



## **Audit Committee**

**Friday, April 20, 2018 at 8:00 a.m.**

5th Floor Board Room, Water Board Building  
735 Randolph Street, Detroit, Michigan 48226  
*GLWater.org*

### **AGENDA**

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
  - A. March 16, 2018 (Page 1)
5. PUBLIC PARTICIPATION
6. OLD BUSINESS
  - A. Memorandum of Understanding Implementation (Page 9)
  - B. Draft FY 2017 Financial Report Review (will be sent with addendum)
  - C. Audit Update with External Auditors (Rehmann Robson) (verbal update)
  - D. Report: Responses to Questions from Oakland County Drain Commissioner's Office (will be send with addendum)
  - E. Water Residential Assistance Program Update and Proposed Program Assistance Allocation Changes (Page 29)
7. NEW BUSINESS
  - A. Alignment of Revenue Requirement, Budget, Capital, Debt, and Affordability (Page 45)
  - B. Water Infrastructure Finance and Innovation Act (WIFIA) (Page 60)
8. REPORTS
  - A. Monthly Revenue & Collections Report for March 2018 (Page 73)
  - B. Master Bond Ordinance Monthly Cash Transfers: Cash Transfers through April 1, 2018 (Page 98)
  - C. Construction Work-in-Progress Report through December 31, 2017 (Page 101)
  - D. CFO Update (will be send with addendum)
    - GLWA Sewer Charge Stability Adjustment program
    - Procurement Policy Review
    - Vendor Outreach Event
    - Procurement Group Reorganization
9. LOOK AHEAD

Next Audit Committee Meeting – May 18, 2018 at 8 am (Regular Meeting)
10. INFORMATION
11. OTHER MATTERS
12. ADJOURNMENT

# **Great Lakes Water Authority**

*735 Randolph Street  
Detroit, Michigan 48226  
[glwater.legistar.com](http://glwater.legistar.com)*



## **Meeting Minutes - Draft**

**Friday, March 16, 2018**

**8:00 AM**

**Water Board Building 5th Floor**

### **Audit Committee**

## 1. Call To Order

Chairman Baker called the meeting to order at 8:10 a.m.

## 2. Quorum Call

**Present:** 3 - Chairman Brian Baker, Director Gary Brown, and Director Robert Daddow

## 3. Approval of Agenda

Chairman Baker requested a Motion to approve the Agenda.

**Motion By:** Robert Daddow

**Support:** Gary Brown

**Action:** Approved

The motion carried by a unanimous vote.

Nicolette Bateson, Chief Financial Officer/Treasurer noted there was an Audit Committee Meeting Binder Addendum which was distributed to the Committee.

## 4. Approval of Minutes

### A. [2018-653](#) Approval of Minutes of February 23, 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [February 23, 2018 Audit Committee Meeting Minutes](#)

Chairman Baker requested a Motion to approve the February 23, 2018 Audit Committee Meeting Minutes.

**Motion By:** Robert Daddow

**Support By:** Gary Brown

**Action:** Approved

The motion carried by a unanimous vote.

## 5. Public Comment

Raphael Chirolla (Oakland County Water Resources Commissioner's office), on behalf of the Oakland/Macomb Interceptor District (OMID), addressed the Audit Committee regarding the Charge Stability Adjustment and requested GLWA to update the information relative to the charges being proposed.

## 6. Old Business

A. [2018-654](#) Annual Update & Financing Strategy with PFM (Part 2 of 2)

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [PFM Rating Agency Criteria and Peer Comp 3.16.18 v2](#)  
[GLWA Peer Comparison and Rating Considerations 2018 vFINAL](#)

**Motion By:** Robert Daddow  
**Support By:** Brian Baker  
**Action:** Received and Filed  
The motion carried by a unanimous vote.

B. [2018-655](#) Update: FY 2019 & FY 2020 Biennial Budget and FY 2019 - FY 2023 Financial Plan

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Update Biennial Budget and FY 2019 – FY 2023 Financial Plan 3.16.2018](#)  
[Supplemental Budget Analysis Distributed 2.28.2018](#)

Nicolette Bateson, Chief Financial Officer/Treasurer gave a verbal update regarding the Update of FY 2019 - FY 2020 Biennial Budget FY 2019 - 2023.

**Motion By:** Gary Brown  
**Support By:** Robert Daddow  
**Action:** Received and Filed  
The motion carried by a unanimous vote.

C. [2018-656](#) FY 2017 Audit Extension Request

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Request for Audit Extension FY 2017 3.16.2018](#)  
[GLWA FY 2017 CAFR extension to April 30 2018](#)  
[2017 GLWA Extension 20180301 Granted to 4.30.2018](#)

**Motion By:** Robert Daddow  
**Support By:** Brian Baker  
**Action:** Received and Filed  
The motion carried by a unanimous vote.

7. New Business

A.     [2018-657](#)     Water Residential Assistance Program Update and Proposed Program Assistance Allocation Changes

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [WRAP Update 3.16.18](#)

[Supplemental WRAP Update Documents 3.16.18](#)

[WRAP Communities](#)

**Motion By:** Robert Daddow

**Support By:** Gary Brown

**Action:** Postponed

The motion carried by a unanimous vote.

Director Daddow motioned, supported by Director Brown to postpone this item to the Board of Directors Workshop Meeting of April 11, 2018.

B.     [2018-658](#)     Request for Public Hearing: Drinking Water Revolving Fund (DWRF) Project Plan Submittals for the Lake Huron Water Treatment Plant Sludge System Improvements Project and the Waterworks Park to Northeast Transmission Main Project

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Audit Committee Communication 2019 DWRF Projects](#)

[LHWTP Public Hearing Notice](#)

[Resolution - LHWTP](#)

[CONVEYANCE 84 TRANS Public Hearing Notice](#)

[Resolution - Conveyance System Transmission Main](#)

**Motion By:** Robert Daddow

**Support By:** Gary Brown

**Action:** Recommended for Approval to the Board of Directors

**Agenda of March 28, 2018**

The motion carried by a unanimous vote.

C.     [2018-659](#)     GLWA Sewer Charge Stability Adjustment

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Charges Stability Adj 031318](#)

**Motion By:** Robert Daddow

**Support By:** Gary Brown

**Action:** Received and Filed

The motion carried by a unanimous vote.

## 8. Reports

A.     [2018-660](#)     Quarterly Investment Report through December 31, 2017 (Unaudited)

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Quarterly Investment Report as of 12.31.2017](#)

[GLWA Quarterly Report December 2017 by PFM](#)

**Motion By:** Robert Daddow

**Support By:** Gary Brown

**Action:** Received and Filed

The motion carried by a unanimous vote.

B.     [2018-661](#)     Monthly Revenue & Collections Report for January 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Monthly Revenue and Collections Report 03.16.2018 \(Feb\)](#)

[AR Aging W S IWC PS 02.28.18](#)

[Addendum- Update on Accounts Receivable Report 03.16.2018 Aging Explanations](#)

**Motion By:** Robert Daddow

**Support By:** Brian Baker

**Action:** Received and Filed

The motion carried by a unanimous vote.

C.     [2018-662](#)     Treasury Report: Cash Transfers through February 1, 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [DWSD & GLWA Cash Transfers March 2018](#)

[Monthly Transfers to DWSD March 2018](#)

[Monthly Transfers to GLWA March 2018](#)

**Motion By:** Gary Brown

**Support By:** Robert Daddow

**Action:** Received and Filed

The motion carried by a unanimous vote.

D.      [2018-663](#)      Construction Work-in-Progress Report through September 30, 2017

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [FY 2018 Q1 Construction Work-in-Progress Report 3.16.2018](#)  
[CWIP Quarterly Report Q1 as of 3.15.2018](#)

**Motion By:** Robert Daddow

**Support By:** Gary Brown

**Action:** Received and Filed

The motion carried by a unanimous vote.

E.      [2018-664](#)      Procurement Group Process Improvements - Implementation of Bonfire

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Memorandum Procurement - Bonfire OR Final \(2\)](#)

**Motion By:** Gary Brown,

**Support By:** Robert Daddow

**Action:** Received and Filed

The motion carried by a unanimous vote.

F.      [2018-665](#)      Addendum CFO Update-Key Performance Indicators

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Key Performance Indicators](#)

Nicolette Bateson, Chief Financial Officer/Treasurer, provided an update to the Audit Committee on the Key Performance Indicators, which are in development as requested by the GLWA Board of Directors.

## 9. Look Ahead

The Next Audit Committee Meeting is scheduled for Friday, April 20, 2018 at 8:00 a.m.

## 10. Information

A. [2018-666](#) City of Detroit Water and Sewerage Department Audited Financial Report  
FYE June 30, 2017

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Information Cover City of Detroit Water and Sewer Audited Financial Report FYE June 30, 2017](#)  
[City of Detroit Water and Sewer Audited Financial Report FYE 6.30.2017](#)

**Motion By:** Robert Daddow

**Support By:** Brian Baker

**Action:** Received and Filed

The motion carried by a unanimous vote.

B. [2018-667](#) City of Detroit Water and Sewerage Department Monthly Financial Report  
for January 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Information Cover DWSD January 2018 Report](#)  
[DWSD January 2018 Report presented March 2018](#)

**Motion By:** Robert Daddow

**Support By:** Brian Baker

**Action:** Received and Filed

The motion carried by a unanimous vote.

C. [2018-668](#) City of Detroit Water and Sewerage Department Proposed FY 2019  
Budget as of February 7, 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Information Cover DWSD January 2018 Report](#)  
[DWSD Preliminary Budget Review for BOWC - FY 2019 2.2.18\\_v4\\_FINAL](#)

**Motion By:** Robert Daddow

**Support By:** Brian Baker

**Action:** Received and Filed

The motion carried by a unanimous vote.



- D. [2018-669](#) City of Detroit Water and Sewerage Department Preliminary FY 2019-2023 Capital Improvement Plan as of February 7, 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Information Cover Preliminary CIP as of 2.7.2018](#)  
[DWSD FY2019-2023 Preliminary CIP as of 2.7.2018](#)

**Motion By:** Robert Daddow

**Support By:** Brian Baker

**Action:** Received and Filed

The motion carried by a unanimous vote.

## 11. Other Matters

Chairman Baker indicated he would like the full Board to be notified if there are any impacts of internal cost allocations from the Financial Services cost studies.

Sue McCormick, Chief Executive Officer, informed the Audit Committee that during GLWA's Partnership Meeting held March 15, 2018, she reminded the member partners of GLWA's two (2) day effort of reviewing cost allocation models for wastewater to be held with wholesale customers on May 1 - 2, 2018.

Nicolette Bateson, Chief Financial Officer/Treasurer, informed the Audit Committee of a May 7, 2018 event to learn more information on water storage, where GLWA's Public Affairs Group launched a video for Farmington Hills.

## 12. Adjournment

Chairman Baker requested a Motion to Adjourn.

**Motion By:** Gary Brown

**Support By:** Brian Baker

**Action:** Approved

The motion carried by a unanimous vote.

There being no further business, the meeting was adjourned at 10:56 a.m.



## Financial Services Audit Committee Communication

**Date:** April 20, 2018

**To:** Great Lakes Water Authority Audit Committee

**From:** Nicolette Bateson, CPA, Chief Financial Officer/Treasurer

**Re:** Memorandum of Understanding Term Sheet Implementation

**Background:** The concept of formation of a regional water authority arose as a part of the City of Detroit's Chapter 9 Bankruptcy. The formation of the Great Lakes Water Authority (GLWA) was discussed during mediation proceedings held as a part of the bankruptcy case. On June, 12, 2015, the City of Detroit and GLWA entered into a Regional Water Supply Lease, a Regional Sewage Disposal Lease (collectively the "Leases") and a Water and Sewer Services Agreement ("WSSA"). On January 1, 2016, the Leases and WSSA became effective and govern the relationship between GLWA and the Detroit Water & Sewerage Department (DWSD).

In the course of operations, GLWA and DWSD determined that it would be in their mutual interest to clarify certain matters pertaining to the operation of the Leases and WSSA and began discussions regarding creation of a memorandum of understanding (MOU) to accomplish that goal. This led to the drafting of a Term Sheet, and ultimately an MOU, with the intent to (a) provide clarification of specific sections of the Leases, WSSA and Master Bond Ordinance (MBO), (b) make adjustments contemplated by the Leases and the WSSA and (c) address the liquidation of specific liabilities.

On April 3, 2018 the Board of Directors for the Great Lakes Water Authority approved a Memorandum of Understanding Term Sheet. On April 4, 2018, the Board of Water Commissioners for the DWSD approved the same agreement.

Attached is the executed MOU Term Sheet and a communication from the Chief Executive Officer to the member partner community.

**Analysis:** The execution of the Term Sheet set four key activities into motion which are in various stages of implementation. Presently that includes:

1. Making adjustments to GLWA's books and records to record the financial impact of the lease and updating the draft FY 2017 financial statements.

2. Audit of the above transactions to complete the FY 2017 financial report by GLWA's auditor.
3. Revisions to the proposed budget for FY 2019+ based upon the terms of the agreement.
4. Drafting the final MOU agreement.

**Proposed Action:** Receive and file report.

April 6, 2018

Dear Member Partners,

The Great Lakes Water Authority has *great* news!

On April 3, 2018, the GLWA Board of Directors approved a Term Sheet for a Memorandum of Understanding (MOU) with the City of Detroit Water and Sewerage Department (DWSD). The next day, on April 4, 2018, the Term Sheet was also approved by the DWSD Board of Water Commissioners. This document clarifies the Leases and Water and Sewer Services agreement between GLWA and DWSD.

As many of you know from our published materials and outreach meetings, the Leases, Service Agreements and related documents reflect a historic transaction. Discussions regarding operational, financial and legal matters have been progressing since early 2016. The MOU Term Sheet reflects a common understanding of the Leases borne from the passage of time and the experience that comes with implementing such a complex set of agreements.

The approval of the MOU Term Sheet is significant because we now have clarity to complete open items that impact the final GLWA FY 2017 audited financial report, as well as the budget for FY 2019 and beyond. Under the MOU there are some impacts to the proposed budget and revenue requirement for DWSD; however, ***the FY 2019 charges for other member partners are not impacted.***

We look forward to reviewing the highlights of the MOU with you. This agreement provides benefits to all parties and strengthens long-term collaboration. A review of the MOU will be a topic at the next One Water Partnership meeting on June 21, 2018, and at a Charges Work Group meeting scheduled on May 24, 2018.

Sincerely,



Sue F. McCormick  
Chief Executive Officer

**TERM SHEET**  
**Between Detroit Water and Sewerage Department and**  
**the Great Lakes Water Authority**

This Term Sheet sets forth the principal terms proposed for a Memorandum of Understanding ("MOU") between the Detroit Water and Sewerage Department ("DWSD") and the Great Lakes Water Authority ("GLWA"). The Regional Water Supply Lease, the Regional Sewage Disposal Lease (the "Leases"), the Water and Sewer Services Agreement ("WSSA") between the City of Detroit (the "City") and GLWA and the Master Bond Ordinances, as amended ("MBO"), govern the relationship between DWSD and GLWA, which began on January 1, 2016 (the "Effective Date"). The intent of this Term Sheet, and ultimately the MOU, is to (a) provide clarification of specific sections of the Leases, WSSA and MBO, (b) make adjustments contemplated by the Leases and the WSSA and (c) address the liquidation of specific liabilities.

In consideration for the mutual agreements described herein, DWSD and GLWA agree to the following clarifications and adjustments contemplated by or pursuant to the Leases, the WSSA and MBO as described below:

1. **Schedule of Adjustments:** This schedule summarizes the credits and transfers of amounts as provided below. **(See Schedule 1)**
2. **Adjustments to the Cash Held for the Benefit of DWSD (Book Entry), effective July 1, 2017:**

The following book entry credits and charges, reflecting a net amount of \$74,200,000, are to the Cash Held for the Benefit of DWSD as established on GLWA's General Ledger Account **(See Schedule 1)**:

- a. **Consideration for Assumption of Pre-Effective Date Liabilities:** GLWA shall credit a net amount of \$69,430,000.
- b. **Budget Stabilization Requirement:**
  - i. The current Budget Stabilization Requirement shall be reduced to \$7,500,000 effective July 1, 2017. To reflect this adjustment, GLWA shall apply \$3,433,000 as of July 1, 2017 as a credit.
  - ii. This revised Budget Stabilization Requirement is approximately two (2%) percent of DWSD's FY 2019 budgeted revenues. The amount of \$7,500,000 will remain in effect for the life of the Leases, unless further adjusted pursuant to the WSSA. If GLWA draws on the Budget Stabilization Fund pursuant to the terms of the WSSA, then DWSD shall restore the Budget Stabilization Fund as provided in the WSSA.
- c. **Final Year of Prior Sewer Lookback Adjustment Agreement:** GLWA shall credit \$1,333,900, reflecting the portion of the final annual \$20,000,000 sewer lookback adjustment charged during FY 2016, which was attributable to a deposit to the Local System Improvement and Extension ("I&E") Fund.
- d. **Litigation Liabilities:** GLWA shall credit \$78,430,000 for the assumption of Pre-Effective Date Liabilities, as outlined in Section 15, offset by a charge of \$9,000,000 for the reimbursement of certain litigation liabilities previously paid by GLWA.

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**Between Detroit Water and Sewerage Department and**  
**the Great Lakes Water Authority**

**3. Non-cash Related Book Entries, effective July 1, 2017:**

- a. **Lease Pre-payment:** The initial term of the 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 \$25,000,000 Lease pre-payment on January 1, 2016 shall be applied to the period of July 1, 2055 through December 31, 2055.
- b. **Obligation Payable by DWSD to GLWA for Direct Allocable Share of pre-Effective Date Bonded Indebtedness for the Local Systems:**
  - i. DWSD's agreed upon allocable share of pre-Effective Date bonded indebtedness at June 30, 2017 related to the Local Systems is \$437,280,200 for the Local Water System and \$358,090,600 for the Local Sewer System. This allocation was determined based on an agreed upon share of debt service as of July 1, 2015 (\$455,000,000 for the Local Water System and \$370,000,000 for the Local Sewer System) and the amounts included in the revenue requirements allocated to the Local System customers related to the debt service for FY 2016 and FY 2017.
  - ii. **Twenty-Year Amortization Schedule:** The amortization schedule of DWSD's obligations payable related to pre-Effective Date bonded indebtedness for the Local Systems shall be as shown on **Schedule 3**. This amortization schedule establishes fixed payment terms for these obligations. The agreed upon interest rate shall be 4.76% for the Local Water System and 4.33% for the Local Sewer System. This amortization schedule shall not be altered to reflect any refunding of pre-Effective Date bonded debt after calendar year 2017.
  - iii. Debt service on bonds issued Post-Effective Date, other than bonds issued after calendar year 2017 to refund pre-Effective Date debt, shall be allocated based on the use of the proceeds.
  - iv. **FY 2018 Revenue Requirement:** Consistent with implementation of the amortization schedule, GLWA shall reduce DWSD FY 2018 Revenue Requirement by \$2,177,500. **(See Schedule 3)**

**4. DWSD Retail Customers:**

- a. **Pre-Effective Date Receivables:**
  - i. As of July 1, 2017, GLWA shall transfer to DWSD all of GLWA's interests in remaining pre-Effective Date retail accounts receivable and DWSD assumes all liability associated with repayment of delinquent tax advances. **(See Schedule 2)** Net balances of \$8,800,000 shall be written off from GLWA's books as of July 1, 2017.
  - ii. In addition, GLWA shall transfer \$16,293,000 related to the cumulative Wayne County Revolving Fund Loan proceeds, collected after July 1,



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2017, to DWSD's Operation and Maintenance ("O&M") Fund and the related obligations. **(See Schedule 2)**

- iii. Other collection activity related to these retail accounts receivable, since July 1, 2017, shall be deposited to the GLWA MBO Trust and distributed in accordance with terms of the MBO and credited to the Cash Held for the Benefit of DWSD Account.
- iv. DWSD and GLWA shall provide notice to the City and the County of Wayne that DWSD shall manage all aspects of delinquent account collections effective immediately.

- b. **Landlord/Tenant Deposits and Affordability Accounts:** GLWA shall transfer to DWSD all of GLWA's interests, if any, in the balances in the Landlord/Tenant Deposits and Affordability Accounts held in a fiduciary capacity and the related obligations.

- 5. Cash Transfer to DWSD I&E Account:** Construction Fund bond proceeds available on the Effective Date are allocated consistent with the DWSD agreed upon allocable share of bond debt service related to the Local Systems. In recognition, GLWA shall transfer \$15,174,200 from GLWA's Sewer System I&E Account to DWSD Sewer System I&E Account. **(See Schedule 5)**

- 6. Cash Transfer to DWSD O&M Account:**

- a. **Due to/Due from Other City Liabilities:** GLWA shall transfer \$20,200,000 to DWSD, in full satisfaction of GLWA's remaining short and long-term worker's compensation, unemployment, compensated absences employment and other liabilities included in Schedule 4, which were allocated to GLWA pursuant to the Leases. Upon execution of the MOU, DWSD will notify the City Office of the Chief Financial Officer ("CFO") that DWSD has become solely responsible for these liabilities. **(See Schedule 4)**. Net balances of \$20,200,000 shall be written off from GLWA's books as of July 1, 2017. DWSD shall record a like amount as of July 1, 2017.
- b. There shall be no additional financial liabilities owed by GLWA as reflected Section 15(a)(viii) and specifically identified in **Schedule 4**.

- 7. Extraordinary Repair & Replacement (ER&R) Reserve Fund Contributions and Clarifications:**

- a. Except for the required restoration of DWSD withdrawals, GLWA shall fund future deposits to the ER&R Reserve Fund from Regional System Revenues as needed to satisfy the ER&R Maximum Requirement, as defined in the MBO and based on the sum of the Regional and Local Systems' Fiscal Year O&M Budgets.
- b. This provision does not require any cash or non-cash adjustments between the parties.

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- c. The ER&R Reserve Fund shall be available to both GLWA and DWSD as provided in the MBO. To the extent there may be an investment loss if funds are drawn by DWSD, DWSD's Chief Financial Officer shall be advised before any loss is incurred. The entity that uses the funds shall fund investment losses incurred, if any.
- d. DWSD draws not repaid as contemplated by the MBO shall be repaid in full, in installments, over a period up to the next three fiscal years, plus a surcharge calculated as provided below, as part of the revenue requirement allocated to and payable by DWSD. The surcharge on the portion of the draw which remains unpaid at June 30 of the fiscal year in which the draw was made shall be based on the three-year U.S. Treasury Note Rate, as published in the Wall Street Journal, plus 150 basis points. A sample calculation of the surcharge factor is shown below:

March 1, 2018 U.S. 3 Year Treasury Note Rate:	2.404%
Plus 150 basis points:	1.500%
Surcharge Factor:	3.904%

- i. Until DWSD's ER&R Reserve Fund withdrawal is repaid, and unless DWSD has other resources available for that purpose or otherwise agreed to by GLWA, DWSD shall apply any available Local I&E funds for that purpose.
- ii. GLWA Board approval shall be required for repayment terms in excess of three (3) years.
- iii. The quarterly Reconciliation Committee meetings shall include a review of the progress in DWSD repaying any ER&R Reserve Fund withdrawal.

**8. Sewer Bad Debt Lookback:**

- a. The final sewer bad debt lookback adjustment, as calculated as of June 30, 2017, shall reduce DWSD's FY 2019 revenue requirement by \$6,527,200. This adjustment is different than the Prior Sewer Lookback Adjustment Agreement that is reflected in Section 2(c).
- b. The parties agree that the Budget Stabilization Fund sufficiently accomplishes the intent of mitigating collection risk, obviating the need for any further sewer bad debt lookback.

- 9. Reconciliation Committee:** The Reconciliation Committee (defined by the WSSA as a DWSD Board Member and GLWA Board Member or their designees) with GLWA's CEO, DWSD's Director, and their respective CFOs and General Counsels shall meet at a minimum quarterly (January, April, July, and October). GLWA's Board Member shall not be a Mayoral appointee and shall not be selected by the



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Mayoral appointees to the GLWA Board. The purpose of the quarterly meetings is to expand the level of communication between the two entities related to financial, operational, legal, capital planning, and other matters and opportunities for improved management and coordination of both entities and foster a positive partnership in the water services sector. The results of those meetings shall be reported back to the respective Boards by the Board liaison.

**10. Financial Reporting on the Local System:** Within sixty (60) days following execution of this Term Sheet, DWSD shall transmit to GLWA:

- a. Quarterly Budget to Actual Report for Revenues and Expenses for O&M, I&E, and Construction Bond activities.
- b. Quarterly cash flow forecast for the subsequent two-year time period for O&M, I&E, and Construction Bond activities.
- c. Quarterly reconciliation of the Cash Held by GLWA, as recorded by DWSD, with the Cash Held for the Benefit of DWSD, as provided by GLWA.
- d. Monthly cash receipts presented on a year-over-year basis with variance analysis.
- e. Monthly accounts receivable roll-forward by system, which provides beginning balance, revenues, expenses, write-offs, other adjustments, and reconciling items.
- f. Daily cash receipt reconciliation.
- g. Any other reports as requested by the Reconciliation Committee.

**11. Standard Operating Procedures:** DWSD and GLWA shall jointly develop Standard Operating Procedures (SOPs) for working through and documenting operational interactions. To the extent that SOPs cannot be agreed upon by the DWSD and GLWA team members after review with the GLWA CEO and the DWSD Director, the issue may be brought forward to the Reconciliation Committee.

**12. Budget Shortfall:**

- a. If DWSD experiences a cumulative negative variance from its budget adopted pursuant to Section 5.3 of the WSSA of more than two (2%) percent of the total budget for either Local System (a "Budget Shortfall") based on DWSD's quarterly reports to GLWA, DWSD, as the agent of GLWA, shall, within thirty (30) days thereafter, schedule a meeting of the Reconciliation Committee to discuss the magnitude and reasons for the shortfall and possible approaches to address the shortfall. Within sixty (60) days after the Reconciliation Committee meets, DWSD, as agent, shall develop a plan to cure the Budget Shortfall and the time period within which the shortfall will be cured, taking into account the reasons for and magnitude of the shortfall. If Revenues, including, but not limited to, adjustments to Local O&M expenditures and the use of subsequent positive receipts, are

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not available to cure the Budget Shortfall within the same fiscal year, DWSD shall reallocate available funds in the Local I&E Account or reallocate any unencumbered Lease Payment to eligible debt service to satisfy the Budget Shortfall.

- b. 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 which remains unpaid at June 30 of the fiscal year following the fiscal year in which the Budget Shortfall arises shall be based on the three-year U.S. Treasury Note Rate, as published in the Wall Street Journal, plus 150 basis points. A sample calculation of the surcharge factor is shown below:

March 1, 2018 U.S. 3 Year Treasury Note Rate:	2.404%
Plus 150 basis points:	1.500%
Surcharge Factor:	3.904%

- i. Until the Budget Shortfall is repaid, and unless DWSD has other resources available for that purpose or otherwise agreed to by GLWA, DWSD shall apply any available Local I&E funds for that purpose.
- ii. GLWA Board approval shall be required for repayment terms in excess of three (3) years.
- iii. The quarterly Reconciliation Committee meetings shall include a review of the progress in eliminating the Budget Shortfall.

**13. MOU Implementation:** Any write offs recognized in GLWA's Financial Statements related to implementing the MOU shall not directly affect current or future revenue requirements for customer specific cost pools.

**14. Water and Sewer Charges to GLWA:** GLWA desires a meeting to begin the discussion on the clarification of water supply and sewage disposal services provided by DWSD to the Regional System within thirty (30) days after the execution of the MOU. If this issue is not resolved within ninety (90) days after the meeting, the matter will be brought to the Reconciliation Committee for resolution.

**15. Pre-Effective Date Liabilities:**

- a. DWSD assumes liability for third party litigation, arbitrations and claims arising out of events and/or actions occurring on or before January 1, 2016 and involving the following types of matters (collectively, the "Pre-Effective Date Liabilities"):
- i. Local System ratemaking, collections and enforcement

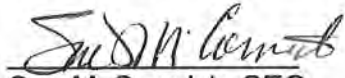
**TERM SHEET**  
**Between Detroit Water and Sewerage Department and**  
**the Great Lakes Water Authority**

- ii. Sewer back-ups in the City of Detroit, unless there is admissible evidence of the failure of Leased Sewer Facility or Facilities
  - iii. Personal injury matters, including:
    - 1. Trip and falls within the City of Detroit
    - 2. Automobile accidents within the City of Detroit
    - 3. Building defects, except for defects occurring in Leased Water and Sewer Facilities
  - iv. Contract matters related to the Local System, including:
    - 1. Construction Services, including Design-Build
    - 2. Professional and/or Consultant Services
    - 3. Engineering Services
    - 4. Personal Services
    - 5. Legal Services
    - 6. Financial Services
    - 7. Expert Witness Services
  - v. Environmental matters related to the Local System
  - vi. City of Detroit Bankruptcy matters, excluding BC Notes and pension liabilities as described in Section 4.3 of the Leases
  - vii. Freedom of Information Act and Open Meetings Act matters related to the Local System for which DWSD maintains the records
  - viii. In addition to the matters addressed in Section 6 of this Term Sheet, Employment matters for DWSD employees that were not actually offered employment by GLWA, including:
    - 1. Labor/Union and
    - 2. Discrimination and harassment
  - ix. Any other claim relating to the Local System only.
- b. For all Pre-Effective Date Liabilities, DWSD agrees to:
- i. Lead in the defense of the Pre-Effective Date Liabilities.
  - ii. Assume all financial or legal exposure for the Pre-Effective Date Liabilities, including any and all unpaid amounts to fund ratemaking litigation settlements.
- c. GLWA agrees that the arbitration demands approved by GLWA's Board related to Pre-Effective Date Liabilities involving third parties shall be withdrawn.
- d. GLWA agrees to cooperate in DWSD's defense of any Pre-Effective Date Liabilities.

**TERM SHEET**  
**Between Detroit Water and Sewerage Department and**  
**the Great Lakes Water Authority**

This Term Sheet is only for discussion purposes and is not intended to impose any legal obligation on any party.

**On behalf of GLWA:**

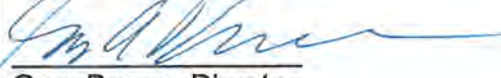


Sue McCormick, CEO

Dated: April 11, 2018

Approved by GLWA Board Resolution  
#2018-685 on April 3, 2018

**On behalf of DWSD:**



Gary Brown, Director

Dated: April 11, 2018

Approved by DWSD BOWC Resolution  
#18-0084 on April 4, 2018

**TERM SHEET**  
**Between Detroit Water and Sewerage Department and**  
**the Great Lakes Water Authority**

**Schedule 1 - Schedule of Adjustments**  
**(\$ Millions-Rounded)**

<b>Settlement Activity</b>	
<b>Net Book Entry Credits FY 2018</b>	
Budget Stabilization Fund Formula Adjustment (Section 2(b))	\$3.43
Sewer Lookback Adjustment (Section 2(c))	\$1.33
Consideration for Assumption of Pre-Effective Date Liabilities (net of \$9 million charge for certain litigation liabilities; Sections 2(a) & 2(d))	\$69.43
<b>Total Net Book Entry Credits for Cash Held for the Benefit of DWSD</b>	<b>\$74.20</b>
<b>Cash Transfers FY 2018</b>	
Wayne County Revolving Fund Proceeds (per Schedule 2)	\$16.29
Construction Bond Cash Allocation (paid from GLWA I&E Funds; per Schedule 6)	\$15.17
Due To/Due From Other City Liabilities (per Schedule 4)	\$20.20
<b>Total Cash Transfers</b>	<b>\$51.66</b>



**TERM SHEET**  
**Between Detroit Water and Sewerage Department and**  
**the Great Lakes Water Authority**

**Schedule 2 – Accounts Receivable and County Revolving Loan Fund**

**Net Accounts Receivable (AR) Balances, Written-off by GLWA as of June 30, 2017;  
Balances and Subsequent Activity Transferred to DWSD**

**Water System**

AR - City of Detroit Customers	\$ 12,758,181
AR - City of Detroit Customers - Allowance for Doubtful Accounts	(12,018,547)
AR - City of Detroit General Fund Tax Collections	1,088,215
AR - City of Detroit Other Fund Tax Collections	130,823
AR - City of Detroit Tax Roll Lien – Net	429,704
Cash - Affordability Program	977,278
DWSD Landlord-Tenant Deposits	(1,977,648)
Deferred Contributions Affordability	(1,042,265)
Wayne County Revolving Loan Fund	(1,040,446)
<b>Subtotal - Net Accounts Receivable Water System, June 30, 2017</b>	<b>(694,704)</b>

**Sewer System**

AR - City of Detroit Customers Allowance for Doubtful Accounts	32,123,672
Allowance for Doubtful AR-DWSD-12.31.15	(30,675,123)
AR - City of Detroit General Fund Tax Collections	13,511,863
AR - City of Detroit Other Fund Tax Collections	2,120,549
AR - City of Detroit Tax Roll Lien – Net	5,392,405
Wayne County Revolving Loan Fund	(12,962,512)
<b>Subtotal - Net Accounts Receivable Sewer System, June 30, 2017</b>	<b>9,510,854</b>

<b>Net Accounts Receivable (AR) Balances as of June 30, 2017 transferred to DWSD</b>	<b>\$ 8,816,149</b>
--	---------------------

*Note: Subsequent to July 1, 2017, \$16,293,664 was received from Wayne County as a Revolving Fund loan. That same amount of cash will be transferred to the Local System Operations and Maintenance Fund to be accounted for as any other liability. All other activity is accounted for consistently with other Local System receipts.*

**TERM SHEET**  
**Between Detroit Water and Sewerage Department and**  
**the Great Lakes Water Authority**

**Schedule 3 - Obligation Payable by DWSD to GLWA**  
**(for direct allocable share of pre-Effective Date bonded indebtedness)**

See attached Amortization Schedules.

# **TERM SHEET** **Between Detroit Water and Sewerage Department and** **the Great Lakes Water Authority**

## **Amortization Schedule for Obligation Payable**

Local System Obligation Payable @ 7/1/15		455,000,000	370,000,000
Weighted Average Interest Rate on the Effective Date		5.15%	4.71%
Weighted Avg Interest Rate on the Pre-Bifurcation Bonds *		5.01%	4.58%
Interest Rate offset to reflect Potential Future Refunding Savings		0.25%	0.25%
Interest Rate Starting in FY 2018		4.76%	4.33%
Initial Year Budget Local System D/S - Full Year		31,219,800	22,567,400
Balance @ 6/30/18		425,333,500	346,828,300
Remaining Term		20	20
Annual Payment		33,438,800	26,271,500

FY	Preliminary Amortization - Water			Preliminary Amortization - Sewer		
	Principal	Interest	Total	Principal	Interest	Total
2016	7,787,300	23,432,500	31,219,800	5,140,400	17,427,000	22,567,400
2017	9,932,500	21,287,300	31,219,800	6,769,000	15,798,400	22,567,400
2018	11,946,700	20,814,500	32,761,200	11,263,300	15,505,300	26,767,600
2019	13,192,900	20,245,900	33,438,800	11,741,100	15,017,700	26,758,800
2020	13,820,900	19,617,900	33,438,800	12,249,500	14,530,400	26,780,000
2021	14,478,800	18,960,000	33,438,800	12,779,900	14,022,000	26,801,900
2022	15,168,000	18,270,800	33,438,800	13,333,300	13,491,600	26,824,900
2023	15,890,000	17,548,800	33,438,800	13,910,600	12,938,300	26,848,900
2024	16,646,300	16,792,500	33,438,800	14,512,900	12,360,900	26,873,800
2025	17,438,700	16,000,100	33,438,800	15,141,400	11,758,600	26,899,900
2026	18,268,800	15,170,000	33,438,800	15,797,000	11,130,100	26,927,100
2027	19,138,400	14,300,400	33,438,800	16,481,000	10,474,500	26,955,500
2028	20,049,400	13,389,400	33,438,800	17,194,600	9,790,500	26,985,100
2029	21,003,700	12,435,100	33,438,800	17,939,100	9,076,900	27,016,000
2030	22,003,500	11,435,300	33,438,800	18,715,900	8,332,400	27,048,300
2031	23,050,900	10,387,900	33,438,800	19,536,300	7,555,600	27,091,900
2032	24,148,100	9,290,700	33,438,800	20,371,800	6,745,200	27,117,000
2033	25,297,500	8,141,300	33,438,800	21,253,900	5,899,700	27,153,600
2034	26,501,700	6,937,100	33,438,800	22,174,200	5,017,600	27,191,800
2035	27,763,200	5,675,600	33,438,800	23,134,300	4,097,300	27,231,600
2036	29,084,700	4,354,100	33,438,800	24,136,000	3,137,200	27,273,200
2037	30,469,100	2,969,700	33,438,800	25,181,700	2,135,500	27,317,200
2038	31,918,900	1,519,300	33,438,200	26,272,100	1,090,400	27,362,500
Totals	455,000,000	308,976,200	763,976,200	370,000,000	227,333,000	597,333,000



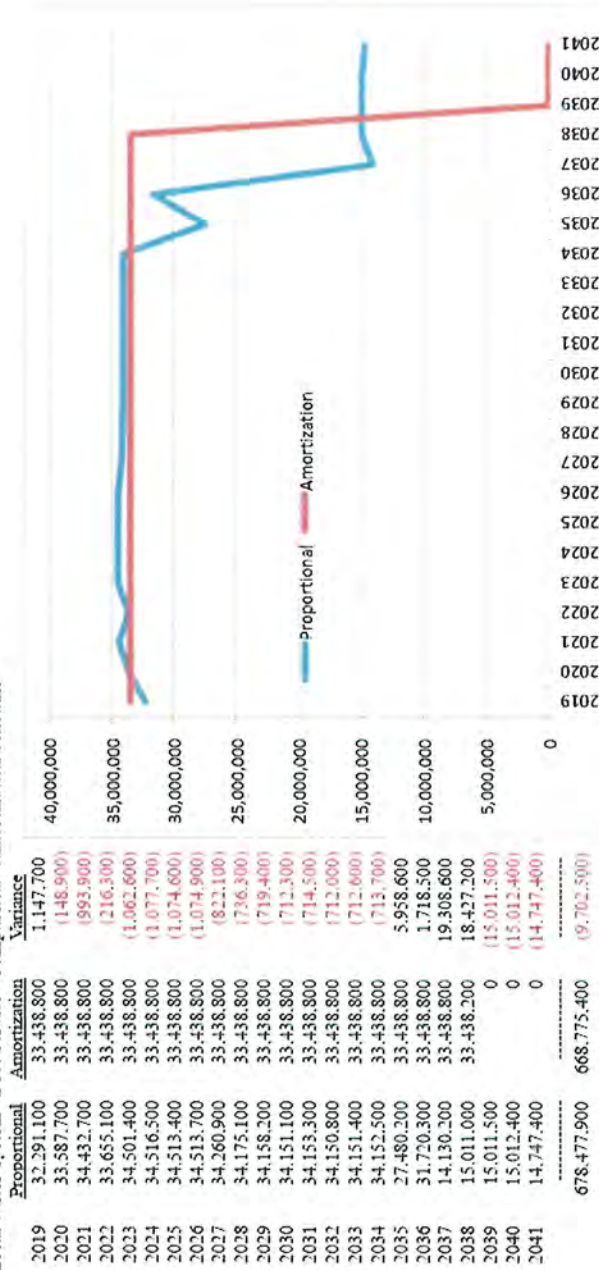
# **TERM SHEET** **Between Detroit Water and Sewerage Department and** **the Great Lakes Water Authority**

**Obligation Payable Calculations and Comparisons**

Original Amortization Schedule for Revenue Rest Allocations				Agreed Upon Amortization Schedule				Variance			
	Principal	Interest	Total	Balance	Principal	Interest	Total	Balance	Principal	Interest	Total
<b>Water</b>											
6/30/15	3,378,600	12,131,300	15,609,900	478,378,600	3,893,700	11,716,300	15,610,000	455,000,000	515,100	(515,000)	100
12/31/15	3,378,600	12,131,300	15,609,900	475,000,000	3,893,600	11,716,300	15,609,900	451,106,300	515,000	(515,000)	0
6/30/16	3,378,600	12,131,300	15,609,900	471,621,400	3,893,500	11,716,300	15,609,800	447,212,700	515,000	(515,000)	0
6/30/2017 (a)	7,591,660	23,638,200	31,229,860	464,039,800	9,933,500	21,281,300	31,214,800	437,280,200	2,340,900	(2,340,900)	0
6/30/2018 (b)	11,065,900	23,247,900	34,313,800	452,963,900	11,946,700	20,814,300	32,761,000	425,335,500	880,800	(2,439,400)	(1,558,600)
Subtotal - FY 18	35,414,760	71,338,700	96,753,460		29,666,500	65,354,300	95,020,800		4,351,800	(3,304,400)	(1,552,600)
6/30/19	11,749,800	22,693,500	34,443,300	441,214,100	13,192,900	20,245,900	33,438,800	412,140,600	1,443,100	(2,447,600)	(1,004,500)
Subtotal - FY 19 P.m	37,164,560	94,032,200	131,196,760		42,859,400	85,780,200	128,639,600		5,694,900	(8,257,000)	(2,562,100)
<b>Sewer</b>											
6/30/15	2,452,400	8,831,300	11,283,700	377,452,400	2,570,300	8,713,500	11,283,800	370,000,000	117,800	(117,800)	0
12/31/15	2,452,400	8,831,300	11,283,700	375,000,000	2,570,200	8,713,500	11,283,700	367,439,800	117,800	(117,800)	0
6/30/16	2,452,400	8,831,300	11,283,700	372,547,600	2,570,100	8,713,500	11,283,600	364,859,600	117,800	(117,800)	0
6/30/2017 (a)	5,504,700	17,062,700	22,567,400	367,042,900	6,769,000	15,798,400	22,567,400	358,090,600	1,264,300	(3,264,300)	(2,000,000)
6/30/2018 (b)	10,581,900	16,810,600	27,392,500	356,461,000	11,262,300	15,502,300	26,764,600	346,828,300	680,400	(3,302,300)	(2,621,900)
Subtotal - FY 18	20,991,400	51,535,900	72,527,300		23,171,700	48,730,700	71,902,400		2,180,300	(2,802,200)	(621,900)
6/30/19	10,458,200	16,325,900	26,784,100	346,002,800	11,253,800	15,017,700	26,271,500	335,574,500	792,600	(3,306,200)	(2,513,600)
Subtotal - FY 19 P.m	31,449,600	67,861,800	99,311,400		34,425,500	63,748,400	98,173,900		2,975,900	(4,113,400)	(1,137,500)
(a) Principal Balance at 6/30/17											
Water				464,039,800				437,280,200			(26,759,600)
Sewer				267,042,900				258,090,600			(9,952,300)
Total				831,072,700				795,370,800			(35,701,900)
(b) Total Debt Service During FY 2018											
Water				34,313,800				32,761,000			(1,552,800)
Sewer				27,392,500				26,767,600			(624,900)
Total				61,706,300				59,528,600			(2,177,700)

# **TERM SHEET** **Between Detroit Water and Sewerage Department and** **the Great Lakes Water Authority**

Local Water System "Debt Service" Comparison - Amortization Schedule



# TERM SHEET Between Detroit Water and Sewerage Department and the Great Lakes Water Authority

Local Sewer System "Debt Service" Comparison - Amortization Schedule



**TERM SHEET**  
**Between Detroit Water and Sewerage Department and**  
**the Great Lakes Water Authority**

**Schedule 4 - Due to/Due from Other City Liabilities**

<u>(Due to)/Due From Amount</u>	<u>Water</u>	<u>Sewer</u>	<u>Total</u>
<b>Due to Other Funds City of Detroit</b>			
Benefits	\$ (101,859)	\$ (1,121,706)	\$ (1,223,565)
Risk Management - Workers Comp (non-insured cash pymts)	(1,825,206)	(885,927)	(2,711,132)
Construction Code Fund	(50,994)	-	(50,994)
Disability Plan	(120,677)	-	(120,677)
<b>Subtotal - Due to Other Funds City of Detroit</b>	<b>(2,098,736)</b>	<b>(2,007,632)</b>	<b>(4,106,368)</b>
<b>Due to General Fund City of Detroit</b>			
General Fund Life-to-date Agreed Upon Balance as of June 30, 2015	(12,664,425)	(3,072,757)	(15,737,182)
Interagency Billings for HAZMAT	-	(349,236)	(349,236)
Central Services Administrative Charges	-	(1,222,169)	(1,222,169)
Payroll Services March 2015 through Dec 2015	-	(52,815)	(52,815)
Central Services Administrative Charges	(1,222,169)	-	(1,222,169)
Payroll Services for March through December 2015	(52,815)	-	(52,815)
General Fund - Unemployment Reimbursements	(711,744)	-	(711,744)
Offset: City General Fund Unemployment Transfer	96,863	-	96,863
Offset: General Fund - Reimbursement for Centralized Expenses	1,364	-	1,364
Offset: Delinquent Tax - County Settlement as of June 30, 2015 (Note 1)	4,034,710	-	4,034,710
Offset: DWSD Payment to City General Fund through June 30, 2015	8,088,816	-	8,088,816
Due to Other Funds City of Detroit (Construction Code Fund)	-	(47,539)	(47,539)
Current Workers Compensation	(294,557)	(390,165)	(684,722)
Current Death Benefits (Legacy)	(32,101)	(15,124)	(47,225)
<b>Subtotal - Due to General Fund City of Detroit</b>	<b>(2,756,058)</b>	<b>(5,149,804)</b>	<b>(7,905,862)</b>
Long-term Death Benefits Liability (Legacy)	(237,462)	(216,828)	(454,290)
Long-Term Workers Compensation	(3,312,536)	(4,390,938)	(7,703,474)
<b>Subtotal - Long-term Due to General Fund City of Detroit</b>	<b>(3,549,998)</b>	<b>(4,607,766)</b>	<b>(8,157,764)</b>
<b>Total - Due to City of Detroit Funds as of June 30, 2017</b>	<b>\$ (8,404,791)</b>	<b>\$ (11,765,203)</b>	<b>\$ (20,169,994)</b>

**Note 1:** These entries in Schedule 4 are not reflected in Schedule 2.



**TERM SHEET**  
**Between Detroit Water and Sewerage Department and**  
**the Great Lakes Water Authority**

**Schedule 5: Cash Transfer to DWSD I&E Account**

	Net Position of Construction Fund at 12.31.2015	Comment
<b>Water</b>		
Cash	\$ 17,471,801	Page 16 of 12.31.2015 DWSD Audit (carried forward to GLWA)
Other Assets/Liabilities	(19,600,783)	
<b>Net Position at December 31, 2015</b>	<b>\$ (2,128,982)</b>	Agreed to 1/1/16 Trial Balance (GLWA)
<i>No allocation of cumulative negative net position (funded from post-effective date sources).</i>		
<b>Sewer</b>		
Cash	\$ 134,810,437	Page 16 of 12.31.2015 DWSD Audit (carried forward to GLWA)
Other Assets/Liabilities	(47,629)	
<b>Net Position at December 31, 2015</b>	<b>\$ 134,762,808</b>	Agreed to 1/1/16 Trial Balance (GLWA)
<b>Local Asset Debt Allocation - %</b>	<b>11.26%</b>	
<b>Allocation of Sewer Construction Funds</b>	<b>\$ 15,174,200</b>	Allocable to Local I&E Account



## Financial Services Audit Committee Communication

**Date:** April 20, 2018

**To:** Great Lakes Water Authority Audit Committee

**From:** Jon Wheatley, Public Finance Manager

**Re:** Water Residential Assistance Program (WRAP) Update and Proposed Program Assistance Allocation Changes

**Background:** The Water Residential Assistance Program (“WRAP”) provides sustainable funding for qualifying low-income residents served by the Great Lakes Water Authority’s (“GLWA”) customers. The program is funded by GLWA at an amount equal to 0.5 percent of budgeted revenues with the initial FY 2016 funding level of \$4.5 million combined for water and sewer services, \$4.7 million in FY 2017 and \$4.9 million for FY 2018.

