

**GREAT LAKES WATER AUTHORITY**

**20  
20**



**ONE WATER**



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## An unwavering commitment to collaboration, teamwork and operational excellence has guided the success that the Great Lakes Water Authority (GLWA) has achieved over the last year, despite the unprecedented challenges presented by an unpredictable year.

Although at the beginning of the year we may not have known how much was in store as a global pandemic struck, I am extremely proud of how GLWA and its team of talented and dedicated professionals responded. We were able to ensure our team's safety while continuing to protect public health in the region by delivering water of unquestionable quality and safe, sanitary wastewater services to southeast Michigan, and beyond, without interruption.

As we are all aware, 2020 was not an easy year, and our lives are forever changed because of it. However, as a result of the strong culture we have built over our first five years of operations at GLWA, we remained focused and positive, and our team members – true Water Warriors throughout all of these challenges – were the living embodiment our core values. And, I believe we found reinforcing strength in our partnership with member partners and other stakeholders that helped guide our way through adversity.

Because of our commitment to each other and our member partners, we accomplished a great deal over the last 12 months. Winning the Association of Metropolitan Water Agencies (AMWA) Platinum Award for Utility Excellence, surpassing \$1 billion dollars in interest savings on our bond issuances, completing our critical 40-year Wastewater Master Plan and graduating our first class of EICT-I apprentices are just a few examples of our successes.

GLWA's fifth *Year in Review* tells the full story of how we continue not only living up to our vision of being the provider of choice for water and wastewater services in southeast Michigan, but also being the example of regional collaboration that was envisioned when we were launched on January 1, 2016. In recognition of these first five year of operations, we are telling our story this year in a special new five-section format that details accomplishments in the following categories:



I am confident that you will see the significant progress we continue to make in every area of the utility.

While it is hard to believe that it's been five years since GLWA was established, it is not hard to believe that we have realized this success thanks to the collaborative relationships among our team members and with our member partners and community stakeholders. I am humbled by your passion, talent and commitment to our region, and I look forward to all that we will do together in our next five years and beyond.

Five years. One Water.

**Sue F. McCormick**  
Chief Executive Officer



# COVID-19 RESPONSE

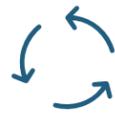
## DELIVERING UNINTERRUPTED WATER AND WASTEWATER SERVICES TO THE REGION DURING THE PANDEMIC

GLWA has been successful in its response to the coronavirus (COVID-19) pandemic because it understood that like with any crisis, the response must evolve as the situation evolves.

Throughout the pandemic, GLWA has focused on two priorities:



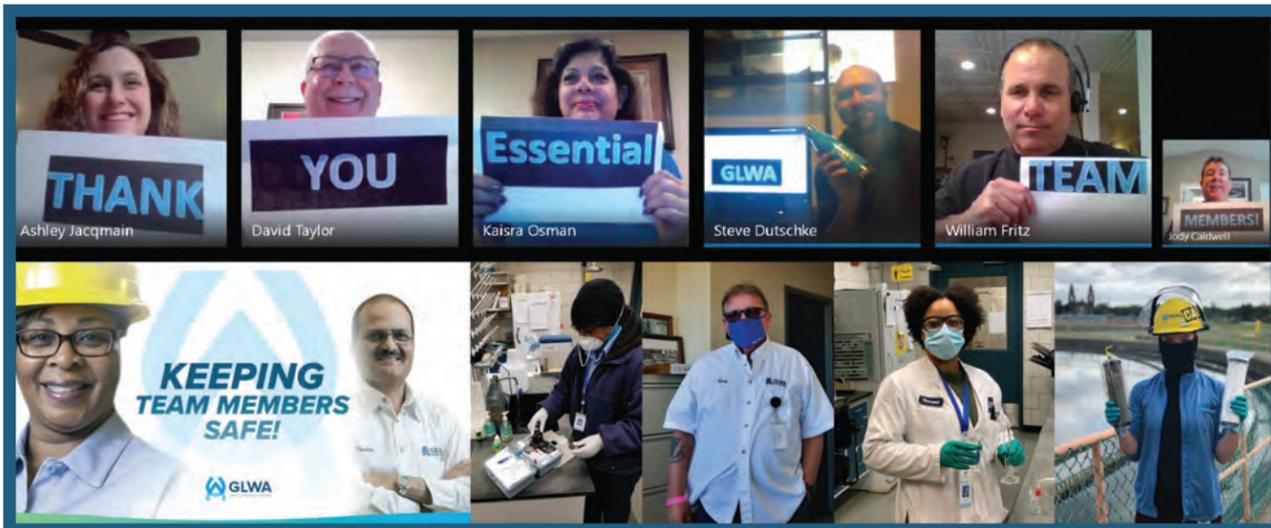
Team members' health and safety



Assuring continuity of operations and service levels

A number of key factors have helped GLWA successfully navigate through this crisis. First, the Authority immediately opened its Emergency Operations Center and began holding daily calls which have kept all areas of the organization in sync, provided for quick and seamless adjustments, assured procurement of essential items and allowed the utility to be one step ahead of executive and public health orders that have been issued at the local, state and federal levels.

The Authority has also maintained clear, honest, and concise communications with its Board of Directors, team members, member partner communities and other stakeholders. Early on, a regular cadence of consistent communication was established, at first daily and now once or twice a week. One essential communication each week has been the CEO Update, which shares critical information, and allows executive leadership a vehicle to express their gratitude and acknowledge the passion and dedication team members have showed throughout this challenging time.



The previously mentioned priorities also guided operational changes, including:

- ◆ Transitioning approximately 30 percent of GLWA's workforce to flexible work arrangements to allow those team member to perform their essential work remotely, and to minimize risk to front-line team members working in its treatment facilities;
- ◆ Suspending non-critical business travel and visitors to its sites;
- ◆ Implementing a health screening questionnaire and temperature checks for all essential contractors and visitors at all GLWA facilities;
- ◆ Implementing a daily health screening form and temperature checks for those team members who report to work at a GLWA facility;
- ◆ Staggering operations shift start times;
- ◆ Instituting one person per vehicle occupancy limits;
- ◆ Conducting regular COVID-19 testing of team members working on-site at GLWA facilities;
- ◆ Transitioning all Member Outreach meetings to a virtual format.

GLWA has also supported its team members and their families with their overall well-being. In addition to reminding team members about the services available through the Authority's Employee Assistance Program and Health Care Benefit Providers, mindfulness/meditation resources, distress hotlines and a host of other family-focused resources have been provided.

Throughout the pandemic, GLWA team members have shown resiliency and flexibility and embodied the spirit of teamwork and collaboration inherent to the Authority's culture. Whether operating a pump, analyzing water samples, procuring needed goods and services, maintaining IT infrastructure, or executing any of the many roles that help maintain levels of service to its member partners, each GLWA team member has played a critical role in the Authority's continued operations.

Understanding that wastewater could play an important role in protecting public health during the pandemic, GLWA expanded a research partnership with Michigan State University's (MSU) College of Engineering and the city of Detroit to include a project focusing on the use of the wastewater system to help detect viruses in untreated sewage. Since April 2020, the MSU/GLWA/Detroit Water and Sewerage Department (DWSD) team has been sampling for SARs-CoV-2, commonly known as COVID-19, in the three primary regional GLWA sewer interceptors (which collect untreated wastewater from the city of Detroit, and large portions of Wayne, Oakland and Macomb counties) and already have published results in a scientific journal, the **Journal of Environmental Engineering**.



Wastewater Operations Chemist Sarah Watkins

*“By collaborating with the city of Detroit and County public health officials, along with the regional wastewater services, we can make significant progress in determining the best approach for providing advance notice of emerging public health conditions. Inter-agency collaboration is key to success.”*

– John Norton, Jr., PhD., PE  
Director of Energy,  
Research & Innovation, GLWA

# MEASURING SUCCESS

*“Always deliver more than expected.”*

– Larry Page, Co-founder, Google

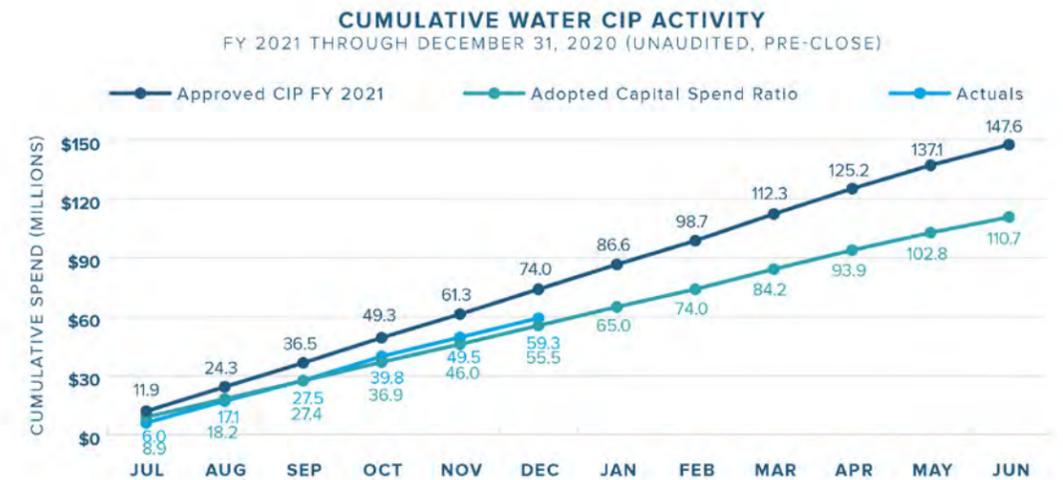
## KEY PERFORMANCE INDICATORS

Throughout its first five years of operations, GLWA has remained committed to a culture of innovation and continuous improvement and embraced Effective Utility Management (EUM) and its 10 attributes to guide its path toward effective and sustainable operations.

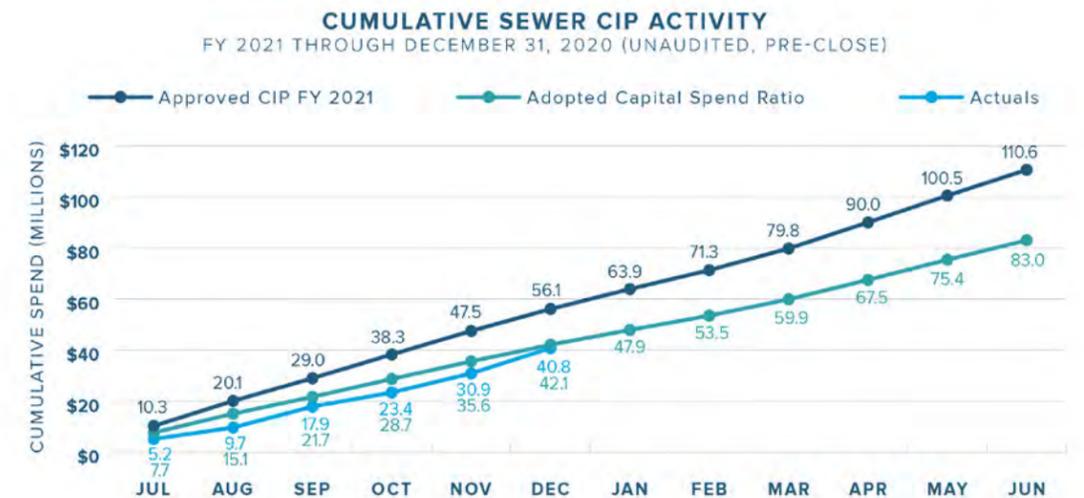
The Authority aligns its key performance indicators (KPIs), which are reported monthly to the Board of Directors, with the EUM framework’s 10 attributes. These KPIs touch on all operational areas within GLWA and provide the operational and administrative teams with important insights into progress and challenges toward meeting their identified goals.

GLWA constantly reviews the effectiveness of its KPIs. In 2020, the Authority refined the placement of the two KPIs that focus on Capital Improvement Plan (CIP) spending for both the water and wastewater systems. Reflecting the continuing maturity of the Authority, as well as its focus on CIP program execution (building the right project at the right time), these KPIs are now being reported under the Enterprise Resiliency attribute.

**ENTERPRISE RESILIENCY FY 2021 TOTAL WATER CIP SPEND**  
**Current Status:** The water system incurred \$59.3 million of CIP costs through December 2020. This is 80.1% of the FY 2021 monthly prorated *Approved CIP* and 107.0% of the *Adopted Capital Spend Ratio* amount.



**ENTERPRISE RESILIENCY FY 2021 TOTAL SEWER CIP SPEND**  
**Current Status:** The sewer system incurred \$40.8 million of CIP costs through December 2020. This is 72.7% of the FY 2021 monthly Prorated *Approved CIP* and 97.0% of the *Adopted Capital Spend Ratio* amount.

