



Comprehensive Annual Financial Report

Fiscal Year Ended June 30, 2019



Springwells Water Treatment Facility

***Striving to be the preferred provider of water and
wastewater services in southeast Michigan.***

*Prepared by
Great Lakes Water Authority Financial Services Area*

GREAT LAKES WATER AUTHORITY

Southeast Michigan

COMPREHENSIVE ANNUAL FINANCIAL REPORT

Including Independent Auditors' Report

Fiscal Year Ended June 30, 2019

Prepared By:

Great Lakes Water Authority Financial Services Area

GREAT LAKES WATER AUTHORITY

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INTRODUCTORY SECTION



CHIEF EXECUTIVE OFFICER'S TRANSMITTAL LETTER

December 20, 2019

Board of Directors
Great Lakes Water Authority

Dear Directors,

I am pleased to present the Comprehensive Annual Financial Report (CAFR) for the Great Lakes Water Authority (GLWA) for the fiscal year which ended June 30, 2019. This is GLWA's third full 12-month fiscal year of operations since GLWA's operational effective date of January 1, 2016. Having three full years of financial information allows the GLWA team to demonstrate delivery of the high level of performance that we have pledged.

GLWA's financial statements were prepared in accordance with U.S. generally accepted accounting principles ("GAAP"), as promulgated by the Governmental Accounting Standards Board ("GASB") and audited by a firm of independent certified public accountants engaged by the GLWA Board of Directors. This is consistent with the GLWA Articles of Incorporation and By-laws which require an annual audit of GLWA's financial statements by independent certified public accountants.

Responsibility for the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with GLWA management. To the best of my knowledge and belief, the information contained in this report is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of GLWA. All disclosures necessary for the reader to gain an understanding of GLWA's financial activity have been included.

GLWA management is responsible for establishing and maintaining an internal control structure designed to ensure that its assets are adequately safeguarded against loss, theft, or misuse and to maintain accurate and reliable financial records for the preparation of financial statements and the representations made by management. The internal control structure is designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that: 1) the cost of internal controls should not exceed the benefits derived from the controls; and 2) the evaluation of costs and benefits requires management's exercise of judgment. To the best of my knowledge and belief, GLWA's internal accounting controls adequately safeguard its assets and provide reasonable assurance of the proper recording of financial transactions in accordance with GAAP.

Baker Tilly Virchow Krause, LLC, Certified Public Accountants, has been retained by GLWA to serve as its independent auditors and has issued an unmodified ("clean") opinion on GLWA's financial statements for the year ended June 30, 2019 with comparative amounts for June 30, 2018.

GAAP requires that management provide a narrative introduction, overview and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis ("MD&A"). This letter of transmittal is designed to supplement the MD&A and should be read in conjunction with it. GLWA's MD&A is located immediately following the independent auditors' report.

Overview of GLWA

GLWA is the result of a monumental collaboration among regional leaders. Working to meet the needs of sustainable and affordable infrastructure, a memorandum of understanding was agreed upon on September 9, 2014. Subsequently, GLWA was incorporated by the City of Detroit (City) and the counties of Macomb, Oakland and Wayne on November 26, 2014 pursuant to Act 233, Public Acts of Michigan, 1955, as amended. At the time of GLWA's incorporation, the City, through its Detroit Water and Sewerage Department (DWSD), was providing water supply services within and outside of the City through a water supply system and drainage and sewage disposal services within and outside of the City through a sewage disposal system.

On June 12, 2015, the City and GLWA executed the Regional Water Supply and Sewerage Disposal System Leases (the Regional System Leases), transferring the regional water and sewage disposal facilities from the City to GLWA for an initial term of 40 years. In addition, the City and GLWA entered into a Water and Sewer Services Agreement whereby GLWA provides water and sewer services to the City; the City then supplies these services to Detroit retail customers via the DWSD.

The above agreements required the satisfaction of several conditions before becoming effective. By January 1, 2016 (the Effective Date), those conditions were met and GLWA, under the terms of the Leases, became responsible for the assets, all bonded indebtedness, and operations for the regional water and wastewater systems.

GLWA leases the regional water and sewerage disposal facilities from the City for an allocation of \$50 million per year to fund capital improvements for the City's retail system and/or debt obligations. GLWA also funds a Water Residential Assistance Program (WRAP) to assist low-income residential households in enrolled member partner communities.

Biennial budgets are prepared annually and approved by the Board of Directors. Included with the biennial budget is a five-year financial plan. A five-year capital plan is also prepared annually and approved by the Board of Directors.

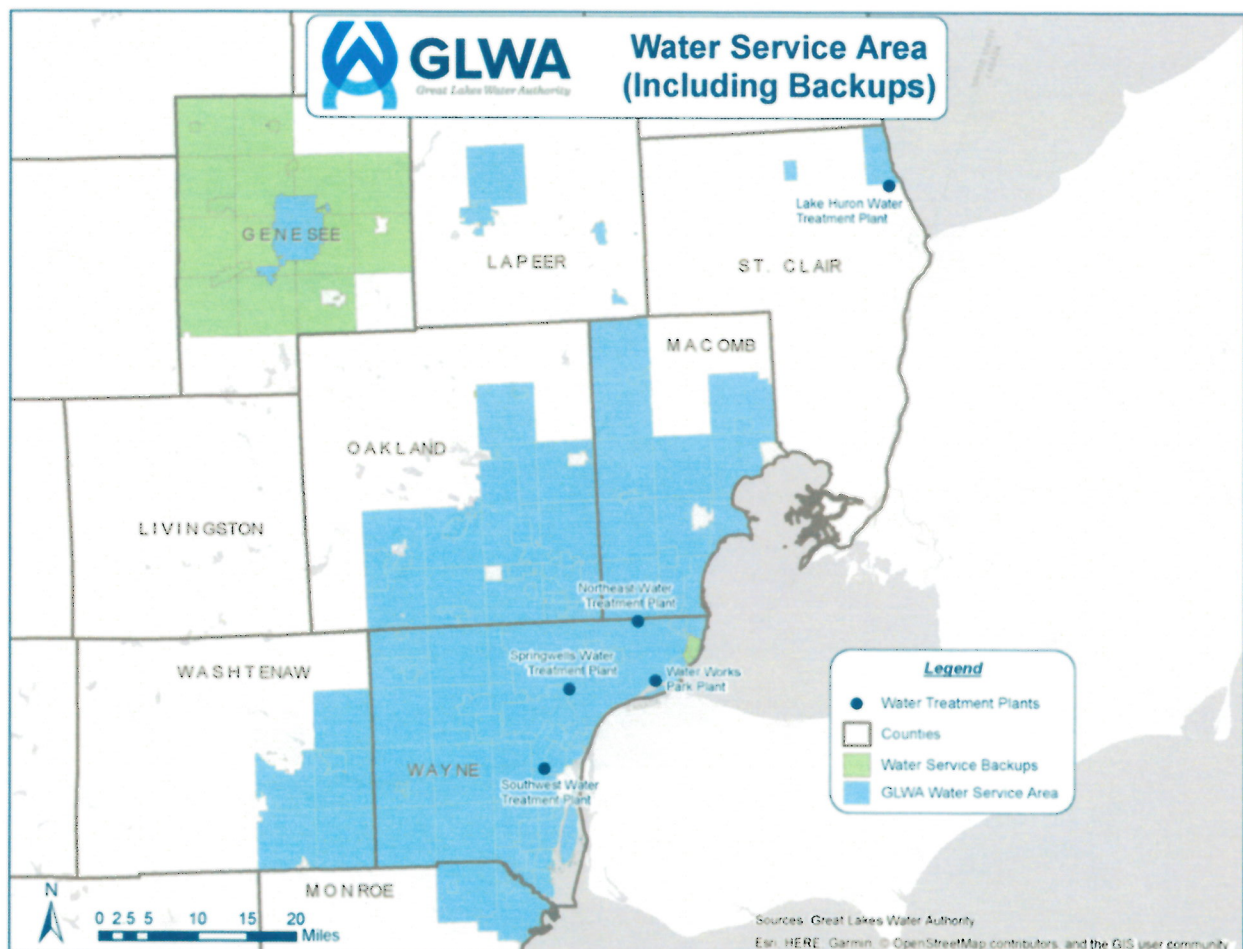
At GLWA we define "member partner" as the authority, city, township, village, drainage district or other public body corporate recognized by the state of Michigan that holds a wholesale water or wastewater services contract with GLWA and includes its staff and consultants. Our member partners are actively engaged with GLWA and supported by a facilitated outreach program to ensure open, ongoing, and proactive relationships.

Water System

Our regional water system is one of the largest in the United States, both in terms of water produced and population served. The system currently serves an area of 1,698 square miles with an estimated population of nearly 3.8 million or approximately 38 percent of Michigan's population. The water system has 88 member partners across 112 communities.

The water supply system consists of three intake facilities, five water treatment plants, 19 booster pumping stations, 32 water storage reservoirs and a conveyance system with over 816 miles of transmission mains. The facilities have the treatment capacity of 1,720 million gallons per day.

The long-term strategy for the water system focuses on reliability, flexibility and cost effectiveness. The Water System Master Plan was updated in August 2016. The master plan addressed declining water usage trends which have seen a significant and consistent decline as observed across the water sector. Because GLWA's water system is large and made up of multiple facilities, the team had flexibility in charting a course forward. The overarching strategy is to address excess system capacity by derating facilities to reduce operating costs, but more significantly, minimize or reduce future capital costs. The engineering team is updating the evaluation for the option to convert the Northeast Water Treatment Plant into a storage and pumping facility and invest in new transmission mains to support Northeast's service area. Below is the Water System service area map.

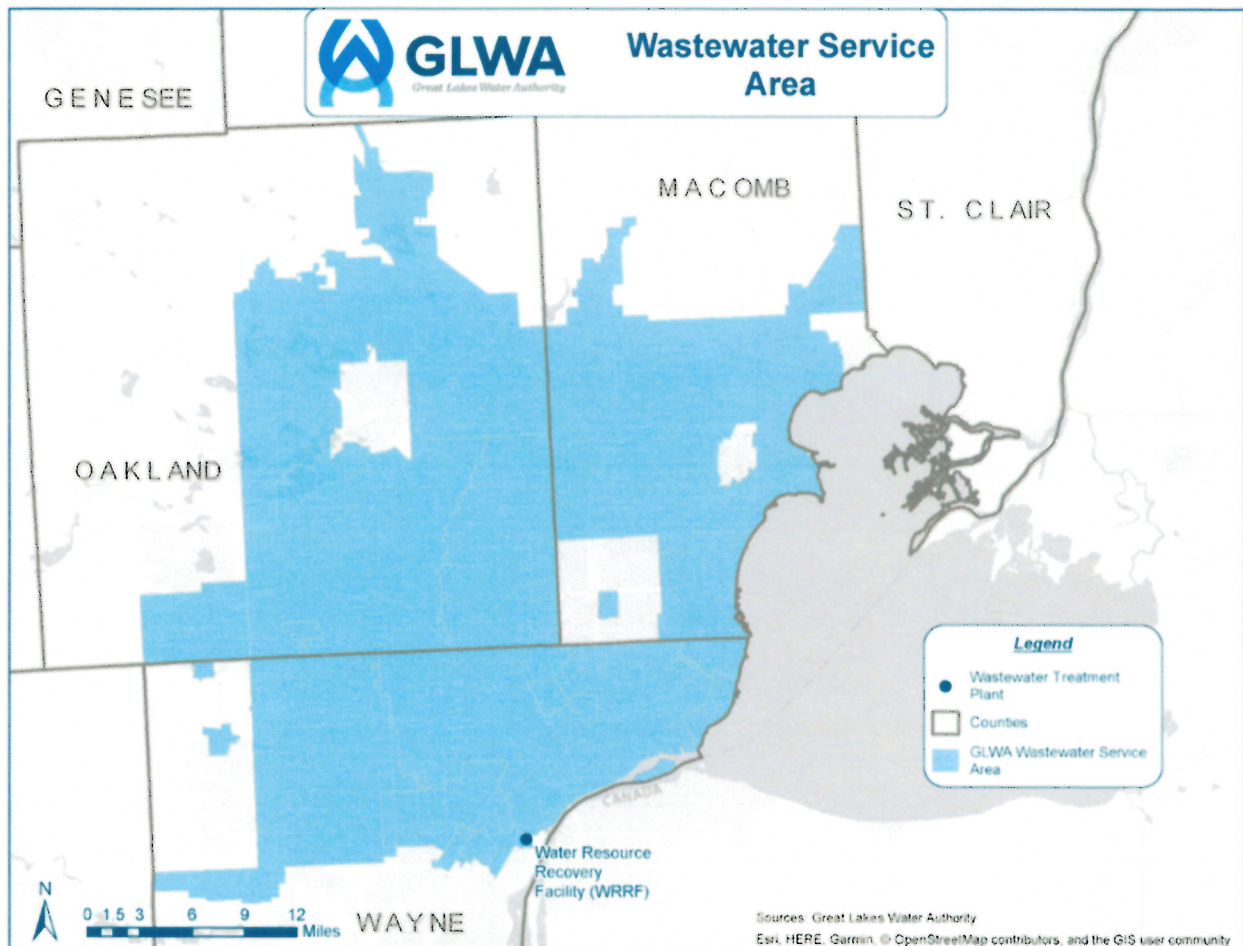


Wastewater System

Our regional wastewater system is also one of the largest in the United States, both in terms of treatment capacity and population served. The wastewater system currently serves an area of 944 square miles with an estimated population of nearly 2.8 million or approximately 28 percent of Michigan's population. The wastewater system has 19 member partners across 79 communities.

The wastewater system consists of one of the largest single-site wastewater treatment plants in the world, three major interceptors, nine pump stations, eight Combined Sewer Overflow (CSO) Control Facilities, including five retention treatment basins and three flow-through type facilities, and a conveyance system with 195 miles of trunk sewers and interceptors.

The long-term strategy for the sewage disposal system is a focus on regional efficiencies. The Wastewater Master Planning Process, launched in April 2017 and supported by a Wastewater Master Plan Steering Committee including the Michigan Department of Environmental Quality, holds monthly meetings with stakeholders. The 40-year master planning process is focusing on water quality, leveraging the entire region's existing infrastructure, maximize the use of dynamic wet weather operations, strategic use of green infrastructure, addressing changes in weather patterns and rain event intensities, extensive system modeling including surface water and wastewater treatment, evaluation of resource recovery options and energy reduction opportunities. Below is the Wastewater System service area map.



Financial Highlights

In preparing for a bond transaction, on September 5, 2018, Standard & Poor's (S&P) increased GLWA's senior lien water system rating by three notches to AA- and its second lien water system rating by three notches to A+. The rating agency also increased GLWA's senior lien sewage disposal system rating by two notches to A+ and its second lien sewage disposal system was increased by two notches to A.

This rating increase was followed by a successful refunding on October 3, 2018, of \$156 million of Water Supply System Revenue Bonds and \$258 million of Sewage Disposal System Revenue Bonds (with \$82 million in new money and \$176 million in refunding bonds). The net present value savings from the refunding transactions was a total of \$59.42 million, with \$24.90 million for the water fund and \$34.52 million for the sewage disposal fund.

This demonstration of an improved credit rating to secure a lower cost of capital was a key objective in the creation of GLWA.

FY 2019 Results

GLWA is committed to ensuring the long-term sustainability of the water and sewage disposal systems. Below are key financial highlights:

1. Liquidity - Strong liquidity with 1,058 days cash on hand for the water system and 495 days for the sewage disposal system as shown on the Schedule of Days Cash in the supplementary information.

2. Debt Service Coverage - Excellent debt service coverage for both the water and sewage disposal funds. The water fund reports debt coverage for senior lien bonds at 2.04 times and all bonds at 1.45 times. The sewage disposal fund reports debt coverage for senior lien bonds at 2.10 times and all bonds at 1.28 times. Detail for all debt types can be found in the Debt Service Coverage schedule in the statistical section.

3. Revenue Stability - Predictable wholesale budgeted with actual revenues within one percent (\$3 million) less than budget for the water system and 0.5 percent (\$1.5 million) more than budget for the sewage disposal system. The Schedule of Revenue Requirements in the Supplementary Information section provides more information related to the basis for which we establish service charges compared to actual results.

4. Controlled Spending - Sound performance results with an overall Operations and Maintenance budget positive variance of \$3.8 million, or 3.17 percent, for the water system and \$17.1 million, or 8.93 percent, for the sewage disposal system. This is shown in the Schedule of Operations and Maintenance Expense for each system in the Supplementary Information section. The positive budget variances are directed toward future years' pay-as-you go capital funding.

Solid Foundation for Sustainability

As GLWA matures as an organization, the connections that our team members have with each other, and with our many stakeholders, is evident. This is most noticeable when you see the passion of multi-disciplinary teams, working through the development of a long-term plan that encompasses engineering, operations, finance, and many others to chart the course for the future – while never forgetting about the end-consumer and the environment. Below are topics that we cover when talking about GLWA. At the core of each item is a connection between our stakeholders and a foundational element of sustainability.

Revenues - The water and sewer system charge structure, developed collaboratively with member partners, supports a high degree of financial stability. The Water System revenues are set using a methodology with a basis of 60 percent fixed monthly charge and 40 percent commodity consumption using a 36-months historical average usage. The sewer system charge revenues are 100 percent fixed monthly billing based on each member partner's share of the annual forecasted revenue requirement.

Bondholder Protections - All GLWA and DWSD customer payments are deposited to Bond Trustee Accounts and are disbursed in accordance the Master Bond Ordinance (MBO) flow of funds.

Defined Contribution Benefit Plans - All employee benefit plans are defined contribution which provide shorter term vesting and flexibility for the employee while creating zero risk on unfunded liabilities for GLWA.

Moderate Budget and Charges Requests - GLWA balances steady and controlled O&M budget requests for the short-term, while continuing to focus on increasing cash reserves for capital investment and decreasing long-term liabilities. This provides stability in the cost of supply for our member partners.

Flexible Capital Program - The majority of the GLWA FY 2020 –2024 five-year capital improvement plan (CIP) is driven by optimizing the system and fostering innovation. There are no projects in the water system or sewer system CIP which have costs that will be incurred during FY 2020 to 2024 that are driven by mandated permit requirements. The water system CIP calls for \$852.3 million of major capital expenditures over the next five fiscal years (2020-2024) and the sewer system CIP calls for \$733.6 million of capital expenditures over the same time period. The staff from Michigan Department of Environment, Great Lakes, and Energy (EGLE), formerly Michigan Department of Environmental Quality (MDEQ), regularly engage with GLWA on capital project matters.

Payment Assistance Program - The WRAP (Water Residential Assistance Program) set aside \$4 million of resources to support customer assistance needs in the region for the year ended June 30, 2019. Services include payment assistance, consumption audit, basic plumbing repairs, conservation education, and limited lead fixture replacement. This means that qualified households, can receive payment assistance as well as take steps to sustainably reduce their bills in the future.

Strong Economy - The regional system is supported by a broad-based economy that is experiencing a low rate of unemployment at 4.5 percent. Other statistical information is shown in Schedule 10.

Workforce Development - As a significant number of employees in the water service sector prepare for retirement, GLWA is focused on workforce development and succession planning. The Apprenticeship Program for Electrical Instrumentation Control Technicians (EICT-I) is currently in the third year of its three-year duration, training 20 apprentices to receive their EICT-I certification. This program, which operates in conjunction with the Department of Labor, was expanded in January 2019 to include a new three-year apprenticeship program for 20 maintenance technicians.

Vendor Outreach - Expanding the base of our vendor community is a top priority for GLWA. On a monthly basis, GLWA attends numerous vendor fairs, construction sector events, speaking engagements and publishes *The Procurement Pipeline*, a newsletter for the vendor community. In October 2018, the United States Small Business Administration (SBA) and the GLWA entered into a Strategic Alliance Memorandum with the primary goal of meeting the needs of the small business community and engagement in GLWA business opportunities.

Governance Structure that Supports Collaboration - GLWA's Board of Directors consists of six members. Two members are appointed by the mayor of the City of Detroit, one member is appointed by each chief executive of the three counties (Macomb, Oakland, and Wayne), and one member is appointed by the governor of the state of Michigan. The governor's appointee represents other suburban customer areas outside the tri-county service area, and that appointee must reside within that geographic area.

One Water Partnership - In September 2017, the first One Water Partnership Agreement was signed by GLWA and its member partners. This historic agreement outlines the mutual commitments to working together for the greater good of the region and details the responsibilities of all parties to moving the agreement forward. A critical addition to the agreement is the development of a multi-jurisdictional, multi-agency approach to infrastructure renewal and investment

Recognition Among Our Peers

Leading Utilities of the World Membership - Recently, GLWA was invited to become a member of the Leading Utilities of the World (LUOW) initiative. Founded in 2017, LUOW was created to help drive performance across the service sector. The 49 utilities in the network provide a platform to share ideas and challenges, and to inspire innovation. LUOW is considered to be a network of the world's most successful, forward-thinking and innovative water and wastewater utilities.

The basis for GLWA's acceptance into the network included key achievements: a) Network Operation via public agency collaboration to address service redundancy for the city of Flint and communities in Genesee, Lapeer and St. Clair Counties; b) Environmental Impact Improvements with the retirement of six incinerators at the Authority's Water Resource Recovery Facility and resulting beneficial reuse of biosolids via a public-private partnership Biosolids Dryer Facility; c) completion of the Rouge River Outfall project addressing a long-term water quality improvement objective at a fraction of the cost of prior approaches; and, d) in the area of Human Resource Development/Stakeholder Engagement, GLWA's apprenticeship programs and One Water Institute supporting GLWA and member partners' team member development needs.

Partnership for Safe Water (PSW) Award - GLWA's Water Works Park received the "2019 Directors Award for Water Treatment" from the Partnership for Safe Water (PSW), a program developed by the EPA, American Water Works Association (AWWA), and associated partner organizations to guide water systems toward improving water quality by optimizing system operations. GLWA was one of six select groups in the nation honored in this category for its long-term commitment to innovation, outstanding performance achieved and environment and public-health protection. The PSW awards program recognizes utilities who demonstrate an outstanding commitment to delivering superior quality drinking water to customers, directly aligning with GLWA's commitment to providing water of unquestionable quality. In 2016, three GLWA facilities including Lake Huron, Northeast and Southwest received this important designation from PSW.

Acknowledgements

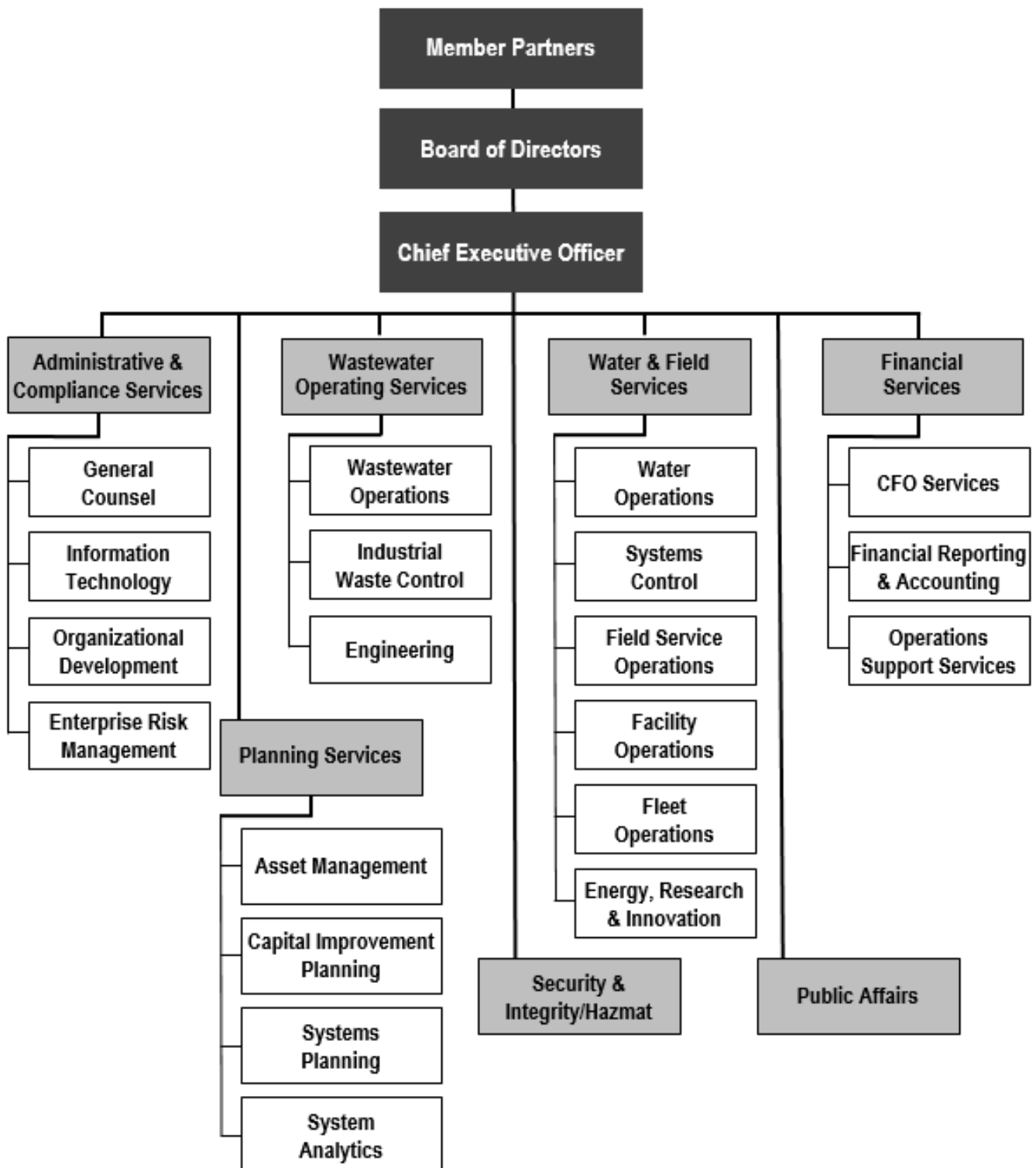
When we say "our" system, it is "our" system that we mutually support and foster in collaboration with our member partners, team members, vendor community, board of directors, other stakeholders and the public. Thank you for your continued engaged participation and interest.



Sue F. McCormick
Chief Executive Officer



Organizational Line of Reporting Chart





Great Lakes Water Authority Board of Directors

Brian BakerGLWA Board Chairman; Representative for Macomb County
Abe Munfakh, P.E.GLWA Board Vice-Chair; Representative for Wayne County
Freman Hendrix GLWA Board Representative for City of Detroit
Jaye QuadrozziGLWA Board Representative for Oakland County
Beverly Walker-Griffiea, Ph.D. GLWA Board Representative for the State of Michigan
Gary A. Brown GLWA Board Representative for City of Detroit

Great Lakes Water Authority Executive Leadership Team

Sue F. McCormickChief Executive Officer
William M. Wolfson..... Chief Administrative and Compliance Officer
Nicolette N. Bateson, CPA..... Chief Financial Officer/Treasurer - Financial Services
Cheryl D. Porter..... Chief Operating Officer – Water & Field Services
Navid Mehram, PE..... Chief Operating Officer – Wastewater Operating Services
Suzanne R. Coffey, PE.....Chief Planning Officer
Jeffrey E. SmallChief Information Officer
Terri Tabor ConerwayChief Organizational Development Officer
W. Barnett Jones..... Chief Security & Integrity Officer
Randal Brown.....General Counsel
Michelle A. Zdrodowski..... Chief Public Affairs Officer

Mission Statement

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

FINANCIAL SECTION

INDEPENDENT AUDITORS' REPORT

To the Board of Directors
Great Lakes Water Authority
Detroit, Michigan

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities, and each major fund of the Great Lakes Water Authority, as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Great Lakes Water Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control over financial reporting relevant to the Great Lakes Water Authority's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the Great Lakes Water Authority's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities, and each major fund of the Great Lakes Water Authority as of June 30, 2019 and the respective changes in financial position and, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the required supplementary information as listed in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the management's discussion and analysis and the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Great Lakes Water Authority's basic financial statements. The supplementary information as listed in the table of contents is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated in all material respects, in relation to the basic financial statements as a whole.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Great Lakes Water Authority's basic financial statements. The introductory and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Prior-Year Comparative Information

The financial statements of the Great Lakes Water Authority, as of and for the year ended June 30, 2018, were audited by other auditors whose reported dated December 14, 2018, expressed an unmodified opinion on those statements. The summarized comparative information presented herein as of and for the year ended June 30, 2018, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 20, 2019 on our consideration of the Great Lakes Water Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Great Lakes Water Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Great Lakes Water Authority's internal control over financial reporting and compliance.

Baker Tilly Virchow Krause, LLP

Madison, Wisconsin
December 20, 2019

MANAGEMENT'S DISCUSSION AND ANALYSIS

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

June 30, 2019

The management of the Great Lakes Water Authority (GLWA or Authority) presents this discussion and analysis of GLWA's financial position and changes in financial position as of and for the fiscal year ended June 30, 2019. The Management's Discussion and Analysis (MD&A) should be read in conjunction with GLWA's basic financial statements and the related notes to the financial statements. Capitalized terms not otherwise defined in the MD&A shall have the meaning given such terms in the transmittal letter from the Chief Executive Officer of GLWA that accompanies the financial statements and the MD&A.

Introduction to the Great Lakes Water Authority

The regional water system is one of the largest in the United States, both in terms of water produced and population served. The Water System currently serves an area of 1,698 square miles located in eight Michigan counties and an estimated population of nearly 3.8 million or approximately 38% of Michigan's population. Suburban wholesale service contracts comprise approximately 82% of the population served by the Authority while the retail water customers served by the City of Detroit Water and Sewerage Department (DWSD) comprise the remaining 18%.

The regional sewage disposal system is also one of the largest in the United States, both in terms of treatment capacity and population served. The Sewage Disposal System currently serves an area of 944 square miles located in three Michigan counties and an estimated population of nearly 2.8 million or approximately 28% of Michigan's population. Suburban wholesale service contracts comprise approximately 76% of the population served by the Authority, while retail sewer customers served by DWSD comprise the remaining 24%.

GLWA began operations on January 1, 2016. This fiscal year ended June 30, 2019 report represents the third full twelve-month report for GLWA. Comparative information for the fiscal year-ended June 30, 2018 has been provided for Total Business-Type activities in the basic financial statements. Three years of data is provided in condensed format in this management's discussion and analysis.

Creation of a Regional Authority

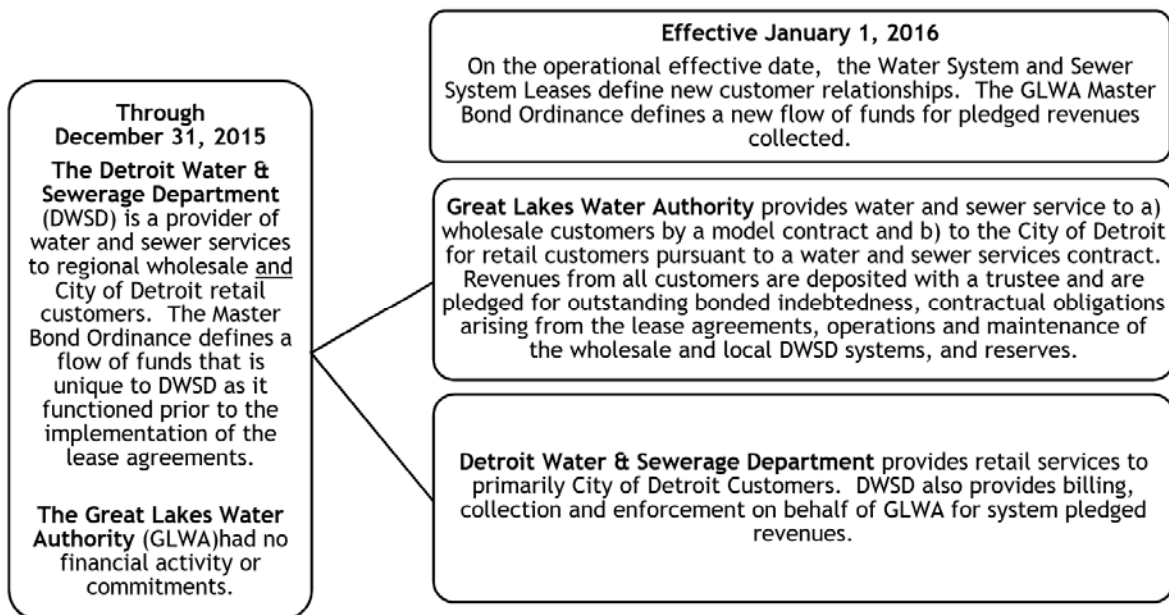
The creation of a regional water authority was an outcome of the City of Detroit's Chapter 9 Bankruptcy. Collaboration among regional stakeholders, supported by mediation proceedings, resulted in a "Memorandum of Understanding Regarding the Formation of the Great Lakes Water Authority" signed on September 9, 2014 by the mayor of the City of Detroit, the chief executives of Wayne, Oakland, and Macomb counties, and the governor of the State of Michigan. The agreement established a framework for a regional water and sewer authority to be established pursuant to Act 233, Public Acts of Michigan, 1955, as amended. The purpose of GLWA is to operate, control, and improve the regional assets of both the Water System and Sewage Disposal System owned by the City and which were operated by DWSD. The purpose of DWSD is to be the service provider for the retail system, which is largely the City of Detroit customer base, including a few retail customers located just outside the City of Detroit.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

Subsequently, on June 12, 2015, the City of Detroit and GLWA entered into a Regional Water Supply Lease, a Regional Sewage Disposal Lease (collectively the "Regional System Leases") and a Water and Sewer Services Agreement ("WSSA"). Prior to implementation of the Regional System Leases, several conditions precedent were necessary to establish the financial and legal parameters before GLWA could assume control of the Regional Systems. Those conditions precedent included execution of the Regional System Leases, WSSA, a Shared Services Agreement, and a Detroit General Retirement ("GRS") pension agreement; adoption of a Master Bond Ordinance ("MBO") for both the Water System and the Sewage Disposal System; confirmation from the Michigan Department of Environmental Quality (now known as the Michigan Environment, Great Lakes and Energy Department) that all permits were secured for the Leased Facilities; certification from the bond trustee that no less than 51 percent of bondholders of the outstanding DWSD Water Bonds and DWSD Sewer Bonds, respectively, consented to the adoption by GLWA of the Master Bond Ordinance ("MBO") for the Water System and the Sewage Disposal System and to the assumption by GLWA of the outstanding DWSD Water Bonds and DWSD Sewer Bonds on the Effective Date; certification from the feasibility consultant that GLWA had the ability to issue at least one dollar of additional indebtedness at each level of lien priority pursuant to the Additional Bonds Test set forth in the MBO for each system; legal opinions that each Regional System Lease is valid, binding, and enforceable and that the rates adopted by DWSD for fiscal year 2016 for the wholesale and City customers were binding and effective; and all necessary consents to the assignment of the wholesale customer contracts. On December 17, 2015, the GLWA Board of Directors determined that all conditions precedent were satisfied to commence operations on January 1, 2016.

Since GLWA assumed the outstanding bonded indebtedness, retail customer revenues are pledged for payment of outstanding bonded indebtedness assumed by GLWA. For this reason, pursuant to the terms of the Regional System Leases, DWSD is GLWA's agent for retail billing, collections and enforcement. The chart below depicts the DWSD and GLWA customer relationship and the impact of the MBO flow of funds.



GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

Activity for the Regional System Leases was recorded based upon GASB 69, *Government Combinations and Disposals of Government Operations*. Accounting for the regional system leases under GASB 69 resulted in the following Statement of Net Position categories. An explanation of those categories and how they relate to the establishment of the Authority's opening Statement of Net Position is below.

Capital Assets: Capital assets acquired were recorded at "acquisition value" based upon an inventory valuation performed by a certified appraisal firm as of January 1, 2016. This resulted in an overall increase in capital asset value from the predecessor entity's historical cost. Accordingly, the depreciable lives were reviewed and, in several cases shortened, which has increased annual depreciation expense.

Bonded Indebtedness: The outstanding bonded indebtedness of the predecessor entity was assumed in its entirety by GLWA. GASB 69 also required debt to be recorded at acquisition value.

Net Pension Liability: The net pension liability represents the Regional Systems' share of the frozen, defined benefit City of Detroit GRS pension assigned to DWSD in the City of Detroit's Chapter 9 Bankruptcy Plan of Adjustment. On January 24, 2017, the parties agreed that 70.3 percent of the liability was allocable to the GLWA regional operations and 29.7 percent to DWSD and is the basis of allocation for future pension contributions. That net pension liability is further subdivided between the Water System and the Sewage Disposal System for each entity.

Obligation Payable: The obligation payable represents the Regional Systems' share of the B and C Note Obligations assigned to DWSD in the City of Detroit's Chapter 9 Bankruptcy Plan of Adjustment. The B and C Note Obligations refers to the debt service on City of Detroit Financial Recovery Bonds dated December 10, 2014. Those bonds were issued to satisfy claims relating to the City's pension obligation certificates and postemployment healthcare benefits. GLWA's portion of the liability was estimated at 71.42 percent of the total DWSD liability.

Beginning Net Position: The acquisition value of assets acquired exceeded the liabilities assumed by \$736.5 million in total with \$457.9 million attributable to the Water System and \$278.6 million attributable to the Sewage Disposal System. In accordance with GASB 69, the opening capital assets were adjusted by an amount to establish a total net position of zero as of January 1, 2016.

Contractual Obligation Receivable: This represents DWSD's allocable portion of the long-term bonded indebtedness assumed by GLWA on January 1, 2016. This receivable is amortized annually in an agreed upon amount that approximates debt service. If new debt is issued on behalf of DWSD, the receivable is increased.

Lease Payable: The lease payable is the net present value of the lease payment of \$50 million per year for 40 years payable to the DWSD with \$22.5 million paid to the DWSD local water system and \$27.5 million paid to the DWSD local sewer system based on a 4.17% borrowing rate for both systems.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

Financial Highlights FY2019

Total business-type current assets of \$985.5 million exceed current liabilities of \$327 million by \$658.5 million in total or 3.01 times. For the Water System, current assets of \$531.2 million exceed current liabilities of \$145.6 million by \$385.5 million in total or 3.65 times. For the Sewage Disposal System, current assets of \$454.3 million exceed current liabilities of \$181.3 million by \$273 million in total or 2.51 times.

The liabilities and deferred inflows of resources of the business-type activities exceeded the assets and deferred outflows of resources as of June 30, 2019 by \$200.8 million (a net deficit). The net deficit for the water fund was \$76.9 million and \$123.9 million for the sewage disposal fund.

The largest category of expense is depreciation at \$309.1 million in total with \$140.6 million for the water fund and \$168.5 million for the sewage disposal fund. The second largest category of expense is interest expense at \$296.6 million in total with \$136.7 million for the water fund and \$159.9 million for the sewage disposal fund. The Authority implemented GASB 89 during the prior fiscal year and no longer capitalizes interest expense.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the Authority's basic financial statements. The basic financial statements are comprised of the following:

The *statement of net position* presents information on the Authority's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, with the residual reported as net position.

The *statement of revenues, expenses and changes in net position* presents information showing how the Authority's net position changed during the year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, *regardless of the timing of related cash flows*. Thus, revenues and expenses are reported for some items that will result in cash flows in future fiscal periods.

The *statement of cash flows* provides information about the Authority's cash receipts, cash payments and net changes in cash and cash equivalents resulting from operating, investing and capital and non-capital financing activities for the fiscal year.

The *notes to the financial statements* provide additional information that is essential to a full understanding of the data provided in the basic financial statements.

This report also contains other supplementary information in addition to the basic financial statements themselves. These schedules provide additional financial, budgetary, statistical, trend, and economic information that may be helpful to the readers of these financial statements.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

The Authority presents a combining statement for each system in the supplementary financial information classified into three categories that align with the Authority's strategic and budgetary focus of managing capital investment for both the Regional Water System and Regional Sewage Disposal System: 1) operation and maintenance (low capital investment), 2) improvement and extension (moderate capital investment and financial mechanism to lower borrowings and the related cost of capital over the long term), and 3) construction projects (high capital investment). The water and sewage disposal funds together comprise the activity of these three categories of the Authority in total. The separate water and sewage disposal funds are required by the MBO. A separate credit rating is established for each fund and services provided to the member partner communities by each system are separate and distinct (although many may geographically overlap).

Financial Analysis

Summaries of the basic financial statements and related commentaries are presented below.

Net Position

Net position is defined by the accounting standards as the residual of all other elements presented in a statement of financial position. It is the difference between (a) assets and deferred outflows of resources and (b) liabilities and deferred inflows of resources. A net deficit occurs when the liabilities and deferred inflows exceed assets and deferred outflows. Deferred inflows and deferred outflows generally relate to financing activity and GLWA's share of the GRS pension obligation. In total, GLWA ended June 30, 2019 with a \$200.8 million net deficit. The net deficit for the water fund was \$76.9 million and \$123.9 million for the sewage disposal fund. The deficit for June 30, 2018 was \$60.4 million for the water fund and \$118.3 million for the sewage disposal fund for a total deficit of \$178.7 million.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

	Net Position				
	Fiscal Year			Change 2019 vs 2018	
	2019	2018	2017	Amount	Percent
Assets					
Current assets	\$ 985,511,094	\$ 880,121,228	\$ 834,794,940	\$ 105,389,866	12.0%
Restricted assets	245,163,552	341,961,047	408,026,453	(96,797,495)	-28.3%
Capital assets	4,534,188,908	4,690,263,860	4,908,786,837	(156,074,952)	-3.3%
Other noncurrent assets	1,058,739,534	992,399,584	888,126,901	66,339,950	6.7%
Total assets	6,823,603,088	6,904,745,719	7,039,735,131	(81,142,631)	-1.2%
Deferred outflows of resources					
	273,596,423	332,991,599	357,600,919	(59,395,176)	-17.8%
Liabilities					
Current liabilities	326,966,513	283,126,328	318,134,242	43,840,185	15.5%
Long-term debt	5,630,571,800	5,714,095,283	5,842,482,161	(83,523,483)	-1.5%
Net pension liability	131,981,165	178,961,907	194,075,547	(46,980,742)	-26.3%
Other liabilities	1,099,963,158	1,113,876,457	1,014,782,772	(13,913,299)	-1.2%
Total liabilities	7,189,482,636	7,290,059,975	7,369,474,722	(100,577,339)	-1.4%
Deferred inflows of resources					
	108,541,496	126,432,107	130,696,321	(17,890,611)	-14.2%
Net position					
Net investment in capital assets	(228,867,586)	350,745,726	528,875,506	(579,613,312)	-165.3%
Restricted for debt service	146,977,835	125,235,904	134,125,957	21,741,931	17.4%
Restricted for capital acquisition	-	243,238,577	323,905,502	(243,238,577)	-100.0%
Restricted for payment assistance program	8,001,369	5,771,110	5,336,117	2,230,259	38.6%
Unrestricted (deficit)	(126,936,239)	(903,746,081)	(1,095,078,075)	776,809,842	-86.0%
Total net position	\$ (200,824,621)	\$ (178,754,764)	\$ (102,834,993)	\$ (22,069,857)	12.3%

During the year, the calculation of the components of net position was reassessed. The Regional System Leases liability was analyzed pursuant to the application of GASB 69 to record the acquisition and the net position components of the acquired water and sewage disposal systems. In previous years the liability for the Regional System Leases were entirely included in the unrestricted deficit calculation. Starting with fiscal year 2019 the Regional System Leases payable are now allocated among the net position components based on the net position components as of the operational effective date of January 1, 2016. The impact is a reclassification within net position categories only.