The scope of funding uses includes a) payment assistance and b) water audit and water conservation measures. Eligible residential customers with a past due bill and/or who are in active shut off can receive assistance with paying down arrears and receive \$25 toward monthly bill payment assistance annually up to \$1,000. High volume water users can receive a one-time home audit and home water conservation services up to \$1,000. Maximum annual assistance per household is \$2,000. To participate in WRAP, an applicant must have household gross incomes at or below 150% of the federal poverty income thresholds. Customers with water usage at or above 120% of the average residential usage are eligible to participate in a water audit and install water conservation measures. WRAP participants are also encouraged to participate in both financial coaching and water conservation workshops as well as other support services. The program is administered by Wayne Metro Community Action Agency (Wayne Metro), a nonprofit agency.

The WRAP began providing assistance to customers of GLWA on March 1, 2016 and has the potential to serve over 100 communities within the GLWA service area. In order to assist qualified households each community must opt into the program and sign a Memorandum of Agreement (MOA) with Wayne Metro. To date, 72 communities have opted into WRAP, with 7 more communities with MOAs in progress. A list of current participating communities is presented in **Table 1**.

**Table 1- WRAP Participating Communities**

<b>Wayne County</b>	<b>Oakland County</b>	<b>Macomb County</b>
Allen Park	Beverly Hills	Centerline
Brownstown Township	Bingham Farms	Chesterfield Township
Canton Township	Birmingham	Clinton Township
Dearborn	Clawson	Eastpointe
Dearborn Heights	Commerce Township	Fraser
Detroit	Farmington	Macomb Township
Ecorse	Farmington Hills	New Haven
Flat Rock	Ferndale	Shelby Township
Garden City	Hazel Park	St. Clair Shores
Gibraltar	Huntington Woods	Sterling Heights
Grosse Pointe Shores	Keego Harbor	Utica
Hamtramck	Lathrup Village	Warren
Harper Woods	Madison Heights	Washington Township
Inkster	Oak Park	
Lincoln Park	Orchard Lake	<b>Lapeer County</b>
Livonia	Orion Township	Almont
Melvindale	Oxford	Lapeer
Northville	Pleasant Ridge	
Plymouth	Pontiac	<b>Washtenaw County</b>
Redford Township	Royal Oak	Pittsfield Township
River Rouge	Royal Oak Township	Superior Township
Romulus	Southfield	Ypsilanti
Southgate	Sylvan Lake	Ypsilanti Township
Taylor	West Bloomfield Township	
Trenton		
Van Buren Township	<b>Monroe County</b>	
Wayne	Ash Township	
Westland		

## **WRAP Cashflow Updates**

### **1. FY 2017 WRAP Cashflow**

**Table 2** shows the WRAP cashflow of budgeted and committed funds in total and for each of the participating counties and the City of Detroit as of June 30, 2017. In total for FY 2017, over \$2.2 million in assistance funds were committed and over \$570,000 of conservation and repair dollars were spent. From March 1, 2016 to June 30, 2017, over \$8.0 million was budgeted for WRAP and almost \$4.3 million was utilized by WRAP participants during that time. As of June 30, 2017, the suburban counties still had uncommitted funds (combined assistance and conservation) of over \$1.9 million

through June 30, 2017. The City of Detroit had uncommitted funds of over \$1.8 million due to the reallocation of the uncommitted FY 2016 suburban assistance funds.

## **2. FY 2018 WRAP Cashflow as of March 31, 2018**

**Table 3** shows the WRAP cashflow of budgeted and committed funds in total and for each of the participating counties and the City of Detroit as of March 31, 2018. From March 1, 2016 to March 31, 2018 over \$12.3 million was budgeted for WRAP (including the FY 2018 allocation) and over \$6.8 million was utilized by WRAP participants during that time.

### **GLWA Proposed Changes to Program Requirements**

WRAP has just completed its first 24 months of operations. During that time, GLWA and Wayne Metro have worked together to recommend changes to the program design and funding re-allocation. To date, GLWA management has brought these requests to the GLWA Audit Committee and then to the GLWA Board of Directors. At its meeting on November 4, 2016, the Audit Committee reviewed and recommended the following changes to the Board:

- Allow communities to opt into specific features of the WRAP. For example, a community could choose to opt into the monthly assistance feature, but not the arrearage assistance feature.
- As part of the plumbing and repair feature of the program for those qualified households with over 120% average annual water usage, kitchen and bathroom faucets in the home that pre-date the lead-free plumbing code change will be considered eligible for replacement as part of the one-time \$1,000 per household allotment.

In addition to the program changes above, GLWA management is recommending the following program changes to WRAP.

#### **1. Eligibility Extension:**

In response to the feedback GLWA management has received from participating member communities, GLWA management is recommending changing the 2-year residential customer WRAP participation limit to a 3-year limitation. This will help eligible participants in WRAP to have the best chance at success by allowing an extra 12 months of bill assistance. In addition to the approval by the Board of Directors, we are requesting that each Director officially “opt-in” the representative area they represent.



## **2. Removal of the 120% Usage Requirement for the Lead Fixture Replacement:**

The GLWA Audit Committee previously recommended that as part of the plumbing and repair feature of the program for those qualified households with over 120% average annual water usage, kitchen and bathroom faucets in the home that pre-date the lead-free plumbing code change will be considered eligible for replacement as part of the one-time \$1,000 per household allotment. This proposed program change would remove the 120% usage requirement as a prerequisite to participating in part of the program as it addresses the removal of lead fixtures and is not related to water conservation. As part of Wayne Metro's recommendation in the next section, GLWA would set-aside uncommitted FY 2017 specifically for this purpose.

### **Wayne Metro Funding Recommendations**

Based on the demonstrated usage of the WRAP funds since March 1, 2016 and the usage during FY 2017, Wayne Metro is recommending reallocation of currently uncommitted FY 2017 suburban WRAP funds and a reallocation of budgeted WRAP funds for FY 2019. Attached is Wayne Metro's letter (including referenced documents) dated April 16, 2018 which outlines their recommendations. Below is a summary of the recommendations:

- 1. Reallocation of Uncommitted FY 2017 Assistance Funds:** Similar to the demonstrated WRAP utilization in FY 2016, suburban counties had uncommitted assistance dollars of \$1,034,435, as of June 30, 2017. Wayne Metro is requesting a reallocation of those funds to the City of Detroit in the amount of \$604,720 and \$383,515 (\$307,515 for assistance and \$76,000 for conservation) to the City of Flint. The remaining \$46,200 will remain in the county allocations for Year-3 WRAP assistance to eligible participants. **Table 4** shows the affect of the proposed reallocation of these funds,
- 2. Reallocation of Uncommitted FY 2017 Conservation Funds:** In addition to the uncommitted assistance funds, the suburban counties have underutilized the conservation funds in both FY 2016 and FY 2017. Wayne Metro is recommending that the uncommitted \$202,249 FY 2017 conservation dollars be designated for the replacement of fixtures in the home that pre-date the lead-free plumbing code change.
- 3. Need-Based Allocation of FY 2019 WRAP Funds:** Although WRAP is still a relatively new program and new communities are continuing to join WRAP, the utilization of suburban funding allocations is below those of the City of Detroit. In 2017, the GLWA Board reallocated over \$1.6 million to the City of Detroit and \$117,000 to the City of Flint from uncommitted FY 2016 WRAP allocations. A similar request is being made for a reallocation of uncommitted FY 2017 suburban

funds. In order to address this continued gap in demonstrated utilization, Wayne Metro is requesting an allocation for FY 2019 WRAP funds based on a need-based formula, similar to the Community Development Block Grant (CDBG) program. A table of proposed need-based allocations is attached.

**Budget Impact:** None

**Proposed Action:** The Audit Committee recommends that the Great Lakes Water Authority Board 1) approve the proposed program changes to WRAP to allow participants to remain in the program for 3 years, subject to approval by the representing Director; 2) approve the removal of the 120% usage requirement for the lead fixture replacement and 3) consider the proposed Wayne Metro funding reallocation recommendations.



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April 16, 2018

Great Lakes Water Authority & Chief Executive Officer  
500 Randolph, 19<sup>th</sup> Floor  
Detroit, MI 48202

**RE: Water Residential Assistance Program Reallocation of Uncommitted FY16-17 Funds**

Dear GLWA Board of Directors and Sue McCormick,

Community Action Agencies, America's anti-poverty network, carry out a shared promise to empower people and communities to be strong, healthy, and thriving. The Community Action Alliance for Southeast Michigan, through our role in WRAP, has made water assistance, conservation, and consumer education a leading priority in our community-based poverty fighting efforts.

Together we have enrolled more than 11,000 GLWA resident customers into WRAP assisting in the prevention of thousands of water service shut offs. With 72 of the eligible GLWA communities now offering WRAP services to residents and four additional MOAs in process the reach and impact of WRAP continues to grow. **Even with an increase in member community participation, an unspent balance of \$446,089 in uncommitted funds remain in year one (suburban conservation funds) and \$1,236,684 in year two (suburban conservation and assistance funds, see Exhibit 1).**

The greatest need for WRAP services continues to be from City of Detroit customers. 70 percent of all WRAP enrollments are City of Detroit residents. All available GLWA Detroit WRAP funding has been committed to service first year enrollments, second year reenrollments, home repairs, and conservation measures.

**We respectfully request that GLWA Board of Directors:**

1. **Approve a WRAP conservation and direct assistance funding reallocation as follows:**
  - a. **Direct Assistance:**
    - i. **Reallocate year 2 unspent funds as follows (Exhibit 2):**
      1. All counties: Year 3 re-enrollments - \$347,400
      2. Genesee County: New enrollments & Conservation: \$383,515
      3. City of Detroit: New Enrollments: \$303,520
  - b. **Conservation:**
    - i. **Reallocate uncommitted Year 2 (\$202,249) to replace kitchen and bathroom faucets and program staffing supports.**
    - ii. **Evaluate unspent suburban conservation allocations from Year 1 (\$446,089) and Year 3 (TBD) remaining at program year end**

(6/30/2018) to determine if there is a need for reallocation based on the usage trend

**2. Adjust future WRAP allocations to include a need-based formula. Example benchmark data scenarios are attached (Exhibit 3).**

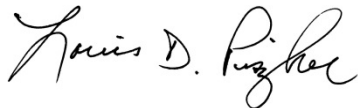
In advocating for this reallocation, it is worth noting:

- All allocated GLWA funding and additional funding raised for Detroit has been committed.
- This request is consistent with the reallocation request made by the CAA Alliance in 2017.
- An additional \$4,000,000 has been raised and committed for WRAP Detroit - Wayne Metro contributing \$1M in Federal dollars and DWSD an additional \$3M for Departmental sources.
- \$1.6M has been leveraged to expand and advance WRAP services through technology, facilities, and increased staffing.
- \$300,000 of discretionary funding has been raised through events, grants, and donations to provide one-time assistance to individuals and communities ineligible for WRAP.
- Introductory meetings have been conducted with GCARD, the Community Action Agency serving Flint in anticipation of providing WRAP services to Flint residents.

Please find attached:

1. A funding allocation request table
2. A yearly WRAP enrollment and community opt-in report
3. Benchmark data to inform a need-based allocation formula for WRAP
4. WRAP success story, Mr. Denzel Donald, a Detroit resident. Denzel's monthly bill went from \$300 a month to \$50 after a broken pipe was repaired. Denzel is also doing well in his new role as a Wayne Metro 2018 Certified Tax Specialist assisting other Detroit residents with free tax preparation services and financial education.

Sincerely,



Louis D. Piszker, CEO  
Wayne Metro CAA



Susan Harding, CEO  
Oakland Livingston Community Services



Ernest Cawvey, Executive Director  
Macomb Community Action Program



Stephanie Kasperzak, CEO  
Monroe Community Opportunity Program

# EXHIBIT 1

## WRAP Conservation Spending

July 1, 2016 - June 30, 2017			
	Home		
	Conservation	Spent Dollars as of	
	Allocation	12.1.17	Remaining Balance
City of Detroit	\$ 297,856	\$ 304,634	\$ (6,778)
Out-Wayne County	188,029	87,110	100,919
Oakland County	180,570	93,985	86,585
Macomb County	93,406	84,481	8,925
Genesee County	-	-	-
Washtenaw County	8,855	475	8,380
Lapeer County	2,344	-	2,344
Monroe County	1,296	-	1,296
St. Clair County	578	-	578
City of Flint	-	-	-
<b>Total</b>	<b>\$ 772,934</b>	<b>\$ 570,685</b>	<b>\$ 202,249</b>

## WRAP Assistance Spending

July 1, 2016 - June 30, 2017			
	Direct Assistance	Committed Dollars	
	Allocation	as of 12.1.17	Remaining Balance
City of Detroit	\$ 1,278,103	\$ 1,307,187	\$ (29,084)
Out-Wayne County	806,833	320,478	486,355
Oakland County	774,825	506,747	268,078
Macomb County	400,804	138,170	262,634
Genesee County	-	-	-
Washtenaw County	37,998	9,597	28,401
Lapeer County	10,059	-	10,059
Monroe County	5,561	-	5,561
St. Clair County	2,431	-	2,431
City of Flint	-	-	-
<b>Total</b>	<b>\$ 3,316,614</b>	<b>\$ 2,282,179</b>	<b>\$ 1,034,435</b>

Total Amount Eligible for Reallocation:

**\$ 1,236,684**

# EXHIBIT 2

## Wayne Metro Proposed Reallocation FY 2017 Uncommitted Assistance Funds

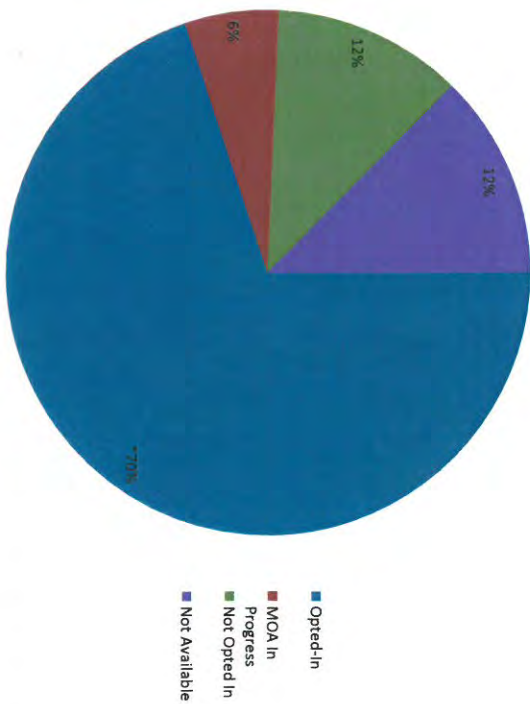
	Year 3 Re- Enrollments	New Enrollments	Conservation	New Enrollments	Totals
City of Detroit	301,200			\$ 303,520 ** \$	604,720
Out-Wayne County	17,400				17,400
Oakland County	25,800				25,800
Macomb County	2,400				2,400
Genesse County	-				-
Washtenaw County	600				600
Lapeer County	-				-
Monroe County	-				-
St. Clair County	-				-
Genesse County	-	307,515 **	76,000		383,515
<b>Total</b>	<b>\$ 347,400.00 *</b>	<b>\$ 307,515.00</b>	<b>\$ 76,000.00</b>	<b>\$ 303,520</b>	<b>\$ 1,034,435.00</b>

\* Bill-payment assistance only (NO ARREARS)

\*\* Bill-payment assistance and arrears

## GLWA WRAP ELIGIBLE COMMUNITIES

COUNTIES	Opted-In			Not Opted-In		Opt-In Option 1	Opt-In Option 2
	Opted-In	In Progress	No Response	Opted-In	Not Opted-In		
Wayne	28	1	3	9	21	35%	7 58%
Oakland	23	3	4	4	21	35%	2 17%
Macomb	13	2	1	0	11	18%	2 17%
Washtenaw	5	0	0	0	5	8%	0 0%
Lapeer	2	0	1	0	1	2%	1 8%
Monroe	1	0	2	0	1	2%	0 0%
St Clair	0	0	1	0	0	0%	0 0%
<b>TOTAL</b>	<b>72</b>	<b>6</b>	<b>12</b>	<b>13</b>	<b>60</b>	<b>100%</b>	<b>12 100%</b>



**\*Note:** Out of 103 eligible communities there are only 93 available  
72 out of 93 or 80% available communities have Opted-In to WRAP.



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# GLWA WRAP MEMBER COMMUNITIES

MUNICIPALITIES							OPTION 1	OPTION 2	OPTION 3	IN PROGRESS	NO RESPONSE	NOT OPTED-IN
<b>WAYNE COUNTY</b>												
1	Allen Park	X										
2	Belleville											X
3	Brownship Township	X										
4	Canton Township	X										
5	Dearborn	X										
6	Dearborn Heights	X										
7	Detroit	X										
8	Ecorse	X										
9	Flat Rock	X										
10	Garden City	X										
11	Gibraltar		X									
12	Grosse Ill Township											X
13	Grosse Pointe											X
14	Grosse Pointe Farms											X
15	Grosse Pointe Park											X
16	Grosse Pointe Shores	X										
17	Grosse Pointe Woods										X	
18	Hamtramck	X										
19	Harper Woods		X									
20	Huron Charter Township											X
21	Inkster		X									
22	Lincoln Park		X									
23	Livonia	X										
24	Melvindale	X										
25	Northville	X										
26	Northville Township										X	
27	Plymouth Township											X
28	Plymouth, City of		X									
29	Redford Township	X										
30	River Rouge	X										
31	Riverview										X	
32	Rockwood											X
33	Romulus		X									
34	Southgate	X										
35	Sumpter Township											X
36	Taylor		X									
37	Trenton	X										
38	Van Buren Township	X										
39	Wayne	X										
40	Westland	X										
41	Woodhaven										X	
<b>OAKLAND COUNTY</b>												
1	Auburn Hills										X	
2	Berkley									X		
3	Beverly Hills									X		
4	Bingham Farms	X										
5	Birmingham	X										
6	Bloomfield Hills									X		
7	Bloomfield Township											X
8	Clawson	X										
9	Commerce Township	X										
10	Farmington	X										
11	Farmington Hills	X										
12	Ferndale	X										
12	Hazel Park		X									
13	Huntington Woods	X										
14	Keego Harbor	X										
15	Lake Orion									X		
16	Lathrup Village	X										
17	Madison Heights	X										
18	Novi											X
19	Oak Park	X										
20	Orchard Lake	X										
21	Orion Township	X										
22	Oxford	X										
23	Pleasant Ridge	X										
24	Pontiac	X										
25	Rochester Hills											X
26	Royal Oak	X										
27	Royal Oak Township	X										
28	Southfield	X										
29	Sylvan Lake	X										
30	Troy										X	
31	Walled Lake									X		
32	West Bloomfield		X									
33	Wixom											X
<b>MACOMB COUNTY</b>												
1	Centerline	X										
2	Chesterfield Township	X										
3	Clinton Township		X									
4	Eastpointe	X										
5	Fraser	X										
6	Harrison Township									X		
7	Lenox Township									X		
8	Macomb Township	X										
9	New Haven Village	X										
10	Roseville										X	
11	Shelby Township	X										
12	St. Clair Shores	X										
13	Sterling Heights	X										
14	Utica	X										
15	Warren	X										
16	Washington Township		X									
<b>WASHTENAW COUNTY</b>												
1	Augusta Township	X										
2	Pittsfield Township	X										
3	Superior Township	X										
4	Ypsilanti	X										
5	Ypsilanti Township	X										
<b>LAPEER COUNTY</b>												
1	Almont Village		X									
2	Imlay City										X	
3	Lapeer	X										
<b>ST. CLAIR COUNTY</b>												
1	Burtchville										X	
<b>MONROE COUNTY</b>												
1	Ash Township	X										
2	Berlin Township										X	
3	South Rockwood										X	



# EXHIBIT 3

## BENCHMARK DATA FOR WRAP NEED-BASED FORMULA:

County	CDBG 2016 Allocation	% of Total	Pro-rata Share (Based on CDBG Allocation)	Difference	Current WRAP Allocation		CSBG 2017 Allocation	% of Total	Pro-rata Share (Based on CSBG Allocation)	Difference
Detroit	\$ 31,372,385	49%	\$ 2,134,037	\$ 527,096	\$ 1,606,941	37%	\$ 5,878,878	45%	\$ 1,933,375	\$ 326,434
Out Wayne	\$ 11,200,210	18%	\$ 761,940	\$ (284,517)	\$ 1,046,457	24%	\$ 1,833,463	14%	\$ 602,967	(\$443,490)
Oakland	\$ 7,257,108	11%	\$ 493,731	\$ (526,814)	\$ 1,020,545	24%	\$ 1,580,406	12%	\$ 519,745	(\$500,800)
Genesee	\$ 5,331,596	8%	\$ 362,644	\$ 327,281	\$ 35,363	1%	\$ 1,159,466	9%	\$ 381,311	\$345,948
Washtenaw	\$ 1,858,189	3%	\$ 126,343	\$ 75,836	\$ 50,507	1%	\$ 575,083	4%	\$ 189,126	\$138,619
Macomb	\$ 5,250,248	8%	\$ 357,038	\$ (172,417)	\$ 529,455	12%	\$ 1,144,134	9%	\$ 376,269	(\$153,186)
St. Clair	\$ 708,717	1%	\$ 48,295	\$ 45,084	\$ 3,211	0%	\$ 290,557	2%	\$ 95,555	\$92,344
Lapeer	\$ -	0%	\$ -	\$ (12,293)	\$ 12,293	0%	\$ 435,146	3%	\$ 143,106	\$130,813
Monroe	\$ 411,759	1%	\$ 28,028	\$ 20,743	\$ 7,285	0%	\$ 214,684	2%	\$ 70,603	\$63,318
Total:	\$ 63,390,212	100%	\$4,312,057		\$4,312,057		\$13,111,817	100%	\$4,312,057	

**CDBG (Community Development Block Grant)** is one of the longest-running programs of the U.S. Department of Housing and Urban Development, funds local community development activities such as affordable housing, anti-poverty programs, and infrastructure development. CDBG eligibility is generally calculated at 80% of Area Median Income (AMI). **CSBG (Community Services Block Grant)** is a federal, anti-poverty block grant which funds the operations of a state-administered network of local agencies. This CSBG network consists of more than 1,000 agencies that create, coordinate and deliver programs and services to low-income Americans at 125% of the Federal Poverty Line (FPL). CSBG is administered in 99 percent of the nation's counties.



## Denzel Donald

### Basic Needs

**Denzel Donald** is a proud and spirited Detroit'er who has accomplished a great deal in his young age of 25. A passionate and talented Opera singer, he has traveled to Panama, Africa and Italy to perform for audiences around the world. He writes his own music and studied at Wayne State University's School of Music.

When Denzel inherited a home on Detroit's northside from a family member, he quickly found out how much work can be required to turn a house into a home. While the bones of the house were solid, the house had significant issues affecting Denzel's budget each month.

Denzel first came to Wayne Metro when his water bill climbed to more than \$2,400 when a pipe burst. He braved the elements to attend a water assistance fair at a DWSD service center and was disheartened when he saw the long line of people wrapped around the building. He chose to wait, and hope, and see if he was eligible for assistance and is glad he did because he was enrolled that day in the Water Residential Assistance Program (WRAP). The WRAP program gave Denzel the lift he needed to get help with monthly bill payment, paying down past due arrears and making home repairs.

Denzel says he found the WRAP program water audit one of the most valuable parts of the program. He was impressed with the team who gave him ideas and strategies for simple fixes that made a big impact like changing out faucets and replacing shower heads with water efficient ones. WRAP also paid to fix the broken pipe. Denzel is now a mindful, committed conservator of water. He is able to perform basic upgrades in his home and tells us that through WRAP, his monthly bill has decreased from \$300 a month to a manageable \$30 a month.

Denzel says, "The program and people at Wayne Metro are a financial and educational blessing. They truly care about the people they help."

"I am empowered to be a smart homeowner, and to help others find their way to this program."

- Denzel Donald, Detroit Resident



\$7.3

Million provided in water and home energy supports



\$500,000

Granted to support Detroit partners



1,067

Served through case management

# Table 2

WRAP Fund Sources and Uses  
(Unaudited)

## TOTAL Activity March 1, 2016 to June 30, 2017

INCLUDES FY 2016 AND 2017 FUNDING

INCLUDES REALLOCATION OF FY 2016 UNCOMMITTED FUNDS BASED ON APRIL 26, 2017 BOARD ACTION

Row		Detroit	Out-Wayne County	Oakland County	Macomb County	Washtenaw County	St. Clair County	Lapeer County	Monroe County	Genesee County	City of Flint	Total
	<b>Sources (Net Revenues)</b>											
	<b>FY 2016 Assistance Budget Allocation</b>											
1	Bill and Arrearage Assistance	\$ 1,238,736	\$ 748,629	\$ 740,155	\$ 379,764	\$ 35,419	\$ 3,051	\$ 10,080	\$ 5,093	\$ 63,842	\$ -	\$ 3,224,769
2	Home Audit and Repairs	288,022	174,066	172,096	88,300	8,235	709	2,344	1,184	14,500	-	749,457
3	<b>Total FY 2016 Assistance Budget Allocation</b>	<b>\$ 1,526,759</b>	<b>\$ 922,695</b>	<b>\$ 912,250</b>	<b>\$ 468,064</b>	<b>\$ 43,654</b>	<b>\$ 3,760</b>	<b>\$ 12,424</b>	<b>\$ 6,277</b>	<b>\$ 78,342</b>	<b>\$ -</b>	<b>\$ 3,974,226</b>
4	<b>Re-Allocation of Uncommitted Funds from FY 2016 (1)</b>											
5	Bill and Arrearage Assistance Reallocated to Detroit	\$ 1,664,833	\$ (718,353)	\$ (591,163)	\$ (355,316)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	Bill and Arrearage Assistance Reallocated to Flint	-	-	-	-	(35,419)	(3,051)	(10,080)	(5,093)	(63,842)	117,485	-
7	<b>Total Re-Allocation of Uncommitted Funds from FY 2016</b>	<b>\$ 1,664,833</b>	<b>\$ (718,353)</b>	<b>\$ (591,163)</b>	<b>\$ (355,316)</b>	<b>\$ (35,419)</b>	<b>\$ (3,051)</b>	<b>\$ (10,080)</b>	<b>\$ (5,093)</b>	<b>\$ (63,842)</b>	<b>\$ 117,485</b>	<b>\$ 0</b>
8	<b>FY 2017 Assistance Budget Allocation</b>											
9	Bill and Arrearage Assistance	\$ 1,278,103	\$ 806,833	\$ 774,825	\$ 400,804	\$ 37,998	\$ 2,431	\$ 10,059	\$ 5,561	\$ -	\$ -	\$ 3,316,615
10	Home Audit and Repairs	297,856	188,029	180,570	93,406	8,855	578	2,344	1,296	-	-	772,934
11	<b>Total FY 2017 Assistance Budget Allocation</b>	<b>\$ 1,575,960</b>	<b>\$ 994,862</b>	<b>\$ 955,395</b>	<b>\$ 494,209</b>	<b>\$ 46,853</b>	<b>\$ 3,009</b>	<b>\$ 12,403</b>	<b>\$ 6,858</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,089,549</b>
12	<b>NET FY 2016 and FY 2017 Assistance Available</b>	<b>\$ 4,767,551</b>	<b>\$ 1,199,204</b>	<b>\$ 1,276,482</b>	<b>\$ 606,957</b>	<b>\$ 55,089</b>	<b>\$ 3,718</b>	<b>\$ 14,747</b>	<b>\$ 8,042</b>	<b>\$ 14,500</b>	<b>\$ 117,485</b>	<b>\$ 8,063,774</b>
13	<b>Uses 3/01/2016 to 6/30/2017</b>											
14	Investment Income	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	Home Repairs	274,991	16,079	29,449	30,982	-	-	-	-	-	-	351,500
16	Home Audits	345,075	25,175	33,725	38,000	475	-	-	-	-	-	442,450
17	Bill Assistance	126,228	10,627	19,717	15,832	575	-	-	-	-	-	172,979
18	Arrearage Assistance	499,758	31,887	38,496	11,834	-	-	-	-	-	-	581,975
19	<b>Total Uses 3/01/2016 to 6/30/2017</b>	<b>\$ 1,246,052</b>	<b>\$ 83,768</b>	<b>\$ 121,387</b>	<b>\$ 96,648</b>	<b>\$ 1,050</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,548,904</b>
20	<b>Net Funds Available for Future Assistance</b>	<b>\$ 3,521,500</b>	<b>\$ 1,115,436</b>	<b>\$ 1,155,095</b>	<b>\$ 510,310</b>	<b>\$ 54,039</b>	<b>\$ 3,718</b>	<b>\$ 14,747</b>	<b>\$ 8,042</b>	<b>\$ 14,500</b>	<b>\$ 117,485</b>	<b>\$ 6,514,870</b>
21	<b>Less: Committed Funds 3/01/2016 to 6/30/2017</b>											
22	Bill Assistance	\$ 704,460	\$ 210,023	\$ 224,035	\$ 111,468	\$ 5,125	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,255,111
23	Arrearage Assistance	1,155,016	129,973	374,357	24,638	3,897	0	0	0	0	0	1,687,881
24	Breakage	(209,086)	(16,947)	0	0	0	0	0	0	0	0	(226,033)
25	<b>Total Committed Funds 3/01/2016 to 6/30/2017</b>	<b>\$ 1,650,389</b>	<b>\$ 323,049</b>	<b>\$ 598,393</b>	<b>\$ 136,107</b>	<b>\$ 9,022</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,716,959</b>
26	<b>Total Expenditures/Committed Funds</b>	<b>\$ 2,896,440</b>	<b>\$ 406,817</b>	<b>\$ 719,780</b>	<b>\$ 232,754</b>	<b>\$ 10,072</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,265,864</b>
27	<b>Uncommitted Funds as of 6/30/2017</b>	<b>\$ 1,871,111</b>	<b>\$ 792,387</b>	<b>\$ 556,703</b>	<b>\$ 374,203</b>	<b>\$ 45,016</b>	<b>\$ 3,718</b>	<b>\$ 14,747</b>	<b>\$ 8,042</b>	<b>\$ 14,500</b>	<b>\$ 117,485</b>	<b>\$ 3,797,911</b>

(1) Based on April 26, 2017 Board of Directors action

REVISED 8.08.17

# Table 3

WRAP Fund Sources and Uses  
(Unaudited)

## TOTAL Activity March 1, 2016 to March 31, 2018

INCLUDES FY 2016, 2017 & 2018 FUNDING

INCLUDES REALLOCATION OF FY 2016 AND 2017 UNCOMMITTED FUNDS

Row		Detroit	Out-Wayne County	Oakland County	Macomb County	Washtenaw County	St. Clair County	Lapeer County	Monroe County	Genesee County	City of Flint	Total
	<b>Sources (Net Revenues)</b>											
	<b>FY 2016 Assistance Budget Allocation</b>											
1	Bill and Arrearage Assistance	\$ 1,238,736	\$ 748,629	\$ 740,155	\$ 379,764	\$ 35,419	\$ 3,051	\$ 10,080	\$ 5,093	\$ 63,842	\$ -	\$ 3,224,769
2	Home Audit and Repairs	288,022	174,066	172,096	88,300	8,235	709	2,344	1,184	14,500	-	749,457
3	<b>Total FY 2016 Assistance Budget Allocation</b>	<b>\$ 1,526,759</b>	<b>\$ 922,695</b>	<b>\$ 912,250</b>	<b>\$ 468,064</b>	<b>\$ 43,654</b>	<b>\$ 3,760</b>	<b>\$ 12,424</b>	<b>\$ 6,277</b>	<b>\$ 78,342</b>	<b>\$ -</b>	<b>\$ 3,974,226</b>
	<b>FY 2017 Assistance Budget Allocation</b>											
5	Bill and Arrearage Assistance	\$ 1,278,103	\$ 806,833	\$ 774,825	\$ 400,804	\$ 37,998	\$ 2,431	\$ 10,059	\$ 5,561	\$ -	\$ -	\$ 3,316,615
6	Home Audit and Repairs	297,856	188,029	180,570	93,406	8,855	578	2,344	1,296	-	-	772,934
7	<b>Total FY 2017 Assistance Budget Allocation</b>	<b>\$ 1,575,960</b>	<b>\$ 994,862</b>	<b>\$ 955,395</b>	<b>\$ 494,209</b>	<b>\$ 46,853</b>	<b>\$ 3,009</b>	<b>\$ 12,403</b>	<b>\$ 6,858</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,089,549</b>
	<b>Re-Allocation of Uncommitted Funds from FY 2016 (1)</b>											
8	Bill and Arrearage Assistance Reallocated to Detroit	\$ 1,664,833	\$ (718,353)	\$ (591,163)	\$ (355,316)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	Uncommitted FY 2016 Conservation Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	Bill and Arrearage Assistance Reallocated to Flint	-	-	-	-	(35,419)	(3,051)	(10,080)	(5,093)	(63,842)	117,485	-
12	<b>Total Re-Allocation of Uncommitted Funds from FY 2016</b>	<b>\$ 1,664,833</b>	<b>\$ (718,353)</b>	<b>\$ (591,163)</b>	<b>\$ (355,316)</b>	<b>\$ (35,419)</b>	<b>\$ (3,051)</b>	<b>\$ (10,080)</b>	<b>\$ (5,093)</b>	<b>\$ (63,842)</b>	<b>\$ 117,485</b>	<b>\$ -</b>
	<b>Proposed Re-Allocation of Uncommitted Funds from FY 2017 (1)</b>											
14	Bill and Arrearage Assistance Reallocated to Detroit	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	Uncommitted FY 2017 Conservation Funds	-	-	-	-	-	-	-	-	-	-	\$ -
16	Bill and Arrearage Assistance Reallocated to Flint	-	-	-	-	-	-	-	-	-	-	-
16	<b>Proposed Total Re-Allocation of Uncommitted Funds from FY 2017</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
17	<b>Total Re-Allocation of Uncommitted FY 2016 and FY 2017 Funds</b>	<b>\$ 1,664,833</b>	<b>\$ (718,353)</b>	<b>\$ (591,163)</b>	<b>\$ (355,316)</b>	<b>\$ (35,419)</b>	<b>\$ (3,051)</b>	<b>\$ (10,080)</b>	<b>\$ (5,093)</b>	<b>\$ (63,842)</b>	<b>\$ 117,485</b>	<b>\$ -</b>
	<b>FY 2018 Assistance Budget Allocation</b>											
18	Bill and Arrearage Assistance	\$ 1,303,229	\$ 848,677	\$ 827,662	\$ 429,388	\$ 40,961	\$ 2,604	\$ 9,970	\$ 5,908	\$ 28,679	\$ -	\$ 3,497,078
20	Home Audit and Repairs	303,712	197,780	192,883	100,067	9,546	607	2,323	1,377	6,684	-	814,979
21	<b>Total FY 2018 Assistance Budget Allocation</b>	<b>\$ 1,606,941</b>	<b>\$ 1,046,457</b>	<b>\$ 1,020,545</b>	<b>\$ 529,455</b>	<b>\$ 50,507</b>	<b>\$ 3,211</b>	<b>\$ 12,294</b>	<b>\$ 7,285</b>	<b>\$ 35,363</b>	<b>\$ -</b>	<b>\$ 4,312,057</b>
22	<b>NET FY 2016, FY 2017 &amp; FY 2018 Assistance Available</b>	<b>\$ 6,374,492</b>	<b>\$ 2,245,661</b>	<b>\$ 2,297,027</b>	<b>\$ 1,136,412</b>	<b>\$ 105,596</b>	<b>\$ 6,929</b>	<b>\$ 27,040</b>	<b>\$ 15,327</b>	<b>\$ 49,863</b>	<b>\$ 117,485</b>	<b>\$ 12,375,831</b>
	<b>Uses 3/01/2016 to 3/31/2018</b>											
24	Investment Income	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
25	Home Repairs	518,445	39,887	50,767	41,890	-	-	-	-	-	-	650,989
26	Home Audits	646,000	71,725	78,850	60,800	475	-	-	-	-	-	857,850
27	Bill Assistance	505,903	71,338	144,016	117,542	305	-	-	-	-	-	839,104
28	Arrearage Assistance	1,300,895	183,440	370,326	47,033	784	-	-	-	-	-	1,902,477
29	<b>Total Uses 3/01/2016 to 3/31/2018</b>	<b>\$ 2,971,243</b>	<b>\$ 366,389</b>	<b>\$ 643,958</b>	<b>\$ 267,266</b>	<b>\$ 1,564</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,250,420</b>
30	<b>Net Funds Available for Future Assistance</b>	<b>\$ 3,403,249</b>	<b>\$ 1,879,271</b>	<b>\$ 1,653,069</b>	<b>\$ 869,146</b>	<b>\$ 104,032</b>	<b>\$ 6,929</b>	<b>\$ 27,040</b>	<b>\$ 15,327</b>	<b>\$ 49,863</b>	<b>\$ 117,485</b>	<b>\$ 8,125,412</b>
	<b>Less: Committed Funds 3/01/2016 to 3/31/2018</b>											
32	Bill Assistance	\$ 712,257	\$ 344,485	\$ 169,965	\$ 63,580	\$ 7,495	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,297,782
33	Arrearage Assistance	913,359	112,134	218,676	38,482	4,130	0	0	0	0	0	1,286,782
34	Breakage	0	0	0	0	0	0	0	0	0	0	0
35	<b>Total Committed Funds 3/01/2016 to 3/31/2018</b>	<b>\$ 1,625,617</b>	<b>\$ 456,619</b>	<b>\$ 388,641</b>	<b>\$ 102,061</b>	<b>\$ 11,625</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,584,564</b>
36	<b>Total Expenditures/Committed Funds</b>	<b>\$ 4,596,859</b>	<b>\$ 823,009</b>	<b>\$ 1,032,599</b>	<b>\$ 369,327</b>	<b>\$ 13,189</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,834,984</b>
37	<b>Uncommitted Funds as of 3/31/2018</b>	<b>\$ 1,777,633</b>	<b>\$ 1,422,652</b>	<b>\$ 1,264,428</b>	<b>\$ 767,085</b>	<b>\$ 92,407</b>	<b>\$ 6,929</b>	<b>\$ 27,040</b>	<b>\$ 15,327</b>	<b>\$ 49,863</b>	<b>\$ 117,485</b>	<b>\$ 5,540,848</b>