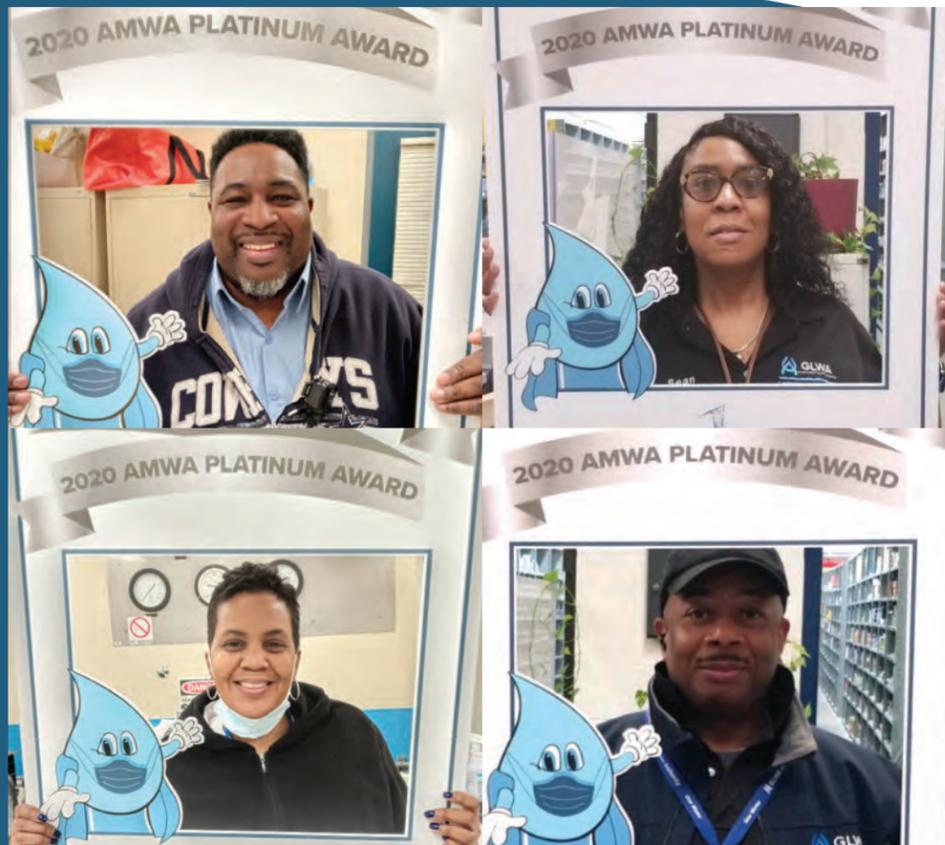


## THE ASSOCIATION OF METROPOLITAN WATER AGENCIES HONORED GLWA AS ONE OF THREE UTILITIES NATIONWIDE FOR ITS INDUSTRY-LEADING USE OF EFFECTIVE UTILITY MANAGEMENT

GLWA was one of only three utilities to receive the Platinum Award for Utility Excellence from the Association of Metropolitan Water Agencies (AMWA) in October 2020. The national award recognizes exceptional performance by public drinking water utilities where management vision and employee commitment create sustainable utilities producing ample supplies of clean, safe drinking water.

AMWA is an organization of the largest publicly owned drinking water systems in the United States and is the only policy-making organization solely for metropolitan drinking water suppliers. In addition to being one of three recipients of the Platinum Award, the Authority was one of 13 public drinking water systems recognized with a top utility management award.

Receiving AMWA's highest honor is a real testament to the efforts of the more than 1,100 men and women at GLWA who are focused on delivering the nation's best water and wastewater services in partnership with member partners every day, especially when faced with a global pandemic, where providing water and wastewater services has been of utmost importance to public health.



TOP LEFT: Southwest Water Treatment Facility Water Technician Lorne Merriweather

TOP RIGHT: Materials Team Leader Sean Mercer

BOTTOM LEFT: Water Treatment Facility Team Leader Lawanda Rouse

BOTTOM RIGHT: Material Management Specialist Eric Talbot

A utility must be invited by AMWA to apply for the Platinum Award. Since it received the association's Gold Award in 2017, GLWA has exhibited measurable progress in implementing the industry-standard 10 Attributes of Effective Utility Management and Keys to Management Success, as well as distinctive levels of management expertise and expanded utility achievement.

Some of the milestones that led to AMWA selecting GLWA to receive this incredible honor include:

|   |  |
|---|--|
|  <p>Continuous compliance with state and federal drinking water standards since its establishment, while proactively undertaking a broad cross-section of operational optimization efforts, including a comprehensive corrosion control optimization study and a water balance program</p> |  <p>Operating collaboratively, resulting in overall member partner satisfaction of 96 percent</p>   |
|  <p>Launching a strategic asset management plan and implementing a critical valve program for its transmission system</p>   |  <p>Earning two rounds of ratings agency upgrades over the last three years, reaching AA category status in September 2018, with further incremental upgrades in March</p>   |
|  <p>Taking collaboration to the next level by focusing on becoming a Hub Utility and bringing the region together for a common purpose and vision</p>  |  <p>Keeping annual charge increases to less than half of that indicated for its peers in the Black &amp; Veatch Utility Rate Index, and further supporting affordability by evolving its Water Residential Assistance Program to better meet the needs of its member partners</p> |

*“In an unprecedented year for this nation, these systems are at the forefront of providing innovative solutions to the multiple challenges a global pandemic, extreme weather events, and infrastructure gaps are creating. By supplying their communities with clean, safe, and affordable drinking water, these water utilities are helping to safeguard the nation’s health.”*

– Steve Schneider  
General Manager of Saint Paul Regional Water Services and AMWA President

## YEARS OF STRONG OPERATIONS AND MANAGEMENT LED GLWA TO ACHIEVE THE MILESTONE OF \$1 BILLION IN TOTAL DEBT SERVICE SAVINGS

On the heels of its fifth round of positive ratings agency actions, GLWA successfully completed two bond transactions in 2020 – one for the water system and one for the wastewater system.



### Water System

In April, GLWA refinanced **\$366 million** of taxable Water System bonds which resulted in a cashflow savings of **\$103.1 million** over the life of the bonds.



### Wastewater System

The Authority refinanced **\$657 million** of outstanding wastewater system bonds in June, achieving a cashflow savings of **\$221 million** over the life of the bonds.

With the completion of these two transactions, **a total of debt service savings of over \$1 billion was achieved for the systems** since the current management team launched the tender and refunding transaction in 2014 when the regional water authority concept was emerging during the city of Detroit's bankruptcy. It is important to note that nearly 72 percent of those savings were achieved since the operating effective date of GLWA on January 1, 2016. These debt service savings have had a significant impact on GLWA's ability to control annual charge adjustments at an amount well below the consumer price index.

These consistently successful financial outcomes are, in part, attributable to rating agency upgrades, strong investor outreach effort, engaged member partners, and transformational operating and financial leadership.

Since its establishment, GLWA's bond ratings have risen to AA category status (achieved in 2018). Bonds assumed by GLWA (from DWSD) were previously below investment grade due to the city of Detroit bankruptcy. The Authority received further incremental increases in March 2020 as the COVID-19 pandemic crisis unfolded. GLWA proactively managed through COVID-19 challenges, utilizing an emergency management plan framework while focusing on its long-term operational and financial stability.

Reasons cited for positive ratings actions include the utility's regional focus, comprehensive budgeting practices, and a CIP that is forward-looking and not tied to any regulatory compliance mandates.

“

*The continued positive actions from the three ratings agencies over the last several years is tangible proof of how successful our collaborative operating philosophy has been to ensuring we achieve our vision of being the provider of choice for water and wastewater services in southeast Michigan. I am extremely proud of our team and am pleased that the rating agencies have recognized that we are an organization getting things done in new and innovative ways.*

”

– Sue F. McCormick  
Chief Executive Officer, GLWA

# FINANCIAL STEWARDSHIP

As part of its founding principle of affordability and a commitment to supporting the region it serves, GLWA is devoted to building trust through an efficient organizational structure that ensures fiscal responsibility. Building on its year-over-year financial information allows GLWA to demonstrate delivery of the high level of financial performance that has been pledged to the Authority's member partners, investors and the region at large.

## FINANCIAL SUSTAINABILITY

### ▶ GLWA CONTINUES RECORD OF CLEAN AUDIT RESULTS

For Fiscal Year 2020, which ended on June 30, GLWA continued to demonstrate its commitment to the goals of reliability and transparency in reporting, as well as continuous improvement in financial operations. This commitment was evident in the results of the Financial and Single Audit for FY20.

GLWA's financial statements received an unmodified (clean) opinion from Auditor Baker Tilly. In addition, there were no material weaknesses or significant deficiencies found in the Authority's single audit.

*"A special thanks goes out to everyone at GLWA involved in the FY20 audit, which was the first-ever conducted entirely online due to the COVID-19 pandemic. Completing an audit on deadline for an organization as complex as GLWA is always a challenge, but to accomplish it under such unique circumstances is a credit to the professionalism of the team and their commitment to GLWA's collaborative operational approach."*

**– Nicolette N. Bateson, CPA  
Chief Financial Officer/Treasurer, GLWA**

### ▶ GLWA'S CAFR RECEIVES NATIONAL RECOGNITION

In 2020, the Government Finance Officers Association of the United States and Canada (GFOA) awarded the Certificate of Achievement for Excellence in Financial Reporting to GLWA for its comprehensive annual financial report (CAFR) for Fiscal Year 2019. The CAFR has been judged by an impartial panel to meet the high standards of the program, which includes demonstrating a constructive "spirit of full disclosure" to clearly communicate its financial story and encourage user groups to read it. The certificate is the highest form of recognition in the area of governmental account and financial reporting, and its attainment represents a significant accomplishment by GLWA's Financial Services Area!



**CEO Sue McCormick acknowledging the Financial Planning and Analysis Team on their GFOA recognition**



► **GLWA APPROVES DYNAMIC NEW BUSINESS INCLUSION AND DIVERSITY PROGRAM**

In 2020, GLWA’s Board of Directors initiated and approved a dynamic new Business Inclusion and Diversity (B.I.D.) Program for the state of Michigan’s largest water and wastewater utility. The program is designed to assist GLWA in expanding its pool of skilled resources, support economic development throughout the region and ensure sustainability in its procurements.

*“GLWA was founded on the principle of affordability and commitment to supporting the region it serves. In keeping with this, the Board felt it was imperative to create a program to support local business, especially during this time of great economic uncertainty created by the coronavirus pandemic. I commend the GLWA administration for taking quick action on the Board’s request and developing such a robust program.”*

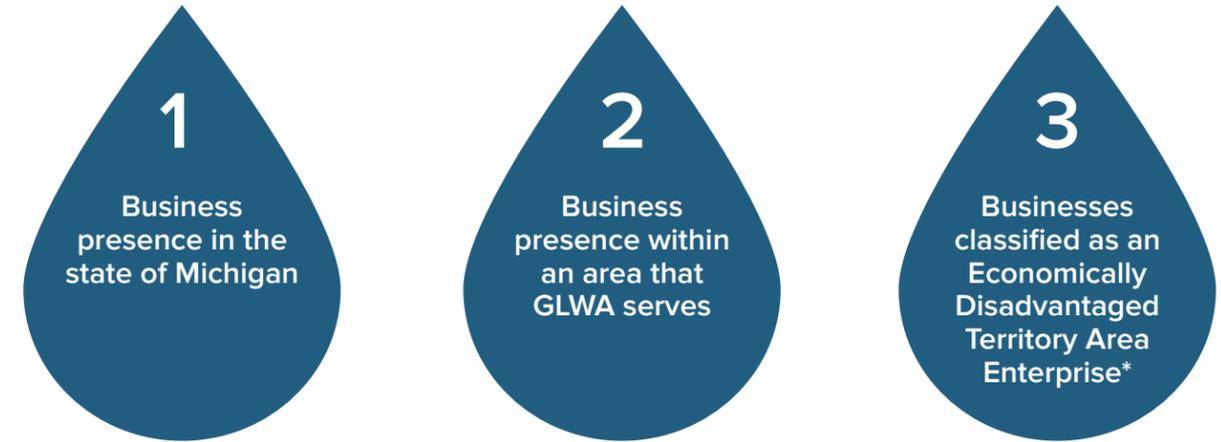
– **Dr. Beverly Walker-Griffea**

**2020 Board Chair, GLWA board representative appointed by the state of Michigan**

The B.I.D. Program amends the Authority’s Procurement Policy to require vendors to submit, for all solicitations budgeted at \$1 million or more, a Business Inclusion and Diversity Plan that addresses their efforts to include Minority-owned Business Enterprise (MBE), Woman-owned Business Enterprise (WBE), Small Business Enterprise (SBE), and Disadvantaged Business Enterprise (DBE).

As a part of their plan, vendors will be required to ensure maximum participation by diverse and inclusive businesses in a manner, and to the degree, that it equals or exceeds standards for its other customers and/or clients. They will also be required to provide methods to maximize opportunity for business inclusion and reporting methods that indicate firms invited, firms recommended for award and other pertinent information.

Credit in the solicitation process will also be given for three different categories:



\*Those located in a municipality designated as having one of the five lowest median household incomes in that respective county as defined by the U.S. Census Bureau every five years

*“Regionalism works best when we can bring together the diverse perspectives reflective of those we serve. Creating the B.I.D. Program not only generates greater competition and opportunities for southeast Michigan small businesses, but we fully expect it to foster innovation and collaboration with GLWA and its member partners.”*

– **Sue F. McCormick**  
**Chief Executive Officer, GLWA**

The B.I.D. Program builds upon the Small Business Initiative that GLWA launched in 2018, a highlight of which is a Strategic Alliance Memorandum between the Authority and the U.S. Small Business Administration (SBA). This strategic alliance between the SBA and GLWA aims to strengthen and expand small business development in the GLWA service area. Specifically, it allows GLWA and the federal agency to work together to match small business owners with future procurement opportunities within GLWA.

