. Our professional opinion is that the ESPM functional unit is well trained and equipped for water quality regulatory demands.

The importance of coordinating employee training with annual performance evaluations and succession planning and falls well within the sphere of this USEPA indicator. Our recommendations include, but are not limited to:

- Complete and document all professional development plans for all WRD staff appropriate to their position and functional unit. We recommend understanding employee career ambitions to tailor professional development accordingly and assure alignment with strategic objectives. All plans must contain milestones for completion.
- Coordinate with other municipal peers in the state and attain additional operator training within an Operator Certification program to identify possible training opportunities.
- Connect staff with local EGLE technical assistance providers regarding opportunities for training. Conduct regular area training and cross training within each functional unit.
- Coordinate professional development plans with staff annual performance evaluations.
- Coordinate with the City's Human Resources department in coaching managers and supervisors on how to conduct a good annual performance review for positive employee experience and development.
- Integrate professional development with succession planning to improve employee retention, morale, and sustainability of institutional knowledge base.
- Integrate and perform regular training related to the Water System Emergency Action Plan (EAP) and operations with staff.
- Assure training is complete and accurate between laboratory programs and water operators that must implement sampling and recording for water quality and regulatory requirements.
- Provide and encourage supervisory accountability to conduct professional development plans, annual performance reviews, EAP training, and coordination with succession plans.
- Augment the current dashboard and maintain it to monitor employee professional development.

Water System Planning

The WRD conducts water system planning and has plans in place as prescribed within this USEPA indicator, except for Operations & Maintenance Planning. Based on our assessment, water system planning is loosely coordinated and must be more integrated with the Water Asset Management Plan (WAMP). The appropriate interjection into the WAMP is at the Demand Analysis step. For example, the Reliability Study and General Plan develop the water system capital improvement needs and is integrated with the WAMP. All other available plans listed within the USEPA indicator are independent yet are considered some form of demand on the water system. We recommend that the next version of the WAMP integrate elements of these other plans that may impact the water system sustainability and financial resiliency under their identified respectful risks.

Operations & Maintenance (O&M) Planning

Gap and Recommendations

Based on our assessment, this area has weak managerial capacity and offers an opportunity to develop the competency, particularly in water asset lifecycle strategy and planning and preventive maintenance management. Our assessment informs that WRD O&M planning is based largely on historical activity. Although, there is an opportunity to use historical activity in the context of assessing water asset risk; however, risk assessment is another competency yet to be acquired. The Computerized Maintenance and Management System (CMMS), Lucity, is utilized, but work orders are created on a reactive basis. Please refer to the sections on Managerial Capacity and Asset Management Maturity Assessment for further gap analyses and recommendations with this USEPA indicator.

Water Resources Management Planning

Gap and Recommendations

The WRD prepares and submits a supply and demand-based Reliability Study and General Plan at regularly schedule intervals as required by the state regulatory agency. The WRD Manager is aided by the Water Superintendent who is an experienced and register professional engineer in the State of Michigan. Additionally, through our assessments and interviews, we believe the managerial capacity is strong with this USEPA indicator topic.

Source Wellhead Protection Planning

Gap and Recommendations

The WRD has a state recognized Wellhead and Wellhead Protection Program (WHPP). The Water Environmental Program Services Manager is responsible for managing the WHPP (Please see the WRD Organization Chart in Section C3 and the functional unit summary under Section C14). The City Early Retirement Initiative strategy implemented in 2012 reduced the staffing levels and has impacted the managerial effectiveness of this functional unit.

Under the responsibility of the Water Environmental Program Services Manager, the WHPP is embedded within the context of the City's Storm Water Management Plan, Storm Water Ordinance, Site Plan Reviews, and Miscellaneous Environmental Liabilities. Additionally, the Environmental Programs Manager is currently conducting a digital inventory of the wellfield capture zones including all potential surface water contamination sites and activities, land ownership, relevant written agreements, monitoring and documentation of activities and water quality trends. These include active and abandoned wellheads within the County.

Integration of the water supply well/pump system with the WHPP is recommended. Based on our assessment, the well/pump system and WHPP are two separate and distinct functional units within the WRD organizational structure. A Systems Engineering approach is recommended to holistically address both elements associated with water supply, for at times, each may have cause and effect on the other. This is discussed in the framework in Section C14 under the Water Supply O&M functional unit. Due to this structural condition, the WRD Manager will need to recognize and champion the integration of the well/pump system and WHPP.