(1) Based on April 26, 2017 Board of Directors action

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# Table 4

WRAP Fund Sources and Uses  
(Unaudited)

## TOTAL Activity March 1, 2016 to March 31, 2018

INCLUDES FY 2016, 2017 & 2018 FUNDING

INCLUDES REALLOCATION OF FY 2016 UNCOMMITTED FUNDS BASED ON APRIL 26, 2017 BOARD ACTION

ASSUMES REALLOCATION OF UNCOMMITTED FY 2017 FUNDS

Row		Detroit	Out-Wayne County	Oakland County	Macomb County	Washtenaw County	St. Clair County	Lapeer County	Monroe County	Genesee County	City of Flint	Total
	<b>Sources (Net Revenues)</b>											
	<b>FY 2016 Assistance Budget Allocation</b>											
1	Bill and Arrearage Assistance	\$ 1,238,736	\$ 748,629	\$ 740,155	\$ 379,764	\$ 35,419	\$ 3,051	\$ 10,080	\$ 5,093	\$ 63,842	\$ -	\$ 3,224,769
2	Home Audit and Repairs	288,022	174,066	172,096	88,300	8,235	709	2,344	1,184	14,500	-	749,457
3	<b>Total FY 2016 Assistance Budget Allocation</b>	<b>\$ 1,526,759</b>	<b>\$ 922,695</b>	<b>\$ 912,250</b>	<b>\$ 468,064</b>	<b>\$ 43,654</b>	<b>\$ 3,760</b>	<b>\$ 12,424</b>	<b>\$ 6,277</b>	<b>\$ 78,342</b>	<b>\$ -</b>	<b>\$ 3,974,226</b>
	<b>FY 2017 Assistance Budget Allocation</b>											
4	Bill and Arrearage Assistance	\$ 1,278,103	\$ 806,833	\$ 774,825	\$ 400,804	\$ 37,998	\$ 2,431	\$ 10,059	\$ 5,561	\$ -	\$ -	\$ 3,316,615
6	Home Audit and Repairs	297,856	188,029	180,570	93,406	8,855	578	2,344	1,296	-	-	772,934
7	<b>Total FY 2017 Assistance Budget Allocation</b>	<b>\$ 1,575,960</b>	<b>\$ 994,862</b>	<b>\$ 955,395</b>	<b>\$ 494,209</b>	<b>\$ 46,853</b>	<b>\$ 3,009</b>	<b>\$ 12,403</b>	<b>\$ 6,858</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,089,549</b>
	<b>Re-Allocation of Uncommitted Funds from FY 2016 (1)</b>											
9	Bill and Arrearage Assistance Reallocated to Detroit	\$ 1,664,833	\$ (718,353)	\$ (591,163)	\$ (355,316)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	Bill and Arrearage Assistance Reallocated to Flint	-	-	-	-	(35,419)	(3,051)	(10,080)	(5,093)	(63,842)	117,485	-
11	<b>Total Re-Allocation of Uncommitted Funds from FY 2016</b>	<b>\$ 1,664,833</b>	<b>\$ (718,353)</b>	<b>\$ (591,163)</b>	<b>\$ (355,316)</b>	<b>\$ (35,419)</b>	<b>\$ (3,051)</b>	<b>\$ (10,080)</b>	<b>\$ (5,093)</b>	<b>\$ (63,842)</b>	<b>\$ 117,485</b>	<b>\$ -</b>
	<b>Proposed Re-Allocation of Uncommitted Funds from FY 2017</b>											
12	Bill and Arrearage Assistance Reallocated to Detroit (2)	\$ 633,804	\$ (468,955)	\$ (242,278)	\$ (260,234)	\$ (27,801)	\$ (2,431)	\$ (10,059)	\$ (5,561)	\$ -	\$ -	\$ (383,515)
14	Bill and Arrearage Assistance Reallocated to Flint	-	-	-	-	-	-	-	-	-	383,515	383,515
15	<b>Proposed Total Re-Allocation of Uncommitted Funds from FY 2017</b>	<b>\$ 633,804</b>	<b>\$ (468,955)</b>	<b>\$ (242,278)</b>	<b>\$ (260,234)</b>	<b>\$ (27,801)</b>	<b>\$ (2,431)</b>	<b>\$ (10,059)</b>	<b>\$ (5,561)</b>	<b>\$ -</b>	<b>\$ 383,515</b>	<b>\$ -</b>
16	<b>Total Re-Allocation of Uncommitted FY 2016 and FY 2017 Funds</b>	<b>\$ 2,298,637</b>	<b>\$ (1,187,308)</b>	<b>\$ (833,441)</b>	<b>\$ (615,550)</b>	<b>\$ (63,220)</b>	<b>\$ (5,482)</b>	<b>\$ (20,139)</b>	<b>\$ (10,654)</b>	<b>\$ (63,842)</b>	<b>\$ 501,000</b>	<b>\$ -</b>
	<b>FY 2018 Assistance Budget Allocation</b>											
18	Bill and Arrearage Assistance	\$ 1,303,229	\$ 848,677	\$ 827,662	\$ 429,388	\$ 40,961	\$ 2,604	\$ 9,970	\$ 5,908	\$ 28,679	\$ -	\$ 3,497,078
19	Home Audit and Repairs	303,712	197,780	192,883	100,067	9,546	607	2,323	1,377	6,684	-	814,979
20	<b>Total FY 2018 Assistance Budget Allocation</b>	<b>\$ 1,606,941</b>	<b>\$ 1,046,457</b>	<b>\$ 1,020,545</b>	<b>\$ 529,455</b>	<b>\$ 50,507</b>	<b>\$ 3,211</b>	<b>\$ 12,294</b>	<b>\$ 7,285</b>	<b>\$ 35,363</b>	<b>\$ -</b>	<b>\$ 4,312,057</b>
21	<b>NET FY 2016, FY 2017 &amp; FY 2018 Assistance Available</b>	<b>\$ 7,008,296</b>	<b>\$ 1,776,706</b>	<b>\$ 2,054,749</b>	<b>\$ 876,178</b>	<b>\$ 77,795</b>	<b>\$ 4,498</b>	<b>\$ 16,981</b>	<b>\$ 9,766</b>	<b>\$ 49,863</b>	<b>\$ 501,000</b>	<b>\$ 12,375,831</b>
	<b>Uses 3/01/2016 to 2/28/2018</b>											
23	Investment Income	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
24	Home Repairs	518,445	39,887	50,767	41,890	-	-	-	-	-	-	650,989
25	Home Audits	646,000	71,725	78,850	60,800	475	-	-	-	-	-	857,850
26	Bill Assistance	505,903	71,338	144,016	117,542	305	-	-	-	-	-	839,104
27	Arrearage Assistance	1,300,895	183,440	370,326	47,033	784	-	-	-	-	-	1,902,477
28	<b>Total Uses 3/01/2016 to 2/28/2018</b>	<b>\$ 2,971,243</b>	<b>\$ 366,389</b>	<b>\$ 643,958</b>	<b>\$ 267,266</b>	<b>\$ 1,564</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,250,420</b>
29	<b>Net Funds Available for Future Assistance</b>	<b>\$ 4,037,053</b>	<b>\$ 1,410,316</b>	<b>\$ 1,410,791</b>	<b>\$ 608,912</b>	<b>\$ 76,231</b>	<b>\$ 4,498</b>	<b>\$ 16,981</b>	<b>\$ 9,766</b>	<b>\$ 49,863</b>	<b>\$ 501,000</b>	<b>\$ 8,125,412</b>
	<b>Less: Committed Funds 3/01/2016 to 2/28/2018</b>											
31	Bill Assistance	\$ 712,257	\$ 344,485	\$ 169,965	\$ 63,580	\$ 7,495	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,297,782
32	Arrearage Assistance	913,359	112,134	218,676	38,482	4,130	0	0	0	0	0	1,286,782
33	Breakage	0	0	0	0	0	0	0	0	0	0	0
34	<b>Total Committed Funds 3/01/2016 to 2/28/2018</b>	<b>\$ 1,625,617</b>	<b>\$ 456,619</b>	<b>\$ 388,641</b>	<b>\$ 102,061</b>	<b>\$ 11,625</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,584,564</b>
35	<b>Total Expenditures/Committed Funds</b>	<b>\$ 4,596,859</b>	<b>\$ 823,009</b>	<b>\$ 1,032,599</b>	<b>\$ 369,327</b>	<b>\$ 13,189</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,834,984</b>
36	<b>Uncommitted Funds as of 2/28/2018</b>	<b>\$ 2,411,437</b>	<b>\$ 953,697</b>	<b>\$ 1,022,150</b>	<b>\$ 506,851</b>	<b>\$ 64,606</b>	<b>\$ 4,498</b>	<b>\$ 16,981</b>	<b>\$ 9,766</b>	<b>\$ 49,863</b>	<b>\$ 501,000</b>	<b>\$ 5,540,848</b>

(1) Based on April 26, 2017 Board of Directors action

(2) Suburban Reallocations are NET of Proposed Year-3 Allocations from Exhibit

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## Financial Services Audit Committee Communication

**Date:** April 20, 2018

**To:** Great Lakes Water Authority Audit Committee

**From:** Nicolette Bateson, CPA, Chief Financial Officer/Treasurer

**Re:** Alignment of Revenue Requirement, Budget, Capital, Debt, and Affordability

**Background:** Over the next sixty days, there are several key financial activities winding down while others ramp-up. In order, those activities include the following.

1. Implementation of the recently approved Memorandum of Understanding (MOU) term sheet related to Leases with the City of Detroit Water & Sewerage Department
2. Revisions and finalization of the FY 2017 Audited financial report and single audit report by the extension date of April 30, 2018 as approved by the State Treasurer
3. Modifications to the previously proposed FY 2019 Charges, FY 2019 & FY 2020 Biennial Budget, and Five-Year Financial Plan resulting from the MOU
4. Final review and approval of the FY 2019 Charges, FY 2019 & FY 2020 Biennial Budget, and Five-Year Financial Plan
5. Discussion with the City of Detroit General Retirement System (GRS) related to long-term projections for the closed pension system commitment
6. Release of internal FY 2018 interim statements which were pending resolution of opening balances based on implementation of the MOU
7. Final drafting, review, and approval of the MOU
8. Launch of a 2018 refunding transaction and potential new money financing for DWSD

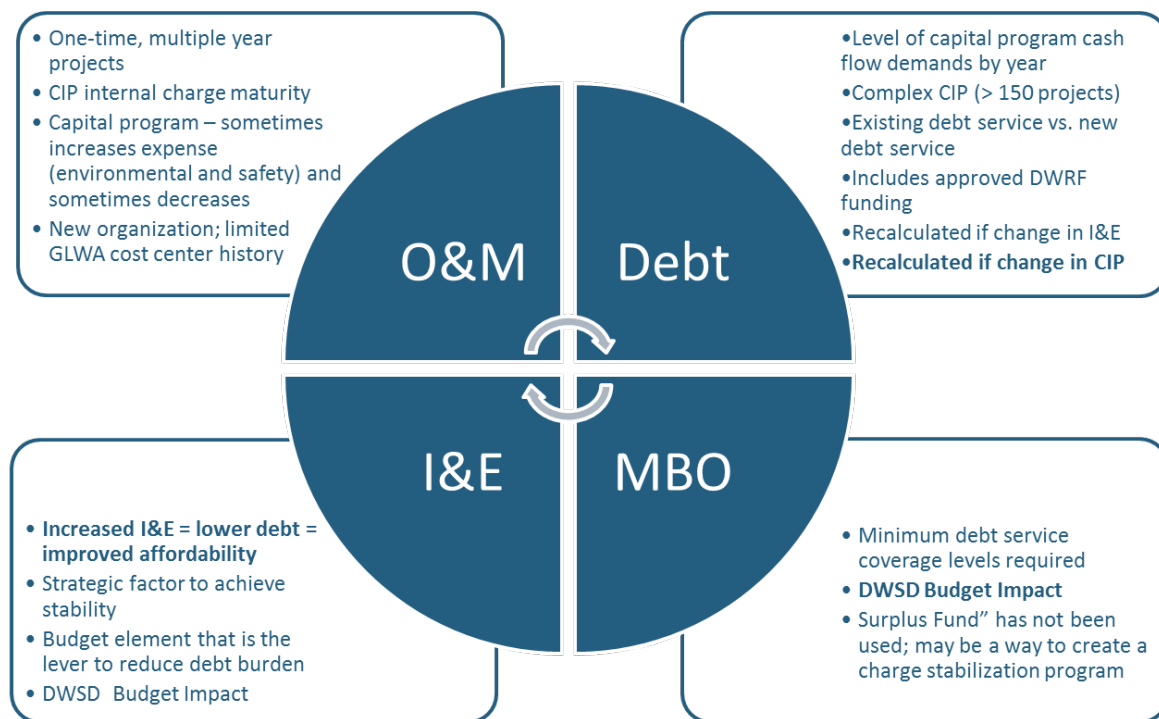
Completion of the MOU and the FY 2017 audited financial statements, which represents the first twelve-month fiscal year audit report for GLWA, provides missing key inputs to better understand preferred financial policies for GLWA to achieve long-term sustainability. Before GLWA proceeds with finalizing FY 2019 Charges and drafting a preliminary official

statement, achieving consensus on measures to achieve financial sustainability begins with the analysis below.

**Analysis:** The **revenue requirement** is the annual sum of 1) operations and maintenance (O&M) expense, 2) debt service (as a proxy for investment in capital assets), 3) Master Bond Ordinance (MBO) commitments, and 4) contributions to the Improvement & Extension Fund (I&E). Improvement & Extension Fund reserves are intended to be used in a subsequent year for capital investment. This is sometimes referred to as pay-as-you go capital funding or revenue financed capital. The revenue requirement is also referred to as the budget. Charges are based upon the revenue requirement less other nonoperating income such as investment income.

Developing the annual revenue requirement is based upon a complex set of variables, many of which are developed simultaneously and are interdependent. The chart below depicts the linkages between the four primary revenue requirement categories.

### Revenue Requirement Categories and Key Considerations<sup>1</sup>



<sup>1</sup> CIP = Capital Improvement Program  
DWRF = Drinking Water Revolving Fund  
DWSD = Detroit Water & Sewerage Department  
I&E = Improvement & Extension Fund  
MBO = Master Bond Ordinance



GLWA prepares a five-year financial plan along with the biennial budget. To date, given the start-up nature of the organization, significant discussion has been focused on understanding the budget and capital improvement plan details that support charges while utilizing those detailed operational inputs to chart the long-term course. With the near completion of the MOU implementation and FY 2017 audit, as well as the launch of a 2018 refunding transaction, the next step is refining macro financial objectives for the long term financial plan.

## **Part 1: GLWA Credit Rating Report Excerpts from 2016 Financing Transactions**

GLWA has had positive experience related to ratings and ratings outlooks since its commencement of operations on January 1, 2016. In preparation for a water and sewer refunding and a new money for water transaction in 2016, all three rating agencies provided ratings reports on September 30, 2016. Below are excerpts from those reports that focus on areas for improvement as we enter our next five-year planning cycle.

### **Fitch Ratings, September 30, 2016**

“STRONG RATE-ADJUSTMENT HISTORY: The governing bodies have instituted virtually annual rate hikes in support of financial and capital needs. Continued annual adjustments are included in the forecast and will be needed to meet rising debt service obligations and sustain financial performance.”

“SYSTEM LEVERAGE REMAINS HIGH:”

“Fitch expects leverage for both systems to remain high for the foreseeable future. GLWA's system long-term debt per capita totaled a high \$1,272 for sewer and moderately high \$667 for water for fiscal 2015.”

“The consolidated GLWA regional and DWSD local 2017-2021 capital improvement plans (CIPs) total \$979 million for water and \$779 million for sewer. While GLWA's CIPs for the regional water and sewer systems total just \$752 million and \$657 million, respectively, GLWA revenues fund the DWSD CIPs through the lease payments and debt issued for the local projects so the consolidated CIPs are factored into Fitch's analysis. Funding for the consolidated CIPs is expected to be provided from around 50% debt financing and 50% pay-go.” [Note: combined analysis of DWSD and GLWA CIP and debt.]

### **Moody's Investors Service, September 30, 2016**

“Factors that Could Lead to an Upgrade

» Sustained improvement in service area economic conditions, which may be indicated by more rapid labor market expansion and population growth

» Continued improvement in key operating indicators, such as debt service coverage and liquidity, while leverage of net revenue moderates

#### Factors that Could Lead to a Downgrade

- » Renewed economic stress that pressures consumption and revenue trends
- » Weakened liquidity and debt service coverage ratios
- » Growth in leverage of the water utility's net revenue"

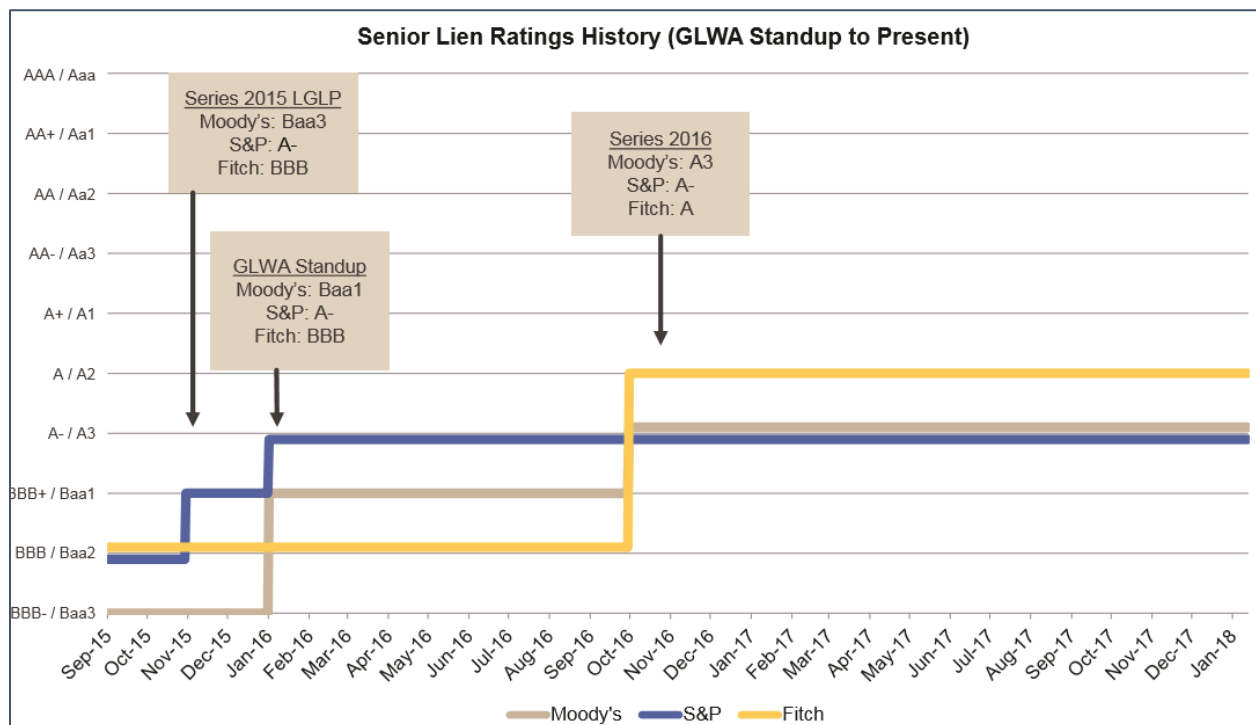
### S&P, September 30, 2016

"The water system is highly leveraged (especially since 2012, when the systems issued bonds to refund their variable-rate debt portfolio and to terminate their swaps). We do not expect this condition to abate in the near term and generally view the debt profile as a credit weakness."

### Part 2: PFM Benchmarking Report to Audit Committee on March 16, 2018 (Excerpts)

Below is an excerpt from the above analysis presented to the Audit Committee. The focus of this memo is to identify areas in which GLWA needs to improve to achieve a higher credit rating. For this analysis, credit ratings are referenced as a measure of financial sustainability.

GLWA's ratings are presently in the "A" category. Achieving a "AA" status will lower the cost of borrowing as well as allow GLWA to release investments held in reserves.



Source: PFM Financial Advisers, PLLC

The PFM Benchmarking analysis identified the importance of the relationship between revenues, debt, and capital financing as shown by the two benchmarks below.

## Moody's<sup>2</sup>

Factor	Description	Weight	Scoring on Moody's Municipal Utility Methodology					GLWA Input	Category Score	GLWA Score
			Aaa 0.50-1.49	Aa 1.50-2.49	A 2.50-3.49	Baa 3.50-4.49	Ba 4.50-5.49			
Debt to Operating Revenues (40%)	Debt to Operating Revenues	10%	Less than 2.00x	2.00x < n ≤ 4.00x	4.00x < n ≤ 7.00x	7.00x < n ≤ 8.00x	8.00x < n ≤ 9.00x	7.5x	4	0.400

## Fitch Ratings

### GLWA Relative to Fitch Rating Category Medians

	GLWA (Water)	GLWA (Sewer)	Fitch AAA Median	Fitch AA Median	Fitch A Median
Service Area Population	3.8 million	2.8 million	377,165	156,949	90,400
Median Household Income	56,142 <sup>1</sup>	56,142 <sup>1</sup>	65,943	51,818	50,418
Total Water Customers	Retail metric	Retail metric	69,999	41,633	33,690
Total Sewer Customers	Retail metric	Retail metric	99,676	35,233	33,125
Average Annual CIP per Customer	Retail metric	Retail metric	\$1,078	\$2,000	\$2,331
% CIP Debt Financed	80% <sup>2</sup>	49% <sup>2</sup>	26%	37%	47%
10 Year Principal Payout	32%	38%	55%	45%	39%
20 Year Principal Payout	78%	88%	95%	90%	75%
Combined Water/Sewer Average Monthly Residential Bill	Retail metric	Retail metric	\$33	\$41	\$45
Combined Water/Sewer Average Monthly Residential Bill as % of MHI	Retail metric	Retail metric	1.3%	1.7%	2.2%
All-in Annual Debt Service Coverage	1.5x	1.4x	2.8x	2.1x	1.7x
Operating Margin	30%	33%	39%	43%	46%
Days Cash on Hand	900	528	692	572	311
Free Cash as % of Depreciation	52%	65%	122%	105%	59%

Source: Fitch Ratings, "2018 Water & Sewer Medians," December 6, 2017. GLWA data from GLWA draft financial statements and PFM records. GLWA data unaudited, as of FY17 unless otherwise noted.

Notes:

1. US Census Bureau as of 2016. MHI represents Detroit-Windsor-Dearborn, MI MSA.
2. % CIP Debt Financed calculated based on Feasibility Consultant report prepared by The Foster Group as of October 14, 2016 and included in Series 2016 Official Statements. May differ from current GLWA projections.

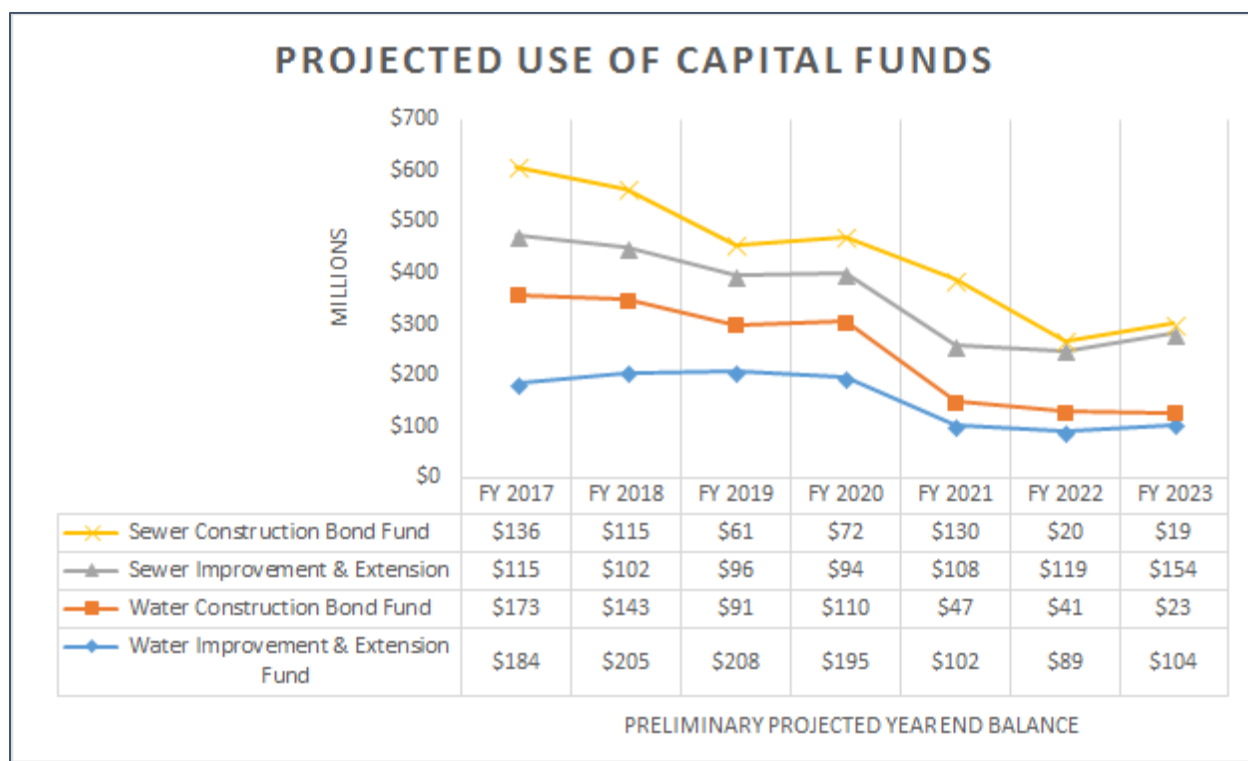
© PFM

The chart above identifies areas where GLWA could improve: percent of CIP financed with debt, debt service coverage, and operating margin.

The one metric where GLWA exceeds the benchmark is Days Cash on Hand. There are two categories of cash for each system: construction bond funds and I&E funds. Cash is critical

<sup>2</sup> Source: Moody's Municipal Utility Debt Methodology, December 2014. Data from Series 2016 Moody's Report and Moody's Financial Ratio Analysis database as of February 1, 2018, updated where available with GLWA FY17 draft results (unaudited). Debt to operating revenues is calculated by dividing the net long-term debt less debt service reserve funds by most recent year's operating revenues.

to financial sustainability – at the appropriate levels. During the five-year plan, it is planned to utilize cash reserves to lower the need for borrowing as well as the cost of capital.



### Part 3: Overarching Goal: Sustainability

A generally accepted broad definition of sustainability is the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability is a concept that applies all GLWA operations in ways unique to that area. In line with rating agency commentary and analysis, this discussion focuses on Financial Sustainability. If the long-term financial plan focuses on doing the the following three things well, financial sustainability is achievable.

#### Proposed Long-term Financial Plan Objectives to Achieve Financial Sustainability

1. **Risk Management:** Ensuring that there is sufficient liquidity to seek opportunities as well as address unforeseen and/or uncontrollable events.
2. **Affordability:** Appropriate level of fixed long-term commitments, controlled variable annual costs, and balancing the two to achieve intergenerational equity.
3. **Stability:** Anticipating annual budget variances and ensuring that charges are stable and predictable (i.e. prevents “rate shock”).

#### Part 4: Translating the Objectives into Policy and Related Performance Measures

The table below demonstrates how the three long-term *financial* plan objectives above translate into policies, performance criteria, and performance measures. Most importantly, however, a) no one item is independent of the others and b) achieving financial objectives over the long term is the outcome of effective operations and capital program management.

Policy	Criteria	Example Measures
<b>Risk Management</b>		
Investment Policy <sup>3</sup> (Current policy and criteria)	Safety Liquidity Diversification Return	Credit Risk Days Cash Available Concentration of Maturities Treasury benchmarks
Debt Management Policy <sup>4</sup> (Current policy and criteria)	Refunding Savings	Refunding with no less than 2.5% present value savings
Debt Management Policy - New Criteria	Pay-as-you-go vs. long-term debt mix	<b>Proposed:</b> X% of five-year rolling average CIP and capital outlay funded by pay-as-you-go (i.e. I&E funding)
<i>Continued Next Page</i>		

<sup>3</sup> Board adopted policy, as amended on September 14, 2016, at <http://www.glwater.org/wp-content/uploads/2016/01/Investment-Policy-Approved-by-GLWA-Board-9.14.16-FINAL.pdf>

<sup>4</sup> Board policy, adopted on December 9, 2015, at <http://www.glwater.org/wp-content/uploads/2016/01/012716-FINAL Debt Management Policy GLWA December-4pw.pdf>

Policy	Criteria	Example Measures
Debt Management Policy - Revised Criteria	Debt Service Coverage Minimum	<b>Current:</b> <b>Minimum (Rate Covenant)</b> Senior Lien: 120% Second Lien: 110% SRF Junior Lien and Pension Junior Lien: 100%  <b>Proposed:<sup>5</sup></b> Senior Lien: 2.0x Second Lien: 1.75x SRF Junior Lien and Pension Junior Lien: 1.60x All-in: 1.60x
Cash Management Policy (New)	Days Cash	<b>Proposed:</b> Construction Bond Fund: No less than six months projected cash flow  Operations and Maintenance Fund: No less than 120 days  Improvement & Extension Fund: Budgeted increase (annual revenue requirement) is not expended prior to July 1 of the subsequent year
<b>Affordability</b>		
Debt Management Policy - New Criteria	Debt service as a Percent of Revenue Requirement	<b>Proposed:</b> Debt service as no more than <u>TBD%</u> of five-year rolling financial plan
Debt Management Policy - New Criteria	Long-term Debt Per Capita (Regional and Local System)	<b>Proposed:</b> Long-term Debt Per Capita is at a “Moderate” level
<i>Continued Next Page</i>		

<sup>5</sup> Based upon analysis presented by The Foster Group at the February 23, 2018 Audit Committee, “GLWA Interim Budget to Actual Report – Preliminary FY 2018 Debt Service Calculations”.

Policy	Criteria	Example Measures
Water Residential Assistance Program (WRAP) <sup>6</sup> (Current policy and criteria)	WRAP Funding	Current: Annual funding of 0.5% of base budgeted operating revenues
Water Residential Assistance Program (Current policy and criteria)	Program Effectiveness	Current: Seven measures identified in the WRAP Design Report
<b>Stability</b>		
Charges Policy (New)	Charges Stabilization Funding	<b>Proposed:</b> <u>X%</u> of rolling five-year historical revenue in Surplus Fund as a Revenue Stability source
Charges Policy (New)	Biennial Charges Established	<b>Proposed:</b> Pending Member Partner feedback, adopt biennial charges for FY 2021 and beyond
Charges Policy (New)	Annual Revenue Requirement Increases	Current: As codified in the Lease agreements, annual increase of Revenue Requirement is limited to no more than 4% through FY 2025
Financial Management Policy (new)	Five Year Financial Plan and Ten-Year Forecasts	<b>Proposed:</b> Completion of five-year plan at time of biennial budget; Ten-year forecasts presented to the Board annually in September

## Part 5: Testing the Policies and Criteria

The table below presents a matrix that demonstrates how the criteria above would apply to calculating the revenue requirement. It should be noted that, for discussion purposes, the

<sup>6</sup> The WRAP was established pursuant to a Memorandum of Understanding that established the terms of the GLWA and is codified in the Master Bond Ordinance Section 502(a) (10). an amount equal to .5% of base budgeted operating revenues.



criteria are over-simplified. Applying the criteria to achieve the desired outcome is based on a complex, financial model.

### Proposed GLWA Revenue Requirement Policy Matrix

Revenue Requirement	Category		Near-term Planning Parameters (Current Five-Year Plan)	Long-term Planning Parameters (FY 2024+)
	O&M		By default, total revenue requirement less debt and capital funding parameters define the O&M parameters	Sufficiently managed to achieve the capital and revenue requirement parameters
	Debt Service and Debt Service Coverage Target		Debt Service no more than 45% of total revenue requirement  Senior Lien: 2.00x Second Lien: 1.40x SRF Junior Lien and Pension Junior Lien: 1.0x All-in: 1.30x	Debt Service no more than 35% of total revenue requirement  Senior Lien: 2.0x Second Lien: 1.75x SRF Junior Lien and Pension Junior Lien: 1.60x All-in: 1.60x  Debt per Capita at a Moderate Level
	Debt Service Coverage	MBO Commitments	MBO items are fixed amounts/formulas	MBO commitments decrease (i.e. GRS pension)
		I&E Contribution	Minimum I&E at TBD% of rolling five-year capital program	Minimum I&E at TBD% of rolling five-year capital program
	Total		No more than prior year plus 4% per through FY 2025 <sup>7</sup>	No more than prior year plus 4% per policy

<sup>7</sup> Note: This limitation shall not be applicable if the revenue requirement must increase beyond the 4% assumption to satisfy the rate covenant or to pay the cost of improvements that are required to be made by applicable laws.

While the matrix encompasses many of the criteria directly, the remaining performance measures should be calculated simultaneously with the five year plan to check alignment with the three Financial Sustainability objectives of Risk Management, Affordability, and Stability.

## **Part 6 – Additional Chart for Analysis**

Attached to this memo are two sets of tables for the revenue requirement policy matrix discussion.

1. **Illustrative** key financial inputs.
2. Moody's Water Utility Scorecard

## **Next Steps**

Next steps include the following.

- ✓ Audit Committee feedback.
- ✓ The Foster Group has developed a similar model as the proposed revenue requirement policy matrix that can be used to stress-test the proposed matrix and related scenarios.
- ✓ The outcome of the stress testing effort may result in adjustments to the current, proposed five-year plan as well as the analysis to support the policy matrix.
- ✓ Pending clarity of the legacy pension obligation after FY 2023, a ten-year forecast would be developed using the proposed sustainability model.
- ✓ Further evaluation of the policy matrix in navigating the impact of DWSD budget inputs.

**Proposed Action:** Receive and file report.

Amounts are  
Illustrative Only

Great Lakes Water Authority

Summary of Key Financial Plan Matters - Consideration of Policy Matters

DISCUSSION DRAFT - FY 2019 & FY 2020 Biennial Budget and Five Year Plan (FY 2019 thru FY 2023)

(Note: 4.15.2018 - revisions to this budget analysis from January 2018 presently being updated for MOU)

Line	Water					
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
1	<b>Revenue Requirement Elements</b>					
2	O&M	\$ 121,562,000	\$ 125,311,800	\$ 148,145,500	\$ 151,587,200	\$ 155,712,200
3	O&M Percent Change		3%	18%	2%	3%
4	Debt Service	135,464,400	133,210,100	144,682,200	153,813,000	154,872,200
5	Debt Service % Change		-2%	9%	6%	1%
6	MBO Commitments	38,271,100	38,134,300	38,061,900	38,173,500	37,939,500
7	MBO Percent Change		0%	0%	0%	-1%
8	I&E	32,821,200	38,024,900	17,178,700	18,417,300	27,946,700
9	I&E Percent Change		16%	-55%	7%	52%
10	Total	\$ 328,118,700	\$ 334,681,100	\$ 348,068,300	\$ 361,991,000	\$ 376,470,600
11	Percent Variance		2.0%	4.0%	4.0%	4.0%
12	Dollar Variance Overall Budget		\$ 6,562,400	\$ 13,387,200	\$ 13,922,700	\$ 14,479,600
13	Dollar Variance - New Debt Service Over Five Year Plan		\$ -	\$ 5,000,000	\$ 10,000,000	\$ 14,850,000
14						
15	<b>Elements as a Percent</b>					
16	O&M	37.0%	37.4%	42.6%	41.9%	41.4%
17	Debt Service	41.3%	39.8%	41.6%	42.5%	41.1%
18	MBO Commitments	11.7%	11.4%	10.9%	10.5%	10.1%
19	I&E	10.0%	11.4%	4.9%	5.1%	7.4%
20	Total	100.0%	100.0%	100.0%	100.0%	100.0%
21	<b>Annual Capital Expenses Funded by I&amp;E and/or Bonds</b>					
22	Construction Bond Expenses		66,038,000	137,583,000	155,734,000	178,300,000
24	Capital Outlay Expenses		22,133,400	18,763,000	18,705,300	9,363,300
25	Total Annual Capital Expense		88,171,400	156,346,000	174,439,300	187,663,300
26	Five Year Average Capital Expense		157,839,000	157,839,000	157,839,000	157,839,000
27						
28	<b>Debt</b>					
29	New Debt Issuance		-	145,000,000	-	140,000,000
30	Five Year Average Debt New Debt Issuance		86,000,000	86,000,000	86,000,000	86,000,000
31						
32	<b>Ending Cash Available for the Subsequent Year Capital Program</b>					
33	Construction Bond Fund		91,149,000	110,237,000	47,476,000	40,708,000
34	I&E Fund		207,514,600	194,721,300	101,868,300	88,821,700
35	Fiscal Year End Balance		298,663,600	304,958,300	149,344,300	129,529,700
36						
37	<b>Annual I&amp;E Contribution to Fund</b>					
38	Five-Year Average Capital Plan		24.1%	10.9%	11.7%	17.7%
38	Five Year Average Overall					18%
	Simplified Debt Service Coverage*		1.57	1.38	1.37	1.43

\*Local System Lowers DSC by TBD

Amounts are  
Illustrative Only

Great Lakes Water Authority

Summary of Key Financial Plan Matters - Consideration of Policy Matters

DISCUSSION DRAFT - FY 2019 & FY 2020 Biennial Budget and Five Year Plan (FY 2019 thru FY 2023)

(Note: 4.15.2018 - revisions to this budget analysis from January 2018 presently being updated for MOU)

		Sewer					
Line		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
1	<b>Revenue Requirement Elements</b>						
2	<b>O&amp;M</b>	\$ 191,079,400	\$ 193,122,000	\$ 206,772,800	\$ 207,253,000	\$ 213,914,600	\$ 213,336,900
3	<b>O&amp;M Percent Change</b>		1%	7%	0%	3%	0%
4	<b>Debt Service</b>	207,615,500	214,991,000	222,710,700	226,341,500	236,272,100	233,428,800
5	<b>Debt Service % Change</b>		4%	4%	2%	4%	-1%
6	<b>MBO Commitments</b>	53,127,500	54,686,500	57,345,200	55,270,000	55,799,800	50,949,800
7	<b>MBO Percent Change</b>		3%	5%	-4%	1%	-9%
8	<b>I&amp;E</b>	13,677,700	12,010,600	6,973,800	24,690,100	28,110,300	57,745,200
9	<b>I&amp;E Percent Change</b>		-12%	-42%	254%	14%	105%
10	<b>Total</b>	<b>\$ 465,500,100</b>	<b>\$ 474,810,100</b>	<b>\$ 493,802,500</b>	<b>\$ 513,554,600</b>	<b>\$ 534,096,800</b>	<b>\$ 555,460,700</b>
11	<b>Percent Variance</b>		2.0%	4.0%	4.0%	4.0%	4.0%
12	<b>Dollar Variance Overall Budget</b>		\$ 9,310,000	\$ 18,992,400	\$ 19,752,100	\$ 20,542,200	\$ 21,363,900
	<b>Dollar Variance - New Debt Service</b>						
	<b>Over Five Year Plan</b>		\$ 1,890,400	\$ 5,944,200	\$ 14,406,800	\$ 19,135,100	\$ 24,059,700
13							
14							
15	<b>Elements as a Percent</b>						
16	<b>O&amp;M</b>	41.0%	40.7%	41.9%	40.4%	40.1%	38.4%
17	<b>Debt Service</b>	44.6%	45.3%	45.1%	44.1%	44.2%	42.0%
18	<b>MBO Commitments</b>	11.4%	11.5%	11.6%	10.8%	10.4%	9.2%
19	<b>I&amp;E</b>	2.9%	2.5%	1.4%	4.8%	5.3%	10.4%
20	<b>Total</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
21							
22	<b>Annual Capital Expenses Funded</b>						
22	<b>by I&amp;E and/or Bonds</b>						
23	Construction Bond Expenses		105,183,000	111,155,000	111,952,000	136,411,000	168,458,000
24	Capital Outlay Expenses		5,957,000	4,810,900	4,431,800	15,047,000	4,271,200
25	<b>Total Annual Capital Expense</b>		<b>111,140,000</b>	<b>115,965,900</b>	<b>116,383,800</b>	<b>151,458,000</b>	<b>172,729,200</b>
26	<b>Five Year Average Capital Expense</b>		<b>133,535,400</b>	<b>133,535,400</b>	<b>133,535,400</b>	<b>133,535,400</b>	<b>133,535,400</b>
27							
28	<b>Debt</b>						
29	<b>New Debt Issuance</b>		-	75,000,000	135,000,000	-	140,000,000
30	<b>Five Year Average Debt New Debt Issuance</b>		<b>70,000,000</b>	<b>70,000,000</b>	<b>70,000,000</b>	<b>70,000,000</b>	<b>70,000,000</b>
31							
32	<b>Ending Cash Available for the</b>						
32	<b>Subsequent Year Capital Program</b>						
33	Construction Bond Fund		60,767,000	72,050,000	129,917,000	19,739,000	19,048,000
34	I&E Fund		111,393,200	109,074,100	122,823,400	133,534,700	169,378,700
35	<b>Fiscal Year End Balance</b>		<b>172,160,200</b>	<b>181,124,100</b>	<b>252,740,400</b>	<b>153,273,700</b>	<b>188,426,700</b>
36							
37	<b>Annual I&amp;E Contribution to Fund</b>						
37	<b>Five-Year Average Capital Plan</b>		<b>9.0%</b>	<b>5.2%</b>	<b>18.5%</b>	<b>21.1%</b>	<b>43.2%</b>
38	<b>Five Year Average Overall</b>						<b>19%</b>
	<b>Simplified Debt Service Coverage*</b>		<b>1.31</b>	<b>1.29</b>	<b>1.35</b>	<b>1.36</b>	<b>1.47</b>
	<b>*Local System Lowers DSC by TBD</b>						

# Moody's Water & Sewer Utility Scorecard (Water System)

Scoring on Moody's Municipal Utility Methodology										
Factor	Description	Weight	Aaa 0.50-1.49	Aa 1.50-2.49	A 2.50-3.49	Baa 3.50-4.49	Ba 4.50-5.49	GLWA Input	Category Score	GLWA Score
System Characteristics (30%)	Asset Condition - Remaining Useful Life (Net Fixed Assets / Annual Depreciation)	10%	> 75 Years	75 years ≥ n > 25 years	25 years ≥ n > 12 years	12 years ≥ n > 9 years	9 years ≥ n > 6 years	14 years	3	0.300
	System Size: (O&M in 000s)	7.5%	> \$65 million	\$65 M ≥ n > \$30 M	\$30 M ≥ n > \$10 M	\$10 M ≥ n > \$3 M	\$3 M ≥ n > \$1 M	\$101.7 million	1	0.075
	Service Area Wealth: MFI	12.5%	> 150% of US median	150% to 90% of US Median	90% to 75% of US Median	75% to 50% of US Median	50% to 40% of US Median	95%	2	0.250
Financial Strength and Liquidity (40%)	Annual Debt Service Coverage	15%	> 2.00x	2.00x ≥ n > 1.70x	1.70x ≥ n > 1.25x	1.25x ≥ n > 1.00x	1.00x ≥ n > 0.70x	1.4x	3	0.450
	Days Cash on Hand	15%	> 250 days	250 days ≥ n > 150 days	150 days ≥ n > 35 days	35 days ≥ n > 15 days	15 days ≥ n > 7 days	900 days	1	0.150
	Debt to Operating Revenues	10%	Less than 2.00x	2.00x < n ≤ 4.00x	4.00X < n ≤ 7.00X	7.00X < n ≤ 8.00X	8.00X < n ≤ 9.00X	7.5x	4	0.400
Management of System (20%)	Rate Management	10%	Excellent rate setting; no material political, practical, or regulatory limit to rate increases	Strong rate setting; little material political, practical, or regulatory limit to rate increases	Average rate setting; some material political, practical, or regulatory limit to rate increases	Adequate rate setting; political, practical, or regulatory impediments place material limits to rate increases	Below average rate setting; political, practical, or regulatory impediments place material limits to rate increases	Average rate setting	3	0.300
	Regulatory Compliance and Capital Planning	10%	Fully compliant OR proactively addressing compliance issues; Maintains sophisticated and manageable Capital Improvement Plan that addresses more than a 10-year period	Actively addressing minor compliance issues; Maintains comprehensive and manageable 10-year Capital Improvement Plan	Moderate violations with adopted plan to address issues; Maintains manageable 5-year Capital Improvement Plan	Significant compliance violations with limited solutions adopted; Maintains single year Capital Improvement Plan	Not fully addressing compliance issues; Limited or weak capital planning	Addressing compliance Issues	3	0.300
Legal Provisions (10%)	Rate Covenant	5%	>1.30x	1.30x ≥ n > 1.20x	1.20x ≥ n > 1.10x	1.10x ≥ n > 1.00x	≤ 1.00x	1.20x	3	0.150
	Debt Service Reserve Requirement	5%	DSRF funded at MADS	DSRF funded at lesser of standard 3 prong test	DSRF funded at less than 3 prong test	No explicit DSRF	No explicit DSRF	Lesser of 3 test	2	0.100
(Aa3 = 2.17 to 2.50; A1 = 2.50 to 2.83)										2.475

Source: Moody's Municipal Utility Debt Methodology, December 2014. Data from Series 2016 Moody's Report and Moody's Financial Ratio Analysis database as of February 1, 2018, updated where available with GLWA FY17 draft results (unaudited)..