The B.I.D. Program launched on February 1, 2021.



## FAIR AND EQUITABLE CHARGE SETTING

### ► SEWER SHARES

After more than two years of working hand-in-hand with its member partners to design the methodology for assigning costs in the regional wastewater system, GLWA updated its cost allocation methodology known as Sewer SHARES.

*“Minimizing impacts on each Member Partner Community, while simplifying the charge methodology was the most important consideration of any proposed change.”*

– Suzanne Coffey  
Chief Planning Officer, GLWA

Since 2019, the members of the Sewer SHARES Think Tank Group held 12 meetings which totaled nearly 30 hours of time (as well as countless hours outside of formal meetings) to consider changes to the wastewater charge methodology that would embrace GLWA’s fundamental One Water Partnership principles of stability and simplicity, while not losing sight of cost causation.

The simple explanation of the new methodology, which goes into effect with Fiscal Year 2022 charges, is as follows:

|  |   |
|--|---|
|  | <p><b>Costs incurred to <b>treat wastewater</b> at GLWA’s Water Resource Recovery Facility are allocated based on:</b></p> <ul style="list-style-type: none"> <li>◆ <b>50 percent</b> on average wastewater contribution, which reflects higher use during wet weather and also ties to the cost causation of moving flow through the WRRF, irrespective of the type of flow</li> <li>◆ <b>50 percent</b> on sanitary flow contribution, which reflects strength of the wastewater and ties to the cost causation of treatment processes</li> </ul> |
|  | <p><b>Costs incurred to <b>transport wastewater</b> through the regional conveyance and collection system are proportioned by member partners’ contributed average annual flows.</b></p> <p><b>Contributed volume ties to cost causation and long-term averages create charge stability.</b></p>  |
|  | <p><b>Costs incurred for <b>regional wet weather facilities</b> are proportioned <b>83 percent to Detroit and 17 percent to other member partners</b> as previously negotiated and memorialized in legal documents.</b></p>   |

The Think Tank Group was comprised of representatives from Wayne, Oakland and Macomb counties, as well as the city of Detroit.

## COMMITMENT TO THE FOUR PERCENT REVENUE REQUIREMENT PROMISE AND A STRATEGY FOR AFFORDABILITY AND OPERABILITY

In March 2020, the GLWA Board of Directors adopted a budget for Fiscal Year 2021, which began on July 1, 2020. The FY21 budget included an annual increase of 0.6 percent for the water system and 1.3 percent for the wastewater system, overachieving on GLWA’s commitment of a four percent maximum increase (as agreed upon in the Authority’s foundational documents).

However, almost immediately after the FY 2021 budget and charges were approved, the coronavirus pandemic took hold across the world. GLWA immediately got to work developing a two-step approach to provide immediate support to its member partners in FY 2021 and then proposing FY 2022 revenue parameters that would provide longer-term relief.

First, in early April GLWA’s Board of Directors adopted a resolution deferring the implementation of FY21 charges from July 1 to October 1, 2020. The Board subsequently extended that deferral until January 1, 2021. By further delaying the effective date of its adjustment to the charges by an additional quarter of the fiscal year, member partners experienced a full six months of deferred charges. This additional deferral allowed member partners the flexibility to adjust their operations and cash flows to better provide service to their retail customers and account for any potential lag in collections or other consequences of the COVID-19 emergency.

GLWA is also limiting proposed charge adjustments in FY 2022. The average charge adjustment for the wastewater system will actually **decrease** 0.6 percent, and the average charge adjustment for the water system will be a modest 1.5 percent increase (individual members will see charge adjustments different than the system average).

Throughout the year, GLWA paid close attention to all of its expenditures (CIP included), making sure that they aligned with the current financial realities created by the required response to the pandemic and focused on long-term sustainability, and inherently, affordability in the regional system.



## WRAP

GLWA's WRAP, or Water Residential Assistance Program, continues to support the Authority's strategic commitment to water affordability through payments assistance and conservation education.

Since WRAP's launch in 2016, the GLWA Board of Directors has continued to make changes to the program that ensure it maximizes assistance to member communities.

In 2020, the Board authorized:



Changing the eligibility for households from **150 percent to 200 percent** of the federal poverty level



Increasing conservation and plumbing repair spending per eligible household from **\$1,000 to an average of \$1,500** (with a cap of \$2,000 per customer)

In addition, for the first time since the program's inception, eligible rental households are now able to take advantage of conservation and plumbing repairs offered through WRAP to help reduce their water consumption, if the landlord agrees not to increase rent for 12 months.

Given the severe financial impacts created by the COVID-19 pandemic, the Board also approved an exception to WRAP that allowed those enrolled in the program who were unable to make monthly payments on time due to issues related to COVID-19 to remain in the program and maintain eligibility to continue receiving monthly bill credits and arrearage payments through December 31, 2020.

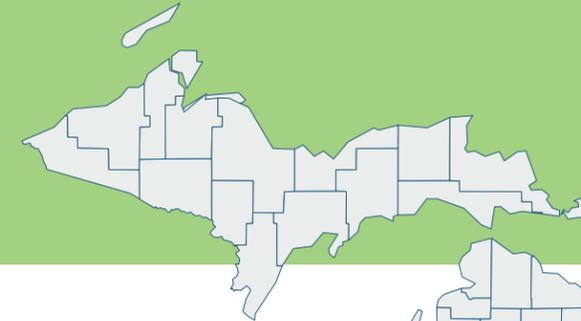
*“This expansion of WRAP will help us reach many more households in Detroit and the participating member communities who may be struggling to pay their water bills during the COVID-19 pandemic, and beyond. For example, now that households with incomes up to 200 percent of the federal poverty level are eligible, a family of four with up to \$52,400 in combined income qualifies to participate. Prior to expansion, the maximum household income for a family of four was \$36,450. This vote also expands what I believe is the most significant WRAP benefit – more dollars for minor home plumbing repairs to help homeowners, and now renters, get to an average monthly bill.”*

– Gary Brown

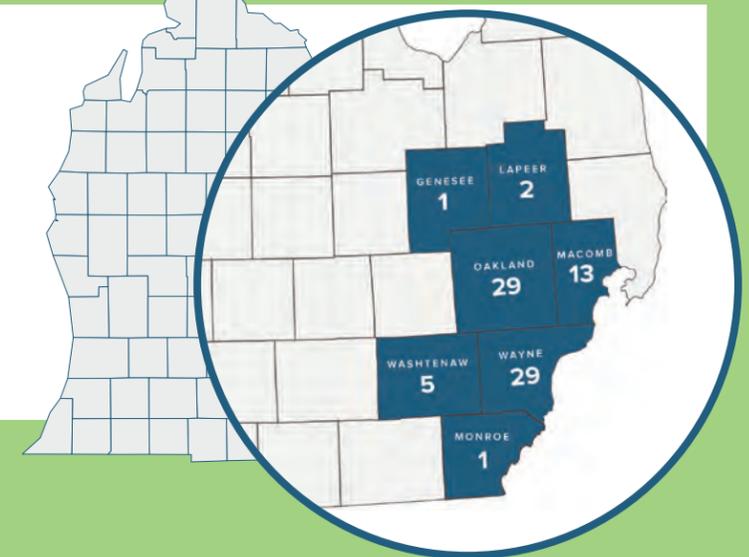
**GLWA board member appointed by the city of Detroit, who sponsored the resolution related to the broader program changes and is the Detroit Water and Sewerage Department Director**

Since its inception in March 2016, 80 of GLWA's member communities have opted to participate in WRAP, a first-of-its-kind program in Michigan and one of few sustainable assistance plans offered in the country.

## WRAP BY THE NUMBERS:



AS OF DECEMBER 31, 2020,  
**80 OF 104**  
ELIGIBLE COMMUNITIES  
OPTED-IN TO THE PROGRAM



### 2020 WATER CONSERVATION IMPACT

WRAP's water conservation helps the root cause of a high water bill through workshops, home water audits and professional plumbing services.



# ENVIRONMENTAL STEWARDSHIP

GLWA is in an enviable position related to source water sustainability as it enjoys access to the largest freshwater lake system in the world. With this amazing natural resource comes a high level of responsibility for the quality of water, not only as a drinking source, but also as the water body receiving treated wastewater. The Authority takes this responsibility seriously.

## GLWA ADOPTS FIRST-OF-ITS-KIND REGIONAL WASTEWATER MASTER PLAN

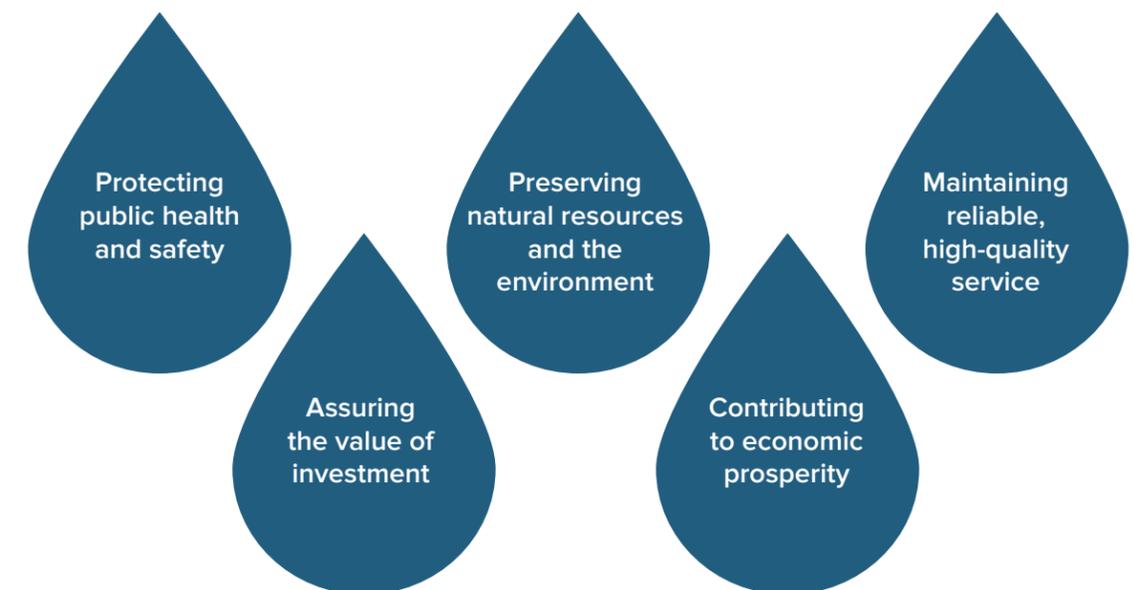
**40-year improvement plan prioritizes lower cost, high-impact projects that protect water quality, public health, contribute to economic prosperity and preserve the environment**

In 2020, the GLWA Board of Directors adopted a first-of-its-kind regional Wastewater Master Plan (WWMP), created to proactively and adaptively manage the wastewater system that serves 2.8 million people and spans 15,000 miles of pipes across 79 communities in southeast Michigan.

The 40-year plan, unlike any other in the nation, is the result of unprecedented regional collaboration among 100 stakeholders, including GLWA's member partners, watershed advocacy groups, regulatory agencies and more. The WWMP gives the region a roadmap for the future and a plan that builds on the work already done – with a focus on water quality and a path that manages affordability through partnerships and collaboration.

According to CEO Sue McCormick, the Wastewater Master Plan is a true demonstration of the spirit of regional collaboration on which GLWA was established. Pipes don't know where one community ends and another begins. This new plan is specifically designed to optimize the wastewater system as a whole, based on need at the lowest cost for the region, as opposed to an individual system-by-system approach. It offers us tremendous opportunity to leverage the infrastructure the region has invested in to date and identify future investments and improvements that will continue to advance water quality in the region for decades to come.

Rather than treating regional wastewater collection and treatment only as an engineering problem to solve, the WWMP creates long-term solutions to achieve outcomes that reflect the shared values outlined by participants:



In southeast Michigan, wastewater (sanitary and some stormwater) flows throughout 86 separate municipal systems connected to GLWA and is treated at GLWA’s Water Resource Recovery Facility (WRRF), the largest single-site wastewater treatment facility in North America. Through the integrated projects and approaches outlined in the WWMP, and by working hand-in-hand with member partner communities, solutions to issues such as untreated water entering the waterways have been developed.

Implementation of the plan will occur in three phases: 1) optimizing, 2) adapting and expanding, and 3) sustaining.