There are three general components of a net position or deficit: 1) net investment in capital assets (in its simplest form, capital assets acquired less debt incurred to acquire those assets); 2) restricted (such as legally required bond reserves or net proceeds from bonds restricted for capital spending); and 3) unrestricted.

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Management's Discussion and Analysis

Net investments in capital assets is the largest component of the net position with a deficit balance of \$228.9 million (\$166.5 million deficit in the water system and \$62.4 million deficit for the sewage disposal system). The balances at June 30, 2018 were \$60.8 million for the water system and \$289.9 for the sewage disposal system for a total net investment in capital assets of \$350.7 million. Most of the overall decrease of \$579.6 million, with \$227.3 million for water system and \$352.3 million for the sewage disposal system, relates to the reclassification of a portion of the Regional System Leases to this category of net position. The decrease related to the Regional Lease system classification change was \$664.8 million, with \$307.1 million for the water system and \$357.7 million for the sewage disposal system. Increases during the year were attributable to the acquisition of assets and repayment of debt which were offset by depreciation expense. These increases resulted in a positive increase of \$85.2 million, with 79.8 million for the water system and \$5.4 million for the sewage system. The deficit in the net investment in capital assets is representative of numerous cumulative historical financial activities via the predecessor entity. Those primarily related to terminated capital projects which have been subsequently addressed by other projects or approaches.

Net position restricted for debt service represents amounts that are required by the related MBO or other third-party agreements to be used for the repayment of debt. The total amount restricted at year end was \$147.0 million, with \$29.7 million in the water system and \$117.3 million for the sewage disposal system. The amounts at June 30, 2018 were \$23.2 million in the water system and \$102.0 million for the sewage disposal system for a total of \$125.2 million.

Net position restricted for capital acquisition primarily represents unspent bond proceeds which have been offset by the outstanding balance of bond issues related to the unspent proceeds. Balances reported at June 30, 2018 were \$140.7 million in the water system and \$102.5 million in the sewage disposal system for a total of \$243.2 million. For June 30, 2019 there is no balance shown as the unspent bond funds were offset by the bond liability from which they were funded.

The remaining unrestricted deficit totals of \$126.9 million, with \$56.5 million positive net position for the water fund offset by a deficit of \$183.4 for the sewage disposal fund. The amounts of deficits at June 30, 2018 were \$287.6 million for the water system and \$616.1 for the sewage disposal system for a total of \$903.7 million. Unrestricted net position (deficit) is generally defined as the net result of the other components of net position. One of the factors driving the improvement of \$776.8 million unrestricted net position is the change made in allocating a portion of the Regional System lease liability to the net investment in capital assets. The overall improvement in the water system was \$344.1 million and the sewage disposal system was \$432.7 million. The improvement related to the change in the classification of a portion of the regional system leases was \$664.8 million, with \$307.1 million for the water system and \$357.7 million for the sewage disposal system. This unrestricted deficit is representative of numerous cumulative historical financial activities via the predecessor entity. The largest dollar amounts were driven by swap termination fees paid by debt. Current year operations contributed to \$112 million in improvement, with \$37 million in the water system and \$75 million in the sewage disposal system.

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Management's Discussion and Analysis

Addressing this deficit is a top priority for the GLWA Board and management but recognizes that it will take time. GLWA continues to optimize its operations, focus on financial planning with a biennial budget, annually update the five-year capital and financial plan, semi-annual updates of the ten year financial plan, and applying core principles of in asset management. Evidence of those efforts are demonstrated by key financial performance measures. These include strong days cash on hand, debt service coverage well above the minimum requirements, achievement of revenue targets, and positive operations and maintenance expense budget variances. The performance measures in the table below are presented in the Supplementary Information section of this report.

Financial Performance Measure	Water Fund (Unaudited)	Sewage Disposal Fund (Unaudited)
Days cash on hand (Schedule of Days Cash – Liquidity)	1,058 days	495 days
Debt service coverage for all bonds including junior lien state revolving fund loans (Debt Service Coverage)	1.45x	1.28x
Revenue target (Schedules of Revenue Requirement)	\$-0.5 million or 0.16% negative budget variance	\$4.7 million or 1% positive budget variance
Operations & maintenance budget (Schedules of Operations and Maintenance Expense)	\$3.8 million or 3.17% positive budget variance	\$17.1 million or 8.93% positive budget variance

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Management's Discussion and Analysis

Changes in Net Position

The following is a comparative summary of the business-type activities changes in net position for the last three years, followed by a detailed discussion of the significant changes by activity.

	Changes in Net Position				
	Fiscal Year			Change 2019 vs 2018	
	2019	2018	2017	Amount	Percent
Operating revenues	\$ 801,078,783	\$ 811,894,703	\$ 857,557,026	\$ (10,815,920)	-1.3%
Operating expenses	606,544,905	618,232,739	582,815,592	(11,687,834)	-1.9%
Operating income	194,533,878	193,661,964	274,741,434	871,914	0.5%
Nonoperating expenses	(216,603,735)	(269,581,735)	(268,922,991)	52,978,000	-19.7%
Income (loss) before contributions and special item	(22,069,857)	(75,919,771)	5,818,443	53,849,914	-70.9%
Capital contributions	-	-	320,707	-	0.0%
Special item - MOU with DWSD	-	-	(94,290,263)	-	0.0%
Change in net position	(22,069,857)	(75,919,771)	(88,151,113)	53,849,914	-70.9%
Net position, beginning	(178,754,764)	(102,834,993)	(14,683,880)	(75,919,771)	73.8%
Net position, end of year	<u>\$ (200,824,621)</u>	<u>\$ (178,754,764)</u>	<u>\$ (102,834,993)</u>	<u>\$ (22,069,857)</u>	12.3%

Overall, GLWA's financial performance is steady and in line with forecasts. Elimination of the negative net position is a key focus of the ten-year forecast.

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Management's Discussion and Analysis

Water Fund

Water Fund Changes in Net Position						
Fiscal Year				Change 2019 vs 2018		
2019	Percentage of Operating Revenue	2018	2017	Amount	Percent	
Wholesale customer charges	\$ 311,399,136	93.9%	\$ 323,117,344	\$ 331,115,131	\$ (11,718,208)	-3.6%
Local system charges	20,181,400	6.1%	15,130,600	15,490,300	5,050,800	33.4%
Bad debt recovery	-	0.0%	-	5,107,125	-	0.0%
Other revenues	21,340	0.0%	64,200	37,388	(42,860)	-66.8%
Total operating revenues	331,601,876	100.0%	338,312,144	351,749,944	(6,710,268)	-2.0%
Operating expenses	263,959,730	79.6%	254,602,752	245,868,861	9,356,978	3.7%
Operating Income	67,642,146	20.4%	83,709,392	105,881,083	(16,067,246)	-19.2%
Nonoperating expenses	(84,088,425)	-25.4%	(107,670,603)	(105,452,057)	23,582,178	-21.9%
Income (loss) before contributions and special item	(16,446,279)	-5.0%	(23,961,211)	429,026	7,514,932	-31.4%
Capital contributions	-		-	-	-	0.0%
Special item - MOU with DWSD	-		-	(32,811,581)	-	0.0%
Change in net position	(16,446,279)	-5.0%	(23,961,211)	(32,382,555)	7,514,932	-31.4%
Net position, beginning	(60,435,361)		(36,474,150)	(4,091,595)	(23,961,211)	65.7%
Net position, end of year	\$ (76,881,640)		\$ (60,435,361)	\$ (36,474,150)	\$ (16,446,279)	27.2%

Operating revenues are primarily from wholesale water charges of \$311.4 million (93.9% of Water System revenues). The slight decrease in water customer charges revenue was due to several factors. First, an intended outcome as the result of entering into a 30-year contract with the City of Flint in November 2017 which provided a favorable service charge and a credit for an agreement to transfer their interest in the Karegnondi Water Authority (KWA) rights; second, the known transition for the Genesee County Drain Commission (GCDC) to an alternate source (KWA) with an emergency backup service agreement with GLWA; third, a general downward trend in water usage consistent with that seen by other water utilities and very mild weather conditions in the summer of 2019. Local system charges increased due to Phase 1 of the Units of Service Study (USS). The USS is a study to determine the usage of non-mastered metered customers prepared by an outside engineering firm.

Local system revenues of \$20.2 million account for 6.1% of the total operating revenue. Pursuant to the terms of the WSSA with DWSD, a \$20.7 million credit is applied against allocated water revenue requirements in the charge methodology. This credit replaces a previous ownership benefit that was in place prior to the Effective Date of the Regional System Lease.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

Operating income after operating expenses (including depreciation) equals \$67.6 million or 20.4% of operating revenue.

Net nonoperating expense of \$84.1 million is primarily related to interest expense of \$136.7 million. The interest expense from debt service is \$114.2 million with the remainder related to the Regional Water System Lease, obligation payable and raw water rights lease. The largest offsets to the nonoperating expense are interest revenue on the obligation receivables of \$22.9 million, which is related to the terms of the Regional Water System Lease and investment earnings of \$14.8 million.

GLWA provides services to 88 member partners across 112 communities. Revenue and charge stability are important goals for GLWA and its member partners. Established via an engaged, collaborative process, the water charge structure is based on the following.

1. 40% is based on the average annual usage for each customer from their 36 prior months of usage ending September 30th each year
2. 60% is based on fixed monthly charges

Fiscal year 2019 revenue billed was 99% of budget meeting the goal of revenue stability and was net of the KWA credit. The revenue budget for 2019 was net of the KWA credit. Fiscal year 2018 revenue billed was 104% of budget and did not include the KWA credit.

Water Fund Operating Expenses					
Fiscal Year				Change 2019 vs 2018	
2019	Percentage of Operating Expense	2018	2017	Amount	Percent

Operating expenses before depreciation and amortization

Personnel	\$ 42,085,546	15.9%	\$ 41,845,295	\$ 38,261,393	\$ 240,251	0.6%
Contractual services	43,083,078	16.3%	35,794,549	34,257,419	7,288,529	20.4%
Utilities	26,247,858	9.9%	26,871,081	28,469,603	(623,223)	-2.3%
Chemicals	5,088,827	1.9%	4,804,768	5,340,753	284,059	5.9%
Supplies and other expenses	11,797,279	4.5%	9,543,615	7,982,562	2,253,664	23.6%
Capital program allocation	(2,054,913)	-0.8%	(713,779)	(977,762)	(1,341,134)	187.9%
Shared services allocation	(6,425,729)	-2.4%	(9,615,146)	(11,603,019)	3,189,417	-33.2%
Total operating expenses before depreciation and amortization	119,821,946	45.4%	108,530,383	101,730,949	11,291,563	10.4%
Depreciation	140,571,120	53.3%	143,991,815	144,137,912	(3,420,695)	-2.4%
Amortization of intangible asset-raw water rights	3,566,664	1.4%	2,080,554	-	1,486,110	71.4%
Total Operating Expenses	\$ 263,959,730	100.0%	\$ 254,602,752	\$ 245,868,861	\$ 9,356,978	3.7%

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Management's Discussion and Analysis

Operating expenses of \$264 million represent 79.6% of total operating revenue which consists primarily of depreciation expense and operations and maintenance activities. Depreciation is the larger category of expense at \$140.6 million or 53.3% of operating expense. Given the nature of GLWA's water operations, it is expected that personnel, contractual services, and utilities would represent the higher dollar amount. Contractual services include field services contracts for timely repairs to minimize disruption in service, technology related services for both operational and enterprise data networks, and outsourcing of janitorial, fleet, and other functions. The increase in contractual services from the prior year is due to the following items:

- Increase of \$4.5 million for the Springwells water plant contractual services mostly due to the mobile dredging-alum sludge hauling contract which began in FY19.
- Increase of \$1.4 million in the Southwest water plant due to an increase of \$3.1 million for the mobile dredging-alum sludge hauling contract which began in FY19 and a decrease of \$1.7 million for the dewatering system installation project (SW-548) that incurred costs in FY18 but not in FY19.
- Increase of \$0.8 million in the Northeast water plant for the mobile dredging-alum sludge hauling contract which began in FY19.
- Increase of \$2.1 million in the Improvement and Extension (I&E) fund for projects that were for the betterment of the system and therefore paid with I&E funds. These projects included water main condition assessment, blow off valve condition assessment and GIS data development.
- An increase of \$0.5 million in the allocation of the administrative services cost. Although the total allocation to the water fund increased by 7.1%, it was mostly offset by a 22% decrease in total contractual services within the administrative service department which mostly relates to a decrease in legal services.
- Decrease of \$2 million in the allocation of the centralized services costs due to a 0.1% decrease in the percent allocated to the water. Total contractual services within the centralized services department decreased by 4.3%.

Capital program allocation has increased due to the implementation of a user-friendly software tracking system for personnel time spent on capital projects. The decrease in the shared services allocation is due to less services provided to DWSD as some of the Information Technology services were terminated during the year in accordance with an agreed upon transition plan.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

Sewage Disposal Fund

Sewage Disposal Fund Changes in Net Position						
Fiscal Year				Change 2019 vs 2018		
2019	Percentage of Operating Revenue	2018	2017	Amount	Percent	
Wholesale customer charges	\$ 272,772,460	58.1%	\$ 268,978,831	\$ 263,311,745	\$ 3,793,629	1.4%
Local system charges	181,159,300	38.6%	178,969,200	187,304,100	2,190,100	1.2%
Industrial waste charges	9,106,274	1.9%	14,334,979	14,381,106	(5,228,705)	-36.5%
Pollutant surcharges	5,932,550	1.3%	6,908,404	5,206,294	(975,854)	-14.1%
Bad debt recovery	-	0.0%	-	35,065,030	-	0.0%
Other revenues	506,323	0.1%	4,391,145	538,807	(3,884,822)	-88.5%
Total operating revenues	469,476,907	100.0%	473,582,559	505,807,082	(4,105,652)	-0.9%
Operating expenses	342,585,175	73.0%	363,629,987	336,946,731	(21,044,812)	-5.8%
Operating Income	126,891,732	27.0%	109,952,572	168,860,351	16,939,160	15.4%
Nonoperating expenses	(132,515,310)	-28.2%	(161,911,132)	(163,470,934)	29,395,822	-18.2%
Income (loss) before contributions and special item	(5,623,578)	-1.2%	(51,958,560)	5,389,417	46,334,982	-89.2%
Capital contributions	-		-	320,707	-	0.0%
Special item - MOU with DWSD	-		-	(61,478,682)	-	0.0%
Change in net position	(5,623,578)	-1.2%	(51,958,560)	(55,768,558)	46,334,982	-89.2%
Net position, beginning	(118,319,403)		(66,360,843)	(10,592,285)	(51,958,560)	78.3%
Net position, end of year	\$ (123,942,981)		\$ (118,319,403)	\$ (66,360,843)	\$ (5,623,578)	4.8%

Operating revenues are primarily from wholesale sewer charges of \$272.8 million (58.1% of Sewage Disposal System revenues).

Local system revenues of \$181.1 million account for 38.6% of total operating revenues. Pursuant to the terms of the WSSA with DWSD, a \$5.516 million credit is applied against sewer charges in the charge methodology. This credit replaces a previous contractual arrangement that was in place prior to the Effective Date of the Regional System.

The remaining 3.3% of operating revenue is due to other charges such as industrial waste charges and pollutant surcharges which are charged to non-residential users.

Operating income after operating expenses (including depreciation) equals \$126.9 million or 27.0% of operating revenue.

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Management's Discussion and Analysis

Net nonoperating expense of \$132.5 million is primarily related to interest expense from debt service (\$136.8 million) with the remainder related to the Regional Sewage Disposal Lease and obligation payable. The largest offset to the expense is interest revenue of \$18.9 million on the obligations receivable which is also related to the terms of the Regional Sewage Disposal Lease as well as investment income of \$11.8 million.

GLWA provides services to 19 member partners across 79 communities. Wholesale contract charges are based on a “share” percentage of the annual revenue requirement billed one-twelfth each month. The shares are established based upon historical flows and are formally revisited every three years. The result is no revenue shortfall or overestimation.

Sewage Disposal Fund Operating Expenses					
Fiscal Year				Change 2019 vs 2018	
2019	Percentage of Operating Expense	2018	2017	Amount	Percent

Operating expenses before depreciation and amortization

Personnel	\$ 56,503,053	16.5%	\$ 53,680,162	\$ 47,894,911	\$ 2,822,891	5.3%
Contractual services	58,660,680	17.1%	64,082,761	55,878,440	(5,422,081)	-8.5%
Utilities	25,147,527	7.3%	26,823,299	27,191,866	(1,675,772)	-6.2%
Chemicals	8,187,033	2.4%	8,073,045	9,424,428	113,988	1.4%
Supplies and other expenses	25,323,636	7.4%	24,982,773	12,180,128	340,863	1.4%
Capital adjustment	2,258,351	0.7%	-	-	2,258,351	100.0%
Capital program allocation	(1,325,842)	-0.4%	(969,671)	(1,150,316)	(356,171)	36.7%
Shared services allocation	(713,633)	-0.2%	(292,965)	(101,191)	(420,668)	143.6%
Total operating expenses before depreciation and amortization	174,040,805	50.8%	176,379,404	151,318,266	(2,338,599)	-1.3%
Depreciation	168,544,370	49.2%	187,250,583	185,628,465	(18,706,213)	-10.0%
Total Operating Expenses	<u>\$ 342,585,175</u>	100.0%	<u>\$ 363,629,987</u>	<u>\$ 336,946,731</u>	<u>\$ (21,044,812)</u>	-5.8%

Operating expenses of \$342.6 million represent 73.0% of total operating revenue which consists primarily of depreciation expense and operations and maintenance activities. Depreciation is the larger category of expense at \$168.5 million or 49.9% of operating expense. Given the nature of GLWA's wastewater operations, it is expected that personnel, contractual services, and utilities would represent the higher dollar amount. Contractual services include operation and management of the Biosolids Dryer Facility (BDF), timely repairs for the Water Resources Recovery Facility (WRRF), staff augmentation for operations, technology related services for both operational and enterprise data networks, and outsourcing of janitorial, fleet, and other functions. Contractual services decreased during the year due to the following items:

- Decrease of \$2.1 million relating to a generator rental incurred in fiscal year 2018 for backup electrical service for the wastewater treatment plant which was not incurred in fiscal year 2019.
- Decrease of \$3 million in the allocation of the administrative services costs which is due to a decrease in the percent allocated to the sewage disposal fund of 7.1% along with a 22% decrease in the total contractual services within the administrative services department which mostly relates to a decrease in legal services.
- The increase of 0.1% in the allocation of centralized services to the sewage disposal fund was offset by a 4.3% decrease in the total contractual services within the centralized services department.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

The Capital adjustment relates to projects, generally design phase engineering costs, which did not move into the construction phase and were expensed to operations. Capital program allocation has increased due to the implementation of a user-friendly software tracking system for personnel time spent on capital projects. The increase in the shared services allocation is due to an increase in the costs incurred for the pumping stations maintained for DWSD under the shared services agreement.

Capital Assets and Debt Administration

GLWA's investment in capital assets as of June 30, 2019 is \$4.5 billion (net of accumulated depreciation) with \$1.8 billion assigned to the Water System and \$2.7 billion assigned to the Sewage Disposal System. GLWA's investment in capital assets as of June 30, 2018 was \$4.7 billion (net of accumulated depreciation) with \$1.9 billion assigned to the Water System and \$2.8 billion assigned to the Sewage Disposal System. This investment in capital assets includes land, buildings, plants, transmission lines, vehicles and other equipment. Total net capital assets decreased by \$156.1 million or 3.3% when compared to the prior year. The net decrease is primarily attributable to depreciation in excess of current year additions.

	Capital Assets (Net)					
	Fiscal Year			Change 2019 vs 2018		
	2019	2018	2017	Amount	Percent	
Land	\$ 62,813,656	\$ 63,151,369	\$ 62,900,069	\$ (337,713)	-0.5%	
Easements	354,843,720	354,843,720	354,843,720	-	0.0%	
Construction in progress	368,747,744	288,051,906	312,728,003	80,695,838	28.0%	
Site improvements	60,997,618	71,714,835	70,555,592	(10,717,217)	-14.9%	
Buildings and structures	1,410,653,813	1,477,410,969	1,499,761,392	(66,757,156)	-4.5%	
Infrastructure	1,055,039,221	1,076,353,519	1,106,299,521	(21,314,298)	-2.0%	
Machinery and equipment	1,215,918,905	1,354,950,446	1,499,528,421	(139,031,541)	-10.3%	
Vehicles	1,999,598	2,164,263	2,170,119	(164,665)	-7.6%	
Leasehold improvements	3,174,633	1,622,833	-	1,551,800	95.6%	
Total capital assets (net of depreciation)	\$ 4,534,188,908	\$ 4,690,263,860	\$ 4,908,786,837	\$ (156,074,952)	-3.3%	

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

Water Fund

There are nine major categories used for classification of capital assets for financial reporting purposes.

Water Fund Capital Assets (Net)					
	Fiscal Year			Change 2019 vs 2018	
	2019	2018	2017	Amount	Percent
Land	\$ 34,166,736	\$ 34,166,736	\$ 34,166,736	\$ -	0.0%
Easements	258,632,397	258,632,397	258,632,397	-	0.0%
Construction in progress	175,031,085	141,885,762	159,386,541	33,145,323	23.4%
Site improvements	43,351,590	50,119,213	44,469,705	(6,767,623)	-13.5%
Buildings and structures	451,327,196	477,377,870	502,131,859	(26,050,674)	-5.5%
Infrastructure	493,564,813	513,698,088	529,833,717	(20,133,275)	-3.9%
Machinery and equipment	401,108,206	456,563,092	509,861,713	(55,454,886)	-12.1%
Vehicles	939,597	1,093,812	994,609	(154,215)	-14.1%
Leasehold improvements	474,033	266,618	-	207,415	77.8%
Total water fund capital assets (net of depreciation)	\$ 1,858,595,653	\$ 1,933,803,588	\$ 2,039,477,277	\$ (75,207,935)	-3.9%

Water System additions were largely due to a net increase in construction in progress of \$33.1 million. The total additions to the construction in progress were \$61.5 million with \$28.4 million transferred to capital assets. Approximately \$27.4 million of the fiscal year 2019 additions are due to construction related to the following projects:

- Project # 114001: 1958 Filter Rehabilitation at the Springwell Water Treatment Plant (Contracts CS-1425, CS-200, SP- 563). The project has a total budget of \$ 97.3 million. Life to date costs through June 30, 2019 total \$96.7 million. Fiscal year 2019 expenditures were \$7.4 million. The project is expected to be completed in fiscal year 2020. Approximately \$22.7 was placed into service during fiscal year 2018. No additional amounts were placed into service during fiscal year 2019.
- Project # 111002: LHWTP Backflow Replacement (Contracts CS-1732, CON-182, CON-212). The project has a total budget of \$8.3 million. Life to date costs through June 30, 2019 total \$6.9 million. Fiscal year 2019 expenditures were \$4.9 million. The project is expected to be completed in fiscal year 2020. Approximately \$155,000 has been placed into service with no additional FY 2019 asset capitalizations.
- Project # 116002: Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements based on Contract CS-1623 Inspection Results (Contract DB-150). The project has a total budget of \$30.1 million. Life to date costs through June 30, 2019 total \$10.2 million. Fiscal year 2019 expenditures were \$8 million. The project is expected to be completed in fiscal year 2023.
- Project # 115004: Water Works Park Water Treatment Plant Chlorine System Upgrade (Contracts CS-1721, CON-208). The project has a total budget of \$8.8 million. Life to date costs through June 30, 2019 total \$6.7 million. Fiscal year 2019 expenditures were \$4.2 million. The project is expected to be completed in fiscal year 2020.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

- Project # 114003: Water Production Flow Metering Improvements at Northeast, Southwest and Springwell Water Treatment Plants (CON-133). The project has a total budget of \$7.1 million. Life to date costs through June 30, 2019 total \$6.3 million. Fiscal year 2019 expenditures were \$2.9 million. The project is expected to be completed in fiscal year 2020.
- The remaining \$34.1 million is attributable to 63 projects that are near closeout or are design and study contracts related to larger projects.

Sewage Disposal Fund

There are nine major categories used for classification of capital assets for financial reporting purposes.

Sewage Disposal Fund Capital Assets (Net)						
Fiscal Year			Change 2019 vs 2018			
2019	2018	2017	Amount	Percent		
Land	\$ 28,646,920	\$ 28,984,633	\$ 28,733,333	\$ (337,713)	-1.2%	
Easements	96,211,323	96,211,323	96,211,323	-	0.0%	
Construction in progress	193,716,659	146,166,135	153,341,462	47,550,524	32.5%	
Site improvements	17,646,028	21,595,618	26,085,887	(3,949,590)	-18.3%	
Buildings and structures	959,326,617	1,000,033,098	997,629,533	(40,706,481)	-4.1%	
Infrastructure	561,474,408	562,655,431	576,465,804	(1,181,023)	-0.2%	
Machinery and equipment	814,810,699	898,387,360	989,666,708	(83,576,661)	-9.3%	
Vehicles	1,060,001	1,070,452	1,175,510	(10,451)	-1.0%	
Leasehold improvements	2,700,600	1,356,215	-	1,344,385	99.1%	
Total sewage disposal fund capital assets (net of depreciation)	\$ 2,675,593,255	\$ 2,756,460,265	\$ 2,869,309,560	\$ (80,867,010)	-2.9%	

Sewage Disposal System additions were also largely due to a net increase in construction work-in-progress of \$47.6 million. The total additions to the construction in progress were \$82.1 million with \$34.5 million transferred to capital assets. Approximately \$44 million of the fiscal year 2019 additions are due to construction related to the following projects:

- Project # 211001: Rehabilitation of Primary Clarifiers, Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery (PC-757). The project has a total budget of \$54.9 million. Life to date costs through June 30, 2019 total \$45.4 million. Fiscal year 2019 expenditures were \$20.3 million. The project is expected to be completed in fiscal year 2021.
- Project # 212006: Rouge River Outfall Project (Contracts PC-797, CS-1781). The project has a total budget of \$48 million. Life to date costs through June 30, 2019 total \$41.7 million. Fiscal year 2019 expenditures were \$15.2 million. The project is expected to be completed in fiscal year 2020.
- Project # 213007: Construction of the Improved Sludge Conveyance and Lighting System at the WWRF (Contracts CON-197/CS-060). The project has a total budget of \$20 million. Life to date costs through June 30, 2019 total \$10.8 million. Fiscal year 2019 expenditures were \$8.5 million. The project is expected to be completed in fiscal year 2021.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

- The remaining \$38.1 million is attributable to 43 projects that are near closeout or are design and study contracts related to larger projects.

Additional information on the Authority's capital assets can be found in Note 9.

Intangible Asset and Related Obligation - Water Fund

Effective December 1, 2017, GLWA, the city of Flint, Karegnondi Water Authority (KWA), Genesee County Drain Commission (GCDC) and the State of Michigan entered into a long-term partnership agreement to satisfy a number of critical water service needs across the region. Key provisions of a master agreement comprised of seven separate exhibits includes: 1) A 30-year water service contract with Flint that establishes GLWA as the long-term water source for the city and credits the city of its debt service payment obligations on existing KWA bonds for the building of its water plant; 2) a long-term lease to GLWA of the 72-inch line serving the city; and 3) a 30-year contract for reciprocal, emergency water services between GLWA and GCDC.

The 30-year water service contract with the city of Flint includes a license to raw water rights on 17.46 MGD of the 18 MGD purchased by Flint as part of KWA bond obligation. These licensed rights constitute an intangible asset under governmental accounting standards. Therefore, the Authority has recorded an offsetting intangible asset and lease obligation of approximately \$107 million associated with this agreement as part of the fiscal year ending June 30, 2018 financial statements. The Authority recognized \$3.6 million of amortization expense during the current year. The amortization expense for the prior year which was the initial year was \$2.1 million on the intangible asset. The lease obligation for the raw water rights was reduced by \$3 million in the current year and by \$0.8 million during the previous year.

Long-term Debt

At year-end, the Authority had \$5.3 billion of long-term debt. All the outstanding bonds are revenue bonds, including capital appreciation bonds and state revolving fund loans. Of the total, \$2.2 billion is assigned to the Water System and \$3.1 billion is assigned to the Sewage Disposal System.

	Outstanding Debt				
	Fiscal Year			Change 2019 vs 2018	
	2019	2018	2017	Amount	Percent
Revenue bonds	\$ 4,824,710,000	\$ 4,868,890,000	\$ 4,977,395,000	\$ (44,180,000)	-0.9%
Capital appreciation bonds	14,780,000	17,250,000	22,815,000	(2,470,000)	-14.3%
State revolving loans	504,037,930	501,113,442	502,519,271	2,924,488	0.6%
Total outstanding debt	<u>\$ 5,343,527,930</u>	<u>\$ 5,387,253,442</u>	<u>\$ 5,502,729,271</u>	<u>\$ (43,725,512)</u>	<u>-0.8%</u>

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

Water Fund

The total outstanding bonds for the Water System are \$2.2 billion, decreasing by \$64.5 million from the prior year. The Authority issued \$155.6 million in new water fund bonds during the year ended June 30, 2019.

Less than 1.3% of the total indebtedness is issued through the State of Michigan revolving fund loan program for the benefit of the Water System. The Water System received \$6.3 million in new state revolving fund loans and received \$85,211 in loan forgiveness. The amount of state revolving fund loans pass-through to DWSD for local system improvements was \$5.9 million.

	Water Fund Outstanding Debt				
	Fiscal Year			Change 2019 vs 2018	
	2019	2018	2017	Amount	Percent
Revenue bonds	\$ 2,220,320,000	\$ 2,284,825,000	\$ 2,340,885,000	\$ (64,505,000)	-2.8%
State revolving loans	29,860,802	25,435,902	17,252,235	4,424,900	17.4%
Total outstanding debt	<u>\$ 2,250,180,802</u>	<u>\$ 2,310,260,902</u>	<u>\$ 2,358,137,235</u>	<u>\$ (60,080,100)</u>	<u>-2.6%</u>

Repayment of GLWA bonds issued are funded by charges to all member partners. Repayment of the debt service assigned to DWSD for Local System improvements are paid from retail customer collections by DWSD.

Sewage Disposal Fund

The total outstanding bonds for the Sewage Disposal System are \$3.1 billion, decreasing by \$20.3 million from the prior year. The Authority issued \$257.5 million of sewage disposal bonds during the year ended June 30, 2019. The amount of sewage disposal bonds pass-through to DWSD for local system improvements was \$81.6 million.

Approximately 15.3% of the total indebtedness is issued through the State of Michigan revolving fund loan program for the benefit of the Sewage Disposal System. The Sewage Disposal System received \$45.3 million in new state revolving fund loans.

	Outstanding Debt				
	Fiscal Year			Change 2019 vs 2018	
	2019	2018	2017	Amount	Percent
Revenue bonds	\$ 2,604,390,000	\$ 2,584,065,000	\$ 2,636,510,000	\$ 20,325,000	0.8%
Capital appreciation bonds	14,780,000	17,250,000	22,815,000	(2,470,000)	-14.3%
State revolving loans	474,177,128	475,677,540	485,267,036	(1,500,412)	-0.3%
Total outstanding debt	<u>\$ 3,093,347,128</u>	<u>\$ 3,076,992,540</u>	<u>\$ 3,144,592,036</u>	<u>\$ 16,354,588</u>	<u>0.5%</u>

Repayment of GLWA bonds issued are funded by charges to all member partners. Repayment of the debt service assigned to DWSD for Local System improvements is paid from retail customer collections by DWSD.

GREAT LAKES WATER AUTHORITY

Management's Discussion and Analysis

Credit Ratings

In September 2018 the Authority's ratings were upgraded or affirmed. For both the Water Fund and the Sewage Disposal Fund, Fitch Ratings affirmed the ratings with senior lien debt at A and second lien at A-, both with positive outlooks; Standard & Poor's upgraded the Authority's ratings with water senior lien debt at AA- and second lien at A+, sewage disposal senior lien at A+ and second lien at A, all with a positive outlook; and Moody's upgraded the Authority's ratings with senior lien debt at A2 and second lien at A3, all were assigned a stable outlook.

Additional information on the Authority's long-term debt can be found in Note 12.

Economic Factors Affecting Next Year's Operations and Rates

On March 13, 2019, the GLWA Board adopted the biennial budget for the Authority for fiscal years 2020 and 2021. That two-year financial plan remains true to a foundational commitment to control the budget within a 4% revenue cap as further described below.

Water Fund

For FY 2020 the budget increased by 2.5 percent. This translated into a system average charge increase of 0.9 percent and suburban wholesale member partner average charge increase of 0.3 percent depending on each customers usage in relation to other customers.

Sewage Disposal Fund

For FY 2020 budget increased by 2.2 percent. This translated into a system average charge increase of 1.4 percent and suburban wholesale member partner average charge decrease of 0.1 percent.

Requests for Information

This financial report is designed to provide a general overview of GLWA's finances for all those with an interest in the Authority's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to Great Lakes Water Authority, Office of the Chief Financial Officer, 735 Randolph, Detroit, Michigan 48226. This report is also available on the Authority's website at www.glwater.org.

BASIC FINANCIAL STATEMENTS

GREAT LAKES WATER AUTHORITY

STATEMENT OF NET POSITION

As of June 30, 2019

With Comparative Amounts at June 30, 2018

	Enterprise Funds			
	Water Fund	Sewage Disposal Fund	Total Business-type Activities	2018 Total Business-type Activities
Assets				
Current Assets				
Cash and cash equivalents	\$ 148,643,793	\$ 160,371,766	\$ 309,015,559	\$ 509,141,777
Restricted cash and cash equivalents	68,564,311	95,931,528	164,495,839	105,929,392
Restricted cash for the benefit of DWSD	2,690,397	627,919	3,318,316	8,418,827
Investments	198,561,135	75,685,362	274,246,497	16,511,237
Restricted investments	1,468,148	33,384,445	34,852,593	33,025,340
Receivables, net	57,941,376	50,265,895	108,207,271	107,786,077
Due from other governments	30,063,571	179,585	30,243,156	47,927,860
Due from other funds	2,876,954	12,568	2,889,522	3,778,220
Contractual obligation receivable, current portion	14,328,368	12,089,779	26,418,147	24,813,886
Loan receivable - DWSD	-	17,542,669	17,542,669	9,367,355
Prepaid items and other assets	5,647,661	2,801,271	8,448,932	4,949,631
Inventories	386,612	5,445,981	5,832,593	8,471,626
Total Current Assets	<u>531,172,326</u>	<u>454,338,768</u>	<u>985,511,094</u>	<u>880,121,228</u>
Noncurrent Assets				
Restricted cash and cash equivalents	32,154,262	62,030,778	94,185,040	48,263,059
Restricted investments	77,075,423	73,903,089	150,978,512	293,697,988
Contractual obligation receivable	468,481,719	414,766,953	883,248,672	812,613,943
Loan receivable - DWSD	-	26,503,010	26,503,010	19,932,645
Prepaid lease	11,250,000	13,750,000	25,000,000	25,000,000
Assets not subject to depreciation	467,830,218	318,574,902	786,405,120	706,046,995
Capital assets being depreciated, net	1,390,765,435	2,357,018,353	3,747,783,788	3,984,216,865
Intangible asset - raw water rights, net	101,352,701	-	101,352,701	104,919,365
Prepaid insurance on debt	8,754,897	13,880,254	22,635,151	29,933,631
Total Noncurrent Assets	<u>2,557,664,655</u>	<u>3,280,427,339</u>	<u>5,838,091,994</u>	<u>6,024,624,491</u>
Total Assets	<u>3,088,836,981</u>	<u>3,734,766,107</u>	<u>6,823,603,088</u>	<u>6,904,745,719</u>
Deferred Outflows of Resources				
Deferred charge on refunding	82,508,971	159,370,167	241,879,138	280,975,963
Deferred pension amounts	11,369,496	20,347,789	31,717,285	52,015,636
Total Deferred Outflows of Resources	<u>93,878,467</u>	<u>179,717,956</u>	<u>273,596,423</u>	<u>332,991,599</u>

	Enterprise Funds		Total Business-type Activities	2018 Total Business-type Activities
	Water Fund	Sewage Disposal Fund		
Liabilities				
Current Liabilities				
Accounts and contracts payable	\$ 36,657,714	\$ 38,004,322	\$ 74,662,036	\$ 67,832,136
Accrued salaries, wages and benefits	4,284,220	-	4,284,220	4,734,956
Other accrued liabilities	6,481,670	627,919	7,109,589	12,679,692
Due to other governments	15,963,934	-	15,963,934	11,983,407
Due to other funds	12,568	2,876,954	2,889,522	3,778,220
Interest payable	40,325,682	44,130,602	84,456,284	80,431,318
Current portion of				
Long-term debt	29,244,447	88,357,662	117,602,109	81,756,050
Leases payable	5,019,121	6,134,481	11,153,602	10,698,835
Lease obligation, raw water rights	2,520,996	-	2,520,996	2,999,458
Obligation payable	176,183	396,291	572,474	545,213
Accrued compensated absences	2,430,828	757,328	3,188,156	2,929,412
Accrued workers' compensation	217,480	-	217,480	228,239
Claims and judgments	2,290,000	56,111	2,346,111	2,529,392
Total Current Liabilities	<u>145,624,843</u>	<u>181,341,670</u>	<u>326,966,513</u>	<u>283,126,328</u>
Noncurrent Liabilities				
Long-term debt	2,467,177,447	3,163,394,353	5,630,571,800	5,714,095,283
Long-term leases payable	416,469,750	509,018,588	925,488,338	936,641,935
Lease obligation - raw water rights	100,720,123	-	100,720,123	103,241,118
Obligation payable	16,921,526	38,061,886	54,983,412	55,555,887
Accrued compensated absences	2,049,655	-	2,049,655	2,174,506
Accrued workers' compensation	75,000	-	75,000	75,000
Claims and judgments	50,000	7,500,000	7,550,000	7,550,000
Other noncurrent liabilities	2,804,949	6,291,681	9,096,630	8,638,011
Net pension liability	47,310,460	84,670,705	131,981,165	178,961,907
Total Noncurrent Liabilities	<u>3,053,578,910</u>	<u>3,808,937,213</u>	<u>6,862,516,123</u>	<u>7,006,933,647</u>
Total Liabilities	<u>3,199,203,753</u>	<u>3,990,278,883</u>	<u>7,189,482,636</u>	<u>7,290,059,975</u>
Deferred Inflows of Resources				
Deferred amounts for swap terminations	75,616	165,223	240,839	270,150
Deferred gain on refunding	60,317,719	47,982,938	108,300,657	105,907,267
Deferred pension amounts	-	-	-	20,254,690
Total Deferred Inflows of Resources	<u>60,393,335</u>	<u>48,148,161</u>	<u>108,541,496</u>	<u>126,432,107</u>
Net Position				
Net investment in capital assets	(166,485,092)	(62,382,494)	(228,867,586)	350,745,726
Restricted for debt service	29,731,576	117,246,259	146,977,835	125,235,904
Restricted for capital acquisition	-	-	-	243,238,577
Restricted for payment assistance program	3,369,875	4,631,494	8,001,369	5,771,110
Unrestricted (deficit)	<u>56,502,001</u>	<u>(183,438,240)</u>	<u>(126,936,239)</u>	<u>(903,746,081)</u>
TOTAL NET POSITION	<u>\$ (76,881,640)</u>	<u>\$ (123,942,981)</u>	<u>\$ (200,824,621)</u>	<u>\$ (178,754,764)</u>

The accompanying notes are an integral part of these financial statements.

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GREAT LAKES WATER AUTHORITY

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

For the Year Ended June 30, 2019

With Comparative Amounts for the Year Ended June 30, 2018

	Enterprise Funds		Total	2018 Total
	Water	Sewage	Business-type	Business-type
	Fund	Disposal	Activities	Activities
Operating Revenues				
Wholesale customer charges	\$ 311,399,136	\$ 272,772,460	\$ 584,171,596	\$ 592,096,175
Local system charges	20,181,400	181,159,300	201,340,700	194,099,800
Industrial waste charges	-	9,106,274	9,106,274	14,334,979
Pollutant surcharges	-	5,932,550	5,932,550	6,908,404
Other revenues	21,340	506,323	527,663	4,455,345
Total Operating Revenues	331,601,876	469,476,907	801,078,783	811,894,703
Operating Expenses				
Operating expenses before depreciation and amortization				
Personnel	42,085,546	56,503,053	98,588,599	95,525,457
Contractual services	43,083,078	58,660,680	101,743,758	99,877,310
Utilities	26,247,858	25,147,527	51,395,385	53,694,380
Chemicals	5,088,827	8,187,033	13,275,860	12,877,813
Supplies and other expenses	11,797,279	25,323,636	37,120,915	34,526,388
Capital adjustment	-	2,258,351	2,258,351	-
Capital program allocation	(2,054,913)	(1,325,842)	(3,380,755)	(1,683,450)
Shared services allocation	(6,425,729)	(713,633)	(7,139,362)	(9,908,111)
Total operating expenses before depreciation and amortization	119,821,946	174,040,805	293,862,751	284,909,787
Depreciation	140,571,120	168,544,370	309,115,490	331,242,398
Amortization of intangible asset - raw water rights	3,566,664	-	3,566,664	2,080,554
Total Operating Expenses	263,959,730	342,585,175	606,544,905	618,232,739
Operating Income	67,642,146	126,891,732	194,533,878	193,661,964
Nonoperating Revenues (Expenses)				
Earnings on investments	14,754,401	11,763,401	26,517,802	11,395,785
Interest on loan and obligations receivable	22,921,380	18,856,322	41,777,702	38,856,520
Interest expense	(136,704,033)	(159,893,300)	(296,597,333)	(300,395,306)
Amortization of debt related items and cost of issuance	10,771,937	(6,776,707)	3,995,230	8,684,285
Legacy pension expense	6,014,441	10,763,940	16,778,381	(24,922,162)
WRAP (Water Residential Assistance Program)	(855,455)	(1,168,664)	(2,024,119)	(3,755,534)
Other	114,136	305,723	419,859	(1,254,350)
Sewer lookback - MOU adjustment	-	(6,527,200)	(6,527,200)	-
Gain (loss) on disposal of capital assets	(435,095)	516,379	81,284	2,463,478
Loss on impairment of capital assets	(670,137)	(355,204)	(1,025,341)	(654,451)
Total Nonoperating Expenses	(84,088,425)	(132,515,310)	(216,603,735)	(269,581,735)
Change in net position	(16,446,279)	(5,623,578)	(22,069,857)	(75,919,771)
NET POSITION (DEFICIT), Beginning of Year	(60,435,361)	(118,319,403)	(178,754,764)	(102,834,993)
NET POSITION (DEFICIT), END OF YEAR	<u>\$ (76,881,640)</u>	<u>\$ (123,942,981)</u>	<u>\$ (200,824,621)</u>	<u>\$ (178,754,764)</u>

The accompanying notes are an integral part of these financial statements.