# Moody's Water & Sewer Utility Scorecard (Sewer System)

Scoring on Moody's Municipal Utility Methodology										
Factor	Description	Weight	Aaa 0.50-1.49	Aa 1.50-2.49	A 2.50-3.49	Baa 3.50-4.49	Ba 4.50-5.49	GLWA Input	Category Score	GLWA Score
System Characteristics (30%)	Asset Condition - Remaining Useful Life (Net Fixed Assets / Annual Depreciation)	10%	> 75 Years	75 years ≥ n > 25 years	25 years ≥ n > 12 years	12 years ≥ n > 9 years	9 years ≥ n > 6 years	15 years	3	0.300
	System Size: (O&M in 000s)	7.5%	> \$65 million	\$65 M ≥ n > \$30 M	\$30 M ≥ n > \$10 M	\$10 M ≥ n > \$3 M	\$3 M ≥ n > \$1 M	\$150.2 million	1	0.075
	Service Area Wealth: MFI	12.5%	> 150% of US median	150% to 90% of US Median	90% to 75% of US Median	75% to 50% of US Median	50% to 40% of US Median	95%	2	0.250
Financial Strength and Liquidity (40%)	Annual Debt Service Coverage	15%	> 2.00x	2.00x ≥ n > 1.70x	1.70x ≥ n > 1.25x	1.25x ≥ n > 1.00x	1.00x ≥ n > 0.70x	1.5x	3	0.450
	Days Cash on Hand	15%	> 250 days	250 days ≥ n > 150 days	150 days ≥ n > 35 days	35 days ≥ n > 15 days	15 days ≥ n > 7 days	528 days	1	0.150
	Debt to Operating Revenues	10%	Less than 2.00x	2.00x < n ≤ 4.00x	4.00X < n ≤ 7.00X	7.00X < n ≤ 8.00X	8.00X < n ≤ 9.00X	6.6x	3	0.300
Management of System (20%)	Rate Management	10%	Excellent rate setting; no material political, practical, or regulatory limit to rate increases	Strong rate setting; little material political, practical, or regulatory limit to rate increases	Average rate setting; some material political, practical, or regulatory limit to rate increases	Adequate rate setting; political, practical, or regulatory impediments place material limits to rate increases	Below average rate setting; political, practical, or regulatory impediments place material limits to rate increases	Average rate setting	3	0.300
	Regulatory Compliance and Capital Planning	10%	Fully compliant OR proactively addressing compliance issues; Maintains sophisticated and manageable Capital Improvement Plan that addresses more than a 10-year period	Actively addressing minor compliance issues; Maintains comprehensive and manageable 10-year Capital Improvement Plan	Moderate violations with adopted plan to address issues; Maintains manageable 5-year Capital Improvement Plan	Significant compliance violations with limited solutions adopted; Maintains single year Capital Improvement Plan	Not fully addressing compliance issues; Limited or weak capital planning	Addressing compliance issues	3	0.300
Legal Provisions (10%)	Rate Covenant	5%	>1.30x	1.30x ≥ n > 1.20x	1.20x ≥ n > 1.10x	1.10x ≥ n > 1.00x	≤ 1.00x	1.20x	3	0.150
	Debt Service Reserve Requirement	5%	DSRF funded at MADS	DSRF funded at lesser of standard 3 prong test	DSRF funded at less than 3 prong test	No explicit DSRF	No explicit DSRF	Lesser of 3 test	2	0.100
(Aa3 = 2.17 to 2.50; A1 = 2.50 to 2.83)										2.375

Source: Moody's Municipal Utility Debt Methodology, December 2014. Data from Series 2016 Moody's Report and Moody's Financial Ratio Analysis database as of February 1, 2018, updated where available with GLWA FY17 draft results (unaudited)..





## Financial Services Audit Committee Communication

**Date:** April 20, 2018

**To:** Great Lakes Water Authority Audit Committee

**From:** Jon Wheatley, Public Finance Manager

**Re:** Water Infrastructure Finance and Innovation Act (WIFIA) program

**Background:** On April 4, 2018, the U.S. Environmental Protection Agency (EPA) announced the availability of funding that could provide as much as \$5.5 billion in loans through the Water Infrastructure Finance and Innovation Act (WIFIA) program. Prospective borrowers seeking WIFIA credit assistance must submit a letter of interest (LOI) by July 6, 2018. The basic program details are below.<sup>1</sup>

**Eligible borrowers are:**

- Local, state, tribal, and federal government entities
- Partnerships and joint ventures
- Corporations and trusts

**The WIFIA program can fund development and implementation activities for eligible projects:**

- Projects that are eligible for the Clean Water State Revolving Fund (SRF), notwithstanding the public ownership clause
- Projects that are eligible for the Drinking Water SRF
- Enhanced energy efficiency projects at drinking water and wastewater facilities
- Brackish or seawater desalination, aquifer recharge, alternative water supply, and water recycling projects
- Drought prevention, reduction, or mitigation projects
- Acquisition of property if it is integral to the project or will mitigate the environmental impact of a project
- A combination of projects secured by a common security pledge or submitted under one application by an SRF program

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<sup>1</sup> Source: <https://www.epa.gov/wifia/learn-about-wifia-program>

**Eligible development and implementation activities are:**

- Development phase activities, including planning, preliminary engineering, design, environmental review, revenue forecasting, and other pre-construction activities
- Construction, reconstruction, rehabilitation, and replacement activities
- Acquisition of real property or an interest in real property, environmental mitigation, construction contingencies, and acquisition of equipment
- Capitalized interest necessary to meet market requirements, reasonably required reserve funds, capital issuance expenses and other carrying costs during construction

**Important Program Features**

- \$20 million: Minimum project size for large communities.
- \$5 million: Minimum project size for small communities (population of 25,000 or less).
- 49%: Maximum portion of eligible project costs that WIFIA can fund.
- Total federal assistance may not exceed 80% of a project's eligible costs.
- 35 years: Maximum final maturity date from substantial completion.
- 5 years: Maximum time that repayment may be deferred after substantial completion of the project.
- Interest rate will be equal to or greater than the U.S. Treasury rate of a similar maturity at the date of closing.
- Projects must be creditworthy and have a dedicated source of revenue.
- National Environmental Policy Act (NEPA), Davis-Bacon, American Iron and Steel, and all other federal cross-cutter provisions apply.

**Analysis:** GLWA's financial advisor, Dan Hartman from PFM LLC, will be in attendance to discuss the WIFIA program and application process. See attached presentation materials.

**Budget Impact:** To the extent that GLWA can take advantage of the WIFIA program, it will reduce the need for the issuance of traditional open market revenue bonds.

**Proposed Action:** Receive and file report.



# Information Regarding the WIFIA Program

**Presented by:**  
**Dan Hartman, Managing Director**

**April 20, 2018**

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PFM Financial Advisors LLC

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## WIFIA – Background

- Modeled after the long-standing Transportation Infrastructure Finance & Innovation Act (TIFIA) of 1998, the Water Infrastructure Financing and Innovation Act of 2014 (WIFIA) created a federal credit program which provides long-term, low-interest loans for large water infrastructure projects
- WIFIA was established as a five year pilot program for water infrastructure projects along the lines of the current TIFIA program
- The WIFIA program will provide Federal credit assistance in the form of direct loans or letters of credit to aid in the financing of water and sewer projects
- The WIFIA program was created to provide water infrastructure projects with a flexible, “patient” investor willing to take on investor concerns regarding the investment horizon, liquidity, predictability and risk of projects
- WIFIA program received \$20 million in appropriations from Congress in December 2016
  - The \$20 million of appropriations can support approximately \$1 billion in loans for \$2 billion in projects
  - In 2017, for WIFIA’s inaugural round, EPA invited 12 projects in 9 states to apply
- Funding for additional projects was secured by the Consolidated Appropriations Act of 2018 that allows EPA to provide up to \$5.5 billion of additional credit support for projects



## WIFIA – Borrower Qualification

WIFIA is available to a much broader group than SRF loans, but eligible projects carried out by private entities must be publicly sponsored

### Eligible borrowers

- Corporation
- Partnership
- Joint venture
- Trust
- Federal, state or local government entity, agency, or instrumentality
- Tribal government or consortium of tribal government
- State water infrastructure financing authority, as defined by the Clean Water Act and the Safe Drinking Water Act



## WIFIA – Project Qualification

### Eligible projects

- Wastewater conveyance and treatment projects that are eligible for the Clean Water SRF
- Drinking water treatment and distribution projects that are eligible for the Drinking Water SRF
- Enhanced energy efficiency projects at drinking water and wastewater facilities
- Brackish or seawater desalination, aquifer recharge, alternative water supply, and water recycling projects
- Drought prevention, reduction, or mitigation projects
- Acquisition of property if it is integral to the project or will mitigate the environmental impact of a project
- A combination of projects secured by a common security pledge or submitted under one application by an SRF program

### Eligible project costs

- Development phase activities, including planning, preliminary engineering, design, environmental review, revenue forecasting, and other pre-construction activities
- Construction, reconstruction, rehabilitation, and replacement activities
- Acquisition of real property or an interest in real property, environmental mitigation, construction contingencies, and acquisition of equipment
- Capitalized interest necessary to meet market requirements, reasonably required reserve funds, capital issuance expenses and other carrying costs during construction



## WIFIA - Key Business Terms

Term	Description
Loan Amount	Up to 49% of the project's total cost
Total Federal Assistance	Total federal assistance may not exceed 80% of a project's eligible costs
Minimum Project Size	\$20 million for large communities or \$5 million for small communities (population of 25,000 or less)
Interest Rate	Equivalent maximum maturity U.S. Treasury plus 0.01%; fixed on the date the WIFIA credit agreement is executed
Security	Senior or Subordinate obligations; WIFIA loan will spring to be on parity to senior lenders in the event of bankruptcy, insolvency or liquidation of the obligor
Capitalized Interest / Repayment	Interest may be capitalized for up to 5 years following substantial completion
Amortization	Maximum final maturity is 35 years after the date of substantial completion of the project
Ratings	Preliminary rating opinion letter needed at time of application and two final rating opinion letters needed prior to financial close
Sale / Assignment	WIFIA retains right to sell or assign rights and obligations





## WIFIA – Project Selection Criteria

The WIFIA program is required by statute to evaluate projects using selection criteria. The statute establishes eleven criteria, to which EPA, via regulation, adds two additional criteria. The WIFIA program selection criteria and respective weights are as follows:

1. Project of national or regional significance – **10%**
2. Likelihood that credit assistance enables project to proceed earlier – **5%**
3. New or innovative approaches used – **10%**
4. Protection against extreme weather events – **10%**
5. Extent to which project maintains or protects the environment or public health – **10%**
6. Serves energy exploration or production areas – **5%**
7. Serves regions with water resource challenges – **10%**
8. Extent to which the project addresses identified municipal, state, or regional priorities – **5%**
9. Readiness to proceed – **5%**
10. Extent to which the project financing plan includes public or private financing in addition to WIFIA credit assistance – **5%**
11. Reduction in federal assistance – **5%**
12. Degree to which project addresses need for repair, rehabilitation, or replacement of infrastructure – **10%**
13. Serves economically stressed communities – **10%**



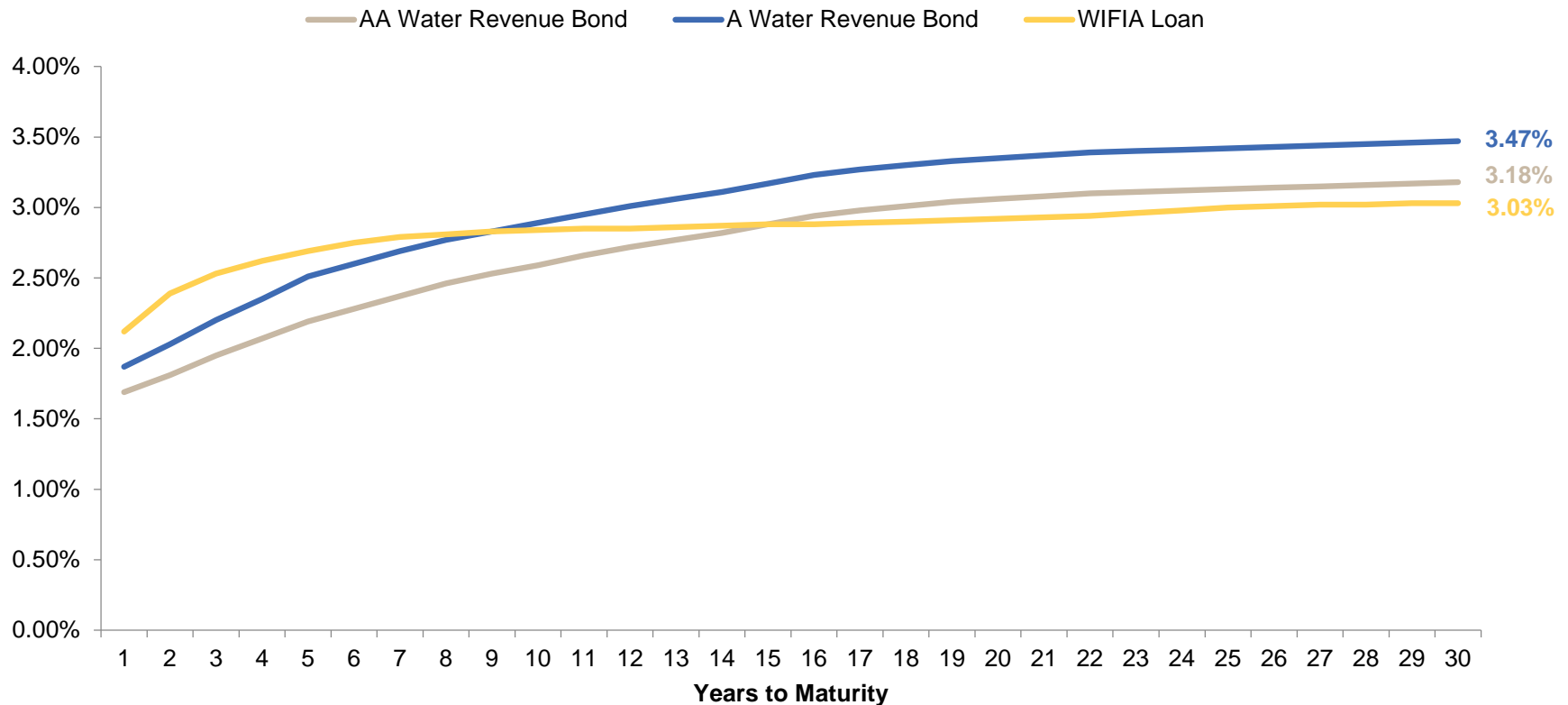
## WIFIA – Potential Economic Benefits

- Ability to lock in rate at financial close, reducing interest rate risk (a no cost rate lock)
  - Retain ability to issue bonds instead if rates decline significantly
- Additional structuring and timing flexibility, including backloaded debt structures
- Greater project leverage with WIFIA's low coverage requirements
- Up to 35 year amortization beginning at substantial completion
- Ability to draw funds and therefore accrue interest based on actual, rather than projected, spending
- Flexible prepayment provisions: a borrower may prepay WIFIA credit assistance in whole or in part without penalty at any time (provided that WIFIA credit assistance may not be prepaid using federal funds)



## WIFIA – Yield Comparison vs. Tax-Exempt Fixed-Rate Debt

- WIFIA loan rate is based on **weighted average life of debt**
- WIFIA loan is sold at par – Tax-exempt bonds assume a 5% coupon



Rates as of April 17, 2018. Source: TM3 and US Department of the Treasury.



## WIFIA – Timetable and Process for 2018

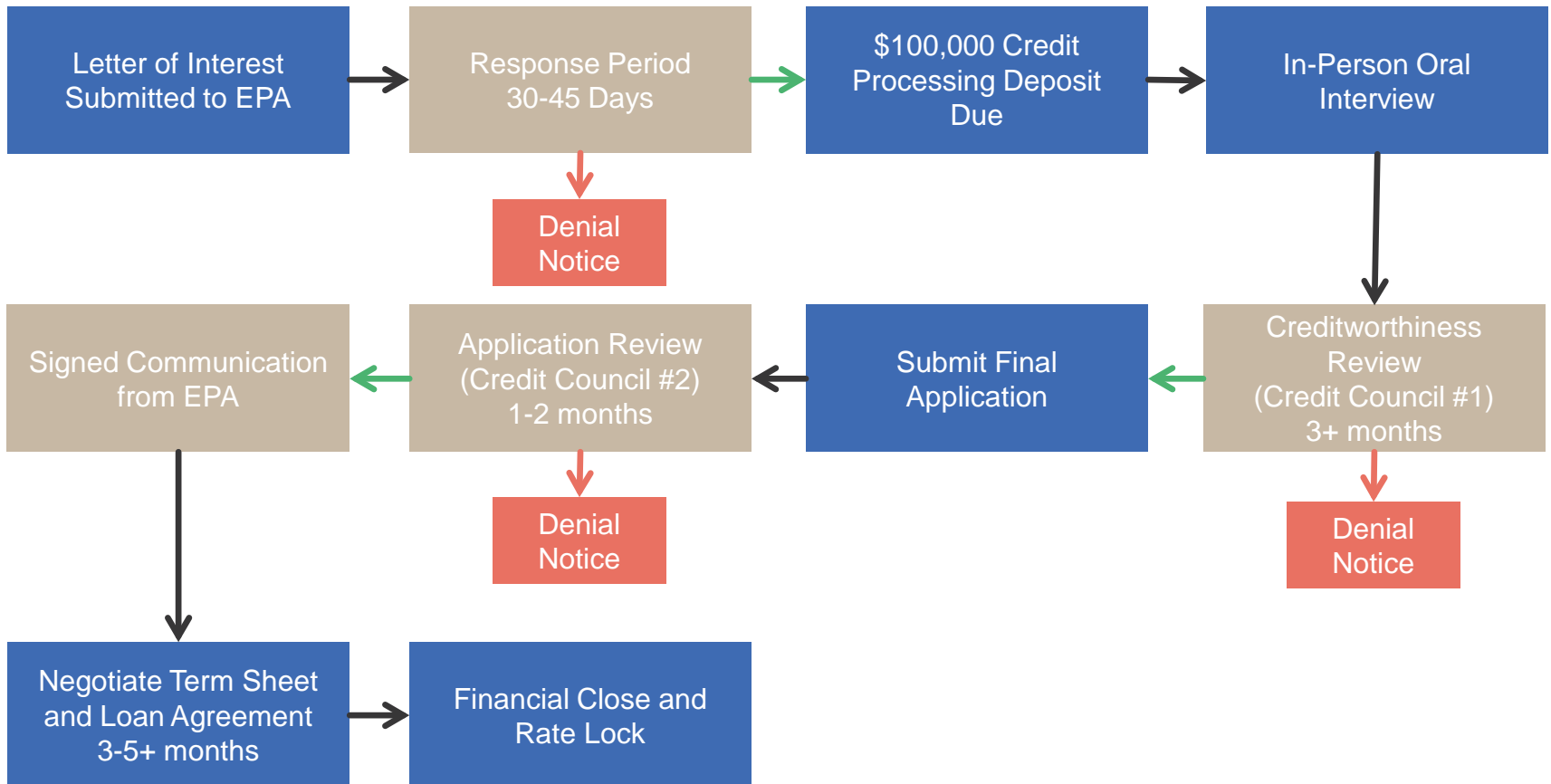
The timetable for WIFIA funding in 2018 requires a letter of interest to be submitted by July 2018

### Process for FY2018 WIFIA Funding:

- Letter of Interest submitted by July 6, 2018 at 12:00 pm EDT
  - Prospective borrower provides information to demonstrate its projects eligibility, financial creditworthiness, engineering feasibility, and alignment with EPA's policy priorities
  - Letter of interest requires substantial work, including the use of consultants to fill out the sizeable data requests and analysis asked for by EPA
- Once all letters of interest for a selection round have been evaluated, the Selection Committee will select which prospective borrowers to invite to apply (likely a several month process)
  - It is expected that EPA will only invite projects to apply if it anticipates that those projects are able to obtain WIFIA credit assistance.
- Funding announcement for FY2018 identifies two major priorities for this round of funding:
  - Providing clean and safe drinking water and reducing lead exposure
  - Repairing, rehabilitating and replacing aging infrastructure and conveyance systems



## WIFIA – Typical Process Flow Chart





## WIFIA - Major Considerations

- ◆ **Federal project requirements** WIFIA financing subjects project to federal requirements, including Davis-Bacon, NEPA, and American Iron and Steel requirement
- ◆ **Lien priority** WIFIA credit assistance may be subordinate to the project's other debt obligations in the priority of its lien on the project's cash flow but in the event of bankruptcy, insolvency, or liquidation, the WIFIA credit instrument will have a parity lien with respect to the project's senior creditors
- ◆ **Continuing disclosure and monitoring** WIFIA program requires that borrowers submit quarterly financial condition reports, comply with site visits, provide material event notices, and regular legislative compliance certifications
- ◆ **Administrative burden** Substantial ongoing administrative burden related to ensuring that WIFIA funds are not spent on ineligible project costs
- ◆ **Additional debt** WIFIA may require consent rights for the issuance of additional indebtedness
- ◆ **Variable rate debt** WIFIA will not agree to exposure to material amounts of variable rate debt in the borrower's financing structure
- ◆ **Required prepayment** WIFIA may require borrowers to prepay WIFIA credit instruments on an accelerated basis with excess revenues, refinancing proceeds, or trapped cash flow, as appropriate



## Financial Services Audit Committee Communication

**Date:** April 20, 2018

**To:** Great Lakes Water Authority Audit Committee

**From:** Jon Wheatley, Public Finance Manager

**Re:** Monthly Revenue & Collections Report for February 2018

*The Monthly Revenue & Collections Report includes the following.*

1. FY 2018 Retail and Wholesale Sewer Revenue
2. FY 2018 Retail and Wholesale Water Revenue
3. City of Highland Park Billings and Collections
4. City of Flint Billings and Collections
5. Water & Sewer System Wholesale Accounts Receivable Aging Report

Note: Wholesale customer revenues are billed by the Great Lakes Water Authority (GLWA). Pursuant to the terms of the lease agreement between the City of Detroit and the Great Lakes Water Authority, the Detroit Water & Sewerage Department (DWSD) serves as GLWA's agent for billing activities for the City of Detroit retail customer class. All revenues collected by both GLWA and DWSD are deposited in a trust account in accordance with the GLWA Master Bond Ordinance.

### **1. FY 2018 Retail and Wholesale Sewer Revenue Report**

**Table 1** summarizes the unaudited FY 2018 billed revenues through February 28, 2018 and do not reflect collections of those revenues. It should also be noted that the revenues are shown in the month that the billed flow was accrued and not the following month when the bills are usually sent out to customers.



**Table 1 – Combined DWSD and GLWA Wholesale FY 2018 Sewer Revenue**

RETAIL SEWER CUSTOMERS						
Month	FY 2018 - Budget		FY 2018 - Actual		Variance	
	Volume	Revenue	Volume	Revenue	Volume	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$
July	260,000	24,615,100	244,512	24,624,820	(15,488)	9,720
August	260,600	24,754,400	239,911	24,348,011	(20,689)	(406,389)
September	222,800	22,752,800	228,122	23,517,204	5,322	764,404
October	205,500	22,717,800	224,159	23,573,505	18,659	855,705
November	189,900	21,987,300	188,312	22,084,385	(1,588)	97,085
December	204,400	22,774,800	190,811	21,937,291	(13,589)	(837,509)
January	195,300	22,296,100	213,373	22,944,848	18,073	648,748
February	198,300	23,060,600	193,452	21,926,685	(4,848)	(1,133,915)
March	203,000	23,026,900	-	-	-	-
April	189,300	22,215,900	-	-	-	-
May	219,400	23,798,700	-	-	-	-
June	251,500	24,635,500	-	-	-	-
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Total	2,600,000	278,635,900	1,722,652	184,956,749	(14,148)	(2,151)
Subtotals ytd	1,736,800	184,958,900	1,722,652	184,956,749	(14,148)	(2,151)
Achievement of Budget			99.19%	100.00%		

WHOLESALE SEWER CUSTOMERS						
Month	FY 2018 - Budget		FY 2018 - Actual		Variance	
	Volume	Revenue	Volume	Revenue	Volume	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$
July	N/A	22,619,300	N/A	22,619,300	N/A	-
August	N/A	22,619,300	N/A	22,619,300	N/A	-
September	N/A	22,619,300	N/A	22,619,300	N/A	-
October	N/A	22,619,300	N/A	22,619,300	N/A	-
November	N/A	22,619,300	N/A	22,619,300	N/A	-
December	N/A	22,619,300	N/A	22,619,300	N/A	-
January	N/A	22,619,300	N/A	22,619,300	N/A	-
February	N/A	22,619,300	N/A	22,619,300	N/A	-
March	N/A	22,619,300	N/A	-	N/A	-
April	N/A	22,619,300	N/A	-	N/A	-
May	N/A	22,619,300	N/A	-	N/A	-
June	N/A	22,619,300	N/A	-	N/A	-
	-----	-----	-----	-----	-----	-----
Total		271,431,600		180,954,400		0
Subtotals ytd		180,954,400		180,954,400		0
Achievement of Budget			100.00%			

TOTAL - ALL CUSTOMERS						
Month	FY 2018 - Budget		FY 2018 - Actual		Variance	
	Volume	Revenue	Volume	Revenue	Volume	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$
July	260,000	47,234,400	244,512	47,244,120	(15,488)	9,720
August	260,600	47,373,700	239,911	46,967,311	(20,689)	(406,389)
September	222,800	45,372,100	228,122	46,136,504	5,322	764,404
October	205,500	45,337,100	224,159	46,192,805	18,659	855,705
November	189,900	44,606,600	188,312	44,703,685	(1,588)	97,085
December	204,400	45,394,100	190,811	44,556,591	(13,589)	(837,509)
January	195,300	44,915,400	213,373	45,564,148	18,073	648,748
February	198,300	45,679,900	193,452	44,545,985	(4,848)	(1,133,915)
March	203,000	45,646,200	-	-	-	-
April	189,300	44,835,200	-	-	-	-
May	219,400	46,418,000	-	-	-	-
June	251,500	47,254,800	-	-	-	-
	-----	-----	-----	-----	-----	-----
Total	2,600,000	550,067,500	1,722,652	365,911,149	(14,148)	(2,151)
Subtotals ytd	1,736,800	365,913,300	1,722,652	365,911,149	(14,148)	(2,151)
Achievement of Budget			99.19%	100.00%		

**DWSD Retail Billings:** **Table 1** shows the FY 2018 sewer usage and billed revenue which are provided by DWSD staff. As of February 28, 2018, the DWSD usage was at 99.19% of the budget and billed revenue was at 100.00% of budget.

**GLWA Wholesale Customer Billings:** **Table 1** shows the FY 2018 sewer billed revenue. As a result of the sewer rate simplification which provides a more stable revenue stream, the wholesale sewer customers are billed a fixed monthly fee. The results of this effort can be seen as the billed revenue is at 100.00% of budget through February 2018.

**Total System Billings:** **Table 1** shows the FY 2018 combined DWSD and GLWA Wholesale sewer billed usage and billed revenue. Based on the combined, the GLWA Sewer System had billed revenues of 99.19% of budget based upon the most current information available as of this report.

## **2. FY 2018 Retail and Wholesale Water Revenue Report**

**Table 2** summarizes the unaudited FY 2018 wholesale customer water revenues billed by GLWA and the retail water revenues billed by DWSD. Please note these are billed revenues and do not reflect collections of those revenues. It should also be noted that the revenues are shown in the month that the billed flow was accrued and not the following month when the bills are usually sent out.

**Table 2 – Combined DWSD and GLWA Wholesale FY 2018 Water Revenue Report**

RETAIL WATER CUSTOMERS								
Month	FY 2018 - Budget			FY 2018 - Actual			Variance	
	Volume	Revenue	Unit Revenue	Volume	Revenue	Unit Revenue	Volume	Revenue
	Mcf	\$	\$/Mcf	Mcf	\$	\$/Mcf	Mcf	\$
July	295,700	9,332,300	31.56	274,267	8,813,936	32.14	(21,433)	(518,364)
August	303,100	9,517,000	31.40	269,802	8,631,595	31.99	(33,298)	(885,405)
September	248,900	8,393,900	33.72	259,341	8,463,041	32.63	10,441	69,141
October	236,100	7,947,500	33.66	247,700	8,187,943	33.06	11,600	240,443
November	218,400	7,585,100	34.73	208,783	7,276,521	34.85	(9,617)	(308,579)
December	238,500	8,008,200	33.58	213,026	7,333,094	34.42	(25,474)	(675,106)
January	224,700	7,673,100	34.15	235,142	7,873,651	33.48	10,442	200,551
February	224,700	7,813,100	34.77	235,436	7,879,874	33.47	10,736	66,774
March	235,700	7,944,800	33.71	-	-	-	-	-
April	217,700	7,529,200	34.59	-	-	-	-	-
May	256,700	8,946,300	34.85	-	-	-	-	-
June	284,800	9,089,900	31.92	-	-	-	-	-
Total	2,985,000	99,780,400	33.43	1,943,498	64,459,654	33.17	(46,602)	(1,810,546)
Subtotals ytd	1,990,100	66,270,200	33.30	1,943,498	64,459,654	33.17	(46,602)	(1,810,546)
Achievement of Budget				97.66%	97.27%			
WHOLESALE WATER CUSTOMERS*								
Month	FY 2018 - Budget			FY 2018 - Actual			Variance	
	Volume	Revenue	Unit Revenue	Volume	Revenue	Unit Revenue	Volume	Revenue
	Mcf	\$	\$/Mcf	Mcf	\$	\$/Mcf	Mcf	\$
July	1,712,100	31,705,800	18.52	1,721,500	32,819,241	19.06	9,400	1,113,441
August	1,615,000	30,914,600	19.14	1,573,478	31,520,853	20.03	(41,522)	606,253
September	1,420,900	28,619,700	20.14	1,421,715	29,686,522	20.88	815	1,066,822
October	1,064,900	25,002,100	23.48	1,158,883	26,949,856	23.26	93,983	1,947,756
November	892,000	23,038,000	25.83	958,686	25,146,717	26.23	66,686	2,108,717
December	946,600	23,392,700	24.71	1,024,164	24,434,241	23.86	77,564	1,041,541
January	972,400	23,676,000	24.35	1,067,591	24,810,289	23.24	95,191	1,134,289
February	893,000	23,017,200	25.78	894,635	23,326,980	26.07	1,635	309,780
March	988,100	23,781,500	24.07	-	-	-	-	-
April	997,900	23,859,300	23.91	-	-	-	-	-
May	1,155,100	25,576,800	22.14	-	-	-	-	-
June	1,472,900	28,727,800	19.50	-	-	-	-	-
Total	14,130,900	311,311,500	22.03	9,820,653	218,694,698	22.27	303,753	9,328,598
Subtotals ytd	9,516,900	209,366,100	22.00	9,820,653	218,694,698	22.27	303,753	9,328,598
Achievement of Budget				103.19%	104.46%			
* Includes Revenues and Usage from the City of Flint.								
TOTAL - ALL CUSTOMERS								
Month	FY 2018 - Budget			FY 2018 - Actual			Variance	
	Volume	Revenue	Unit Revenue	Volume	Revenue	Unit Revenue	Volume	Revenue
	Mcf	\$	\$/Mcf	Mcf	\$	\$/Mcf	Mcf	\$
July	2,007,800	41,038,100	20.44	1,995,768	41,633,177	20.86	(12,032)	595,077
August	1,918,100	40,431,600	21.08	1,843,280	40,152,447	21.78	(74,820)	(279,153)
September	1,669,800	37,013,600	22.17	1,681,056	38,149,562	22.69	11,256	1,135,962
October	1,301,000	32,949,600	25.33	1,406,583	35,137,799	24.98	105,583	2,188,199
November	1,110,400	30,623,100	27.58	1,167,469	32,423,237	27.77	57,069	1,800,137
December	1,185,100	31,400,900	26.50	1,237,190	31,767,335	25.68	52,090	366,435
January	1,197,100	31,349,100	26.19	1,302,733	32,683,940	25.09	105,633	1,334,840
February	1,117,700	30,830,300	27.58	1,130,072	31,206,854	27.61	12,372	376,554
March	1,223,800	31,726,300	25.92	-	-	-	-	-
April	1,215,600	31,388,500	25.82	-	-	-	-	-
May	1,411,800	34,523,100	24.45	-	-	-	-	-
June	1,757,700	37,817,700	21.52	-	-	-	-	-
Total	17,115,900	411,091,900	24.02	11,764,150	283,154,352	24.07	257,150	7,518,052
Subtotals ytd	11,507,000	275,636,300	23.95	11,764,150	283,154,352	24.07	257,150	7,518,052
Achievement of Budget				102.23%	102.73%			

**DWSD Retail Billings:** **Table 2** shows the FY 2018 water billed usage and billed revenue which are provided by the DWSD staff. As of February 28, 2018, the DWSD usage was at 97.66% of budget and billed revenue was at 97.27% of budget.

**GLWA Wholesale Customer Billings:** **Table 2** shows the FY 2018 water billed usage and billed revenues. Starting FY 2016, wholesale water charges were re-structured to create a more stable revenue stream by using a historical rolling average to project customer volumes and allocating 60% of the customer revenue requirement to the monthly fixed charge. As of February 28, 2018, the billed usage was at 103.19% of budget and billed revenue at 104.46% of budget. As noted in **Table 2**, revenues and usage from the City of Flint *are* included as they were assumed in the FY 2018 Budget.

**Total System Billings:** **Table 2** shows the FY 2018 combined DWSD and GLWA Wholesale water billed usage and billed revenue. Based on the combined Retail and Wholesale Water billings, the GLWA Water System had billed usage of 102.23% of budget and billed revenues of 102.73% of budget based upon the most current information available as of this report.

### 3. City of Highland Park Billings and Collections

As of March 31, 2018, Highland Park had a delinquent balance of \$38.1 million, including \$30.7 million for wastewater treatment services, \$1.6 million for industrial waste control services, and \$5.8 million for water supply services. **Table 3** provides a summary of the billing and collection history for Highland Park from June 30, 2012 to March 31, 2018 in the table below. Please note the numbers below reflect the month the invoice was sent and not the month the service was provided.

**There were no payments received from the City of Highland Park during March 2018.**

**Table 3 - City of Highland Park Billings and Collections**

	<b>Water</b>	<b>Sewer</b>	<b>IWC</b>	<b>Cumulative Total</b>
June 30, 2012 Balance	\$ -	\$ 10,207,956	\$ 852,987	\$ 11,060,943
FY 2013 Billings	485,887	4,987,635	154,444	5,627,966
FY 2013 Payments	(65,652)	(2,206,211)	-	(2,271,863)
June 30, 2013 Balance	\$ 420,235	\$ 12,989,380	\$ 1,007,431	\$ 14,417,046
FY 2014 Billings	1,004,357	6,980,442	161,951	8,146,750
FY 2014 Payments	-	(1,612,633)	-	(1,612,633)
June 30, 2014 Balance	\$ 1,424,592	\$ 18,357,189	\$ 1,169,382	\$ 20,951,163
FY 2015 Billings	1,008,032	5,553,123	165,739	6,726,894
FY 2015 Payments	-	(1,444,623)	-	(1,444,623)
June 30, 2015 Balance	\$ 2,432,625	\$ 22,465,689	\$ 1,335,121	\$ 26,233,435
FY 2016 Billings	1,157,178	5,612,167	106,431	6,875,776
FY 2016 Payments	-	(2,022,335)	-	(2,022,335)
June 30, 2016 Balance	\$ 3,589,803	\$ 26,055,521	\$ 1,441,551	\$ 31,086,875
FY 2017 Billings	1,245,267	5,802,000	101,999	7,149,265
FY 2017 Payments	-	(2,309,186)	-	(2,309,186)
June 30, 2017 Balance	\$ 4,835,070	\$ 29,548,335	\$ 1,543,550	\$ 35,926,954
FY 2018 Billings (9 Months)	966,680	4,246,500	60,592	5,273,772
FY 2018 Payments (9 Months)	-	(3,111,091)	-	(3,111,091)
<b>Balance as of March 31, 2018</b>	<b>\$ 5,801,749</b>	<b>\$ 30,683,743</b>	<b>\$ 1,604,142</b>	<b>\$ 38,089,635</b>

#### 4. Water & Sewer System Wholesale Accounts Receivable Aging Report

**Table 4** is a summary of the total, current and non-current receivables by category as of March 31, 2018. **Table 5** is the same summary *without* the past due balances for the City of Highland Park. The detailed accounts receivable aging is attached to this report. This report reflects the wholesale receivables only and do not include DWSD. (Note: percentages vary from 100% due to rounding.)