Key phase one initiatives, many of which are already underway, stretch the region’s dollars by prioritizing investment in lower-cost, high-impact projects with the greatest environmental benefit to the system. They include:



**Launch** of a Regional Operating Plan (ROP) where operators from GLWA and its members communities use real-time computer technology to see areas where, during intense rainfall and snow melts, there is too much flow in the system and move it to areas with more capacity, thereby reducing the risk of overflows and backups across the region, without expensive new infrastructure

[Click here to watch ROP video](#)



**Expansion** of connectors to the Detroit River Interceptor (a large, deep sewer that collects or intercepts flow from smaller, shallower sewers), which for a relatively small investment, will redirect 160 million gallons of wastewater to the WRRF, preventing it from being discharged untreated into the Detroit River



**Formation** of a Regional Watershed Hub Workgroup that is bringing the region’s watershed advocacy organizations together with GLWA and its member partners to, among other things, develop a Regional Water Quality Monitoring Program. This program will collect real-time data on water quality in the Rouge, Clinton and Detroit rivers and Lake St. Clair. The data will be used to determine where system maintenance and upgrades are needed to improve water quality and allow for healthy recreation in rivers and lakes



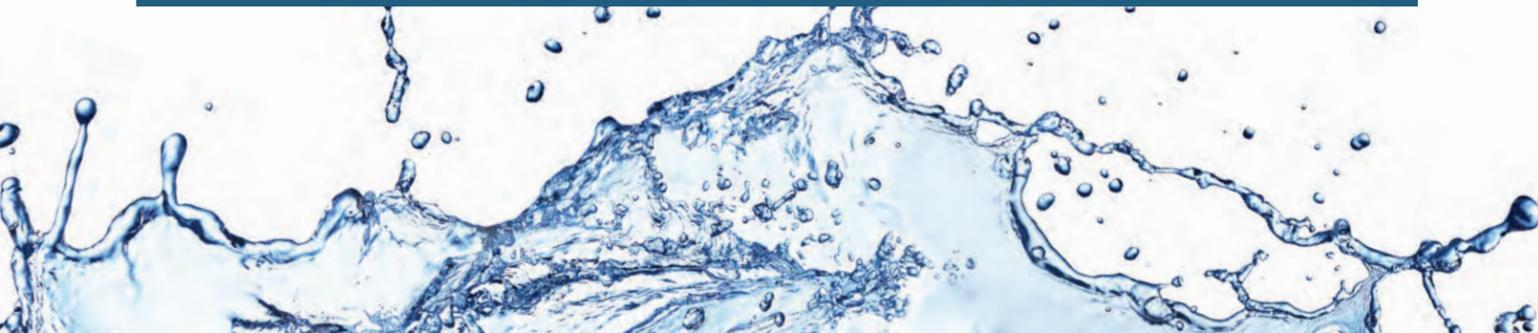
**Partnership** with the Michigan Department of Transportation (MDOT) and the Detroit Water and Sewerage Department (DWSD) on projects to either remove freeway drainage from the combined sewer system or treat the flow before it is directed to the Detroit River. The most noteworthy collaborations are with the I-94 and I-375 improvement projects, and on the proposed Gordie Howe International Bridge

“By working together as outlined in the WWMP, we will maintain reliable, high quality service, while protecting our natural resources for residents and visitors to the region to enjoy,” said Suzanne Coffey, Chief Planning Officer, GLWA. “Everyone – our member partners and community leaders, no matter how large or small their community is – has a role they can play and a shared responsibility to support and help with the execution. We view this as a truly collaborative and proactive effort to look, find and fix issues before they become problems.”

The results of all efforts will be assessed in five-year intervals, with the WWMP updated and adapted based on progress achieved.

*“The GLWA Wastewater Master Plan is truly a collaborative effort, whereby regional leaders worked together to develop an adaptive plan... Regional operating strategies and improvement projects were identified that help preserve the region’s natural resources, while utilizing existing wastewater system facilities to their fullest.”*

– Tim Prince  
Chief Manager for the Oakland County Water Resources Commissioner’s Office and a key member of the Wastewater Master Plan Steering Committee



## GLWA DEVELOPS UNIQUE COLLABORATION WITH OAKLAND COUNTY AND CITY OF DETROIT TO IMPROVE WATER QUALITY BY REMOVING WET WEATHER DISCHARGES INTO LOCAL WATERWAYS

In late 2020, GLWA [announced](#) that it will work together, across municipal and county boundaries, with Oakland County and the city of Detroit on three projects that will protect public health by reducing wet weather discharges into regional waterways.

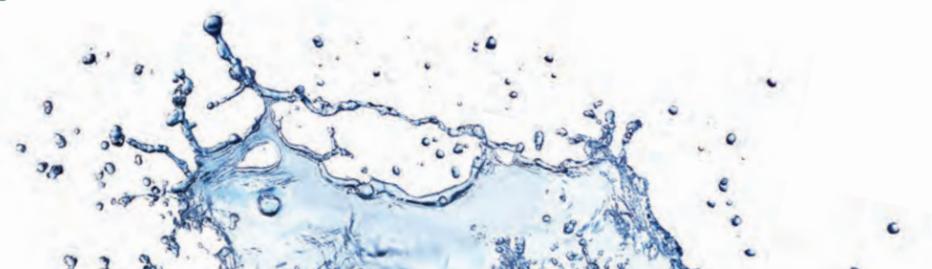
These projects are the first tangible examples of regional thinking that has occurred as a result of GLWA's recently completed Wastewater Master Plan (WWMP). The unique collaboration came together during GLWA's WWMP planning process, as discussions were being conducted about the need for a regional focus on reducing combined sewer and sanitary sewer discharges into waterways during wet weather events.

As a result of the memorandum of understanding (MOU) among the three entities:

- ◆ The Evergreen-Farmington Sanitary Drain Drainage District (EFSD), a regional sewer service district that collects sanitary sewage operated by the Oakland County Water Resources Commissioner (WRC), will secure additional wet weather flow capacity in the regional wastewater system to complete its 30-year plan for improving the water quality of the Rouge River. As a result of this additional capacity, EFSD will not only improve system reliability, but will also avoid the cost of constructing a new wet weather treatment facility and the costs of its long-term operations and maintenance
- ◆ To offset this additional flow into the regional wastewater system, the Detroit Water and Sewerage Department (DWSD) and GLWA will each undertake their own projects:

DWSD is implementing its Far West Detroit Stormwater Improvement Project, which was identified in 2017 as part of its green stormwater infrastructure program. The project will improve sewer flow and capacity by removing stormwater within the right-of-way from the combined sewer pipes. This will be done by installing sewers that move stormwater through two new green stormwater infrastructure projects in Rouge Park. The filtered stormwater will discharge directly into the Rouge River, rather than flowing to the Water Resource Recovery Facility. As a result, the outcomes are expected to improve DWSD's service delivery as well as reduce street flooding and the potential for basement backups in the Far West Detroit neighborhood

GLWA will accelerate the undertaking of a two-part improvement project at its West Warren combined sewer outfall location in Detroit, ahead of schedule, that will correct wet weather discharges from this location and bring it into compliance with its National Pollutant Discharge Elimination System (NPDES) permit. The project includes constructing a new diversion weir chamber west of the Rouge River and increasing the size of an existing 18-inch-diameter pipe to a 54-inch pipe east of the Rouge River



**Combined, these projects will prevent an estimated 48 million gallons of wet weather flow per year from making its way into the Rouge River untreated.**



Rouge River

When completed, the three projects will provide incredible environmental benefit, across county lines, for the \$68 million total investment.

Ultimately, by coordinating these projects across communities, it allows for a collaborative approach to maximize the investment value, achieving an overall cost savings for the region, providing significant environmental benefit and securing increased system reliability.

DWSD's project will begin in the summer of 2021, following the selection and approval of a contractor. GLWA's project will start after the completion of DWSD's project. Oakland County's project has a planned start of the summer.

## Third year of "Utility of the Future Today" recognition

GLWA [received national recognition as a "Utility of the Future Today"](#) for the third consecutive year – this year in a new area based on its work in watershed health and protection. A group of five national professional organizations, led by NACWA, recognized GLWA as one of 65 leading water utilities across the nation. The Authority was cited for its work in transforming its operations through new technologies and innovative approaches.

Watershed stewardship refers to utility investments and actions to improve water flow and quality conditions outside of the traditional methods used. Distinguished for the third year, GLWA improved water quality through advancements at the Water Resource Recovery Facility (WRRF), including [the launch of the Rouge River Outfall Disinfection Facility \(RRO\)](#), which ensures every drop of water discharged into the Rouge River from the WRRF is entirely screened, treated and disinfected.

In addition to the RRO, the awards committee commended GLWA on its efforts in developing a regional Watershed Hub Workgroup and highlighted the Authority's ongoing efforts to reduce phosphorus levels in the Western Lake Erie basin.



*"Preserving safe, reliable water, sewer and storm drain systems is extremely important for our region. We are now thinking differently and working together to protect the public health and natural resources of all our residents. The Evergreen-Farmington Sanitary Drain project is a lasting example of regional collaboration at its finest. The MOU shows that we're working across county lines to discover a single solution to address multiple regional concerns."*

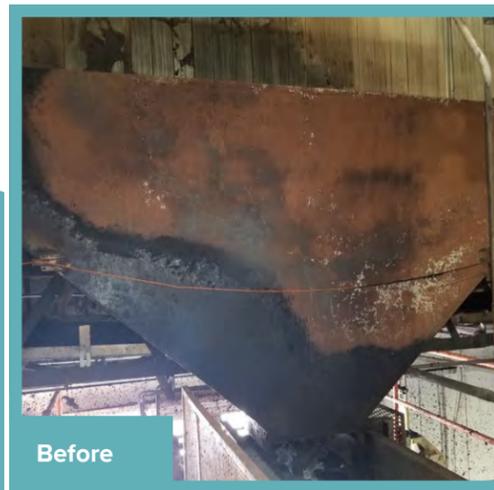
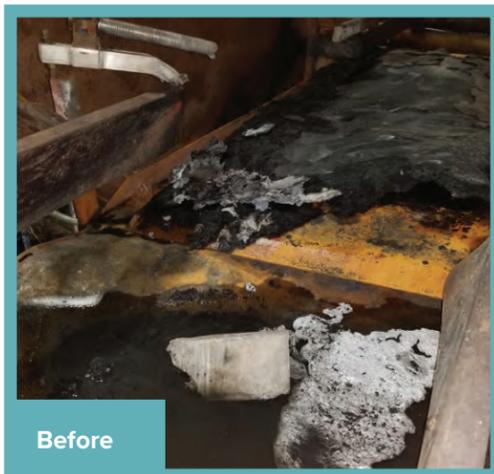


– Jim Nash  
Oakland County Water Resources Commissioner,  
who serves as chairperson of the drainage district

### WATER RESOURCE RECOVERY FACILITY TEAM’S QUICK RESPONSE PROTECTS TEAM MEMBER SAFETY AND MAINTAINS SERVICE TO MEMBER PARTNERS

In September 2020, a fire broke out on the conveyor system at the Complex II Incinerator Building on the Water Resource Recovery Facility (WRRF) property. Thanks to the agility and resiliency of the team, as well as their quick response, not one team member was injured, service to member partners was maintained, and there was no negative impact caused to the environment as a result of the process interruption from the fire.

Shortly after the fire was extinguished, the team surveyed the damage and developed a comprehensive restoration strategy. Thanks to their hard work and diligent efforts, the damaged conveyor was back up and running in under four weeks. Great job to all of those from WRRF who pulled together and exhibited such amazing teamwork!

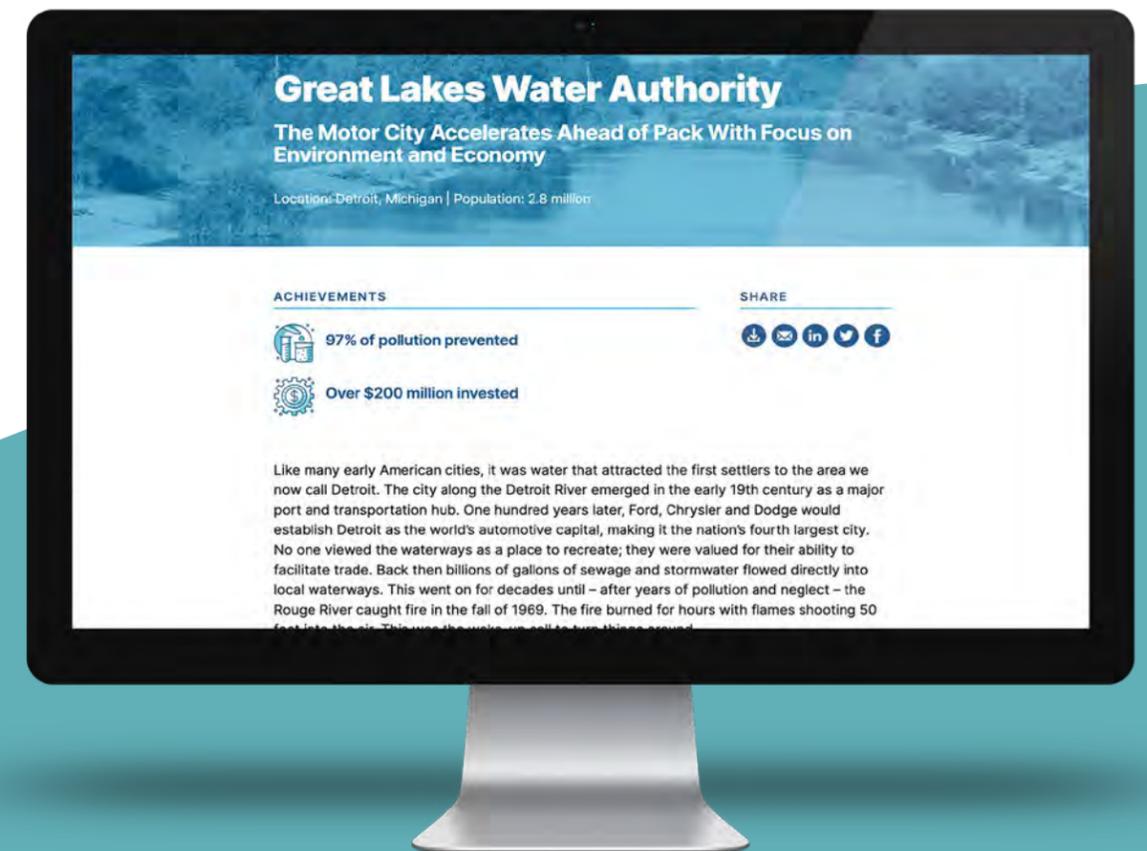


### GLWA’S CLEAN WATER SUCCESS STORY HIGHLIGHTED IN NATIONAL CLEAN WATER AGENCY’S 50TH ANNIVERSARY CELEBRATION

In October, the National Association of Clean Water Agencies (NACWA) unveiled its 50th Anniversary Report, which included a series of case studies of specific utilities throughout the United States that tell individual clean water success stories over the past 50 years.