The current Asset Management Plan is recommended to include the water supply system of wells and well pumps at each station. Based on our assessment and read of the 2017 WAMP, the well/pump system and WHPP capital improvement strategies are not considered. In 2019, the WRD Manager position experienced attrition with an elapsed period before the vacancy was filled. As a result, institutional knowledge of the well/pump system and WWHP was not transferred to the current manager in charge. AAM is currently under contract with the City to

perform a well and well pump data integrity and gap analysis for an eventual Water Supply Well/Pump System Asset Management Plan.

Emergency & Disaster Preparedness Planning

Gap and Recommendations

Please refer to the Emergency Action Planning/Operations section in this Managerial Capacity Study for our identified gaps and recommendations related to this USEPA indicator topic. We have indicated strong managerial capacity since the WRD has produced evidence of an EAP specifically prepared for the water asset system. Additionally, the WRD Manager attends regularly scheduled Emergency Action Operations meetings with the County of Kalamazoo and surrounding jurisdictional agencies. However, we have indicated moderate managerial capacity since the EAP contains four broad categories without any scenarios applicable to the City's water asset system as indicated by example in the USEPA indicator. Due to attrition of several WRD positions, the EAP has not been communicated to various staffing levels within the division or has WRD conducted any practice exercises.

Water Shortage (Drought) Management Planning

Gap and Recommendations

The WRD does not currently have a Water Shortage Management Plan. Based on our assessment, the WRD had considered one several years ago, but one never materialized. This study recommends considering water shortage as a scenario within its EAP, if not creating a dedicated Water Shortage Plan.

	Assessment		
Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Operations & Maintenance (O&M) Planning			✓
Water Resources Management Planning	✓		
Source Wellhead Protection Planning	✓	✓	
Emergency & Disaster Preparedness Planning	✓	✓	
Water Shortage (drought) Management Planning			✓

Asset Management Programs

In 2017, the City prepared and submitted a WAMP to EGLE This ACO response recommends completing elements that are deemed missing and provide a comprehensive WAMP that incorporates primary water asset components. Absent from the WAMP are Level of Service performance statements as well as asset management plans for primary components that reflects actual water supply operations and maintenance delivery strategies. For example, the City's water source is entirely a groundwater system with well and large wellhead pumps spread over Kalamazoo County. An asset management plan does not exist representing its well fields, wells, and well pumps as individual components or collectively as a functional system.

The current WAMP only contains a criticality map of the water main system. Absent are risk profiles for all remaining primary asset components of the water system.

In 2020, a Strategic Asset Management Plan (SAMP) was completed for the water asset system that developed long-term water infrastructure objectives. The SAMP linked WRD activities to the infrastructure objectives and the City's Imagine Kalamazoo 2025 Community Master Plan (IK2025) community long-term themes and objectives through a Strategy & Performance Framework. The SAMP also recommended WRD develop a Water Asset Management Policy. A risk profile was developed to illustrate the greatest barriers that may impede WRD in achieving its water infrastructure and IK2025 long-term strategic objectives.

Gap and Recommendations

Gaps in WRD's Asset Management Program begins with its culture. It is recommended that the WRD make the WAMP its 'centerpiece' for its mode of operations; however, it must first complete missing elements and primary component risk profiles. It is strongly recommended WRD adopt a culture of practicing Asset Management using its SAMP and WAMP (long-term strategic approach) as opposed to 'managing assets' (daily tactical approach). This is challenging for the WRD is in its initial journey of proactively practicing Asset Management rather than reactively 'managing its water assets'. It stands that implementing this ACO response related to its WAMP, Asset Management Assessment Roadmap and Managerial Capacity recommendations will improve WRD's maturity level in practicing Asset Management. However, WRD, Public Services, and the City as an organization that includes other contributing departments are recommended to adopt an Asset Management concentric focus. Our recommendations for this USEPA indicator include, but are not limited to:

- Create and adopt a Water Asset Management Policy or Guidance document.
- Align its culture with the SAMP and WAMP.
- Constantly work at a 'coordinated activity' across all WRD functional units to realize optimal value from the water asset system.
- Relentlessly pursue customer value for its stakeholders.
- Frequently communicate policy, SAMP, WAMP, and IK2025 to internal water staff within an illustrative framework.
- Create a dashboard for monitoring the water asset system. This should include both infrastructure and business objectives. We also recommend simple 'box scores' that display activity level performance measures.
- Develop and monitor risk profiles for all primary and critical water asset components.
- Consult for periodic executive coaching and mentoring within all levels of the organizational chart to develop appropriate manager skillsets for those positions with direct reports.
- Adopt and rigorously practice Lean Thinking to reduce water system expenses and make more available activity level staff enabling redeployment for preventive maintenance delivery supportive of the WAMP, SAMP, and IK2025.