**Table 4 - Wholesale Accounts Receivable Aging Report**

	<b>Total</b>	<b>Current</b>	<b>46-74 Days</b>	<b>75-104 Days</b>	<b>&gt;105 Days</b>
<b>Water</b>	\$ 35,109,915.74	\$ 29,511,763.13	\$ 101,547.68	\$ 106,041.53	\$ 5,390,563.40
<b>Sewer</b>	\$ 50,241,343.78	\$ 20,027,799.50	\$ 470,200.00	\$ 470,200.00	\$ 29,273,144.28
<b>IWC</b>	\$ 2,821,275.70	\$ 890,391.17	\$ 55,922.44	\$ -	\$ 1,874,962.09
<b>Pollutant Surcharge</b>	\$ 997,453.25	\$ 613,873.86	\$ 133,986.11	\$ 40,355.53	\$ 209,237.75
<b>Total</b>	<u>\$ 89,169,988.47</u>	<u>\$ 51,043,827.66</u>	<u>\$ 761,656.23</u>	<u>\$ 616,597.06</u>	<u>\$ 36,747,907.52</u>
	<u>100.00%</u>	<u>57.24%</u>	<u>0.85%</u>	<u>0.69%</u>	<u>41.21%</u>

**Table 5 - Wholesale Accounts Receivable Aging Report, Net of Highland Park**

	<b>Total</b>	<b>Current</b>	<b>46-74 Days</b>	<b>75-104 Days</b>	<b>&gt;105 Days</b>
<b>Water</b>	\$ 29,308,166.02	\$ 29,308,166.02	\$ -	\$ -	\$ -
<b>Sewer</b>	\$ 19,557,599.50	\$ 19,557,599.50	\$ -	\$ -	\$ -
<b>IWC</b>	\$ 1,217,133.17	\$ 877,460.65	\$ 49,262.64	\$ -	\$ 290,409.88
<b>Pollutant Surcharge</b>	\$ 997,453.25	\$ 613,873.86	\$ 133,986.11	\$ 40,355.53	\$ 209,237.75
<b>Total</b>	<u>\$ 51,080,351.94</u>	<u>\$ 50,357,100.03</u>	<u>\$ 183,248.75</u>	<u>\$ 40,355.53</u>	<u>\$ 499,647.63</u>
	<u>100.00%</u>	<u>98.58%</u>	<u>0.36%</u>	<u>0.08%</u>	<u>0.98%</u>

## GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$173,076.26	\$173,076.26	\$0.00	\$0.00	\$0.00
ASH TOWNSHIP	\$59,054.28	\$59,054.28	\$0.00	\$0.00	\$0.00
BELLEVILLE	\$ (2,308.77)	\$ (2,308.77)	\$0.00	\$0.00	\$0.00
BERLIN TOWNSHIP	\$54,351.62	\$54,351.62	\$0.00	\$0.00	\$0.00
BROWNSTOWN TOWNSHIP	\$263,545.16	\$263,545.16	\$0.00	\$0.00	\$0.00
BRUCE TOWNSHIP	\$12,738.93	\$12,738.93	\$0.00	\$0.00	\$0.00
BURTCHVILLE TOWNSHIP	\$20,840.99	\$20,840.99	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$959,423.57	\$959,423.57	\$0.00	\$0.00	\$0.00
CENTER LINE	\$36,998.62	\$36,998.62	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$294,629.44	\$294,629.44	\$0.00	\$0.00	\$0.00
FLINT	\$153,565.74	\$153,565.74	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$596,946.33	\$596,946.33	\$0.00	\$0.00	\$0.00
COMMERCE TOWNSHIP	\$359,757.01	\$359,757.01	\$0.00	\$0.00	\$0.00
DEARBORN	\$1,377,253.78	\$1,377,253.78	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$300,952.50	\$300,952.50	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$128,798.90	\$128,798.90	\$0.00	\$0.00	\$0.00
ECORSE	\$107,595.63	\$107,595.63	\$0.00	\$0.00	\$0.00
FARMINGTON	\$75,234.43	\$75,234.43	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$657,757.90	\$657,757.90	\$0.00	\$0.00	\$0.00
FERNDAL	\$79,433.70	\$79,433.70	\$0.00	\$0.00	\$0.00
FLAT ROCK	\$91,652.46	\$91,652.46	\$0.00	\$0.00	\$0.00
FRASER	\$99,821.37	\$99,821.37	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$130,208.97	\$130,208.97	\$0.00	\$0.00	\$0.00



## GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
GENESEE COUNTY DRAIN COMM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GIBRALTAR	\$36,111.06	\$36,111.06	\$0.00	\$0.00	\$0.00
GROSSE ILE TOWNSHIP	\$94,951.67	\$94,951.67	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$214,442.47	\$214,442.47	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$42,456.15	\$42,456.15	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$115,693.13	\$115,693.13	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$56,188.96	\$56,188.96	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$140,195.97	\$140,195.97	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$111,521.64	\$111,521.64	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$55,288.84	\$55,288.84	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$5,801,749.72	\$203,597.11	\$101,547.68	\$106,041.53	\$5,390,563.40
HURON TOWNSHIP	\$106,921.52	\$106,921.52	\$0.00	\$0.00	\$0.00
IMLAY CITY	\$72,286.07	\$72,286.07	\$0.00	\$0.00	\$0.00
IMLAY TOWNSHIP	\$2,939.50	\$2,939.50	\$0.00	\$0.00	\$0.00
INKSTER	\$311,328.96	\$311,328.96	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$22,925.54	\$22,925.54	\$0.00	\$0.00	\$0.00
LAPEER	\$109,221.15	\$109,221.15	\$0.00	\$0.00	\$0.00
LAPEER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$47,849.28	\$47,849.28	\$0.00	\$0.00	\$0.00
LINCOLN PARK	\$190,661.72	\$190,661.72	\$0.00	\$0.00	\$0.00
LIVONIA	\$1,007,961.03	\$1,007,961.03	\$0.00	\$0.00	\$0.00
MACOMB TWP	\$771,065.93	\$771,065.93	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MADISON HEIGHTS	\$150,926.67	\$150,926.67	\$0.00	\$0.00	\$0.00
MAYFIELD TOWNSHIP	\$4,348.25	\$4,348.25	\$0.00	\$0.00	\$0.00
MELVINDALE	\$120,862.09	\$120,862.09	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$42,367.82	\$42,367.82	\$0.00	\$0.00	\$0.00
NOCWA	\$1,767,823.25	\$1,767,823.25	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$55,256.59	\$55,256.59	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$437,167.85	\$437,167.85	\$0.00	\$0.00	\$0.00
NOVI	\$1,356,218.19	\$1,356,218.19	\$0.00	\$0.00	\$0.00
OAK PARK	\$107,559.74	\$107,559.74	\$0.00	\$0.00	\$0.00
OAKLAND CO DR COM	\$10,314.01	\$10,314.01	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$77,451.38	\$77,451.38	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$308,643.45	\$308,643.45	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$267,910.51	\$267,910.51	\$0.00	\$0.00	\$0.00
RIVER ROUGE	\$52,333.58	\$52,333.58	\$0.00	\$0.00	\$0.00
RIVERVIEW	\$74,925.68	\$74,925.68	\$0.00	\$0.00	\$0.00
ROCKWOOD	\$22,564.28	\$22,564.28	\$0.00	\$0.00	\$0.00
ROMEO	\$18,206.18	\$18,206.18	\$0.00	\$0.00	\$0.00
ROMULUS	\$292,766.49	\$292,766.49	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$435,402.74	\$435,402.74	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$19,008.42	\$19,008.42	\$0.00	\$0.00	\$0.00
SOCWA	\$3,518,894.85	\$3,518,894.85	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$955,192.44	\$955,192.44	\$0.00	\$0.00	\$0.00
SOUTH ROCKWOOD	\$7,771.78	\$7,771.78	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
SOUTHGATE	\$170,076.79	\$170,076.79	\$0.00	\$0.00	\$0.00
GREENWOOD TOWNSHIP	\$24,637.18	\$24,637.18	\$0.00	\$0.00	\$0.00
ST. CLAIR SHORES	\$496,464.14	\$496,464.14	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$1,146,786.73	\$1,146,786.73	\$0.00	\$0.00	\$0.00
SUMPTER TOWNSHIP	\$50,331.14	\$50,331.14	\$0.00	\$0.00	\$0.00
SYLVAN LAKE	\$17,660.20	\$17,660.20	\$0.00	\$0.00	\$0.00
TAYLOR	\$368,609.21	\$368,609.21	\$0.00	\$0.00	\$0.00
TRENTON	\$170,756.44	\$170,756.44	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$1,016,986.51	\$1,016,986.51	\$0.00	\$0.00	\$0.00
UTICA	\$46,706.22	\$46,706.22	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$249,302.63	\$249,302.63	\$0.00	\$0.00	\$0.00
VILLAGE OF ALMONT	\$17,111.67	\$17,111.67	\$0.00	\$0.00	\$0.00
WALLED LAKE	\$148,481.74	\$148,481.74	\$0.00	\$0.00	\$0.00
WARREN	\$759,352.76	\$759,352.76	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$140,161.70	\$140,161.70	\$0.00	\$0.00	\$0.00
WAYNE	\$231,959.07	\$231,959.07	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$1,539,828.37	\$1,539,828.37	\$0.00	\$0.00	\$0.00
WESTLAND	\$1,004,133.29	\$1,004,133.29	\$0.00	\$0.00	\$0.00
WIXOM	\$180,336.35	\$180,336.35	\$0.00	\$0.00	\$0.00
WOODHAVEN	\$152,837.61	\$152,837.61	\$0.00	\$0.00	\$0.00
YCUA	\$1,730,390.62	\$1,730,390.62	\$0.00	\$0.00	\$0.00

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
TOTAL WATER ACCOUNTS	\$35,109,915.74	\$29,511,763.13	\$101,547.68	\$106,041.53	\$5,390,563.40

## GLWA Aged Accounts Receivable- SEWER ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CENTER LINE	\$82,199.50	\$82,199.50	\$0.00	\$0.00	\$0.00
DEARBORN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$19,300.00	\$19,300.00	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$30,683,744.28	\$470,200.00	\$470,200.00	\$470,200.00	\$29,273,144.28
MELVINDALE	\$122,300.00	\$122,300.00	\$0.00	\$0.00	\$0.00
EVERGREEN-FARMINGTON	\$2,811,100.00	\$2,811,100.00	\$0.00	\$0.00	\$0.00
OMID	\$6,068,000.00	\$6,068,000.00	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
OAKLAND COUNTY GWK DD	\$3,812,600.00	\$3,812,600.00	\$0.00	\$0.00	\$0.00
WAYNE COUNTY-AREA #3	\$3,800.00	\$3,800.00	\$0.00	\$0.00	\$0.00
WAYNE COUNTY N.E.	\$2,053,100.00	\$2,053,100.00	\$0.00	\$0.00	\$0.00
ROUGE VALLEY	\$4,585,200.00	\$4,585,200.00	\$0.00	\$0.00	\$0.00
<b>TOTAL SEWER ACCOUNTS</b>	<b>\$50,241,343.78</b>	<b>\$20,027,799.50</b>	<b>\$470,200.00</b>	<b>\$470,200.00</b>	<b>\$29,273,144.28</b>

## GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$2,575.88	\$2,575.88	\$0.00	\$0.00	\$0.00
AUBURN HILLS (C-O)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AUBURN HILLS (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BERKLEY	\$4,632.04	\$4,632.04	\$0.00	\$0.00	\$0.00
BEVERLY HILLS	\$1,596.08	\$1,596.08	\$0.00	\$0.00	\$0.00
BINGHAM FARMS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BIRMINGHAM (SEOC)	\$17,710.24	\$17,673.32	\$36.92	\$0.00	\$0.00
BIRMINGHAM (E-F)	\$3,782.88	\$3,782.88	\$0.00	\$0.00	\$0.00
BLOOMFIELD HILLS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BLOOMFIELD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$243,558.40	\$60,923.68	\$30,461.84	\$0.00	\$152,172.88
CENTER LINE	\$5,884.48	\$5,884.48	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$19,340.40	\$19,340.40	\$0.00	\$0.00	\$0.00
DEARBORN	\$58,268.28	\$58,268.28	\$0.00	\$0.00	\$0.00
CITY OF FARMINGTON (E-F)	\$445.88	\$445.88	\$0.00	\$0.00	\$0.00
CITY OF ROCHESTER	\$5,949.80	\$5,949.80	\$0.00	\$0.00	\$0.00
CLARKSTON	\$491.32	\$491.32	\$0.00	\$0.00	\$0.00
CLAWSON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$40,149.08	\$40,149.08	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$14,952.60	\$14,952.60	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$170.40	\$170.40	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$10,158.68	\$10,158.68	\$0.00	\$0.00	\$0.00
FARMINGTON	\$5,289.93	\$5,289.93	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
FARMINGTON HILLS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FERNDAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FRASER	\$7,923.60	\$7,923.60	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$1,888.60	\$1,888.60	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$5,092.12	\$5,092.12	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$6,668.32	\$6,668.32	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$5,822.00	\$5,822.00	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$5,012.60	\$5,012.60	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$5,256.84	\$5,256.84	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$1,604,142.53	\$12,930.52	\$6,659.80	\$0.00	\$1,584,552.21
HUNTINGTON WOODS	\$914.48	\$914.48	\$0.00	\$0.00	\$0.00
INDEPENDENCE	\$7,540.20	\$7,540.20	\$0.00	\$0.00	\$0.00
INKSTER	\$ (8,883.52)	\$0.00	\$ (8,883.52)	\$0.00	\$0.00
KEEGO HARBOR	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LAKE ORION	\$1,198.48	\$1,198.48	\$0.00	\$0.00	\$0.00
LATHRUP	\$2,246.44	\$2,246.44	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$284.00	\$284.00	\$0.00	\$0.00	\$0.00
LIVONIA	\$63,596.12	\$63,596.12	\$0.00	\$0.00	\$0.00



## GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MACOMB TWP	\$329.44	\$329.44	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MELVINDALE	\$11,598.56	\$11,598.56	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$2,916.68	\$2,916.68	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$58,458.56	\$14,614.64	\$7,307.32	\$0.00	\$36,536.60
NOVI	\$27,505.40	\$27,505.40	\$0.00	\$0.00	\$0.00
OAK PARK	\$11,027.72	\$11,027.72	\$0.00	\$0.00	\$0.00
OAKLAND TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ORCHARD LAKE VILLAGE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ORION TOWNSHIP (C-O)	\$8,596.68	\$8,596.68	\$0.00	\$0.00	\$0.00
OXFORD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
OXFORD VILLAGE	\$2,010.72	\$2,010.72	\$0.00	\$0.00	\$0.00
PLEASANT RIDGE	\$431.68	\$431.68	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$162,720.64	\$40,680.16	\$20,340.08	\$0.00	\$101,700.40
REDFORD TOWNSHIP	\$19,426.64	\$19,426.64	\$0.00	\$0.00	\$0.00
ROCHESTER HILLS	\$29,019.12	\$29,019.12	\$0.00	\$0.00	\$0.00
ROMULUS	\$1,479.64	\$1,479.64	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$22,487.12	\$22,487.12	\$0.00	\$0.00	\$0.00
ROYAL OAK	\$ (21,620.92)	\$ (21,620.92)	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$19,067.76	\$19,067.76	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
SOUTHFIELD (E-F)	\$44,962.88	\$44,962.88	\$0.00	\$0.00	\$0.00
SOUTHFIELD (SEOC)	\$5,995.24	\$5,995.24	\$0.00	\$0.00	\$0.00
ST. CLAIR SHORES	\$19,422.76	\$19,422.76	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$49,742.60	\$49,742.60	\$0.00	\$0.00	\$0.00
TROY (E-F)	\$613.44	\$613.44	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$117,894.08	\$117,894.08	\$0.00	\$0.00	\$0.00
UTICA	\$4,694.52	\$4,694.52	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$550.96	\$550.96	\$0.00	\$0.00	\$0.00
VILLAGE OF FRANKLIN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$2,237.92	\$2,237.92	\$0.00	\$0.00	\$0.00
WATERFORD TOWNSHIP	\$19,783.44	\$19,783.44	\$0.00	\$0.00	\$0.00
WAYNE	\$8,017.32	\$8,017.32	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$1,508.04	\$1,508.04	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (E-F)	\$10,047.92	\$10,047.92	\$0.00	\$0.00	\$0.00
WESTLAND	\$36,689.96	\$36,689.96	\$0.00	\$0.00	\$0.00
<b>TOTAL IWC ACCOUNTS</b>	<b>\$2,821,275.70</b>	<b>\$890,391.17</b>	<b>\$55,922.44</b>	<b>\$0.00</b>	<b>\$1,874,962.09</b>

## GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
A & R PACKING CO., LLC	\$4,774.33	\$4,774.33	\$0.00	\$0.00	\$0.00
AACTRON	\$ (0.30)	\$69.61	\$ (69.91)	\$0.00	\$0.00
ACADEMY PACKING CO.	\$253.81	\$0.00	\$253.81	\$0.00	\$0.00
ACME RUSTPROOF	\$134.09	\$96.33	\$37.76	\$0.00	\$0.00
ADVANCED RESOURCE RECOVERY	\$1,302.60	\$1,302.60	\$0.00	\$0.00	\$0.00
AEVITAS SPECIALITY SERVICES	\$12,339.13	\$12,339.13	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$17,263.78	\$0.00	\$11,166.99	\$0.00	\$6,096.79
ALEXANDER & HORNUNG	\$55,749.44	\$0.00	\$31,099.92	\$0.00	\$24,649.52
ALEXANDER & HORNUNG	\$2,366.86	\$0.00	\$1,465.74	\$0.00	\$901.12
ALGAL SCIENTIFIC CORPORATION	\$9,490.27	\$2,031.65	\$1,086.89	\$902.91	\$5,468.82
ALL CHEM CORP, LLC.	\$ (161.34)	\$ (161.34)	\$0.00	\$0.00	\$0.00
ALPHA STAMPING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AMERICAN WASTE TECH INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ATWATER BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ATWATER BREWERY	\$2,517.81	\$2,517.81	\$0.00	\$0.00	\$0.00
AUTOMOTIVE FINISH	\$9.01	\$0.00	\$9.01	\$0.00	\$0.00
AXLE BREWING COMPANY, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BAFFIN BREWING COMPANY	\$305.23	\$0.00	\$0.00	\$0.00	\$305.23
BARON INDUSTRIES	\$1,050.36	\$1,050.36	\$0.00	\$0.00	\$0.00
BARTZ BAKERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BASTONE BREWERY	\$8.23	\$0.00	\$8.23	\$0.00	\$0.00
BATCH BREWING COMPANY	\$ (803.43)	\$0.00	\$0.00	\$0.00	\$ (803.43)
BAYS MICHIGAN CORPORATION	\$306.32	\$306.32	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
BEIRUT BAKERY, INC.	\$60.63	\$60.63	\$0.00	\$0.00	\$0.00
BETTER MADE SNACK FOOD	\$18,614.77	\$18,614.77	\$0.00	\$0.00	\$0.00
BLACK LOTUS BREWING CO.	\$ (43.69)	\$0.00	\$0.00	\$0.00	\$ (43.69)
BOZEK'S MARKET	\$76.16	\$76.16	\$0.00	\$0.00	\$0.00
BREW DETROIT	\$5,383.35	\$5,383.35	\$0.00	\$0.00	\$0.00
BROADWAY MKT CORNED BEEF	\$ (100.00)	\$0.00	\$ (100.00)	\$0.00	\$0.00
BROOKS BREWING, LLC.	\$ (52.95)	\$0.00	\$ (52.95)	\$0.00	\$0.00
CANTON BREW WORKS	\$60.76	\$0.00	\$60.76	\$0.00	\$0.00
CAPITAL REPRODUCTIONS	\$5.99	\$1.36	\$0.00	\$0.00	\$4.63
CF BURGER CREAMERY	\$14,431.06	\$14,431.06	\$0.00	\$0.00	\$0.00
CHILANGO'S BAKERY	\$1,906.94	\$154.76	\$90.94	\$108.49	\$1,552.75
CINTAS CORP. - MACOMB TWP.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$36,858.21	\$36,858.21	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$12,621.41	\$12,621.41	\$0.00	\$0.00	\$0.00
CITY LAUNDRY, INC.	\$6.73	\$6.73	\$0.00	\$0.00	\$0.00
CLASSIC CONTAINER CORP.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COCA-COLA REFRESHMENTS USA,	\$1,494.46	\$1,494.46	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$2,230.26	\$2,230.26	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$596.33	\$596.33	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$2,133.31	\$2,133.31	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$245.78	\$245.78	\$0.00	\$0.00	\$0.00
COUNTRY FRESH DAIRY CO.	\$30,498.65	\$30,498.65	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
CROSS CHEMICAL COMPANY, INC.	\$453.67	\$453.67	\$0.00	\$0.00	\$0.00
DARLING INGREDIENTS, INC.	\$11,949.84	\$11,949.84	\$0.00	\$0.00	\$0.00
DAVE'S SAUSAGE FACTORY 2	\$376.50	\$0.00	\$376.50	\$0.00	\$0.00
DEARBORN BREWING	\$32.34	\$0.00	\$32.34	\$0.00	\$0.00
DEARBORN SAUSAGE	\$3,797.78	\$0.00	\$3,797.78	\$0.00	\$0.00
DEARBORN SAUSAGE CO., INC.	\$12,839.68	\$0.00	\$12,839.68	\$0.00	\$0.00
DETROIT BEER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT LINEN SERVICE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT SAUSAGES CO INC	\$45.12	\$31.02	\$14.10	\$0.00	\$0.00
DETRONIC INDUSTRIES, INC.	\$120.04	\$120.04	\$0.00	\$0.00	\$0.00
DIFCO LABORATORIES, INC.	\$20,907.36	\$20,907.36	\$0.00	\$0.00	\$0.00
DIVERSIFIED CHEM TECH. INC.	\$163.94	\$163.94	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$885.92	\$885.92	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$2,890.20	\$2,890.20	\$0.00	\$0.00	\$0.00
E.W. GROBBEL'S SONS, INC.	\$3,745.80	\$3,745.80	\$0.00	\$0.00	\$0.00
ENVIROSOLIDS, L.L.C.	\$27,631.15	\$0.00	\$27,631.15	\$0.00	\$0.00
EQ DETROIT, INC.	\$3,733.47	\$3,733.47	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$9,341.54	\$9,341.54	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EQ RESOURCES RECOVERY, INC.	\$2,941.08	\$2,941.08	\$0.00	\$0.00	\$0.00
ETON ST BREWERY- GRIFFIN CLF	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
EXTRUDE HONE CORPORATION	\$331.31	\$331.31	\$0.00	\$0.00	\$0.00
EXTRUDEHODE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FAYGO BEVERAGES, INC.	\$228,747.39	\$60,036.08	\$25,544.06	\$27,682.83	\$115,484.42
FORD NEW MODEL PROGRAM	\$1,499.15	\$1,499.15	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$2,006.54	\$2,006.54	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$7,306.60	\$7,306.60	\$0.00	\$0.00	\$0.00
GENERAL LINEN SUPPLY CO.	\$67,458.58	\$12,320.66	\$12,118.11	\$11,010.37	\$32,009.44
GLOBAL TITANIUM, INC.	\$1,896.99	\$1,896.99	\$0.00	\$0.00	\$0.00
GLOBAL TITANIUM, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$51.19	\$0.00	\$51.19	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$212.02	\$0.00	\$110.26	\$0.00	\$101.76
GREAT BARABOO BREWING CO.	\$ (2,568.34)	\$0.00	\$0.00	\$0.00	\$ (2,568.34)
HACIENDA MEXICAN FOODS	\$3,173.89	\$1,206.30	\$545.51	\$570.81	\$851.27
HENKEL CORPORATION	\$265.90	\$131.43	\$134.47	\$0.00	\$0.00
HOME STYLE FOOD INC.	\$3,958.57	\$3,958.57	\$0.00	\$0.00	\$0.00
HOOD CLEANERS	\$210.36	\$3.92	\$6.84	\$7.81	\$191.79
HOUGHTON INTERNATIONAL INC.	\$2,467.31	\$2,467.31	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$2,128.81	\$2,128.81	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$1,985.89	\$1,985.89	\$0.00	\$0.00	\$0.00
HUNTINGTON CLEANERS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
INDUSTRIAL METAL COATING	\$882.04	\$882.04	\$0.00	\$0.00	\$0.00
ISLAMIC SLAUGHTER HOUSE	\$451.78	\$451.78	\$0.00	\$0.00	\$0.00
ITALIAN BUTTER BREAD STICKS	\$7.98	\$7.98	\$0.00	\$0.00	\$0.00
J & G FOOD PRODUCTS, INC.	\$174.87	\$174.87	\$0.00	\$0.00	\$0.00
KAR NUT PRODUCTS	\$928.47	\$928.47	\$0.00	\$0.00	\$0.00
KOWALSKI SAUSAGES, CO.	\$918.96	\$918.96	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$584.88	\$584.88	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$81.54	\$81.54	\$0.00	\$0.00	\$0.00
LEAR CORPORATION DBA EAGLE C	\$4,801.92	\$4,801.92	\$0.00	\$0.00	\$0.00
LIBERTY STREET PROD. BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LILY'S SEAFOOD GRILL & BREWE	\$ (0.52)	\$0.00	\$0.00	\$0.00	\$ (0.52)
MACDERMID, INC.	\$5,079.49	\$5,077.49	\$2.00	\$0.00	\$0.00
MCNICHOLS POLISHING & ANODIZ	\$14.54	\$14.54	\$0.00	\$0.00	\$0.00
MELLO MEATS INC, - KUBISCH S	\$84.62	\$84.62	\$0.00	\$0.00	\$0.00
METROPOLITAN BAKERY	\$387.69	\$387.69	\$0.00	\$0.00	\$0.00
MIBA HYDRAMECHANICA CORP.	\$365.58	\$365.58	\$0.00	\$0.00	\$0.00
MICHIGAN DAIRY	\$86,661.75	\$86,661.75	\$0.00	\$0.00	\$0.00
MICHIGAN PROD. MACHINING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MICHIGAN SOY PRODUCTS CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MIDWEST WIRE PRODUCTS, INC.	\$ (2.94)	\$0.00	\$0.00	\$0.00	\$ (2.94)
MILANO BAKERY	\$1,416.69	\$1,416.69	\$0.00	\$0.00	\$0.00
MILTON CHILI CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MINNIE MARIE BAKERS, INC	\$2,209.67	\$2,209.67	\$0.00	\$0.00	\$0.00



## GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MISTER UNIFORM & MAT RENTALS	\$469.80	\$92.22	\$39.38	\$32.12	\$306.08
MOTOR CITY BREWING WORKS	\$663.80	\$0.00	\$663.80	\$0.00	\$0.00
NATIONAL CHILI COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NATIONAL CHILI COMPANY	\$ (12.80)	\$ (12.80)	\$0.00	\$0.00	\$0.00
NORTH CENTER BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTHERN LAKES SEAFOOD & MEAT	\$20.56	\$20.56	\$0.00	\$0.00	\$0.00
OAKWOOD BAKERY	\$154.37	\$154.37	\$0.00	\$0.00	\$0.00
PELLERITO FOODS INC.	\$751.70	\$751.70	\$0.00	\$0.00	\$0.00
PEPSI COLA, INC.	\$26,594.42	\$26,594.42	\$0.00	\$0.00	\$0.00
PERSONAL UNIFORM SERVICE, INC.	\$51.14	\$51.14	\$0.00	\$0.00	\$0.00
PETRO ENVIRON TECH, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PINE TREE ACRES, INC.	\$37,082.90	\$37,082.90	\$0.00	\$0.00	\$0.00
PLATING SPEC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
POWER VAC OF MICHIGAN, INC.	\$199.06	\$199.06	\$0.00	\$0.00	\$0.00
PREMIER PLATING, LLC	\$2,369.04	\$1,222.51	\$1,146.53	\$0.00	\$0.00
PRODUCTION SPRING, LLC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
QUALA SERVICES, LLC	\$270.45	\$270.45	\$0.00	\$0.00	\$0.00
RAY'S ICE CREAM CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
RED SPOT PAINT #409139	\$18.35	\$18.35	\$0.00	\$0.00	\$0.00
RIVER ROUGE BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROAK BREWING CO. LLC	\$1,294.77	\$0.00	\$1,294.77	\$0.00	\$0.00
ROCHESTER MILLS BEER COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ROCHESTER MILLS BREWERY	\$3,200.13	\$0.00	\$1,286.54	\$0.00	\$1,913.59
RTT	\$23,143.92	\$1,055.16	\$1,169.24	\$0.00	\$20,919.52
SEAFARE FOODS, INC.	\$59.05	\$59.05	\$0.00	\$0.00	\$0.00
SHERWOOD BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SPRAYTEK, INC.	\$3,982.03	\$59.98	\$29.88	\$40.19	\$3,851.98
SWEETHEART BAKERY, INC.	\$236.23	\$154.13	\$82.10	\$0.00	\$0.00
THE CROWN GROUP-LIVONIA PLAN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
THE ROYAL OAK BREWERY	\$ (1,951.56)	\$0.00	\$0.00	\$0.00	\$ (1,951.56)
TOM LAUNDRY CLEANERS	\$12.69	\$0.00	\$12.69	\$0.00	\$0.00
TRAFFIC JAM & SNUG	\$ (0.48)	\$0.00	\$0.00	\$0.00	\$ (0.48)
TURRI'S ITALIAN FOODS	\$41,857.23	\$41,857.23	\$0.00	\$0.00	\$0.00
TURRI'S ITALIAN FOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
U-METCO, INC.	\$1,427.50	\$1,427.50	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$65,143.60	\$65,143.60	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
UNIQUE LINEN SERVICES, INC.	\$101.46	\$101.46	\$0.00	\$0.00	\$0.00
UNITED FISH DISTRIBUTORS	\$8.19	\$8.19	\$0.00	\$0.00	\$0.00
UNITED LINEN SERVICE, LLC.	\$254.84	\$254.84	\$0.00	\$0.00	\$0.00
UNITED MEAT & DELI	\$521.82	\$521.82	\$0.00	\$0.00	\$0.00
US ECOLOGY MICHIGAN	\$ (5,387.03)	\$ (5,387.03)	\$0.00	\$0.00	\$0.00
USHER OIL SERVICES	\$6,310.69	\$6,310.69	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS	\$11,032.29	\$11,032.29	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS, INC.	\$5,004.06	\$5,004.06	\$0.00	\$0.00	\$0.00

## GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 3/31/2018

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
VERNOR FOOD PRODUCTS	\$81.54	\$81.54	\$0.00	\$0.00	\$0.00
WIGLEY'S MEAT PROCESS	\$956.19	\$956.19	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$789.78	\$789.78	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$107.19	\$107.19	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO	\$6,257.36	\$6,257.36	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO.	\$2,406.01	\$2,406.01	\$0.00	\$0.00	\$0.00
WOODWARD AVENUE BREWERS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>TOTAL POLLUTANT SURCHARGE ACCOUNTS</b>	<b>\$997,453.25</b>	<b>\$613,873.86</b>	<b>\$133,986.11</b>	<b>\$40,355.53</b>	<b>\$209,237.75</b>



## **Financial Services Audit Committee Communication**

**Date:** April 20, 2018

**To:** Great Lakes Water Authority Audit Committee

**From:** Deirdre Henry, Treasury Manager

**Re:** Master Bond Ordinance Monthly Cash Transfers through April 1, 2018 to Detroit Water & Sewerage Department (DWSD) and Great Lakes Water Authority (GLWA)

**Background:** The Master Bond Ordinances for the water and sewer systems prescribe monthly distributions of cash receipts.

**Analysis:** The attached documents summarize the monthly cash transfers to DWSD and GLWA as stipulated by the Master Bond Ordinances for the period January 2016 – April 2018.

**Proposed Action:** Receive and file report.

**Great Lakes Water Authority**  
**Funds Transferred to DWSD per Master Bond Ordinance**  
**Through April 2, 2018**

<b>DWSD WATER</b>				
	<b>Operations &amp; Maintenance</b>	<b>Pension</b>	<b>Lease Payment (I&amp;E Fund)</b>	<b>Total Water</b>
<b>Total FY 2016</b>	\$ 26,185,600	\$ 4,262,700	\$ 20,173,100	\$ 50,621,400
<b>Total FY 2017</b>	\$ 33,596,400	\$ 4,262,400	\$ 22,500,000	\$ 60,358,800
<b>FY 2018</b>				
July 2017	\$ 2,799,700	\$ 356,000	\$ 1,875,000	\$ 5,030,700
August 2017	2,921,642	356,000	1,875,000	5,152,642
August 2017	121,942	-	-	121,942 <sup>1)</sup>
September 2017	2,921,642	356,000	1,875,000	5,152,642
October 2017	2,921,642	356,000	1,875,000	5,152,642
November 2017	2,921,642	356,000	1,875,000	5,152,642
December 2017	2,921,642	356,000	1,875,000	5,152,642
January 2018	2,921,642	356,000	1,875,000	5,152,642
February 2018	2,921,642	356,000	1,875,000	5,152,642
March 2018	2,921,642	356,000	1,875,000	5,152,642
April 2018	2,921,642	356,000	1,875,000	5,152,642
May 2018				-
June 2018				-
<b>Total FY 2018</b>	\$ 29,216,420	\$ 3,560,000	\$ 18,750,000	\$ 51,526,420
<b>Total Water Since Jan 1 2016</b>	\$ 88,998,420	\$ 12,085,100	\$ 61,423,100	\$ 162,506,620
<b>DWSD SEWER</b>				
	<b>Operations &amp; Maintenance</b>	<b>Pension</b>	<b>Lease Payment (I&amp;E Fund)</b>	<b>Total Sewer</b>
<b>Total FY 2016</b>	\$ 19,774,300	\$ 2,861,800	\$ 7,508,500	\$ 30,144,600
<b>Total FY 2017</b>	\$ 41,535,600	\$ 2,862,000	\$ 27,500,000	\$ 71,897,600
<b>FY 2018</b>				
July 2017	\$ 3,461,300	\$ 238,000	\$ 2,291,667	\$ 5,990,967
August 2017	5,043,166	238,000	2,291,667	7,572,833
August 2017	1,581,866	-	-	1,581,866 <sup>1)</sup>
September 2017	5,043,166	238,000	2,291,667	7,572,833
October 2017	5,043,166	238,000	2,291,667	7,572,833
November 2017	5,043,166	238,000	2,291,667	7,572,833
December 2017	5,043,166	238,000	2,291,667	7,572,833
January 2018	5,043,166	238,000	2,291,667	7,572,833
February 2018	5,043,166	238,000	2,291,667	7,572,833
March 2018	5,043,166	238,000	-	5,281,166 <sup>2)</sup>
April 2018	5,043,166	238,000	-	5,281,166
May 2018				-
June 2018				-
<b>Total FY 2018</b>	\$ 50,431,660	\$ 2,380,000	\$ 18,333,336	\$ 71,144,996
<b>Total Sewer Since Jan 1 2016</b>	\$ 111,741,560	\$ 8,103,800	\$ 53,341,836	\$ 173,187,196
<b>Total FY 2016 Water &amp; Sewer</b>	\$ 45,959,900	\$ 7,124,500	\$ 27,681,600	\$ 80,766,000
<b>Total FY 2017 Water &amp; Sewer</b>	\$ 75,132,000	\$ 7,124,400	\$ 50,000,000	\$ 132,256,400
<b>Total FY 2018 Water &amp; Sewer</b>	\$ 79,648,080	\$ 5,940,000	\$ 37,083,336	\$ 122,671,416

Note 1: Per Section 3.5 of the Lease, the Lease Payment may be used for:

- (a) bond principal and interest for Local System Improvements,
- (b) bond principal and interest for the City's share of common-to-all System Improvements, and
- (c) Local System improvements paid from the lease payment deposited to the Improvement & Extension (I&E) Fund.

Note 2: For FY 2016, \$22,318,500 million of the lease payment was directed by the City of Detroit to offset a portion of its FY 2016 water and sewer debt service in lieu of a cash transfer.

<sup>1)</sup> Additional Transfer in August to adjust July O&M to DWSD FY18 requested budget amount.

<sup>2)</sup> Mid-Year adjustment in use of lease payment by Local System for FY 2018 budget results in \$0 transfer to Sewer I&E for remainder of FY.

**Great Lakes Water Authority**  
**Funds Transferred to Accounts Held by GLWA per Master Bond Ordinance**  
**Through April 2, 2018**

<b>WATER</b>							
	<u>Operations &amp; Maintenance</u>	<u>Pension Sub Account</u>	<u>Pension Obligation</u>	<u>WRAP</u>	<u>Budget Stabilization</u> <small>(For Benefit of DWSD)</small>	<u>Extraordinary Repair &amp; Replacement (ER&amp;R)</u>	<u>Total Water</u>
<b>Total FY 2016</b>	<b>\$71,052,000</b>	<b>\$6,037,100</b>	<b>\$10,297,200</b>	<b>\$1,983,300</b>	<b>\$2,326,900</b>	<b>\$606,000</b>	<b>\$92,302,500</b>
<b>Total FY 2017</b>	<b>\$111,879,600</b>	<b>\$6,037,200</b>	<b>\$10,297,200</b>	<b>\$2,077,200</b>	<b>\$360,000</b>	<b>\$0</b>	<b>\$130,651,200</b>
<b>FY 2018</b>							
July 2017	\$10,130,217	\$504,000	\$891,308	\$179,950	-	-	\$11,705,475
August 2017	10,130,217	504,000	891,308	179,950	-	-	11,705,475
September 2017	10,130,217	504,000	891,308	179,950	-	-	11,705,475
October 2017	10,130,217	504,000	891,308	179,950	-	-	11,705,475
November 2017	10,130,217	504,000	891,308	179,950	-	-	11,705,475
December 2017	10,130,217	504,000	891,308	179,950	-	-	11,705,475
January 2018	10,130,217	504,000	891,308	179,950	-	-	11,705,475
February 2018	10,130,217	504,000	891,308	179,950	-	-	11,705,475
March 2018	10,130,217	504,000	891,308	179,950	-	-	11,705,475
April 2018	10,130,217	504,000	891,308	179,950	-	-	11,705,475
May 2018							-
June 2018							-
<b>Total FY 2018</b>	<b>\$101,302,170</b>	<b>\$5,040,000</b>	<b>\$8,913,080</b>	<b>\$1,799,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$117,054,750</b>
<b>Total Water Since Jan 1 2016</b>	<b>\$284,233,770</b>	<b>\$17,114,300</b>	<b>\$29,507,480</b>	<b>\$5,860,000</b>	<b>\$2,686,900</b>	<b>\$606,000</b>	<b>\$340,008,450</b>
<b>SEWER</b>							
	<u>Operations &amp; Maintenance</u>	<u>Pension Sub Account</u>	<u>Pension Obligation</u>	<u>WRAP</u>	<u>Budget Stabilization</u> <small>(For Benefit of DWSD)</small>	<u>Extraordinary Repair &amp; Replacement (ER&amp;R)</u>	<u>Total Water</u>
<b>Total FY 2016</b>	<b>\$100,865,600</b>	<b>\$10,838,400</b>	<b>\$14,025,800</b>	<b>\$2,523,400</b>	<b>\$5,591,700</b>	<b>\$779,600</b>	<b>\$134,624,500</b>
<b>Total FY 2017</b>	<b>\$175,858,800</b>	<b>\$10,838,400</b>	<b>\$14,026,800</b>	<b>\$2,654,400</b>	<b>\$2,654,400</b>	<b>\$0</b>	<b>\$206,032,800</b>
<b>FY 2018</b>							
July 2017	\$15,923,283	\$902,000	\$1,223,958	\$230,067	-	-	\$18,279,308
August 2017	15,923,283	902,000	1,223,958	230,067	-	-	18,279,308
September 2017	15,923,283	902,000	1,223,958	230,067	-	-	18,279,308
October 2017	15,923,283	902,000	1,223,958	230,067	-	-	18,279,308
November 2017	15,923,283	902,000	1,223,958	230,067	-	-	18,279,308
December 2017	15,923,283	902,000	1,223,958	230,067	-	-	18,279,308
January 2018	15,923,283	902,000	1,223,958	230,067	-	-	18,279,308
February 2018	15,923,283	902,000	1,223,958	230,067	-	-	18,279,308
March 2018	15,923,283	902,000	1,223,958	230,067	-	-	18,279,308
April 2018	15,923,283	902,000	1,223,958	230,067	-	-	18,279,308
May 2018							-
June 2018							-
<b>Total FY 2018</b>	<b>\$159,232,830</b>	<b>\$9,020,000</b>	<b>\$12,239,580</b>	<b>\$2,300,670</b>	<b>\$0</b>	<b>\$0</b>	<b>\$182,793,080</b>
<b>Total Sewer Since Jan 1 2016</b>	<b>\$435,957,230</b>	<b>\$30,696,800</b>	<b>\$40,292,180</b>	<b>\$7,478,470</b>	<b>\$8,246,100</b>	<b>\$779,600</b>	<b>\$523,450,380</b>
<b>Total FY 2016 Water &amp; Sewer</b>	<b>\$171,917,600</b>	<b>\$16,875,500</b>	<b>\$24,323,000</b>	<b>\$4,506,700</b>	<b>\$7,918,600</b>	<b>\$1,385,600</b>	<b>\$226,927,000</b>
<b>Total FY 2017 Water &amp; Sewer</b>	<b>\$287,738,400</b>	<b>\$16,875,600</b>	<b>\$24,324,000</b>	<b>\$4,731,600</b>	<b>\$3,014,400</b>	<b>\$0</b>	<b>\$336,684,000</b>
<b>Total FY 2018 Water &amp; Sewer</b>	<b>\$260,535,000</b>	<b>\$14,060,000</b>	<b>\$21,152,660</b>	<b>\$4,100,170</b>	<b>\$0</b>	<b>\$0</b>	<b>\$299,847,830</b>



## **Financial Services Audit Committee Communication**

**Date:** April 20, 2018

**To:** Great Lakes Water Authority Audit Committee

**From:** Andrew Sosnoski, Manager, Construction Accounting & Financial Reporting

**Re:** FY 2018 Construction Work-in-Progress Report through December 31, 2017

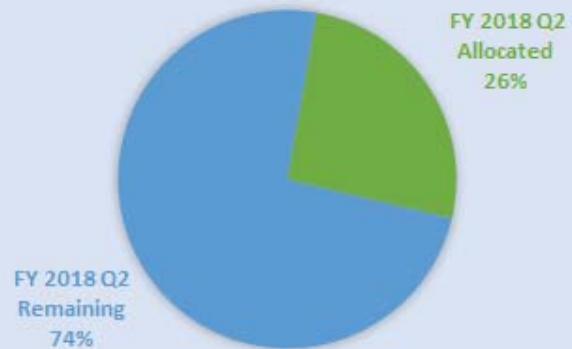
**Background:** The quarterly construction work-in-progress (CWIP) provides information and analysis related to the execution of the Great Lakes Water Authority capital improvement program.

**Analysis:** New this month is a CWIP dashboard (attached) in addition to the quarterly report.

**Proposed Action:** Receive and file report.

# Construction Work-in-Progress - FY 2018 Q2

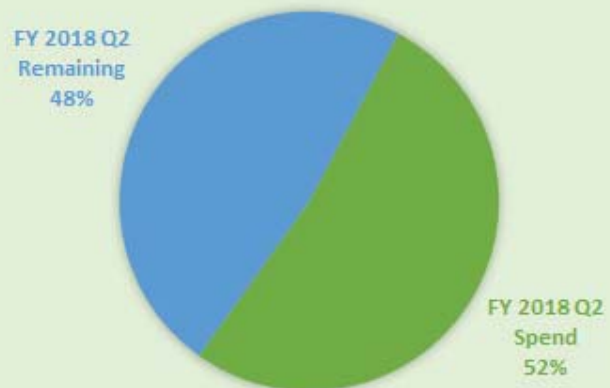
WATER PROGRAM & ALLOWANCE  
ALLOCATIONS THROUGH DECEMBER 31, 2017



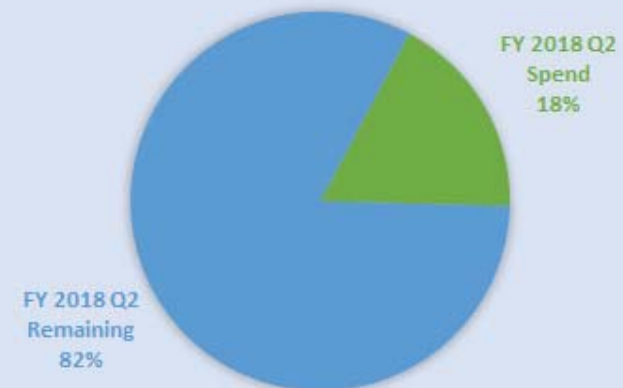
SEWER PROGRAM & ALLOWANCE  
ALLOCATIONS THROUGH DECEMBER 31, 2017



SEWER CIP PRO-RATA SPEND  
THROUGH DECEMBER 31, 2017



WATER CIP PRO-RATA SPEND  
THROUGH DECEMBER 31, 2017







**Construction Work-in-Progress Quarterly Report  
(Unaudited, Pre-close)**

**As of December 31, 2017**

**For questions, please contact:**

**Andrew Sosnoski**

**Construction Accounting and Financial Reporting Manager**

**Phone: 313.999.2585**

**Email: [Andrew.Sosnoski@glwater.org](mailto:Andrew.Sosnoski@glwater.org)**

As of 4.16.18

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**4/20/2018****To Our Stakeholders:**

The contents of this report represent the financial presentation of construction work-in-progress activity for the Great Lakes Water Authority (GLWA) as of December 31, 2017. The information in this report presents a snapshot to inform decision makers and stakeholders. This is important as we manage the capital program for the remainder of FY 2018 and approach the implementation of the FY 2019–2023 Capital Improvement Plan (CIP).