Within the report, GLWA was highlighted among 24 case studies for its focus on the environment and the economy.

The Authority was recognized for milestones such as the stand-up of the Authority in 2016, launch of the Rouge River Outfall Disinfection Facility, integrating its Biosolids Dryer Facility, partnering with Michigan Cleaner Lake Erie through Action and Research to reduce algal blooms in Lake Erie, creation of its One Water Public Education Campaign, and more.





# 5 YEARS. ONE WATER.

**2016**  
Team of 734  
(30% vacant positions)

**FEBRUARY**  
Biosolids Dryer Facility (BDF) begins operations

Stood up GLWA's first Asset Management Group

**APRIL**  
Launched monthly New Employee Orientations (led by CEO)

**JUNE**  
Vendor outreach event was held with over 300 parties in attendance

"10-Year Directors Award" from the Partnership for Safe Water received (3 Water Treatment Facilities)

**AUGUST**  
Conducted first regional water sector emergency response tabletop exercise  
First Chief Information Officer hired

**JANUARY**  
GLWA begins operations  
Adopts Effective Utility Management (EUM) and its 10 Attributes of an Effectively Managed Utility

**MARCH**  
Water Residential Assistance Program (WRAP) launched  
Fire at WRRF

**MAY**  
Established Office of Research & Innovation

**JULY**  
First Chief Public Affairs Officer hired

Learning Management System (LMS) implemented

**SEPTEMBER**  
Renewed research partnerships with Wayne State University

**JANUARY**  
Downriver Taste & Odor Concerns identified and addressed

**APRIL**  
Launched new Communication Work Group for Member Partners

**MARCH**  
Water Residential Assistance Program (WRAP) launched

**JULY**  
Entered research partnership with University of Michigan and Michigan State University to study energy reduction practices

**2017**  
Team of 804  
(27% vacant positions)

**OCTOBER**  
Inaugural water and sewer bond sale results in \$309M savings  
Received "A" bond rating (in only 9 months of operations)

Ratified agreement to ensure redundancy for member partners in northernmost service region (KWA)

**NOVEMBER**  
Completed first system water audit, strictly following AWWA standards and water sector best practices to identify and target leak reduction

**SEPTEMBER**  
One Water Partnership Agreement signed  
Launched 5-year financial plan and implemented biannual budget

**SEPTEMBER**  
Launched Regional Wastewater Master Plan Efforts (WWMP)

**AUGUST**  
Hired New General Counsel  
Completed first system-wide condition assessment of regional wastewater collection system (approx. 900,000 linear feet)

**JUNE**  
Launched EICT-I Apprenticeship Program

**2018**  
Team of 928  
(21% vacant positions)

**MARCH**  
Added 10-year forecast to 5-year financial plan

Executed 30-year water model contract with city of Flint

**DECEMBER**  
Received AMWA Gold Award for Exceptional Utility Performance

**OCTOBER**  
Oakland County/14 Mile Water Main Break (impacts 300,000+ in 11 communities)

**FALL**  
Began 4-phase process of transitioning WRRF to a Utility of the Future  
First annual Member Partner Scorecard Survey launched

**SEPTEMBER**  
Water System bond rating upgraded to "AA" category; Sewer System bond rating upgraded to "A" category

**AUGUST**  
Completed second annual system water audit using AWWA standards to quantify and target system leakage  
Launched water transmission system assessment pilot

Bridgeport Consulting took lead as Member Outreach Program facilitator

**MAY**  
Surpassing federal and state regulators' 40 percent phosphorus reduction goal (6 years ahead of its deadline)

**JULY**  
Bonfire Procurement Solicitation Portal launched

**APRIL**  
Launched new GLWA public website  
Launch of Inaugural Member Partner Scorecard

**SEPTEMBER**  
Water System bond rating upgraded to "AA" category; Sewer System bond rating upgraded to "A" category

**OCTOBER**  
Completed comprehensive contract alignment process in which all water contract reopeners occur in the same year, minimizing charge volatility

Hired first dedicated Chief Operating Officer—Wastewater Operating Services

**APRIL**  
Small Business Initiative launched  
GLWA/DWSD Execute 2018 MOU

Qualified seniors now eligible to remain on WRAP past 2-year initial limit

**JUNE**  
"10-Year Directors Award" from the Partnership for Safe Water received (Water Works Park)

**AUGUST**  
WRAP modified to include replacement of kitchen and bathroom fixtures that predate the 1986 lead-free plumbing code change  
Named a Utility of the Future Today and recognition for outstanding reuse of biosolids

**JANUARY**  
Launched SBI Advisory Task Force

**DECEMBER**  
Launched of One Water Institute

**OCTOBER**  
Completed comprehensive contract alignment process in which all water contract reopeners occur in the same year, minimizing charge volatility

Utility of the Future Today recognition for its outstanding partnering and engagement

Bridgeport Consulting begins role as Member Outreach Program 3rd Party Facilitator

**JUNE**  
Surpassing federal and state regulators' 40 percent phosphorus reduction goal (6 years ahead of its deadline)

**APRIL**  
Approval of first wastewater PFAS minimization plan

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Launched SBI Advisory Task Force

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**OCTOBER**  
Completed comprehensive contract alignment process in which all water contract reopeners occur in the same year, minimizing charge volatility

Hired first dedicated Chief Operating Officer—Wastewater Operating Services

**2019**  
Team of 979  
(17% vacant positions)

**AUGUST**  
Achieved 90+ percent satisfaction on Member Partner Scorecard

Implemented first ever GLWA Asset Management Policy, institutionalizing important facets of keeping equipment operating reliably and at lowest life-cycle costs.

**SEPTEMBER**  
Hosted 1st Member Partners Emergency Preparedness Best Practices Workshop

**NOVEMBER**  
Successfully negotiated renewal of NPDES Permit  
Named to Leading Utilities of the World (LUOW)

**DECEMBER**  
Launched new Member Outreach online portal  
Completed water system valve exercising pilot program

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EICT-E Apprenticeship Program launched

**DECEMBER**  
Launched of One Water Institute

Received AMWA Platinum Award for Utility Excellence

Rouge River Outfall launched

**OCTOBER**  
Proactively began corrosion control study for 5 water treatment plants

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**JANUARY**  
WRAP increased minor plumbing repair/replacement allowance to \$2,000; renters now eligible for program  
Implemented Fraud and Ethics Hotline

Launched GLWA's first Linear System Integrity Plan for the systematic condition assessment and optimization of water quality in local water systems

Board Adoption of the Business Inclusion and Diversity Program

Board Adoption of Regional Wastewater Master Plan

**AUGUST**  
Launched an innovation program called Technology Approval Group forum for GLWA and Member Partners to collaborate on shared technology needs and interests

**MAY**  
Entered into partnership with MSU to detect virus in the waste stream

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# INNOVATION

GLWA's view of innovation is, perhaps, a bit different from most organizations. The Authority's approach to innovation is through three lenses – people (how do we improve the skills of team members), processes (how do we optimize the way we do things) and technology (what new technology can we implement/share to improve operational performance or provide value to member partners).

## GLWA PARTNERS WITH THE UNIVERSITY OF MICHIGAN ON PILOT PROJECT TO HELP PREVENT TRANSMISSION SYSTEM FAILURES

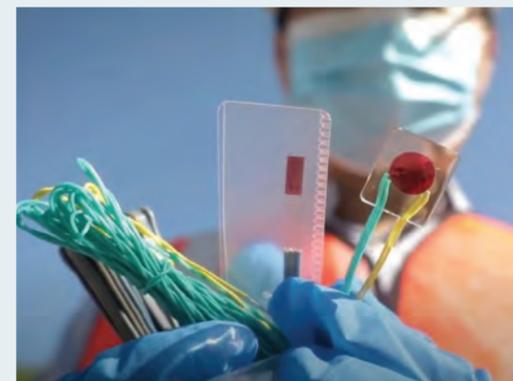
As a part of GLWA's ongoing efforts to understand and address potential failures in the regional transmission system before they occur, the Authority has partnered with the University of Michigan College of Engineering on a first of its kind project to support its ability to proactively assess and repair the condition of water transmission infrastructure in the regional system.

In conjunction with researchers at the University of Michigan (U-M) and Maryland-based Structural Technologies, GLWA began a one-year pilot project on Detroit's east side. A 192-foot section of cast iron-pipe, which is approximately 114 years old, was lined with two different liner materials – steel-reinforced cement and steel-reinforced polymer, which have sensors embedded to feed real-time information on pipe condition and performance back to GLWA/U-M for analysis over the course of the next 12 months. The two different materials are being used to see which material will be better suited to handle the water during the region's changing seasons.

This work follows on a similar process done with the condition assessment GLWA did in Oakland County with the Pipe Diver and Smart Ball technology in the aftermath of the 2017 water main break along 14 Mile Road that caused approximately 325,000 homes to be without water for approximately one week.

*“The sustainability of the regional system is one of GLWA's top priorities. Our commitment to the use of best practices and innovative technologies is central to our ability to ensure that our system functions at its optimal level – now and into the future.”*

– Cheryl Porter  
Chief Operating Officer-Water  
& Field Services, GLWA



*“The unique aspect of this project is the monitoring piece, as it allows us to see what a repair looks like under real-time operating conditions. That's never been done before...not just by us, but by a water utility anywhere in the world. The impact that we're going to have to the larger water (service) sector is going to be immense.”*

– John Norton, Jr., PhD., PE  
Director of Energy, Research and Innovation, GLWA

## GLWA ACHIEVES ITS GOAL OF A 100 PERCENT COMPLETION RATE, WITH A 95 PERCENT FULL-TIME JOB ACCEPTANCE WITH GRADUATION OF FIRST EICT-I APPRENTICESHIP COHORT

During a virtual ceremony in June 2020, GLWA graduated its first cohort of apprentices from the Authority's inaugural three-year EICT-I (Electrical Instrumentation Control Technician – Instrumentation) Apprenticeship Program. Of the 20 graduates from the [award-winning](#) program, 19 accepted full-time positions with GLWA.

Developed in partnership with Focus: HOPE and Henry Ford College and approved by the U.S. Department of Labor (USDOL), the apprenticeship program successfully demonstrates a “learn while you earn” model with on-the-job training and education at no cost to the participants.

As part of the program, apprentices work one-on-one with GLWA journey worker mentors and rotate assignments every six months to gain experience in repairing, testing, calibrating and installing instruments and control systems, in addition to attending customized courses designed specifically by GLWA journey workers at Henry Ford College.

Upon graduation, the apprentices had successfully completed the requirements set forth in the USDOL Standards of Apprenticeship, including 5,200 hours of on-the-job learning, and meeting all learning competencies. In addition, they completed 575 hours of related educational instruction (32 course credits) at Henry Ford College. The apprentices now hold their USDOL Certificate of Completion of Apprenticeship.

GLWA's apprenticeship program has positively impacted not only those working for the Authority, but the community as a whole. The training it provides continues to set up more people for these essential jobs that are vital to the stability and future of the water sector. The program will continue to drive a diverse pipeline of highly skilled operations-focused workers into GLWA and the community, now and into the future.

The virtual graduation ceremony, a necessity due to COVID-19 safety restrictions, included apprentice videos and testimonials celebrating the graduates. [Click here](#) to view the videos and testimonials.

*“GLWA created its apprenticeship program to help close the gap in the availability of highly-trained talent to adequately fill skilled technician roles imperative to our core business of water and wastewater treatment. It can take a new employee two to three years to learn the competencies needed to successfully fulfill the daily tasks required of a skilled water sector position, so on-the-job training is an essential part of the program. GLWA is committed to investing in these areas, as this program is crucial to attracting and maintaining the highly-trained talent the Authority needs to provide water of unquestionable quality and safe and sanitary wastewater treatment to the people of southeast Michigan.”*

– Terri Tabor Conerway  
Chief Organizational Development Officer, GLWA

### ► MEET AN EICT-I APPRENTICESHIP GRADUATE

Gari Levy is one of the recent graduates of GLWA's first class of EICT-I Apprentices. Gari is new to the water sector, having been in the healthcare industry. Knowing Gari was seeking a career change, his father, who works at GLWA, sent him information about the program; Gari soon realized it was the perfect career move.