These recommendations and others in this report collectively benchmark WRD's current state and transformation to a future state of operational sustainability. Below is our assessment of Water Resources for this USEPA indicator.

	Assessment		
Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Asset Management Program		✓	

Budgeting, Rates & Cash Reserves

The City has conveyed a historical context that summarized organizational and WRD events within the last 15 years (refer to Section C14), and earlier, that has influenced financial decisions and water rates since the appointment of James Baker as Public Services Director in 2015. Factors significantly influencing the Water System budget include, but are not limited to:

- The Great Recession,
- Climate impacts (both drought and wet weather seasons),
- City of Kalamazoo 2012 Early Retirement Incentive program,
- Previous financial and organizational cultures,
- Regulatory landscape, and,
- Lack of water system capital investment.

Hence, the previous Water Resources culture has been heavily operated as an institution rather than a business. Upon James Baker's appointment as Public Services Director in 2015, the Department and WRD staff have described a healthier balance between institutional and business modes of operation. This attitude has enabled the water asset system to embrace a business model standard practice found in many well-operated larger utility systems with a focus on better balancing sources and uses within its budget.

Since 2015, Public Services has reorganized its overall structure, more specifically, organizational chart. This organizational structure, which is currently in place today, enables a Director and Deputy Director relationship that balances business and institution. The Director is "upstream" facing to the City Manager's Office, Governing Body (City Commission), public, and other external stakeholders. The Director serves as the educator and ambassador in conveying information to the governing body for decision-making. The Director develops and conveys the "Top-Down" financial approach and picture to the governing body. The Deputy Director is "downstream" facing to the WRD in assuring WRD staff and water activity is well-coordinated and efficient in producing effective outcomes aligned with long-term strategic objectives. The Deputy Director is also responsible for organizational components, for example other City departments, that contribute to water's coordinated activity or outcomes. City Hall (water system billing), Human Resources Department (filling vacancies and developing managerial skillsets), Purchasing (vendor procurement), and IT Department (asset data policy, hardware, and software technical needs) are such examples. There are also organizational processes within these and other departments that influence water coordinated activity that is beyond the control of the WRD. The Deputy Director effort in conjunction with the WRD Manager develop and sustain the "Bottom-up" approach that aligns activity and people delivered onto the water asset system. Based on our assessments and interviews, Managerial Capacity gaps exist where the Top-down and Bottom-up approaches meet. This is namely at the interface between WRD Management and Public Services Management. We define this as the vertical 'line of

sight'. We will acknowledge that a good relationship and communication exists between the Public Services Deputy Director and new WRD Manager, but years of inefficient cultural behaviors demonstrate an opportunity to improve the managerial capacity in support for effective water division coordinated activity.

This managerial gap in the WRD coordinated activity affects the water system budget and the City's ability to accurately plan for operations, maintenance, and capital needs of the business. Examples of these gaps include but are not limited to:

- Effective utilization of available resources, like internal staffing.
- Monitoring scope, schedule, budget, and project risks on water capital projects that should strive to reduce the Total Cost of Asset Ownership over the lifecycle of an asset.
- Efficient use of finite funds for Water Distribution field programs and Water Operations activity, which aids in delivering effective outcomes and helps stabilize water rate volatility and budget challenges.
- Workload forecasting of field crews and efficient water distribution activities, like water main break repairs, increases field crew availability to exercise valves or replace more lead service lines.

These are all examples of "Bottom-up" managerial capacity that if efficiently and properly coordinated, can attain long-term water business objectives. Additionally, practicing water system preventive maintenance increases system valuation and net present value which maintains or increases bond rating and aids debt-service coverage ratios.

The water system fund budget is presented to the governing body as part of the budget preparation cycle for fiscal approval. The budget is not presented on a monthly basis since the amount of detail for this audience is inconsistent with the governing body competency level on the water system. However, quarterly budget reports are presented to the UPC representing the customer communities and are sought for input and provide transparency. The Director uses this opportunity as an education effort in explaining regulatory requirements that would normally be conducted through a state training program for elected officials, for example, PFOS/PFAS, MLC Rule, or other regulations more unique to Michigan than other USEPA regions.