This report is relatively new and will continue to improve each quarter to inform decision makers and stakeholders. Added to this report last period are the following:

- Allowance & Program Analysis
- Budget Amendments
- Coordination of Phase Reporting within the Capital Improvement Program (CIP) & Construction Work-In-Progress (CWIP) Reporting Documents

**Report Contents and Organization**

This report is divided into two sections: one for the Water System and one for the Wastewater System as identified in the table of contents. Each section includes analysis and reporting of the following:

*Percent of Spend Compared to Budget and Capital Improvement Plan (CIP) Requests:* Presentation of spend information is necessary to report our progress on CIP projects.

*Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Projects:* A combination of commentary and analysis provides further insight into risk factors and project status. An excerpt from the CIP for each of the selected projects follows the commentary as further background information.

*Construction Work-in-Progress Rollforward:* This table provides a list of all projects in the CIP along with status or financial activity. This table may be used to revisit priorities, workload, and phasing.

*Budget Amendments / Allowance & Program Analysis:* This information identifies the specific usage and the reallocation of allowance and program budgets to CIP projects

## **Financial Information**

All project amounts are unaudited and are “pre-close”. This means that direct contractor costs are generally included in these totals with most pay estimates entered through December 31, 2017. There may, however, be some pay estimates that lag. The totals do not include indirect overhead or capitalized interest.

### **Budget vs. Plan**

Generally, GLWA’s CIP projects span two or more fiscal years. The GLWA Board of Directors adopts a biennial “budget” and a five-year capital improvement “plan”.

- ✓ The adopted **budget** relates to operations and maintenance expense, annual fixed commitments such as debt service, and incremental adjustments to reserves. The budget provides authority to spend within defined amounts. The budget is also referred to as the “revenue requirement” for the utility.
- ✓ The CIP “budget” for the same biennial budget period above is based on the first two years of the CIP. Funding for these projects are established in the financial plan through a combination of bond proceeds and Improvement & Extension fund reserves
- ✓ The five-year capital improvement **plan** is a rolling plan that is updated at an administrative tracking level as projects move from estimated to actual bid numbers. An updated mid-cycle CIP would be presented to the Board for approval if the prioritization strategy was revised and/or the plan was in need of material revisions.

**Future Enhancements**

This report presents information that is readily available. Currently under development are enhancements that will provide the opportunity for improved CWIP reporting.

*Monthly Capital Spend Projections* – Improvements are underway related to preliminary monthly spend information, projected out for the duration of the CIP, and communicated with Treasury to allow for investment optimization. This reporting is being developed as a joint effort with our engineering partners. This will also allow for improved accuracy of our Key Performance Indicator on rate of spending.

*Direct Labor Capitalization* – Technology solutions are being evaluated to improve direct labor capture accuracy, timeliness and ease in which labor cost are captured.

*Indirect Labor Capitalization* – Presently an effort to identify indirect labor related to the capital process is underway.

*Alignment of Budget & CIP* – During the development of the FY 2019–2023 CIP Plan, FY 2018 budgeted CIP was reforecast to align with anticipated spend. The resulting budget amendments will be entered and reflected in future period CWIP reports.

*Key Performance Indicators* – KPI's under consideration include CIP spend vs book value assets, percentage growth of project in amount and duration, actual vs planned number of projects completed, and actual vs planned monthly capital spend.

## WATER SYSTEM

### Percent of Spend Compared to Annual Budget and Capital Improvement Plan (CIP) Requests

The rate of spend of is a key performance indicator. The ratios for FY 2017 (twelve months) of 37.9% and for FY 2018 (six months) of 17.6% are lower than simple benchmark of 80% and 50% respectively. This is attributable to three reasons. First is the competition for staff priorities during stand-up of the GLWA (primarily during FY 2017). Second, is the alignment of projects identified and staff or contractor resources to carry out the projects. Several key hires occurred during the past year which will improve this performance. Third, is the phasing of CIP activity which is being further refined throughout GLWA.

	FY 2017 Original Plan and Budget (Twelve Months)	FY 2017 Activity (Unaudited)	FY 2017 Activity as a Percentage of Budget (Unaudited)	FY 2018 Amended Budget	FY 2018 Prorated (Six Months)	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
Water System Projects							
FY 2017 CIP Project Requests @ 100%	\$ 130,232,000	\$ 39,483,833	30.3%				
FY 2017 CIP Net Budget (approx. 80% of request)	104,185,600	39,483,833	37.9%				
FY 2018 CIP Project Requests @ 100%				\$ 137,655,000	\$ 68,827,500	\$ 9,710,202	14.1%
FY 2018 CIP Net Budget (approx. 80% of request)				110,124,000	55,062,000	9,710,202	17.6%

It should be noted that these interim reports have been prepared on a modified cash basis. This means that expenses may lag in vendor invoice receipt and posting. Known expenses, material in nature, have been accrued.

## Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Projects

Of the total Water System Construction Bond spend for FY 2018 to date, **six projects account for \$6.5 million or 67.0% of the total spend.** Those projects are summarized in the following table. An analysis of each project and its related CIP summary follow the table. Note that the last page of this report provides a Glossary of Acronyms.

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget Per CIP	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
<b>Project 114001- Springwells WTP 1958 Filter Rehabilitation</b>	\$ 77,422,000	\$ 82,884,422	\$ 1,200,000	\$ 2,649,207	<b>27.3%</b>
<b>Project 114015-Emergency Grating Replacement at Springwells WTP</b>	2,500,000	253,623	2,000,000	1,557,636	<b>16.0%</b>
<b>Project 122012-36-Inch Water Main in Telegraph Road</b>	7,061,000	8,125,683	5,061,000	720,166	<b>7.4%</b>
<b>Project 114003-Water Production Flow Metering Improvements at NE, SW, and SPW WTP Total</b>	12,900,000	184,952	8,800,000	303,874	<b>3.1%</b>
<b>Project 170502-Transmission System Valve Replacement and Rehabilitation</b>	15,330,000	-	2,930,000	1,279,399	<b>13.2%</b>
<b>Selected Projects as a Percentage of the Total</b>	<b>\$ 115,213,000</b>	<b>\$ 91,448,680</b>	<b>\$ 19,991,000</b>	<b>\$ 6,510,280</b>	<b>67.0%</b>
<b>Total</b>			<b>\$ 137,655,000</b>	<b>\$ 9,710,202</b>	<b>100.0%</b>

The following analysis provides brief highlights related to these projects.

**Project 114001 – Springwells Water Treatment Plant 1958 Filter Rehabilitation**

Water System Projects	Total Project Budget per CIP (Life of Projects)		Life-to-Date Through June 30, 2017 (Unaudited)		FY 2018 Requested Budget Per CIP		FY 2018 Pre-Close Activity (Six Months) (Unaudited)		FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)	

<b>Project 114001- Springwells WTP 1958 Filter Rehabilitation</b>	\$	77,422,000	\$	82,884,422	\$	1,200,000	\$	2,649,207	<b>27.3%</b>
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**Project Engineer/Manager:** Grant Gartrell

**Manager:** Grant Gartrell

**Total Design Fees (previously budgeted elsewhere):** \$6,500,000

**Total Construction and Construction Assistance Budget:** \$77,422,000

**Timeline:** To be completed by November 2018

**FY 2018 Last Pay Estimate Processed:** December 31, 2017

**Key Contracts/Vendors:** SP-563 Walsh Construction; CS-1425 & CS-200 CDM Michigan

**Project Description:** Installation of new filter media, underdrains, filter valves and rate controllers; replace the existing filter control console and hydraulic controls at Springwells Water Treatment Plant.

**Purpose:** Rehabilitation of both filter trains to restore filtration capacity and sustain the useful service life of the process treatment infrastructure.

**Status:** Project timeline has been extended to include additional scope. Billing is complete through December 31, 2017.

**Additional Project Manager Comments:** Contract SP-563 will be completed on or before November 12, 2018. Construction Change Directive No. 8 has been approved to use a portion of the contract's provisional allowance to execute architectural and building mechanical improvements to the plant's administration building and other additional site improvements. Major work currently being conducted by the Contractor includes installation of new stop logs and guides at the 1930 weir chamber, renovation of the laboratory, construction of the breezeway, and replacement of filter wash water header isolation valves.



**Additional Construction Accounting & Financial Reporting Team Comments:** Total project budget per the Board approved CIP schedule does not include the historical, pre-fiscal year 2017 budget for the design contract CS-1425 nor the allocation of the Water Treatment Plant Allowance to fund CS-200 the Owner's Representative (RPR) consultant contract. The design contract has a total budget amount of \$6,500,000.

**FY 2018-2022 CIP Page VI-3 for Project 114001 – Springwells Water Treatment Plant 1958 Filter Rehabilitation**

**CIP Number:** CIP 917

**Title:** SPRINGWELLS WATER TREATMENT PLANT 1958 FILTER  
REHABILITATION AND AUXILIARY FACILITIES

**Classification:** 114: Water > Treatment Plants & Facilities > Springwells

**Managing Dept:** Water Eng

**RC Score:** NA

**Contract No.:** CS-1425, SP-563

**Significance:** Rehabilitation of Springwells WTP 1958 Filters and 1930s failed filters to provide the WTP with a renovated capacity of 295 MGD

**Location:** Springwells WTP

**Driver:** N/A - Active

**Explanation:** N/A - Active

**Preliminary Scope of Work:**

This project includes the study, design (CS-1425) and construction assistance of improvements to the Springwells WTP that includes the replacement of Phosphoric Acid Feed System, rehabilitation of the 1958 Filters, rehabilitation of failed 1930s Filters, Update of Operation and Maintenance Manuals, and addition of polymer systems and controls. Provide construction services to furnish and install new filter media, underdrains, filter valves, and rate controllers; replace the existing filter control consoles, hydraulic control valves with electric control valves, enclosures; add appurtenances to enable automatic backwashing of the filters; provide a Filter Aid Polymer System to the 1930 and 1958 filter complexes; Programmable Logic Controller-based controls for automatic control of the polymer system; install a local instrumentation and controls system.

**Challenges:** N/A - Active

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S/D/C A	Active	1/18/2008	1/18/2018	\$0	\$353	\$95	\$0	\$0	\$0	\$0	\$0	\$95	\$448
C	Active	7/8/2013	3/14/2018	\$56759	\$20000	\$215	\$0	\$0	\$0	\$0	\$0	\$215	\$76974
Totals				\$56759	\$20353	\$310	\$0	\$0	\$0	\$0	\$0	\$310	\$77422



Springwells filter building

\*Budget Amendment 6094 for RPR Services increases planned CIP from \$310,000 to \$1,200,000

**Project 114015 – Emergency Grating Replacement at Springwells WTP**

	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget Per CIP	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
<b>Water System Projects</b>					
<b>Project 114015-Emergency Grating Replacement at Springwells WTP</b>	2,500,000	253,623	2,000,000	1,557,636	<b>16.0%</b>

**Project Manager/Manager:** Erich Klun

**Manager:** Grant Gartrell

**Total Budget:** \$2,500,000

**Timeline:** Current contract work completion by May 1, 2018; pending change order for additional scope with completion by December 2018.

**FY 2018 Last Pay Estimate Processed:** December 31, 2017

**Key Contracts/Vendors:** SCP-DB-112 Barton Malow Company

**Project Description:** This project was initiated resulting from an emergency, a FY 2017 budget amendment funded this project from the Water Treatment Plant Allowance – 170100. Work includes demolition, removal, disposal and replacement of existing structural steel and grating that provides access to critical areas of Springwells. Condition of the structural steel and grating created safety issues for those working in the lower level of the Low Lift Station. Collapse of the structural steel posed the risk of flooding the Low Lift Station and interrupting Springwells production.

**Purpose:** Replace original 1930s-vintage deteriorated structural steel and grating posing safety concerns to operators.

**Status:** Project is on schedule with an anticipated completion date of May 1, 2018.

**Additional Project Manager Comments:** Change order has been initiated and scheduled to go for Board review and approval on April 25, 2018. Additional scope of work includes other emergency structural repairs around Springwells that need expeditious attention. Proposed change order will extend final completion date to December 2018.

**Additional Construction Accounting & Financial Reporting Team Comments:** Change order to increase scope and time to complete in process.



**FY 2018-2022 CIP Page VI-71 for Project 114015 – Emergency Grating Replacement at Springwells**

**CIP Number:** CIP 1412

**Title:** EMERGENCY GRATING REPLACEMENT AT SPRINGWELLS WTP

**Classification:** 114: Water > Treatment Plants & Facilities > Springwells

**Managing Dept:** WSO Engineering

**RC Score:** NA

**Contract No.:** NA

**Significance:** Original grating and supporting structural steel dating back to 1930 has deteriorated to the point where operator, consultant and contractor safety at Springwells is severely compromised. Additionally, structural failure could result in lost water production at Springwells.

**Location:** Springwells Water Treatment Plant

**Driver:** 1 – Condition

**Explanation:** Failure of structural components could injure personnel and/or take Springwells out of commission

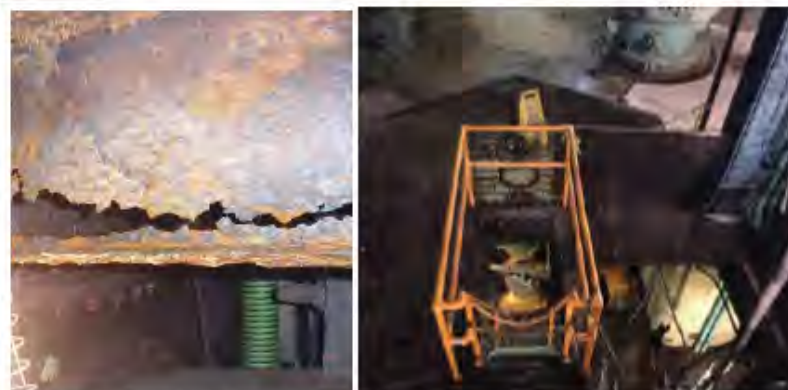
**Preliminary Scope of Work:**

Refer to the RFP and proposals received. The scope is very well defined, and the winning proposal is very well authored. It involves a lot of demolition and replacement of deteriorated grating and structural steel at five (5) locations at Springwells, the bulk of which is in the Low Lift Station.

**Challenges:** Maintaining operations through execution of the work.

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
D	New	NA	NA	\$0	\$250	\$250	\$0	\$0	\$0	\$0	\$0	\$250	\$500
C	New	NA	NA	\$0	\$250	\$1750	\$0	\$0	\$0	\$0	\$0	\$1750	\$2000
Totals				\$0	\$500	\$2000	\$0	\$0	\$0	\$0	\$0	\$2000	\$2500



Deteriorated support beams holding up Low Lift Station Dewatering and Sump Pumps at Elev. 42'-0" (left). Deteriorated grating and access ship's ladder in Low Lift Station - Looking down at Elev. 50'-0" and 42'-0" from Elev. 62'-0" (right).

**Project 122012-36-Inch Water Main in Telegraph Road**

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget Per CIP	FY 2018	FY 2018
				Pre-Close Activity (Six Months) (Unaudited)	Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
Project 122012-36-Inch Water Main in Telegraph Road	7,061,000	8,125,683	5,061,000	720,166	7.4%

**Project Manager:** Eric Kramp

**Total Budget:** \$7,061,000

**Timeline:** To be completed by December 2019

**FY 2018 Last Pay Estimate Processed:** November 28, 2017

**Key Contracts/Vendors:** WS-684A Ric-Man Detroit, Inc.

**Project Description:** Replacement of 36-Inch water main on Telegraph Road between Cherry Hill and Warren Avenue.

**Purpose:** Replacement of pipelines that have a history of frequent breaks and high maintenance costs.

**Status:** Project was delayed three months due to issues with flow stoppage. Billing is current. Project Manager drafting a change order to extend time to complete contract.

**Additional Project Manager Comments:** Project is waiting for high-demand season to complete final walk-through and high-pressure testing schedule for April 2018. Contract will stay open until December 2019 due to requirements for landscape maintenance mandated by MDOT.

**Additional Construction Accounting & Financial Reporting Team Comments:** The original CIP Budget does not include the budget for design fee completed as a task under As Needed Engineering Services contract CS-1488. Additionally the Life-to-Date Through June 30, 2017 includes capitalized interest, wage and benefit costs not included in the original CIP budget.

**FY 2018-2022 CIP Page VI-67 for Project 122012-36-Inch Water Main in Telegraph Road**

**CIP Number:** CIP 1404

**Title:** 36-INCH WATER MAIN IN TELEGRAPH ROAD

**Classification:** 122: Water > Field Services > Transmission System

**Managing Dept:** Unavailable

**RC Score:** NA

**Contract No.:** WS-684A

**Significance:** Excessive joint leaks warrant replacement; new water line to be placed in greenbelt

**Location:** Telegraph Rd, Cherry Hill to Warren Ave

**Driver:** N/A - Active

**Explanation:** N/A - Active

**Preliminary Scope of Work:**

This project includes installation of approximately 10,530 feet of 36-inch dia. water main in Telegraph Road from Cherry Hill to Warren Ave.

**Challenges:** N/A - Active

**Initial Project Cost Estimates (in \$1000s)**



Water main ready to install

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
C	Not Yet Started	11/12/2013	6/19/2016	\$0	\$2000	\$5061	\$0	\$0	\$0	\$0	\$0	\$5061	\$7061
Totals				\$0	\$2000	\$5061	\$0	\$0	\$0	\$0	\$0	\$5061	\$7061

**Project 114003-Water Production Flow Metering Improvements at NE, SW and SPW WTP**

	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget Per CIP	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
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**Water System Projects**

**Project 114003-Water Production Flow Metering**

**Improvements at NE, SW, and SPW WTP Total**

12,900,000

184,952

8,800,000

303,874

**3.1%**

**Project Engineer/Manager:** Jorge Nicholas

**Manager:** Grant Gartrell

**Total Budget:** \$12,900,000

**Timeline:** July 31, 2019

**FY 2018 Last Pay Estimate Processed:** December 31, 2017

**Key Contracts/Vendors:** CON-133 Lakeshore Global Corporation

**Project Description:** Removing, replacing or rehabilitating existing water production meters at Northeast, Southwest and Springwells Water Treatment Plants.

**Purpose:** To return water production flow meters back to reliable and accurate service.

**Status:** Project is on budget and billing complete through December 31, 2017.

**Additional Project Manager Comments:** The final completion date for CON-133 is July 31, 2019 and it is scheduled to be completed on time. Within CON-133 contract there are three Substantial Completion (SC) milestones; SC for SWWTP is May 2, 2018, SC for NEWTP is July 31, 2018 and SC for SPWTP is May 2, 2019. Delays were encountered in isolating the 72" main for the SWWTP therefore the aforementioned date for SC will not be met and a Change Order #1 for SC time extension is in preparation (for the SWWTP SC only). All other dates remain unchanged. Some CON-133 Contract work was deleted from the SPWTP to avoid duplication from another contract and a letter of credit was obtained from contractor. One CCD was processed, executed and the associated work is about 80% complete. No safety incidents reported to date and GLWA is working with the contractor and consultant to ensure the project is completed safely, on time and on budget.

**Additional Construction Accounting & Financial Reporting Team Comments:** None.



**FY 2018-2022 CIP Page VI-17 for Project 114003-Water Production Flow Metering Improvements at NE, SW and SPW WTP**

**CIP Number:** CIP 1264

**Title:** WATER PRODUCTION FLOW METERING IMPROVEMENTS AT NE, SW, AND SPW WTP

**Classification:** 114: Water > Treatment Plants & Facilities > Springwells

**Managing Dept:** Water Eng

**RC Score:** 41.4

**Contract No.:** NA

**Significance:** Existing water production flow meters need to be rehabilitated to place back into reliable and accurate service. Once completed, accurate flow measurement from these plants will answer non-revenue water questions.

**Location:** Springwells, Northeast and Southwest WTP

**Driver:** 7 - Financial

**Explanation:** Not provided.

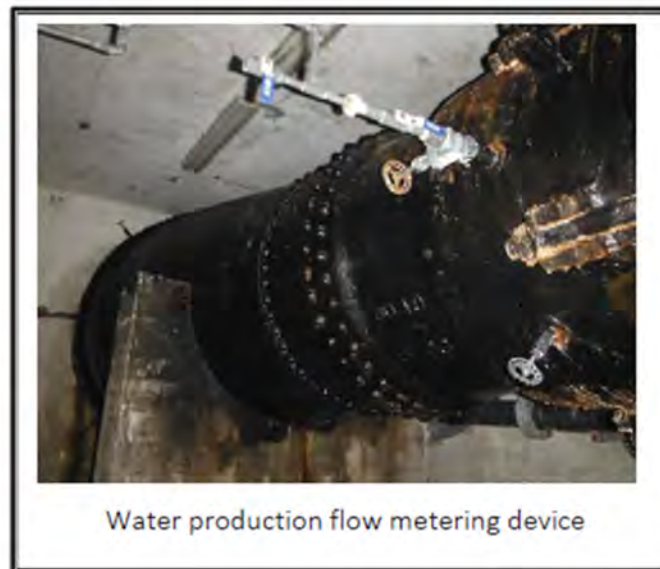
**Preliminary Scope of Work:**

Water production metering is needed at the Water Treatment Plants to manage non-revenue and provide estimates of usage for non-wholesale customers.

**Challenges:** Removing and replacing existing meters in original piping requires isolation using existing yard piping and valving. Condition of existing pipe and valves needs to be adequately addressed in the final design documents and coordinated with operations.

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
C	Not Yet Started	NA	NA	\$0	\$1000	\$8800	\$2100	\$1000	\$0	\$0	\$0	\$11900	\$12900
Totals				\$0	\$1000	\$8800	\$2100	\$1000	\$0	\$0	\$0	\$11900	\$12900



Water production flow metering device



**Project 170502 – Transmission System Valve Replacement and Rehabilitation**

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget Per CIP	FY 2018	FY 2018
				Pre-Close Activity (Six Months) (Unaudited)	Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
<b>Project 170502-Transmission System Valve Replacement and Rehabilitation</b>	15,330,000	-	2,930,000	1,279,399	<b>13.2%</b>

**Project Engineer/Manger:** Todd King

**Manager:** Grant Gartrell

**Total Budget:** \$15,330,000

**Timeline:** October 2019

**FY 2018 Last Pay Estimate Processed:** December 2017

**Key Contracts/Vendors:** CON-181 Lakeshore Global Corporation

**Project Description:** Contract is for furnishing all labor, equipment, and materials required for emergency repairs of large transmission mains (24-inch and larger).

**Purpose:** To have resources available to GLWA as necessary on a regular and emergency basis to make repairs to transmission mains, valves, manholes and appurtenances as directed by the GLWA project manager.

**Status:** Project is tracking according to financial plan.

**Additional Project Manager Comments:** In addition to regular and emergency repairs, this contract will be used to make major valve repairs and/or replacements as may be identified during the Valve Exercising project (WS-695C). CIP 170502 will also support the Units of Service project (CS-039) by investigating the state of blow off valves that may be contributing to non-revenue water.

**Additional Construction Accounting & Financial Reporting Team Comments:** Project is funding by the Transmission System Valve Replacement Program.

**FY 2018-2022 CIP Page VI-62 for Project 170500 -Transmission System Valve Assessment and Rehabilitation/Replacement**

**CIP Number:** CIP 1356

**Title:** TRANSMISSION SYSTEM VALVE ASSESSMENT AND REHABILITATION/REPLACEMENT

**Classification:** 122: Water > Field Services > Transmission System

**Managing Dept:** Water Eng

**RC Score:** 66.8

**Contract No.:** NA

**Significance:** Replacement/Rehabilitation of GLWA Transmission System Gate Valves will aid in implementing a regular valve exercising program as recommended by AWWA as well as increase the reliability of the transmission system.

**Location:** Transmission System Gate Valves

**Driver:** 1 - Condition

**Explanation:** Conditions of many of the gate valves are unknown and unreliable.

**Preliminary Scope of Work:**

Evaluate the existing conditions, provide the necessary replacement/ rehabilitation option, design and implement them.

**Challenges:** May require shutdown of large transmission mains.

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Life time Actual Thru FY 2016 (Unaudited)	Projected Expenditures FY 2017	Projected Expenditures FY 2018	Projected Expenditures FY 2019	Projected Expenditures FY 2020	Projected Expenditures FY 2021	Projected Expenditures FY 2022	Projected Expenditures FY 2023 & Beyond	2018-2022 CIP Total	Phase Total
DB	New	NA	NA	\$0	\$0	\$2930	\$3100	\$3100	\$3100	\$3100	\$0	\$15330	\$15330
Totals				\$0	\$0	\$2930	\$3100	\$3100	\$3100	\$3100	\$0	\$15330	\$15330



## Construction Work-in-Progress Rollforward

The purpose of the construction work-in-progress (CWIP) rollforward is to analyze the current year activity for each project in relation to the overall capital improvement program as well as the project portfolio overall.

The CWIP Rollforward provides a project status for each item.

Future Year:	Project that was included in the CIP with no expenditures (F)
Active:	Project in which procurement process has been initiated and expenditures incurred (A)
Pending Close:	Project that has no projected expenditures for the current fiscal year and has reached substantial completion (PC)
Closed:	Project that has been closed and capitalized (C)

Projects in bold font on the CWIP Rollforward were discussed in further detail previously in this report.

As shown in the summary below, the Water System CWIP Rollforward identifies 109 projects with a total budgeted value of \$1.17 billion. Of that total, \$163.5 million (unaudited) is in CWIP as of December 31, 2017 as shown in the table beginning on the next page.

The order of the report on the subsequent pages is from largest spend in FY 2018 dollars first.

Status	Project Count	Total Project Estimated Budget	Percent of Total
Future Years (Post FY 2018)	26	146,205,000	13%
Active	72	975,596,000	83%
Pending Close	8	45,537,000	4%
Closed	3	2,041,000	0%
<b>Grand Total</b>	<b>109</b>	<b>1,169,379,000</b>	<b>100%</b>

Great Lakes Water Authority  
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
Unaudited, Pre-Close Activity For the Quarter Ended December 31, 2017

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	FY 2018 Activity (Unaudited)								Unaudited, Pre-Close CWIP Balance, December 31, 2017
					Construction: xx-xxxx (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)	FY 2018 Activity (Unaudited), Pre-Close	
114001	Project 114001-Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities	A	\$ 78,312,000	\$ 82,884,422	\$ 2,134,688	\$ 406,815			\$ 64,602	\$ 30,930	\$ 12,172	2,649,207	\$ 85,521,456
114015	Project 114015-Emergency Grating Replacement at Springwells WTP	A	2,500,000	253,623	1,546,368					11,048	219	1,557,636	253,623
170502	Project 170502-Transmission System Valve Assessment and Rehabilitation/Replacement	A	15,330,000		1,279,399							1,279,399	1,279,399
122012	Project 122012-36-inch Water Main in Telegraph Road	A	7,061,000	8,125,683	711,830					5,954	2,381	720,166	8,843,467
170113	Project 170113-Water Plant Automation	A	1,610,000	12,933		582,004						582,004	594,936
114003	Project 114003-Water Production Flow Metering Improvements at NE, SW, and SPW WTP	A	12,900,000	184,952	286,271					12,681	4,922	303,874	483,903
122004	Project 122004-96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main	A	139,000,000	459,919		276,048				13,750	4,400	294,198	749,717
170107	Project 170107- Belle Isle Water Supply Intake Lagoon Main Entrance Bridge Pile Restoration	A	358,500	12,041	259,431	13,723				5,180	2,072	280,406	290,375
111006	Project 111006-Replacement of Filter Instrumentation and Raw Water Flow Metering Improvements at Lake Huron WTP	A	24,630,000	253,138		238,073						238,073	491,211
115001	Project 115001-Yard Piping, Valves and Venturi Meters Replacement at Water Works Park	A	53,900,000	8,977		184,015				3,231	1,292	188,538	196,222
132008	Project 132008-Needs Assessment Study for all Water Booster Pumping Stations	A	1,700,000	33,385		148,564				17,230	1,092	166,886	199,180
361001	Project 361001-Consolidated Process Control Systems	A	4,237,000	146,482	166,250							166,250	312,732
122003	Project 122003-New Waterworks Park to Northeast Transmission Main	A	130,000,000	19,372		147,853				4,857	1,943	154,653	172,082
170103	Project 17103-Belle Isle Water Supply Intake and Ice Boom Improvements	A	369,150	6,243	131,056	7,217						138,273	144,516
114009	Project 114009-Springwells Water Treatment Plant Service Area Redundancy Study	A	450,000	193,332		120,856				1,536	614	123,006	315,724
122015	Project 122015-30-Inch Water Main	PC	2,327,000	2,345,314	115,459							115,459	2,460,774

Great Lakes Water Authority  
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
Unaudited, Pre-Close Activity For the Quarter Ended December 31, 2017

					FY 2018 Activity (Unaudited)								
CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	Construction: xx-xxxx (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)	FY 2018 Activity (Unaudited), Pre-Close	Unaudited, Pre-Close CWIP Balance, December 31, 2017
122014	Project 122014-48-Inch Water Main Installation at Vining and Wick Roads in Romulus	A	4,535,000	3,839,433	110,084							110,084	3,949,517
170109	Project 170109-Inspection of Raw Water Intakes and Tunnels	A	2,076,120	2,920,548		94,479				1,392	557	96,429	3,016,420
111007	Project 111007-Lake Huron WTP-Raw Sludge Clarifier and Raw Sludge Pumping System Improvements	A	7,133,000	9,332	80,456							80,456	89,788
114013	Project 114013-Springwells Reservoir Fill Line Improvements	A	7,914,000	119,663		75,505				4,721	188	80,414	199,889
115003	Project 115003-Comprehensive Condition Assessment at Waterworks Park WTP	A	575,000	-		74,815				2,019	608	77,442	76,835
170102	Project 170102-Water Production Plant Flow Metering Improvements at NE, SP & SW WTP	A	1,989,000	269,071		49,008						49,008	318,080
132003	Project 132003-Isolation Gate Valves for Line Pumps for West Service Center Pumping Station	A	1,521,000	66,236		45,641				750		46,391	112,627
113002	Project 113002-High Lift Pump Discharge Valve Actuators Replacement at Southwest WTP	A	2,120,000	115,027		36,845				6,591	2,636	46,071	158,462
170104	Project 170104-Orion and Newburgh Pumping Stations Improvements	A	2,590,000	164,615		30,923				9,933	3,473	44,329	205,472
132004	Project 132004-Hydraulic Surge Control for North Service Center Pumping Station	A	2,800,000	75,075		33,739				3,286	1,314	38,339	112,100
170402	Project 170402-Emergency Manned Visual Inspection 84-Inch Transmission Main	A	163,500	121,400		34,620						34,620	156,020
380401	Project 380400-As-Needed CIP Implementation Assistance and Related Services	A	-	105,339		33,587						33,587	138,926
115004	Project 115004Water Works Park WTP Chlorine System Upgrade	A	9,690,000	370,797		24,721				5,205	2,082	32,008	400,723
115002	Project 115002-Miscellaneous Concrete and Road Improvements at Waterworks Park WTP	PC	3,036,000	1,951,164	16,102	5,300				4,750	1,900	28,052	1,977,316
114011	Project 114011-Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP	A	6,250,000	279,784		22,475				4,333	1,133	27,941	306,591

Great Lakes Water Authority  
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
Unaudited, Pre-Close Activity For the Quarter Ended December 31, 2017

					FY 2018 Activity (Unaudited)								
CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	Construction: xx-xxxx (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)	FY 2018 Activity (Unaudited), Pre-Close	Unaudited, Pre-Close CWIP Balance, December 31, 2017
113004	Project 113004-Residual Handling Facility's Decant Flow Modifications at Southwest WTP	A	5,509,000	141,675		17,605				4,173	1,669	23,447	163,453
114006	Project 114006-Replacement of Rapid Mix Units at Springwells WTP 1958 Process Train	A	1,250,000	104,286		18,236				3,000	900	22,135	125,521
111002	Project 111002 LHWTP Backflow Replacement	A	7,902,000	309,471		19,548				403	161	20,112	329,422
170120	Project 170120-Phosphoric Acid Feed System Improvements at Southwest WTP	A	207,500	87,031		13,345				3,648	1,459	18,452	104,024
112002	Project 112002-Low Lift Pumping Plant Caisson Rehabilitation at Northeast WTP	A	1,775,000	163,085		14,776				2,568	1,027	18,372	180,429
380901	Project 380901- General Engineering Services	A	-	74,791		18,232						18,232	93,023
170011	Project 170011-Miscellaneous Heating Improvements Southwest WTP	C	563,000	-	3,916					2,507	1,003	7,426	6,423
380501	Project 380501-Department-Wide General Engineering Services on an As-Needed Basis	A	5,260,000	132,282		5,763						5,763	138,045
380900	Project 390900-General Engineering Services	A	1,513,000	-						3,986	1,594	5,580	3,986
113001	Project 113001-Southwest Water Treatment Plant, Sludge Treatment & Waste Wash water Treatment Facilities	A	49,380,000	39,885						3,601	1,441	5,042	43,486
114002	Project 114002-Springwells Water Treatment Plant - Low Lift and High Lift Pump Station	A	86,000,000	22,480						4,490	146	4,637	26,971
111005	Project 111005-Miscellaneous Concrete Improvements at the Lake Huron WTP	PC	923,000	754,581						2,010	804	2,813	756,591
132006	Project 132006-Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chicago Water Booster Pumping Stations	F	3,000,000	7,524						1,569	628	2,197	9,093
170110	Project 170110- WWP WTP Raw Water Smapling Improvements	A	535,600							402	161	562	402
170401	Project 170401-Emergency Bypass Around Ypsilanti Station	A	1,150,000	373,858						329	132	461	374,187
380601	Project 380601-General Engineering Services	A	8,014,000	157,971						329	82	411	158,300
380701	Project 380701-Engineering Services for Concrete Testing, Geotechnical Soil Borings and Services	A	2,556,000	115,418						288	115	403	115,706

Great Lakes Water Authority  
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
Unaudited, Pre-Close Activity For the Quarter Ended December 31, 2017

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	Unaudited, Pre-Close CWIP Balance, December 31, 2017
					Construction: xx-xxxx (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		
170105	Project 170105-Phosphoric Acid and Heating System and NE-WTP	A	1,804,620	1,949,623						233	93	327	1,949,857
170201	Project 17020- Job Order Contract for Construction, Environmental, Speical Testing, Inspection and Other Technical Services	A	1,500,000							206	82	288	206
132001	Project 132001-Wick Road Station Rehabilitation	A	13,702,000	85						123	49	173	209
004430	Project 004430-DWSD: Contract Replacement Water Main	A	-	75,804								-	75,804
007414	Project 007414- Water Main Repairs shared service with DWSD	A		536,930								-	536,930
111001	Project 111001-Energy Management: Lake Huron Water Treatment Plant Low Lift Pumping Improvements	F	5,700,000	-								-	-
111003	Project 111003-Evaluation of Flocculation Improvement Alternatives at the LHWTP	F	125,000	-								-	-
111004	Project 111004-Electrical Tunnel Rehabilitation at Lake Huron WTP	F	5,600,000	-								-	-
112001	Project 112001-Yard Piping Replacement at Northeast Water Treatment Plant	F	800,000	-								-	-
113003	Project 113003-Replacement of Butterfly Valves and Sluice Gates for Rapid Mix Chamber at Southwest WTP	F	2,940,000	-								-	-
114004	Project 114004-Miscellaneous Concrete Improvements at Springwells WTP	A	998,000	-								-	-
114005	Project 114005-Administration Building Improvements at Springwells WTP	F	2,000,000	-								-	-
114007	Project 114007-Powdered Activated Carbon System Improvements at Springwells WTP	F	2,900,000	-								-	-
114008	Project 114008-1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements at Springwells WTP	F	7,500,000	-								-	-
114010	Project 114010-Yard Piping Improvements at Springwells WTP	F	25,000,000	-								-	-
114012	Project 114012-Springwells Water Treatment Plant 1930 Filter Building-Roof Replacement	F	3,000,000	-								-	-



Great Lakes Water Authority  
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
Unaudited, Pre-Close Activity For the Quarter Ended December 31, 2017

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	Unaudited, Pre-Close CWIP Balance, December 31, 2017
					Construction: xx-xxxx (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		
116001	Project 116001-Miscellaneous Improvements to Raw Water Tunnels, Shafts and Related Structures	F	2,500,000	-								-	-
116002	Project 116002-Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements based on Contract CS-1623 Inspection Results	A	32,400,000	10,401								-	10,401
116003	Project 116003-Genesee and Lapeer County Transmission System Improvements	F	6,800,000	-								-	-
122001	Project 122001-Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road	PC	30,008,000	32,570,891								-	32,570,891
122002	Project 122002-Replacement of Five (5) PRV Pits of Treated Water Transmission System	A	2,220,000	1,696,488								-	1,696,488
122005	Project 122005-Transmission System Water Main Work - Replacement of Schoolcraft Water Main	F	14,550,000	-								-	-
122006	Project 122006-Transmission System Water Main Work-Wick Road Parallel Water Main	A	19,350,000	23,300								-	23,300
122007	Project 122007-Design and Construction of a new Newburgh Road 24" Main along Newburgh Road between Cherry Hill and Glenwood Avenue	F	4,000,000	-								-	-
122009	Project 122009-Water System Improvements in Joy Road from Southfield Road to Trinity	PC	8,423,000	106,881								-	106,881
122010	Project 122010-Water Main Replacement within the City of Detroit - Joy Rd from Greenfield to Schaefer and Davison Ave from Linwood to Livernois	F	3,128,000	-								-	-
122011	Project 122011-Park-Merriman Water Main-Final Phase	F	4,000,000	-								-	-
122013	Project 122013-Lyon Township Transmission Main Extension Project	F	29,800,000	-								-	-
132002	Project 132002-Replacement of Switchgear at Joy Road Pumping Station	C	612,000	-								-	-



Great Lakes Water Authority  
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
Unaudited, Pre-Close Activity For the Quarter Ended December 31, 2017

					FY 2018 Activity (Unaudited)								
			Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	Construction: xx-xxxx (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)	FY 2018 Activity (Unaudited), Pre-Close	Unaudited, Pre-Close CWIP Balance, December 31, 2017
CIP #	Brief Description	Status											
132005	Project 132005-Energy Management: Evaluate Alternatives and Recommend Corrective Actions to Improve Power Factors (PF) at Various GLWA Booster Pumping Stations	F	250,000	-								-	-
132007	Project 132007-Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station	F	1,000,000	-								-	-
132009	Project 132009-Study Phase Services for Proposed East Service Center Booster Pumping Station and Reservoir	A	500,000	10,313								-	10,313
132011	Project 132011-Energy Management: West Service Center (WSC) VFD Installation	F	3,334,000	-								-	-
161001	Project 161001-Comprehensive Water Master Plan Update	PC	290,000	-								-	-
170100	Project 170100-Allowance: WTP/Pump Station	A	76,877,010	-								-	-
170101	Project 170101-Master Specs	PC	300,000	-								-	-
170106	Project 170106- Phosphoric Acid Tank Replacement LHWTP	F	575,000									-	-
170108	Project 170108- Adams Road Water Isolation Gate	A	1,092,500	625								-	625
170117	Project 170117-Instrument Air Compressor Systems Replacement at NE-WTP	PC	230,000	226,483								-	226,483
170118	Project 170118-1958 Sedimentation Basin	C	866,000	-								-	-
170119	Project 170119- Belle Isle Water Supply Intake Lagoon	F	115,000									-	-
170300	Project 170300-Water Treatment Plant Automation Program	A	5,890,000	-								-	-
170400	Project 170400-Water Transmission Improvement Program	A	45,666,500									-	-
170403	Project 170403-Lapeer County Chlorine Booster Station	A	3,020,000	579,723								-	579,723
170600	Project 170600-Water Transmission Main Asset Assessment Program	A	10,626,000	-								-	-
170800	Project 170800-Reservoir Inspection, Design and Rehabilitation at Imlay Station, Adams Station, Haggerty Stations, LH-WTP, SP-WTP and SW-WTP	A	11,000,000	-								-	-

Great Lakes Water Authority  
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward  
Unaudited, Pre-Close Activity For the Quarter Ended December 31, 2017

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	Unaudited, Pre-Close CWIP Balance, December 31, 2017
					Construction: xx-xxxx (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		
170900	Project 170900-Suburban Water Meter Pit Rehabilitation and Meter Replacement	A	20,500,000	-								-	-
331001	Project 331002-Roofing Replacement	F	11,500,000	-								-	-
351001	Project 351001-Water Facility Lighting Renovations	F	2,799,000	-								-	-
361002	Project 361002-Data Control Reliab/Avail Improvements	A	2,851,000	16,080								-	16,080
361003	Project 361003-SCADA Radio Network Upgrade	A	3,484,000	467,427								-	467,427
380500	Project 380500-Department-Wide General Engineering Services on an As-Needed Basis	A	-	-								-	-
380600	Project 380600-General Engineering Services	A	-	-								-	-
380800	Project 380800-Geotechnical and Related Services on an As-Needed Basis	A	2,573,000	-								-	-
380801	Project 380801-Geotechnical and Related Services on an As-Needed Basis	A	-	82,476								-	82,476
381000	Project 381000-Energy Management: Electric Metering Improvement Program	A	3,000,000	-								-	-
132010	Project 132010-West Service Center/Duval Rd Division Valve Upgrades	A	11,800,000	-				(23,023)				(23,023)	(23,023)
170701	Project 170701-Booster Station & Reservoirs Program Management	A	11,975,000	12,913,885	(206,805)							(206,805)	12,707,080
114014	Project 114014-Springwells WTP Underground Fire Protection Loop Improvements	F	3,289,000	-								-	-
Total # of Projects and Dollars			109	\$ 1,169,379,000	\$ 159,099,050	\$ 6,634,506	\$ 2,771,307	\$ -	\$ -	\$ 64,602	\$ 183,241	\$ 9,710,202	\$ 168,752,706
FY 2018 - 2022 Water CIP Total (Page IV-2)				\$ 1,169,378,000	\$ 159,099,050							9,710,202	
Difference due to rounding				(1,000)	-							-	
Items to be reclassified to Capital Outlay FY 2018					287,488								
Total CWIP Reported on FY 2017 Financial Statements					159,386,538								

## **CIP Allowance and Program Summary**

Within the FY 2018 – 2022 CIP, GLWA has developed budgets for allowances and programs that provide GLWA flexibility in capital development and improvements.

Allowances are established to provide funding related to unanticipated pipeline and equipment failures that require immediate repair and rehabilitation to continuously meet level of service requirements. Allowances can also be allocated to projects with anticipated or actual spend in excess of CIP budget.

Programs are established to provide funding related to specific capital improvements that are system specific, reoccurring, and vary from year to year.

Below are the allowances and programs within the Water System.