Despite the many impacts of COVID-19, he completed the apprenticeship program and became a full-time GLWA team member.



“I learned how valuable an apprenticeship is in helping me build new skills while going to school and earning a certification in mechatronics, as well as receiving on-the-job training at GLWA. I appreciated that I was able to attend Henry Ford College at no cost to me because of the apprenticeship and the collaboration between GLWA and Henry Ford College.

I get excited knowing I can do my part to help the community, especially right now, ensuring we continue providing water during the global pandemic. I'm so grateful to be working despite the pandemic as an essential worker, as I know many people are out of work. This challenging time has made me realize that water can't stop – no matter what. In the future, I see myself helping to make the system more efficient and imparting the knowledge I've learned to future apprentices just like others have done for me.

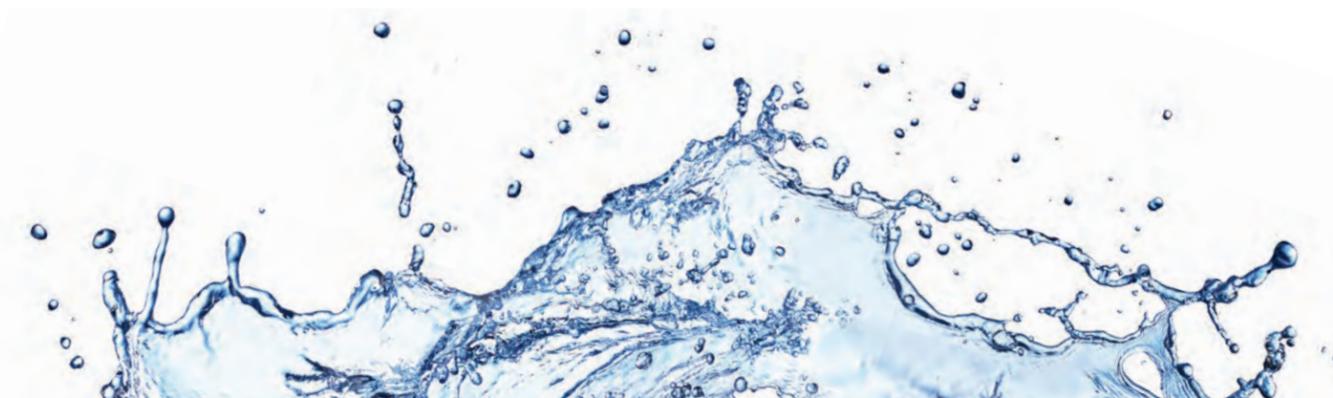
The collection and treatment of water is a massive system which many people may take for granted. My contribution to the entire process is very important to me, and I hope to bring innovative ideas and alternative ways to troubleshoot issues within the system,” said Gari.

### ► MAINTENANCE TECHNICIAN AND EICT-E APPRENTICESHIPS

GLWA has two additional apprenticeship programs in progress: a three-year Maintenance Technician Apprenticeship, launched in January 2019, and a five-year EICT-E (electrician) Apprenticeship, launched in February 2020.

#### COMING SOON! A NEW WATER TECHNICIAN APPRENTICESHIP

GLWA has committed to launching one new U.S. Department of Labor (USDOL) apprenticeship program per year until the system's remaining needs are met, and to help ensure a trained and sustainable workforce. Next up is a Water Technician apprenticeship, which is expected to launch in early 2021.



## GLWA PROGRAM TO EXPLORE AND SHARE INNOVATIVE SOLUTIONS TO OPERATIONAL CHALLENGES

GLWA, in partnership with Isle Utilities, introduced a new technology evaluation program, called the Technology Approval Group (TAG) Program, to member partner communities and GLWA team members in 2020. The TAG Program brings the Authority and member communities together to collaborate on shared technology needs and interests.



The TAG Program is a technology-screening process that enables member communities and GLWA team members to evaluate emerging technologies, identify pilot opportunities, and engage in collaborative research through a series of workshops and a technology portal.

Each TAG workshop is themed (water, wastewater or both) and solution providers share technical presentations that are based on operational issues/concerns pre-identified by member communities and team members, which are followed by a Q&A and discussion. Participants provide feedback and evaluate alignment with their operational issues and requirements. The Isle Utilities Team then continues to provide pilot support to technologies that members indicated interest in. Participants also gain access to the TAG Technology Portal, which includes over 1,200 technology profiles that include presentations, case studies and TAG member feedback summaries.

The effort is supported by both the Member Outreach and Energy, Research and Innovation Teams.

“  
*Member partners can get the most of out of TAG by actively participating in workshops and staying engaged through the TAG Technology Portal and referring technologies or vendors of interest.*  
 ”

– Madison Merzlyakov,  
 Management Professional, Planning Services &  
 Member Partner Outreach Team lead on the project



# QUALITY

A top priority for GLWA is the protection of public health through the treatment and delivery of water of unquestionable quality.

## WATER OF UNQUESTIONABLE QUALITY

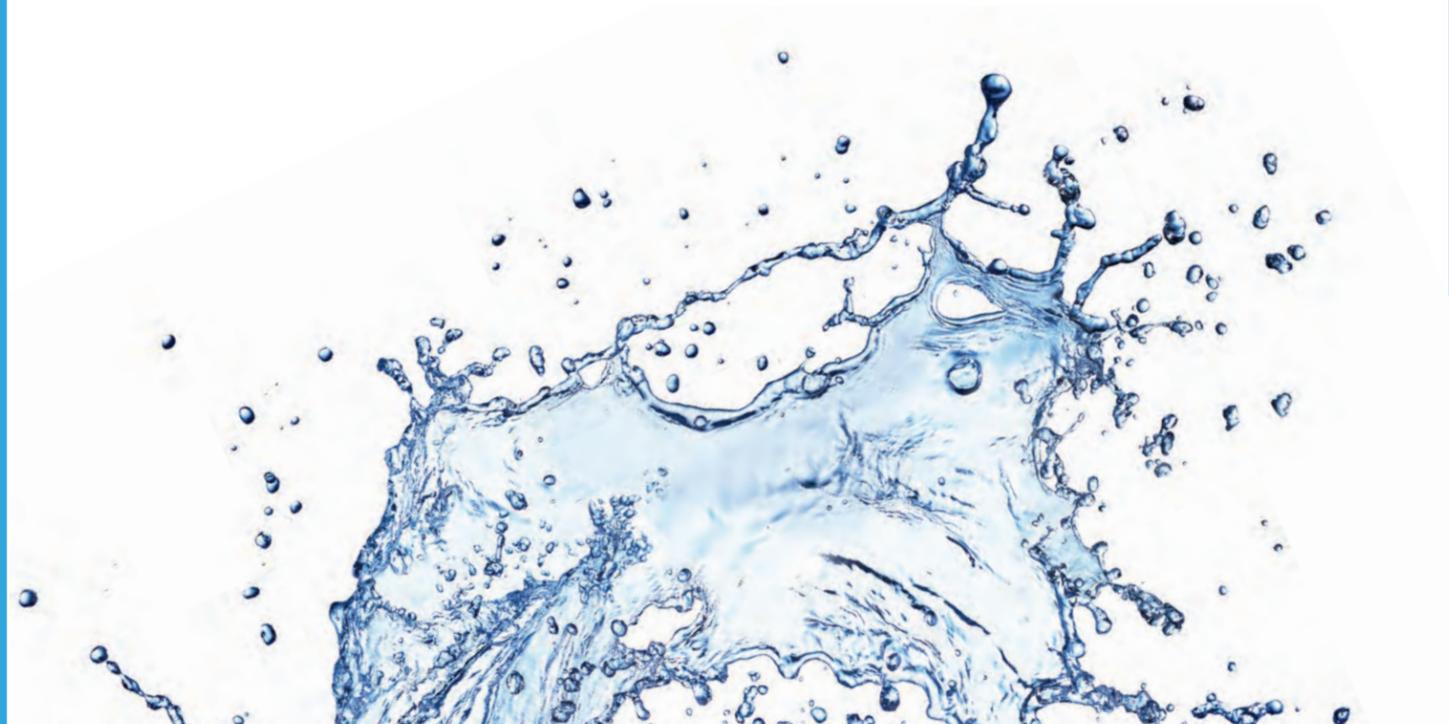
The treatment of safe and reliable water is at the heart of GLWA operations. Through its team of certified chemists, engineers, operators, and other highly skilled and qualified team members, the Authority is committed to supporting healthy communities by not only meeting but surpassing current state and federal safe drinking water regulations.

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*GLWA has remained in compliance with all state and federal drinking water standards every day for the last five years.*

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The Authority is also pleased to report that there were no impacts to water quality when faced with unexpected events such as the partial land collapse at the Detroit Bulk Storage site along the Detroit River and the “green ooze” that was discovered coming from the Electro-Plating Services site in Oakland County. In both cases, GLWA’s monitoring of water quality surpassed all normal regulatory testing requirements.



## WATER OF UNQUESTIONABLE QUALITY

### ▶ PFAS – WATER SYSTEM

In August, the Michigan Department of Environment, Great Lakes and Energy (EGLE) adopted per- and polyfluoroalkyl compounds (PFAS) drinking water rules. The new rule requires testing for seven PFAS compounds and established maximum contaminant levels (MCLs). PFAS are man-made compounds used in the manufacturing of carpets, clothing, fabrics for furniture, paper packages for food and other materials that are resistant to water, grease or stains. They are also found in products such as firefighting foams, cleaners, cosmetics, paints, adhesives and insecticides.

GLWA has been monitoring PFAS in since 2009. In its latest round of drinking water system testing required under the new rule, GLWA is pleased to assure the public that these chemicals were not detected. This means that PFAS levels were below that which is measurable under the EPA's standard analytical methodology for the detection of the compounds.

In a time of continued public concern about this issue, GLWA can confidently assure those in its service area throughout southeast Michigan that its water remains of unquestionable quality.

### ▶ PFAS – WASTEWATER SYSTEM

GLWA is a leading utility in the state of Michigan, as well as the United States, in monitoring for PFAS in the waste stream. As a part of its Industrial Pretreatment Program (IPP) responsibilities, the Authority has taken a proactive approach to working with its point source industrial dischargers to remove PFAS in advance of it entering the wastewater system.

The last 12 months were GLWA's first full year of implementing its PFOS/PFOA Minimization Program, which was one of the first in the state of Michigan and in the United States. In that first year, GLWA observed measurable progress in reducing, controlling, and eliminating source contributions of PFAS compounds throughout the Authority's regional service area.

As a result of the diligent work of the Industrial Waste Control Team, the WRRF experienced a 57 percent reduction in the PFOS concentration in the influent coming into the facility. In fact, the most recent sampling (fourth quarter of 2020) found both PFOS and PFOA effluent concentrations were well below water quality standards.

Throughout 2020, GLWA evaluated 74 industrial dischargers, and identified 50 of these as PFAS sources. The PFOS/PFOA Minimization Program encourages a source control approach through the development and implementation of a Best Management Plan (BMP). As of the end of December, the program achieved the following:

- ◆ BMPs were developed and implemented by 88 percent of the identified facilities;
- ◆ Specific treatment for PFAS compounds were installed at 38 percent of sources.

GLWA will continue to work with industrial discharges to monitor, reduce, control and eliminate source contribution of PFOS/PFOA to the waste stream.

Team members are also sharing their knowledge and learnings with the wastewater sector by presenting at local, regional and national conferences.

**What Members Need to Do**

Pass a resolution adopting the full, updated set of rules

↓

Complete by September 1, 2020

↓

Email a copy of the adopted resolution to [iwc@glwater.org](mailto:iwc@glwater.org)

GLWA

GLWA held workshops for member partners to explain new IPP rules and the process for seeking approval on them from their governing bodies.



### SYSTEM RESILIENCY

The sustainability of the regional system is one of GLWA’s top priorities. The use of best practices and innovative technologies is central to the Authority’s ability to ensure that regional system functions are at an optimal level, now and in the future.

#### ▶ LINEAR SYSTEM INTEGRITY PROGRAM LAUNCHES

The newest addition to GLWA’s family of asset management programs, the Linear System Integrity Program (LSIP), went from a crawl to a brisk walk in 2020 as planning gave way to execution.

Because the water transmission system is intentionally closed to preserve water quality, getting into it to assess the condition of the pipes is challenging. It requires coordination with operations and member partners and in many cases, the construction of access points to introduce and extract equipment.

The risk-based LSIP leaves behind the time-driven, cyclical approach to renewing water mains that has been used for many years in the water sector and makes way for a data and risk-based approach. GLWA prioritizes condition assessments based on probability and consequence of failure and plans for replacement of only specific lengths of pipe where there are issues. This smart surgical approach saves millions of dollars in capital investment and helps to minimize service interruptions and their impacts on the community. With the planned selection of a consultant in 2021, GLWA will move from the brisk walk to a healthy run with this best-in-class approach to the management of its piping systems.