GREAT LAKES WATER AUTHORITY

STATEMENT OF CASH FLOWS For the Year Ended June 30, 2019 With Comparative Amounts for the Year Ended June 30, 2018

	Enterprise Funds		Total	2018 Total
	Water	Sewage	Business-type	Business-type
	Fund	Disposal	Activities	Activities
		Fund		
Cash Flows From Operating Activities				
Cash received from customers	\$ 328,436,149	\$ 463,309,071	\$ 791,745,220	\$ 815,162,031
Cash payments to suppliers for goods and services	(84,824,957)	(114,736,847)	(199,561,804)	(195,064,741)
Cash payments for employee services	(39,961,460)	(55,136,969)	(95,098,429)	(92,741,942)
Cash received (paid) for interfund services	(5,982,020)	5,982,020	-	-
Cash payments to other governments for:				
MOU and bifurcation liabilities	-	(6,574,739)	(6,574,739)	(44,892,832)
B&C obligation payable	(875,510)	(1,969,294)	(2,844,804)	(10,020,033)
Cash payments for WRAP	(855,455)	(1,168,664)	(2,024,119)	(3,755,534)
Cash payments for GLWA share pension agreement	(11,440,800)	(20,475,400)	(31,916,200)	(31,916,200)
Cash received for DWSD nonoperating pension	4,427,400	3,066,800	7,494,200	8,197,832
Cash paid for DWSD nonoperating pension	(4,427,393)	(3,066,808)	(7,494,201)	(9,746,228)
Cash received for DWSD WRAP	387,600	496,900	884,500	817,200
Cash payments for DWSD WRAP	(217,122)	(208,759)	(425,881)	(744,466)
Cash received (paid) for DWSD budgetary surplus (shortfall)	2,172,907	848,690	3,021,597	(9,867,300)
DWSD budgetary surplus cash transferred to DWSD I&E fund	(8,407,080)	-	(8,407,080)	-
Nonoperating cash received (paid)	340,044	710,028	1,050,072	50,019
Cash payments from fire remediation for operations	-	-	-	3,685,867
Principal payments received on obligation receivable	13,457,925	11,253,800	24,711,725	23,209,000
Interest received on obligation receivable	23,456,175	18,001,600	41,457,775	38,978,063
Principal payments received on loan receivable	-	9,367,355	9,367,355	-
Interest received on loan receivable	-	1,104,242	1,104,242	-
Payments of long-term debt proceeds to DWSD	-	(91,000,000)	(91,000,000)	-
Payments for bond issuance costs on DWSD debt	-	(526,443)	(526,443)	-
Payments of state revolving fund loan proceeds to DWSD	(5,855,865)	-	(5,855,865)	(9,968,428)
Net Cash Provided by (Used in) Operating Activities	209,830,538	219,276,583	429,107,121	481,382,308
Cash Flows From Noncapital Financing Activities				
Proceeds from long-term debt for DWSD	-	91,531,771	91,531,771	-
Proceeds from state revolving fund loans for DWSD	5,855,865	-	5,855,865	9,529,926
Principal payments	(13,424,300)	(11,253,800)	(24,678,100)	(23,209,000)
Interest payments	(23,006,043)	(15,017,704)	(38,023,747)	(38,956,083)
Net Cash Provided by Noncapital Financing Activities	(30,574,478)	65,260,267	34,685,789	(52,635,157)
Cash Flows From Capital and Related Financing Activities				
Proceeds from fire remediation	-	2,935,582	2,935,582	200,533
Proceeds from sale of assets	1,712	2,772,950	2,774,662	650
Proceeds from issuance of long-term refunding debt	175,326,395	198,255,349	373,581,744	-
Proceeds from state revolving fund loans	429,256	45,258,446	45,687,702	37,754,024
(Payments) returns of bond issuance costs	(1,188,906)	(1,295,066)	(2,483,972)	63,000
Principal payments on bonds	(208,450,699)	(275,115,056)	(483,565,755)	(136,636,000)
Principal payments on lease	(4,814,476)	(5,884,354)	(10,698,830)	(10,262,609)
Interest payments	(108,143,636)	(140,892,194)	(249,035,830)	(255,578,237)
Purchase of capital assets	(63,783,192)	(88,728,673)	(152,511,865)	(106,451,791)
Net Cash Used in Capital and Related Financing Activities	(210,623,546)	(262,693,016)	(473,316,562)	(470,910,430)

	Enterprise Funds		Total	2018 Total
	Water	Sewage	Business-type	Business-type
	Fund	Disposal	Activities	Activities
		Fund		
Cash Flows From Investing Activities				
Investment purchases	\$ (500,982,207)	\$ (456,010,212)	\$ (956,992,419)	\$ (873,343,238)
Investment maturities	388,180,107	462,431,278	850,611,385	667,981,203
Interest received	<u>8,359,253</u>	<u>6,807,132</u>	<u>15,166,385</u>	<u>9,472,737</u>
Net Cash Provided by (Used in) Investing Activities	<u>(104,442,847)</u>	<u>13,228,198</u>	<u>(91,214,649)</u>	<u>(195,889,298)</u>
Net change in cash and cash equivalents	<u>(135,810,333)</u>	<u>35,072,032</u>	<u>(100,738,301)</u>	<u>(238,052,577)</u>
CASH AND CASH EQUIVALENTS, Beginning of Year	<u>387,863,096</u>	<u>283,889,959</u>	<u>671,753,055</u>	<u>909,805,632</u>
CASH AND CASH EQUIVALENTS, END OF YEAR	<u>\$ 252,052,763</u>	<u>\$ 318,961,991</u>	<u>\$ 571,014,754</u>	<u>\$ 671,753,055</u>
STATEMENT OF NET POSITION CLASSIFICATION OF CASH				
Cash and cash equivalents	\$ 148,643,793	\$ 160,371,766	\$ 309,015,559	\$ 509,141,777
Restricted cash and cash equivalents	68,564,311	95,931,528	164,495,839	105,929,392
Restricted cash for the benefit of DWSD	2,690,397	627,919	3,318,316	8,418,827
Noncurrent restricted cash and cash equivalents	<u>32,154,262</u>	<u>62,030,778</u>	<u>94,185,040</u>	<u>48,263,059</u>
	<u>\$ 252,052,763</u>	<u>\$ 318,961,991</u>	<u>\$ 571,014,754</u>	<u>\$ 671,753,055</u>
NONCASH FINANCING AND INVESTMENT ACTIVITIES				
Decrease in lease liability raw water rights	\$ 2,999,457	\$ -	\$ 2,999,457	
Change in unrealized gain on investments	\$ 3,096,124	\$ 2,684,646	\$ 5,780,770	
Interest expense due to accretion	\$ -	\$ 863,930	\$ 863,930	
Interest expense lease raw water rights	\$ 4,225,950	\$ -	\$ 4,225,950	
Amortization expense	<u>\$ (11,960,843)</u>	<u>\$ 5,481,641</u>	<u>\$ (6,479,202)</u>	

The accompanying notes are an integral part of these financial statements.

GREAT LAKES WATER AUTHORITY

STATEMENT OF CASH FLOWS
For the Year Ended June 30, 2019
With Comparative Amounts for the Year Ended June 30, 2018

	Enterprise Funds		Total	2018 Total
	Water	Sewage	Business-type	Business-type
	Fund	Disposal	Activities	Activities
		Fund		
Reconciliation of Operating Income to Net				
Cash Provided by Operating Activities:				
Operating income	\$ 67,642,146	\$ 126,891,732	\$ 194,533,878	\$ 193,661,964
Adjustments to reconcile operating income				
to net cash provided by operating activities:				
Depreciation	140,571,120	168,544,370	309,115,490	331,242,398
Amortization of intangible asset - raw water rights	3,566,664	-	3,566,664	2,080,554
Credits for raw water rights	(6,979,503)	-	(6,979,503)	(3,176,073)
Miscellaneous nonoperating income (expense)	340,044	710,028	1,050,072	50,019
Miscellaneous nonoperating income (expense)-MOU related	-	(6,527,200)	(6,527,200)	-
Legacy pension expense and administrative fee	5,788,533	10,359,635	16,148,168	(26,026,808)
WRAP (Water Residential Assistance Program)	(855,455)	(1,168,664)	(2,024,119)	(3,755,534)
Loan forgiveness pass-through to DWSD	(85,221)	-	(85,221)	(2,534,779)
Interest income on contractual obligation receivable	22,921,380	17,752,080	40,673,460	38,856,520
Interest income on loan receivable	-	1,104,242	1,104,242	-
Interest expense on obligation payable	(659,086)	(1,482,494)	(2,141,580)	(2,306,154)
Changes in:				
Receivables	3,345,108	(6,701,884)	(3,356,776)	4,808,503
Due from other governments	(6,474,817)	24,159,521	17,684,704	(26,438,819)
Due from other funds	(2,546,661)	3,435,359	888,698	16,344,093
Contractual obligation receivable	7,789,442	(80,028,432)	(72,238,990)	(3,778,220)
Loan receivable	-	(14,745,679)	(14,745,679)	-
Prepaid items and other assets (excludes investing item)	(1,613,442)	(996,444)	(2,609,886)	(840,375)
Inventories	(386,612)	3,025,646	2,639,034	37,828
Accounts and contracts payable (excludes capital items)	216,244	2,366,264	2,582,508	(3,647,703)
Accrued salaries, wages and benefits	(450,736)	-	(450,736)	1,544,918
Other accrued liabilities (excludes capital items)	(6,198,022)	627,919	(5,570,103)	10,427,076
Due to other governments (excludes non-capital financing)	4,028,066	(47,539)	3,980,527	(49,258,979)
Due to other funds	(3,435,359)	2,546,661	(888,698)	3,778,220
Obligation payable including accrued interest	(216,424)	(486,800)	(703,224)	(519,251)
Accrued compensated absences	93,651	40,242	133,893	(21,355)
Accrued workers' compensation	(10,759)	-	(10,759)	53,239
Claims and judgments	95,000	(278,281)	(183,281)	5,964,830
Other noncurrent liabilities	170,478	288,141	458,619	72,734
Net pension liability and deferred items	(16,825,241)	(30,111,840)	(46,937,081)	(5,236,538)
NET CASH PROVIDED BY OPERATING ACTIVITIES	\$ 209,830,538	\$ 219,276,583	\$ 429,107,121	\$ 481,382,308

NONCASH TRANSACTIONS

During the year the Authority applied credits to the City of Flint water billings totaling \$6,979,503 for payments made by the City of Flint on their KWA bonds obligation. These credits are recorded as payments on the raw water lease rights which have been recorded as an intangible asset and a lease obligation payable.

The accompanying notes are an integral part of these financial statements.

NOTES TO FINANCIAL STATEMENTS

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Great Lakes Water Authority (GLWA or the Authority) is the regional wholesale provider of water and sewage disposal services in southeast Michigan. The Authority was incorporated by the counties of Macomb, Oakland, Wayne and the City of Detroit (the City) on November 26, 2014 pursuant to Act 233, Public Acts of Michigan, 1955, as amended (Act 233). Pursuant to Regional System Leases that became effective on January 1, 2016, the Authority assumed possession and control of the regional assets of both the water supply and sewage disposal systems owned by the City, which were previously operated by the Detroit Water and Sewerage Department (DWSD). The City, acting through DWSD, will continue to manage and operate its own local retail water and sewage disposal system infrastructure. The Regional System Leases assigned all revenues of both systems to the Authority for an initial term of 40 years and, pursuant to bondholder consent, replaced the City with GLWA as the obligor on all outstanding debt obligations of the City related to the systems.

The term “Regional System Leases” is used throughout the financial statements to represent the agreements that transferred the regional water system and sewage disposal system assets and operations from the City of Detroit to GLWA. The Regional System Leases are not considered a lease as defined by the Government Auditing Standards Board (GASB) in GASB Statement No. 87, *Leases*.

The Authority’s water system is one of the largest in the United States, both in terms of water produced and population served. The water system currently serves an area of 1,698 square miles located in eight Michigan counties and an estimated population of approximately 3.8 million or approximately 38% of Michigan’s population. Suburban wholesale customers comprise approximately 82% of the population in the service area, and the DWSD retail water customers comprise the remainder.

The Authority’s sewage disposal system is one of the largest in the United States, both in terms of treatment capacity and population served. The sewer disposal system currently serves an area of 944 square miles located in three Michigan counties and an estimated population of approximately 2.8 million or approximately 28% of Michigan’s population. Suburban customers comprise approximately 76% of the population in the service area, and the DWSD retail sewer customers comprise the remainder.

The Authority’s Board is authorized to establish rates, fees and charges for its water supply and sewage disposal services. Under the Water and Sewer Services Agreement, the City is appointed as agent of the Authority for setting retail rates and for billing, collecting and enforcing the collection of charges from retail water and sewer customers. As an agent of the Authority, the City, through the Board of Water Commissioners and without further approval by the City Council, is required to set retail rates to meet the revenue requirements that the Authority establishes for the retail system for regional commitments as well as other reasonable costs of the local DWSD systems. Under certain conditions, the Authority may terminate the City’s appointment.

The financial statements of the Authority have been prepared in conformity with generally accepted accounting principles (GAAP) as applied to government units. The Governmental Accounting Standards Board (GASB) is the accepted standard setting body for establishing governmental accounting and financial reporting principles. The more significant of the Authority’s accounting policies are described below.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

REPORTING ENTITY

The GLWA Board is composed of six voting members. Two members are residents of the City of Detroit and are appointed by the Mayor of the City of Detroit. The chief executive of the counties of Macomb, Oakland and Wayne each appoint one member who is a resident of the county from which appointed and the Governor of the State of Michigan appoints one member who is a resident of an area served by the Authority outside of the counties. All members of the GLWA Board must have at least seven years of experience in a regulated industry, a utility, engineering, finance, accounting or law firm. After the initial term specified in its Articles of Incorporation, each GLWA Board member is appointed for a four-year term and serves at the pleasure of the appointing government.

The GLWA Board has adopted a committee structure. Four committees have been established: Audit, Capital Improvement Planning, Operations and Resources, and Legal.

BASIS OF PRESENTATION

The Authority presents a water enterprise fund and a sewage disposal enterprise fund for its basic financial statements which consists of a statement of net position, statement of revenues, expenses and changes in net position, and a statement of cash flows.

BASIS OF ACCOUNTING

The accounting policies of the Authority conform to GAAP as applicable to governmental entities. The accounts of the Authority are used to account for its activities, which are financed and operated in a manner similar to a private business enterprise. Accordingly, the Authority maintains its records on the accrual basis of accounting. Revenues from operations, investments and other sources are recorded when earned. Expenses (including depreciation) of providing services to the public are accrued when incurred.

Nonexchange transactions, in which the Authority receives value without directly giving equal value in return, include contributions and grants. On an accrual basis, revenue from contributions and grants is recognized in the fiscal year in which all eligibility requirements have been satisfied, including timing and expense requirements. Timing requirements specify the year when the resources are required to be used or the fiscal year when use is first permitted. Expense requirements specify the year in which the resources are provided to the Authority on a reimbursement basis.

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION

Cash Deposits and Investments

The Authority's cash and cash equivalents are considered to be cash on hand, demand deposits and short-term investments with original maturities of three months or less from the date of acquisition.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS **As of and for the Year Ended June 30, 2019**

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Cash Deposits and Investments (cont.)

Investments are reported at fair value or estimated value. The Authority maintains and adheres to a formal investment policy in accordance with Michigan Public Act 20 of 1943, Investment of Surplus Funds of Political Subdivisions. Michigan State law allows the Authority to deposit in the accounts of federally insured banks, credit unions and savings and loan associations and to invest in obligations of the U.S. Treasury, certain commercial paper, repurchase agreements, bankers' acceptances and mutual funds composed of otherwise legal investments. These investments are subject to interest rate risk and credit risk which may affect the value at which these investments are recorded.

Restricted Assets

Restricted assets are those assets set aside as required by the Authority's Master Bond Ordinance (MBO), funds held on behalf of another entity, or where legally restricted for a particular purpose such as bond proceeds for the capital program. See Note 5 for further details.

Accounts Receivable

The Authority records unbilled revenues for services provided prior to year-end by accruing actual revenues billed in the subsequent month.

The Authority recognizes an estimate of uncollectible accounts for its customer accounts receivable related to its water and sewage disposal services.

Due from Other Governments

Amounts owed to the Authority by DWSD for shared services and accrued interest receivable on the contractual obligation receivable.

Due to and Due from Other Funds

An amount owed between the Water and Sewage Disposal Funds based on shared centralized and administrative services administered by the Water Fund and allocated to the Sewage Disposal Fund. Any water system usage of inventory in the Sewage Disposal Fund is charged through an interfund payable to the Sewage Disposal Fund.

Contractual Obligation Receivable

Pursuant to the Water and Sewer Services Agreement, the City is responsible for paying the portion of debt service on the bonds assumed by the Authority that were issued to finance the cost of improvements to the Detroit local facilities. The resulting contractual obligation is a receivable recorded by the Authority and is repaid by DWSD based upon an agreed upon schedule. Any new debt issued on behalf of the City and DWSD is also included in the contractual obligation receivable.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS **As of and for the Year Ended June 30, 2019**

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Loan Receivable – DWSD

The balance represents loan receivables from DWSD established per the 2018 Memorandum of Understanding (MOU) dated June 27, 2018 executed between DWSD and the Authority to cure any shortfall created from difference between cash receipts and the MBO obligations. An annual loan amount and interest rate is determined based on any shortfalls during each fiscal year. There was no shortfall for the fiscal year ending June 30, 2019.

Prepaid Items and Other Assets

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in the financial statements. Prepaid insurance on debt is amortized over the life of the debt. Other assets include accrued interest receivable on investments.

Inventories

Inventories consist of operating, maintenance and repair parts for water and sewage disposal system assets and are valued at the lower of cost or market, with cost being determined on an average cost method. Inventory is recorded as expense when consumed rather than when purchased.

Prepaid Lease

As described in Note 14, the Authority has recorded a prepaid lease for cash paid to DWSD on the date GLWA began operations equivalent to six months of lease payments. As noted in the 2018 MOU dated June 2018, this amount will be applied at the end of the 40-year term and, hence, it is classified as a noncurrent asset.

Capital Assets

Capital assets are recorded at historical cost. All acquisitions of land and land improvements are capitalized regardless of cost. The capitalization threshold is \$5,000 for capital assets with the exception of certain information technology which is \$1 million dollars. The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend assets' lives are not capitalized. Major outlays for capital assets and improvements are capitalized as projects are constructed.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Capital Assets (cont.)

Capital assets acquired after January 1, 2016 are depreciated on the straight-line basis over the useful life of the assets as follows:

	Useful Lives (In Years)
Site improvements	15
Buildings and structures	20-50
Infrastructure	80
Machinery and equipment	3-20
Vehicles	5-7
Leasehold improvements	15

Capital assets acquired as of the operational effective date of the Authority at January 1, 2016 are depreciated over their estimated remaining useful lives at that time as determined by a third-party valuation. These remaining lives differ from the years cited above for newly acquired capital assets and, in most instances, are significantly shorter.

Intangible Asset - Raw Water Rights

The Authority has recorded an intangible asset for raw water rights which is being amortized on a straight-line basis over 30 years. See Note 9 for a description of these rights.

Deferred Outflows of Resources

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to future periods. At that time, the activity will be recognized as an outflow of resources (or expense). The Authority reports deferred outflows of resources for two items: deferred charges on refunding and pension amounts. Deferred charges on refunding results from the difference in the carrying value of refunded debt and its reacquisition price; these amounts are deferred and amortized over the shorter of the life of the refunded or refunding debt. Deferred outflows of resources from pension amounts relate to the net pension liability. A portion of these costs represent contributions to the plan subsequent to the plan measurement date. More detailed information on pension amounts can be found in Note 18.

Other Accrued Liabilities

Other accrued liabilities represents amounts held for specific purposes or other parties as described below:

Current

- Under the terms of the MBO, the Authority retains cash on hand for the benefit of DWSD to be used for current revenue requirements.
- The Authority holds a customer deposit for \$3,750,000 plus interest earned net of bank fees.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Other Accrued Liabilities (cont.)

Noncurrent

- Under the terms of the MBO, the Authority retains cash on hand for the benefit of DWSD for budget stabilization funds to be used if DWSD has cash shortfalls.
- DWSD's local share of the Water Residential Assistance Program (WRAP) funds that have not been remitted to the administrator of the WRAP program.

Arbitrage Rebate Payable

Certain bonds are subject to arbitrage rebate requirements in accordance with regulations issued by the U.S. Treasury Department. The requirements generally stipulate that earnings from the investment of the tax-exempt bond proceeds that exceeds related interest costs on the bonds must be remitted to the Federal government on every fifth anniversary of each bond issue. The Authority did not have an arbitrage rebate liability as of June 30, 2019.

Long-Term Debt

In the financial statements, long-term debt and other long-term obligations are reported as liabilities in the statement of net position. Bond premiums and discounts are deferred and amortized over the life of the bonds using the effective interest method. Bonds payable are reported net of the applicable bond premium or discount.

Leases Payable

The effective date of the Regional System leases by the City to the Authority for the leased water and sewage disposal facilities was January 1, 2016. See Note 14 for the details of the regional system leases.

Lease Obligation - Raw Water Rights

The Authority has recorded a liability for the lease obligation on its raw water rights. See Note 15 for the details of this obligation.

Obligation Payable

Under the terms of the lease agreements with the City, the Authority is required to pay a portion of the City's B and C notes allocated to the regional water and sewage disposal systems. See "Obligation Payable - City of Detroit 2014 Financial Recovery Bonds" in Note 12.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Compensated Absences

The Authority has a paid time off (PTO) policy which has an annual accrual period ending September 30 each year. Employees are allowed to carry over a maximum bank of 80 hours to the next accrual period. Balances greater than 80 hours up to a maximum of 160 hours are converted to the retiree health saving program at 50% of the value of the PTO time. Hours in excess of 160 hours are forfeited if unused by September 30 of each accrual period. The accrued compensated absences for PTO accrual are approximately \$2,291,000 for the Water Fund and \$757,000 for the Sewage Disposal Fund on June 30, 2019.

The Authority also has an accrued compensated absence liability assumed on January 1, 2016 relating to the accumulated unpaid vacation and sick leave balances for those employees who retired from the City or resigned from the City and accepted employment with the Authority on January 1, 2016. The June 30, 2019 balance of the accrued compensated absences for the liability assumed on January 1, 2016 is approximately \$2,190,000 of which \$140,000 is current. This liability is recorded in the Water Fund as the disbursements for payment will be processed from the Water Fund with reimbursement from the Sewage Disposal Fund. The accrued compensated absences includes the employers' share of Social Security and Medicare taxes.

Claims and Judgements

The Authority has accrued in its financial statements for known asserted claims in which future settlements may be necessary.

Net Pension Liability

Under the terms of the Regional System leases, the Authority participates in the City of Detroit General Employee's Retirement system (GRS) Component II plan in a special funding situation. For the purposes of measuring the net pension liability, deferred outflows, and pension expense, information about the fiduciary net position of the Component II plan of the GRS and additions to/ deductions from the plan's net position have been determined on the same basis as they are reported by GRS. The GRS combined plan uses the economic resources measurement focus and the full accrual basis of accounting. Revenue is recorded when earned and expenses are recorded when a liability is incurred. Plan member contributions are recognized in the period in which the contributions are due. Benefits are recognized when due and payable in accordance with the terms of the plan. Investments are reported at fair value or estimated fair value. Refer to Note 18 for additional information on the net pension liability.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)

Deferred Inflows of Resources

In addition to liabilities, the statement of net position includes a separate section for deferred inflows of resources. This separate financial statement element represents an acquisition of net position that applies to future periods. At that time, the activity will be recognized as an inflow of resources (or revenues). The Authority has included the deferred amounts on swap terminations, deferred gain on refunding and pension inflows in this reporting category. The deferred amounts on swap terminations were assumed as part of the regional system lease agreements with the City. The amounts will be fully amortized for both funds by fiscal 2035. Deferred gain on refunding results from the difference in the carrying value of refunded debt and its reacquisition price; these amounts are deferred and amortized over the shorter of the life of the refunded or refunding debt. Deferred pension inflows result when there is a change in total pension liability due to benefit changes, differences between expected and actual experience, changes in actuarial assumptions, or differences between expected and actual investment returns. The amount for the changes in actuarial assumptions is deferred and amortized over the estimated remaining service life. The amount for the difference between actual and projected assumptions in investment earnings is deferred and amortized over five years.

Net Position

Net position, which represents the difference between assets, deferred outflows of resources, liabilities and deferred inflows of resources, is reported in three components as follows:

Net Investment in Capital Assets - consists of capital assets, net of accumulated depreciation and reduced by the balance of outstanding related debt including the share of the regional system lease liability allocable to the net investment in capital assets acquisition value of the regional systems recorded under GASB 69.

Restricted – consists of amounts that are legally restricted by outside parties or by law through constitutional provisions or enabling legislation. The net position consists of restricted assets reduced by liabilities related to those assets.

Unrestricted – is the residual balance of net position after net investment in capital assets and restricted.

When both restricted and unrestricted resources are available for use, generally it is the Authority's policy to use restricted resources first and then unrestricted resources when they are needed.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION (cont.)

Classification of Revenues and Expenses

The Authority classifies its revenues and expenses as either operating or nonoperating.

Operating revenues are those revenues generated from providing services in connection with the Authority's principal ongoing operations. The principal operating revenues of the Authority are wholesale charges for providing water and wastewater treatment. The local system charges are the wholesale charges to the City of Detroit under the Water and Sewer Services Agreement (WSSA), dated June 12, 2015. Wholesale customer charges are shown net of bad debt expense of \$1,233,931 for the Water Fund and \$2,181,140 for the Sewage Disposal Fund.

Operating expenses include the direct costs of operating the water and sewage disposal systems, centralized support, utilities, administrative expenses and depreciation on capital assets. Costs related to shared facilities and personnel are allocated to the Water and Sewage Disposal Funds on a basis that relates costs incurred to the system benefited. By agreement, the Authority provides shared services to DWSD, which are shown as a reduction to operating expenses.

All revenue and expenses not meeting these definitions above are reported as nonoperating revenues and expenses.

Capital Adjustment

As part of the Authority's capital improvement program the Authority incurs costs to design capital improvement projects. Periodically, the actual construction project may not be completed due to changes in plans or environmental requirements. Once it has been determined that construction will not proceed related costs are charged to the capital adjustment operating expense, including any costs previously recorded in construction in progress.

Taxes

The Authority pays no direct federal, state or local taxes, except local taxes on excess property and federal Social Security and Medicare taxes.

Interest Income on Loan and Obligations Receivable

Interest income is the interest earned on the loan receivable and the contractual obligation receivable.

Amortization of Debt Related Items and Cost of Issuance

Bond premiums, discounts, and gains or losses on refunding are deferred and amortized over the life of the bonds. Bond premiums, discounts and GASB 69 debt value adjustment are amortized using the effective interest method. The deferred amounts on refunding are amortized using the straight-line method. Debt cost of issuance is expensed when incurred.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION (cont.)

Legacy Pension Expense

GLWA is legally responsible for making substantial contributions to a legacy pension plan of another entity, see Note 18 for additional information on this Plan.

Centralized Services and Administrative Services

Various common costs incurred by the Authority are allocated between the Water and Sewage Disposal Funds. The allocations are based on an annual cost allocation analysis and may change from year to year based upon that analysis. The following table shows the allocation of these common costs for the year ended June 30, 2019:

Common Costs	Water % Allocation	Water Allocation	Sewer % Allocation	Sewer Allocation	Total Common Costs
Centralized services	43.3%	\$ 35,961,327	56.7%	\$ 47,102,279	\$ 83,063,606
Administrative services	50.0%	12,559,593	50.0%	12,559,594	25,119,187

Centralized services includes security, systems operations control, field engineering and service operations, facilities and fleet operations, information technology, planning, asset management, energy management, and system analytics service costs.

Administrative services includes executive, public affairs, general counsel, organizational development, risk management, finance, procurement, and other service costs.

Use of Estimates

The preparation of basic financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the basic financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Effect of New Accounting Standards on Current Period Financial Statements

GASB Statement No. 83, *Certain Asset Retirement Obligations* and Statement No. 88, *Certain Disclosures Related to Debt, including direct borrowings and Direct Placements* became effective for years beginning after June 15, 2018. Both of these have been implemented during the fiscal year.

GASB has approved GASB Statement No. 84, *Fiduciary Activities*, Statement No. 87, *Leases*, Statement No. 90, *Majority Equity Interests – an amendment of GASB Statement No. 14 and No. 61*, and Statement No. 91, *Conduit Debt Obligations*. When they become effective, application of these standards may restate portions of these financial statements.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION (cont.)

Reclassifications

Certain prior year amounts have been reclassified to conform with current year presentation.

NOTE 2 – BUDGETARY INFORMATION

The financial activity of the Authority is presented in two enterprise funds, which are not required under State statutes to adopt appropriated budgets. Budget to actual schedules for revenues and expenses are presented in the other information section of this report. This schedule is not required by GAAP or subject to audit procedures. It is presented strictly for informational purposes.

BUDGET PROCESS

GLWA adopts a biennial budget for the regional water and sewage disposal systems as required by its Articles of Incorporation. The revenue requirements budget is adopted separately for the water and sewerage disposal systems. It is the sum of: a) operation and maintenance expenses; b) amounts necessary to pay the principal of and interest on all bonds and to fund any reserves required by the Master Bond Ordinance; c) the lease payment, which shall be a common-to-all charge; d) GLWA's portion of the GRS net pension liability and the B&C obligation payable; e) the required deposit to the Water Residential Assistance Program (WRAP) Fund, which shall be a common-to-all charge equal to 0.5% of the base budgeted operating revenues for the regional water and sewage disposal systems for each fiscal year; f) the amounts needed to make the required deposits to the regional Extraordinary Repair and Replacement Reserve Fund and the regional Improvement and Extension Fund as defined in the Master Bond Ordinance; and g) the amount necessary to satisfy the coverage ratios required by the rate covenant in the Master Bond Ordinance.

As provided in the Regional System leases, through the fiscal year ending June 30, 2025, the water and sewage disposal systems are limited to annual increases in the regional revenue requirement of not more than 4%. This limitation shall not be applicable, however, if the regional revenue requirement must increase beyond the 4% assumption in order to satisfy the rate covenant or to pay the cost of improvements to the leased water and/or sewage disposal facilities that are required to be made by applicable laws.

In the Regional System leases, the City acknowledges that all local water and sewer system revenues received from customers in the City are the property of GLWA and will be deposited as received in the Receiving Fund as defined in the Master Bond Ordinance and applied as provided in the Bond Ordinance. As a result, the City agrees to provide the Authority with a budget for the local water and sewage disposal system as provided in the Water and Sewer Services Agreement.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 2 – BUDGETARY INFORMATION (cont.)

SCHEDULE OF CHARGES PROCESS

The GLWA Wholesale Customer Model Water Contract and GLWA Wholesale Customer Model Sewer Contract requires that GLWA provide wholesale customers with written notice of a proposed charge, meet to review the proposed charge, and the underlying data used to calculate the charge not less than 30 calendar days prior to a public hearing. Further, the contract requires that a public hearing be held no less than 120 days prior to the date that a proposed charges take effect.

The Water and Sewer Services Agreement between GLWA and DWSD requires that GLWA provides the City with written notice of the proposed charge and the underlying data used to calculate the charge not less than 120 calendar days prior to the effective date of any new charge.

NOTE 3 – CASH DEPOSITS AND INVESTMENTS

The deposits and investments of the Authority at June 30, 2019 are reported in the basic financial statements as follows:

	Water Fund	Sewage Disposal Fund	Total
Statement of Net Position			
Cash and cash equivalents	\$ 148,643,793	\$ 160,371,766	\$ 309,015,559
Restricted cash and cash equivalents	68,564,311	95,931,528	164,495,839
Restricted cash for the benefit of DWSD	2,690,397	627,919	3,318,316
Investments	198,561,135	75,685,362	274,246,497
Restricted investments	1,468,148	33,384,445	34,852,593
Noncurrent restricted cash and cash equivalents	32,154,262	62,030,778	94,185,040
Noncurrent restricted investments	77,075,423	73,903,089	150,978,512
	<u>\$ 529,157,469</u>	<u>\$ 501,934,887</u>	<u>\$ 1,031,092,356</u>
Cash Deposits and Investments			
Bank deposits – checking and savings accounts	\$ 77,301,325	\$ 77,696,814	\$ 154,998,139
Money market accounts	174,751,438	241,265,177	416,016,615
Investments in securities	277,104,706	182,972,896	460,077,602
	<u>\$ 529,157,469</u>	<u>\$ 501,934,887</u>	<u>\$ 1,031,092,356</u>

CUSTODIAL CREDIT RISK – DEPOSITS AND MONEY MARKET ACCOUNTS

Deposits and money market accounts are exposed to custodial credit risk if they are not covered by depository insurance. At year-end, the carrying amount of the Authority's deposits and money market accounts was \$252,052,763 for the Water Fund and \$318,961,991 for the Sewage Disposal Fund. The bank balance of the Water Fund deposits and money markets was \$258,592,087 of which \$193,390,625 was uninsured and uncollateralized. The bank balance of the Sewage Disposal Fund deposits and money markets was \$318,257,839 of which \$251,099,839 was uninsured and uncollateralized.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 3 – CASH DEPOSITS AND INVESTMENTS (cont.)

CUSTODIAL CREDIT RISK – DEPOSITS AND MONEY MARKET ACCOUNTS (cont.)

In accordance with the Authority's investment policy and State law, all deposits are held in the Authority's name, and evidenced by a safekeeping receipt. Also, due to the dollar amounts of cash deposits and the limits of FDIC insurance, the Authority believes it is impractical to insure all bank deposits. As a result, the Authority evaluates each financial institution and assesses the level of risk of each institution; only those institutions with an acceptable estimated risk level are used as depositories.

CUSTODIAL CREDIT RISK – INVESTMENTS

Following is a summary of the Authority's investments as of June 30, 2019:

	Water Fund	Sewage Disposal Fund	Total
U.S. treasury notes	\$ 180,884,382	\$ 106,695,967	\$ 287,580,349
U.S. government agencies	85,335,431	33,321,262	118,656,693
Commercial paper	10,884,893	42,955,667	53,840,560
Total	<u>\$ 277,104,706</u>	<u>\$ 182,972,896</u>	<u>\$ 460,077,602</u>

Investments are exposed to custodial credit risk if the securities are uninsured, unregistered or held by a counterparty or its agent but not in the government's name. In accordance with the Authority's investment policy, all investments are held in the name of the Authority and are evidenced by a safekeeping receipt confirmation, and thus not exposed to custodial credit risk.

CREDIT RISK

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The Authority's investment policy and State law require that commercial paper be rated in the top two ratings by at least two nationally recognized statistical rating organizations.

As of June 30, 2019, all of the Authority's investments in securities of U.S. agencies were rated AA+ by Standard & Poor's and Aaa by Moody's. The Authority's commercial paper was rated A1 by Standard and Poor's and P1 by Moody's. U.S treasury notes are explicitly guaranteed by the U.S. government and not considered to have credit risk. The Authority's money market accounts were not rated.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 3 – CASH DEPOSITS AND INVESTMENTS (cont.)

CONCENTRATION OF CREDIT RISK

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. The Authority's investment policy requires diversification by security type and institution, but does not place a fixed percentage limit for any one issuer.

At June 30, 2019, the Authority had greater than 5% of its total investment portfolio concentrated as follows:

Investment Type	Issuer	% of Portfolio
Water Fund		
U.S. government agencies	Federal Home Loan Bank	6.77%
U.S. government agencies	Federal National Mortgage Association	11.05%
U.S. government agencies	Federal Home Loan Mortgage Company	12.97%
Sewage Disposal Fund		
U.S. government agencies	Federal National Mortgage Association	8.06%
U.S. government agencies	Federal Home Loan Mortgage Company	8.01%
Commercial paper	MUFG Bank New York	10.16%

INTEREST RATE RISK

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of investments. The Authority's investment policy does not limit investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

As of June 30, 2019, the Authority's fixed income investments had the following maturities:

	< 1 Year	1-5 Years	Total
Water Fund			
U.S. treasury notes	\$ 129,722,994	\$ 51,161,388	\$ 180,884,382
U.S. government agencies	37,265,542	48,069,889	85,335,431
Commercial paper	10,884,893	-	10,884,893
Total	<u>\$ 177,873,429</u>	<u>\$ 99,231,277</u>	<u>\$ 277,104,706</u>
Sewage Disposal Fund			
U.S. treasury notes	\$ 80,298,633	\$ 26,397,334	\$ 106,695,967
U.S. government agencies	15,135,364	18,185,898	33,321,262
Commercial paper	42,955,667	-	42,955,667
Total	<u>\$ 138,389,664</u>	<u>\$ 44,583,232</u>	<u>\$ 182,972,896</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 3 – CASH DEPOSITS AND INVESTMENTS (cont.)

FAIR VALUE MEASUREMENTS

The Authority categorizes investments measured at fair value within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the assets. Level 1 inputs are quoted at prices in active markets for identical assets; Level 2 inputs are observable for the asset or liability, such as interest rates and yield curves observable at commonly quoted intervals; and Level 3 inputs are unobservable in the market and are the least reliable. The Authority had the following fair value measurements as of June 30, 2019:

	Level 1	Level 2	Total
Water Fund			
Investments by fair value level:			
U.S. treasury notes	\$ 180,884,382	\$ -	\$ 180,884,382
U.S. government agencies	-	85,335,431	85,335,431
Commercial paper	-	10,884,893	10,884,893
Total	<u>\$ 180,884,382</u>	<u>\$ 96,220,324</u>	<u>\$ 277,104,706</u>
Sewage Disposal Fund			
Investments by fair value level:			
U.S. treasury notes	\$ 106,695,967	\$ -	\$ 106,695,967
U.S. government agencies	-	33,321,262	33,321,262
Commercial paper	-	42,955,667	42,955,667
Total	<u>\$ 106,695,967</u>	<u>\$ 76,276,929</u>	<u>\$ 182,972,896</u>

The fair value of U.S. treasury and U.S. government agencies at June 30, 2019 was based primarily on Level 2 inputs. The Authority estimates the fair value of these securities using other inputs such as interest rates and yield curves, which are observable at commonly quoted intervals.

The Authority has investments in commercial paper that meets the criteria to be valued at amortized cost at June 30, 2019.

The Authority has no Level 3 inputs at June 30, 2019.

NOTE 4 – RECEIVABLES

The following is a summary of the net receivables as of June 30, 2019:

	Water Fund	Sewage Disposal Fund	Total
Receivables, net:			
Billed	\$ 38,336,701	\$ 60,549,471	\$ 98,886,172
Unbilled	26,144,348	24,297,140	50,441,488
Other	916,074	221,452	1,137,526
Subtotal	65,397,123	85,068,063	150,465,186
Allowance for doubtful accounts	<u>(7,455,747)</u>	<u>(34,802,168)</u>	<u>(42,257,915)</u>
Total	<u>\$ 57,941,376</u>	<u>\$ 50,265,895</u>	<u>\$ 108,207,271</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 5 – RESTRICTED ASSETS

Restricted assets, comprised of cash and investments, are available for debt service on revenue bonds and to provide funds for improvements, enlargements, extensions and construction. In accordance with the provisions of the Master Bond Ordinance and Regional System Leases, the Authority follows a sequential flow of funds in segregated accounts through which revenue receipts are deposited and are maintained at certain levels in satisfaction of all legal requirements.

The following schedules provide, in the order of the flow of funds per the Master Bond Ordinance, the assignment of Water and Sewage Disposal Funds cash and investments between restricted and unrestricted assets based on the source of the monies as of June 30, 2019.

	Funded from Revenue and Other		Funded from Debt Issuance	
	Unrestricted	Restricted	Restricted	Total
Water Fund				
Receiving fund	\$ 34,865,219*	\$ -	\$ -	\$ 34,865,219
Operations and maintenance	20,055,850	10,289,450**	-	30,345,300
Senior lien debt service	-	26,694,004	-	26,694,004
Senior lien bond reserve	-	-	122,941,685	122,941,685
Second and junior lien debt service	-	23,371,892	-	23,371,892
Second and junior lien debt reserve	-	-	50,926,122	50,926,122
Pension obligation	-	399,274	-	399,274
Water residential assistance program (WRAP)	-	4,174,823	-	4,174,823
Budget stabilization	-	2,009,454	-	2,009,454
Extraordinary repair and replacement	27,698,977	-	-	27,698,977
Improvement and extension – regional	264,584,882	-	-	264,584,882
Subtotal – Reserves Defined by Ordinance	347,204,928	66,938,897	173,867,807	588,011,632
Less: Funded by surety (noncash)	-	-	(153,876,443)	(153,876,443)
Total – Reserves Defined by Ordinance (net of surety coverage)	347,204,928	66,938,897	19,991,364	434,135,189
Cash held for the benefit of DWSD	-	2,690,397	-	2,690,397
Unspent construction bond proceeds	-	9,277,840***	83,054,043	92,331,883
Total Cash, Cash Equivalents and Investments	<u>\$ 347,204,928</u>	<u>\$ 78,907,134</u>	<u>\$ 103,045,407</u>	<u>\$ 529,157,469</u>

*Balance for July 1, 2019 required transfers

**Construction retainage and deposits

*** Amount for current liabilities related to construction funds

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 5 – RESTRICTED ASSETS (cont.)