### **Allowance**

170100: Water Treatment Plant / Pump Station Allowance

### **Programs**

170200: As Needed Construction Materials, Environmental Media and Special Testing, Construction Inspection, and Other Technical Services

170300: Water Treatment Plant Automation Program

170400: Water Transmission Improvement Program

170500: Transmission System Valve Rehabilitation and Replacement Program

170600: Water Transmission Main Asset Assessment Program

170700: Reservoirs Inspection, Repair and Rehabilitation Program

170800: Reservoir Inspection, Design and Rehabilitation at Imlay Station, Adams Station, Haggerty Station, LH-WTP, SPW-WTP and SW-WTP

170900: Suburban Water Meter Pit Rehabilitation and Meter Replacement

# Water System

## Construction Work-in-Progress Quarterly Report

As of December 31, 2017

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Allowance: 170100 Water Treatment / Pump Station**

CIP#	Contract Number	Description	Current Year Budget Amendment	FY 2017 Estimate	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
<b>Water Treatment / Pump Station Allowance</b>				<b>12,645,000</b>	<b>19,650,000</b>	<b>20,000,000</b>	<b>20,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>
112002	CON-215	Low Lift Chaisson Rehabilitation at NEWTP	6857	0	(247,000)	(195,000)	0	0	0
114001	CS-200	Resident Project Representative and O&M for SP-564	6904	0	(890,000)	0	0	0	0
114013	SCP-CS-038	Professional Engineering Services Springwell WTP	6905	0	(207,000)	(172,500)	(34,500)	0	0
170011	SCP-SW-011	Miscellaneous Heating Improvements at Southwest WTP		0	0	0	0	0	0
170101	SCP-CS-1630	Water Transmission Pipeline Improvements		0	0	0	0	0	0
170102	SCP-CS-1656	Water Production Plant Flow Meter	6859	(400,000)	(105,000)	0	0	0	0
		Belle Isle Ice Boom Replacement & Reinforcement							
170103	SCP-CON-094	Upgrade		(369,150)	0	0	0	0	0
170104	SCP-CS-1738	Orion Pumping Station Improvements	6923	(145,000)	(500,000)	(1,800,000)	0	0	0
		Phosphoric Acid and Heating System Improvements		(1,361,100)	0	0	0	0	0
170106	SCP-LH-398	Phosphoric Acid Tank Replacement LHWT		(575,000)	0	0	0	0	0
170107	SCP-DWS-059	Belle Isle Water Intake Bridge Improvements	6862	0	(358,500)	0	0	0	0
170108	SCP-DWS-063	Adams Rd Water Booster Isolation Gate	6900	(600,000)	(192,500)	0	0	0	0
170109	SCP-CS-1623	Inspection of Three Water Intakes	6864	(500,000)	(500,000)	(3,000)	0	0	0
170110	CON-153	WWP WTP Raw Water Sampling Improvements		(430,000)	0	0	0	0	0
170117	SCP-NE-007A	Instrument Air Compressor NEWTP		0	0	0	0	0	0
170118	SCP-SP-009	Sedimentation Basin Sludge Removal		0	0	0	0	0	0
170119	SCP-CS-1685	Belle Isle Water Supply Intake Lagoon		0	0	0	0	0	0
170120	SCP-CS-1692	Acid and Chlorine Feed Improvements SWWP		(50,000)	0	0	0	0	0
<b>Available Balance</b>				<b>8,214,750</b>	<b>16,650,000</b>	<b>17,829,500</b>	<b>19,965,500</b>	<b>10,000,000</b>	<b>10,000,000</b>

## Water System Construction Work-in-Progress Quarterly Report

As of December 31, 2017

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170200 As Needed Construction Materials, Environmental Media and Special Testing Services**  
**Construction Inspection, and other Technical Services**

CIP#	Contract Number	Description	Current Year Budget Amendment	FY 2017 Estimate	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170200		As Needed Materials and Services		0	500,000	500,000	500,000	0	0
		Available Balance		0	500,000	500,000	500,000	0	0

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170300 Water Treatment Plant Automation**

CIP#	Contract Number	Description	Current Year Budget Amendment	FY 2017 Estimate	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170300		Water Treatment Plant Automation Program		0	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
170113	CS-108	Water Plant Automation Needs Assessment	6867	(520,000)	(1,090,000)				
Total		Available Balance		(520,000)	410,000	1,500,000	1,500,000	1,500,000	1,500,000

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170400 Water Transmission Improvement**

CIP#	Contract Number	Description	Current Year Budget Amendment	FY 2017 Estimate	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
<b>170400</b>		<b>Water Transmission Improvements Program</b>		<b>0</b>	<b>10,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>
170402	PO# 0004292	84" Transmission Water Main Assessment in Troy		(163,500)					
170403	GLWA-DBW-070	Lapeer County Chlorine Booster Stations	6932		(2,900,000)	(120,000)			
		<b>Available Balance</b>		<b>(163,500)</b>	<b>7,100,000</b>	<b>9,880,000</b>	<b>10,000,000</b>	<b>10,000,000</b>	<b>10,000,000</b>

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170500 Transmission System Valve Rehabilitation and Replacement**

CIP#	Contract Number	Description	Current Year Budget Amendment	FY 2017 Estimate	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
<b>170500</b>		<b>Transmission System Valve Assessment and Rehabilitation / Replacement</b>		<b>0</b>	<b>5,036,000</b>	<b>5,036,000</b>	<b>3,036,000</b>	<b>2,186,000</b>	<b>36,000</b>
170502	CON-181	Transmission System Valve Assessment and Rehabilitation and Replacement	6977	0	(5,036,000)	(5,036,000)	(3,036,000)	(2,186,000)	(36,000)
		<b>Available Balance</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Water System Construction Work-in-Progress Quarterly Report

As of December 31, 2017

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170600 Water Transmission Main Asset Assessment**

CIP#	Contract Number	Description	Current Year Budget Amendment	FY 2017 Estimate	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170600		Water Transmission Main Asset Assessment Program		0	2,626,000	2,000,000	2,000,000	2,000,000	2,000,000
		Available Balance		0	2,626,000	2,000,000	2,000,000	2,000,000	2,000,000

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170700 Reservoirs Inspection, Repair and Rehabilitation**

CIP#	Contract Number	Description	Current Year Budget Amendment	FY 2017 Estimate	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170700		Booster Stations and Reservoirs Inspection, Rehabilitation and Inspection Repair Program		2,316,000	88,000				
170701	DWS-874	Booster Stations & Reservoirs Inspection	N/A	(2,316,000)	(88,000)	0	0	0	0
		Available Balance		0	0	0	0	0	0

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170800 Reservoir Inspection, Design and Rehabilitation at Implay Station, Adams Station**  
**Haggerty Station, LH-WTP, SPW-WTP and SW-WTP**

CIP#	Contract Number	Description	Current Year Budget Amendment	FY 2017 Estimate	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170800		Reservoir Inspection, Design and Rehabilitation at Implay Station, Adams Station, Haggerty Station, LH-WTP, SP-WTP and SW-WTP Program		50,000	3,300,000	2,550,000	2,550,000	2,550,000	
		Available Balance		50,000	3,300,000	2,550,000	2,550,000	2,550,000	0

**Great Lakes Water Authority**  
**Board Approved CIP Allowance/Program Summary**  
**Program: 170900 Suburban Water Meter Pit Rehabilitation and Meter Replacement**

CIP#	Contract Number	Description	Current Year Budget Amendment	FY 2017 Estimate	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170900		Suburban Water Meter Pit Rehabilitation and Meter Replacement Program		500,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
		Available Balance		500,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000



## **Budget Amendment Reporting**

**Scope:** Budget amendments seek to properly allocate funds from the allowance and programs within the Capital Improvement Plan (CIP) for the budgeted years by the reallocation of funds from the budgeted allowance or programs level to the actual project level.

**Process:** Steps are listed below.

- 1) Properly identify projects that utilize funds from the allowance or programs
- 2) Reallocate the funds from the budgeted allowance or programs level through a journal entry
- 3) Attach documents that support the reallocation (CIP funding request, contract transmittal, or change orders)
- 4) Create, review, and approve budget amendment journal entry

Budget Amendments / Descriptions / Reasons / GL Strings		Amount
<b>6857</b>		
<b>CIP 170100 Water Treatment / Pump Station Allowance</b>		
To fund Salaries, Benefits and Construction Services that exceeds FY 2018-2022 CIP		
<b>Allocation of Allowance Budget</b>		
	5519-882111.000-616900-170100	(247,000)
<b>CIP 112002 Low Lift Chaisson Rehabilitation at NE-WTP</b>		
To fund Salaries, Benefits and Construction Services that exceeds FY 2018-2022 CIP		
<b>Executed Contract in excess of CIP Budget</b>		
	5519-882111.000-616900-112002	147,000
<b>Benefits Allocation (Not included in FY 2018 - 2022 CIP)</b>		
	5519-882111.000-601997-112002	40,000
<b>Salaries Allocation (Not included in FY 2018 - 2022 CIP)</b>		
	5519-882111.000-601995-112002	60,000
<b>6859</b>		
<b>CIP 170100 Water Treatment / Pump Station Allowance</b>		
To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP		
<b>Allocation of Allowance Budget</b>		
	5519-882111.000-616900-170100	(105,000)
<b>CIP 170102 Water Production Plant Flow Meter</b>		
To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP		
<b>Project was not included in FY 2018-2022 CIP</b>		
	5519-882111.000-617950-170102	20,000
<b>Benefits Allocation (Not included in FY 2018 - 2022 CIP)</b>		
	5519-882111.000-601997-170102	34,000
<b>Salaries Allocation (Not included in FY 2018 - 2022 CIP)</b>		
	5519-882111.000-601995-170102	51,000

Budget Amendments Processed for FY 2018 through December 31, 2017

**6862**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (358,500)

**CIP 170107 Belle Isle Water Intake Bridge Improvements**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Project was not included in FY 2018-2022 CIP**

5519-882111.000-616900-170107 321,000

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-170107 15,000

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-170107 22,500

**6864**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (500,000)

**CIP 170109 Inspection of Three Water Intakes**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Project was not included in FY 2018-2022 CIP**

5519-882111.000-617950-170109 447,400

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-170109 21,040

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-170109 31,560

Budget Amendments Processed for FY 2018 through December 31, 2017

**6867**

**CIP 170300 Water Plant Automation Needs Assessment**

To Fund Design Services Salaries, and Benefits related to budgeted program assigned

**Allocation of Program Budget**

5519-882111.000-616900-170300 (1,090,000)

**CIP 170113 Water Plant Automation Needs Assessment**

To Fund Design Services Salaries, and Benefits related to budgeted program assigned

**Benefits Allocation**

5519-882111.000-601997-170113 42,000

**Program Needs Assigned**

5519-882111.000-617950-170113 985,000

**Allocation of Program Salaries**

5519-882111.000-601995-170113 63,000

**6900**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Contracted Constructed Services, Materials, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (192,500)

**CIP 170108 Adams Road Water Booster Isolation Gate**

To fund Contracted Constructed Services, Materials, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Project was not included in FY 2018-2022 CIP**

5519-882111.000-616900-170108 97,000

5519-882111.000-617955-170108 70,000

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-170108 10,200

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-170108 15,300

**6904**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Owner's Rep Service that were not part of FY2018-2022 CIP Plan

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (890,000)

**CIP 114001 Resident Project Representative for SP-563**

To fund Owner's Rep Service that were not part of FY2018-2022 CIP Plan

**Executed Contract in excess of CIP Budget**

5519-882111.000-617950-114001 890,000

**6905**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Salaries, Benefits and Construction Services that exceed FY 2018-2022 CIP

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (207,000)

**CIP 114013 Professional Engineering Services Springwells WTP**

To fund Salaries, Benefits and Construction Services that exceed FY 2018-2022 CIP

**Executed Contract in excess of CIP Budget**

5519-882111.000-617950-114013 180,000

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-114013 10,800

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-114013 16,200

Budget Amendments Processed for FY 2018 through December 31, 2017

**6923**

**CIP 170100 Water Treatment / Pump Station Allowance**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Allocation of Allowance Budget**

5519-882111.000-616900-170100 (500,000)

**CIP 170104 Orion Pumping Station Improvements**

To fund Contracted Design Services, Salaries and Benefits not budgeted for in FY 2018-2022 CIP

**Project was not included in FY 2018-2022 CIP**

5519-882111.000-616900-170104 450,000

**Benefits Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601997-170104 20,000

**Salaries Allocation (Not included in FY 2018 - 2022 CIP)**

5519-882111.000-601995-170104 30,000

**6932**

**CIP 170400 Water Transmission Improvements Program**

To Fund Construction, Inspection, Salaries and Benefits related to budgeted program assigned

**Allocation of Program Budget**

5519-882111.000-616900-170400 (2,529,000)

5519-882111.000-617950-170400 (371,000)

**CIP 170403 Lapeer County Chlorine Booster Stations**

To Fund Construction, Inspection, Salaries and Benefits related to budgeted program assigned

**Benefits Allocation**

5519-882111.000-601997-170403 9,900

**Program Needs Assigned**

5519-882111.000-601998-170403 6,600

**Allocation of Program Salaries**

5519-882111.000-601995-170403 17,500

**Allocation for Design Services Contract**

5519-882111.000-617950-170403 371,000

**Allocation for Construction Services Contract**

5519-882111.000-616900-170403 2,495,000

6977

**CIP 170500 Transmission System Valve Assessment and Rehabilitation / Replacement Program**

To Fund Construction, Inspection, Salaries and Benefits related to budgeted program assigned

**Allocation of Program Budget**

5519-882111.000-601995-170500	(24,000)
5519-882111.000-601997-170500	(9,000)
5519-882111.000-601998-170500	(1,000)
5519-882111.000-616900-170500	(2,896,000)

**CIP 170502 Transmission System Valve Assessment and Rehabilitation and Replacement**

To Fund Construction, Inspection, Salaries and Benefits related to budgeted program assigned

**Allocation for Program Inspection Services**

5519-882111.000-601998-170502	1,000
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**Allocation for Program Benefits**

5519-882111.000-601997-170502	10,000
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**Allocation for Program Salaries**

5519-882111.000-601995-170502	25,000
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**Allocation for Program Design Services**

5519-882111.000-617950-170502	320,000
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**Allocation for Program Construction Services**

5519-882111.000-616900-170502	2,574,000
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<b>Grand Total</b>	<b>0</b>
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## WASTEWATER SYSTEM

### Percent of Spend Compared to Annual Budget and Capital Improvement Plan (CIP) Requests

The rate of spend is a key performance indicator. The ratios for FY 2017 (twelve months) of 55% and for FY 2018 (six months) of 52.1% are lower than simple benchmark of 80% and 50% respectively. This is attributable to three reasons. First is the competition for staff priorities during stand-up of the GLWA (primarily during FY 2017). Second, is the alignment of projects identified and staff or contractor resources to carry out the projects. Several key hires occurred primarily during fiscal FY 2017 will improve this performance. Third, is the phasing of CIP activity which is being further refined throughout GLWA.

		FY 2017 Original Plan and Budget (Twelve Months)	FY 2017 Activity (Unaudited)	FY 2017 Activity as a Percent of Budget (Unaudited)	FY 2018 Amended Budget	FY 2018 Prorated Amended Budget (Six Months)	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
<b>Wastewater System Projects</b>								
FY 2017 CIP Project Requests @ 100%	\$	128,973,000	56,788,123	44.0%				
FY 2017 CIP Net Budget (approx. 80% of request)		103,178,400	56,788,123	55.0%				
FY 2018 CIP Project Requests @ 100%	\$				160,746,000	80,373,000	33,486,214	41.7%
FY 2018 CIP Net Budget (approx. 80% of request)					128,596,800	64,298,400	33,486,214	52.1%

It should be noted that these interim reports have been prepared on a modified cash basis. This means that expenses may lag in vendor invoice receipt and posting. Known expenses, material in nature, have been accrued.



### Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Project

Of the total Wastewater System Construction Bond spend for FY 2018 to date, **four projects account for \$20.2 million or 60.5% of the total spend**. Those projects are summarized in the following table. An analysis of each project and its related CIP summary follow the table. Note that the last page of this report provides a Glossary of Acronyms.

	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per CIP	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
<b>Wastewater System Projects</b>					
<b>Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery</b>	\$ 51,903,000	\$ 10,243,275	\$ 12,097,000	\$ 8,442,931	<b>25.2%</b>
<b>Project 212003: Aeration System Improvements</b>	\$ 16,203,000	\$ 3,804,993	\$ 11,197,000	\$ 3,507,963	<b>10.5%</b>
<b>Project 212006: PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract</b>	\$ 47,599,000	\$ 6,872,993	\$ 15,800,000	\$ 6,226,742	<b>18.6%</b>
<b>Project 232002: Freud and Connor Creek Pump Station Improvements</b>	\$ 22,500,000	\$ 2,100,803	\$ 5,900,000	\$ 2,065,157	<b>6.2%</b>
<b>Selected Projects as a Percentage of the Total</b>	<b>\$ 138,205,000</b>	<b>\$ 23,022,064</b>	<b>\$ 44,994,000</b>	<b>\$ 20,242,793</b>	<b>60.5%</b>
<b>Total</b>			<b>\$ 160,746,000</b>	<b>\$ 33,486,214</b>	<b>100.0%</b>

**Project 211001–Rehabilitation of Primary Rectangular Clarifiers**

	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per CIP	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
<b>Wastewater System Projects</b>					
<b>Project 211001: Rehabilitation of Primary Clarifiers</b>					
<b>Rectangular Tanks, Drain Lines, Electrical/Mechanical</b>					
<b>Building and Pipe Gallery</b>	\$ 51,903,000	\$ 10,243,275	\$ 12,097,000	\$ 8,442,931	<b>25.2%</b>

**Project Engineer/Manager:** Nicolas Nicolas

**Manager:** Philip Kora

**Total Project Budget:** \$51,903,000

**Timeline:** To be completed by May 2020

**FY 2018 Last Pay Estimate Processed:** December 31, 2017

**Key Contracts/Vendors:** PC-757 Toolles Contracting Group

**Project Description:** The Rehabilitation of Primary Rectangular Clarifiers Tanks, Drain Lines, Electrical/Mechanical Building, Pipe Gallery, and Replacement of Rake Arm assembly for Circular Primary Clarifiers 15 and 16 at the Water Resource Recovery Facility (WRRF).

**Purpose:** To improve the operating and maintenance efficiencies that meets the regulatory National Pollution Discharge Elimination (NPDES) Permit and National Electrical code (NEC) requirements.

**Status:** Rehabilitation of Primary rectangular clarifiers 11 and 12 (flight equipment only) is complete and the 30-day commissioning period activities are ongoing. Contractor/GLWA and vendor are working to resolve the pump issues by conducting performance tests to determine lowest cost modifications.

**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2018-2022 CIP Page VI-73 for Project 211001–Rehabilitation of Primary Rectangular Clarifiers**

**CIP Number:** CIP 291

**Title:** REHABILITATION OF PRIMARY CLARIFIERS RECTANGULAR TANKS, DRAIN LINES, ELECTRICAL/MECHANICAL BUILDING AND PIPE GALLERY

**Classification:** 211: Wastewater > WRRF > Primary Treatment

**Managing Dept:** WW Eng

**RC Score:** NA

**Contract No.:** PC-757

**Significance:** Rehabilitation for meeting NPDES Permit and NEC requirements

**Location:** WRRF

**Driver:** N/A - Active

**Explanation:** N/A - Active

**Preliminary Scope of Work:**

The work to be completed under this project will include installing ventilation and atmospheric control for the pipe gallery; providing new lights and emergency lights, etc.. This work also includes rehabilitation of 12 drain lines from rectangular clarifiers 3-12, circular clarifiers 16 and 16, installation of large manhole with sump pumps to collect drainage and discharge to clarifier, and concrete crack repairs, and rehabilitation work in Electrical/Mechanical Building.

**Challenges:** N/A - Active

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
C	Active	TBD	TBD	\$0	\$10848	\$12097	\$20990	\$7968	\$0	\$0	\$0	\$41055	\$51903
Totals				\$0	\$10848	\$12097	\$20990	\$7968	\$0	\$0	\$0	\$41055	\$51903



Pipe gallery

**Project 212003-Aeration System Improvements**

	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per CIP	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
<b>Wastewater System Projects</b>					
<b>Project 212003: Aeration System Improvements</b>	\$ 16,203,000	\$ 3,804,993	\$ 11,197,000	\$ 3,507,963	<b>10.5%</b>

**Project Engineer/Manager:** Vinod Sharma

**Manager:** Philip Kora

**Total Project Budget:** \$15,985,000

**Timeline:** To be completed by September 2018

**FY 2018 Last Pay Estimate Processed:** December 31, 2017

**Key Contracts/Vendors:** CS-1498, CS-157-Metco Services, PC-796-Weiss Construction

**Project Description:** The Aeration System Improvements will improve the aeration system and provide necessary inter-connections.

**Purpose:** To increase the efficiency of oxygen used in the High Purity Oxygen (HPO) activated sludge process, reduce the risk of mechanical failures with the replacement/rehabilitation of the Influent and Return Activated Sludge(RAS) valves/pipeline would meet regulatory guidelines to comply with NPDES Permit.

**Status:** The construction work associated with aeration deck No. 4 process piping/valve is completed. The replacement Variable Frequency Drive (VFD) has been installed and deck No. 4 is put back into operation. The rehab work associated with Basin No. 3 is ongoing. The project is behind schedule by two months due to VFD#4 startup issues.

**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2018-2022 CIP Page VI-83 for Project 212003-Aeration System Improvements**

**CIP Number:** CIP 1194

**Title:** AERATION SYSTEM IMPROVEMENTS

**Classification:** 212: Wastewater > WRRF > Secondary Treatment & Disinfection

**Managing Dept:** WW Eng

**RC Score:** NA

**Contract No.:** CS-1498, PC-796

**Significance:** Improve aeration system and provide necessary inter-connections

**Location:** WRRF

**Driver:** N/A - Under Procurement

**Explanation:** N/A - Under Procurement

**Preliminary Scope of Work:**

The scope of work includes study, design, and construction assistance for the oxygen baffle on Bay 10 of A1 & A2 decks, replacement of influent, Return Activated Sludge (RAS) piping, isolation gate and valves for decks Nos. 3 & 4, replace RAS and influent magmeters for Intermediate Lift Pumps (ILP) Nos. 3, 4 & 7. The work also includes replacement of influent gates and operators on Aeration Deck No. 1 & 2.

**Challenges:** N/A - Under Procurement

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S/D/CA	Active	2/21/2012	2/28/2018	\$0	\$106	\$97	\$16	\$0	\$0	\$0	\$0	\$113	\$219
C	Under Procurement	TBD	TBD	\$0	\$2242	\$11100	\$2642	\$0	\$0	\$0	\$0	\$13742	\$15984
Totals				\$0	\$2348	\$11197	\$2658	\$0	\$0	\$0	\$0	\$13855	\$16203



Equipment for aeration system



**Project 212006-Rouge River Outfall Project**

	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per CIP	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
<b>Wastewater System Projects</b>					

**Project 212006: PC-797 Rouge River Outfall**

**Disinfection and CS-1781 Oversight Consulting**

<b>Services Contract</b>	\$	47,599,000	\$	6,872,993	\$	15,800,000	\$	6,226,742	<b>18.6%</b>
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**Project Engineer/ Manager:** Philip Kora and Darrel Field (PMA)

**Manager:** Philip Kora

**Total Project Budget:** \$47,599,000

**Timeline:** To be substantially complete by April 2019

**FY 2018 Last Pay Estimate Processed:** December 31, 2017

**Key Contracts/Vendors:** CS-1781- PMA Consultants and PC-797-CDM Construction

**Project Description/Purpose:** The Rouge River Outfall Disinfection Project (Phase 2) is MDEQ approved to provide chlorination and de-chlorination to the Rouge River Outfall (RRO) effluent during wet weather events.

**Status:** Current work efforts include the construction of the new hypo building foundation and chemical storage tanks, and the installation of the secondary effluent diffusers near the Screened Final Effluent Building.

**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial and Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2018-2022 CIP Page VI-98 for 212006-Rouge River Outfall Project**

**CIP Number:** CIP 1302

**Title:** ROUGE RIVER OUTFALL (RRO) DISINFECTION (ALTERNATIVE)

**Classification:** 212: Wastewater > WRRF > Secondary Treatment & Disinfection

**Managing Dept:** WW Eng

**RC Score:** NA

**Contract No.:** PC-797, CS-1781

**Significance:** Provide project oversight and design build services for alternative disinfection services to meet NPDES Permit requirements at existing Rouge River Outfall

**Location:** Rouge River Outfall

**Driver:** 3 – Regulatory (Environmental/Legal)

**Explanation:** In order to be in compliance with its NPDES permit, GLWA's WRRF must provide disinfection to all effluent flows from the DRO and RRO by April 2019. Only the DRO currently has disinfection; this project will provide chlorination and de-chlorination for RRO effluent during wet weather events.

**Preliminary Scope of Work:**

The consultant shall provide comprehensive professional services for project oversight and Owner's representation for the PC-797 RRO Disinfection Progressive Design-Build Contract. The scope of work consists of completing basis of design, design and construction services to develop and implement a solution that will result in 100% disinfection of wet weather flow discharged from WRRF to Detroit River outfall and Rouge River Outfall in order to meet NPDES Permit requirements.

**Challenges:** N/A - Under Procurement

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S/D/C	Under Procure.	2/19/2016	12/31/2019	\$729	\$2690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3419
CM	Under Procure.	TBD	TBD	\$0	\$1000	\$800	\$520	\$100	\$0	\$0	\$0	\$1420	\$2420
C	Not Yet Started	2/19/2016	12/31/2019	\$0	\$2840	\$15000	\$15000	\$8920	\$0	\$0	\$0	\$38920	\$41760
<b>Totals</b>				<b>\$729</b>	<b>\$6530</b>	<b>\$15800</b>	<b>\$15520</b>	<b>\$9020</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$40340</b>	<b>\$47599</b>



**Project 232002-Freud & Connor Creek Pump Station Improvements**

	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per CIP	FY 2018 Pre-Close Activity (Six Months) (Unaudited)	FY 2018 Pre-Close as a Percent of Prorated Budget (Six Months) (Unaudited)
<b>Wastewater System Projects</b>					
<b>Project 232002: Freud and Connor Creek Pump Station Improvements</b>	\$ 22,500,000	\$ 2,100,803	\$ 5,900,000	\$ 2,065,157	<b>6.2%</b>

**Project Engineer/Manager:** Mini Panicker

**Manager:** Biren Saparia

**Total Project Budget:** \$22,500,000

**Timeline:** To be completed by August 2022

**FY 2018 Last Pay Estimate Processed:** December 31, 2017

**Key Contract/Vendor:** CS-120-Arcadis, CON-109-Lakeshore Global, PO 0003783-PCI LLC

**Project Description:** The Freud & Connor Creek Pump Station Improvements will optimize the overall performance between both pumping stations and the Connor Creek Retention and Treatment Basin.

**Purpose:** To build an operational strategy to optimize the utilization of interconnected piping and operation between both pumping stations and the Connor Creek Retention and Treatment Basin.

**Status:** Three conceptual alternatives were developed during the study phase. An alternative evaluation workshop is being scheduled to engage customers/stakeholders and select the right alternative for the design.

**Additional Project Manager Comments:** The Systems and Controls team is working to coordinate the alternative selection process with stakeholders and the wastewater master plan team to determine the best path forward with respect to alternative selection or development of an interim approach pending the completion of the wastewater master plan findings.

**Additional Construction Accounting & Financial and Reporting Team Comments:** There are no additional comments to provide at this time.



**FY 2018-2022 CIP Page VI-103 for 232002-Freud & Connor Creek Pump Station Improvements**

**CIP Number:** CIP 1315

**Title:** FREUD & CONNER CREEK PUMP STATION IMPROVEMENTS

**Classification:** 232: Wastewater > SCC > Pumping Stations

**Managing Dept:** WW Eng

**RC Score:** 79.6

**Contract No.:** CON-109

**Significance:** The primary objective of this project is to study the overall performance of Connor Creek and Freud sewage pumping stations and develop design, and build an operational strategy to optimize the utilization of interconnected piping and operation between both pumping stations and the Connor Creek Retention and Treatment Basin.

**Location:** Conner Creek & Freud Pump Stations

**Driver:** 2 - Performance

**Explanation:** During peak wet weather there is a potential for the sewers to surcharge and flood the street.

**Preliminary Scope of Work:**

Provide basis of design, and final design for an operational strategy to optimize the utilization of interconnected piping and operation between Connor Creek and Freud pumping stations and the Connor Creek Retention and Treatment Basin. Provide construction of the emerging project and construction assistance during construction of the emerging project.

**Challenges:** Meeting the collection system transport capacity during the construction

**Initial Project Cost Estimates (in \$1000s)**

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S	Not Yet Started	NA	NA	\$0	\$100	\$500	\$0	\$0	\$0	\$0	\$0	\$500	\$600
D	Not Yet Started	NA	NA	\$0	\$340	\$3400	\$0	\$0	\$0	\$0	\$0	\$3400	\$3740
C	Not Yet Started	NA	NA	\$0	\$5636	\$0	\$5100	\$2460	\$1000	\$0	\$0	\$8560	\$14196
C	Under Procure.	NA	NA	\$0	\$1964	\$2000	\$0	\$0	\$0	\$0	\$0	\$2000	\$3964
<b>Totals</b>				\$0	\$8040	\$5900	\$5100	\$2460	\$1000	\$0	\$0	\$14460	\$22500



Freud Pump Station

### Otherwise Noteworthy Project

**CIP 214001: CON-280: Relocation of the Industrial Waste Control Group (IWC)**

**Project Engineer/ Manager:** Ali Khraizat

**Manager:** Ali Khraizat

**Total Project Budget:** \$7,000,000

**Key Contract/Vendor:** Sigma/Albert Kahn

**Project Description:** The Relocation of the Industrial Waste Control Group (IWC) located at GLWA Livernois Center at 303 South Livernois Avenue and the GLWA Analytical Lab located at 2727 Second Avenue to Water Resource Recovery Facility (WRRF).

**Purpose:** The existing Industrial Waste Control Group (IWC) facility is primarily used for sampler cleaning and preparation and location to house staff and division vehicles. The IWC is currently situated at the GLWA Livernois Center at 303 South Livernois Avenue, Detroit, while the GLWA Analytical Lab is located at 2727 Second Avenue, Detroit. There is a two-phase approach to relocate both groups to the GLWA WRRF consolidating the existing plant Operations Lab with the Analytical Lab making efficient use of space by utilizing owned facilities versus leased ones and increasing synergy between the lab groups by having them located at the WRRF. The IWC relocation will also make way for the new Detroit River International Crossing (Gordie Howe Bridge project).

**Status:** The bid documents are being prepared for advertisement.

**Additional Project Manager Comments:** The Scope of Work includes relocation of the IWC from its current location to the 1st floor of the Ragland Building and 2nd floor of the New Administration Building (NAB) at the WRRF. Twenty of the IWC team members and a document storage area will be accommodated in the current Engineering/Drafting areas on the NAB 2nd floor. Renovation of the north bay and shower/restroom area of the existing locker room located on the 1st floor of the Ragland Building will be completed to accommodate the IWC sampler preparation, storage, and work space for IWC field personnel.

**Additional Construction Accounting & Financial and Reporting Team Comments:** There are no additional comments to provide at this time.

## Construction Work-in-Progress Rollforward

The purpose of the construction work-in-progress (CWIP) rollforward is to analyze the current year activity for each project in relation to the overall capital improvement program as well as the project portfolio overall.

The CWIP Rollforward provides a project status for each item.

Future Year:	Project that was included in the CIP with no expenditures (F)
Active:	Project in which procurement process has been initiated and expenditures incurred (A)
Pending Close :	Project that has no projected expenditures for the current fiscal year and has reached substantial completion (PC)
Closed:	Project that has been closed and capitalized (C)

Projects in bold font on the CWIP Rollforward were discussed in further detail previously in this report.

As shown in the summary below, the Wastewater System CWIP Rollforward for FY 2018 thru 2022 identifies 85 projects with a total budgeted value of \$1.1 billion. Of that total, \$186.2 million (unaudited) is in CWIP as of December 31, 2017 as shown in the table beginning on the next page.

The order of the report on the subsequent pages is from largest spend in FY 2018 dollars first.

Status	Project Count	Total Project Cost	Percent of Total
Future	28	371,444,000	33%
Active	40	694,649,000	62%
Pending Close	5	8,098,000	1%
Closed	12	41,029,000	4%
<b>Grand Total</b>	<b>85</b>	<b>\$ 1,115,220,000</b>	<b>100%</b>

Great Lakes Water Authority  
 Wastewater Construction Work-on-Progress (CWIP) FY 2018 Rollforward  
 (Unaudited), Pre-Close Activity For the Quarter Ended December 31, 2017

CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	FY 2018 Activity (Unaudited) Pre-Close							FY 2018 Activity (Unaudited), Pre-Close	(Unaudited), Pre-Close CWIP Balance, as of December 31, 2017
					Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)		
211001	Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery	A	51,903,000	10,243,275	8,251,380	104,291	-	-	62,328	-	24,931	8,442,930	18,686,205
212003	Project 212003: Aeration System Improvements	A	16,203,000	3,804,993	3,374,581	93,259	-	-	28,659	-	11,463	3,507,962	7,312,955
212006	Project 212006: PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract	A	47,599,000	6,872,993	5,833,185	355,271	-	-	27,347	-	10,939	6,226,742	13,099,735
260301	Project 260301: Roof Replacement of Complex II	A	1,871,000	-	1,542,847	-	-	-	-	-	-	1,542,847	1,542,847
232002	Project 232002: Freud and Connor Creek Pump Station Improvements	A	22,500,000	2,100,803	1,229,037	676,810	-	-	2,694	155,539	1,078	2,065,157	4,165,960
215001	Project 215001: Rehabilitation of Combined Sewer Overflow (CSO) Retention Treatment Basins (RTB), Screening and Disinfection Facilities (SDF)	A	31,977,000	763,690	1,024,214	169,379	-	-	11,324	-	4,530	1,209,447	1,973,137
260201	Project 260201: Conveyance System Interceptor Rehab	A	1,828,000	90,500	4,465,947	421,991	-	-	3,783	-	1,513	4,893,234	4,983,734
260203	Project 260203: SCP-CON-068: Inland: Sewer Inspection	A	4,464,000	3,306,028	937,665	-	-	-	1,703	-	681	940,049	4,246,077
260101	Project 260101: Plant-Wide Replacement of Emergency Lighting	PC	1,680,000	289,743	838,609	-	-	-	15,926	-	6,370	860,905	1,150,648
211004	Project 211004: Pump Station 1 Rack & Grit and MPI Sampling Station 1 Improvements	A	21,494,000	20,944,123	951,846	-	-	-	94,307	-	37,723	1,083,876	22,027,999
213003	Project 213003: Sewage Sludge Incinerator Air Quality Improvements at WRRF	A	36,043,000	36,153,036	436,443	-	-	-	13,847	-	5,539	455,829	36,608,865
361001	Project 361001: Consolidated Process Control System Upgrades	A	331,000	173,127	142,500	-	-	-	-	-	-	142,500	315,627
213004	Project 213004: Biosolids Dryer Facility at WRRF	A	135,968,000	2,023,774	124,798	-	-	-	2,899	-	1,159	128,856	2,152,630
260302	Project 260302: CON 127: Repair HVAC	A	110,000	56,282	160,329	-	-	-	8,444	-	3,378	172,150	228,432
213001	Project 213001: Replacement of Belt Filter Presses for Complex I and Upper Level Complex II	C	1,901,000	-	-	(63,150)	-	-	1,062	-	425	(61,663)	(61,663)
216001	Project 216001: Underground Electrical Duct Bank Repair and EB-1, EB-2, and EB-10 Primary Power Service Improvements - WRRF	A	27,144,000	31,636,300	-	(423)	-	-	12,417	-	4,967	16,961	31,653,261
4824	DWSD-Reha/Replacement Existing Sewer	PC	-	56,280	-	-	-	-	-	-	-	-	56,280
211002	Project 211002: Pump Station No. 2 Pumping Improvements	A	3,533,000	108,416	141,688	14,000	-	-	6,869	-	2,748	165,306	273,722
211003	Project 211003: Rehabilitation of Primary Clarifiers	A	581,000	1,701,631	-	-	-	-	739	-	296	1,035	1,702,666
211005	Project 211005: Pump Station No. 2 Improvements	F	10,800,000	-	-	-	-	-	-	-	-	-	-
211006	Project 211006: Pump Station No. 1 Improvements	F	13,129,000	88	-	-	-	-	-	-	-	-	88
211007	Project 211007: Replacement of Bar Racks and Grit Collection System at Pump Station No. 2	F	9,667,000	-	-	-	-	-	-	-	-	-	-
211008	Project 211008: Rehabilitation of Ferric Chloride Feed systems at the Pump Station -1 and Complex B Sludge Lines	F	9,633,000	-	-	-	-	-	-	-	-	-	-
211009	Project 211009: Rehabilitation of the Circular Primary Clarifier Scum Removal System	F	10,480,000	-	-	-	-	-	-	-	-	-	-
212001	Project 212001: Returned Activated Sludge (RAS) Pumps, Influent Mixed Liquor System and Motor Control Centers (MCC) Improvements for Secondary Clarifiers	C	24,175,000	-	-	-	-	-	-	-	-	-	-

Great Lakes Water Authority  
 Wastewater Construction Work-on-Progress (CWIP) FY 2018 Rollforward  
 (Unaudited), Pre-Close Activity For the Quarter Ended December 31, 2017

					FY 2018 Activity (Unaudited) Pre-Close							FY 2018 Activity (Unaudited), Pre- Close	(Unaudited), Pre-Close CWIP Balance, as of December 31, 2017
CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Salary & Wages- Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)		
212002	Project 212002: Study, Design, & Construction, Management Services for Modified Detroit River Outfall No. 2 - WRRF	A	8,482,000	10,818,870	-	-	-	-	-	-	-	-	10,818,870
212004	Project 212004: Chlorination/Dechlorination Process Equipment Improvements	A	5,000,000	85,850	-	-	-	-	233	-	93	327	86,177
212005	Project 212005: Rouge River Outfall No. 2 (RRO-2) Segement 1-WWTP Modifications	C	12,187,000	-	-	-	-	-	-	-	-	-	-
212007	Project 212007: Rehabilitation of the Secondary Clarifiers	F	30,999,000	-	-	-	-	-	-	-	-	-	-
213002	Project 213002: Rehabilitation of Central Offload Facility	A	17,750,000	202,142	-	381,060	-	-	9,024	-	3,610	393,694	595,836
213005	Project 213005: Complex I Incinerators Decommissioning and Reusability	F	1,100,000	-	-	-	-	-	773	-	309	1,083	1,083
213006	Project 213006: Improvements to Sludge Feed Pumps at Dewatering Facilities	A	1,185,000	4,856	-	-	-	-	-	-	-	-	4,856
213007	Project 213007: Construction of the Improved Sludge Conveyance and Lighting System at the WWTP	F	18,922,000	-	-	-	-	-	3,684	-	1,474	5,158	5,158
213008	Project 213008: Rehabilitation of the Wet and Dry Ash Handling Systems	F	18,316,000	-	-	-	-	-	-	-	-	-	-
213009	Project 213009: Phosphorous Recovery Facility at the WRRF	F	15,000,000	-	-	-	-	-	-	-	-	-	-
214001	Project 214001: Relocation of Industrial Waste Division and Analytical Laboratory Operations	A	7,000,000	181,500	-	-	-	-	350	-	140	490	181,990
216002	Project 216002: Plant-wide Fire Alarm Systems Upgrade/ Integration and Fire Protection Improvements	A	6,014,000	-	-	-	-	-	2,989	-	1,196	4,185	4,185
216003	Project 216003: Repair Potable Water, Screened Final Effluent, natural Gas, and Compressed Air Pipelines at the WWTP	F	5,000,000	-	-	-	-	-	-	-	-	-	-
216004	Project 216004: Rehabilitation of Various Sampling Sites and PS# 2 Ferric Chloride System at WWTP	A	5,000,000	311,736	-	-	-	-	292	-	117	409	312,145
216005	Project 216005: Rehabilitation of the Main Plant Maintenance Building, Replacement of various Plant Maintenance Areas and Work Environment Improvement.	F	12,900,000	-	-	-	-	-	-	-	-	-	-
216006	Project 216006: Rehabilitation of the Screened Final Effluent (SFE) Pump Station and Secondary Water System	F	50,000,000	-	-	-	-	-	-	-	-	-	-
216007	Project 216007: DTE Primary Electric 3rd Feed Supply Line to the WRRF	A	7,000,000	15,074	292,200	13,500	-	-	-	-	-	305,700	320,774
222001	Project 222001: Intercommunity Relief Sewer Modifications in Detroit Oakwood District	F	11,000,000	-	-	-	-	-	-	-	-	-	-
222002	Project 222002: Detroit River Interceptor Evaluation and Rehabilitation	A	20,321,000	5,380	-	-	-	-	1,089	-	436	1,525	6,905
222003	Project 222003: North Interceptor East Arm (NIEA) Evaluation and Rehabilitation	F	26,000,000	-	-	-	-	-	-	-	-	-	-
222004	Project 222004: Collection System Valve Remote Operation Structures Improvements	F	2,763,000	-	-	-	-	-	-	-	-	-	-
222005	Project 222005: Collection System Access Hatch Improvements	F	7,197,000	-	-	-	-	-	-	-	-	-	-
222006	Project 222006: GLWA CSO Outfalls Rehabilitation	F	36,000,000	-	-	-	-	-	812	-	325	1,137	1,137
222007	Project 222007: North Interceptor East Arm (NIEA) Evaluation and Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.	F	21,000,000	-	-	-	-	-	-	-	-	-	-

Great Lakes Water Authority  
Wastewater Construction Work-on-Progress (CWIP) FY 2018 Rollforward  
(Unaudited), Pre-Close Activity For the Quarter Ended December 31, 2017

					FY 2018 Activity (Unaudited) Pre-Close							FY 2018 Activity (Unaudited), Pre-Close	(Unaudited), Pre-Close CWIP Balance, as of December 31, 2017
CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)		
232001	Project 232001: Fairview Pumping Station - Replace Four Sanitary Pumps	A	32,400,000	778,162	-	453,361	-	-	8,404	-	3,362	465,127	1,243,289
232003	Project 232003: Northeast Pump Station Improvements	F	26,328,000	-	-	-	-	-	-	-	-	-	-
233001	Project 233001: Collection System Backwater Gates and Regulator Gates Rehabilitation	F	9,301,000	-	-	-	-	-	-	-	-	-	-
233002	Project 233002: Collection System In System Storage Devices(ISDs) Improvements	F	3,550,000	-	-	-	-	-	-	-	-	-	-
251002	Project 251002: Wastewater System Wide Instrumentation & Controls Software and Hardware Upgrade	F	5,862,000	-	-	-	-	-	-	-	-	-	-
260100	Project 260100: Water Resource Recovery Facility (WRRF), Lift Station & Wastewater Collection System Allowance	A	52,843,000	-	-	-	-	-	-	-	-	-	-
260102	Project 260102: Replace Stairs - WWTP	C	500,000	-	-	-	-	-	-	-	-	-	-
260103	Project 260103: Replace 4 DS-706 Centrifuges WWTP	C	600,000	-	-	-	-	-	-	-	-	-	-
260104	Project 260104: Pur Installation of EB-25 Unit WWTP	C	1,195,000	-	-	-	-	-	-	-	-	-	-
260105	Project 260105: Replace Various Air Distribution Equip	C	286,000	-	-	-	-	-	64	-	26	90	90
260107	Project 260107: Pump Station 2 Replacement	F	331,000	-	-	-	-	-	-	-	-	-	-
260108	Project 260108: Sanitary Meter Replacement: Neff Road	C	448,000	-	-	-	-	-	-	-	-	-	-
260110	Project 260110: CS060: Black& Veatch:	A	2,266,000	1,458,339	-	122,208	-	-	5,454	-	2,182	129,844	1,588,183
260111	Project 260111: SCP-PC-015: W-3 Construct: Overhead Door	C	593,000	-	-	-	-	-	-	-	-	-	-
260112	Project 260112: DWS-065: Toolles: Connor Creek	C	345,000	-	-	-	-	-	984	-	394	1,378	1,378
260113	Project 260113: Fire Remediation	A	10,500,000	17,005,859	-	-	-	-	-	-	-	-	17,005,859
260200	Project 260200: Sewer and Interceptor Evaluation and Rehabilitation Program NNB	A	72,320,000	-	-	-	-	-	-	-	-	-	-
260300	Project 260300: Schedule Replacement Program of Critical Assets NNB	A	23,519,000	-	-	-	-	-	-	-	-	-	-
260400	Project 260400: Sewage Meter Design, Installation, Replacement and Rehabilitation Program	F	3,000,000	-	-	-	-	-	-	-	-	-	-
331002	Project 331002: Roofing Systems Replacement at GLWA Wastewater Treatment Plant, CSO Retention Treatment Basins (RTB) and Screening Disinfection Facilities (SDF)	F	9,050,000	-	-	-	-	-	-	-	-	-	-
361002	Project 361002: Data Center Reliability/Availability Improvements	PC	3,163,000	17,253	-	-	-	-	-	-	-	-	17,253
361003	Project 361003: SCADA Radio Network Upgrade	PC	2,955,000	852,872	-	-	-	-	-	-	-	-	852,872
380400	Project 380400: As-needed CIP Implementation Assistance and Related Services NNB	A	3,135,000	-	-	-	-	-	-	-	-	-	-
380401	Project 380401: CS-1433: PMA: As Needed CIP Services	A	3,135,000	105,279	-	107,902	-	-	-	-	-	107,902	213,181
380500	Project 380500: Department-wide General Engineering Services on an As-needed Basis	A	4,960,000	-	-	-	-	-	-	-	-	-	-

Great Lakes Water Authority  
Wastewater Construction Work-on-Progress (CWIP) FY 2018 Rollforward  
(Unaudited), Pre-Close Activity For the Quarter Ended December 31, 2017

					FY 2018 Activity (Unaudited) Pre-Close								
CIP #	Brief Description	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017 (Unaudited)	Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)	FY 2018 Activity (Unaudited), Pre-Close	(Unaudited), Pre-Close CWIP Balance, as of December 31, 2017
380501	Project 380501: CS-1499:MetcoServices:General Engineer	PC	300,000	148,366	-	15,165	-	-	-	-	-	15,165	163,531
380600	Project 380600: General Engineering Services	A	7,016,000	-	-	-	-	-	-	-	-	-	-
380601	Project 380601: CS-1432A:Alfred Benesh:General Engineer	A	250,000	157,929	-	23,627	-	-	-	-	-	23,627	181,556
380700	Project 380700: As-needed Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services	C	-	-	-	-	-	-	-	-	-	-	-
380701	Project 380701: Engineering Svc Concrete Testing,Soil Borings	A	-	115,388	-	123,018	-	-	-	-	-	123,018	238,406
380800	Project 380800: Geotechnical and Related Services on an As- Needed Basis	F	1,116,000	-	-	-	-	-	-	-	-	-	-
380800	Project 380800: Geotechnical and Related Services on an As- Needed Basis	C	(1,201,000)	-	-	-	-	-	-	-	-	-	-
380801	Project 380801: CS-1490: Nth Consultants: As needed GIS	A	85,000	82,476	-	-	-	-	-	-	-	-	82,476
380900	Project 380900: General Engineering Services	A	649,000	-	-	-	-	-	-	-	-	-	-
380901	Project 380901: CS-1481:Sigma Assoc: General Engineering	A	270,000	63,426	-	112,231	-	-	-	-	-	112,231	175,657
381000	Project 381000: Energy Management: Electric Metering Improvement Program	F	3,000,000	-	-	-	-	-	-	-	-	-	-
Total # of Projects and Dollars		85	1,115,220,000	152,735,840	29,747,270	3,123,500	-	-	328,503	155,539	131,403	33,486,214	186,222,054
FY 2018 - 2022 Wasterwater CIP Total (Page IV-3)			1,115,218,000	152,735,840									
Difference due to Rounding			(2,000)										
Items to be reclassified to Capital Outlay FY 2018				605,618									
Total CWIP Reported on FY 2017 Financial Statements				153,341,458									

## **CIP Allowance and Program Summary**

Within the FY 2018 - 2022 CIP, GLWA has developed budgets for allowances and programs that provide GLWA flexibility in capital development and improvements.