#### ▶ EXPANSION OF DETROIT RIVER INTERCEPTOR CONNECTORS TO REDUCE FREQUENCY AND VOLUME OF UNTREATED WET WEATHER DISCHARGE

As a part of system resiliency efforts outlined in the Authority’s Wastewater Master Plan, GLWA is undertaking the expansion of approximately 30 connecting pipes to the Detroit River Interceptor (DRI). The technical name for these connectors is “regulators” because they regulate the amount of flow that is allowed into the DRI through fixed openings. The size of the fixed openings was determined based on compliance requirements that have long since changed.

With data that demonstrates the capacity of the DRI is not fully utilized, the goal of this project is to expand the openings to maximize the amount of flow that can make its way into the DRI so it can be transported to the WRRF during wet weather. This will significantly reduce the frequency and volume of untreated overflows through existing outfalls to the Detroit River during rain events.

Two of the regulators were expanded in 2020. GLWA is evaluating the expanded regulators’ performance and planning the expansion of the remaining regulators in the next few years.



The engineering team with the boring machine at the DRI.



The tunnel boring machine being put into place at the DRI.

### GLWA’s Northwest Interceptor Sanitary Sewer Rehabilitation Project was ranked among *Water & Wastes Digest’s* (WWD) Top Projects in 2020

GLWA’s Northwest Interceptor (NWI) services hundreds of thousands of residents and businesses throughout Detroit and surrounding communities. Located in a residential area, the 2,700 linear feet of six-foot, three-inch diameter sanitary sewer posed challenges for workers performing inspection due to regular flow. This project constructed a flow control gate and two flow control chambers to divert flow so the pipe could be inspected safely. With manned entry, workers were able to inspect the pipe and identify that it was at imminent risk of failure. The team determined appropriate repair options, which GLWA then swiftly undertook to rehabilitate the interceptor.



Mini Panicker

# PARTNERSHIP & COLLABORATION

Individually we are one drop. Together we are an ocean.

## GLWA IMPROVES MEMBER PARTNER SATISFACTION SCORE TO 96 PERCENT DESPITE CHALLENGES OF COVID-19

Committed to a culture of continuous improvement, one of the tools GLWA uses to solicit valuable feedback from member partners to help improve and enhance its operations is the annual One Water Partnership Scorecard survey. Designed by member partners, the survey focuses on those aspects of GLWA performance most important to them.

While consistent Scorecard scores over the past three years demonstrate the remarkable stability of members' positive perceptions of GLWA, satisfaction with the Authority overall increased in the 2020 Scorecard. When asked to rate satisfaction with GLWA overall, nearly **96 percent of respondents rated the organization positively, selecting either "Satisfied" or "Very Satisfied."** This is an incredible nine-point increase from 2019.

Again in 2020, all question categories received a weighted average of 3.0 ("Agree" or "Satisfied") or greater. Among elected officials, the overall satisfaction score for Scorecard 2020 is even higher, with a weighted average of 3.4 out of a possible 4.0. The weighted averages for a majority of factors remained the same as the previous year. Remaining factors increased or decreased by two-tenths of a point, or less, which is within the survey's margin of error ( $\pm 7$  percent).

The 2020 Scorecard survey introduced two COVID-specific questions to probe how Member Outreach adapted to the circumstances of the pandemic, as well as to identify members' participation in and experience with virtual Outreach meetings during the pandemic. The survey also added the One Water Institute as a service area to gauge respondent's satisfaction with the Authority's premiere regional training academy.

GLWA is grateful that its member partners believe we continue working well in the region in the spirit of collaboration, especially given the unprecedented challenges created by the COVID-19 pandemic.

At the One Water Partnership meeting held in December 2020, we asked member partners to share their thoughts on the value that GLWA has brought since being launched in 2016. This word cloud represents their thoughts:



## HUB UTILITY

GLWA has a steadfast commitment to collaboration and a dedication to making connections across the region. This includes, wherever possible, leveraging resources for the benefit of GLWA's member partners and other stakeholders.

### ▶ GLWA SHARES AURA ARTIFICIAL INTELLIGENCE TOOL AT NO COST

In 2020, GLWA began offering all GLWA member communities, at no extra cost, a tool called AURA, which is a GIS-based smart water platform. AURA allows for communities to have predictive and proactive drinking water quality data available and to have daily updates on sampling results, historical and seasonal trends. It also identifies areas that may need attention and keeps track of a community's flushing program by providing "dead end" and "stagnant main" views. The tool assists with lead service line management by allowing communities to build their inventory of lead service lines and keep track of which lines have been replaced. It also integrates with community hydraulic models to view updates to their system when and where they may occur. By offering this service to member communities, GLWA is providing communities a simple pathway to utilize best practices and assist members with their water quality concerns. Currently, over 30 GLWA communities are using the tool.

*"AURA is a platform where knowledge and intelligence of utility operations, hydraulics, quality, assets, GIS, models and customers can be grown over time, thus making it easier to pass on the experience from the retirement generation to the next generation."*

– GLWA Member Partner currently using the tool

## ONE WATER INSTITUTE

GLWA is constantly looking at where it has developed resources for its own use, and how those resources can be made available for the mutual benefit of its member partners. A good example of this is the launch of the One Water Institute (OWI), the Authority's premiere regional training program, which was launched a little over a year ago. In 2020, after only one year of offering programming internally to GLWA team members, classes were opened to member partners for their staff to take advantage of. When member partners were surveyed on their satisfaction with OWI in GLWA's annual Member Partner Scorecard, results showed an overall "Satisfied/Agree" score.



### ▶ OWI ADAPTS TO VIRTUAL TRAINING ENVIRONMENT

In March, due to COVID-19 social distancing restrictions, OWI faced a new and exciting challenge: identifying ways to safely provide the same high-quality training facilitation that had been provided in-person pre-pandemic, in a new virtual format. This would ensure the safety of team members and accommodate those who had transitioned to working remotely. The solution was to review all course materials to determine which ones were critical to the continued health and safety of all GLWA team members (for new and current team members), which offered ongoing professional and personal development, and which were capable of being converted to a virtual format for both GLWA and Member Partner benefit.

After this review and the updating of course materials to fit the virtual platform, GLWA continued offering the following classes:

- ◆ General Health and Safety Awareness
- ◆ Bloodborne Pathogens
- ◆ Toxic and Hazardous Substances Awareness
- ◆ COVID-19 GLWA Safe Workplace
- ◆ Lock Out, Tag Out
- ◆ Crucial Conversations
- ◆ Confined Space (Initial and Refresher)
- ◆ 7 Habits of Highly Effective People

# MAKING BIG WAVES

The One Water, One Team continues to make big waves in the water service sector and their communities. GLWA is proud of its team members!



**NACWA National Environmental Achievement Award for Public Information and Education**



**Michigan Lawyers Weekly Leader in the Law**  
Bill Wolfson



**Michigan Water Industry Hall of Fame**  
Sue McCormick



**Security HazMat Officer Jamie Goode graduated from Staff & Command School at Eastern Michigan University**



**2020 Water & Wastes Digest (WWD) Young Pros**  
Navid Mehram



**Water Environment Federation (WEF) William D. Hatfield Award**  
Majid Khan



**AT&T/Government Technology Magazine Technology Innovation Leadership Award**  
Jeff Small



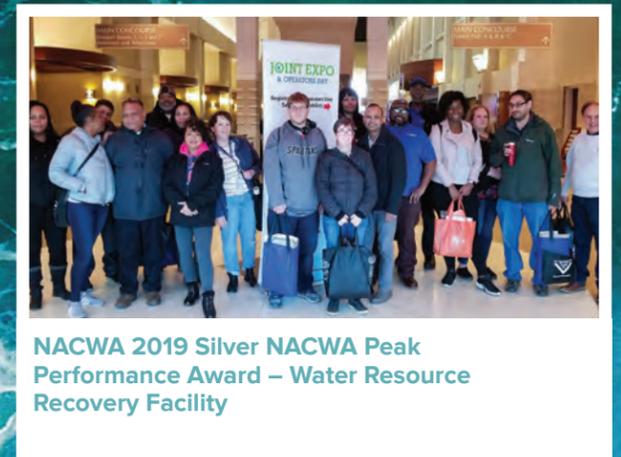
**Michigan Lawyers Weekly Up & Coming Lawyer**  
Sarah Ahn



**MI-AWWA Professional Excellence Award**  
Balvinder Sehgal,  
Water & Field Services Manager



**NACWA National Environmental Achievement Award for Workforce Development**



**NACWA 2019 Silver NACWA Peak Performance Award – Water Resource Recovery Facility**

# WHAT'S NEXT FOR GLWA

*“By working together, pooling our resources and building on our strengths, we can accomplish great things.”*

– Ronald Reagan

It has been a remarkable first five years of operations with significant progress and accomplishments made in every area of the utility. Looking to the next five years and beyond, GLWA and its Board of Directors, being chaired in 2021 by John J. Zech, is focused on:



Continuing to leverage GLWA resources to the benefit of member partners, and serve as a connector across the region and amongst our sector and infrastructure partners as a Hub Utility



Developing a new, simplified model wastewater contract



Undertaking a comprehensive review of the water charge methodology in conjunction with member partners to assist in managing equity and volatility in charges for the regional water system



Launching the Business Inclusion and Diversity Program to assist GLWA in expanding its pool of skilled resources for procurements and increasing opportunities for local small and disadvantaged businesses within GLWA's service area to do business with the Authority



Continuing to improve affordability efforts in the region by enhancing and improving the WRAP program and extending its benefits to more GLWA communities



Ensuring that member partners' voices are heard in the discussion of issues critical to the water and wastewater sectors through GLWA's leadership in regional, state and national organizations and associations, as well as its legislative outreach



Updating the 2015 Water Master Plan



Launching an Enterprise Asset Management System that will improve GLWA's ability to manage its assets, with a robust ability to govern preventive maintenance and an easy-to-use mobile interface. The new system will align with the Strategic Asset Management Plan and will enhance an asset management-centric culture

# ABOUT GLWA

## WATER SYSTEM

**5**   
Treatment Plants

  
**3.8 MILLION**  
PEOPLE SERVED

 **816** miles of transmission main 

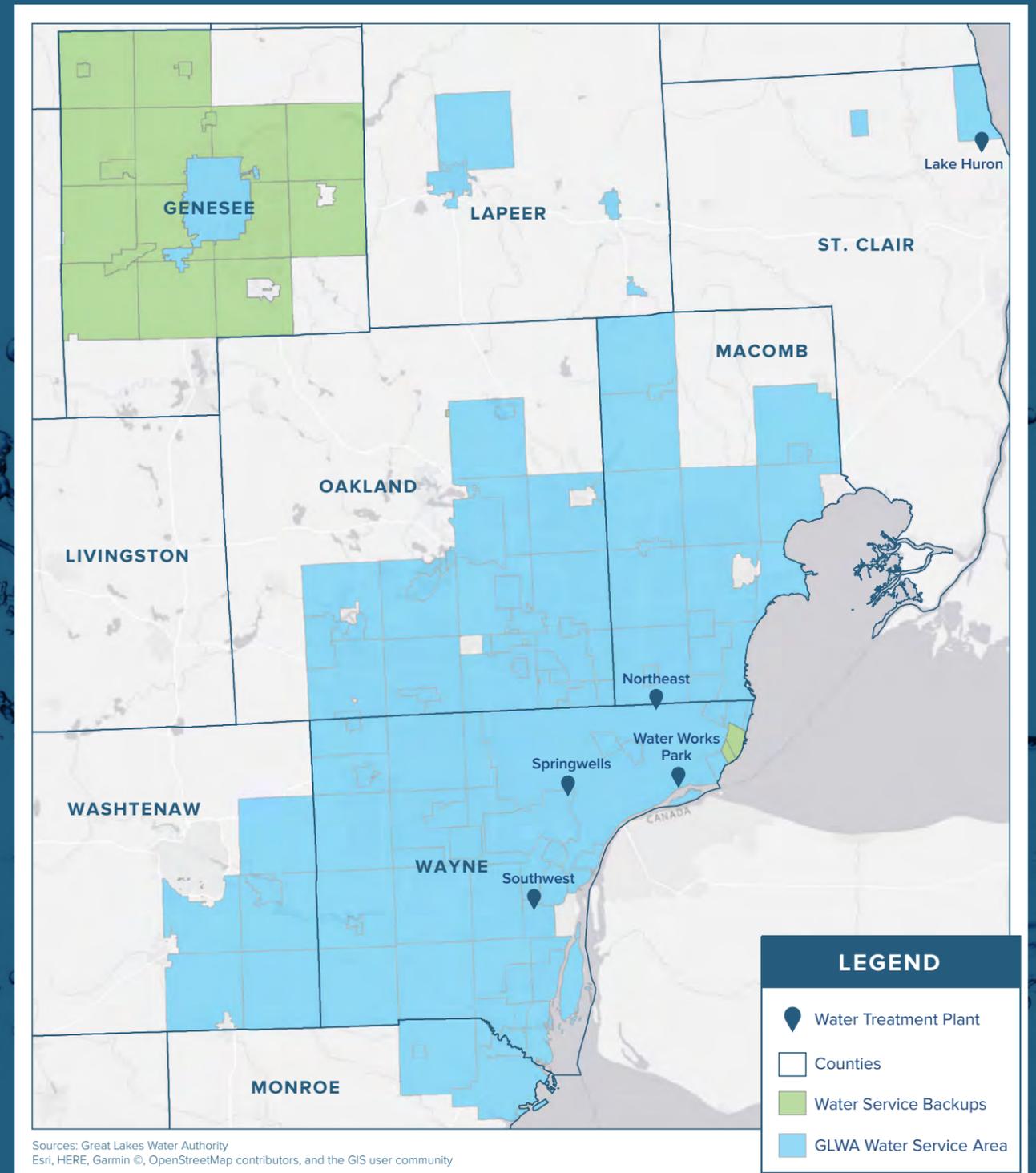
 **3** Water Intakes   **88** Member Partners across **112** communities