	Funded from Revenue and Other		Funded from Debt Issuance	
	Unrestricted	Restricted	Restricted	Total
Sewage Disposal Fund				
Receiving fund	\$ 44,656,229*	\$ -	\$ -	\$ 44,656,229
Operations and maintenance	50,441,139	10,277,436**	-	60,718,575
Senior lien debt service	-	66,147,036	-	66,147,036
Senior lien bond reserve	-	-	128,570,253	128,570,253
Second and junior lien debt service	-	39,842,744	-	39,842,744
Second and junior lien debt reserve	-	-	74,210,746	74,210,746
Pension obligation	-	614,746	-	614,746
Water residential assistance program (WRAP)	-	5,423,176	-	5,423,176
Budget stabilization	-	5,525,914	-	5,525,914
Extraordinary repair and replacement	44,311,080	-	-	44,311,080
Improvement and extension – regional	96,648,680	-	-	96,648,680
Subtotal – Reserves Defined by Ordinance	236,057,128	127,831,052	202,780,999	566,669,179
Less: Funded by surety (noncash)	-	-	(147,393,918)	(147,393,918)
Total – Reserves Defined by Ordinance (net of surety coverage)	236,057,128	127,831,052	55,387,081	419,275,261
Cash held for the benefit of DWSD	-	627,919	-	627,919
Unspent construction bond proceeds	-	12,434,013***	69,597,694	82,031,707
Total Cash, Cash Equivalents and Investments	236,057,128	140,892,984	124,984,775	501,934,887
Total Cash, Cash Equivalents and Investments – Business-type Activities	\$ 583,262,056	\$ 219,800,118	\$ 228,030,182	\$ 1,031,092,356

*Balance for July 1, 2019 required transfers

**Construction retainage and deposits

*** Amount for current liabilities related to construction funds

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 5 – RESTRICTED ASSETS (cont.)

A reconciliation of restricted assets to restricted net position is as follows:

	Water Fund	Sewage Disposal Fund	Total Business-type Activities
Restricted assets from schedule above:			
From revenue and other	\$ 78,907,134	\$ 140,892,984	\$ 219,800,118
From debt issuance	103,045,407	124,984,775	228,030,182
Amounts payable to liabilities and debt	<u>(148,851,090)</u>	<u>(144,000,006)</u>	<u>(292,851,096)</u>
 Restricted Net Position	 <u>\$ 33,101,451</u>	 <u>\$ 121,877,753</u>	 <u>\$ 154,979,204</u>
 Restricted net position for:			
Debt service	\$ 29,731,576	\$ 117,246,259	\$ 146,977,835
Payment assistance program	<u>3,369,875</u>	<u>4,631,494</u>	<u>8,001,369</u>
 Total	 <u>\$ 33,101,451</u>	 <u>\$ 121,877,753</u>	 <u>\$ 154,979,204</u>

The following summary reconciles the above cash and investment balances with the balances per the Statement of Net Position. The allocation of restricted balances to current and noncurrent categories is not intended to directly align with the funding source allocation included in the schedule.

	Unrestricted	Restricted Current	Restricted Noncurrent	Total
Water Fund				
Cash and cash equivalents	\$ 148,643,793	\$ 68,564,311	\$ 32,154,262	\$ 249,362,366
Cash held for the benefit of DWSD	-	2,690,397	-	2,690,397
Investments	<u>198,561,135</u>	<u>1,468,148</u>	<u>77,075,423</u>	<u>277,104,706</u>
	<u>347,204,928</u>	<u>72,722,856</u>	<u>109,229,685</u>	<u>529,157,469</u>
 Sewage Disposal Fund				
Cash and cash equivalents	160,371,766	95,931,528	62,030,778	318,334,072
Cash held for the benefit of DWSD	-	627,919	-	627,919
Investments	<u>75,685,362</u>	<u>33,384,445</u>	<u>73,903,089</u>	<u>182,972,896</u>
	<u>236,057,128</u>	<u>129,943,892</u>	<u>135,933,867</u>	<u>501,934,887</u>
 Total	 <u>\$ 583,262,056</u>	 <u>\$ 202,666,748</u>	 <u>\$ 245,163,552</u>	 <u>\$ 1,031,092,356</u>

Surety coverage includes series specific policies; therefore, this represents the lesser of the maximum amount of the policy or amount of reserve requirement allocated to the specific series covered by such policy.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 6 – DUE FROM OTHER GOVERNMENTS

Due from other governments, which consists entirely of amounts due from DWSD, in the statement of net position are as follows:

	Water Fund	Sewage Disposal Fund
Billed shared services	\$ 27,943,152	\$ 179,585
Unbilled shared services	2,038,618	-
Accrued interest on obligation receivable	81,801	-
Total	<u>\$ 30,063,571</u>	<u>\$ 179,585</u>

NOTE 7 – LOAN RECEIVABLE – DWSD

Under the terms of the WSSA and the 2018 MOU, if DWSD experiences a cumulative negative variance of more than two percent (2%) of the total budget for either local system (a budget shortfall) from its adopted budget, DWSD, as the agent of GLWA, shall, within thirty (30) days thereafter, schedule a meeting of the Reconciliation Committee to discuss a remedy for the shortfall.

In accordance with the 2018 MOU, budget shortfalls not cured by the end of the fiscal year following the year in which they arise shall be repaid in full, in installments, over a period not to exceed the next three fiscal years, plus a surcharge calculated as provided below, as part of the revenue requirement payable by DWSD. The surcharge factor on the portion of the budget shortfall for the Sewage Disposal Fund which remains unpaid shall be based on the three-year U.S. treasury note rate plus 150 basis points. The combined 2016 and 2017 budget shortfall and the 2018 budget shortfall had remaining balances of \$19,932,645 and \$24,133,034, respectively. The surcharge factor for the combined 2016 and 2017 budget shortfall and the 2018 budget shortfall were 4.125% and 3.209%, respectively.

Budget shortfall loan receivable to be paid by DWSD is as follows:

Year Ended June 30,	2017 DWSD Loan Receivable		
	Principal	Interest	Total
2020	\$ 9,761,148	\$ 639,047	\$ 10,400,195
2021	10,171,497	228,699	10,400,196
Total	<u>\$ 19,932,645</u>	<u>\$ 867,746</u>	<u>\$ 20,800,391</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 7 – LOAN RECEIVABLE – DWSD (cont.)

<u>Year Ended June 30,</u>	2018 DWSD Loan Receivable		
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$ 7,781,521	\$ 660,000	\$ 8,441,521
2021	8,034,935	406,585	8,441,520
2022	8,296,578	144,918	8,441,496
Total	<u>\$ 24,113,034</u>	<u>\$ 1,211,503</u>	<u>\$ 25,324,537</u>

Total loan receivable to be paid by DWSD for 2016, 2017 and 2018 budget shortfalls:

<u>Year Ended June 30,</u>	Total DWSD Loan Receivable		
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$ 17,542,669	\$ 1,299,047	\$ 18,841,716
2021	18,206,432	635,284	18,841,716
2022	8,296,578	144,918	8,441,496
Total	<u>\$ 44,045,679</u>	<u>\$ 2,079,249</u>	<u>\$ 46,124,928</u>

NOTE 8 – INTERFUND RECEIVABLES AND PAYABLES

Interfund balances result from the time lag between the dates interfund goods and services are provided or reimbursable expenditures occur and the payment between funds are made. Interfund balances for the year ended June 30, 2019 consisted of the following:

	<u>Water Fund - Due from Sewage Disposal Fund</u>	<u>Sewage Disposal Fund - Due from Water Fund</u>	<u>Total Due to - Due from</u>
Water Fund - Due to Sewage Disposal Fund	\$ -	\$ 12,568	\$ 12,568
Sewage Disposal Fund - Due to Water Fund	2,876,954	-	2,876,954
Total	<u>\$ 2,876,954</u>	<u>\$ 12,568</u>	<u>\$ 2,889,522</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 9 – CAPITAL ASSETS

Capital assets activity for the year ended June 30, 2019 was as follows:

	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
Water Fund					
Nondepreciable capital assets					
Land	\$ 34,166,736	\$ -	\$ -	\$ -	\$ 34,166,736
Easements	258,632,397	-	-	-	258,632,397
Construction in progress	141,885,762	61,531,868	-	(28,386,545)	175,031,085
Total Nondepreciable Assets	434,684,895	61,531,868	-	(28,386,545)	467,830,218
Depreciated capital assets					
Site improvements	72,997,639	1,945,597	(87,702)	285,257	75,140,791
Buildings and structures	565,935,211	16,510	(11,076)	4,884,421	570,825,066
Infrastructure	608,034,346	-	-	17,913,633	625,947,979
Machinery and equipment	608,518,357	2,637,142	(1,511,144)	5,272,353	614,916,708
Vehicles	2,204,434	143,393	-	-	2,347,827
Leasehold improvements	272,983	195,620	-	30,881	499,484
Total Depreciable Assets	1,857,962,970	4,938,262	(1,609,922)	28,386,545	1,889,677,855
Less: Accumulated depreciation					
Site improvements	(22,878,426)	(8,943,257)	32,482	-	(31,789,201)
Buildings and structures	(88,557,341)	(30,951,600)	11,071	-	(119,497,870)
Infrastructure	(94,336,258)	(38,046,908)	-	-	(132,383,166)
Machinery and equipment	(151,955,265)	(62,312,661)	459,424	-	(213,808,502)
Vehicles	(1,110,622)	(297,608)	-	-	(1,408,230)
Leasehold improvements	(6,365)	(19,086)	-	-	(25,451)
Total Accumulated Depreciation	(358,844,277)	(140,571,120)	502,977	-	(498,912,420)
Total Capital Assets Being Depreciated, Net	1,499,118,693	(135,632,858)	(1,106,945)	-	1,390,765,435
Intangible asset – raw water rights	106,999,919	-	-	-	106,999,919
Less: Accumulated amortization	(2,080,554)	(3,566,664)	-	-	(5,647,218)
Total Intangible Assets, Net	104,919,365	(3,566,664)	-	-	101,352,701
Water Fund Net Capital and Intangible Assets	\$ 2,038,722,953	\$ (77,667,654)	\$ (1,106,945)	\$ -	\$ 1,959,948,354

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 9 – CAPITAL ASSETS (cont.)

	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
Sewage Disposal Fund					
Nondepreciable capital assets					
Land	\$ 28,984,633	\$ -	\$ (337,713)	\$ -	\$ 28,646,920
Easements	96,211,323	-	-	-	96,211,323
Construction in progress	146,166,144	82,133,524	-	(34,583,009)	193,716,659
Total Nondepreciable Assets	<u>271,362,100</u>	<u>82,133,524</u>	<u>(337,713)</u>	<u>(34,583,009)</u>	<u>318,574,902</u>
Depreciated capital assets					
Site improvements	38,584,812	442,585	(255,573)	848,883	39,620,707
Buildings and structures	1,133,361,703	667,783	(2,017,726)	6,598,959	1,138,610,722
Infrastructure	597,177,020	-	-	12,506,554	609,683,574
Machinery and equipment	1,170,781,940	6,528,267	(2,738,616)	13,470,909	1,188,042,500
Vehicles	2,328,916	269,001	(8,306)	-	2,589,611
Leasehold improvements	1,363,821	279,483	-	1,157,704	2,801,008
Total Depreciable Assets	<u>2,943,598,212</u>	<u>8,187,119</u>	<u>(5,020,218)</u>	<u>34,583,009</u>	<u>2,981,348,122</u>
Less: Accumulated depreciation					
Site improvements	(16,989,190)	(5,161,193)	175,704	-	(21,974,679)
Buildings and structures	(133,328,604)	(46,534,680)	579,179	-	(179,284,105)
Infrastructure	(34,521,589)	(13,687,577)	-	-	(48,209,166)
Machinery and equipment	(272,394,586)	(102,788,667)	1,951,452	-	(373,231,801)
Vehicles	(1,258,465)	(279,451)	8,306	-	(1,529,610)
Leasehold improvements	(7,606)	(92,802)	-	-	(100,408)
Total Accumulated Depreciation	<u>(458,500,040)</u>	<u>(168,544,370)</u>	<u>2,714,641</u>	<u>-</u>	<u>(624,329,769)</u>
Total Capital Assets Being Depreciated, Net	<u>2,485,098,172</u>	<u>(160,357,251)</u>	<u>(2,305,577)</u>	<u>-</u>	<u>2,357,018,353</u>
Sewage Disposal Fund Net Capital Assets	<u>\$ 2,756,460,272</u>	<u>\$ (78,223,727)</u>	<u>\$ (2,643,290)</u>	<u>\$ -</u>	<u>\$ 2,675,593,255</u>
Business-type Activities Capital and Intangible Assets, Net	<u>\$ 4,795,183,225</u>	<u>\$(155,891,381)</u>	<u>\$ (3,750,235)</u>	<u>\$ -</u>	<u>\$ 4,635,541,609</u>

ASSET IMPAIRMENT

Capital assets are evaluated annually to determine if any asset impairments exist, defined as a significant, unexpected decline in the service utility of a capital asset. The Authority recorded impairments of \$670,137 in the Water Fund and \$355,204 in the Sewage Disposal Fund, for a total of \$1,025,341 of impairments.

As part of the Authority's capital improvement program the Authority incurs costs to design capital improvement projects. Periodically the actual construction project may not be completed due to changes in plans or environmental requirements. Once it has been determined that construction will not proceed related costs are charged to the capital adjustment operating expense, including any costs previously recorded in construction in progress. The Authority recorded capital adjustments of \$2,258,351 in the Sewage Disposal Fund for the year ended June 30, 2019.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 9 – CAPITAL ASSETS (cont.)

RAW WATER RIGHTS ASSET

Effective December 1, 2017, the Authority, the City of Flint, Karegnondi Water Authority (KWA), Genesee County Drain Commission (GCDC) and State of Michigan entered into a long-term partnership agreement to satisfy a number of critical water service needs across the region. Key provisions of a master agreement includes: 1) a 30-year water service contract with the City of Flint that establishes the Authority as the long-term water source for the City of Flint and credits the City of Flint for its debt service payment obligations on existing KWA bonds for the building of its raw water intake and supply line; 2) a long-term lease to the Authority of the 72-inch line serving the City of Flint; and 3) a 30-year contract for reciprocal, emergency water services between the Authority and GCDC.

The 30-year water service contract with the City of Flint includes a license to raw water rights on 17.46 MGD of the 18 MGD purchased by Flint as part of KWA bond obligation. These license rights constitute an intangible asset under governmental accounting standards. Therefore, the Authority has recorded an intangible asset and purchase obligation liability of approximately \$107 million associated with this agreement in the accompanying financial statements. The Authority is amortizing the intangible asset over 30 years. As the City of Flint satisfies its monthly bond payment obligations to KWA, the Authority credits Flint's water invoice for that payment and reduces the Authority's purchase obligation. This process will continue each year over the 30-year life of the asset.

NOTE 10 – OTHER ACCRUED LIABILITIES

As described in Note 1, other accrued liabilities in the statement of net position are as follows:

	Water Fund	Sewage Disposal Fund
<u>Current</u>		
Cash held for the benefit of DWSD	\$ 2,690,398	\$ 627,919
Customer deposit	3,791,272	-
Total	<u>\$ 6,481,670</u>	<u>\$ 627,919</u>
<u>Noncurrent</u>		
Cash held for the benefit of DWSD budget stabilization	\$ 2,000,000	\$ 5,500,000
DWSD local system WRAP	804,949	791,681
Total	<u>\$ 2,804,949</u>	<u>\$ 6,291,681</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 11 – DUE TO OTHER GOVERNMENTS

Due to other governments, which consists entirely of amounts due to the DWSD, in the statement of net position is as follows:

	Water Fund	Sewage Disposal Fund
Shared services	\$ 15,963,934	\$ -

NOTE 12 – LONG-TERM DEBT

Changes in long-term debt and accrued compensated absences for the year ended June 30, 2019 were as follows:

	Beginning Balance	Increase	Decrease*	Debt Forgiveness	Ending Balance	Due Within One Year
Water Fund						
Revenue bonds	\$ 2,284,825,000	\$ 155,595,000	\$ (220,100,000)	\$ -	\$ 2,220,320,000	\$ 10,205,000
State revolving loan	25,435,902	6,285,121	(1,775,000)	(85,221)	29,860,802	1,930,000
Total Installment Debt	2,310,260,902	161,880,121	(221,875,000)	(85,221)	2,250,180,802	12,135,000
Deferred amounts for:						
Unamortized premiums	268,572,987	19,731,395	(31,514,167)	-	256,790,215	18,519,264
Unamortized discounts	(12,734,791)	-	2,185,668	-	(10,549,123)	(1,586,000)
Total Debt, Net	2,566,099,098	181,611,516	(251,203,499)	(85,221)	2,496,421,894	29,068,264
Obligation payable	17,265,503	-	(167,794)	-	17,097,709	176,183
Compensated absences	4,386,832	3,287,950	(3,194,299)	-	4,480,483	2,430,828
Total Water Fund	\$ 2,587,751,433	\$ 184,899,466	\$ (254,565,592)	\$ (85,221)	\$ 2,518,000,086	\$ 31,675,275

* Of the \$220,100,000 decrease in the revenue bonds, \$178,735,000 relates to refundings. Of the \$31,514,167 decrease in unamortized premiums, \$12,709,616 relates to refundings.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

	Beginning Balance	Increase	Decrease*	Debt Forgiveness	Ending Balance	Due Within One Year
Sewage Disposal Fund						
Revenue bonds	\$ 2,584,065,000	\$ 257,465,000	\$(237,140,000)	\$ -	\$ 2,604,390,000	\$ 29,415,000
Capital appreciation bonds	17,250,000	-	(2,470,000)	-	14,780,000	3,445,000
State revolving loan	475,677,540	45,258,446	(46,758,858)	-	474,177,128	49,675,000
Total Installment Debt	3,076,992,540	302,723,446	(286,368,858)	-	3,093,347,128	82,535,000
Discount on capital appreciation bonds	(2,265,958)	-	863,930	-	(1,402,028)	(734,587)
Deferred amounts for:						
Unamortized premiums	254,859,637	32,322,120	(38,629,898)	-	248,551,859	16,926,225
Unamortized discounts	(99,833,984)	-	11,089,040	-	(88,744,944)	(10,368,976)
Total Debt, Net	3,229,752,235	335,045,566	(313,045,786)	-	3,251,752,015	88,357,662
Obligation payable	38,835,597	-	(377,420)	-	38,458,177	396,291
Compensated absences	717,086	1,666,278	(1,626,036)	-	757,328	757,328
Total Sewage Disposal Fund	3,269,304,918	336,711,844	(315,049,242)	-	3,290,967,520	89,511,281
Total Business-type Activities	\$ 5,857,056,351	\$ 521,611,310	\$(569,614,834)	\$ (85,221)	\$ 5,808,967,606	\$ 121,362,739

* Of the \$237,140,000 decrease in the revenue bonds, \$207,690,000 relates to refundings. Of the \$38,629,898 decrease in unamortized premiums, \$22,504,960 relates to refundings.

As of June 30, 2019, aggregate debt service requirements of the Authority's debt (fixed and variable-rate) instruments were as follows. These amounts assume that current interest rates on variable-rate bonds will remain the same for their respective terms. As these rates vary, interest payments on variable-rate bonds will vary.

Year Ended June 30	Bonds		Notes from Direct Borrowings and Direct Placements		Total
	Principal	Interest	Principal	Interest	
Water Fund					
2020	\$ 10,205,000	\$ 93,644,692	\$ 1,930,000	\$ 676,354	\$ 106,456,046
2021	60,940,000	109,295,725	1,975,000	643,797	172,854,522
2022	68,125,000	106,069,100	2,020,000	599,528	176,813,628
2023	67,730,000	102,671,700	2,070,000	554,131	173,025,831
2024	75,250,000	99,092,600	2,110,000	507,731	176,960,331
2025 - 2029	437,205,000	433,302,944	7,928,761	1,877,381	880,314,086
2030 - 2034	569,940,000	308,796,063	2,975,000	1,345,879	883,056,942
2035 - 2039	481,875,000	166,050,556	3,365,000	956,566	652,247,122
2040 - 2044	290,780,000	74,025,625	3,773,543	516,004	369,095,172
2045 - 2048	158,270,000	12,127,500	1,713,498	105,829	172,216,827
Total	\$ 2,220,320,000	\$ 1,505,076,505	\$ 29,860,802	\$ 7,783,200	\$ 3,763,040,507

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

	Year Ended June 30	Bonds		Notes from Direct Borrowings and Direct Placements		Total
		Principal	Interest	Principal	Interest	
Sewage Disposal Fund						
2020	\$	32,860,000	\$ 101,793,611	\$ 49,675,000	\$ 10,488,897	\$ 194,817,508
2021		62,860,000	120,855,730	50,355,000	9,313,653	243,384,383
2022		64,825,000	117,986,033	47,150,000	8,179,578	238,140,611
2023		74,080,000	114,706,548	48,204,430	7,073,824	244,064,802
2024		77,635,000	111,058,537	38,930,000	6,057,758	233,681,295
2025 - 2029		539,930,000	487,257,781	137,589,058	19,614,532	1,184,391,371
2030 - 2034		711,365,000	349,392,760	78,256,580	7,734,041	1,146,748,381
2035 - 2039		745,045,000	165,795,419	24,017,060	832,427	935,689,906
2040 - 2044		254,345,000	37,506,012	-	-	291,851,012
2045 - 2049		56,225,000	3,848,375	-	-	60,073,375
Total		<u>\$ 2,619,170,000</u>	<u>\$ 1,610,200,806</u>	<u>\$ 474,177,128</u>	<u>\$ 69,294,710</u>	<u>\$ 4,772,842,644</u>

For bonds issued through the Michigan Finance Authority (MFA) in 2014 and 2015, the Authority is required to make payment on these obligations to the MFA depository account five business days prior to the actual due date of the bond principal and interest payments. Therefore, the payments for principal and interest due on July 1, 2019 are not included in the debt service requirements amounts above as they were paid on June 24, 2019.

REVENUE AND CAPITAL APPRECIATION BONDS PAYABLE

Net revenues of the Authority are pledged to repayment of bonds; following are the revenue bonds payable at June 30, 2019:

Issue	Bond Date	Original Issue Amount	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Water Fund						
Series 2003A	1/30/03	\$ 234,805,000	5.00%	7/01/34	\$ 100,000	c
Series 2003B	1/30/03	172,945,000	5.00%	7/01/34	100,000	c
Series 2005B	5/14/08	175,830,000	5.25%	7/01/35	100,000	c
Series 2006A	8/16/06	237,205,000	5.00%	7/01/34	100,000	c
Series 2006B	4/01/09	900,000	5.00%	7/01/19	100,000	
Series 2006B	4/01/09	119,100,000	6.25%	7/01/36	100,000	c
Series 2011A	12/22/11	37,880,000	5.00%	7/01/19-20	4,365,000	
Series 2011A	12/22/11	341,710,000	5.00-5.75%	7/01/27-41	289,605,000	c
Series 2011B	12/22/11	7,455,000	5.00%	7/01/19-21	1,655,000	
Series 2011B	12/22/11	9,740,000	6.00%	7/01/22-33	2,295,000	c
Series 2011C	12/22/11	3,925,000	5.00%	7/01/21	1,020,000	
Series 2011C	12/22/11	99,965,000	4.50-5.25%	7/01/23-41	74,125,000	c
Series 2014D-1	9/04/14	162,350,000	5.00%	7/01/19-23	145,685,000	
Series 2014D-1	9/04/14	44,190,000	5.00%	7/01/35-37	44,190,000	c
Series 2014D-2	9/04/14	51,530,000	5.00%	7/01/23-24	51,530,000	

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

REVENUE AND CAPITAL APPRECIATION BONDS PAYABLE (cont.)

Issue	Bond Date	Original Issue Amount	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Water Fund (cont.)						
Series 2014D-2	9/04/14	\$ 136,925,000	5.00%	7/01/25-28	\$ 136,925,000	c
Series 2014D-3	9/04/14	62,700,000	5.00%	7/01/20	1,390,000	
Series 2014D-4	9/04/14	209,360,000	5.00%	7/01/29-34	209,360,000	c
Series 2014D-6	9/04/14	21,735,000	5.00%	7/01/20-24	18,925,000	
Series 2014D-6	9/04/14	43,690,000	5.00%	7/01/25-36	43,690,000	c
Series 2015D-1	12/15/15	20,155,000	5.00%	7/01/20-22	15,050,000	
Series 2015D-1	12/15/15	69,275,000	5.00%	7/01/27-35	69,275,000	c
Series 2015D-2	12/15/15	37,235,000	5.00%	7/01/34	37,235,000	c
Series 2016A	10/27/16	30,000	5.00%	7/01/21-26	30,000	
Series 2016A	10/27/16	87,970,000	5.00%	7/01/27-46	87,970,000	c
Series 2016B	10/27/16	30,000	5.00%	7/01/21-26	30,000	
Series 2016B	10/27/16	163,800,000	5.00%	7/01/27-46	163,800,000	c
Series 2016C	10/27/16	76,245,000	5.00%	7/01/22-26	76,245,000	
Series 2016C	10/27/16	367,685,000	5.00-5.25%	7/01/27-35	367,685,000	c
Series 2016D	10/27/16	4,665,000	5.00%	7/01/24-26	4,665,000	
Series 2016D	10/27/16	217,380,000	4.00-5.00%	7/01/27-36	217,380,000	c
Series 2018A	10/3/18	155,595,000	5.00%	7/01/19-29	155,595,000	
Total Water Fund Revenue Bonds Payable					<u>2,220,320,000</u>	
Sewage Disposal Fund						
Series 1999A**	12/01/99	\$ 33,510,118	-	7/01/19-21	\$ 13,377,972	
Series 2001B	9/15/01	110,550,000	5.50%	7/01/23-29	78,895,000	
Series 2001C-1	6/17/09	6,360,000	5.25%	7/01/19	605,000	
Series 2003B	6/17/09	150,000,000	7.50%	7/01/33	100,000	c
Series 2004A	2/12/04	101,435,000	5.25%	7/01/19-24	35,010,000	
Series 2005A	3/17/05	237,805,000	4.50%	7/01/35	100,000	c
Series 2005A	3/17/05	31,785,000	5.00%	7/01/34-35	31,785,000	c
Series 2005B	3/17/05	40,125,000	5.50%	7/01/21-22	17,115,000	
Series 2005C	4/05/05	41,095,000	5.00%	7/01/25	100,000	c
Series 2006B	8/10/06	183,150,000	5.00%	7/01/36	100,000	c
Series 2006B	8/10/06	55,000,000	5.00%	7/01/34-36	55,000,000	c
Series 2006D	12/14/06	370,000,000	Variable(*)	7/01/26-32	239,475,000	c
Series 2012A	6/26/12	95,445,000	5.00%	7/01/19-22	57,380,000	
Series 2012A	6/26/12	564,335,000	5.00-5.50%	7/01/23-39	437,795,000	c
Series 2014C-1	9/04/14	20,000	5.00%	7/01/20-22	15,000	
Series 2014C-1	9/04/14	123,200,000	5.00%	7/01/23-44	123,200,000	c
Series 2014C-2	9/04/14	20,000	5.00%	7/01/20-22	15,000	
Series 2014C-2	9/04/14	27,450,000	5.00%	7/01/23-44	27,450,000	c
Series 2014C-3	9/04/14	142,600,000	5.00%	7/01/21-24	142,600,000	
Series 2014C-3	9/04/14	303,570,000	5.00%	7/01/25-33	303,570,000	c
Series 2014C-5	9/04/14	95,165,000	5.00%	7/01/20	18,620,000	
Series 2014C-6	9/04/14	88,900,000	5.00%	7/01/32-33	88,900,000	c
Series 2014C-7	9/04/14	32,650,000	5.00%	7/01/20-24	26,575,000	
Series 2014C-7	9/04/14	44,065,000	5.00%	7/01/25-36	44,065,000	c

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

REVENUE AND CAPITAL APPRECIATION BONDS PAYABLE (cont.)

Issue	Bond Date	Original Issue Amount	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Sewage Disposal Fund						
(cont.)						
Series 2015C	12/15/15	\$ 197,160,000	5.00%	7/01/26-35	\$ 197,160,000	c
Series 2016B	10/27/16	14,445,000	5.00%	7/01/24-26	14,445,000	
Series 2016B	10/27/16	111,660,000	5.00%	7/01/27-34	111,660,000	c
Series 2016C	10/27/16	295,190,000	4.00-5.00%	7/01/27-36	295,190,000	c
Series 2018A	10/03/18	14,555,000	3.00-5.00%	7/1/20-28	14,555,000	
Series 2018A	10/03/18	67,040,000	5.00%	7/1/29-48	67,040,000	c
Series 2018B	10/03/18	131,690,000	5.00%	7/1/24-49	131,690,000	
Series 2018C	10/03/18	44,180,000	3.152-3.613%	7/1/20-24	<u>44,180,000</u>	
Total Sewage Disposal Fund Revenue and Capital Appreciation Bonds Payable					<u>2,617,767,972</u>	
Total Business-type Activities					<u>\$ 4,838,087,972</u>	

Maturity dates reflect the final pricing of each series of bonds. Multiple maturity date ranges for a series of bonds differentiate between those bonds which are callable prior to maturity and those which are not callable prior to maturity.

* Interest rates are reset quarterly based upon a formula specified in the bond using the three month LIBOR rate.

** Bonds are capital appreciation bonds. The outstanding balance represents the discounted present value.

c Indicates bonds are callable under terms specified in the indenture; all other bonds are noncallable.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

REVENUE BONDS – PLEDGES OF FUTURE REVENUE

The Authority has pledged assets to secure the repayment of the revenue bonds and State of Michigan revolving fund loans. The Water System bonds and loans are paid solely from the net revenues of the Water System and the Sewer System bonds and loans are paid solely from the net revenues of the Sewer System. Net revenues are defined in the Great Lakes Water Authority Water and Sewer Master Bond Ordinances as all revenues except those transferred to the Operation and Maintenance funds. These revenues are further defined to include the revenues from the Retail Customers who are serviced under the Water and Sewer Services Agreement with the City of Detroit which are reported in the financial statements of the City of Detroit Water and Sewerage Department. The pledged revenues calculation for the fiscal year ending June 30, 2019 includes revenues reported by the Great Lakes Water Authority and the City of Detroit Water and Sewerage Department as this revenue is pledged for payment of the bonds and loans of the Great Lakes Water Authority.

The general purpose of the Water System debt is to provide funding for various water treatment and transmission capital improvements, refund certain water revenue bonds, pay termination amounts for interest rate swap agreements and fund reserve requirements. The general purpose of the Sewer System bonds is to provide funding for various wastewater treatment and collection activities, capital improvements, refund certain sewage disposal revenue bonds, pay termination amounts for interest rate swap agreements and fund reserve requirements. The term of pledge commitment for the water bonds is through 2048 and the sewage disposal bonds is through 2049.

See table below for pledged revenue coverage as of June 30, 2019:

	Water Fund	Sewage Disposal Fund
Remaining principal and interest requirement	\$ 3,763,040,507	\$ 4,772,842,644
Principal and interest funding requirement for the year ending June 30, 2019 (computed consistent with rate covenant basis for rate determination purposes. Not applicable for purpose of additional bond test)	\$ 167,966,455	\$ 239,172,263
Pledged revenue for the year ending June 30, 2019	\$ 242,758,638	\$ 305,584,160
Pledged revenue collected as a percentage of funding requirement	144.5%	127.8%

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

STATE REVOLVING LOANS PAYABLE

The Authority participates in direct borrowings through the State of Michigan Drinking Water Revolving fund (DWRF) to finance qualified water supply system projects and the Clean Water Revolving Fund (CWRF) to finance qualified sewage disposal system projects. Net revenues of the Authority are pledged to repayment of bonds. The following is a schedule of the state revolving loans payable at June 30, 2019:

Issue	Bond Date	Amount Issued	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance
Water Fund					
Series 2005 SRF-1	9/22/05	\$ 13,805,164	2.125%	10/01/19-26	\$ 6,025,164
Series 2005 SRF-2	9/22/05	8,891,730	2.125%	10/01/19-26	3,791,730
Series 2006 SRF-1	9/21/06	5,180,926	2.125%	10/01/19-26	2,240,926
Series 2008 SRF-1	9/29/08	2,590,941	2.50%	10/01/19-28	1,030,941
Series 2016 SRF-1	9/16/16	8,273,168	2.50%	4/01/20-48	8,053,168
Series 2016 SRF-2	9/16/16	3,393,543	2.50%	4/01/20-44	3,298,543
Series 2017 SRF-1	6/23/17	6,675,000	2.50%	10/1/19-44	5,420,330
Series 2019 SRF-1	6/7/19	8,330,000	2.00%	-	-
Total Water Fund State Revolving Loans Payable					<u>29,860,802</u>
Sewage Disposal Fund					
Series 1999 SRF-1	6/24/99	21,475,000	2.50%	4/01/20	1,340,000
Series 1999 SRF-2	9/30/99	46,000,000	2.50%	10/01/19-22	11,125,000
Series 1999 SRF-3	9/30/99	31,030,000	2.50%	10/01/19-20	3,850,000
Series 1999 SRF-4	9/30/99	40,655,000	2.50%	10/01/19-20	5,040,000
Series 2000 SRF-1	3/30/00	44,197,995	2.50%	10/01/19-22	9,847,995
Series 2000 SRF-2	9/28/00	64,401,066	2.50%	10/01/19-22	15,501,066
Series 2001 SRF-1	6/28/01	82,200,000	2.50%	10/01/19-24	29,095,000
Series 2001-SRF-2	12/20/01	59,850,000	2.50%	10/01/19-24	21,190,000
Series 2002 SRF-1	6/27/02	18,985,000	2.50%	4/01/20-23	4,585,000
Series 2002 SRF-2	6/27/02	1,545,369	2.50%	4/01/20-23	375,369
Series 2002 SRF-3	12/19/02	31,549,466	2.50%	10/01/19-24	10,289,466
Series-2003 SRF-1	6/26/03	48,520,000	2.50%	10/01/19-25	19,795,000
Series 2003 SRF-2	9/25/03	25,055,370	2.50%	4/01/20-25	8,810,370
Series-2004 SRF-1	6/24/04	2,910,000	2.125%	10/01/19-24	1,005,000
Series 2004 SRF-2	6/24/04	18,353,459	2.125%	4/01/20-25	6,318,459
Series 2004 SRF-3	6/24/04	12,722,575	2.125%	4/01/20-25	4,367,575
Series 2007 SRF-1	9/20/07	167,540,598	1.625%	10/01/19-29	98,800,598
Series 2009 SRF-1	4/17/09	13,970,062	2.50%	4/01/20-30	8,260,062
Series 2010 SRF-1	1/22/10	4,214,763	2.50%	4/01/20-31	2,730,763
Series 2012 SRF-1	8/30/12	14,950,000	2.50%	10/01/19-34	12,520,000
Series 2015A SRF	3/20/15	79,500,000	2.50%	4/01/20-36	69,930,000
Series 2015B SRF	3/20/15	27,175,304	2.50%	10/01/19-35	23,465,304
Series 2015D SRF	12/11/15	15,321,478	2.50%	10/01/19-35	12,981,478
Series 2016 SRF-1	9/16/16	19,305,000	2.50%	4/01/20-38	14,455,854
Series 2016 SRF-2	9/16/16	51,310,000	2.50%	4/01/20-33	32,840,157
Series 2016 SAW-1	5/25/16	10,000,000	2.50%	10/01/19-38	10,000,000
Series 2017 SRF-1	6/23/17	38,450,000	2.50%	10/01/19-36	31,309,424
Series 2018 SRF-2	9/14/18	17,510,000	2.00%	10/01/19-28	4,348,188
Total Sewage Disposal Fund State Revolving Loans Payable					<u>474,177,128</u>
Total Business-type Activities					<u>\$ 504,037,930</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

STATE REVOLVING LOANS PAYABLE (cont.)

The state revolving loans are issued as part of the State of Michigan's Revolving Fund Loan Program. As GLWA draws additional amounts from time to time hereafter, the outstanding principal amounts of such bonds will correspondingly increase. All loans are callable under terms specified in the loan agreements.

REFUNDED DEBT – WATER FUND

In prior years, the Authority's Water Fund defeased certain bonds by placing the proceeds of new bonds in irrevocable trusts for the purpose of generating resources for all future debt service payments on the refunded debt. As a result, the refunded bonds are considered to be defeased and the trust fund assets and related liabilities have been removed from the statement of net position. At June 30, 2019, the balance of the bonds considered to be defeased are \$85,250,000 for Series 2006B revenue bonds. These bonds were called July 1, 2019.

On October 3, 2018 the Authority issued \$155,595,000 in Series 2018A second lien revenue bonds. The net proceeds of the bonds were used to purchase securities that were placed in an irrevocable trust with an escrow agent to refund \$178,735,000 Series 2001C revenue bonds which were called on October 6 2019. The refunding resulted in a savings of \$30,880,652 over the next 11 years and an economic gain of \$24,896,771.

REFUNDED DEBT AND NEW MONEY BOND— SEWAGE DISPOSAL FUND

In prior years, the Authority's Sewage Disposal Fund defeased certain bonds by placing the proceeds of new bonds in irrevocable trusts for the purpose of generating resources for all future debt service payments on the refunded debt. As a result, the refunded bonds are considered to be defeased and the trust fund assets and related liabilities have been removed from the statement of net position. At June 30, 2019, the balance of the bonds considered to be defeased are \$25,550,000 for Series 2003B revenue bonds. These bonds were called July 1, 2019.

On October 3, 2018 the Authority issued \$81,595,000 in Series 2018A senior lien revenue bonds, \$131,690,000 in Series 2018B senior lien refunding bonds and \$44,180,000 in Series 2018C taxable senior lien refunding bonds. The net proceeds of the Series 2018A revenue bonds will be used to pay certain costs of improvements, enlargements and extensions and repairs to the Local Water System. The net proceeds of the Series 2018B and 2018C bonds were used to purchase securities that were placed in an irrevocable trust with an escrow agent to refund bonds. On October 6, 2018, \$16,665,000 Series 1998A, \$18,260,000 Series 1998B, \$107,045,000 Series 2001C-2 and \$25,015,000 Series 2012A revenue bonds were called. The remaining funds in the trust will be used to refund \$40,705,000 Series 2001C-1 revenue bonds. As a result, the refunded bonds are considered to be defeased and the trust fund assets and related liabilities have been removed from the statement of net position. The refunding resulted in a savings of \$54,048,882 over the next 11 years and an economic gain of \$34,519,422.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

ISSUANCE OF STATE REVOLVING LOANS

The Authority's Water Fund received loans from the State of Michigan Revolving Loan Fund totaling \$6,285,121 of which \$85,221 has been forgiven, and the Sewage Disposal Fund received \$45,258,446 during the year ended June 30, 2019. The proceeds of the Sewage Disposal Fund loans were used to pay costs of acquiring, constructing extensions, and making certain repairs and improvements to the regional sewage disposal system. The Water Fund loans were for the local system and were a pass through to DWSD, the subrecipient of the loans. At June 30, 2019, \$9,584,670 for the Water Fund and \$42,866,377 for the Sewage Disposal Fund was authorized and unissued.

DEBT RATINGS

In September 2018, Standard & Poor's Global Ratings Services upgraded the ratings on the water system senior lien debt by three notches to AA- and the water system second lien debt by three notches to A+. Both with a positive outlook. It also upgraded the ratings on the sewage disposal system senior lien debt by two notches to A+ and the sewage disposal system second lien debt by two notches to A. Both with a positive outlook. Moody's Investor Services upgraded the ratings on the water and sewage disposal system senior lien debt by one notch to A2 and second lien debt by one notch to A3. All were assigned a stable outlook. Fitch affirmed the ratings on the water system and sewage disposal system senior lien debt at an A and second lien debt at an A-. Both with positive outlooks.

The Authority was asked by the State to seek a rating for the junior lien debt, as this is the debt category of the state revolving fund bonds. In November 2018, S&P Global Ratings assigned an A+ rating to the Authority's junior lien water system SRF bonds and an A rating to the Authority's junior lien sewage disposal system SRF bonds.

CONTRACTUAL OBLIGATION RECEIVABLE – DEBT ALLOCATION FOR DWSD RETAIL OPERATIONS

As part of the regional system lease transaction, in which GLWA leased the regional water and sewage disposal system from the City of Detroit, all DWSD revenue bonds outstanding as of December 31, 2015, including those purchased by the Michigan Finance Authority under its state revolving loan program, were assumed by GLWA with the consent of bondholders. Total bonds assumed by GLWA totaled \$2,313,683,761 for the Water Fund and \$3,291,282,050 for the Sewage Disposal Fund.

Per the lease agreements, the WSSA and the MBO, the Detroit retail class continues to pay its common-to-all share of debt service revenue requirements and its allocated share of debt service revenue requirements associated with improvements to the local water and sewage disposal systems. Payments on the debt service incurred by GLWA on the outstanding revenue bonds assumed as of December 31, 2015 are to be allocated using an agreed-upon percentage of total debt service associated with bond-financed local improvements over the life of such bonds, though the bonds themselves continue to be secured by the net revenue of GLWA, and the revenues of the Detroit retail class. The MOU dated June 27, 2018 defines an agreed upon allocation and amortization schedule. The total obligation receivable at June 30, 2019 is \$482,810,087 for the Water Fund and \$426,856,732 for the Sewage Disposal Fund.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

OBLIGATION PAYABLE – CITY OF DETROIT 2014 FINANCIAL RECOVERY BONDS

The Financial Recovery Bonds, Series 2014-B are federally taxable. The Series 2014-B bonds have two components: B(1) which has a 4.0 percent per annum interest rate and B(2) which has a variable interest rate until the maturity date of April 1, 2044. The bonds were delivered to classes of creditors in satisfaction of: (1) Class 12 OPEB claims the bonds were distributed to the new Voluntary Employee Beneficiary Associations (VEBA) for the general retirees and police and fire retirees; (2) Class 9 Pension Obligation Certificate (POC) claims; and (3) other unsecured bankruptcy claims. GLWA has a contractual obligation to pay a portion of the bonds based on an agreed-upon allocation percentage.

The Financial Recovery Bonds, Series 2014-C were issued with interest at 5.0 percent per annum. The 2014-C bonds were issued as part of the Syncora Settlement and FGIC/POC Settlement in the bankruptcy plan. GLWA has a contractual obligation to pay a portion of the bonds based on an agreed-upon allocation percentage.

In 2018, the governing body of the City of Detroit authorized the use of general funds for the full redemption of the General Obligation Bonds, 2014 Series C, including the amount allocated to the Authority. The 2014 Series C debt was fully redeemed on April 13, 2018. In addition, on December 13, 2018, the City issued Financial Recovery Refunding Bonds to redeem a portion of the 2014 Series B. The Authority will repay the City of Detroit General Fund under the terms of the original debt payment schedules for the 2014 Series B & C General Obligation Bonds, with principal and interest due on June 30 each year.

The following is a schedule of the obligation payable for the Financial Recovery Bonds at June 30, 2019:

	Bond Issue	Original Issue Amount	Range of Interest Rates	Maturity Date	Outstanding Ending Balance
Water Fund					
	Series 2014-B	\$ 26,540,080	4.00% and variable	4/1/44	\$ 15,556,024
	Series 2014-C	3,829,794	5.00%	6/30/27	<u>1,541,685</u>
	Total Water Fund				<u>17,097,709</u>
Sewage Disposal Fund					
	Series 2014-B	44,233,463	4.00% and variable	4/1/44	34,990,439
	Series 2014-C	6,382,990	5.00%	6/30/27	<u>3,467,738</u>
	Total Sewage Disposal Fund				<u>38,458,177</u>
	Total Business-type Activities				<u>\$ 55,555,886</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

OBLIGATION PAYABLE – CITY OF DETROIT 2014 FINANCIAL RECOVERY BONDS (cont.)