The City has a strong managerial capacity with its annual budget process and water financial analyses, including both operating and capital budgets, that are approved by its governing body. The City informs that training, professional development, certifications, and licenses are included in the budget.

	Assessment		
Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Budgeting	✓		
Ratio of Revenues to Expenses of the past few years	✓		
Rate Conditioning Index	✓		

	Assessment		
Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Relevance of Rate Structure Design	✓		
Operating Cash Reserve	✓		
Emergency Reserve	✓		
Short-lived asset (components that last 5-6 years reserve)		✓	
Capital Reserve	✓		

With regards to Rate Conditioning, water rates have historically been among the lowest as compared to other municipalities in the state and uninvested based on system needs and age. Beginning in 2019, rates have steeply climbed marking an effort to begin closing the gap in system age and increase its reliability, water quality and overall value.

Regarding reserve accounts, the City adopted a Utility Financial Policy in the 1990s that guides reserve strategies. This remains evident in the 2021 Water Rate Report.

Gaps and Recommendations

1. Metered water use. The WRD includes water meter replacement and upgrades to Smart Metering technology in its Capital Investment Program. We understand the program is schedule for completion as early as 2026, but this is dependent on internal and external resourcing strategies and their approvals in the budget and competing state and federal regulatory requirements in the United States. Nonetheless, this program should be revisited as part of the capital improvement planning decision-making process for each fiscal year budget.
2. Alignment. This study recommends re-evaluating the rate structure design in the context of long-term infrastructure and community objectives. The Foster Group informs that the budget is developed based on Reliability Study/General Plan identified capital needs and historical O&M costs. For the first time, EGLE required completion of a WAMP that incorporates the CIP, but it too requires alignment with long-term strategic objectives. The City's SAMP shows this type of alignment by threading all documents together in both Corporate Strategic & Performance and Asset Management frameworks.
3. Short-lived Assets. Based on the current WAMP, it is unclear if short-lived assets are categorized beyond water distribution piping. It is recommended this be considered in the next WAMP update.
4. Reserves (in general) – this study recommends water asset risk assessments on appropriate components and systems. Mitigating risks improves financial resiliency.

5. Water Asset Management Plan – revise the WAMP consistent with this study's recommendations. A complete WAMP will improve the accuracy of identifying projects and funding for both short and long-term capital improvements. It may enable diversity in portfolio funding sources by expanding its context in other opportunities besides the current reliance on bonds and SRF loans. Hence, the WAMP and capital improvement plan Decision-Making process are vehicles to explore funding strategies by leveraging other sources of funds and grant opportunities from other linear assets. Examples include but are not limited to FHWA, FEMA, USEPA, HUD, and others that will result from the 2021 Infrastructure bill.

Water Policies

General Policies

A list of policies is available in Section C12. The Public Services Director's Office is the repository for and responsible for all water system policies. Water policies may be "administrative" pertaining to personnel, or the administrative functions of the WRD, or pertaining to the "system" and its water customers. The Director's Administrative Assistant compiles all policies. The Director may assign Subject Matter Experts within one or more functional units of the division on an as-needed basis. Policies are also updated upon revealing field issues during program work, like the City's bi-annual hydrant flushing program and similarly with safety related issues.

The Water Standard Specifications for Construction is the "system-wide" technical policy document for all new water main construction and repairs to existing water main. This document is annually reviewed by the Water Superintendent. Additionally, the Director, who is also the City Engineer, provides specific technical comments to the Water Superintendent on the standard specifications. The Water Superintendent, as the licensed Water Engineer-of-Record, is responsible for sealing the standard specifications as a submission to the state regulatory agency.

The City acknowledges that some policies require review and updating with respect to the water operations functional units. Additionally, there may be policies that are dated, yet remain very applicable as is. Hence, the City checks the adequacy of the policy against the most recent Water Standard Specifications for Construction. To the best of the Director's knowledge, it is believed the WRD operates well within its adopted policies. Most of the water policies are regularly updated, enforced, and communicated to internal and external stakeholders. An example is for water main distribution repair, such as a main break repair standard details including winter-cut restoration requirements.