 Treatment capacity of **1,720** million gallons per day 

**19** BOOSTER PUMP STATIONS 

 **1,698 SQ. MILE** service area

## GLWA WATER SERVICE AREA (INCLUDING BACKUPS)



# WASTEWATER SYSTEM



The largest single-site wastewater treatment facility in the United States



2.8 MILLION PEOPLE SERVED



195 miles of trunk sewers & interceptors



3 Interceptors



19 Member Partners across 79 communities



Treatment capacity of 1,700 million gallons per day



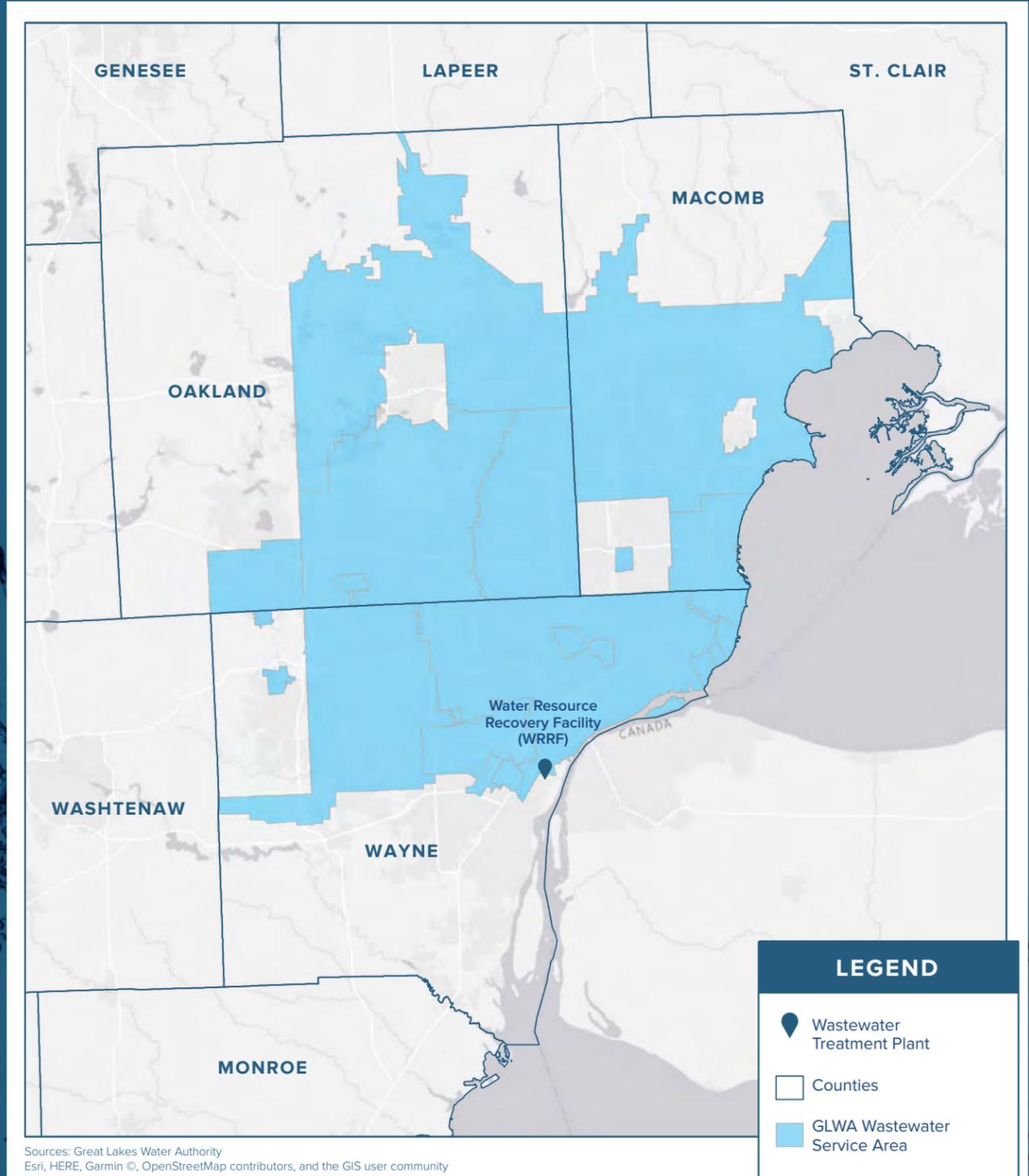
9 PUMP STATIONS



944 SQ. MILE service area

8 CSOs

# GLWA WASTEWATER SERVICE AREA



Sources: Great Lakes Water Authority  
Esri, HERE, Garmin ©, OpenStreetMap contributors, and the GIS user community

# BOARD OF DIRECTORS



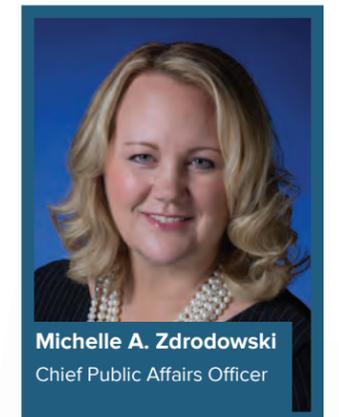
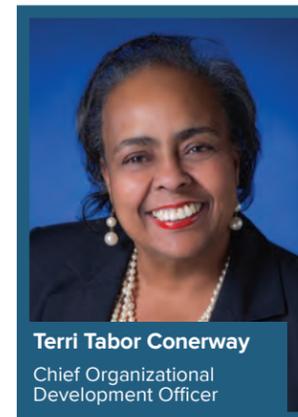
\*John J. Zech was elected by the Board to serve as chairman for 2021



## HONORING FORMER BOARD CHAIR ABE MUNFAKH, P.E. (1941-2020)

In March, GLWA was saddened learn of the passing of Abe Munfakh, P.E, who was the Wayne County appointed member of the Authority's Board and had been serving as its Board Chair for 2020. Abe was passionate about community service and making southeast Michigan better for its residents and businesses. GLWA is thankful to have been able to work with him.

# EXECUTIVE LEADERSHIP TEAM



# OUR VISION

Through regional collaboration, GLWA strives to be the provider of choice dedicated to efficiently delivering the nation's best water and wastewater services in partnership with our member partners.

# OUR MISSION

To exceed our member partners' expectations by utilizing best practices in the treatment and transmission of water and wastewater, while promoting healthy communities and economic growth.

# OUR VALUES

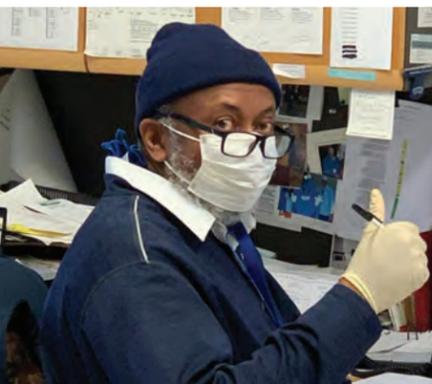
- Approachable
- Reliable
- Trustworthy
- Smart
- Efficient
- Focused
- Determined



# ONE WATER

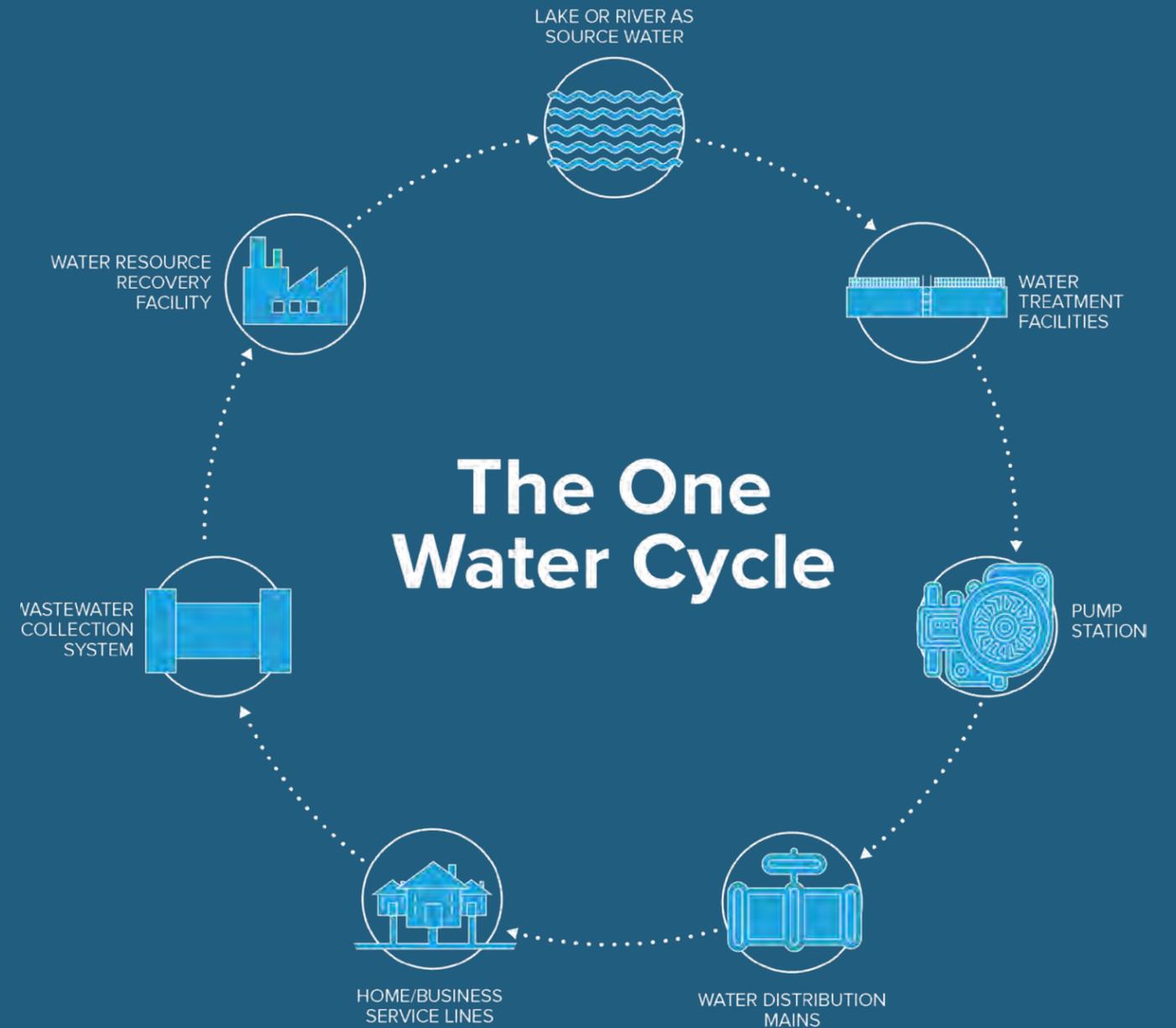
# ONE TEAM

# ONE MISSION



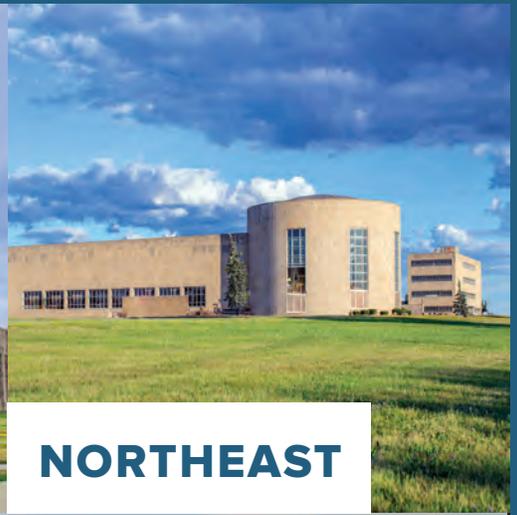
GLWA is all about One Water...the movement of water from the environment, to our member partners, and back to the environment. We ensure our member partner communities get the highest quality water using treatment standards that are stricter than state or federal regulatory requirements. Once the water has been used, we run it through our treatment process again before returning it to the environment – oftentimes cleaner than when we received it. Working hand-in-hand with our member partners, GLWA provides water of unquestionable quality and efficient and effective wastewater services.

Together, we are One Water.





**SPRINGWELLS**



**NORTHEAST**



**WATER RESOURCE RECOVERY FACILITY**



**LAKE HURON**



**WATER WORKS PARK**



**SOUTHWEST**