As of June 30, 2019, debt service requirements of the Financial Recovery Bonds were as follows:

	Year Ended June 30	Principal	Interest	Total
Water Fund				
	2020	\$ 176,183	\$ 699,325	\$ 875,508
	2021	184,992	690,516	875,508
	2022	194,242	681,267	875,509
	2023	203,954	671,555	875,509
	2024	214,151	661,357	875,508
	2025 - 2029	4,457,163	2,848,041	7,305,204
	2030 - 2034	3,889,008	2,022,284	5,911,292
	2035 - 2039	3,889,008	1,866,724	5,755,732
	2040 - 2044	3,889,008	700,021	4,589,029
		<u>17,097,709</u>	<u>10,841,090</u>	<u>27,938,799</u>
	Year Ended June 30	Principal	Interest	Total
Sewage Disposal Fund				
	2020	\$ 396,291	\$ 1,573,005	\$ 1,969,296
	2021	416,106	1,553,190	1,969,296
	2022	436,911	1,532,385	1,969,296
	2023	458,757	1,510,539	1,969,296
	2024	481,694	1,487,601	1,969,295
	2025 - 2029	10,025,594	6,406,145	16,431,739
	2030 - 2034	8,747,608	4,548,756	13,296,364
	2035 - 2039	8,747,608	4,198,851	12,946,459
	2040 - 2044	8,747,608	1,574,569	10,322,177
		<u>38,458,177</u>	<u>24,385,041</u>	<u>62,843,218</u>
Total Business-type Activities		<u>\$ 55,555,886</u>	<u>\$ 35,226,131</u>	<u>\$ 90,782,017</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 12 – LONG-TERM DEBT (cont.)

INTEREST EXPENSE

The following represents the amounts recorded as interest expense for the year ended June 30, 2019:

	Water Fund	Sewage Disposal Fund	Total Business-type Activities
Bonded debt	\$ 114,150,204	\$ 136,815,609	\$ 250,965,813
Obligation payable	659,085	1,482,494	2,141,579
Lease payable	17,668,794	21,595,197	39,263,991
Raw water rights	4,225,950	-	4,225,950
Total	<u>\$ 136,704,033</u>	<u>\$ 159,893,300</u>	<u>\$ 296,597,333</u>

NOTE 13 – NET INVESTMENT IN CAPITAL ASSETS

The composition of net investment in capital assets as of June 30, 2019 was as follows:

	Water Fund	Sewage Disposal Fund	Total Business-type Activities
Capital Assets and Intangible Asset			
Capital assets not being depreciated	\$ 467,830,218	\$ 318,574,902	\$ 786,405,120
Capital assets being depreciated, net	1,390,765,435	2,357,018,353	3,747,783,788
Intangible asset – raw water rights, net	101,352,701	-	101,352,701
Total Capital Assets and Intangible Asset	<u>1,959,948,354</u>	<u>2,675,593,255</u>	<u>4,635,541,609</u>
Less: Related Debt			
Total debt, net (see Note 12)	2,496,421,894	3,251,752,015	5,748,173,909
Less: Portion of bonds used for SWAP termination agreements	(192,388,741)	(263,770,610)	(456,159,351)
Less: Obligation receivable-local share of debt	(482,810,087)	(426,856,732)	(909,666,819)
Less: Bonds applicable to unspent construction proceeds	(83,054,043)	(69,597,694)	(152,651,737)
Deferred charge on refunding	(82,508,971)	(159,370,167)	(241,879,138)
Deferred gain on refunding	60,317,719	47,982,938	108,300,657
Deferred amounts for SWAP terminations	75,616	165,223	240,839
Capital portion of lease payable	307,138,940	357,670,776	664,809,716
Lease obligation – raw water rights	103,241,119	-	103,241,119
Total Related Debt	<u>2,126,433,446</u>	<u>2,737,975,749</u>	<u>4,864,409,195</u>
Net Investment in Capital Assets	<u>\$ (166,485,092)</u>	<u>\$ (62,382,494)</u>	<u>\$ (228,867,586)</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 13 – NET INVESTMENT IN CAPITAL ASSETS (cont.)

During 2019, the Authority reevaluated the classifications of net position. The following changes in classifications were made for the year ended June 30, 2019, from the prior year ended June 30, 2018:

- The lease payable was analyzed for purposes of net position classifications pursuant to the application of GASB 69 for the Authority's acquisition and the amounts in fiscal year ended June 30, 2019 are reported prospectively. The impact of this change resulted in a decrease in net investment in capital assets and an increase in unrestricted net position of \$307,138,940 for the Water Fund and \$357,670,776 for the Sewage Disposal Fund for the fiscal year ended June 30, 2019. For fiscal year ended June 30, 2018, this analysis would have resulted in a decrease in net investment in capital assets and an increase in unrestricted net position of \$310,647,249 for the Water Fund and \$361,756,283 for the Sewage Disposal Fund.
- For fiscal year ended June 30, 2019, the restricted unspent construction bond proceeds in the amount of \$83,054,043 for the Water Fund and \$69,597,694 for the Sewage Disposal Fund are offset by the related bond liability, resulting in no classification of net position restricted for capital acquisition. In fiscal year June 30, 2018, the unspent construction bond proceeds were reported in the restricted for capital acquisition net position classification.
- The net impact of the lease obligation for raw water rights is reported as a decrease in net investment in capital assets and an increase in unrestricted net position in the amount of \$1,888,418 for fiscal year ended June 30, 2019. In fiscal year 2018, this item was reported in unrestricted net position.

NOTE 14 – LONG-TERM LEASES PAYABLE AND RELATED PREPAID LEASE

On January 1, 2016, the Authority effectuated lease agreements with the City for the regional water and sewage disposal systems for a term of 40 years, to be extended automatically to coincide with the final maturity of any bonds issued to finance improvements to the regional or local sewage disposal systems. The agreements collectively provide for an annual lease payment of \$50 million. Currently, \$22,500,000 is allocated to the Water Fund and \$27,500,000 is allocated to the Sewage Disposal Fund. The lease for the water system provides service to the wholesale customers and the retail water customers of the City up to the point of connection to the local water system facilities of the City. The lease for the sewage disposal system provides service to the wholesale customers and the retail sewage disposal customers of the City up to the point of connection to the local sewage disposal system facilities of the City. In addition, both leases provide that certain other assets including cash and investments held by DWSD as of December 31, 2015 be transferred to GLWA, all revenues of the regional and local water and sewage disposal systems are assigned to GLWA, and that GLWA assumes all DWSD bonded debt and certain other liabilities. The long-term leases are recorded as the present value of all future debt payments.

The regional system leases were recorded under GASB 69 to record the acquisition of the operations of the City of Detroit water and sewage disposal systems. The liability for the leases is allocated in the computation of net position based upon the components of net position acquired. Under the definitions of the regional system leases all improvements, additions and replacements to the original facilities acquired are considered to be leased facilities.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 14 – LONG-TERM LEASES PAYABLE AND RELATED PREPAID LEASE (cont.)

Amounts reported as a liability at year-end represent the net present value of all future lease payments. Changes in long-term leases payable for the year ended June 30, 2019 were as follows:

	Beginning Balance	Increase	Decrease	Ending Balance	Amount due Within One Year*
Water fund	\$ 426,303,347	\$ -	\$ (4,814,476)	\$ 421,488,871	\$ 5,019,121
Sewage disposal fund	521,037,423	-	(5,884,354)	515,153,069	6,134,481
Total Business-type Activities	<u>\$ 947,340,770</u>	<u>\$ -</u>	<u>\$ (10,698,830)</u>	<u>\$ 936,641,940</u>	<u>\$ 11,153,602</u>

* The current portion of the long-term leases payable represents the 12 monthly payments required from July 1, 2019 through June 30, 2020. Future revenues are intended to cover these payments.

As of June 30, 2019, aggregate requirements of the Authority's leases were as follows:

	Year Ended June 30	Principal	Interest	Total
Water Fund				
	2020	\$ 5,019,121	\$ 17,480,879	\$ 22,500,000
	2021	5,232,465	17,267,535	22,500,000
	2022	5,454,878	17,045,122	22,500,000
	2023	5,686,745	16,813,255	22,500,000
	2024	5,928,467	16,571,533	22,500,000
	2025 - 2029	33,643,470	78,856,530	112,500,000
	2030 - 2034	41,428,022	71,071,978	112,500,000
	2035 - 2039	51,013,795	61,486,205	112,500,000
	2040 - 2044	62,817,560	49,682,440	112,500,000
	2045 - 2049	77,352,526	35,147,474	112,500,000
	2050 - 2054	95,250,646	17,249,354	112,500,000
	2055 - 2056	32,661,176	1,088,824	33,750,000
		421,488,871	399,761,129	821,250,000

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 14 – LONG-TERM LEASES PAYABLE AND RELATED PREPAID LEASE (cont.)

	Year Ended June 30	Principal	Interest	Total
Sewage Disposal Fund				
	2020	\$ 6,134,481	\$ 21,365,519	\$ 27,500,000
	2021	6,395,235	21,104,765	27,500,000
	2022	6,667,073	20,832,927	27,500,000
	2023	6,950,466	20,549,534	27,500,000
	2024	7,245,904	20,254,096	27,500,000
	2025 - 2029	41,119,796	96,380,204	137,500,000
	2030 - 2034	50,634,250	86,865,750	137,500,000
	2035 - 2039	62,350,194	75,149,806	137,500,000
	2040 - 2044	76,777,018	60,722,982	137,500,000
	2045 - 2049	94,541,976	42,958,024	137,500,000
	2050 - 2054	116,417,456	21,082,544	137,500,000
	2055 - 2056	39,919,220	1,330,780	41,250,000
		<u>515,153,069</u>	<u>488,596,931</u>	<u>1,003,750,000</u>
Total Business-type Activities		<u>\$ 936,641,940</u>	<u>\$ 888,358,060</u>	<u>\$1,825,000,000</u>

As part of the 2018 MOU, the MBO requirement for six months of lease payments made to DWSD on January 1, 2016 will be treated as a prepaid lease payment. The initial term of the regional system leases began on the effective date and ends on December 31, 2055. GLWA's last monthly payment shall be June 1, 2055 and GLWA's \$25 million lease pre-payment on January 1, 2016 shall be applied to the period of July 1, 2055 through December 31, 2055. Of the \$25 million recorded as a prepaid on the statement of net position, \$11,250,000 is recorded in the Water Fund and \$13,750,000 in the Sewage Disposal Fund.

NOTE 15 – LEASE OBLIGATION – RAW WATER RIGHTS

A lease obligation has been recorded related to the license of the raw water rights that were part of the 30-year service contract with the City of Flint. This lease obligation represents the future credits to the City of Flint's water bills as the City of Flint satisfies its monthly bond payment obligations to KWA. See related footnote for the raw water rights intangible asset (Note 9).

	Beginning Balance	Increase	Decrease	Ending Balance
Lease obligation – raw water rights	<u>\$ 106,240,576</u>	<u>\$ -</u>	<u>\$ (2,999,457)</u>	<u>\$103,241,119</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 15 – LEASE OBLIGATION – RAW WATER RIGHTS (cont.)

The future credits to be issued are detailed below:

Year Ended June 30	Principal	Interest	Total
2020	\$ 2,520,996	\$ 4,131,352	\$ 6,652,348
2021	2,624,820	4,027,432	6,652,252
2022	2,734,246	3,919,206	6,653,452
2023	2,845,282	3,806,495	6,651,777
2024	2,963,619	3,689,208	6,652,827
2025 - 2029	16,753,970	16,509,465	33,263,435
2030 - 2034	20,499,399	12,759,849	33,259,248
2035 - 2039	25,091,789	8,170,988	33,262,777
2040 - 2044	25,492,554	2,700,032	28,192,586
2045 - 2046	1,714,444	49,556	1,764,000
	<u>\$ 103,241,119</u>	<u>\$ 59,763,583</u>	<u>\$ 163,004,702</u>

NOTE 16 – RISK MANAGEMENT/SELF-INSURANCE PROGRAMS

The Authority is exposed to various types of risk of loss including torts; theft of, damage to, or destruction of assets; errors or omissions; occupationally related illnesses or injuries to employees; natural disasters; and environmental occurrences. Also included are risk of loss associated with providing medical benefits to employees.

The Authority transfers risk via the purchase of a variety of insurance policies the most significant of which are shown in the table below (alphabetical by coverage):

Coverage	Limits	Retention Per Occurrence
Aviation	\$5,000,000	5% of insured value
Cyber Breach	\$10,000,000	\$100,000
Fiduciary	\$5,000,000	\$1,000
General and Auto Liability	\$10,000,000	\$1,000,000
Pollution Legal Liability	\$25,000,000	\$500,000
Property Damage	\$750,000,000	\$1,000,000
Public Officials and Employment Practices	\$25,000,000	\$250,000
Workers' Compensation	Statutory	\$1,250,000

Settled claims relating to commercial insurance have not exceeded the amount of insurance coverage since inception of the Authority.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 16 – RISK MANAGEMENT/SELF-INSURANCE PROGRAMS (cont.)

The Authority assumes all risk for motor vehicle physical damage.

The Authority maintains a self-insurance program for workers' compensation coverage up to the amount of its retention. The program is administered by a third-party who provides claim review and medical bill review services.

A liability for claims is reported when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated. Liabilities include an amount for claims that have been incurred but not reported. Claim liabilities are calculated considering the effects of recent claim settlement trends including frequency and amount of payouts and other economic and social factors. The claim liabilities also include estimated costs for claim administration fees and outside legal and medical assistance costs. The liabilities for workers' compensation current year claims is based on estimates and payments are based on actuals.

Medical insurance. The Authority provides medical benefits to a significant number of employees through a self-insured health plan that is administered by third party administrators. The Authority purchased stop loss insurance for its self-insured health plan with terms of \$300,000 per contract to reduce risk exposure for the group. The self-insured program is administered by a third-party administrator who provides claims review and processing services as well as illustrated premium rates, which are anticipated, over time, to approximate the actual cost of benefits. The unpaid claims estimate is accrued within the Water Fund's accrued salaries, wages and benefits payable account on the Statement of Net Position.

	2019	2018
Unpaid claims, beginning of year	\$ 1,044,067	\$ 1,026,178
Incurred claims (including change in IBNR provisions)	10,655,927	8,598,908
Claims payments	<u>(10,698,796)</u>	<u>(8,581,019)</u>
Unpaid Claims, End of Year	<u>\$ 1,001,198</u>	<u>\$ 1,044,067</u>

Workers' compensation. The Authority maintains a self-insurance program for workers' compensation coverage up to the amount of its retention. The program is administered by a third party who provides claim review and medical bill review services. The unpaid claims estimate is accrued within the Water Fund's accrued workers' compensation account on the Statement of Net Position.

Changes in the balances of claims liabilities during the past two years are as follows:

	2019	2018
Unpaid claims, beginning of year	\$ 303,239	\$ 250,000
Incurred claims (including change in IBNR provisions)	246,138	254,899
Claims payments	<u>(256,897)</u>	<u>(201,660)</u>
Unpaid Claims, End of Year	<u>\$ 292,480</u>	<u>\$ 303,239</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 17 – DEFINED CONTRIBUTION PENSION PLANS

DEFINED CONTRIBUTION PLANS

The Great Lakes Water Authority Defined Contribution Retirement Plan is a 401(a) governmental money purchase plan administered by ICMA Retirement Corporation (the “Administrator”) to provide benefits at retirement to all full-time employees of the Authority. The Authority contributes 6.0% of earnings to the plan. The Authority will make an additional contribution to the 401(a) plan to match employee contributions under the Great Lakes Water Authority 457 Plan up to 3% of compensation. Employees are 100% vested after three years of service (cliff vesting). Employees who transferred to the Authority on or around January 1, 2016 from DWSD retain their years of service for vesting purposes. The Authority recognized expense of \$4,605,975, which is net of forfeitures of \$351,582, for the year ended June 30, 2019. The Authority has accrued approximately \$197,000 of expense on the accrued payroll at June 30, 2019. At June 30, 2019, there were 1,104 plan members.

The Great Lakes Water Authority Defined Contribution Plan Make-Up Benefit is a 401(a) governmental money purchase plan administered by ICMA Retirement Corporation (the “Administrator”) to provide benefits at retirement to all employees who terminated employment with DWSD on or around January 1, 2016 and were not vested in the City of Detroit General Retirement System (GRS). Eligible employees are required to rollover to the Authority’s Section 457 Deferred Compensation Plan their refunded employee mandatory contribution from GRS. The amount of the make-up benefit determined by an actuary based on the present value of the lost GRS benefit was \$791,113 which was expensed in fiscal year 2018. The actual funding of the plan occurred in fiscal 2019. An additional employer contribution for \$32,492 was expensed in fiscal year 2019 for an eligible employee. Employees are 100% vested after one year of service. At June 30, 2019 there are 36 participants in the plan.

The Authority has a Section 457 Deferred Compensation Plan which employees can make pre-tax contributions which are immediately 100% vested. The Authority added a Roth provision (post-tax) to the 457 plan effective January 1, 2019. At June 30, 2019 there were 953 plan members.

The Authority adopted a Roth IRA Plan during the fiscal year which allows employees to make post-tax contributions which are immediately 100% vested. At June 30, 2019 there were 25 plan members.

RETIREMENT HEALTH SAVINGS PLAN

The Authority also provides a Retirement Health Savings Program for full-time employees. Employees are required to contribute \$10 per pay period and the Authority contributes \$80 per pay period. Employees are 100% vested after three years of service (cliff vesting). Employees who transferred to the Authority on or around January 1, 2016 from DWSD retain their years of service for vesting purposes. The Authority recognized an expense \$1,907,629, which is net of forfeitures of \$180,773, for the year ended June 30, 2019. The Authority has accrued approximately \$80,000 of expense on the accrued payroll at June 30, 2019. Employee contributions were \$251,160 for the year ended June 30, 2019. At June 30, 2019, there were 1,350 plan members.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 18 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION)

As part of the City of Detroit bankruptcy plan of adjustment (POA) and the Regional System Leases (Section 4.3), the City, the City of Detroit General Employees' Retirement system (GRS or the System) and the Authority entered into an agreement on December 1, 2015 that set forth the terms for contributions and reporting of the DWSD share of the GRS pension pool. GRS provides the information necessary for the Authority and DWSD to report the proportionate share separately in their respective statements. On January 24, 2017, DWSD and the Authority provided a supplement to the agreement whereby GRS is directed to allocate investments and pension liabilities of the DWSD division on the basis of 70.3% to the Authority and 29.7% to DWSD effective January 1, 2016. This agreement constitutes a special funding situation pursuant to the provisions of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*. As such, while no Authority employees earn service credit in the legacy or hybrid plans, GLWA is legally responsible for making substantial contributions to a legacy pension plan of another entity and, accordingly, must record a net pension liability for its proportion and make the following disclosures regarding the plan as required by the standard. Information is available in a separate audit report for the "Combined Plan for the General Retirement System of the City of Detroit" as well as "The General Retirement System of the City of Detroit GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pension Plans of Component II" as of June 30, 2018 which are available by contacting the Authority's management.

Plan Administration. The Authority contributes to (and DWSD participates in) the System. The System is a single employer plan composed of a defined benefit plan component and a defined contribution annuity plan component. The plan provides retirement, disability, and survivor benefits to plan members and beneficiaries. The plan is administered by its own board of trustees. Plan members include active employees, retirees and beneficiaries from various departments within the City. Benefit terms have been established by contractual agreements between the City and the employees' collective bargaining units; amendments are subject to the same process.

The System issues publicly available financial reports that include financial statements and the required supplementary information. The reports can be obtained from City of Detroit Retirement Systems, One Detroit Center, 500 Woodward Avenue, Suite 3000, Detroit, MI 48226 or obtained from the Systems' website (www.rscd.org). Detailed information about the pension plan's fiduciary net position is available in the separately issued financial reports.

Benefits Provided. Plan members may retire at age 55 or 60 with 5, 8, 10 or 25 years of credited service depending on which group the employee is in. Members are vested after completing 5, 8 or 10 years of credited service. Retirement options that provide for survivor benefits are available to members. The Plan also provides death and disability benefits. If a member leaves employment or dies before vesting, accumulated member contributions plus interest are refunded to the member or designated beneficiary.

Component II is the legacy plan, the original defined benefit plan, which includes a defined benefit component and a defined contribution component. Component II generally applies to benefits accrued by members prior to July 1, 2014. The plan provides retirement, disability, and survivor benefits to plan members and beneficiaries. Except as specifically provided in the combined plan, benefits provided under Component II are frozen effective June 30, 2014. Component II also includes the income stabilization fund. The fund, a part of Component II and established as a provision of the POA, was established for the sole purpose of paying the income stabilization benefits to eligible pensioners. Complete details regarding the Component II benefits and changes in those benefits by virtue of the POA are presented in the System financial statements.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 18 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION) (cont.)

Employer Contributions. Employer contributions, including the Authority's nonemployer contribution, for the respective components are as follows:

During fiscal year 2018, employer contributions were not actuarially determined, but are determined by the provisions of the POA. Included within contributions for fiscal year 2018 are contributions from the Foundation for Detroit's Future in the amount of \$375,000 and approximately \$67.9 million of contributions from the City, City-related entities, and GLWA. Employer contributions were also made into the Income Stabilization Fund for \$88,494 from the UTGO Stub Bond proceeds.

The POA obligates DWSD to pay \$2,500,000 per year towards administrative costs and annual plan contributions of \$42,900,000 per year in total for both water and sewer employees, until 2023. Pursuant to the Regional System leases, the Authority is obligated to pay its allocable share of such liability. The portion allocated to the Authority is \$31,916,200 for fiscal year 2019. This includes a contribution to the GRS pension plan of \$10,810,800 for the Water Fund and \$19,347,900 for the Sewage Disposal Fund for a total pension contribution of \$30,158,700. The contribution was made subsequent to the measurement date and has been recorded as a deferred outflow. It also includes an administrative fee of \$1,757,500, with \$630,000 paid by the Water Fund and \$1,127,500 paid by the Sewage Disposal Fund. Part of the administrative fee is considered a prepayment based on actual administrative expenses incurred by the plan as reported in the other supplemental information of the audited financial report of the GRS Plan.

Subsequent to 2023, DWSD and the Authority will be responsible for paying their allocable share of any additional amounts that are actuarially determined to be payable. An estimate of the 2024 contribution was included in the GRS annual actuarial valuation of Component II dated June 30, 2018. The total share for the DWSD is estimated to be between \$5.7 million and \$7.3 million. GLWA's share of the 2024 estimated contribution will be between \$4.0 million and \$5.1 million with approximately \$1.4 million to \$1.8 million allocated to the Water Fund and approximately \$2.6 million to \$3.3 million allocated to the Sewage Disposal Fund.

The information below represents the Authority's share of pension liability activity. DWSD separately reports its prorata share of activity in its separate financial statements.

DWSD Employee Contributions. Contribution requirements of plan members are established and may be amended by the GRS Board of Trustees in accordance with the City Charter, union contracts, and plan provisions. For the year ended June 30, 2018, there were no employee contributions into Component II, as the plan was frozen as of June 30, 2014; contributions into Component I began thereafter.

Net Pension Liability. As permitted by GASB Statement No. 68, the net pension liability was measured as of June 30, 2018, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 18 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION) (cont.)

Actuarial Assumptions. The total pension liability was actuarial determined as of June 30, 2017, which used updated procedures to roll forward the estimated liability to June 30, 2018. The actuarial valuation used the following actuarial assumptions applied to all periods included in the measurement.

Inflation	Not applicable
Salary increases	Not applicable
Investment rate of return	7.38%, net of investment expense and including inflation

The actuarial assumptions were based on an experience study from 2008-2013 issued in February 2015; the mortality table assumption was based on RP-2014 Blue Collar Annuitant Table for males and females. The tables are projected to be fully generational, based on two-dimensional sex distinct mortality scale MP-2014.

The actuarial assumptions other than mortality and the investment rate of return used in the June 30, 2017 valuation to calculate the total pension liability as of June 30, 2018 were based on the results of an actuarial experience study for the period from 2002-2007.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each asset class. These real ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. For each asset class that is included in the pension plan's target asset allocation as of June 30, 2018, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return	Expected Money-Weighted Rate of Return
Global equity	43.0%	5.23%	2.25%
Global fixed income	19.0%	3.04%	0.58%
Private equity	8.0%	7.18%	0.57%
Cash	1.0%	25.00%	0.25%
Real estate	10.0%	4.46%	0.45%
Global asset allocation/risk parity/real assets	14.0%	4.30%	0.60%
Hedge funds	5.0%	4.06%	0.20%
	<u>100%</u>		<u>4.90%</u>
Inflation			<u>2.48%</u>
			<u>7.38%</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 18 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION) (cont.)

Discount Rate. The discount rate used to measure the total pension liability was 7.38%, however the single discount rate used at the beginning of the year was 6.91%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that City of Detroit's contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees both at the beginning of the year, as well as at the end of the year. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Changes in the Net Pension Liability. The components of the change in the Authority's share of the net pension liability are summarized as follows:

	Water	Sewage Disposal	Total
Total pension liability	\$ 186,597,995	\$ 333,951,176	\$ 520,549,171
Plan fiduciary net position	(139,287,535)	(249,280,471)	(388,568,006)
Authority's Net Pension Liability	<u>\$ 47,310,460</u>	<u>\$ 84,670,705</u>	<u>\$ 131,981,165</u>
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Water Fund			
Balances at June 30, 2018	\$ 198,242,719	\$ 134,091,367	\$ 64,151,352
Changes for the year:			
Interest	13,111,573	-	13,111,573
Difference between expected and actual experience	(114,927)	-	(114,927)
Changes in assumptions	(7,651,537)	-	(7,651,537)
Employer contributions	-	10,810,800	(10,810,800)
Net investment income	-	10,878,360	(10,878,360)
Benefit payments, including refunds of employee contributions	(16,989,833)	(16,989,833)	-
Other changes	-	496,841	(496,841)
Net changes	<u>(11,644,724)</u>	<u>5,196,168</u>	<u>(16,840,892)</u>
Balances at June 30, 2019	<u>\$ 186,597,995</u>	<u>\$ 139,287,535</u>	<u>\$ 47,310,460</u>

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 18 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION) (cont.)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Sewage Disposal Fund			
Balances at June 30, 2018	\$ 354,791,535	\$ 239,980,980	\$ 114,810,555
Changes for the year:			
Interest	23,465,553	-	23,465,553
Difference between expected and actual experience	(205,683)	-	(205,683)
Changes in assumptions	(13,693,822)	-	(13,693,822)
Employer contributions	-	19,347,900	(19,347,900)
Net investment income	-	19,468,812	(19,468,812)
Benefit payments, including refunds of employee contributions	(30,406,407)	(30,406,407)	-
Other changes	-	889,186	(889,186)
Net changes	(20,840,359)	9,299,491	(30,139,850)
Balances at June 30, 2019	\$ 333,951,176	\$ 249,280,471	\$ 84,670,705

Sensitivity of the Net Pension Liability to Changes in the Discount Rate. The following presents the net pension liability of the Authority, calculated using the discount rate of 7.38%, as well as what the Authority's net pension liability would be if it were calculated using a discount rate that is 1% lower (6.38%) or 1% higher (8.38%) than the current rate:

	1% Decrease (6.38%)	Current Discount Rate (7.38%)	1% Increase (8.38%)
Water fund	\$ 61,235,868	\$ 47,310,460	\$ 35,410,483
Sewage Disposal Fund	109,592,763	84,670,705	63,373,522
Authority's Net Pension Liability	\$ 170,828,631	\$ 131,981,165	\$ 98,784,005

Pension Plan Fiduciary Net Position. Detailed information about the pension plan's fiduciary net position is available in the separately issued plan financial statements.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 18 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION) (cont.)

Pension Expense and Deferred Outflows and Inflows of Resources Related to Pensions. For the year ended June 30, 2019, the Authority recognized positive pension expense of \$6,014,441 and \$10,763,940 for the Water and Sewage Disposal Funds, respectively. At June 30, 2019, the Authority reported deferred outflows and inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows (Inflows) of Resources
Water Fund			
Net difference between projected and actual earnings on pension plan investments	\$ 558,696	\$ -	\$ 558,696
Employer contributions to the plan subsequent to the measurement date	<u>10,810,800</u>	<u>-</u>	<u>10,810,800</u>
Total Water Fund	<u>11,369,496</u>	<u>-</u>	<u>11,369,496</u>
Sewage Disposal Fund			
Net difference between projected and actual earnings on pension plan investments	999,889	-	999,889
Employer contributions to the plan subsequent to the measurement date	<u>19,347,900</u>	<u>-</u>	<u>19,347,900</u>
Total Sewage Disposal Fund	<u>20,347,789</u>	<u>-</u>	<u>20,347,789</u>
Total Business-type Activities	<u>\$ 31,717,285</u>	<u>\$ -</u>	<u>\$ 31,717,285</u>

The amount reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction in the net pension liability for the year ending June 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

Year Ended June 30	Water	Sewage Disposal	Total
2020	\$ 1,489,572	\$ 2,665,862	\$ 4,155,434
2021	787,132	1,408,716	2,195,848
2022	(1,356,214)	(2,427,193)	(3,783,407)
2023	<u>(361,794)</u>	<u>(647,496)</u>	<u>(1,009,290)</u>
Total	<u>\$ 558,696</u>	<u>\$ 999,889</u>	<u>\$ 1,558,585</u>

Payable to the Pension Plan. At June 30, 2019, the Authority did not have any outstanding contributions payable to the pension plan for the year then ended.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 19 – COMMITMENTS AND CONTINGENCIES

CAPITAL IMPROVEMENT PROGRAM

The Authority is engaged in a variety of projects that are part of its five-year capital improvement program (the Program). The total cost of this Program is anticipated to be approximately \$852.3 million for the Water Fund and \$733.6 million for the Sewage Disposal Fund through fiscal year 2024. The Program is being financed primarily from revenue bond proceeds in addition to the Improvement and Extension Funds. As of June 30, 2019, the Water Fund has unspent bond proceeds of \$83.1 million and Improvement and Extension funds of \$264.6 million available for use in addition to state revolving fund loan resources of \$9,584,670 in funding these commitments. Similarly, the Sewage Disposal Fund has unspent bond proceeds of \$69.6 million and Improvement and Extension funds of \$96.6 million available for use in addition to state revolving loan resources of \$42,866,377 in funding these commitments.

The total amount of construction contract commitments outstanding at June 30, 2019 was approximately \$137 million for the Water Fund and \$76 million for the Sewage Disposal Fund.

CONTINGENCIES

The Authority is subject to various government environmental laws and regulations. GASB Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*, established accounting and financial reporting standards for pollution (including contamination) remediation obligations, which are obligations to address the current or potential detrimental effects of existing pollution by participating in pollution remedial activities such as site assessments and cleanups. The standard excludes pollution prevention or control obligations with respect to current operations, and future pollution remediation activities that are required upon retirement of an asset, such as landfill closure and post-closure care. The Authority determined that there were no estimated pollution remediation obligations to be recorded at June 30, 2019.

GASB Statement No. 83, *Certain Asset Retirement Obligations*, established accounting and financial reporting standards for legally enforceable liabilities related to the retirement of tangible capital asset(s) where the tangible capital asset is permanently removed from service. The retirement of a tangible capital asset can occur via sale, abandonment, recycling or disposal in some other manner and excludes the temporary idling of a tangible capital asset. An asset retirement obligation does not apply to obligations resulting from the disposal, or plan to dispose, of a tangible capital asset; obligation(s) associated with using a tangible capital asset for a different purpose; obligation(s) for pollution remediation; obligation(s) from regular maintenance or the cost to replace a component. The Authority determined there were no legally enforceable asset retirement obligations to be recorded at June 30, 2019.

The Sewage Disposal Fund's operations are subject to regulation pursuant to the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 and the Water Quality Act of 1987 (collectively, the Clean Water Act). Included in the regulatory framework established by the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES) permit program, which requires operation of wastewater system facilities according to discharge limitations and other requirements as set forth in permits issued to each facility. The Environmental Protection Agency (EPA) has authorized the Michigan Department of Environmental Quality (MDEQ) to implement and enforce the federal NPDES permit program. The Sewage Disposal Fund operates pursuant to the NPDES Permit. The Authority's current NPDES permit was issued July 1, 2019 and expires on October 1, 2022.

GREAT LAKES WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS As of and for the Year Ended June 30, 2019

NOTE 19 – COMMITMENTS AND CONTINGENCIES (cont.)

CONTINGENCIES (cont.)

The Authority is a defendant in numerous alleged claims, lawsuits, billing disputes, and other stated and pending demands. The Authority's Legal Department has estimated a reserve of \$2,340,000 for the Water Fund and \$7,556,111 for the Sewage Disposal Fund, which are included in the accompanying financial statements, for the potential outcome of such claims or the amount of potential damages in the event of an unfavorable outcome for each of the above contingencies. The Authority's management believes that any differences in reserved amounts and final settlement, after consideration of claims covered by insurance, resulting from such litigation will not materially impact the Authority's financial position or results of operations.

The Authority holds various commercial insurance policies to cover other potential loss exposures.

NOTE 20 – SUBSEQUENT EVENTS

OAKLAND-MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT CAPITAL CONTRIBUTION

In March 2019, the Great Lakes Water Authority (GLWA) and the Oakland-Macomb Interceptor Drain Drainage District (OMIDDD) executed a contract amendment that redefined the operation, maintenance, repair and improvement responsibilities of each entity regarding the Northeast Sewer Pump Station (NESPS), interceptor PCI-5 and the North Interceptor East Arm (NIEA). The agreement is effective July 1, 2019. As part of this agreement, OMIDDD is required to pay GLWA a one-time contribution in aid of capital in the amount of \$11,920,000, which generally reflects GLWA's determination of net book value of the assets as of the effective date related to the NESPS. Receipt of this capital contribution in support of revenue requirements will be reflected in the GLWA June 30, 2020 and June 30, 2021 annual financial statements.

REQUIRED SUPPLEMENTARY INFORMATION

GREAT LAKES WATER AUTHORITY

REQUIRED SUPPLEMENTARY INFORMATION

Nonemployer Contributing Entity Share of City of Detroit General Employees' Retirement System - Component II Schedule of Changes in Net Pension Liability and Related Ratios - Water Fund

	Fiscal Year Based on Measurement Date			
	2018*	2017*	2016*	2015**
Share of Total Pension Liability				
Interest	\$ 13,111,573	\$ 13,560,348	\$ 14,475,348	\$ 18,422,673
Differences between expected and actual experience	(114,927)	849,266	(1,815,233)	(153,112)
Changes in assumptions	(7,651,537)	5,431,838	6,318,782	(7,093,982)
Benefit changes	-	-	-	(54,618,440)
Benefit payments, including refunds of employee contributions	(16,989,833)	(18,310,822)	(24,963,262)	(19,462,302)
Net change	(11,644,724)	1,530,630	(5,984,365)	(62,905,163)
Share of total pension liability, beginning of year	198,242,719	196,712,089	202,696,454	265,601,617
Share of Total Pension Liability, End of Year	186,597,995	198,242,719	196,712,089	202,696,454
Share of Plan Fiduciary Net Position				
Employer contributions	10,810,800	10,810,800	10,810,800	10,808,000
Employee contributions	-	-	-	46,941
Net investment income (loss)	10,878,360	13,912,782	(470,295)	6,194,355
Benefit payments, including refunds of employee contributions	(16,989,833)	(18,310,822)	(24,963,262)	(19,462,302)
Administrative expense	-	-	-	(7,633)
Other changes	496,841	535,562	90,427	9,950,436
Net change	5,196,168	6,948,322	(14,532,330)	7,529,797
Share of plan fiduciary net position, beginning of year	134,091,367	127,143,045	141,675,375	134,145,578
Share of Plan Fiduciary Net Position, End of Year	139,287,535	134,091,367	127,143,045	141,675,375
SHARE OF NET PENSION LIABILITY	<u>\$ 47,310,460</u>	<u>\$ 64,151,352</u>	<u>\$ 69,569,044</u>	<u>\$ 61,021,079</u>
Nonemployer contributing entity share of collective net pension liability - Water Fund	5.7%	6.8%	7.0%	7.4%
Plan fiduciary net position as a percentage of total pension liability	74.6%	67.6%	64.6%	69.9%

*As described in Notes 1 and 18 GLWA was established on January 1, 2016. At that time, GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. This reflects only the portion allocated to GLWA.

**The 2015 information is presented based on City of Detroit Water and Sewerage Department (DWSD) prior to the establishment of GLWA. The amounts shown represent GLWA's allocation, fiduciary net position and net pension liability. The actual employer contributions made by DWSD were \$18,440,222.

Note: This schedule is being built prospectively; ultimately, 10 years of data will be presented.

The accompanying notes to required supplementary information are an integral part of these financial statements.

GREAT LAKES WATER AUTHORITY

REQUIRED SUPPLEMENTARY INFORMATION

Nonemployer Contributing Entity Share of City of Detroit General Employees' Retirement System - Component II Schedule of Changes in Net Pension Liability and Related Ratios - Sewage Disposal Fund

	Fiscal Year Based on Measurement Date			
	2018*	2017*	2016*	2015**
Share of Total Pension Liability				
Interest	\$ 23,465,553	\$ 24,268,718	\$ 25,906,278	\$ 32,970,738
Differences between expected and actual experience	(205,683)	1,519,917	(3,248,690)	(274,022)
Changes in assumptions	(13,693,822)	9,721,266	11,308,613	(12,695,976)
Benefit changes	-	-	-	(97,749,668)
Benefit payments, including refunds of employee contributions	(30,406,407)	(32,770,558)	(44,676,314)	(34,831,342)
Net change	(20,840,359)	2,739,343	(10,710,113)	(112,580,270)
Share of total pension liability, beginning of year	354,791,535	352,052,192	362,762,305	475,342,575
Share of Total Pension Liability, End of Year	333,951,176	354,791,535	352,052,192	362,762,305
Share of Plan Fiduciary Net Position				
Employer contributions	19,347,900	19,347,900	19,347,900	19,342,889
Employee contributions	-	-	-	84,010
Net investment income (loss)	19,468,812	24,899,462	(841,679)	11,085,930
Benefit payments, including refunds of employee contributions	(30,406,407)	(32,770,558)	(44,676,314)	(34,831,342)
Administrative expense	-	-	-	(13,661)
Other changes	889,186	958,487	161,836	17,808,122
Net change	9,299,491	12,435,291	(26,008,257)	13,475,948
Share of plan fiduciary net position, beginning of year	239,980,980	227,545,689	253,553,946	240,077,998
Share of Plan Fiduciary Net Position, End of Year	249,280,471	239,980,980	227,545,689	253,553,946
SHARE OF NET PENSION LIABILITY	<u>\$ 84,670,705</u>	<u>\$ 114,810,555</u>	<u>\$ 124,506,503</u>	<u>\$ 109,208,359</u>
Nonemployer contributing entity share of collective net pension liability - Sewage Disposal Fund	10.2%	12.2%	12.5%	13.2%
Plan fiduciary net position as a percentage of total pension liability	74.6%	67.6%	64.6%	69.9%

*As described in Notes 1 and 18 GLWA was established on January 1, 2016. At that time, GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. This reflects only the portion allocated to GLWA.

**The 2015 information is presented based on City of Detroit Water and Sewerage Department (DWSD) prior to the establishment of GLWA. The amounts shown represent GLWA's allocation, fiduciary net position and net pension liability. The actual employer contributions made by DWSD were \$24,448,667.

Note: This schedule is being built prospectively; ultimately, 10 years of data will be presented.

The accompanying notes to required supplementary information are an integral part of these financial statements.

GREAT LAKES WATER AUTHORITY

REQUIRED SUPPLEMENTARY INFORMATION Nonemployer Contributing Entity Share of City of Detroit General Employees' Retirement System - Component II Schedule of Contributions

	Fiscal Year Based on Measurement Date		
	2018*	2017*	2016*
Water Fund			
Contractually required contribution**	\$ 10,810,800	\$ 10,810,800	\$ 10,810,800
Actual contribution	10,810,800	10,810,800	10,810,800
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Sewage Disposal Fund			
Contractually required contribution**	\$ 19,347,900	\$ 19,347,900	\$ 19,347,900
Actual contribution	19,347,900	19,347,900	19,347,900
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

*As described in Notes 1 and 18 GLWA was established on January 1, 2016, and GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. This reflects only the portion allocated to GLWA.

**Contributions are determined by the provisions of the Plan of Adjustment and are not actuarially determined.

Note: This schedule is being built prospectively; ultimately, 10 years of data will be presented.

The accompanying notes to required supplementary information are an integral part of these financial statements.

GREAT LAKES WATER AUTHORITY

Nonemployer Contributing Entity Share of City of Detroit General Employees' Retirement System –
Component II

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION For the Year Ended June 30, 2019

Changes in Assumptions

In 2016, amounts reported as changes in assumptions resulted from adjustment of the discount rate from 7.61 percent to 7.23 percent.

In 2017, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.23 percent to 6.91 percent.

In 2018, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 6.91 percent to 7.38 percent.

Note: Great Lakes Water Authority is required to present the last ten fiscal years of data; however, accounting standards allow the presentation of as many years as are available until ten fiscal years are presented.