Gap and Recommendation

Consistent with the context of the ACO findings, sustaining a clear, vertical 'line of sight' for communicating policies is a managerial capacity gap within Public Services and the WRD. This was very evident in the Water Main Break Repair activity evaluation. Field supervisors and staff want a clear sense of direction and purpose for their contributing activities based on a policy or guidance document. Establishing a clear, vertical 'line of sight' will help transition engineers and field personnel from "being told what to do" to "empowering to find innovative solutions on what they do" that align with an understanding of direction and purpose emanating from effective communication. Therefore, we strongly recommend policy, consistent communication, and fair and just accountability as agenda topics at each direct report to supervisor meetings.

Personnel

Organizational cultures are analogous to a metamorphic process due to influences from predecessors, inherited processes, technological advancements, and increases in system demands over many generations. WRD is no exception to this rule, and hence in some instances, our FTE evaluation had identified differences between actual employee activity and written job description expectations. We have received and read all documented job descriptions that support the September 2021 WRD organization chart.

Policies exist regarding City personnel, City property, and other departmental policies like IT and Fleet. WRD functional units are personnel, equipment, fleet, and data intensive, thus, external departments will need to support them for proper training and accountability. Additionally, the Municipal Employee Program comprises many WRD field positions of whom have policies outlined within the City's Union "Green Book". Similar is for the training requirements for career growth and advancement within each functional unit. With the recent hire of a Safety and Training Officer, we recommend policies related to these areas of focus, if any, be reviewed and further developed where necessary.

Gap and Recommendations

The gap is shown in managerial FTE values consistently approaching or exceeding 1.5 (refer to Section C14). Although the focus of this capacity study is on managerial capacity and not direct report staffing levels, annual documentation that justifies differences between actual employee activities and their respective written job description beyond other related duties supports the science for strategic increases in staffing levels. We recommend the following to minimize this type of disparity:

1. Conduct annual performance evaluations to document evidence of actual employee activities.
2. Annually review actual employee activities versus written job descriptions, and in some cases, physically shadow an employee's activity to understand how value is being created.
3. Review workload forecasting outputs and employee utilization factors from the resource management process.
4. Maintain regular communication with the employee and make mutual adjustments as needed.

The above are not considered "hard" recommendations, but managerial training is strongly recommended from the City's Human Resources Department and the appropriate employee Union representative when addressing personnel policy matters.

Contracts

In the context of Asset Management, contractual policies refer to WRD's supply chain management to support the water asset system, including consultants, contractors, and vendors. Policies exist for City contracts and are applicable to the specific administrative request. Policies may vary based on type of contract. For example, there are contracts for water system corrective maintenance, preventive maintenance, professional service agreements for consulting, contractual services for construction and as-needed assistance to augment staff capabilities. The City informs that many of its contractual requests are well written, but acknowledges room for improvement, especially for language consistent with current best practices. Language in City contractual standard templates is annually reviewed against current state and federal regulations.

The WRD does not contract its water operations. There is an undocumented precedence that only WRD staff may alter or repair a live City water main. This precedence has been established from decades of organizational policy, and City Commission intent, but no documented policy exists. The WRD takes great pride in the water main infrastructure. Recently, the City has extended a small piece of this responsibility to a local contractor through a competitive bidding process for items like miscellaneous water repair or restoration services. In cases where significant progress must be demonstrated beyond the availability of internal staffing resources, contractual services have been rendered to replace water system components, like water meters, in jurisdictional customer communities.

Inter-agency contractual or cooperative instruments outlining certain terms of responsibilities may also exist between local, county, state, and public utilities. These agencies include but are not limited to private communications, gas and electric utilities, surrounding townships and villages, county road commission and state department of transportation. The importance of inter-agency agreements helps mitigate universal topics to all agencies such as infrastructure damage and loss prevention to each respective party

In the context of supply chain management, the City has responded to economic ebbs and flows over time. The City constantly modifies and reviews specifications for standardization of components to eases procurement, adapt to inflation and price fluctuations, and in this case, approving the use of multiple equivalent water system components. Subject Matter Experts in each functional unit are responsible for reviewing the market for component cost, equivalency, and technology. Our assessment revealed an opportunity for greater WRD preparedness during spikes in economic activity or significant increases in federal and state funding opportunities. For example, the City does not appear to have reviewed or adjusted its supply chain in anticipation of the proposed Infrastructure Bill in Congress. Similarly, the City did not confirm proactive efforts to align Micro-local Business Enterprise companies for construction contracts if their regular large corporate contractors seek DOT contracts. The City also must develop preventive maintenance contracts consistent with WAMP strategies. Moderate to strong managerial capacity exhibits inability to maximize funding opportunities, pivot delivery methods or grow/expand MLBE ability.