SUPPLEMENTARY INFORMATION

COMBINING AND INDIVIDUAL FUND SCHEDULES

GREAT LAKES WATER AUTHORITY

COMBINING SCHEDULE OF NET POSITION

WATER FUND
As of June 30, 2019

	Water Operations	Water Improvement and Extension	Water Construction Fund	Water Total
Assets				
Current Assets				
Cash and cash equivalents	\$ 54,922,894	\$ 93,720,899	\$ -	\$ 148,643,793
Restricted cash and cash equivalents	53,213,286	128,432	15,222,593	68,564,311
Restricted cash for the benefit of DWSD	2,690,397	-	-	2,690,397
Investments	27,697,152	170,863,983	-	198,561,135
Restricted investments	1,468,148	-	-	1,468,148
Receivables				
Billed	38,336,701	-	-	38,336,701
Unbilled	26,144,348	-	-	26,144,348
Other	916,074	-	-	916,074
Allowance for doubtful accounts	(7,455,747)	-	-	(7,455,747)
Due from other governments	30,063,571	-	-	30,063,571
Due from other funds	1,737,712	1,139,242	-	2,876,954
Due from other water funds	756,952	-	1,009,064	1,766,016
Contractual obligation receivable, current portion	14,328,368	-	-	14,328,368
Prepaid items and other assets	4,601,469	847,706	198,486	5,647,661
Inventories	386,612	-	-	386,612
Total Current Assets	<u>249,807,937</u>	<u>266,700,262</u>	<u>16,430,143</u>	<u>532,938,342</u>
Noncurrent Assets				
Restricted cash and cash equivalents	12,539,444	-	19,614,818	32,154,262
Restricted investments	13,636,198	-	63,439,225	77,075,423
Contractual obligation receivable	468,481,719	-	-	468,481,719
Prepaid lease	11,250,000	-	-	11,250,000
Assets not subject to depreciation	467,830,218	-	-	467,830,218
Capital assets being depreciated, net	1,390,765,435	-	-	1,390,765,435
Intangible asset - raw water rights, net	101,352,701	-	-	101,352,701
Prepaid insurance on debt	8,754,897	-	-	8,754,897
Total Noncurrent Assets	<u>2,474,610,612</u>	<u>-</u>	<u>83,054,043</u>	<u>2,557,664,655</u>
Total Assets	<u>2,724,418,549</u>	<u>266,700,262</u>	<u>99,484,186</u>	<u>3,090,602,997</u>
Deferred outflows of resources				
Deferred charge on refunding	82,508,971	-	-	82,508,971
Deferred pension amounts	11,369,496	-	-	11,369,496
Total Deferred Outflows of Resources	<u>93,878,467</u>	<u>-</u>	<u>-</u>	<u>93,878,467</u>

	Water Operations	Water Improvement and Extension	Water Construction Fund	Water Total
Liabilities				
Current Liabilities				
Accounts and contracts payable	\$ 18,576,390	\$ 2,858,728	\$ 15,222,596	\$ 36,657,714
Accrued salaries, wages and benefits	4,284,220	-	-	4,284,220
Other accrued liabilities	6,481,670	-	-	6,481,670
Due to other governments	15,963,934	-	-	15,963,934
Due to other funds	12,568	-	-	12,568
Due to other water funds	-	1,313,819	452,197	1,766,016
Interest payable	40,325,682	-	-	40,325,682
Current portion of:				
Long-term debt	29,244,447	-	-	29,244,447
Lease payable	5,019,121	-	-	5,019,121
Lease obligation - raw water rights	2,520,996	-	-	2,520,996
Obligation payable	176,183	-	-	176,183
Accrued compensated absences	2,430,828	-	-	2,430,828
Accrued workers' compensation	217,480	-	-	217,480
Claims and judgments	2,290,000	-	-	2,290,000
Total Current Liabilities	<u>127,543,519</u>	<u>4,172,547</u>	<u>15,674,793</u>	<u>147,390,859</u>
Noncurrent Liabilities				
Long-term debt	2,467,177,447	-	-	2,467,177,447
Long-term lease payable	416,469,750	-	-	416,469,750
Lease obligation - raw water rights	100,720,123	-	-	100,720,123
Obligation payable	16,921,526	-	-	16,921,526
Accrued compensated absences	2,049,655	-	-	2,049,655
Accrued workers' compensation	75,000	-	-	75,000
Claims and judgments	50,000	-	-	50,000
Other noncurrent liabilities	2,804,949	-	-	2,804,949
Net pension liability	47,310,460	-	-	47,310,460
Total Noncurrent Liabilities	<u>3,053,578,910</u>	<u>-</u>	<u>-</u>	<u>3,053,578,910</u>
Total Liabilities	<u>3,181,122,429</u>	<u>4,172,547</u>	<u>15,674,793</u>	<u>3,200,969,769</u>
Deferred Inflows of Resources				
Deferred amounts for swap terminations	75,616	-	-	75,616
Deferred gain on refunding	60,317,719	-	-	60,317,719
Deferred pension amounts	-	-	-	-
Total Deferred Inflows of Resources	<u>60,393,335</u>	<u>-</u>	<u>-</u>	<u>60,393,335</u>
Net Position				
Net investment in capital assets	(250,294,485)	-	83,809,393	(166,485,092)
Restricted for debt service	29,731,576	-	-	29,731,576
Restricted for payment assistance program	3,369,875	-	-	3,369,875
Unrestricted (deficit)	<u>(206,025,714)</u>	<u>262,527,715</u>	<u>-</u>	<u>56,502,001</u>
TOTAL NET POSITION	<u>\$ (423,218,748)</u>	<u>\$ 262,527,715</u>	<u>\$ 83,809,393</u>	<u>\$ (76,881,640)</u>

The accompanying notes to the supplementary information are an integral part of this schedule.

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GREAT LAKES WATER AUTHORITY

COMBINING SCHEDULE OF REVENUES, EXPENSES AND CHANGES IN NET POSITION WATER FUND For the Year Ended June 30, 2019

	Water Operations	Water Improvement and Extension	Water Construction Fund	Water Total
Operating Revenues				
Wholesale customer charges	\$ 311,399,136	\$ -	\$ -	\$ 311,399,136
Local system charges	20,181,400	-	-	20,181,400
Other revenues	21,340	-	-	21,340
Total Operating Revenues	<u>331,601,876</u>	<u>-</u>	<u>-</u>	<u>331,601,876</u>
Operating Expenses				
Operating expenses before depreciation and amortization				
Personnel	42,085,546	-	-	42,085,546
Contractual services	40,975,335	2,107,743	-	43,083,078
Utilities - gas	1,107,619	-	-	1,107,619
Utilities - electric	24,462,379	-	-	24,462,379
Utilities - sewage	676,170	-	-	676,170
Utilities - water	1,690	-	-	1,690
Chemicals	5,088,827	-	-	5,088,827
Supplies and other expenses	11,797,279	-	-	11,797,279
Capital program allocation	(2,054,913)	-	-	(2,054,913)
Shared services allocation	(6,425,729)	-	-	(6,425,729)
Total Operating Expenses Before Depreciation and Amortization	117,714,203	2,107,743	-	119,821,946
Depreciation	140,571,120	-	-	140,571,120
Amortization of intangible asset - raw water rights	3,566,664	-	-	3,566,664
Total Operating Expenses	<u>261,851,987</u>	<u>2,107,743</u>	<u>-</u>	<u>263,959,730</u>
Operating Income (Loss)	<u>69,749,889</u>	<u>(2,107,743)</u>	<u>-</u>	<u>67,642,146</u>
Nonoperating Revenues (Expenses)				
Earnings on investments	5,097,690	6,720,513	2,936,198	14,754,401
Interest on obligations receivable	22,921,380	-	-	22,921,380
Interest expense	(136,704,033)	-	-	(136,704,033)
Amortization of debt related items and cost of issuance	10,771,937	-	-	10,771,937
Legacy pension expense	6,014,441	-	-	6,014,441
WRAP (Water Residential Assistance Program)	(855,455)	-	-	(855,455)
Other	(213,965)	-	328,101	114,136
Capital outlay	66,470,130	(5,849,231)	(60,620,899)	-
Gain (loss) on disposal of capital assets	(435,095)	-	-	(435,095)
Loss on impairment of capital assets	(670,137)	-	-	(670,137)
Total Nonoperating Revenues (Expenses)	<u>(27,603,107)</u>	<u>871,282</u>	<u>(57,356,600)</u>	<u>(84,088,425)</u>
Income (Loss) Before Transfers	42,146,782	(1,236,461)	(57,356,600)	(16,446,279)
Transfer in	4,408,045	47,695,000	433,777	52,536,822
Transfer out	<u>(48,130,489)</u>	<u>(4,406,333)</u>	<u>-</u>	<u>(52,536,822)</u>
Change in net position	(1,575,662)	42,052,206	(56,922,823)	(16,446,279)
NET POSITION (DEFICIT), Beginning of Year	<u>(421,643,086)</u>	<u>220,475,509</u>	<u>140,732,216</u>	<u>(60,435,361)</u>
NET POSITION (DEFICIT), END OF YEAR	<u>\$ (423,218,748)</u>	<u>\$ 262,527,715</u>	<u>\$ 83,809,393</u>	<u>\$ (76,881,640)</u>

Note: Transfers in (out) are used for recording financial activity related to borrowing proceeds and MBO requirements.

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

COMBINING SCHEDULE OF NET POSITION

SEWAGE DISPOSAL FUND

As of June 30, 2019

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Fund	Sewage Disposal Total
Assets				
Current Assets				
Cash and cash equivalents	\$ 95,103,104	\$ 65,268,662	\$ -	\$ 160,371,766
Restricted cash and cash equivalents	73,233,588	52,519	22,645,421	95,931,528
Restricted cash for the benefit of DWSD	627,919	-	-	627,919
Investments	44,305,344	31,380,018	-	75,685,362
Restricted investments	33,384,445	-	-	33,384,445
Receivables:				
Billed	60,549,471	-	-	60,549,471
Unbilled	24,297,140	-	-	24,297,140
Other	221,452	-	-	221,452
Allowance for doubtful accounts	(34,802,168)	-	-	(34,802,168)
Due from other governments	179,585	-	-	179,585
Due from other funds	-	-	12,568	12,568
Due from other sewage disposal funds	260,762	-	64,415	325,177
Contractual obligation receivable, current portion	12,089,779	-	-	12,089,779
Loan receivable - DWSD	17,542,669	-	-	17,542,669
Prepaid items and other assets	2,562,363	153,579	85,329	2,801,271
Inventories	5,445,981	-	-	5,445,981
Total Current Assets	<u>335,001,434</u>	<u>96,854,778</u>	<u>22,807,733</u>	<u>454,663,945</u>
Noncurrent assets				
Restricted cash and cash equivalents	24,044,432	-	37,986,346	62,030,778
Restricted investments	42,291,740	-	31,611,349	73,903,089
Contractual obligation receivable	414,766,953	-	-	414,766,953
Loan receivable - DWSD	26,503,010	-	-	26,503,010
Prepaid lease	13,750,000	-	-	13,750,000
Assets not subject to depreciation	318,574,902	-	-	318,574,902
Capital assets being depreciated, net	2,357,018,353	-	-	2,357,018,353
Prepaid insurance on debt	13,880,254	-	-	13,880,254
Total Noncurrent Assets	<u>3,210,829,644</u>	<u>-</u>	<u>69,597,695</u>	<u>3,280,427,339</u>
Total Assets	<u>3,545,831,078</u>	<u>96,854,778</u>	<u>92,405,428</u>	<u>3,735,091,284</u>
Deferred Outflows of Resources				
Deferred charge on refunding	159,370,167	-	-	159,370,167
Deferred pension amounts	20,347,789	-	-	20,347,789
Total Deferred Outflows of Resources	<u>179,717,956</u>	<u>-</u>	<u>-</u>	<u>179,717,956</u>

The accompanying notes to the supplementary information are an integral part of this schedule.

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Fund	Sewage Disposal Total
Liabilities				
Current Liabilities				
Accounts and contracts payable	\$ 14,325,607	\$ 1,033,292	\$ 22,645,423	\$ 38,004,322
Other accrued liabilities	627,919	-	-	627,919
Due to other funds	1,726,059	1,150,895		2,876,954
Due to other sewage disposal funds	-	225,798	99,379	325,177
Interest payable	44,130,602	-	-	44,130,602
Current portion of:				
Long-term debt	88,357,662	-	-	88,357,662
Lease payable	6,134,481	-	-	6,134,481
Obligation payable	396,291	-	-	396,291
Accrued compensated absences	757,328	-	-	757,328
Claims and judgments	56,111	-	-	56,111
Total Current Liabilities	<u>156,512,060</u>	<u>2,409,985</u>	<u>22,744,802</u>	<u>181,666,847</u>
Noncurrent Liabilities				
Long-term debt	3,163,394,353	-	-	3,163,394,353
Long-term lease payable	509,018,588	-	-	509,018,588
Obligation payable	38,061,886	-	-	38,061,886
Claims and judgments	7,500,000	-	-	7,500,000
Other noncurrent liabilities	6,291,681	-	-	6,291,681
Net pension liability	84,670,705	-	-	84,670,705
Total Noncurrent Liabilities	<u>3,808,937,213</u>	<u>-</u>	<u>-</u>	<u>3,808,937,213</u>
Total Liabilities	<u>3,965,449,273</u>	<u>2,409,985</u>	<u>22,744,802</u>	<u>3,990,604,060</u>
Deferred Inflows of Resources				
Deferred amounts for swap terminations	165,223	-	-	165,223
Deferred gain on refunding	47,982,938	-	-	47,982,938
Deferred pension amounts	-	-	-	-
Total Deferred Inflows of Resources	<u>48,148,161</u>	<u>-</u>	<u>-</u>	<u>48,148,161</u>
Net Position				
Net investment in capital assets	(132,043,120)	-	69,660,626	(62,382,494)
Restricted for debt service	117,246,259	-	-	117,246,259
Restricted for payment assistance program	4,631,494	-	-	4,631,494
Unrestricted (deficit)	<u>(277,883,033)</u>	<u>94,444,793</u>	<u>-</u>	<u>(183,438,240)</u>
TOTAL NET POSITION	<u>\$ (288,048,400)</u>	<u>\$ 94,444,793</u>	<u>\$ 69,660,626</u>	<u>\$ (123,942,981)</u>

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

COMBINING SCHEDULE OF REVENUES, EXPENSES AND CHANGES IN NET POSITION SEWAGE DISPOSAL FUND For the Year Ended June 30, 2019

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Fund	Sewage Disposal Total
Operating Revenues				
Wholesale customer charges	\$ 272,772,460	\$ -	\$ -	\$ 272,772,460
Local system charges	181,159,300	-	-	181,159,300
Industrial waste charges	9,106,274	-	-	9,106,274
Pollutant surcharges	5,932,550	-	-	5,932,550
Other revenues	506,323	-	-	506,323
Total Operating Revenues	469,476,907	-	-	469,476,907
Operating Expenses				
Operating expenses before depreciation				
Personnel	56,503,053	-	-	56,503,053
Contractual services	58,639,680	21,000	-	58,660,680
Utilities - gas	5,460,329	-	-	5,460,329
Utilities - electric	14,640,343	-	-	14,640,343
Utilities - sewage	1,417,575	-	-	1,417,575
Utilities - water	3,629,280	-	-	3,629,280
Chemicals	8,187,033	-	-	8,187,033
Supplies and other expenses	25,323,636	-	-	25,323,636
Capital adjustment	2,258,351	-	-	2,258,351
Capital program allocation	(1,325,842)	-	-	(1,325,842)
Shared services allocation	(713,633)	-	-	(713,633)
Total Operating Expenses Before Depreciation	174,019,805	21,000	-	174,040,805
Depreciation	168,544,370	-	-	168,544,370
Total Operating Expenses	342,564,175	21,000	-	342,585,175
Operating Income	126,912,732	(21,000)	-	126,891,732
Nonoperating Revenues (Expenses)				
Earnings on investments	7,786,861	1,805,409	2,171,131	11,763,401
Interest on obligations receivable	18,856,322	-	-	18,856,322
Interest expense	(159,893,300)	-	-	(159,893,300)
Amortization of debt related items and cost of issuance	(6,776,707)	-	-	(6,776,707)
Legacy pension expense	10,763,940	-	-	10,763,940
WRAP (Water Residential Assistance Program)	(1,168,664)	-	-	(1,168,664)
Other	305,723	-	-	305,723
Sewer lookback - MOU adjustment	(6,527,200)	-	-	(6,527,200)
Capital outlay	90,320,655	(10,889,201)	(79,431,454)	-
Gain (loss) on disposal of capital assets	516,379	-	-	516,379
Gain (loss) on asset impairment	(355,204)	-	-	(355,204)
Total Nonoperating Revenues (Expenses)	(46,171,195)	(9,083,792)	(77,260,323)	(132,515,310)
Income (Loss) Before Transfers	80,741,537	(9,104,792)	(77,260,323)	(5,623,578)
Transfer in	1,205,194	35,790,817	44,414,588	81,410,599
Transfer out	(80,238,358)	(1,172,241)	-	(81,410,599)
Change in net position	1,708,373	25,513,784	(32,845,735)	(5,623,578)
NET POSITION (DEFICIT), Beginning of Year	(289,756,773)	68,931,009	102,506,361	(118,319,403)
NET POSITION (DEFICIT), END OF YEAR	\$ (288,048,400)	\$ 94,444,793	\$ 69,660,626	\$ (123,942,981)

Note: Transfers in (out) are used for recording financial activity related to borrowing proceeds and MBO requirements.

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF INTERFUND RECEIVABLES AND PAYABLES

For the Year Ended June 30, 2019

Interfund balances result from the time lag between the dates interfund goods and services are provided or reimbursable expenditures occur and when the payment between funds are made. Interfund balances for the year ended June 30, 2019 consisted of the following:

Sewage Disposal Fund due to Water Fund				
	Sewer Operations	Sewer Improvement and Extension	Sewer Bond	Total
Water Operations	\$ 1,726,059	\$ 11,653	\$ -	\$ 1,737,712
Water Improvement and Extension	-	1,139,242	-	1,139,242
Water Construction Fund	-	-	-	-
TOTALS	\$ 1,726,059	\$ 1,150,895	\$ -	\$ 2,876,954

Water Fund due to Sewage Disposal Fund				
	Water Operations	Water Improvement and Extension	Water Bond	Total
Sewer Operations	\$ -	\$ -	\$ -	\$ -
Sewer Improvement and Extension	-	-	-	-
Sewer Construction Fund	12,568	-	-	12,568
TOTALS	\$ 12,568	\$ -	\$ -	\$ 12,568

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF OPERATIONS AND MAINTENANCE EXPENSE FOR WATER OPERATIONS

COST TYPE CATEGORY - BUDGET TO ACTUAL

For the Year Ended June 30, 2019

	Original Budget	Amended Budget	Administrative and Centralized Services Reclassification
Operating Expenses			
Personnel	\$ 67,327,653	\$ 67,299,104	\$ (25,890,236)
Contractual services	78,729,351	74,608,551	(31,378,637)
Utilities	28,355,230	26,075,499	(125,109)
Chemicals	5,674,100	5,091,800	-
Supplies and other expenses	22,187,806	20,074,138	(8,798,996)
Capital program allocation	(3,078,500)	(2,098,464)	-
Shared services allocation	(9,116,656)	(8,573,787)	-
Centralized services allocation	(56,455,486)	(56,455,486)	56,455,486
Administrative services allocation	(16,305,000)	(16,305,000)	16,305,000
Capital outlay	365,500	-	-
Unallocated reserve	3,878,602	11,846,245	(6,567,508)
TOTAL OPERATING EXPENSES	<u>\$ 121,562,600</u>	<u>\$ 121,562,600</u>	<u>\$ -</u>

Note: Centralized and administrative services allocations have been applied to the expense categories above for presentation of the amended budget and actual amounts.

Final Amended Budget	Actual	Amount Variance Actual-Budget	Percent Under (Over) Budget
\$ 41,408,868	\$ 42,085,546	\$ (676,678)	-1.63%
43,229,914	40,975,335	2,254,579	5.22%
25,950,390	26,247,858	(297,468)	-1.15%
5,091,800	5,088,827	2,973	0.06%
11,275,142	11,797,279	(522,137)	-4.63%
(2,098,464)	(2,054,913)	(43,551)	2.08%
(8,573,787)	(6,425,729)	(2,148,058)	25.05%
-	-	-	0.00%
-	-	-	0.00%
-	-	-	0.00%
<u>5,278,737</u>	<u>-</u>	<u>5,278,737</u>	100.00%
<u>\$ 121,562,600</u>	<u>\$ 117,714,203</u>	<u>\$ 3,848,397</u>	3.17%

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF OPERATIONS AND MAINTENANCE EXPENSE FOR SEWAGE DISPOSAL OPERATIONS COST TYPE CATEGORY - BUDGET TO ACTUAL For the Year Ended June 30, 2019

	Original Budget	Amended Budget	Administrative and Centralized Services Reclassification
Operating Expenses			
Personnel	\$ 35,144,950	\$ 36,921,650	\$ 25,890,236
Contractual services	27,755,585	26,247,397	31,378,637
Utilities	28,995,099	25,713,599	125,109
Chemicals	10,946,830	8,293,670	-
Supplies and other expenses	13,832,909	16,152,587	8,798,996
Capital adjustment	-	-	-
Capital program allocation	(921,500)	(1,257,121)	-
Shared services allocation	(6,444)	(431,000)	-
Centralized services allocation	56,455,486	56,455,486	(56,455,486)
Administrative services allocation	16,305,000	16,305,000	(16,305,000)
Capital outlay	131,000	-	-
Unallocated reserve	2,440,485	6,678,132	6,567,508
TOTAL OPERATING EXPENSES	\$ 191,079,400	\$ 191,079,400	\$ -

Note: Centralized and administrative services allocations have been applied to the expense categories above for presentation of the amended budget and actual amounts.

Final Amended Budget	Actual	Amount Variance Actual-Budget	Percent Under (Over) Budget
\$ 62,811,886	\$ 56,503,053	\$ 6,308,833	10.04%
57,626,034	58,639,680	(1,013,646)	-1.76%
25,838,708	25,147,527	691,181	2.67%
8,293,670	8,187,033	106,637	1.29%
24,951,583	25,323,636	(372,053)	-1.49%
-	2,258,351	(2,258,351)	-100.00%
(1,257,121)	(1,325,842)	68,721	-5.47%
(431,000)	(713,633)	282,633	-65.58%
-	-	-	0.00%
-	-	-	0.00%
-	-	-	0.00%
<u>13,245,640</u>	<u>-</u>	<u>13,245,640</u>	100.00%
<u>\$ 191,079,400</u>	<u>\$ 174,019,805</u>	<u>\$ 17,059,595</u>	8.93%

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF OPERATIONS AND MAINTENANCE EXPENSE FOR COMBINED WATER AND SEWAGE DISPOSAL OPERATIONS COST TYPE CATEGORY - BUDGET TO ACTUAL For the Year Ended June 30, 2019

	Original Budget	Final Amended Budget	Actual	Amount Variance Actual-Budget	Percent Under (Over) Budget
Operating Expenses					
Personnel	\$ 102,472,603	\$ 104,220,754	\$ 98,588,599	\$ 5,632,155	5.40%
Contractual services	106,484,936	100,855,948	99,615,015	1,240,933	1.23%
Utilities	57,350,329	51,789,098	51,395,385	393,713	0.76%
Chemicals	16,620,930	13,385,470	13,275,860	109,610	0.82%
Supplies and other expenses	36,020,715	36,226,725	37,120,915	(894,190)	-2.47%
Capital adjustment	-	-	2,258,351	(2,258,351)	-100.00%
Capital program allocation	(4,000,000)	(3,355,585)	(3,380,755)	25,170	-0.75%
Shared services allocation	(9,123,100)	(9,004,787)	(7,139,362)	(1,865,425)	20.72%
Centralized services allocation	-	-	-	-	0.00%
Administrative services allocation	-	-	-	-	0.00%
Capital outlay	496,500	-	-	-	0.00%
Unallocated reserve	6,319,087	18,524,377	-	18,524,377	100.00%
TOTAL OPERATING EXPENSES	\$ 312,642,000	\$ 312,642,000	\$ 291,734,008	\$ 20,907,992	6.69%

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF REVENUE REQUIREMENT BUDGET TO ACTUAL - WATER SYSTEM OPERATIONS For the Year Ended June 30, 2019

The Great Lakes Water Authority Board adopts a budget using a revenue requirement method for its operating funds that aligns with water and wastewater revenue charges. This method applies an accrual basis of accounting for revenues and operating expenses in addition to a cash basis of accounting for other commitments, such as debt service, Detroit General Retirement closed pension commitment, lease payment, reserves and certain other payments.

The schedule below presents the Board adopted budgeted, adjusted for amendments, for comparison with actual revenues, expenses, and other payments. Overall, the Water System experienced a positive variance of approximately \$3.4 million.

	2019 Adopted Budget	2019 Amended Budget	2019 Actual	Amount Variance Over (Under) Budget
Revenues				
Revenue from Charges - Suburban Wholesale Customers [1]	\$ 307,382,500	\$ 307,382,500	\$ 304,419,633	\$ (2,962,867)
Revenue from Charges - Detroit Customers	20,181,400	20,181,400	20,181,400	-
Total Revenue from Charges	<u>327,563,900</u>	<u>327,563,900</u>	<u>324,601,033</u>	<u>(2,962,867)</u>
Other Operating Revenue	-	-	21,340	21,340
Nonoperating Revenue	<u>3,836,600</u>	<u>9,425,400</u>	<u>11,818,203</u>	<u>2,392,803</u>
Total Revenues	<u>\$ 331,400,500</u>	<u>\$ 336,989,300</u>	<u>\$ 336,440,576</u>	<u>\$ (548,724)</u>
Revenue Requirements				
Operations and Maintenance Regional System Wholesale [2]	121,562,600	121,562,600	117,714,203	(3,848,397)
General Retirement System Legacy Pension	6,048,000	6,048,000	6,048,000	-
Debt Service	134,214,600	131,241,800	131,178,181	(63,619)
General Retirement System Accelerated Pension	6,268,300	6,268,300	6,268,296	(4)
Water Residential Assistance Program Contribution	1,673,400	1,673,400	1,673,400	-
Lease Payment to Local System Improvement & Extension Fund	22,500,000	22,500,000	22,500,000	-
Transfer to the Regional Improvement & Extension Fund	<u>39,133,600</u>	<u>47,695,200</u>	<u>47,695,000</u>	<u>(200)</u>
Total Revenue Requirements	<u>\$ 331,400,500</u>	<u>\$ 336,989,300</u>	<u>\$ 333,077,080</u>	<u>\$ (3,912,220)</u>
Revenue Requirement Variance	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 3,363,496</u>	<u>\$ 3,363,496</u>

[1] Revenue from Charges - Suburban Wholesale Customers presented in this schedule differs from those presented on the Statement of Revenues, Expenses and Changes in Net position due to \$6,979,503 of revenue which was credited for the KWA debt service which is a non-cash transaction that is the lease payment on the raw water rights.

[2] See the Combining Schedule of Revenues, Expenses and Changes in Net Position for the Water Fund. Operations and Maintenance expenses in this schedule are based on activities relating only to the Water Operations Fund.

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF REVENUE REQUIREMENT BUDGET TO ACTUAL - SEWAGE SYSTEM OPERATIONS For the Year Ended June 30, 2019

The Great Lakes Water Authority Board adopts a budget using a revenue requirement method for its operating funds that aligns with water and wastewater revenue charges. This method applies an accrual basis of accounting for revenues and operating expenses in addition to a cash basis of accounting for other commitments, such as debt service, Detroit General Retirement closed pension commitment, lease payment, reserves and certain other payments.

The schedule below presents the Board adopted budgeted, adjusted for amendments, for comparison with actual revenues, expenses, and other payments. Overall, the Sewage System experienced a positive variance of approximately \$20.2 million.

	2019 Adopted Budget	2019 Amended Budget	2019 Actual	Amount Variance Over (Under) Budget
Revenues				
Revenue from Charges - Suburban Wholesale Customers	\$ 271,296,300	\$ 271,296,300	\$ 272,772,460	\$ 1,476,160
Revenue from Charges - Detroit Customers	181,159,300	181,159,300	181,159,300	-
Revenue from Charges - Industrial Waste Control	15,000,800	15,000,800	9,106,274	(5,894,526)
Pollutant Surcharges	-	-	5,932,550	5,932,550
Total Revenue from Charges	<u>467,456,400</u>	<u>467,456,400</u>	<u>468,970,584</u>	<u>1,514,184</u>
Other Operating Revenue	-	-	506,323	506,323
Nonoperating Revenue	<u>4,570,900</u>	<u>6,878,800</u>	<u>9,592,270</u>	<u>2,713,470</u>
Total Revenues	<u>\$ 472,027,300</u>	<u>\$ 474,335,200</u>	<u>\$ 479,069,177</u>	<u>\$ 4,733,977</u>
Revenue Requirements				
Operations and Maintenance Regional System Wholesale [2]	191,079,400	191,079,400	174,019,805	(17,059,595)
General Retirement System Legacy Pension	10,824,000	10,824,000	10,824,000	-
Debt Service	214,600,700	208,389,300	210,008,452	1,619,152
General Retirement System Accelerated Pension	11,620,700	11,620,700	11,620,692	(8)
Water Residential Assistance Program Contribution	2,374,100	2,374,100	2,374,092	(8)
Lease Payment to Local System Improvement & Extension Fund	27,500,000	27,500,000	27,500,004	4
Transfer to the Regional System Improvement & Extension Fund [1]	<u>14,028,400</u>	<u>22,547,700</u>	<u>22,547,700</u>	<u>-</u>
Total Revenue Requirements	<u>\$ 472,027,300</u>	<u>\$ 474,335,200</u>	<u>\$ 458,894,745</u>	<u>\$ (15,440,455)</u>
Revenue Requirement Variance	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 20,174,432</u>	<u>\$ 20,174,432</u>

[1] DWSD loan receivable payments are transferred directly to the Improvement & Extension Fund. They are excluded from this schedule because they are not part of the revenue requirement methodology used to set charges.

[2] Refer to the Combining Schedule of Revenues, Expenses and Changes in Net Position for the Sewage Disposal Fund. Operations and Maintenance expenses in this schedule are based on activities relating only to the Sewer Operations Fund.

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF REVENUE REQUIREMENT TO STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION CROSSWALK

For the Year Ended June 30, 2019

The Great Lakes Water Authority establishes a Revenue Requirement budget for the purpose of establishing charges for services which follows a modified accrual basis of accounting. Conversely, the annual financial report is prepared in accordance with Generally Accepted Accounting Principles for enterprise funds of a local government. Because the budget and the financial report are prepared using different bases of accounting, a crosswalk is prepared to reconcile fiscal year financial performance from the budget basis of accounting to the financial statement basis of accounting.

Key areas of reconciliation include the following:

- Defined Benefit Pension related to the City of Detroit General Employees Retirement System. Annual contributions are an expense for the budget basis while the accrual basis financial report reflects the current year payment as a deferred outflow.
- Debt Service (principal and interest) is an expense for the budget basis while the accrual basis financial report treats interest as an expense and principal payments as a reduction of a liability.
- Lease payments (principal and interest) are an expense for the budget basis while the accrual basis financial report treats interest as an expense and principal payments as a reduction of a liability.
- Contributions to the Regional System Improvement & Extension Fund are an expense for the budget basis while the accrual basis financial report treats this activity as an increase in assets.
- Depreciation and amortization are not a components of the budget basis while the accrual basis financial report treats these as an expense.

	Water	Sewage Disposal	Combined
Revenue Requirement Variance from Schedule of Revenue Requirement	\$ 3,363,496	\$ 20,174,432	\$ 23,537,928
Budgetary categories adjustments to financial reporting basis			
Pension delayed accounting election adjustments			
Current year pension transfers/ payments recorded as deferral	10,810,800	19,347,900	30,158,700
Prior year pension contribution accounted for in current year	6,014,441	10,763,940	16,778,381
Administrative prepaid adjustment	404,092	723,195	1,127,287
Debt service	39,949,528	90,941,232	130,890,760
Accelerated pension and B&C notes obligation	216,500	490,300	706,800
Lease payment	4,831,000	5,905,004	10,736,004
Water Residential Assistance Program	817,945	1,205,428	2,023,373
Improvement & Extension fund	47,695,000	22,547,700	70,242,700
Nonbudgeted financial reporting categories adjustments			
Depreciation	(140,571,120)	(168,544,370)	(309,115,490)
Amortization	7,205,273	(6,776,707)	428,566
Other nonoperating income	340,040	(4,712,938)	(4,372,898)
Gain (loss) on disposal of capital assets	(435,095)	516,379	81,284
Loss on impairment of capital assets	(670,137)	(355,204)	(1,025,341)
Raw water rights	2,753,503	-	2,753,503
Investment earnings construction fund	2,936,198	2,171,131	5,107,329
Improvement & Extension fund operating expenses	(2,107,743)	(21,000)	(2,128,743)
Change in Net Position per Statement of Revenues, Expenses and Changes in Net Position	<u>\$ (16,446,279)</u>	<u>\$ (5,623,578)</u>	<u>\$ (22,069,857)</u>

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF DAYS CASH - LIQUIDITY June 30, 2019

	2019	2018	2017	2016*
Water Fund				
Cash and investments - Unrestricted	\$ 347,204,928	\$ 317,089,746	\$ 267,335,558	\$ 167,292,572
Operating Expense				
Operating expense	\$ 263,959,730	\$ 254,602,752	\$ 245,868,861	\$ 120,841,204
Less: depreciation	(140,571,120)	(143,991,815)	(144,137,912)	(71,295,545)
Less: amortization of intangible asset - raw water rights	(3,566,664)	(2,080,554)	-	-
Net Operating Expense	\$ 119,821,946	\$ 108,530,383	\$ 101,730,949	\$ 49,545,659
Operating Expense per Day (365 days)	\$ 328,279	\$ 297,344	\$ 278,715	\$ 273,733
Days Cash				
Number of days cash	1,058	1,066	959	611
Sewage Disposal Fund				
Cash and investments - Unrestricted	\$ 236,057,128	\$ 208,563,268	\$ 205,179,312	\$ 188,063,375
Operating Expense				
Operating expense	\$ 342,585,175	\$ 363,629,987	\$ 336,946,731	\$ 170,401,050
Less: depreciation	(168,544,370)	(187,250,583)	(185,628,465)	(86,021,029)
Net Operating Expense	\$ 174,040,805	\$ 176,379,404	\$ 151,318,266	\$ 84,380,021
Operating Expense per Day (365 days)	\$ 476,824	\$ 483,231	\$ 414,571	\$ 466,188
Days Cash				
Number of days cash	495	432	495	403
Combined				
Cash and investments - Unrestricted	\$ 583,262,056	\$ 525,653,014	\$ 472,514,870	\$ 355,355,947
Operating Expense				
Operating expense	\$ 606,544,905	\$ 618,232,739	\$ 582,815,592	\$ 291,242,254
Less: depreciation	(309,115,490)	(331,242,398)	(329,766,377)	(157,316,574)
Less: amortization of intangible asset - raw water rights	(3,566,664)	(2,080,554)	-	-
Net Operating Expense	\$ 293,862,751	\$ 284,909,787	\$ 253,049,215	\$ 133,925,680
Operating Expense per Day (365 days)	\$ 805,103	\$ 780,575	\$ 693,286	\$ 739,921
Days Cash				
Number of days cash	724	673	682	480

*GLWA assumed operations on January 1, 2016. Data for 2016 includes six months of operation under GLWA. Operating expense per day for 2016 is computed using 181 days (six months of operations).

The accompanying notes to the supplementary information are an integral part of this schedule.

GREAT LAKES WATER AUTHORITY

NOTES TO SUPPLEMENTARY INFORMATION For the Year Ended June 30, 2019

Note 1 – Combining and Individual Fund Schedules

The Combining and Individual Fund Schedules presented combined the six funds the Authority maintains into the two major funds reported in the Basic Financial Statements, the Water Fund and Sewage Disposal Fund. The following describes the six funds and the purpose of each fund.

Water Operations & Maintenance (O&M) – All water revenues are credited to this fund. All expenses for the operations and maintenance of the water system are paid from this fund. This fund aligns with the revenue requirement for establishing service charges.

Sewer Operations & Maintenance (O&M) – All sewer revenues are credited to this fund. All expenses for the operations and maintenance of the wastewater system are paid from this fund. This fund aligns with the revenue requirement for establishing service charges.

Water Improvement & Extension Fund (I&E) – Amounts that are budgeted in the water revenue requirement to reduce debt financing are transferred to this fund as well as any other water funds that management has determined are available for this use. This fund is used for water system capital improvements. Expenditures under the operating expenses category are expenditures incurred for the betterment of the system, which may lead to capital expenditures but are not necessarily applicable to any current capital improvement.

Sewer Improvement & Extension Fund (I&E) - Amounts that are budgeted in the wastewater revenue requirement to reduce debt financing are transferred to this fund as well as any other wastewater funds that management has determined are available for this use. This fund is used for wastewater system capital improvements. Expenditures under the operating expenses category are expenditures incurred for the betterment of the system, which may lead to capital expenditures but are not necessarily applicable to any current capital improvement.

Water Construction Fund – This fund is used for the proceeds of water debt obligations and investment earnings thereon. Funds are used to pay for water system capital improvements in accordance with the debt obligations.

Sewer Construction Fund – This fund is used for the proceeds of sewer debt obligations and investment earnings thereon. Funds are used to pay for the wastewater system capital improvements in accordance with the debt obligations.

GREAT LAKES WATER AUTHORITY

NOTES TO SUPPLEMENTARY INFORMATION For the Year Ended June 30, 2019

Note 2 – Budget to Actual Schedules

Schedule of Operations and Maintenance Expense Cost Type Activity – Budget to Actual

The schedule of operations and maintenance expense (O&M) for the water system operations and the sewage disposal system operations provides the detail of the major expense categories of the O&M budget compared to the actual results. The actual expenditures are the operating expenses before depreciation for the Water Operations and the Sewer Operations reported in the Combining Schedule of Revenues, Expenses and Changes in Net position for the Water Fund and the Sewage Disposal Fund.

Schedule of Revenue Requirement – Budget to Actual

The revenue requirement is the basis for GLWA's budget and calculating Member Partner service charges. The revenue requirement is presented to align with the Master Bond Ordinance flow of funds categories. The budget basis reflects revenues and operations and maintenance expenses on an accrual basis in addition to cash payments for debt service, legacy pension obligations, and lease related activities.

The revenue requirement basis is foundational to GLWA's daily operations and long-term financial planning. The budget is adopted by the GLWA Board of Directors by resolution. The Board's action establishes the total operations and maintenance budget, total debt service requirements and total capital expenditures for both the Regional Water System and the Regional Sewer System. The legal level of budgetary control is at this level. Administratively, the budget may be modified within these categories. Modifications to the budget beyond those established levels would be presented to the Audit Committee, and subsequently to the Board.

Note 3 – Schedule of Revenue Requirement to Statement of Revenues, Expenses and Changes in Net Position Crosswalk

The Great Lakes Water Authority establishes a revenue requirements budget for the purposes of establishing charges, which follows a modified accrual basis of accounting. The financial report is prepared in accordance with Generally Accepted Accounting Principles for enterprise funds of a local government. Because the budget and the financial report are prepared using different basis of accounting, the crosswalk reconciles the Revenue Requirement to the Change in Net Position in the Statement of Revenues, Expenses and Changes in Net Position.

STATISTICAL SECTION

GREAT LAKES WATER AUTHORITY

STATISTICAL SECTION TABLE OF CONTENTS

The objective of the statistical section is to provide financial statement users with additional historical perspective, context and detail to assist in using the information in the financial statements, notes to financial statements and required supplementary information to understand and assess the Authority's economic condition.

The statistical section information is presented in the following categories:

		<u>Page</u>
Financial Trends Schedules 1 through 2	Financial trends information is intended to show how the Authority's financial position has changed over time.	102
Revenue Capacity Schedules 3 through 7	Revenue capacity information is intended to show the factors affecting the Authority's ability to generate its own-source revenue.	111
Debt Capacity Information Schedules 8 through 13	Debt capacity information is intended to show the Authority's debt burden and its ability to issue additional debt.	119
Demographic and Economic Schedules 14 through 15	Demographic and economic information is intended to show the socioeconomic environment within which the Authority operates.	132
Operating Information Schedules 16 through 18	Operating information is intended to show contextual information about operations and resources to provide understanding and assessing the Authority's economic condition.	134

Sources: Unless otherwise noted, information presented in these schedules was obtained from GLWA's comprehensive annual financial reports, the prior financial reports of DWSD or other internal information systems.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF NET POSITION - BUSINESS-TYPE ACTIVITIES

As of June 30, 2019

	2019	2018	2017	2016
Assets				
Current Assets				
Cash and cash equivalents	\$ 309,015,559	\$ 509,141,777	\$ 470,231,842	\$ 311,735,186
Restricted cash and cash equivalents	164,495,839	105,929,392	132,967,081	134,210,268
Restricted cash for the benefit of DWSD	3,318,316	8,418,827	288,378	62,078
Investments	274,246,497	16,511,237	2,283,028	43,620,761
Restricted investments	34,852,593	33,025,340	32,541,021	56,661,000
Receivables				
Billed	98,886,172	88,712,190	88,694,341	85,676,104
Unbilled	50,441,488	54,429,817	53,818,603	55,345,336
Other	1,137,526	3,728,886	3,158,350	114,648,035
Allowance for doubtful accounts	(42,257,915)	(39,084,816)	(35,352,009)	(124,009,242)
Due from other governments	30,243,156	47,927,860	50,789,041	107,688,300
Due from other funds	2,889,522	3,778,220	-	65,971
Contractual obligation receivable, current portion	26,418,147	24,813,886	23,339,242	11,929,259
Loan receivable - DWSD	17,542,669	9,367,355	-	-
Prepaid items and other assets	8,448,932	4,949,631	3,526,568	2,591,049
Inventories	5,832,593	8,471,626	8,509,454	9,984,063
Total Current Assets	<u>985,511,094</u>	<u>880,121,228</u>	<u>834,794,940</u>	<u>810,208,168</u>
Noncurrent Assets				
Restricted cash and cash equivalents	94,185,040	48,263,059	306,318,331	160,949,722
Restricted investments	150,978,512	293,697,988	101,708,122	105,028,079
Contractual obligation receivable	883,248,672	812,613,943	830,432,680	832,571,741
Loan receivable - DWSD	26,503,010	19,932,645	-	-
Prepaid lease	25,000,000	25,000,000	25,000,000	-
Assets not subject to depreciation	786,405,120	706,046,995	730,471,792	711,434,348
Capital assets being depreciated, net	3,747,783,788	3,984,216,865	4,178,315,045	4,427,945,555
Intangible asset - raw water rights, net	101,352,701	104,919,365	-	-
Prepaid insurance on debt	22,635,151	29,933,631	32,694,221	48,653,581
Total Noncurrent Assets	<u>5,838,091,994</u>	<u>6,024,624,491</u>	<u>6,204,940,191</u>	<u>6,286,583,026</u>
Total Assets	<u>6,823,603,088</u>	<u>6,904,745,719</u>	<u>7,039,735,131</u>	<u>7,096,791,194</u>
Deferred Outflows of Resources				
Deferred charge on refunding	241,879,138	280,975,963	297,646,441	328,659,457
Deferred pension amounts	31,717,285	52,015,636	59,954,478	37,997,043
Total Deferred Outflows of Resources	<u>273,596,423</u>	<u>332,991,599</u>	<u>357,600,919</u>	<u>366,656,500</u>

	2019	2018	2017	2016
Liabilities				
Current Liabilities				
Accounts and contracts payable	\$ 74,662,036	\$ 67,832,136	\$ 64,298,400	\$ 85,626,614
Accrued salaries, wages and benefits	4,284,220	4,734,956	3,190,038	2,887,280
Other accrued liabilities	7,109,589	12,679,692	2,252,616	1,550,254
Due to other governments	15,963,934	11,983,407	61,242,386	37,893,903
Due to other funds	2,889,522	3,778,220	-	65,971
Interest payable	84,456,284	80,431,318	80,340,520	81,139,013
Current portion of:				
Long-term debt	117,602,109	81,756,050	89,314,212	96,552,356
Leases payable	11,153,602	10,698,835	10,262,609	9,844,169
Lease obligation - raw water rights	2,520,996	2,999,458	-	-
Obligation payable	572,474	545,213	519,251	494,524
Accrued compensated absences	3,188,156	2,929,412	2,837,148	2,239,376
Accrued workers' compensation	217,480	228,239	25,000	785,953
Claims and judgments	2,346,111	2,529,392	3,852,062	4,763,944
Total Current Liabilities	<u>326,966,513</u>	<u>283,126,328</u>	<u>318,134,242</u>	<u>323,843,357</u>
Noncurrent Liabilities				
Long-term debt	5,630,571,800	5,714,095,283	5,842,482,161	5,876,115,822
Long-term leases payable	925,488,338	936,641,935	947,340,770	957,603,379
Lease obligation - raw water rights	100,720,123	103,241,118	-	-
Obligation payable	54,983,412	55,555,887	56,101,100	56,620,351
Accrued compensated absences	2,049,655	2,174,506	2,288,125	3,511,934
Accrued workers' compensation	75,000	75,000	225,000	7,953,474
Claims and judgments	7,550,000	7,550,000	262,500	25,914,350
Other noncurrent liabilities	9,096,630	8,638,011	8,565,277	8,622,785
Net pension liability	131,981,165	178,961,907	194,075,547	170,229,438
Total Noncurrent Liabilities	<u>6,862,516,123</u>	<u>7,006,933,647</u>	<u>7,051,340,480</u>	<u>7,106,571,533</u>
Total Liabilities	<u>7,189,482,636</u>	<u>7,290,059,975</u>	<u>7,369,474,722</u>	<u>7,430,414,890</u>
Deferred Inflows of Resources				
Deferred amounts for swap terminations	240,839	270,150	299,461	4,373,886
Deferred gain on refunding	108,300,657	105,907,267	112,080,430	-
Deferred pension amounts	-	20,254,690	18,316,430	43,342,798
Total Deferred Inflows of Resources	<u>108,541,496</u>	<u>126,432,107</u>	<u>130,696,321</u>	<u>47,716,684</u>
Net Position				
Net investment in capital assets	(228,867,586)	350,745,726	528,875,506	851,734,519
Restricted for debt service	146,977,835	125,235,904	134,125,957	178,540,029
Restricted for capital acquisition	-	243,238,577	323,905,502	164,326,618
Restricted for payment assistance program	8,001,369	5,771,110	5,336,117	977,278
Unrestricted deficit	<u>(126,936,239)</u>	<u>(903,746,081)</u>	<u>(1,095,078,075)</u>	<u>(1,210,262,324)</u>
TOTAL NET POSITION	<u>\$ (200,824,621)</u>	<u>\$ (178,754,764)</u>	<u>\$ (102,834,993)</u>	<u>\$ (14,683,880)</u>

GREAT LAKES WATER AUTHORITY

SCHEDULE OF NET POSITION - WATER FUND

As of June 30, 2019

	2019	2018	2017	2016
Assets				
Current Assets				
Cash and cash equivalents	\$ 148,643,793	\$ 310,085,221	\$ 266,483,138	\$ 155,712,891
Restricted cash and cash equivalents	68,564,311	51,097,342	60,753,268	53,028,844
Restricted cash for the benefit of DWSD	2,690,397	8,418,827	288,378	10,430
Investments	198,561,135	7,004,525	852,420	11,579,681
Restricted investments	1,468,148	1,234,954	1,169,187	27,818,000
Receivables				
Billed	38,336,701	38,272,740	36,459,563	37,629,170
Unbilled	26,144,348	29,229,709	29,539,433	32,307,945
Other	916,074	5,850	1,300	21,899,046
Allowance for doubtful accounts	(7,455,747)	(6,221,815)	(4,941,777)	(25,040,612)
Due from other governments	30,063,571	23,588,754	21,327,713	41,486,157
Due from other funds	2,876,954	330,293	-	-
Contractual obligation receivable, current portion	14,328,368	13,560,086	12,076,942	6,851,584
Prepaid items and other assets	5,647,661	3,265,972	2,437,047	2,183,690
Inventories	386,612	-	-	-
Total Current Assets	<u>531,172,326</u>	<u>479,872,458</u>	<u>426,446,612</u>	<u>365,466,826</u>
Noncurrent Assets				
Restricted cash and cash equivalents	32,154,262	18,261,706	177,939,494	5,460,942
Restricted investments	77,075,423	150,436,225	20,530,374	42,841,345
Contractual obligation receivable	468,481,719	477,039,443	483,604,380	466,317,666
Prepaid lease	11,250,000	11,250,000	11,250,000	-
Assets not subject to depreciation	467,830,218	434,684,895	452,185,674	415,558,090
Capital assets being depreciated, net	1,390,765,435	1,499,118,693	1,587,291,603	1,728,054,410
Intangible asset - raw water rights, net	101,352,701	104,919,365	-	-
Prepaid insurance on debt	8,754,897	13,002,376	14,112,324	20,831,496
Total Noncurrent Assets	<u>2,557,664,655</u>	<u>2,708,712,703</u>	<u>2,746,913,849</u>	<u>2,679,063,949</u>
Total Assets	<u>3,088,836,981</u>	<u>3,188,585,161</u>	<u>3,173,360,461</u>	<u>3,044,530,775</u>
Deferred Outflows of Resources				
Deferred charge on refunding	82,508,971	94,431,823	99,294,499	116,511,949
Deferred pension amounts	11,369,496	18,645,719	21,491,506	13,620,562
Total Deferred Outflows of Resources	<u>93,878,467</u>	<u>113,077,542</u>	<u>120,786,005</u>	<u>130,132,511</u>

	2019	2018	2017	2016
Liabilities				
Current Liabilities				
Accounts and contracts payable	\$ 36,657,714	\$ 33,754,534	\$ 36,751,842	\$ 49,474,527
Accrued salaries, wages and benefits	4,284,220	4,734,956	3,190,038	2,887,280
Other accrued liabilities	6,481,670	12,679,692	1,353,816	875,796
Due to other governments	15,963,934	11,935,868	25,393,813	13,668,890
Due to other funds	12,568	3,447,927	-	65,971
Interest payable	40,325,682	39,322,324	39,329,322	37,226,125
Current portion of:				
Long-term debt	29,244,447	20,569,843	23,393,905	35,650,167
Leases payable	5,019,121	4,814,476	4,618,174	4,429,876
Lease obligation - raw water rights	2,520,996	2,999,458	-	-
Obligation payable	176,183	167,794	159,803	152,193
Accrued compensated absences	2,430,828	2,212,326	2,157,888	1,784,746
Accrued workers' compensation	217,480	228,239	25,000	395,788
Claims and judgments	2,290,000	2,195,000	-	4,494,694
Total Current Liabilities	<u>145,624,843</u>	<u>139,062,437</u>	<u>136,373,601</u>	<u>151,106,053</u>
Noncurrent Liabilities				
Long-term debt	2,467,177,447	2,545,529,255	2,606,465,431	2,488,824,632
Long-term leases payable	416,469,750	421,488,871	426,303,346	430,921,520
Lease obligation - raw water rights	100,720,123	103,241,118	-	-
Obligation payable	16,921,526	17,097,709	17,265,503	17,425,306
Accrued compensated absences	2,049,655	2,174,506	2,288,125	3,511,934
Accrued workers' compensation	75,000	75,000	225,000	3,562,536
Claims and judgments	50,000	50,000	75,000	-
Other noncurrent liabilities	2,804,949	2,634,471	2,582,076	2,710,092
Net pension liability	47,310,460	64,151,352	69,569,044	61,021,079
Total Noncurrent Liabilities	<u>3,053,578,910</u>	<u>3,156,442,282</u>	<u>3,124,773,525</u>	<u>3,007,977,099</u>
Total Liabilities	<u>3,199,203,753</u>	<u>3,295,504,719</u>	<u>3,261,147,126</u>	<u>3,159,083,152</u>
Deferred Inflows of Resources				
Deferred amounts for swap terminations	75,616	80,342	85,068	4,134,908
Deferred gain on refunding	60,317,719	59,252,431	62,822,646	-
Deferred pension amounts	-	7,260,572	6,565,776	15,536,821
Total Deferred Inflows of Resources	<u>60,393,335</u>	<u>66,593,345</u>	<u>69,473,490</u>	<u>19,671,729</u>
Net Position				
Net investment in capital assets	(166,485,092)	60,799,635	134,919,107	400,187,482
Restricted for debt service	29,731,576	23,239,368	26,194,280	69,797,836
Restricted for capital acquisition	-	140,732,216	172,974,994	-
Restricted for payment assistance program	3,369,875	2,462,214	2,218,373	977,278
Unrestricted (deficit)	<u>56,502,001</u>	<u>(287,668,794)</u>	<u>(372,780,904)</u>	<u>(475,054,191)</u>
TOTAL NET POSITION	<u>\$ (76,881,640)</u>	<u>\$ (60,435,361)</u>	<u>\$ (36,474,150)</u>	<u>\$ (4,091,595)</u>

GREAT LAKES WATER AUTHORITY

SCHEDULE OF NET POSITION - SEWAGE DISPOSAL FUND

As of June 30, 2019

	2019	2018	2017	2016
Assets				
Current Assets				
Cash and cash equivalents	\$ 160,371,766	\$ 199,056,556	\$ 203,748,704	\$ 156,022,295
Restricted cash and cash equivalents	95,931,528	54,832,050	72,213,813	81,181,424
Restricted cash for the benefit of DWSD	627,919	-	-	51,648
Investments	75,685,362	9,506,712	1,430,608	32,041,080
Restricted investments	33,384,445	31,790,386	31,371,834	28,843,000
Receivables				
Billed	60,549,471	50,439,450	52,234,778	48,046,934
Unbilled	24,297,140	25,200,108	24,279,170	23,037,391
Other	221,452	3,723,036	3,157,050	92,748,989
Allowance for doubtful accounts	(34,802,168)	(32,863,001)	(30,410,232)	(98,968,630)
Due from other governments	179,585	24,339,106	29,461,328	66,202,143
Due from other funds	12,568	3,447,927	-	65,971
Contractual obligation receivable, current portion	12,089,779	11,253,800	11,262,300	5,077,675
Loan receivable - DWSD	17,542,669	9,367,355	-	-
Prepaid items and other assets	2,801,271	1,683,659	1,089,521	407,359
Inventories	5,445,981	8,471,626	8,509,454	9,984,063
Total Current Assets	<u>454,338,768</u>	<u>400,248,770</u>	<u>408,348,328</u>	<u>444,741,342</u>
Noncurrent Assets				
Restricted cash and cash equivalents	62,030,778	30,001,353	128,378,837	155,488,780
Restricted investments	73,903,089	143,261,763	81,177,748	62,186,734
Contractual obligation receivable	414,766,953	335,574,500	346,828,300	366,254,075
Loan receivable - DWSD	26,503,010	19,932,645	-	-
Prepaid lease	13,750,000	13,750,000	13,750,000	-
Assets not subject to depreciation	318,574,902	271,362,100	278,286,118	295,876,258
Capital assets being depreciated, net	2,357,018,353	2,485,098,172	2,591,023,442	2,699,891,145
Prepaid insurance on debt	13,880,254	16,931,255	18,581,897	27,822,085
Total Noncurrent Assets	<u>3,280,427,339</u>	<u>3,315,911,788</u>	<u>3,458,026,342</u>	<u>3,607,519,077</u>
Total Assets	<u>3,734,766,107</u>	<u>3,716,160,558</u>	<u>3,866,374,670</u>	<u>4,052,260,419</u>
Deferred Outflows of Resources				
Deferred charge on refunding	159,370,167	186,544,140	198,351,942	212,147,508
Deferred pension amounts	20,347,789	33,369,917	38,462,972	24,376,481
Total Deferred Outflows of Resources	<u>179,717,956</u>	<u>219,914,057</u>	<u>236,814,914</u>	<u>236,523,989</u>

	2019	2018	2017	2016
Liabilities				
Current Liabilities				
Accounts and contracts payable	\$ 38,004,322	\$ 34,077,602	\$ 27,546,558	\$ 36,152,087
Other accrued liabilities	627,919	-	898,800	674,458
Due to other governments	-	47,539	35,848,573	24,225,013
Due to other funds	2,876,954	330,293	-	-
Interest payable	44,130,602	41,108,994	41,011,198	43,912,888
Current portion of:				
Long-term debt	88,357,662	61,186,207	65,920,307	60,902,189
Leases payable	6,134,481	5,884,359	5,644,435	5,414,293
Obligation payable	396,291	377,419	359,448	342,331
Accrued compensated absences	757,328	717,086	679,260	454,630
Accrued workers' compensation	-	-	-	390,165
Claims and judgments	56,111	334,392	3,852,062	269,250
Total Current Liabilities	<u>181,341,670</u>	<u>144,063,891</u>	<u>181,760,641</u>	<u>172,737,304</u>
Noncurrent Liabilities				
Long-term debt	3,163,394,353	3,168,566,028	3,236,016,730	3,387,291,190
Long-term leases payable	509,018,588	515,153,064	521,037,424	526,681,859
Obligation payable	38,061,886	38,458,178	38,835,597	39,195,045
Accrued workers' compensation	-	-	-	4,390,938
Claims and judgments	7,500,000	7,500,000	187,500	25,914,350
Other noncurrent liabilities	6,291,681	6,003,540	5,983,201	5,912,693
Net pension liability	84,670,705	114,810,555	124,506,503	109,208,359
Total Noncurrent Liabilities	<u>3,808,937,213</u>	<u>3,850,491,365</u>	<u>3,926,566,955</u>	<u>4,098,594,434</u>
Total Liabilities	<u>3,990,278,883</u>	<u>3,994,555,256</u>	<u>4,108,327,596</u>	<u>4,271,331,738</u>
Deferred Inflows of Resources				
Deferred amounts for swap terminations	165,223	189,808	214,393	238,978
Deferred gain on refunding	47,982,938	46,654,836	49,257,784	-
Deferred pension amounts	-	12,994,118	11,750,654	27,805,977
Total Deferred Inflows of Resources	<u>48,148,161</u>	<u>59,838,762</u>	<u>61,222,831</u>	<u>28,044,955</u>
Net Position				
Net investment in capital assets	(62,382,494)	289,946,091	393,956,399	451,547,037
Restricted for debt service	117,246,259	101,996,536	107,931,677	108,742,193
Restricted for capital acquisition	-	102,506,361	150,930,508	164,326,618
Restricted for payment assistance program	4,631,494	3,308,896	3,117,744	-
Unrestricted (deficit)	<u>(183,438,240)</u>	<u>(616,077,287)</u>	<u>(722,297,171)</u>	<u>(735,208,133)</u>
TOTAL NET POSITION	<u>\$ (123,942,981)</u>	<u>\$ (118,319,403)</u>	<u>\$ (66,360,843)</u>	<u>\$ (10,592,285)</u>

GREAT LAKES WATER AUTHORITY

CHANGES IN NET POSITION - BUSINESS-TYPE ACTIVITIES

	2019	2018	2017	2016*
Operating Revenues				
Wholesale customer charges	\$ 584,171,596	\$ 592,096,175	\$ 594,426,876	\$ 281,883,522
Local system charges	201,340,700	194,099,800	202,794,400	102,660,400
Industrial waste charges	9,106,274	14,334,979	14,381,106	6,910,192
Pollutant surcharges	5,932,550	6,908,404	5,206,294	2,423,910
Bad debt recovery	-	-	40,172,155	-
Other revenues	527,663	4,455,345	576,195	4,252,477
Total Operating Revenues	801,078,783	811,894,703	857,557,026	398,130,501
Operating Expenses				
Personnel	98,588,599	95,525,457	86,156,304	21,590,763
Contractual services	101,743,758	99,877,310	90,135,859	17,179,869
Utilities	51,395,385	53,694,380	55,661,469	25,037,499
Chemicals	13,275,860	12,877,813	14,765,181	6,451,484
Supplies and other expenses	37,120,915	34,526,388	20,162,690	17,903,355
Capital adjustment	2,258,351	-	-	-
Capital program allocation	(3,380,755)	(1,683,450)	(2,128,078)	-
Shared services allocation	(7,139,362)	(9,908,111)	(11,704,210)	-
Centralized services	-	-	-	35,228,282
Administrative services	-	-	-	10,534,428
Depreciation	309,115,490	331,242,398	329,766,377	157,316,574
Amortization of intangible asset - raw water rights	3,566,664	2,080,554	-	-
Total Operating Expenses	606,544,905	618,232,739	582,815,592	291,242,254
Operating Income	194,533,878	193,661,964	274,741,434	106,888,247
Nonoperating Revenues (Expenses)				
Earnings on investments	26,517,802	11,395,785	4,042,790	1,481,398
Interest on loan and obligations receivable	41,777,702	38,856,520	42,332,428	21,062,500
Interest expense	(296,597,333)	(300,395,306)	(291,592,097)	(148,447,442)
Amortization of debt related items and cost of issuance	3,995,230	8,684,285	(14,937,182)	2,055,724
Legacy pension expense	16,778,381	(24,922,162)	(7,021,006)	-
WRAP (Water Residential Assistance Program)	(2,024,119)	(3,755,534)	(2,127,333)	-
Other	419,859	(1,254,350)	661,734	-
Sewer lookback - MOU adjustment	(6,527,200)	-	-	-
Gain (loss) on disposal of capital assets	81,284	2,463,478	(250,826)	275,693
Loss on impairment of capital assets	(1,025,341)	(654,451)	(31,499)	-
Total Nonoperating Expenses	(216,603,735)	(269,581,735)	(268,922,991)	(123,572,127)
Income (loss) before contributions and special item	(22,069,857)	(75,919,771)	5,818,443	(16,683,880)
Capital Contributions	-	-	320,707	2,000,000
Special Item - memorandum of understanding with DWSD	-	-	(94,290,263)	-
Change in net position	(22,069,857)	(75,919,771)	(88,151,113)	(14,683,880)
NET POSITION (DEFICIT), Beginning of Year	(178,754,764)	(102,834,993)	(14,683,880)	-
NET POSITION (DEFICIT), END OF YEAR	\$ (200,824,621)	\$ (178,754,764)	\$ (102,834,993)	\$ (14,683,880)

*GLWA began operations on January 1, 2016. The data for FY 2016 relates to six months of activity through June 30, 2016. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.

GREAT LAKES WATER AUTHORITY

CHANGES IN NET POSITION - WATER FUND

	2019	2018	2017	2016*
Operating Revenues				
Wholesale customer charges	\$ 311,399,136	\$ 323,117,344	\$ 331,115,131	\$ 160,777,169
Local system charges	20,181,400	15,130,600	15,490,300	6,833,500
Bad debt recovery	-	-	5,107,125	-
Other revenues	21,340	64,200	37,388	54,863
Total Operating Revenues	331,601,876	338,312,144	351,749,944	167,665,532
Operating Expenses				
Personnel	42,085,546	41,845,295	38,261,393	8,301,022
Contractual services	43,083,078	35,794,549	34,257,419	3,304,113
Utilities	26,247,858	26,871,081	28,469,603	12,368,557
Chemicals	5,088,827	4,804,768	5,340,753	2,444,543
Supplies and other expenses	11,797,279	9,543,615	7,982,562	1,440,644
Capital program allocation	(2,054,913)	(713,779)	(977,762)	-
Shared services allocation	(6,425,729)	(9,615,146)	(11,603,019)	-
Centralized services	-	-	-	18,494,851
Administrative services	-	-	-	3,191,929
Depreciation	140,571,120	143,991,815	144,137,912	71,295,545
Amortization of intangible asset - raw water rights	3,566,664	2,080,554	-	-
Total Operating Expenses	263,959,730	254,602,752	245,868,861	120,841,204
Operating Income	67,642,146	83,709,392	105,881,083	46,824,328
Nonoperating Revenues (Expenses)				
Earnings on investments	14,754,401	6,129,530	1,832,918	392,031
Interest on obligations receivable	22,921,380	23,351,220	25,269,750	12,231,250
Interest expense	(136,704,033)	(139,343,204)	(132,434,945)	(65,958,095)
Amortization of debt related items and cost of issuance	10,771,937	13,837,585	2,403,018	2,418,891
Legacy pension expense	6,014,441	(8,933,691)	(2,516,776)	-
WRAP (Water Residential Assistance Program)	(855,455)	(1,506,554)	(884,327)	-
Other	114,136	(544,813)	1,117,704	-
Gain (loss) on disposal of capital assets	(435,095)	(6,225)	(207,900)	-
Loss on impairment of capital assets	(670,137)	(654,451)	(31,499)	-
Total Nonoperating Expenses	(84,088,425)	(107,670,603)	(105,452,057)	(50,915,923)
Income (loss) before special item	(16,446,279)	(23,961,211)	429,026	(4,091,595)
Special Item - memorandum of understanding with DWSD	-	-	(32,811,581)	-
Change in net position	(16,446,279)	(23,961,211)	(32,382,555)	(4,091,595)
NET POSITION (DEFICIT), Beginning of Year	(60,435,361)	(36,474,150)	(4,091,595)	-
NET POSITION (DEFICIT), END OF YEAR	\$ (76,881,640)	\$ (60,435,361)	\$ (36,474,150)	\$ (4,091,595)

*GLWA began operations on January 1, 2016. The data for FY 2016 relates to six months of activity through June 30, 2016. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.

GREAT LAKES WATER AUTHORITY

CHANGES IN NET POSITION - SEWAGE DISPOSAL FUND

	2019	2018	2017	2016*
Operating Revenues				
Wholesale customer charges	\$ 272,772,460	\$ 268,978,831	\$ 263,311,745	\$ 121,106,353
Local system charges	181,159,300	178,969,200	187,304,100	95,826,900
Industrial waste charges	9,106,274	14,334,979	14,381,106	6,910,192
Pollutant surcharges	5,932,550	6,908,404	5,206,294	2,423,910
Bad debt recovery	-	-	35,065,030	-
Other revenues	506,323	4,391,145	538,807	4,197,614
Total Operating Revenues	469,476,907	473,582,559	505,807,082	230,464,969
Operating Expenses				
Personnel	56,503,053	53,680,162	47,894,911	13,289,741
Contractual services	58,660,680	64,082,761	55,878,440	13,875,756
Utilities	25,147,527	26,823,299	27,191,866	12,668,942
Chemicals	8,187,033	8,073,045	9,424,428	4,006,941
Supplies and other expenses	25,323,636	24,982,773	12,180,128	16,462,711
Capital adjustment	2,258,351	-	-	-
Capital program allocation	(1,325,842)	(969,671)	(1,150,316)	-
Shared services allocation	(713,633)	(292,965)	(101,191)	-
Centralized services	-	-	-	16,733,431
Administrative services	-	-	-	7,342,499
Depreciation	168,544,370	187,250,583	185,628,465	86,021,029
Total Operating Expenses	342,585,175	363,629,987	336,946,731	170,401,050
Operating Income	126,891,732	109,952,572	168,860,351	60,063,919
Nonoperating Revenues (Expenses)				
Earnings on investments	11,763,401	5,266,255	2,209,872	1,089,367
Interest on loan and obligations receivable	18,856,322	15,505,300	17,062,678	8,831,250
Interest expense	(159,893,300)	(161,052,102)	(159,157,152)	(82,489,347)
Amortization of debt related items and cost of issuance	(6,776,707)	(5,153,300)	(17,340,200)	(363,167)
Legacy pension expense	10,763,940	(15,988,471)	(4,504,230)	-
WRAP (Water Residential Assistance Program)	(1,168,664)	(2,248,980)	(1,243,006)	-
Other	305,723	(709,537)	(455,970)	-
Sewer lookback - MOU adjustment	(6,527,200)	-	-	-
Gain (loss) on disposal of capital assets	516,379	2,469,703	(42,926)	275,693
Loss on impairment of capital assets	(355,204)	-	-	-
Total Nonoperating Expenses	(132,515,310)	(161,911,132)	(163,470,934)	(72,656,204)
Income (loss) before contributions and special item	(5,623,578)	(51,958,560)	5,389,417	(12,592,285)
Capital Contributions	-	-	320,707	2,000,000
Special Item - memorandum of understanding with DWSD	-	-	(61,478,682)	-
Change in net position	(5,623,578)	(51,958,560)	(55,768,558)	(10,592,285)
NET POSITION (DEFICIT), Beginning of Year	(118,319,403)	(66,360,843)	(10,592,285)	-
NET POSITION (DEFICIT), END OF YEAR	\$ (123,942,981)	\$ (118,319,403)	\$ (66,360,843)	\$ (10,592,285)

*GLWA began operations on January 1, 2016. The data for FY 2016 relates to six months of activity through June 30, 2016. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.

GREAT LAKES WATER AUTHORITY

OPERATING REVENUES AND CHARGE INCREASES

	Budgeted 2020	Actual 2019	Actual 2018	Actual 2017	Actual 2016* [3]
Water Fund					
Operating revenues:					
Wholesale customer charges	\$ 309,284,500	\$ 311,399,136	\$ 323,117,344	\$ 331,115,131	\$ 160,777,169
Local system charges	21,295,500	20,181,400	15,130,600	15,490,300	6,833,500
Bad debt recovery	-	-	-	5,107,125	-
Other revenues	9,084,200	21,340	64,200	37,388	54,863
Total Operating Revenues	\$ 339,664,200	\$ 331,601,876	\$ 338,312,144	\$ 351,749,944	\$ 167,665,532
Change in budgeted revenue requirement	2.5%	1.0%	-0.9%	4.0%	4.0%
Average annual charge increase:					
All customers	0.9%	1.6%	1.9%	4.5%	9.8%
Suburban wholesale customers	0.3%	1.7%	2.0%	4.3%	11.3%
Detroit wholesale customers [5]	2.7%	14.1%	-1.0%	4.1%	n/a [4]
Detroit retail rate increase [2]	2.0%	1.6%	1.7%	3.3%	5.3%
Number of wholesale customers [1]	87	87	87	88	85
Sewage Disposal Fund					
Operating Revenues:					
Wholesale customer charges	\$ 272,323,600	\$ 272,772,460	\$ 268,978,831	\$ 263,311,745	\$ 121,106,353
Local system charges	185,807,300	181,159,300	178,969,200	187,304,100	95,826,900
Industrial waste and surcharges	13,743,600	15,038,824	21,243,383	19,587,400	9,334,102
Bad debt recovery	-	-	-	35,065,030	-
Other revenues	8,730,800	506,323	4,391,145	538,807	4,197,614
Total Operating Revenues	\$ 480,605,300	\$ 469,476,907	\$ 473,582,559	\$ 505,807,082	\$ 230,464,969
Change in budgeted revenue requirement	2.2%	1.0%	0.3%	4.0%	4.0%
Average annual charge increase:					
All customers	1.4%	0.1%	-0.6%	8.3%	1.5%
Suburban wholesale customers	-0.1%	1.3%	1.9%	4.9%	-1.1%
Detroit wholesale customers [5]	2.5%	1.2%	-2.2%	-9.3%	n/a [4]
Detroit retail rate increase [2]	2.0%	10.2%	1.7%	3.5%	8.6%
Number of wholesale customers [1]	18	18	18	18	21

* GLWA began operations on January 1, 2016. The data for FY 2016 relates to six months of activity through June 30, 2016. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.

[1] Does not include the City of Detroit.

[2] This is the rate increase the City of Detroit Water and Sewerage charges the local customers.

[3] Percentage increase based on previous budget of Detroit Water and Sewerage Department.

[4] Due to the establishment of the Authority and DWSD as separate entities during FY 2016, this information is not applicable.

[5] Represents the annual change in the effective "wholesale service charge" to the Detroit customer class. Does not include any impact of Detroit local system (retail) costs or charges. Also does not include any impact of Detroit's use of the regional system lease payment to finance allocated debt service obligations.

Source: Great Lakes Water Authority Financial Services Area and The Foster Group

GREAT LAKES WATER AUTHORITY

TEN LARGEST WHOLESALE WATER CUSTOMERS / TOTAL BILLED REVENUE

Last Ten Years

	2010*	2011*	2012*	2013*
Operating Revenues				
Flint [1]	\$ 17,421,663	\$ 17,103,752	\$ 20,919,987	\$ 23,308,800
Genesee County Drain Commission [1]	-	-	-	-
Southeast Oakland County Water Authority	9,285,621	10,293,814	12,111,306	19,541,038
Troy	7,550,028	7,295,491	-	9,311,146
Sterling Heights	8,696,601	8,113,053	9,882,899	12,089,582
Farmington Hills	7,547,585	7,775,635	8,503,722	10,575,173
Warren	-	7,532,208	9,121,108	9,945,794
Livonia	7,033,853	7,804,684	8,806,767	10,338,724
Shelby Township	7,403,056	8,175,322	9,966,936	10,824,461
Novi	6,782,362	7,063,698	8,340,815	-
Macomb Township	-	-	-	-
Rochester Hills	8,553,457	9,047,860	10,324,388	9,529,341
North Oakland County Water Authority	-	-	-	-
West Bloomfield Township	-	-	7,973,620	9,655,154
Canton Township	7,142,729	-	-	-
Ypsilanti Community Utilities Authority	-	-	-	-
TOTAL	<u>\$ 87,416,955</u>	<u>\$ 90,205,517</u>	<u>\$ 105,951,548</u>	<u>\$ 125,119,213</u>
Operating revenues - DWSD	\$ 285,470,426	\$ 316,002,201	\$ 336,129,945	\$ 355,527,761
Operating revenues - GLWA	-	-	-	-
Total operating revenues	<u>\$ 285,470,426</u>	<u>\$ 316,002,201</u>	<u>\$ 336,129,945</u>	<u>\$ 355,527,761</u>
% of total operating revenues	<u>30.62%</u>	<u>28.55%</u>	<u>31.52%</u>	<u>35.19%</u>

[1] Flint contract terminated April 2013, but service provided through April 2014 and re-established in November 2015 on a temporary basis until a long-term contract took effect on December 1, 2017. Non-contract service has been provided to Genesee County Drain Commission (GCDC) from May 2014 through mid-December 2017. GCDC changed service providers in December 2017 and has contracted with GLWA for as needed emergency water service.

*GLWA assumed operations on January 1, 2016. The information in this table from 2010-2015 is based on operations under the City of Detroit Water and Sewerage Department (DWSD). Data for 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

2014*	2015*	2016*	2017	2018	2019
\$ 23,871,366	\$ 15,804,309	\$ -	\$ 13,256,330	\$ 12,235,483	\$ 11,604,504
-	-	17,231,935	18,493,530	-	-
19,467,746	19,779,978	22,846,983	22,434,129	23,118,160	23,311,743
9,715,613	9,761,438	12,365,922	13,939,815	13,842,135	13,700,093
12,015,093	12,650,819	14,678,915	15,480,008	15,571,146	14,644,368
9,769,372	9,797,153	-	-	-	-
9,060,112	9,297,285	-	-	-	10,648,162
9,728,576	10,325,750	12,809,124	13,483,657	13,669,376	14,001,058
10,770,614	11,035,002	12,689,582	13,462,808	13,554,398	13,719,053
-	-	11,869,865	-	-	-
-	-	10,103,536	10,945,117	11,167,739	11,063,225
9,600,373	9,432,554	-	-	-	-
-	-	22,585,698	22,913,261	23,365,866	23,464,096
-	-	-	-	-	10,733,617
9,400,322	9,692,530	12,319,875	13,872,584	13,334,615	-
-	-	-	-	11,038,134	-
<u>\$ 123,399,187</u>	<u>\$ 117,576,818</u>	<u>\$ 149,501,435</u>	<u>\$ 158,281,239</u>	<u>\$ 150,897,052</u>	<u>\$ 146,889,919</u>
\$ 349,369,362	\$ 364,278,054	\$ 167,665,532	\$ -	\$ -	\$ -
-	-	217,759,272	351,749,944	338,312,144	331,601,876
<u>\$ 349,369,362</u>	<u>\$ 364,278,054</u>	<u>\$ 385,424,804</u>	<u>\$ 351,749,944</u>	<u>\$ 338,312,144</u>	<u>\$ 331,601,876</u>
<u>35.32%</u>	<u>32.28%</u>	<u>38.79%</u>	<u>45.00%</u>	<u>44.60%</u>	<u>44.30%</u>

GREAT LAKES WATER AUTHORITY

TEN LARGEST WHOLESALE SEWER CUSTOMERS / TOTAL BILLED REVENUE

Last Ten Years

	2010*	2011*	2012*	2013*
Operating Revenues				
Oakland Macomb Interceptor Drainage District	\$ 52,780,322	\$ 51,216,403	\$ 59,379,605	\$ 62,302,424
Wayne County - Rouge Valley	35,175,971	41,807,733	47,309,391	44,972,847
Oakland County-George W Kuhn Drainage District	27,820,025	35,810,320	39,620,971	38,148,325
Evergreen Farmington	22,080,501	24,951,389	28,097,941	27,556,982
NE Wayne County	14,760,986	19,146,923	20,532,777	19,293,968
Dearborn	12,752,026	14,441,467	15,884,591	15,292,901
Highland Park	3,965,206	4,490,709	4,840,249	5,007,724
Hamtramck	4,386,331	3,249,930	3,437,744	3,586,927
Grosse Pointe Farms	1,605,103	1,857,469	1,922,441	2,462,068
Grosse Pointe Park	976,896	1,151,516	1,413,363	1,273,953
TOTAL	\$ 176,303,367	\$ 198,123,859	\$ 222,439,073	\$ 219,898,119
Operating revenues - DWSD	\$ 365,537,390	\$ 410,719,075	\$ 437,654,891	\$ 440,863,260
Operating revenues - GLWA	-	-	-	-
Total operating revenues	<u>\$ 365,537,390</u>	<u>\$ 410,719,075</u>	<u>\$ 437,654,891</u>	<u>\$ 440,863,260</u>
% of total operating revenues	<u>48.23%</u>	<u>48.24%</u>	<u>50.83%</u>	<u>49.88%</u>

*GLWA assumed operations on January 1, 2016. The information in this table from 2010-2015 is based on operations under the City of Detroit Water and Sewerage Department (DWSD). Data for 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

Source: Great Lakes Water Authority Financial Services Area/The Foster Group

2014*	2015*	2016*	2017	2018	2019
\$ 71,972,397	\$ 74,853,600	\$ 69,206,904	\$ 69,627,600	\$ 72,816,000	\$ 77,533,200
51,181,360	50,930,400	51,784,039	55,486,800	55,022,400	53,761,200
41,658,188	42,046,800	42,804,155	45,682,800	45,751,200	44,972,400
29,198,838	29,686,800	30,177,613	32,179,200	33,733,200	34,578,000
20,406,419	22,585,200	22,993,819	24,120,000	24,637,200	24,672,000
16,406,661	18,190,800	18,368,762	19,603,200	19,628,400	19,372,800
6,887,428	5,569,200	5,616,167	5,818,800	5,642,400	5,614,800
3,941,094	4,054,800	3,936,205	4,086,000	3,958,800	3,962,400
2,502,113	2,449,200	2,486,773	2,667,600	2,696,400	2,727,600
1,244,951	1,465,200	1,492,206	1,626,000	1,740,000	1,801,200
<u>\$ 245,399,449</u>	<u>\$ 251,832,000</u>	<u>\$ 248,866,643</u>	<u>\$ 260,898,000</u>	<u>\$ 265,626,000</u>	<u>\$ 268,995,600</u>
\$ 475,770,844	\$ 505,671,614	\$ 282,415,566	\$ -	\$ -	\$ -
-	-	230,464,969	505,807,082	473,582,559	469,476,907
<u>\$ 475,770,844</u>	<u>\$ 505,671,614</u>	<u>\$ 512,880,535</u>	<u>\$ 505,807,082</u>	<u>\$ 473,582,559</u>	<u>\$ 469,476,907</u>
<u>51.58%</u>	<u>49.80%</u>	<u>48.52%</u>	<u>51.58%</u>	<u>56.09%</u>	<u>57.30%</u>

GREAT LAKES WATER AUTHORITY

SCHEDULE OF WHOLESALE WATER CHARGES*
AND TOTAL REVENUE REQUIREMENT FOR THE DETROIT RETAIL CLASS

Community Name	Fixed Monthly \$/mo	Commodity \$/Mcf	Community Name	Fixed Monthly \$/mo	Commodity \$/Mcf
Allen Park	\$ 115,500	\$ 6.99	Mayfield Township	\$ 2,200	\$ 31.99
Almont, Village of	11,400	10.22	Melvindale	34,300	6.22
Ash Township	39,200	7.71	New Haven, Village of	18,700	8.96
Belleville	14,800	9.60	North Oakland County Water Authority	1,185,200	10.37
Berlin Township	37,900	10.68	Northville, City	38,600	9.59
Brownstown Township	182,000	10.46	Northville Township	283,200	16.27
Bruce Township	9,300	54.76	Novi	459,900	12.48
Canton Township	502,600	11.29	Oak Park	68,300	5.64
Center Line	22,500	5.72	Oakland County Drain Commission	3,300	3.16
Chesterfield Township	201,700	9.74	Plymouth, City	52,800	9.97
Clinton Township	409,400	8.03	Plymouth Township	222,900	10.33
Commerce Township	185,900	14.38	Redford Township	157,600	7.25
Dearborn	533,600	5.95	River Rouge	35,200	6.16
Dearborn Heights	178,700	6.94	Riverview	43,100	7.95
Eastpointe	76,400	5.38	Rockwood	15,600	12.14
Ecorse	73,300	4.07	Romeo	12,800	18.05
Farmington	50,800	8.43	Romulus	193,100	7.77
Farmington Hills	463,200	9.78	Roseville	130,000	5.47
Ferndale	49,600	5.79	Royal Oak Township	11,500	7.63
Flat Rock	63,800	7.51	Shelby Township	700,700	14.05
Flint (1)	554,100	8.14	Southeastern Oakland County Water Authority	1,178,000	7.30
Fraser	59,700	7.69	South Rockwood	5,400	8.47
Garden City	85,100	7.66	Southgate	112,800	7.43
Gibraltar	16,900	7.67	St. Clair County-Burtchville Township	15,600	16.45
Grosse Ile Township	66,800	12.95	St. Clair County-Greenwood	21,300	13.36
Grosse Pointe Park	72,600	9.66	St. Clair Shores	148,900	5.88
Grosse Pointe Shores	31,600	12.50	Sterling Heights	743,400	9.79
Grosse Pointe Woods	75,400	9.43	Sumpter Township	33,700	9.45
Hamtramck	34,100	4.69	Sylvan Lake	11,900	14.17
Harper Woods	44,700	6.28	Taylor	229,100	6.49
Harrison Township	75,000	6.58	Trenton	110,800	10.02
Hazel Park	35,700	5.52	Troy	682,500	11.55
Highland Park	69,300	3.66	Utica	28,100	9.00
Huron Township	74,400	9.57	Van Buren Township	165,200	10.51
Imlay City	57,400	11.92	Walled Lake	46,600	12.02
Imlay Township	700	41.14	Warren	521,300	6.49
Inkster	61,100	5.30	Washington Township	111,000	11.86
Keego Harbor	15,400	11.96	Wayne	145,200	12.67
Lapeer	72,000	10.44	West Bloomfield Township	534,000	16.14
Lenox Township	15,000	7.79	Westland	312,400	7.81
Lincoln Park	114,400	6.34	Wixom	124,900	13.24
Livonia	707,300	11.28	Woodhaven	81,400	10.71
Macomb Township	561,200	13.80	Ypsilanti Community Utilities Authority	513,600	8.20
Madison Heights	103,000	6.07			

Annual Detroit Wholesale Revenue Requirement \$20,181,400 - Effective July 1, 2018

(1) Net fixed monthly charge will include credits for KWA debt service

*Wholesale charges went into effect July 1, 2018

GREAT LAKES WATER AUTHORITY

SCHEDULE OF WHOLESALE SEWER MONTHLY CHARGES* AND TOTAL REVENUE REQUIREMENT FOR THE DETROIT RETAIL CLASS

	<u>Total</u>
Oakland Macomb Interceptor District (OMID)	\$ 6,461,100
Rouge Valley	4,480,100
Oakland County - George W. Kuhn (GWK)	3,747,700
Evergreen Farmington	2,881,500
Northeast Wayne County	2,056,000
Dearborn	1,614,400
Grosse Pointe Farms	227,300
Grosse Pointe Park	150,100
Melvindale	126,900
Farmington	95,300
Center Line	85,600
Allen Park	70,600
Highland Park	467,900
Hamtramck	330,200
Grosse Pointe	74,100
Harper Woods	18,200
Redford Township	21,700
Wayne County #3	4,100

Annual Detroit Wholesale Revenue Requirement \$181,159,300 - Effective July 1, 2018

*Wholesale charges went into effect July 1, 2018

GREAT LAKES WATER AUTHORITY

INDUSTRIAL WASTE CONTROL CHARGES AND POLLUTANT SURCHARGES

		Charge per Month
Industrial Waste Control Charges		
Meter size - inches:		
5/8	\$	3.55
3/4		5.34
1		8.89
1 1/2		19.56
2		28.44
3		51.55
4		71.10
6		106.64
8		177.74
10		248.84
12		284.38
14		355.48
16		426.58
18		497.67
20		568.77
24		639.86
30		710.96
36		782.06
48		853.15
		Charge per Pound
Pollutant Surcharges		
Biochemical Oxygen Demand (BOD) for concentrations > 275 mg/l	\$	0.483
Total Suspended Solids (TSS) for concentrations > 350 mg/l	\$	0.490
Phosphorus (P) for concentrations > 12 mg/l	\$	7.228
Fats, Oil and Grease (FOG) for concentrations > 100 mg/l	\$	0.465
Septage Disposal Fee \$ per 500 gallons of disposal	\$	47.00

Charges went into effect July 1, 2018

GREAT LAKES WATER AUTHORITY

RATIOS OF OUTSTANDING DEBT BY TYPE

	2019	2018	2017	2016*
Water Fund				
Revenue bonds [1]	\$ 2,466,561,092	\$ 2,540,663,196	\$ 2,612,607,101	\$ 2,507,091,038
State revolving loans	<u>29,860,802</u>	<u>25,435,902</u>	<u>17,252,235</u>	<u>17,383,761</u>
Total Water Fund	<u>2,496,421,894</u>	<u>2,566,099,098</u>	<u>2,629,859,336</u>	<u>2,524,474,799</u>
Sewage Disposal Fund				
Revenue bonds [1]	2,764,196,915	2,739,090,653	2,797,168,264	2,922,089,599
Capital appreciation bonds [1]	13,377,972	14,984,042	19,501,737	19,668,138
State revolving loans	<u>474,177,128</u>	<u>475,677,540</u>	<u>485,267,036</u>	<u>506,435,742</u>
Total Sewage Disposal Fund	<u>3,251,752,015</u>	<u>3,229,752,235</u>	<u>3,301,937,037</u>	<u>3,448,193,479</u>
Business-type Activities				
Revenue bonds [1]	5,230,758,007	5,279,753,849	5,409,775,365	5,429,180,637
Capital appreciation bonds [1]	13,377,972	14,984,042	19,501,737	19,668,138
State revolving loans	<u>504,037,930</u>	<u>501,113,442</u>	<u>502,519,271</u>	<u>523,819,503</u>
Total Business-type Activities Debt	<u>\$ 5,748,173,909</u>	<u>\$ 5,795,851,333</u>	<u>\$ 5,931,796,373</u>	<u>\$ 5,972,668,278</u>
Total taxable value **	n/a	n/a	n/a	n/a
Total population served[2]:				
Water	3,800,000	3,800,000	3,800,000	3,800,000
Sewage disposal	2,800,000	2,800,000	2,800,000	2,800,000
Total debt per capita:				
Water	\$ 657	\$ 675	\$ 692	\$ 664
Sewage disposal	\$ 1,161	\$ 1,153	\$ 1,179	\$ 1,231
Per capital income [3]	\$ 53,748	\$ 51,493	\$ 50,863	\$ 48,692
Total debt as a percentage of income:				
Water	1.22%	1.31%	1.36%	1.36%
Sewage disposal	2.16%	2.24%	2.32%	2.53%

[1] Amounts are reported net of premiums and discounts.