Gaps and Recommendations

Based on our assessment, gaps exist in Resourcing Strategies (reactive versus proactive maintenance) within the WAMP and the efficiency of processes to deliver those strategies (well-written scope and program/project delivery controls) in the following areas of vendor service:

1. Corrective/Repair/As-needed Maintenance.
2. Preventive Maintenance.
3. Capital Maintenance.
4. Capital Improvement, both professional service agreements and construction contracts.
5. Inter-agency service agreements.

We understand the above types of vendor services are executed through Public Services Department's Support Services Division or the City's Procurement Office. We recommend workflow evaluation of each focus area in the WRD's supply chain management system related to upstream, downstream, and parallel-stream activities or services provided by external vendors. We recommend the following be addressed, but not limited to:

1. Categorization of activity or service.
2. Defining roles and responsibilities.
3. Accuracy and completeness of instruments, i.e., RFQ, RFP, PSA, Construction Contracts and Alternative Contract Delivery methods that emphasize cost reducing strategies and value realization.
4. Project and Program Controls.
5. Resource Management.
6. Innovation, i.e., migrating optimized workflows into Lucity to leverage internal and external vendor efficiencies.
7. Continuous Improvement, i.e., learning from performance measures such as the project change order process, vendor reviews, training, or performing a root cause analysis.

Customer Service – Billing

Customer policies are available on the City's Water Resources website with the intent of increasing accessibility to potential new water customers for activating water service. In the event of severe economic hardships, the City provides a list of places for financial assistance when needed. Shut off notices are sent regardless for many local philanthropic groups require proof of shut off notice (by ordinance) when offering payment assistance to the community's water customers. Enforcement had been performed, except since March of 2020 when the pandemic occurred. Like other municipalities in the state, the City has developed a method of pandemic grant assistance for its water customers. Additionally, the state currently requests each municipality develop a water affordability plan within their respective customer base. Enforcement is necessary at times, and the City may leverage adopted water policies in such instances. In other situations, the City has a policy to reimburse residents

for excessive water consumption from City orders that request residents to run water for an extended period to address water quality concerns. In general, with regards to water customer policies, the City has flexibility and is firm but fair in accordance with City policies and ordinances.

A Water Meter Replacement Program is included in the City's CIP. Through attrition starting in 2019, only smart meters are being installed in large neighborhood sections at a time with an approximate completion date of 2026. The City's digital BS&A tool graphically illustrates residential water consumption, but only for newer meters. Old meter history water usage is determined by physical meter reads. Smart metering enables the City to monitor or review customer daily water flows. This assists with combining "real-time" evidence to property owners that dispute their water bills. The City's managerial capacity increases every time smart meters are installed because information becomes remote for a more efficient City response. Customer water policies may need updating based on smart meter system complete installation.

The WRD informs that the rules with respect to customer policies are being updated, and a document to track their progress will be finalized. The COVID-19 pandemic has impeded regular meetings, but the City anticipates resuming to progress towards completion.

Gap and Recommendations

Water customer policies were in the process of being updated; however, the COVID-19 pandemic impeded this progress. Public Services senior management and WRD management teams anticipate reconvening the review process soon.

We graded both strong and moderate managerial capacity in the USEPA indicator since areas of improvement are recognized based on the above gaps and recommendations. In conclusion, we believe the following represents the City's managerial capacity with respect to the Water Policy USEPA indicator.

	Assessment		
Type of Policy	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
General	✓		
Personnel	✓	✓	
Contracts	✓	✓	
Customer Service – Billing	✓		

Compliance

There have been Treatment Technique Compliance violations between 2018-2020, since then the City has been violation free as indicated in the Annual Water Quality Report. The City was proactive and in constant discussions

with the state regulatory agency in assessing its operations to gain support and consensus for addressing items on the most recent sanitary survey. As a result of this ACO, the Public Services Director has embraced the opportunity to address underlying issues that caused recent sanitary survey violations. The City is eager to employ a final resolution going forward. The WRD management, including Water Resources Manager, Water Superintendent, and Water O&M Supervisor are aware of the recent sanitary survey and ACO.

The water operator is familiar with the water system's current monitoring and reporting requirements and schedule. Our assessments and interviews of the collaborative team implementing this program supports protocols for water system compliance. The City's ESPM operates an efficient and effective laboratory for drinking water regulations and accompanying records.

For the water operator position, certification of both S1 and D1 licenses are required by the state of Michigan based on the City's distribution and treatment system size. A complete list of water operator certifications is provided in Section C5.

Gap and Recommendations

It may be a matter of opinion as to the appropriate number of certified operators for the City's water system operations; however, the managerial capacity gap that exists is associated with an opportunity to address the following issues:

- Succession planning that is holistic and assures personnel are adequately groomed for positions of greater responsibility, as appropriate or when attrition events occur. We recommend the organizational chart demonstrate uniform distribution of certifications to assure certification and competency gaps are minimal.
- Strategic planning for linking certification levels with succession plans to assure gaps do not exist for extended durations or at a frequency that exposes the water asset system to PA399 compliance issue.
- Managerial accountability to assure cross training opportunities are available for employees.
- Professional development for career and certification advancement that supports the interests of both the individual and the water system.
- Cultural challenges with employee retention at the field crew level.

In our professional opinion, we recommend WRD practice "growing" employees from within the division through a robust professional development and annual performance review program. With the current labor shortage (at the time of this report development) and challenges with external hiring, there is an opportunity for an internal developmental program for succession planning of future water system employees.

In our professional opinion, the City operates under this USEPA indicator as Moderate to Strong Managerial Capacity with opportunities for improvement. We further explain the gaps and our recommendations in Sections C14 and D3, respectively. Both Public Services senior leadership and WRD management are working to resolve several of these issues.

	Assessment		
Type of Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Compliance with drinking water regulations		A few violations between 2018-20, but no chronic issues. ✓	

	Assessment		
Type of Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Certified Operators	✓	✓	
Sanitary Survey Deficiencies	✓		

Water Loss (Non-Revenue Water)

Based on the City's 2017 Reliability Study, it does not have a formal water accountability plan to account for unbilled water usage or Non-Revenue Water (NRW). The City acknowledges NRW in normal operations and maintenance activities including water used during hydrant flushing, bleed offs, fires, main leakage, and street sweeping, as well as others, and commonly due to system age and complexity. A 2015 and 2016 approximated NRW at 23% and 13%, respectively, for an average of 18% (information provided by the City's 2017 Reliability Study). At the highest system level, all the large water system components are calibrated and have certified meters that approximate a water loss value. The system within its customer community is not separately metered from the main City distribution system.

The City is currently in progress with a capital meter replacement program. Smart Meters are replacing older meter types in residential homes and businesses. At this point in time, there is not enough Smart Meters installed to obtain an accurate water loss value. Hence, water loss is approximated into the water rate study using best available information. Whether meters are digitally, or manual read, the City has accurately billed water against water reads. This information is stored in the BS&A billing information platform and used to explain to water customers any excessive use of water, whether intentionally known or unintentional due to leaking service or plumbing lines. The City anticipates completion of its meter replacement program in 2026.

Gap and Recommendations

The City has not completed a water audit or a system wide leak detection program. However, the City does render leak detection experts as needed to detect location specific suspected leaks.

Besides the meter replacement program, the City has an ambitious capital replacement program, lead service line replacement program, and valve exercising/repair/replacement program to address leaks in the distribution system.

In time with smart metering capability, NWR approximation will be possible. Until then, it is recommended the City develop a Water Accountability Plan to benchmark known sources of water leaks. We suggest such a plan initially be elementary but have a sufficient foundation for a more structured approach as capital, meter, lead service line, and system valve improvements are constructed. The USEPA indicator recommends monthly recording of NWR, which may be incorporated into a risk-based approach to strategically reduce NWR.

	Assessment		
Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Water Loss (Non-Revenue Water (NRW))		✓	

Customer Education/Support

Historically, the City conducts surveys every 4 years, although it is vague on who is surveyed. The Public Services Deputy Director is currently developing an AWWA formatted customer survey for the spring of 2022. While the City acknowledges that it needs to check-in with its customers on a regular basis, it believes it is ahead of most municipalities with respect to education and customer outreach. The City also perceives that most individuals may be overwhelmed with the amount of communication. The City believes the newly formed UPC will also be a beneficial method in obtaining feedback from its customer communities.