[2] Source: Estimated based on data from Southeast Michigan Council of Governments (SEMCOG).

[3] Source: FRED Economic Data, St. Louis Fed and Michigan State University Center for Economic Analysis.

* GLWA began operations on January 1, 2016. The data for FY 2016 relates to six months of activity through June 30, 2016. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.

** GLWA does not levy property taxes; therefore, presentation of taxable values and the ratio of total debt to taxable value is not

Further details regarding the Authority's debt can be found in the notes to the financial statements.

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GREAT LAKES WATER AUTHORITY

DEBT BY LIEN
As of June 30, 2019

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	Original Principal Amount [1]	Outstanding as of June 30, 2019	Total Future Debt [2]
Water Supply System Revenue Bonds			
Senior Lien Bonds			
Water Supply System Revenue Senior Lien Bonds, Series 2003A	\$ 234,805,000	\$ 100,000	\$ 100,000
Water Supply System Revenue Senior Lien Bonds, Series 2005B	194,900,000	100,000	100,000
Water Supply System Revenue Senior Lien Bonds, Series 2006A	280,000,000	100,000	100,000
Water Supply System Revenue Senior Lien Bonds, Series 2011A	379,590,000	293,970,000	293,970,000
Water Supply System Revenue Senior Lien Bonds, Series 2011B	17,195,000	3,950,000	3,950,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2011C	103,890,000	75,145,000	75,145,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014D-1	206,540,000	189,875,000	189,875,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014D-2	188,455,000	188,455,000	188,455,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014D-3	62,700,000	1,390,000	1,390,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014D-4	307,645,000	209,360,000	209,360,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2015D-1	89,430,000	84,325,000	84,325,000
Water Supply System Revenue Senior Lien Bonds, Series 2016A	88,000,000	88,000,000	88,000,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2016C	443,930,000	443,930,000	443,930,000
	<u>2,597,080,000</u>	<u>1,578,700,000</u>	<u>1,578,700,000</u>
Second Lien Bonds			
Water Supply System Revenue Second Lien Bonds, Series 2003B	172,945,000	100,000	100,000
Water Supply System Revenue Second Lien Bonds, Series 2006B	120,000,000	200,000	200,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2014D-6	65,425,000	62,615,000	62,615,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2015D-2	37,235,000	37,235,000	37,235,000
Water Supply System Revenue Second Lien Bonds, Series 2016B	163,830,000	163,830,000	163,830,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2016D	222,045,000	222,045,000	222,045,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2018A	155,595,000	155,595,000	155,595,000
	<u>937,075,000</u>	<u>641,620,000</u>	<u>641,620,000</u>
SRF Junior Lien Bonds			
Water Supply System Revenue Bonds, Series 2005 SRF-1	13,805,164	6,025,164	6,025,164
Water Supply System Revenue Bonds, Series 2005 SRF-2	8,891,730	3,791,730	3,791,730
Water Supply System Revenue Bonds, Series 2006 SRF-1	5,180,926	2,240,926	2,240,926
Water Supply System Revenue Bonds, Series 2008 SRF-1	2,590,941	1,030,941	1,030,941
Water Supply System Revenue Bonds, Series 2016 SRF-1	8,273,168	8,053,168	8,053,168
Water Supply System Revenue Bonds, Series 2016 SRF-2	3,393,543	3,298,543	3,298,543
Water Supply System Revenue Bonds, Series 2017 SRF-1	6,675,000	5,420,330	6,675,000
Water Supply System Revenue Bonds, Series 2019 SRF-1	8,330,000	-	8,330,000
	<u>57,140,472</u>	<u>29,860,802</u>	<u>39,445,472</u>
TOTAL WATER SUPPLY SYSTEM REVENUE BONDS	<u>\$ 3,591,295,472</u>	<u>\$ 2,250,180,802</u>	<u>\$ 2,259,765,472</u>

GREAT LAKES WATER AUTHORITY

DEBT BY LIEN
As of June 30, 2019

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	Original Principal Amount [1]	Outstanding as of -	Total Future Debt [2]
Sewage Disposal System Revenue Bonds			
Senior Lien Bonds (Revenue and SRF)			
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-1	\$ 21,475,000	\$ 1,340,000	\$ 1,340,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-2	46,000,000	11,125,000	11,125,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-3	31,030,000	3,850,000	3,850,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-4	40,655,000	5,040,000	5,040,000
Sewage Disposal System Revenue Bonds, Series 1999A	33,510,118	14,780,000	14,780,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C-1	154,870,000	605,000	605,000
Sewage Disposal System Senior Lien Revenue Bonds, Series 2003B	150,000,000	100,000	100,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2004A	101,435,000	35,010,000	35,010,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2006D	370,000,000	239,475,000	239,475,000
Sewage Disposal System Revenue & Revenue Refunding Senior Lien Bonds, Series 2012A	659,780,000	495,175,000	495,175,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014C-1	123,220,000	123,215,000	123,215,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014C-2	27,470,000	27,465,000	27,465,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-3	446,170,000	446,170,000	446,170,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-5	95,165,000	18,620,000	18,620,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-6	143,880,000	88,900,000	88,900,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2016B	126,105,000	126,105,000	126,105,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2018A	81,595,000	81,595,000	81,595,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2018B	131,690,000	131,690,000	131,690,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2018C	44,180,000	44,180,000	44,180,000
	<u>2,828,230,118</u>	<u>1,894,440,000</u>	<u>1,894,440,000</u>
Second Lien Bonds			
Sewage Disposal System Second Lien Revenue Bonds, Series 2001B	110,550,000	78,895,000	78,895,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2005A	273,355,000	31,885,000	31,885,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005B	40,215,000	17,115,000	17,115,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005C	63,160,000	100,000	100,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2006B	250,000,000	55,100,000	55,100,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2014C-7	76,715,000	70,640,000	70,640,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2015C	197,660,000	197,160,000	197,160,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2016C	295,190,000	295,190,000	295,190,000
	<u>1,306,845,000</u>	<u>746,085,000</u>	<u>746,085,000</u>

GREAT LAKES WATER AUTHORITY

DEBT BY LIEN
As of June 30, 2019

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	Original Principal Amount [1]	Outstanding as of -	Total Future Debt [2]
Sewage Disposal System Revenue Bonds (concluded)			
Junior Lien Bonds (SRF)			
Sewage Disposal System Revenue Bonds, Series 2000 SRF-1	\$ 44,197,995	\$ 9,847,995	\$ 9,847,995
Sewage Disposal System Revenue Bonds, Series 2000 SRF-2	64,401,066	15,501,066	15,501,066
Sewage Disposal System Revenue Bonds, Series 2001 SRF-1	82,200,000	29,095,000	29,095,000
Sewage Disposal System Revenue Bonds, Series 2001 SRF-2	59,850,000	21,190,000	21,190,000
Sewage Disposal System Revenue Bonds, Series 2002 SRF-1	18,985,000	4,585,000	4,585,000
Sewage Disposal System Revenue Bonds, Series 2002 SRF-2	1,545,369	375,369	375,369
Sewage Disposal System Revenue Bonds, Series 2002 SRF-3	31,549,466	10,289,466	10,289,466
Sewage Disposal System Revenue Bonds, Series 2003 SRF-1	48,520,000	19,795,000	19,795,000
Sewage Disposal System Revenue Bonds, Series 2003 SRF-2	25,055,370	8,810,370	8,810,370
Sewage Disposal System Revenue Bonds, Series 2004 SRF-1	2,910,000	1,005,000	1,005,000
Sewage Disposal System Revenue Bonds, Series 2004 SRF-2	18,353,459	6,318,459	6,318,459
Sewage Disposal System Revenue Bonds, Series 2004 SRF-3	12,722,575	4,367,575	4,367,575
Sewage Disposal System Revenue Bonds, Series 2007 SRF-1	167,540,598	98,800,598	98,800,598
Sewage Disposal System Revenue Bonds, Series 2009 SRF-1	13,970,062	8,260,062	8,260,062
Sewage Disposal System Revenue Bonds, Series 2010 SRF-1	4,214,763	2,730,763	2,730,763
Sewage Disposal System Revenue Bonds, Series 2012 SRF-1	14,950,000	12,520,000	12,520,000
Sewage Disposal System Revenue Bonds, Series 2015A SRF	79,500,000	69,930,000	69,930,000
Sewage Disposal System Revenue Bonds, Series 2015B SRF	27,175,304	23,465,304	23,465,304
Sewage Disposal System Revenue Bonds, Series 2015D SRF	15,231,478	12,981,478	12,981,478
Sewage Disposal System Revenue Bonds, Series 2016 SAW-1	10,000,000	10,000,000	10,000,000
Sewage Disposal System Revenue Bonds, Series 2016 SRF-1	19,305,000	14,455,854	18,550,000
Sewage Disposal System Revenue Bonds, Series 2016 SRF-2	51,310,000	32,840,157	51,310,000
Sewage Disposal System Revenue Bonds, Series 2017 SRF-1	38,450,000	31,309,424	38,450,000
Sewage Disposal System Revenue Bonds, Series 2018 SRF-2	17,510,000	4,348,188	17,510,000
	<u>869,447,505</u>	<u>452,822,128</u>	<u>495,688,505</u>
TOTAL SEWAGE DISPOSAL SYSTEM REVENUE BONDS	<u>\$ 5,004,522,623</u>	<u>\$ 3,093,347,128</u>	<u>\$ 3,136,213,505</u>

[1] Reflects original amount issued by predecessor entity, DWSD, for bonds issued prior to January 1, 2016.

[2] Includes the full purchase contract amounts not drawn by June 30, 2019 from state revolving funds. Final amounts will be determined after project close-out.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF DEBT SERVICE REQUIREMENTS

As of June 30, 2019

Fiscal Year Ending [1]	Senior Lien Bonds (in \$1,000s)			Second Lien Bonds (in \$1,000s)		
	Principal	Interest	Total Debt Service	Principal	Interest	Total Debt Service
Water Fund						
2020 [2]	\$ 1,935	\$ 63,053	\$ 64,988	\$ 8,270	\$ 30,592	\$ 38,862
2021	44,070	78,738	122,808	16,870	30,558	47,428
2022	48,980	76,412	125,392	19,145	29,657	48,802
2023	52,225	73,881	126,106	15,505	28,791	44,296
2024	58,610	71,105	129,715	16,640	27,987	44,627
2025	61,550	68,084	129,634	17,540	27,133	44,673
2026	64,650	64,902	129,552	18,410	26,234	44,644
2027	67,915	61,574	129,489	19,335	25,291	44,626
2028	71,310	58,092	129,402	20,305	24,300	44,605
2029	74,870	54,436	129,306	21,320	23,259	44,579
2030	78,625	50,597	129,222	22,380	22,166	44,546
2031	82,550	46,566	129,116	26,310	20,949	47,259
2032	86,690	42,332	129,022	27,625	19,601	47,226
2033	91,015	37,888	128,903	29,005	18,328	47,333
2034	84,900	33,443	118,343	40,840	16,926	57,766
2035	93,165	28,923	122,088	38,555	15,143	53,698
2036	104,610	23,918	128,528	1,210	14,149	15,359
2037	13,255	20,932	34,187	118,605	11,153	129,758
2038	52,690	19,206	71,896	5	8,187	8,192
2039	59,775	16,251	76,026	5	8,187	8,192
2040	62,895	13,052	75,947	5	8,187	8,192
2041	66,180	9,685	75,865	5	8,187	8,192
2042	68,340	6,177	74,517	5	8,186	8,191
2043	15,905	3,997	19,902	29,630	7,446	37,076
2044	16,705	3,182	19,887	31,110	5,927	37,037
2045	17,535	2,326	19,861	32,670	4,333	37,003
2046	18,415	1,427	19,842	34,300	2,658	36,958
2047	19,335	483	19,818	36,015	900	36,915
2048	-	-	-	-	-	-
2049	-	-	-	-	-	-
Total	<u>\$ 1,578,700</u>	<u>\$ 1,030,662</u>	<u>\$ 2,609,362</u>	<u>\$ 641,620</u>	<u>\$ 474,415</u>	<u>\$ 1,116,035</u>

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Junior Lien Bonds (in \$1,000s)			Total (in \$1,000s)		
Principal	Interest	Total Debt Service	Total Debt Service as of June 30, 2019	Additional Future Junior Lien Debt Service on undrawn SRF Loans	Total Future Debt Service including undrawn SRF Loans
\$ 1,930	\$ 676	\$ 2,606	\$ 106,456	160	\$ 106,616
1,975	644	2,619	172,855	539	173,394
2,020	600	2,620	176,814	541	177,355
2,070	554	2,624	173,026	539	173,565
2,110	508	2,618	176,960	541	177,501
2,160	460	2,620	176,927	539	177,466
2,205	412	2,617	176,813	542	177,355
2,243	362	2,605	176,720	539	177,259
655	330	985	174,992	541	175,533
666	313	979	174,864	538	175,402
565	298	863	174,631	540	175,171
580	284	864	177,239	537	177,776
595	270	865	177,113	539	177,652
610	255	865	177,101	540	177,641
625	240	865	176,974	541	177,515
640	224	864	176,650	542	177,192
655	208	863	144,750	538	145,288
675	191	866	164,811	539	165,350
685	175	860	80,948	540	81,488
710	158	868	85,086	540	85,626
725	140	865	85,004	540	85,544
745	122	867	84,924	30	84,954
760	104	864	83,572	25	83,597
780	84	864	57,842	25	57,867
764	65	829	57,753	25	57,778
590	46	636	57,500	74	57,574
365	31	396	57,196	314	57,510
375	19	394	57,127	314	57,441
383	10	393	393	317	710
-	-	-	-	319	319
<u>\$ 29,861</u>	<u>\$ 7,783</u>	<u>\$ 37,644</u>	<u>\$ 3,763,041</u>	<u>\$ 12,398</u>	<u>\$ 3,775,439</u>

GREAT LAKES WATER AUTHORITY

SCHEDULE OF DEBT SERVICE REQUIREMENTS As of June 30, 2019

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Fiscal Year Ending [1]	Senior Lien Bonds (in \$1,000s)			Second Lien Bonds (in \$1,000s)		
	Principal	Interest	Total Debt Service	Principal	Interest	Total Debt Service
Sewage Disposal Fund						
2020 [2]	\$ 41,270	\$ 71,390	\$ 112,660	\$ -	\$ 30,849	\$ 30,849
2021	61,770	83,753	145,523	8,335	37,335	45,670
2022	50,125	81,430	131,555	17,515	36,663	54,178
2023	65,060	78,858	143,918	11,905	35,885	47,790
2024	74,420	75,573	149,993	3,215	35,485	38,700
2025	74,965	72,058	147,023	16,035	34,971	51,006
2026	73,315	68,457	141,772	16,995	34,087	51,082
2027	91,335	64,598	155,933	21,040	33,075	54,115
2028	95,140	60,828	155,968	25,795	31,840	57,635
2029	98,670	56,882	155,552	26,640	30,462	57,102
2030	102,975	52,589	155,564	19,860	29,230	49,090
2031	112,020	48,283	160,303	32,550	27,883	60,433
2032	116,030	44,024	160,054	34,175	26,215	60,390
2033	120,220	39,268	159,488	21,910	24,813	46,723
2034	125,710	33,447	159,157	25,915	23,641	49,556
2035	46,505	29,138	75,643	118,345	20,155	138,500
2036	4,170	27,868	32,038	168,680	13,076	181,756
2037	4,260	27,654	31,914	177,175	4,429	181,604
2038	110,090	24,679	134,769	-	-	-
2039	115,820	18,797	134,617	-	-	-
2040	121,855	12,609	134,464	-	-	-
2041	30,740	8,667	39,407	-	-	-
2042	32,280	7,092	39,372	-	-	-
2043	33,885	5,438	39,323	-	-	-
2044	35,585	3,701	39,286	-	-	-
2045	37,150	1,882	39,032	-	-	-
2046	4,425	843	5,268	-	-	-
2047	4,645	616	5,261	-	-	-
2048	4,880	378	5,258	-	-	-
2049	5,125	128	5,253	-	-	-
Total	<u>\$ 1,894,440</u>	<u>\$ 1,100,928</u>	<u>\$ 2,995,368</u>	<u>\$ 746,085</u>	<u>\$ 510,094</u>	<u>\$ 1,256,179</u>

[1] Reflects fiscal period in which actual payments are due.

[2] For bonds issued through the Michigan Finance Authority (MFA) in 2014 and 2015, the Authority is required to make payment on these obligations to the MFA depository accounts five business days prior to the due date of the bond principal and interest payments. Therefore, the payments for the principal and interest due on July 1, 2019, are not included in the debt service requirement amounts above as they were paid June 24, 2019.

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Junior Lien Bonds (in \$1,000s)			Total (in \$1,000s)		
Principal	Interest	Total Debt Service	Total Debt Service as of June 30, 2019	Additional Future Junior Lien Debt Service on undrawn SRF Loans	Total Future Debt Service including undrawn SRF Loans
\$ 41,265	\$ 10,043	\$ 51,308	\$ 194,817	\$ 1,014	\$ 195,831
43,110	9,081	52,191	243,384	1,006	244,390
44,335	8,072	52,407	238,140	1,006	239,146
45,319	7,038	52,357	244,065	1,006	245,071
38,930	6,058	44,988	233,681	1,006	234,687
39,816	5,166	44,982	243,011	1,006	244,017
26,035	4,392	30,427	223,281	1,006	224,287
23,485	3,860	27,345	237,393	1,006	238,399
23,970	3,355	27,325	240,928	1,006	241,934
24,283	2,841	27,124	239,778	1,201	240,979
24,191	2,324	26,515	231,169	1,804	232,973
13,981	1,881	15,862	236,598	1,802	238,400
14,060	1,530	15,590	236,034	1,806	237,840
14,080	1,177	15,257	221,468	2,143	223,611
11,945	823	12,768	221,481	4,638	226,119
11,691	522	12,213	226,356	5,188	231,544
10,432	240	10,672	224,466	5,769	230,235
654	39	693	214,211	8,025	222,236
610	23	633	135,402	8,086	143,488
630	8	638	135,255	6,842	142,097
-	-	-	134,464	1,062	135,526
-	-	-	39,407	1,062	40,469
-	-	-	39,372	1,061	40,433
-	-	-	39,323	1,060	40,383
-	-	-	39,286	-	39,286
-	-	-	39,032	-	39,032
-	-	-	5,268	-	5,268
-	-	-	5,261	-	5,261
-	-	-	5,258	-	5,258
-	-	-	5,253	-	5,253
<u>\$ 452,822</u>	<u>\$ 68,473</u>	<u>\$ 521,295</u>	<u>\$ 4,772,842</u>	<u>\$ 60,611</u>	<u>\$ 4,833,453</u>

GREAT LAKES WATER AUTHORITY

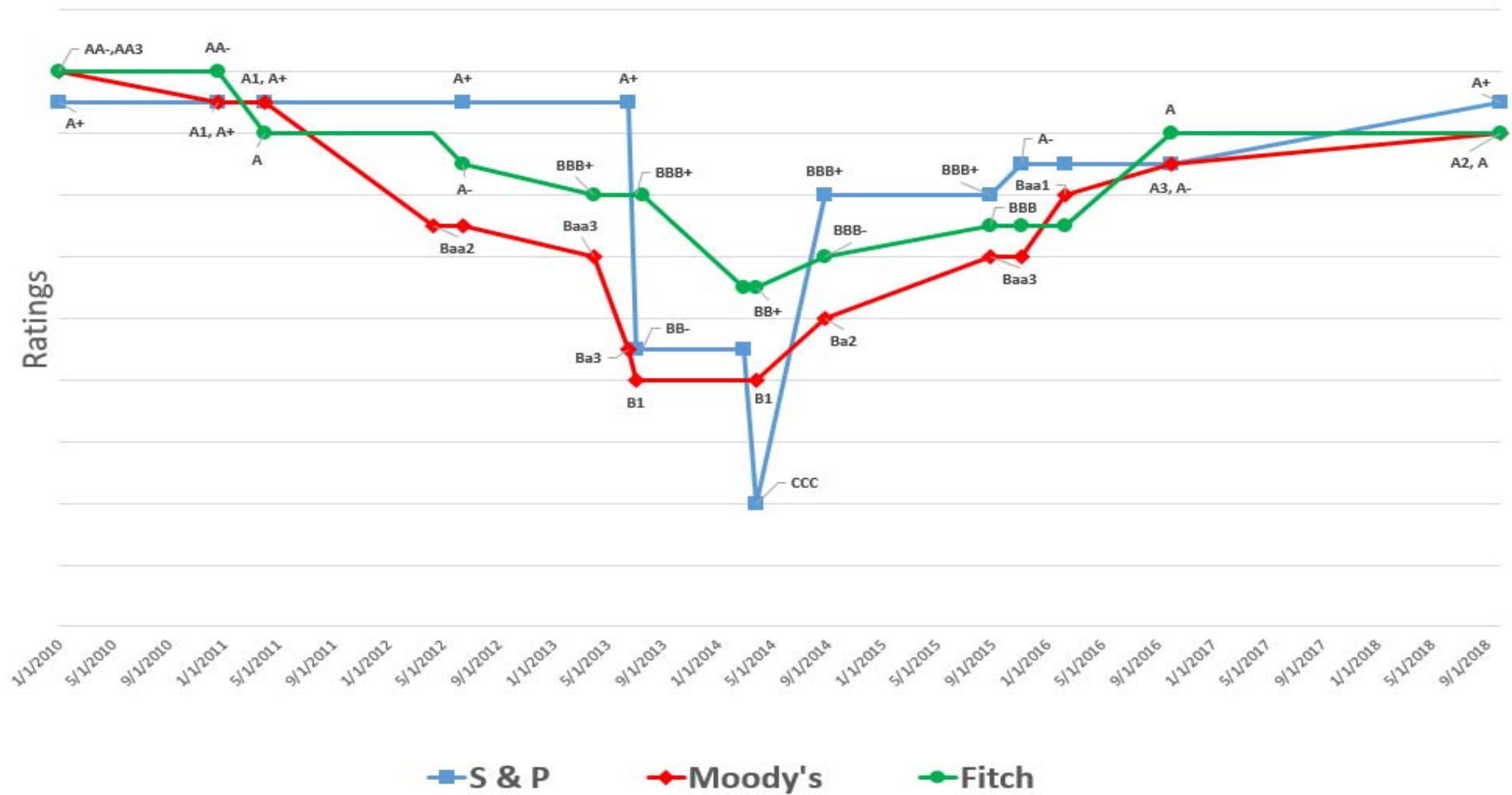
CURRENT DEBT RATINGS

As of June 30, 2019

Debt Type	Standard & Poor's	Rating Agency	
		Moody's	Fitch
Water Supply System Revenue			
Senior lien	AA-	A2	A
Second lien	A+	A3	A-
Junior lien	A+	N/A	N/A
Sewage Disposal System Revenue			
Senior lien	A+	A2	A
Second lien	A	A3	A-
Junior lien	A	N/A	N/A

GREAT LAKES WATER AUTHORITY

Water and Sewer Senior Lien - Debt Ratings History
As of June 30, 2019



GREAT LAKES WATER AUTHORITY

CALCULATION OF DEBT SERVICE COVERAGE - WATER FUND

As of June 30, 2019

The Authority has pledged Net Revenues of the system to secure the repayment of the principal and interest of the revenue bonds and State of Michigan revolving fund loans. Net Revenues are defined as all revenues except for those transferred to the Operations and Maintenance Fund. Revenues are defined in the Master Bond Ordinance and are in accordance with the State of Michigan Public Act 94, the Revenue Bond Act of 1933, as all monies collected, directly or indirectly, by GLWA or DWSD as agent for GLWA, under the water and sewer services agreement. A summary of the applicable debt service coverage as of June 30, 2019 is as follows:

	Water Fund			
	Adopted Budget	Amended Budget	Actual [5]	Variance
Operating Revenue				
Suburban Wholesale Customers [1]	\$ 307,382,500	\$ 307,382,500	\$ 304,419,633	\$ (2,962,867)
Detroit Customers				
Wholesale Service Charge Revenue [1]	20,181,400	20,181,400	20,181,400	-
Local Service Revenues [2]	70,912,900	70,912,900	63,354,585	(7,558,315)
Subtotal - Detroit Customers	91,094,300	91,094,300	83,535,985	(7,558,315)
Other Operating Revenue-GLWA	-	-	21,340	21,340
Other Operating Revenue-DWSD	6,600,300	6,600,300	6,481,980	(118,320)
Earnings on investments less construction fund investment earnings	3,836,600	9,425,400	11,818,203	2,392,803
Total Revenue	408,913,700	414,502,500	406,277,141	(8,225,359)
Operating Expenses				
Operations and Maintenance Regional System	121,562,600	121,562,600	117,714,203	(3,848,397)
Operations and Maintenance transfer to Local System	35,484,300	35,484,300	35,484,300	-
Legacy Pension Obligations Regional System [3]	6,048,000	6,048,000	6,048,000	-
Legacy Pension Obligations Local System [3]	4,272,000	4,272,000	4,272,000	-
Total Operating Expenses	167,366,900	167,366,900	163,518,503	(3,848,397)
Pledged revenues for the year ending June 30, 2019	\$ 241,546,800	\$ 247,135,600	\$ 242,758,638	\$ (4,376,962)
Principal and interest funding requirement for the year ending June 30, 2019 [4]:				
Senior Lien Bonds	\$ 119,230,800	\$ 119,230,800	\$ 119,230,820	\$ 20
Second Lien Bonds	49,020,400	46,214,500	46,214,385	(115)
Total Senior and Second Lien Bonds	168,251,200	165,445,300	165,445,205	(95)
Junior Lien Bonds	2,710,600	2,710,600	2,521,249	(189,351)
Total All Bonds	\$ 170,961,800	\$ 168,155,900	\$ 167,966,454	\$ (189,446)
Rate Covenant Debt Service Coverage [4]				
Senior Lien Bonds	2.03	2.07	2.04	(0.03)
Senior and Second Lien Bonds	1.44	1.49	1.47	(0.02)
All Bonds, Including SRF Junior Lien	1.41	1.47	1.45	(0.02)

[1] Total GLWA Regional System Wholesale Revenue reported net of bad debt allowance and \$6,979,503 for the KWA debt service credits.

[2] Local Service Revenue reported net of bad debt allowance.

[3] The legacy pension obligations reflects only the Legacy Pension Obligation as defined in Section 504 (c) of the Water Master Bond Ordinance.

[4] Computed consistent with rate covenant basis for rate determination purposes. Not applicable for purposes of additional bond test calculation.

[5] Effective for the year ending June 30, 2019 operating expenses for the regional system reflect actual operating and maintenance expense of the operations funds rather than the budgeted operating and maintenance transfers as reported in the prior years. The operations and maintenance for the local system is the actual cash transfers to the local system O&M bank account.

GREAT LAKES WATER AUTHORITY

CALCULATION OF DEBT SERVICE COVERAGE - SEWAGE DISPOSAL FUND

As of June 30, 2019

The Authority has pledged Net Revenues of the system to secure the repayment of the principal and interest of the revenue bonds and State of Michigan revolving fund loans. Net Revenues are defined as all revenues except for those transferred to the Operations and Maintenance Fund. Revenues are defined in the Master Bond Ordinance and are in accordance with the State of Michigan Public Act 94, the Revenue Bond Act of 1933, as all monies collected, directly or indirectly, by GLWA or DWSD as agent for GLWA, under the water and sewer services agreement. A summary of the applicable debt service coverage as of June 30, 2019 is as follows:

	Sewage Disposal Fund			
	Adopted Budget	Amended Budget	Actual [5]	Variance
Operating Revenue				
Suburban Wholesale Customers [1]	\$ 271,296,300	\$ 271,296,300	\$ 272,772,460	\$ 1,476,160
Industrial waste charges	15,000,800	15,000,800	9,106,274	(5,894,526)
Pollutant surcharges	-	-	5,932,550	5,932,550
Subtotal - Regional System Suburban Wholesale Customers	286,297,100	286,297,100	287,811,284	1,514,184
Detroit Customers				
Wholesale Service Charge Revenue [1]	181,159,300	181,159,300	181,159,300	-
Local Service Revenues [2]	93,917,000	93,917,000	66,453,540	(27,463,460)
Subtotal - Detroit Customers	275,076,300	275,076,300	247,612,840	(27,463,460)
Other Operating Revenue-GLWA	-	-	506,323	506,323
Other Operating Revenue-DWSD	5,464,600	5,464,600	4,529,169	(935,431)
Earnings on investments less construction fund investment earnings	4,570,900	6,878,800	9,592,270	2,713,470
Total Revenue	571,408,900	573,716,800	550,051,886	(23,664,914)
Operating Expenses				
Operations and Maintenance Regional System	191,079,400	191,079,400	174,019,805	(17,059,595)
Operations and Maintenance transfer to Local System	68,121,500	68,121,500	56,767,920	(11,353,580)
Legacy Pension Obligations Regional System [3]	10,824,000	10,824,000	10,824,000	-
Legacy Pension Obligations Local System [3]	2,856,000	2,856,000	2,856,000	-
Total Operating Expenses	272,880,900	272,880,900	244,467,725	(28,413,175)
Pledged revenues for the year ending June 30, 2019	\$ 298,528,000	\$ 300,835,900	\$ 305,584,161	\$ 4,748,261
Principal and interest funding requirement for the year ending June 30, 2019 [4]:				
Senior Lien Bonds	\$ 148,606,900	\$ 143,785,600	\$ 145,795,507	\$ 2,009,907
Second Lien Bonds	43,922,600	43,922,600	43,922,600	-
Total Senior and Second Lien Bonds	192,529,500	187,708,200	189,718,107	2,009,907
Junior Lien Bonds	49,936,500	49,936,500	49,454,156	(482,344)
Total All Bonds	\$ 242,466,000	\$ 237,644,700	\$ 239,172,263	\$ 1,527,563
Rate Covenant Debt Service Coverage [4]				
Senior Lien Bonds	2.01	2.09	2.10	0.01
Senior and Second Lien Bonds	1.55	1.60	1.61	0.01
All Bonds, Including SRF Junior Lien	1.23	1.27	1.28	0.01

[1] Total GLWA Regional System Wholesale Revenue reported net of bad debt allowance.

[2] Local Service Revenue reported net of bad debt allowance.

[3] The legacy pension obligations reflects only the Legacy Pension Obligation as defined in Section 504 (c) of the Water Master Bond Ordinance.

[4] Computed consistent with rate covenant basis for rate determination purposes. Not applicable for purposes of additional bond test calculation.

[5] Effective for the year ending June 30, 2019 operating expenses for the regional system reflect actual operating and maintenance expense of the operations funds rather than the budgeted operating and maintenance transfers as reported in the prior years. The operations and maintenance for the local system is the actual cash transfers to the local system O&M bank account.

GREAT LAKES WATER AUTHORITY

DEBT SERVICE COVERAGE HISTORY

Last Four Years

	2019 [3]	2018	2017	2016 [1]
Water Fund				
Pledged revenue	\$ 242,758,638	\$ 259,822,627	\$ 272,268,873	\$ 270,117,396
Principal and interest funding requirement [2]:				
Senior and second lien bonds				
Senior lien bonds	\$ 119,230,820	\$ 127,687,420	\$ 134,234,660	\$ 128,177,999
Second lien bonds	46,214,385	42,852,813	38,990,023	41,178,843
Total senior and second lien bonds	165,445,205	170,540,233	173,224,683	169,356,842
Junior lien bonds	2,521,249	2,009,658	1,785,328	1,781,683
Total all bonds	\$ 167,966,454	\$ 172,549,891	\$ 175,010,011	\$ 171,138,525
Rate covenant debt service coverage [2]				
Senior lien bonds	2.04	2.03	2.03	2.11
Senior and second lien bonds	1.47	1.52	1.57	1.59
All bonds, including SRF junior lien	1.45	1.51	1.56	1.58
Sewage Disposal Fund				
Pledged revenue	\$ 305,584,161	\$ 299,055,461	\$ 326,300,994	\$ 326,048,837
Principal and interest funding requirement [2]:				
Senior and second lien bonds				
Senior lien bonds	\$ 145,795,507	\$ 141,718,836	\$ 140,854,010	\$ 140,191,016
Second lien bonds	43,922,600	43,990,100	47,918,639	48,944,924
Total senior and second lien bonds	189,718,107	185,708,936	188,772,649	189,135,940
Junior lien bonds	49,454,156	46,782,877	45,782,165	39,434,631
Total all bonds	\$ 239,172,263	\$ 232,491,813	\$ 234,554,814	\$ 228,570,571
Rate covenant debt service coverage [2]				
Senior lien bonds	2.10	2.11	2.32	2.33
Senior and second lien bonds	1.61	1.61	1.73	1.72
All bonds, including SRF junior lien	1.28	1.29	1.39	1.43

[1] GLWA started operations on January 1, 2016. Includes 6 months under operations of DWSD and 6 months under the operations of GLWA under the Master Bond Ordinances in effect during the respective time periods.

[2] Computed consistent with rate covenant basis for rate determination purposes. Not applicable for purposes of additional bond test.

[3] Effective for the year ending June 30, 2019 pledged revenue reflects actual operating and maintenance expenses for the regional system rather than budgeted operating and maintenance transfers as reported in prior years.

GREAT LAKES WATER AUTHORITY

SERVICE AREA DEMOGRAPHICS Last Ten Years

Year	Total Population (1)	Unemployment (2)	Per Capita Income (3)	Total Debt Service (5)	Debt Per Capita	Debt Service as a Percentage of Income
Water Fund						
2019	3,800,000	4.5%	\$ 53,748	(4) \$ 162,377,261	\$ 42.73	0.08%
2018	3,800,000	4.3%	51,493	172,549,890	45.41	0.09%
2017	3,800,000	4.6%	50,863	175,010,012	46.06	0.09%
2016	*	5.3%	48,692	171,138,525	45.04	0.09%
2015	*	5.9%	46,894	178,923,900	47.09	0.10%
2014	*	8.1%	44,718	182,464,900	48.02	0.11%
2013	*	9.7%	42,555	172,458,800	45.38	0.11%
2012	*	10.1%	42,168	153,524,200	40.40	0.10%
2011	*	11.4%	40,607	164,435,900	43.27	0.11%
2010	*	13.9%	37,837	157,590,500	41.47	0.11%
Sewage Disposal Fund						
2019	2,800,000	4.5%	\$ 53,748	(4) \$ 235,381,235	\$ 84.06	0.16%
2018	2,800,000	4.3%	51,493	232,491,813	83.03	0.16%
2017	2,800,000	4.6%	50,863	234,554,814	83.77	0.16%
2016	*	5.3%	48,692	228,570,571	81.63	0.17%
2015	*	5.9%	46,894	232,612,800	82.87	0.18%
2014	*	8.1%	44,718	229,611,100	81.80	0.18%
2013	*	9.7%	42,555	225,222,900	80.24	0.19%
2012	*	10.1%	42,168	203,092,300	72.35	0.17%
2011	*	11.4%	40,607	209,063,900	74.48	0.18%
2010	*	13.9%	37,837	200,985,100	71.60	0.19%

(1) Source: Estimated based on data from Southeast Michigan Council of Governments (SEMCOG).

(2) Source: Bureau of Labor Statistics Detroit-Warren-Dearborn MSA Annual Average (For 2019 the August rate was used). The Detroit-Warren-Dearborn Metropolitan Statistical Area (MSA) is comprised of six counties: Wayne, Oakland, Macomb, Livingston, Lapeer and St. Clair. This represents the majority of the service area customers.

(3) Source: FRED Economic Data, St. Louis Fed

(4) Source: Michigan State University Center for Economic Analysis

(5) Debt service is based on set aside debt service requirements for the fiscal year which includes the subsequent year July 1st debt payment.

*GLWA assumed operations on January 1, 2016. The information in this table from 2010-2015 is based on operations under the City of Detroit Water and Sewerage Department (DWSD). Data for 2016 includes six months of operation under DWSD and six months of operation under GLWA.

GREAT LAKES WATER AUTHORITY

LARGEST EMPLOYERS Current Year and 5 Years Ago

Employer	Fixed Monthly Type of Business	Fiscal Year 2019		Fiscal Year 2014	
		Full-time Employees	Rank	Full-time Employees	Rank
Ford Motor Co.	Automobile manufacturer	46,000	1	42,750	1
FCA US LLC/Chrysler Group LLC	Automobile manufacturer	34,452	3	30,580	2
General Motors Co.	Automobile manufacturer	32,770	4	30,570	3
University of Michigan	Public university and health system	35,350	2	29,855	4
Beaumont Health	Health care system	27,492	5	25,404	5
U.S. Government	Federal government	18,893	7	19,010	6
Henry Ford Health System	Health care system	26,929	6	17,949	7
Trinity Health	Health care system	16,403	9	14,056	8
Detroit Medical Center	Health care system	n/a	n/a	11,869	9
U.S. Postal Service	Postal Service	n/a	n/a	11,600	10
Rock Ventures	Umbrella entity managing a portfolio of companies in investment and real estate	17,887	8	n/a	n/a
Ascension Michigan/St. John Providence Health System	Health care system	12,616	10	n/a	n/a

Source: Crain's Detroit Business, Largest Southeast Michigan Employers - Ranked by full-time employees as of July 2019 and January 2014

GREAT LAKES WATER AUTHORITY

PRODUCED AND BILLED WATER VOLUMES Last Ten Years

Fiscal Year	Estimated Total Water Produced (Mcf) [1]	Reported Water Sales			Estimated Non-Revenue Water (Mcf)	Estimated Non-Revenue % of Production [3]
		Wholesale Customer Billed (Mcf)	Local System Billed (Mcf)	Total Water Billed (Mcf) [2]		
2010 *	25,142,700	15,676,300	3,924,000	19,600,300	5,542,400	22.0%
2011 *	26,513,000	16,094,700	4,176,600	20,271,300	6,241,700	23.5%
2012 *	27,219,500	16,280,300	3,903,100	20,183,400	7,036,100	25.8%
2013 *	26,832,800	15,687,900	3,660,300	19,348,200	7,484,600	27.9%
2014 *	26,088,800	14,778,500	3,410,600	18,189,100	7,899,700	30.3%
2015 *	23,238,000	13,547,000	3,173,700	16,720,700	6,517,300	28.0%
2016 *	23,580,700	14,730,400	3,086,400	17,816,800	5,763,900	24.4%
2017	23,915,600	14,824,000	2,912,030	17,736,030	6,179,570	25.8%
2018	23,228,600	14,391,768	2,876,255	17,268,023	5,960,577	25.7%
2019	20,968,100	13,708,571	2,806,192	16,514,763	4,453,337	21.2%

[1] Represents, in part, estimated volumes based on pump curves and engineering analysis. GLWA engineering studies in 2017 concluded that the total water production values for calendar year 2016 were over-reported by 5.8%.

[2] Represents metered wholesale amounts for all customers other than Detroit, Dearborn, and Highland Park. Water sales to those customers reflect, in part, estimated retail water sales during this period. GLWA is modifying this approach, which will result in larger reported water sales figures in future years.

[3] As noted in [1] and [2], these values are likely overestimated. GLWA expects flow measuring methods to result in lower values in future years.

* GLWA assumed operations on January 1, 2016. The information in this table from 2010-2015 is based on operations under the City of Detroit Water and Sewerage Department (DWSD). Data for 2016 includes six months of operation under DWSD and six months of operation under GLWA.

GREAT LAKES WATER AUTHORITY

TREATED AND BILLED WASTEWATER VOLUMES Last Ten Years

Fiscal Year		Total Wastewater Treated (mg)	Customer Wastewater Volume (mg)		
			Wholesale Customers [1]	Local System [2]	Total
2010	*	221,400	100,600	27,100	127,700
2011	*	253,500	112,700	28,000	140,700
2012	*	255,500	112,600	24,900	137,500
2013	*	220,600	99,400	23,100	122,500
2014	*	233,200	107,200	22,100	129,300
2015	*	222,700	103,700	20,100	123,800
2016	*	209,200	96,800	20,600	117,400
2017		254,400	105,500	19,200	124,700
2018		235,600	119,400	19,500	138,900
2019		249,500	124,800	21,200	146,000

* GLWA assumed operations on January 1, 2016. The information in this table from 2010-2015 is based on operations under the City of Detroit Water and Sewerage Department (DWSD). Data for 2016 includes six months of operation under DWSD and six months of operation under GLWA.

[1] Primarily metered wastewater volumes, but also includes water sales volumes for some customers whose wastewater is not metered. A fixed charge billing methodology was implemented in 2015. Volumes reflect measured and monitored wastewater flow.

[2] Reported water usage billed to retail customers

GREAT LAKES WATER AUTHORITY

ADDITIONAL SUMMARY STATISTICS
Last Four Years

	2019	2018	2017	2016*
Capital Asset Statistics - Water				
Water Treatment Plants	5	5	5	5
Intake Facilities	3	3	3	3
Booster Pumping Stations	19	19	19	19
Water Storage Reservoirs	32	32	32	32
Miles of Transmission Lines	816	803	803	803
Capital Asset Statistics - Sewer				
Water Resource Recovery Facility	1	1	1	1
Major Interceptors	3	3	3	3
Pump Stations	9	9	9	9
Combined Sewer Overflow Facilities:				
Retention Treatment Basins	5	5	5	5
Flow-through Type Facilities	3	3	3	3
Miles of Trunk Sewers and Interceptors	195	181	181	181
GLWA Employees				
Water Operations	213	205	180	155
Sewage Disposal Operations	369	358	342	320
Centralized Services	295	276	249	217
Administrative Services	147	129	110	90
Total Employees	1024	968	881	782

*GLWA began operations on January 1, 2016. The data for FY 2016 relates to six months of activity through June 30, 2016. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.



Conner Creek Combined Sewer Overflow Facility



GLWA

Great Lakes Water Authority

Financial Services Area
735 Randolph, Suite 1608
Detroit, Michigan 48226