Public Services is typically the face of the WRD in addressing public relations related to the water system. Public Services senior management appears to take an assertive approach such that customers will know about an issue as soon as the City understands the problem. This approach appears to stem from the annual number of water main breaks associated with having to inform the public about service disruption and restoration. The expectation is the customer will follow the City's lead.

Gap and Recommendations

Our assessment informs that the WRD has strong managerial capacity in communicating digital and paper content through multiple outlets. It also attends regulatory required public education committees that provide another opportunity to solicit community members on the committee for input, but in an informal manner. With that said, the City has only moderate managerial capacity in validating its communication efforts. We recommend regular in-person validation with water customers as part of its feedback loop. We understand that devoting time to listen to customer feedback is time-consuming; however, this activity assures continuous improvements in its efforts.

Our recommendations include but are not limited to:

1. Continue active participation on current committees:
   a. State recommended drinking water advisory committee.
   b. UPC.
   c. Wellhead Protection Program.
   d. Hydrologically related storm water committee.
   e. Others as deemed appropriate.

   Committees are informal opportunities to solicit feedback from community attendees, but still there is an opportunity for an inclusive water customer representation.

2. Leverage the Customer Stakeholder Group from the Water Main Break Repair Optimization project. This group comprises of neighborhood associations, local institutions, and businesses within the water district and may expand in coverage as necessary.

   The takeaway is that the City has a misconception of public expectations for receiving its communication. We believe this is an opportunity to develop an approach that offers a genuine feedback loop from its water customers. Prescribed survey questions are helpful, but another layer of validation is strongly recommended. Focus Groups with neighborhood association representatives offers broader community feedback. Similarly, neighborhood associations offer to be the City's advocate in disseminating messages, particularly to senior or disabled demographics within the community.

3. Maximize 311, emails, and telephone calls into the City to the advantage of understanding the public issues. We recommend generating monthly analytics from 311 data and interpreted by a public information person for helping the WRD continuously improve its service delivery. 311 is a method for receiving the real-time "Level of Service" experienced by water customers of the water asset system. 311 offers a single point of contact and repository for recording, categorizing, and generating analytical data for water customer

complaints. Other City platforms, like Lucity and GIS, are not recommended since their technical strength is not intended for this type of analytical processing which causes inefficient effort on the part of various staff

Record, categorize, and evaluate customer complaints and compare with 311 analytics. By nature of which functional unit customer complaints are made, it will be important to understand typical customer complaints that the system receives, approximately how many complaints per month, and handling of complaints. This is all part of continuous improvement.

4. Hire a Public Service individual with strong public engagement skillset and people skills. While the WRD and Public Services senior management exhibits high technical competency, it may benefit from an individual that contains in these essential qualities, which are crucial to how the public receives and responds to communications from the City.
5. Create a Public Information Officer position within the Public Services Department dedicated to public infrastructure per the recommendation in the 2020 WRD SAMP. The water quality landscape in the United States is only becoming more challenging. This position could leverage the Communication Officer position and tools available within the City Manager's Office. Both Public Services and WRD current organization charts are heavily invested in similar cognitive thinking styles that focus on technically managing public infrastructure and less on a public awareness. Additionally, much of WRD's public information is contained within the Environmental Services Program for drinking water, of which the current FTE analysis indicates it is significantly understaffed. Furthermore, the Water EAP is unclear on the roles and responsibilities for disseminating and receiving public information during an emergency event. We understand the City utilizes a Public Services Administrative Assistant for issuing Boil Water Advisories and certain other public information; however, no formal public information role and responsibility is denoted.

The WRD is credited for its active community-engaged committee participation and both digital and paper communication instruments that it makes available for water customers. An example is the WRD participation in the program contained in the following link, www.protectyourwater.net. In any form of public communication and understanding to what degree value is being delivered in both water product and services provided, the in-person customer feedback loop is the best validation technique. Therefore, in our professional opinion, the City operates under this USEPA indicator as Strong, Moderate, and Weak Managerial Capacity as shown below.

	Assessment		
Type of Indicator	*Strong Managerial Capacity*	*Moderate Managerial Capacity*	*Weak Managerial Capacity*
Public Notification	✓		
Communication Methods	✓		✓ Feedback Loop
Customer Service - Complaints	✓	✓ 311	

This concludes out USEPA Managerial Capacity assessment, gaps, and recommendations for the WRD.