Allowances are established to provide funding related to unanticipated nature of pipeline and equipment failures that require immediate repair and rehabilitation to continuously meet level of service requirement. Allowances can also be allocated to projects with anticipated or actual spend in excess of CIP budget.

Programs are established to provide funding related to specific capital improvements that are systemic, reoccurring, and vary from year to year.

Below are the allowances and programs within the Wastewater System.

### **Allowance**

260100: WRRF, Lift Station and Wastewater System Structure Allowance

### **Programs**

260200: Sewer and Interceptor Evaluation and Rehabilitation

260300: Scheduled Replacement of Program of Critical Assets

260400: Sewage Meter Design, Installation, Replacement and Rehabilitation Program



## Wastewater System Construction Work-in-Progress Quarterly Report

As of December 31, 2017

Great Lakes Water Authority

Board Approved CIP Allowance/Program Summary

Allowance: 260100 Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance

CIP#	Contract Number	Description	Current Budget Amendment	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
<b>260100</b>		<b>WRRF, Lift Station and Wastewater Collection System Structures</b>		<b>13,421,000</b>	<b>12,000,000</b>	<b>15,000,000</b>	<b>15,000,000</b>	<b>12,000,000</b>
260101	SCP-PC-014	Replacement Emergency Lighting and Signage		579,000				
260110	CS-060	Study and Design for Modification of Sludge Feeds Systems	6920	(174,000)				
260113		Fire Remediation	6992	(2,000,000)				
<b>Total</b>	<b>2</b>	<b>Available Balance</b>		<b>11,826,000</b>	<b>12,000,000</b>	<b>15,000,000</b>	<b>15,000,000</b>	<b>12,000,000</b>

Great Lakes Water Authority

Board Approved CIP Allowance/Program Summary

Program: 260200 Sewer and Interceptor Evaluation and Rehabilitation

CIP#	Contract Number	Description	Current Budget Amendment	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
<b>260200</b>		<b>Sewer and Interceptor Evaluation and Rehabilitation Program</b>		<b>8,000,000</b>	<b>8,000,000</b>	<b>20,000,000</b>	<b>20,000,000</b>	<b>20,000,000</b>
260201	CS-168	Conveyance System Interceptor Rehab	7013	(1,000,000)	(1,000,000)	(1,000,000)		
260201	CON-149	CON-149 Inland: DRI, Evaluation, Design	7013	(4,795,540)	(6,600,000)	(3,404,460)		
260203	CS-068	CON-068 Inland: Sewer Inspection	7011	(2,140,460)				
<b>Total</b>	<b>3</b>	<b>Available Balance</b>		<b>64,000</b>	<b>400,000</b>	<b>15,595,540</b>	<b>20,000,000</b>	<b>20,000,000</b>

## Wastewater System Construction Work-in-Progress Quarterly Report

As of December 31, 2017

Great Lakes Water Authority  
Board Approved CIP Allowance /Program Summary  
Allowance: 260300 Scheduled Replacement of Program of Critical Assets

CIP#	Contract Number	Description	Current Budget Amendment	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
260300		Schedule Replacement Program of Critical Assets		3,721,000	5,000,000	5,000,000	5,000,000	5,000,000
260301	CON-143	Roof Replacement of Complex II	6990	(1,567,400)				
260113	Fire Remediation	Fire Remediation	6992	(2,000,000)				
<b>Total</b>	<b>2</b>	<b>Available Balance</b>		<b>153,600</b>	<b>5,000,000</b>	<b>5,000,000</b>	<b>5,000,000</b>	<b>5,000,000</b>

Great Lakes Water Authority  
Board Approved CIP Allowance/Program Summary  
Program: 260400 Sewage Meter Design, Installation, Replacement and Rehabilitation Program

CIP#	Contract Number	Description	Current Budget Amendment	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
260400		Sewage Meter Design, Installation, Replacement and Rehabilitation Program		500,000	500,000	500,000	500,000	500,000
<b>Total</b>	<b>0</b>	<b>Available Balance</b>		<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>

## **Budget Amendment Reporting**

**Scope:** Budget amendments seek to properly allocate funds from the allowance and programs within the Capital Improvement Plan (CIP) for the budgeted years by the reallocation of funds from the budgeted allowance or programs level to the actual project level.

**Process:** Steps are listed below.

- 1) Properly identify projects that utilize funds from the allowance or programs
- 2) Reallocate the funds from the budgeted allowance or programs level through a journal entry
- 3) Attach documents that support the reallocation (CIP funding request, contract transmittal, or change orders)
- 4) Create, review, and approve budget amendment journal entry

Budget Amendments/Descriptions/Reasons/GL Strings	Amount
<b>6920</b>	
<b>CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance</b>	
To fund Contracted Construction Services not budgeted for in FY 2018-2022 CIP	
<b>Cost in Excess of CIP Budget</b>	
	5421-892211.000-616900-260100 (\$174,000)
<b>CIP 260110: CS-060: Upgraded Sludge Conveyance System Design</b>	
To fund Contracted Construction Services not budgeted for in FY 2018-2022 CIP	
<b>Cost in Excess of CIP Budget</b>	
	5421-892211.000-616900-260110 \$174,000
<b>6990</b>	
<b>CIP 260300: Scheduled Replacement of Program of Critical Assets</b>	
To Fund Contracted Construction Services related to budgeted program assigned	
<b>Fire Remediation-Roof Replacement</b>	
	5421-892211.000-616900-260300 (\$1,567,400)
<b>CIP 260301: CON-143: Roof Replacement of Complex II</b>	
To Fund Contracted Construction Services related to budgeted program assigned	
<b>Fire Remediation-Roof Replacement</b>	
	5421-892211.000-616900-260301 \$1,567,400
<b>6992</b>	
<b>CIP 260100: Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures Allowance</b>	
To Fund Contracted Construction Services related to budgeted program assigned	
<b>Fire Remediation</b>	
	5421-892211.000-616900-260100 \$2,000,000
<b>CIP 260300: Scheduled Replacement of Program of Critical Assets</b>	
To Fund Contracted Construction Services related to budgeted program assigned	
<b>Fire Remediation</b>	
	5421-892211.000-616900-260300 (\$2,000,000)

Budget Amendment Processed for FY 2018 through December 31, 2017

**7011**

**CIP 260203: CON-068: Inland: Sewer Inspection**

To Fund Contracted Construction Services related to budgeted program assigned  
**Allocation of Program**

5421-882301.000-616900-260203      \$2,140,460

**CIP 260200: Sewer and Interceptor Evaluation and Rehabilitation**

To Fund Contracted Construction Services related to budgeted program assigned  
**Allocation of Program**

5421-892211.000-616900-260200      (\$500,460)  
5421-892211.000-617950-260200      (\$1,640,000)

**7013**

**CIP 260201: CON-149: Inland: DRI, Evaluation, Design**

To Fund Contracted Construction Services related to budgeted program assigned  
**Allocation of Program**

5421-882301.000-616900-260201      \$4,795,540

**CIP 260201: Conveyance System Interceptor Rehab**

To Fund Contracted Construction Services related to budgeted program assigned  
**Allocation of Program**

5421-882301.000-617950-260201      \$1,000,000

**CIP 260200: Sewer and Interceptor Evaluation and Rehabilitation**

To Fund Contracted Construction Services related to budgeted program assigned  
**Allocation of Program**

5421-892211.000-616900-260200      (\$4,795,540)  
5421-892211.000-617950-260200      (\$1,000,000)

<b>Grand Total</b>	<b>0</b>
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## Glossary of Acronyms

ACRONYM	DEFINITION	ACRONYM	DEFINITION
CCD	Construction Change Directive	NPDES	National Pollution Discharge Elimination System
CSO	Combined Sewer Overflow	RAS	Return Activated Sludge
DCB	Detailed Cost Breakdown	RRO	River Rouge Outfall
ECR	Equipment Shutdown Request	RTB	Retention Treatment Basin
HPO	High Purity Oxygen	SDF	Screening and Disinfection Facility
ISDs	In System Storage Devices	SFE	Screened Final Effluent
IWC	Industrial Waste Control	SPW	Springwells Water Treatment Plant
MCC	Motor Control Centers	VFD	Variable Frequency Drive
MDEQ	Michigan Department of Environmental Quality	WRRF	Water Resource Recovery Facility
NAB	New Administration Building	WTP	Water Treatment Plant
NIEA	North Interceptor East Arm	WWTP	Wastewater Treatment Plant



**Audit Committee**

**Friday, April 20, 2018 at 8:00 a.m.**

5th Floor Board Room, Water Board Building  
735 Randolph Street, Detroit, Michigan 48226  
*GLWater.org*

**MEETING BINDER ADDENDUM #1**

- ✓ *Agenda Item #6D - Report: Responses to Questions from Oakland County Drain Commissioner's Office*

**TFG**  
**THE FOSTER GROUP**

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MEMORANDUM

FY 2019 Sewer Charges to OMID

April 19, 2018

To: Nicolette Bateson

From: Bart Foster

You have asked for commentary and observations regarding a potential response to public comments made by representatives of the Oakland Macomb Interceptor Drain District (OMID) at the GLWA Audit Committee meeting on February 23. We have reviewed the comments, which appear to request modifications to proposed FY 2019 Sewer Charges to reflect four specific areas of inquiry. Herein we present background information, set forth our understanding of OMID's request, and provide a summary of our analyses and perspective regarding the request.

**Background:**

The GLWA cost allocation methodology<sup>1</sup> for purposes of establishing Sewer service charges includes a "customer specific" cost pool designed to capture the costs related to GLWA facilities that serve only the OMID. These facilities include the Northeast Sewer Pumping Station ("NEPS"), and the portion of the North Interceptor East Arm ("NIEA") downstream of the NEPS that conveys flow *only from* OMID. The cost of service allocation methodology has traditionally employed slightly different approaches for assigning capital and operating revenue requirements to this cost pool.

**Capital Revenue Requirement Allocations**

Since the establishment of the FY 2011 Sewage Disposal Charges, GLWA allocations of capital revenue requirements (including debt service) have been allocated to cost pools and Customers based on a "Utility Basis" approach. Under this approach statistics from the fixed asset records of the Sewer Utility are used to allocate capital costs. For instance, if 1% of the representative capital asset value for the Sewer System is related to OMID specific assets, then 1% of the capital revenue requirements (including debt service) are allocated to OMID.

GLWA's review of the interceptor inventory indicates that the NIEA segment in question represents approximately 3.5% of all GLWA interceptors, based on an "inch mile" analysis. For purposes of the FY 2019 Cost of Service Study, we assigned 3.5% of all interceptor capital revenue requirements to the OMID cost pool. This created a direct capital revenue requirement of approximately \$0.78 million.

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<sup>1</sup> The GLWA methodology is consistent with the methodology of the predecessor entity, DWSD.



Our cost of service study included a review of the GLWA asset records, which indicated that the net book value of \$19.6 million assigned to the NEPS. This NEPS asset value (and the representative annual depreciation expense) amounted to approximately 1.2% of the overall capital asset structure, and we used this ratio to subsequently allocate approximately \$2.81 million of direct capital revenue requirements. So our FY 2019 Cost of Service Study included \$3.59 million of direct capital revenue requirements assigned to the OMID cost pool, which was then directly assigned to the OMID Customer<sup>2</sup>.

#### Operating Revenue Requirement Allocations

For purposes of assigning operating costs to the OMID cost pool, the same approach (relative inch miles) is used to assign NIEA related *interceptor* costs. In the FY 2019 Cost of Service Study this resulted in approximately \$0.43 million of direct operating revenue requirements allocated to the OMID cost pool.

With regard to the NEPS operating costs, GLWA allocations of all budget operating expenses related to sewer pumping stations (including maintenance, SCADA, etc.) have been assigned to individual sewer pumping stations based on relative electric usage or costs. This approach was established several years ago, as detailed specific pumping station maintenance costs, etc. were difficult to isolate. For purposes of the FY 2019 Cost of Service Study, we obtained budgeted electric utility costs for several years. The relative budgeted electric utility costs for the NEPS, as a proportion of budgeted electric utility costs for all GLWA sewer pumping stations, ranged from 24% to 40%. In our FY 2019 Cost of Service Study we allocated 25% of all sewer pumping station operating expenses to the NEPS, which resulted in direct operating costs totaling \$5.88 million being assigned to the OMID cost pool. So our FY 2019 Cost of Service Study included \$6.05 million of direct operating revenue requirements assigned to the OMID cost pool, which was then directly assigned to the OMID Customer<sup>3</sup>.

The combined total revenue requirement allocated to the OMID cost pool in the FY 2019 Cost of Service Study was \$10.50 million.

#### Pending Potential Operating Agreement

We have participated in several meetings between GLWA and OMID representatives as they have sought to establish an “operating agreement regarding the OMID specific facilities addressed in this memorandum. Elements of that potential operating agreement would impact the cost allocation approaches and results discussed above.

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<sup>2</sup> Table 3 in the FY 2019 Cost of Service Study Report contains a “Net Capital” Revenue Requirement line item that includes proportional allocation of certain other “indirect” non-operating items, such as the Lease Payment, etc. These indirect elements result in the OMID “Net Capital” Revenue Requirement totaling \$3.99 million in the Cost of Service Study Report.

<sup>3</sup> Table 3 in the FY 2019 Cost of Service Study Report contains a “Net Operating Expenses” Revenue Requirement line item that includes proportional allocation of certain other “indirect” operating items, such as the operating portion of the pension obligation, etc. These indirect elements result in the OMID “Net Operating Expenses” Revenue Requirement totaling \$6.52 million in the Cost of Service Study Report.

**OMID Request, Analyses, and Perspective:**

1. *Reflect the treatment of debt service for the OMID only rate category consistent with the October 22, 2009 Settlement and Release of Certain Rate Disputes as stated in paragraph 3.a of that document.*
  - We believe that the reference in the OMID correspondence is taking a position that the district should not be allocated **any** capital revenue requirements associated with the portion of the NIEA that conveys only OMID flow. We do not agree with that conclusion. We believe that the agreement that is cited in the referenced document predates the agreements established as part of the Rate Simplification Initiative. In any event, we encourage this issue to be further explored and discussed as part of the negotiations towards the Operating Agreement. For purposes of our hypothetical analysis summarized in the table that follows, we have reflected the calculated effect of removing such capital revenue requirements from the OMID cost pool, which would **reduce** the direct OMID cost pool allocated revenue requirements by approximately \$0.78 million. However the OMID share of the reallocated common-to-all (“CTA”) revenue requirement would **increase** by \$0.13 million, resulting in a net **decrease** of \$0.65 million.
2. *Adjust the assets of the Northeast Pump Station based on the results of the Northeast Pump Station asset inventory review performed on February 2, 2018 with representatives from OMID and GLWA.*
  - As noted in the request, subsequent to the establishment of the proposed FY 2019 charges, additional review of the capital asset data reported for the NEPS has been conducted. It is our understanding that the parties are in basic agreement that the asset records should be adjusted to reflect the results of that review, and that the adjustments will result in a \$5.2 million reduction in the 6/30/17 net book value allocated to the NEPS – which would result in a revised total of approximately \$14.4 million. For purposes of our hypothetical analysis summarized herein, we have reflected the calculated effect of adjusting the capital revenue requirement allocations accordingly. Based on our analysis, this would **reduce** the direct OMID cost pool allocated revenue requirements by approximately \$0.82 million. However the OMID share of the reallocated common-to-all (“CTA”) revenue requirement would **increase** by \$0.12 million, resulting in a net **decrease** of \$0.70 million.
3. *Adjust the OMID only cost category revenue requirements to reflect any changes which may occur pending the review of electrical costs.*

- As noted in the request, subsequent to the establishment of the proposed FY 2019 charges, additional review of the sewer pumping station electric use and costs has been conducted. While the analysis continues<sup>4</sup>, the initial findings indicate that the NEPS accounts for approximately 36% of recent pumping station electric *bills*, and approximately 44% of recent total pumping station electric *usage*. Had we the benefit of this additional analysis at the time we conducted the FY 2019 Cost of Service Study, we likely would have allocated ***at a minimum*** 35% (rather than the 25% original figure) of total sewer pumping station operating revenue requirements to the NEPS. This hypothetical adjustment would have resulted in a \$2.74 million ***increase*** to the operating revenue requirements allocated to the OMID cost pool. However the OMID share of the reallocated common-to-all (“CTA”) revenue requirement would ***decrease*** by \$0.45 million, resulting in a net ***increase*** of \$2.49 million.
- As shown in the table, the net impact of incorporating all of the hypothetical adjustments noted above would result in a net increase of approximately \$0.94 million. Given that the parties are negotiating an Operating Agreement, and that GLWA is exploring a “Charges Stability Adjustment” to reflect potential adjustments of actual costs, we do not believe it is prudent to modify the originally proposed FY 2019 Sewer Charges.

Hypothetical Analysis Summary  
FY 2019 OMID Cost of Service Calculations - \$ *millions*

	<u>OMID Specific</u>	<u>Share of CTA</u>	<u>TOTAL</u>
Proposed FY 2019 Charges	10.50	67.79	78.29
What If Remove NIEA Int Capital?	(0.78)	0.13	(0.65)
What If Adjust NEPS Capital?	(0.82)	0.12	(0.70)
Subtotal Hypothetical Capital Adjustments	(1.60)	0.25	(1.35)
What If Adjust NEPS O&M Alloc to 40%?	2.74	(0.45)	2.29
Total Hypothetical Adjustments	1.14	(0.20)	0.94
Hypothetically Recalculated Rev Req'ts	11.64	67.59	79.23

4. *At the January 31, 2018 GLWA/OMID meeting, GLWA stated depreciation expenses for the 2018-19 sewer rates will be utilized at 60% of the book value. For the formation of GLWA, Duff and Phelps analyzed the GLWA assets, stated their values for the beginning*

<sup>4</sup> The additional review includes an analysis of the amount of wastewater volume handled by each sewer pumping station. The initial estimate indicates that the NEPS handles approximately one-third of all flows that utilize GLWA sewer pumping stations.

*balances, and revised the remaining lives of the assets. Why use 60% instead of the full amount of the depreciation expenses, does GLWA dispute the accuracy of their book values? Further, if GLWA goes forward with the 60% for 2018-19 sewer rates, is there a plan to move towards utilizing the full amounts of depreciation expense in the future?*

- As noted in the request, the GLWA capital assets were subjected to a valuation analysis conducted by Duff and Phelps, which was required to complete the creation of GLWA. The leased regional assets were booked at an acquisition value based on the Duff and Phelps analysis, which resulted in an increase in the net book value of the “acquired” assets. However it also resulted in a significant increase in the annual depreciation expense. In our opinion, GLWA does not dispute the accuracy of the book values not the depreciation expense, but also recognizes (as do we) that the changes produced by the asset valuation changed the dynamic of the overall asset structure. For purposes of the FY 2019 Cost of Service Study, we sought to strike a balance between the portion of the capital revenue requirements that were allocated (under the Utility Basis approach) based on net book value, and the portion that were allocated based on annual depreciation expense. The approach we applied successfully accomplished this balance, and adhered to the overarching stability objectives of the GLWA charge methodology initiatives. We recommend that future cost of service studies continue to embrace these objectives with respect to this specific issue.

We trust that this discussion is responsive to the request, and we are prepared to discuss this matter at your convenience.



**Audit Committee**

**Friday, April 20, 2018 at 8:00 a.m.**

5th Floor Board Room, Water Board Building  
735 Randolph Street, Detroit, Michigan 48226  
*GLWater.org*

**MEETING BINDER ADDENDUM #2**  
**(Distributed Subsequent to Meeting on April 20, 2018)**

*Agenda Item #6B - Update – FY 2017 Audit Report*

- ✓ *Request for Extension for Filing the financial report for the year ended June 30, 2017 until May 31, 2018*
- ✓ *Draft FY 2017 financial report as of April 30, 2018 (for GLWA Board Review on May 9, 2018)*



OFFICE OF THE CHIEF EXECUTIVE OFFICER  
735 RANDOLPH, SUITE 1900  
DETROIT, MICHIGAN 48226  
[WWW.GLWATER.ORG](http://WWW.GLWATER.ORG)

April 30, 2018

Mr. Nick Khouri, Treasurer  
State of Michigan  
Department of Treasury  
P.O. Box 30716  
Lansing, MI 48909

Dear Treasurer Khouri:

Thank you for previously granting an extension for submission of the audit for the Great Lakes Water Authority's (GLWA) fiscal year ended June 30, 2017 financial report until April 30, 2018. As you may recall, the reason for the extension was to provide an opportunity for the GLWA and the City of Detroit Water and Sewerage Department (DWSD) to bring closure to financial clarifications related to the leases for the regional water and sewer systems.

I am pleased to report that the GLWA Board of Directors approved a Memorandum of Understanding (MOU) Term Sheet on April 3, 2018. The next day, on April 4, 2018, the Board of Water Commissioners for DWSD approved the same document.

Since that date, staff and auditors have worked through accounting, financial reporting revisions, and related audit procedures which impacted many areas. Revised, draft statements will be posted on the GLWA website today (those draft statements and the Term Sheet are attached). The next step is to fulfill the GLWA Board's request to review the draft statements at its next meeting on May 9, 2018 before approving the submittal of the final report.

Given these circumstances, we respectfully request an extension for the the filing of the fiscal year ended June 30, 2017 audit until no later than May 31, 2018. This will ensure that the GLWA Board has an opportunity to review the financial impact of the MOU Term Sheet on the fiscal year ended June 30, 2017 financial report along with the external auditor's report.

Thank you in advance for your consideration of this request.

Very truly yours,

Sue F. McCormick  
Chief Executive Officer

cc: GLWA Audit Committee  
Nicolette Bateson, GLWA Chief Financial Officer/Treasurer  
Mark Kettner, Principal, Rehmann Robson  
Mark Tschirhart, Principal, Rehmann Robson

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# Comprehensive Annual Financial Report

*Fiscal Year Ended June 30, 2017*

We are  
***One water.***

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

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# GREAT LAKES WATER AUTHORITY

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# GREAT LAKES WATER AUTHORITY

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## CHIEF EXECUTIVE OFFICER'S TRANSMITTAL LETTER

MONTH XX, 2018

Board of Directors  
Great Lakes Water Authority

Dear Members of the Board,

I am pleased to present the inaugural Comprehensive Annual Financial Report (CAFR) of the Great Lakes Water Authority ("GLWA" or "Authority") for the fiscal year ended June 30, 2017. These financial statements were prepared in accordance with U.S. generally accepted accounting principles (GAAP) and audited by a firm of independent certified public accountants.

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 981 square miles located in eight Southeastern Michigan counties and an estimated population of nearly 3.8 million or approximately 38 percent of Michigan's population.

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 850 square miles located in three Southeastern Michigan counties and an estimated population of nearly 2.8 million or approximately 28 percent of Michigan's population.

### GLWA as a Model of Regional Collaboration

GLWA was incorporated by the City of Detroit (the "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 Regional Water Supply and Sewerage Disposal System Leases (the "Leases"), transferring the regional water and sewer facilities from the City to GLWA for an initial term of 40 years, as well as a Water and Sewer Services Agreement, pursuant to which GLWA provides water and sewer services to the City; the City then supplies these services to Detroit retail customers.

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.

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GLWA leases the regional water and sewer 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 to assist low-income residential households in enrolled member partner communities.

### Commitment to Excellence

Every month, I highlight the many accomplishments of our valued member partners and talented team working together to benefit the region in the CEO Report. Here are some highlights for FY 2017.<sup>1</sup>

#### July 2016 - Water Operations Receives Water Quality Recognition

GLWA has received the "10-Year Directors Award" from the Partnership for Safe Water, a program developed by the EPA, American Water Works Association (AWWA), and associated partner organizations to guide water systems towards improving water quality by optimizing system operations. GLWA was part of a select group of utilities honored by the Partnership at the annual AWWA conference, the largest and oldest worldwide organization dedicated to safe water.

#### August 2016 - Security & Integrity Sponsors Regional Emergency Planning

GLWA's Security & Integrity Group hosted a table top exercise utilizing its recently updated emergency response plan. Participants included the City of Detroit, Wayne County, the State of Michigan, the Michigan Department of Environmental Quality and GLWA staff.

#### September 2016 - Rating Agencies Recognize Steady Progress

GLWA received positive ratings actions from all three ratings agencies - Fitch Ratings, Moody's Investors Service and S&P Global Ratings, and became an "A" rated utility after nine months of operation as an independent regional water and sewer authority.

Fitch Ratings provided a substantial upgrade in ratings for senior and second lien debt, moving GLWA's outstanding bonds up three notches from "BBB" to an "A" rating with a stable outlook for its senior lien, and from "BBB-" to "A-" for its second lien.

Moody's Investors Service upgraded GLWA's credit rating to A3 and its second lien debt to Baa1 (the second upgrade in nine months).

S&P Global Ratings revised the stable outlook to positive for both senior lien and second lien bonds.

#### October 2016 - Thank You to Our Investors

GLWA's inaugural bond transaction priced which included nearly \$1.1 billion for refunding of outstanding debt and \$251.8 million for new capital projects for the regional and Detroit local water systems. As a result of the favorable interest rates on the bonds, GLWA will realize a net cash flow savings of \$309.1 million over the life of the refinanced bonds.

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<sup>1</sup> Available online at: <http://www.glwater.org/executive-management/ceo-reports/>

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## November 2016 - Systems Planning Presents New Capital Improvement Plan

The Asset Management/Capital Planning team presents a new business case evaluation and criteria for presentation to the Board's Capital Improvement Planning Committee. The in-depth of analysis and business case supports improved decision making and financial metrics and is based upon best practices in the water sector.

## December 2016 - Public Affairs Prepares 2016 "Year in Review"

GLWA Public Affairs Group prepares for the launch of our inaugural "Year in Review" (YIR) for 2016 where we will annually highlight the accomplishments achieved during the previous year. The YIR is presented to our team members via Town Hall-style meetings at each GLWA location where I get a chance to thank each team member (across all shifts) for their service and hear firsthand what is on their mind.<sup>2</sup>

## January 2017 - System Analytics Water Audit Consultant Selected

GLWA strives to achieve equity and stability for its customers. For this reason, the System Analytics and Meter Operations Group engaged a consultant to perform a "Water Units of Service for Non-Master Metered Customers and System Water Audit". This project will follow the American Water Works Association standard water audit compilation and review process. Results from phase 1 of the study will be used in the FY 2019 customer charge setting analysis.

## February 2017 - Information Technology Security Updates

GLWA continues to invest in technology and the security of its systems. The Information Technology Group implemented a Distributed Denial of Services protection for GLWA and for our shared service partner, DWSD. In addition, the Barracuda web filter was upgraded to provide further protections as well as other enhanced security measures.

## March 2017 - Organizational Development Launches Apprenticeship Program

Seeking innovative ways to approach hard-to-fill jobs, GLWA launches a three-year apprenticeship to hire and train Electrical Instrument Control Technicians (EICTs) in partnership with Focus: HOPE and Henry Ford College. This program will develop a workforce to fill a skill gap in the employment market. Upon successful completion of the program, individuals will have obtained their EICT-I certification from Henry Ford College, receive a U.S. Department of Labor journeyman card, and full-time employment at a starting wage of \$25 per hour.

## April 2017 - Regional Collaboration Expands - City of Flint Selects GLWA Water

A historic collaboration among GLWA, City of Flint, Genesee County Drain Commissioner, Karegnondi Water Authority, and the State of Michigan resulted in the signing of a Statement of Principles for Long Term Water Delivery to the City of Flint. GLWA will become the primary water source for the City of Flint and now also provides backup service for Flint, GLWA and Genesee County customers utilizing the public investments already made by the parties with minimal new investments. This ended a 17-year timeframe in which Flint considered other water supply options. All agreements were finalized in December 2017.

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<sup>2</sup> Year in Review online at <http://www.glwater.org/wp-content/uploads/2017/03/2016-Year-End-Review.pdf>.

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## May 2017 - Systems Planning Group Wastewater Master Plan Study Underway

Beginning in April, the Wastewater Master Plan Steering Committee launched monthly meetings with engaged stakeholders. The regional collaboration opportunities are significant. The master plan is a long-term project which would ultimately develop a roadmap to go from “clean to green” as we are on a trajectory of being a clean system to a Utility of the Future.

## June 2017 - GLWA Board Approves Budget and Charges for FY 2018

Due to excellent financial performance as we neared the end of FY 2017, the GLWA Board adopted drinking water charges at 2 percent overall and limited sewer charges to an overall 1.9 percent increase for FY 2018.

These are a few of the examples of how the good work that is done every day at GLWA leads to excellence that supports a financially sustainable system for many generations to come.

## Overview of the Financial Report

This report consists of management’s representations concerning the finances of GLWA. Consequently, management assumes full responsibility for the completeness and reliability of all the information presented in this report. To provide a reasonable basis for making these representations, GLWA management has established a comprehensive internal control framework that is designed both to protect the entity’s assets from loss, theft, or misuse and to compile sufficient reliable information for the preparation of the Authority’s financial statements in conformity with GAAP. Because the cost of internal controls should not outweigh their benefits, GLWA’s comprehensive framework of internal controls has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. As management, we assert that, to the best of our knowledge and belief, this financial report is complete and reliable in all material respects.

The Authority’s financial statements have been audited by Rehmann Robson, a firm of licensed certified public accountants. The goal of the independent audit was to provide reasonable assurance that the financial statements of the Authority for the fiscal year ended June 30, 2017 are free of material misstatement. The independent audit involved examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; assessing the accounting principles used and significant estimates made by management; and evaluating the overall financial statement presentation. The independent auditor concluded, based upon the audit, that there was a reasonable basis for rendering an unmodified opinion that GLWA’s financial statements for the fiscal year ended June 30, 2017 are fairly presented in conformity with GAAP. The independent auditor’s report is presented as the first component of the financial section of this report.

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 complement the MD&A and should be read in conjunction with it. GLWA’s MD&A can be found immediately following the report of the independent auditors.

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## Acknowledgements

When we say “our” system, it is “our” system that we mutually support and foster 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.

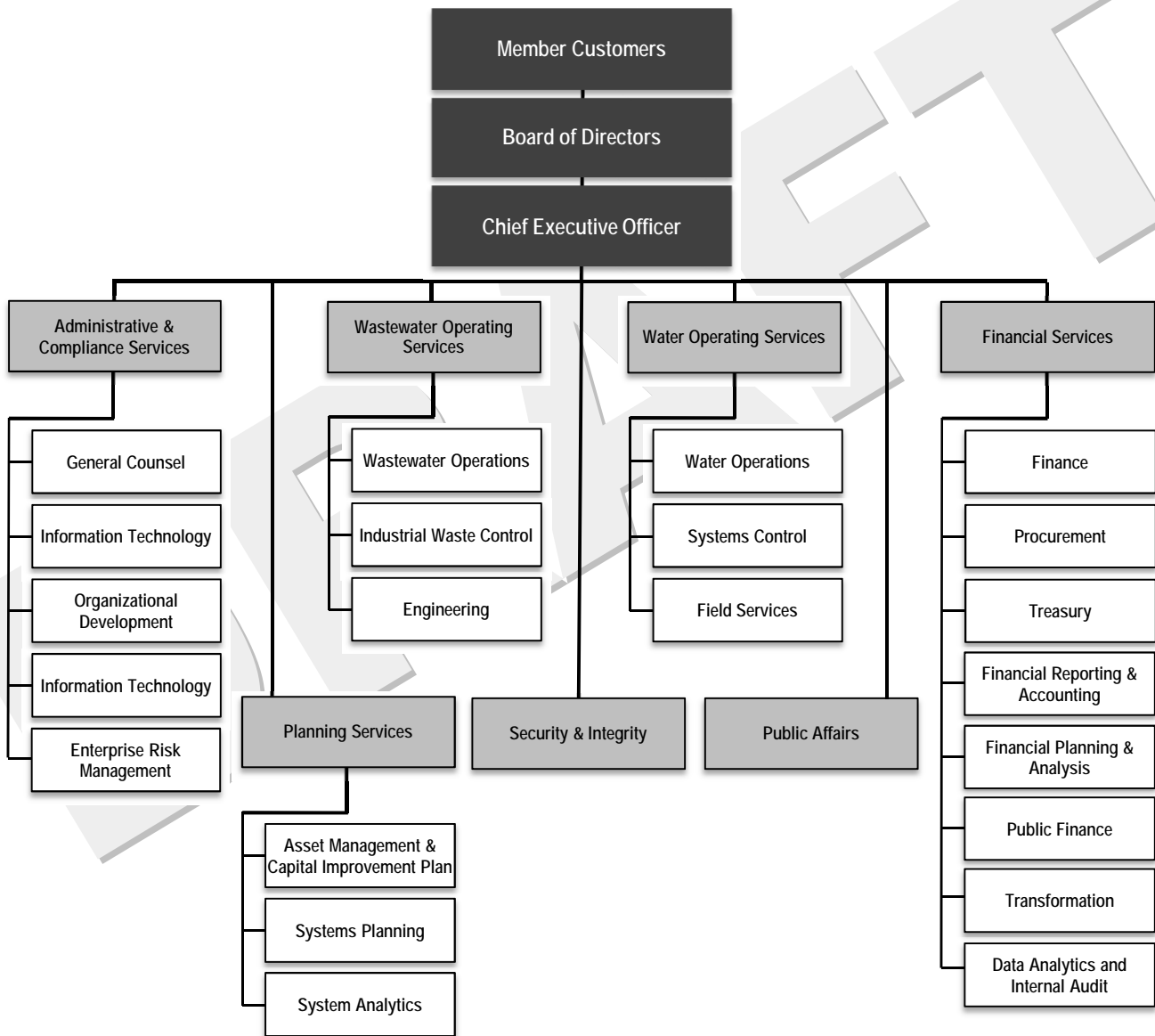
Sue McCormick  
Chief Executive Officer

DRAFT

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## Organizational Line of Reporting Chart



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## Great Lakes Water Authority Board of Directors

Robert J. Daddow ..... GLWA Board Chairman; Representative for Oakland County  
Freman Hendrix ..... GLWA Board Vice Chair; Representative for the City of Detroit  
Brian Baker ..... GLWA Board Secretary; Representative for Macomb County  
Gary A. Brown ..... GLWA Board Representative for City of Detroit  
Craig Hupy ..... GLWA Board Representative for the State of Michigan  
Abe Munfakh, PE ..... GLWA Board Representative for Wayne County

## Great Lakes Water Authority Executive Leadership Team

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

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## MANAGEMENT'S DISCUSSION AND ANALYSIS

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# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

June 30, 2017

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, 2017. 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

*Our 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 981 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 customers 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%.

*Our regional sewer system* is one of the largest in the United States, both in terms of treatment capacity and population served. The Sewer System currently serves an area of 850 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 customers comprise approximately 75% of the population served by the Authority, while retail sewer customers served by the City of Detroit Water and Sewerage Department comprise the remaining 25%.

GLWA began operations on January 1, 2016. This fiscal year ended June 30, 2017 report represents the first twelve-month report for GLWA.

### A New Organization with a Long History of Quality Service

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 Sewer 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.

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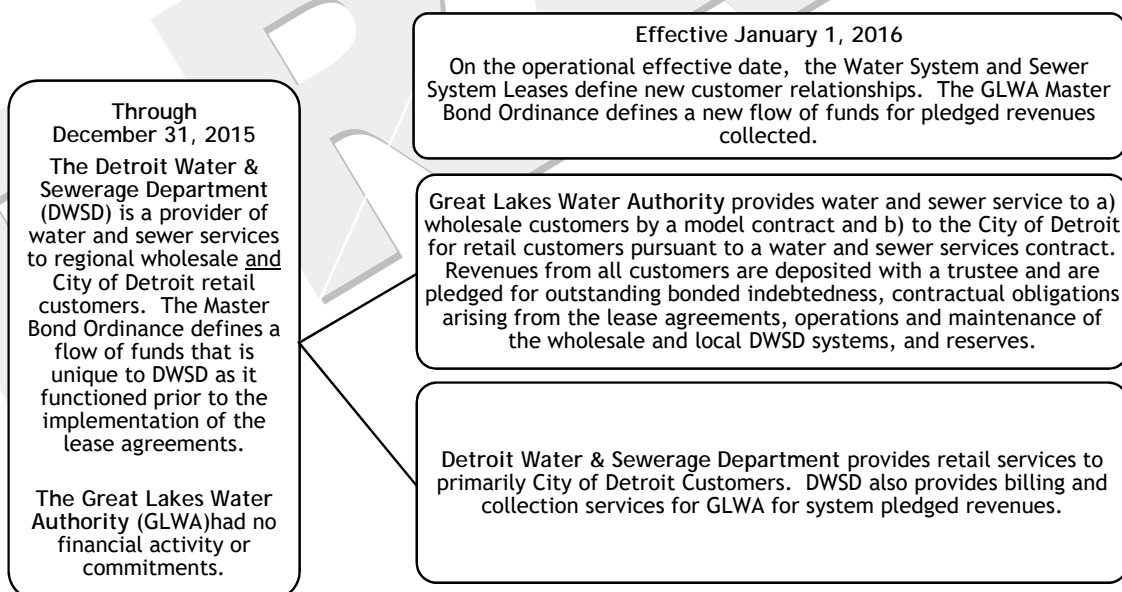


# GREAT LAKES WATER AUTHORITY

## 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 “Leases”) and a Water and Sewer Services Agreement (“WSSA”). Prior to implementation of the Leases, several conditions precedent were necessary to establish the financial and legal parameters before the GLWA could assume control of the Regional Systems. Those conditions precedent included execution of the Leases, WSSA, a Shared Services Agreement, and a Detroit General Retirement pension agreement; adoption of a Master Bond Ordinance (“MBO”) for both the Water System and the Sewer System; confirmation from the Michigan Department of Environmental Quality that all permits were secured for the Leased Facilities; certification from the bond trustee that no less than 51% of bondholders of the outstanding DWSD Water Bonds and DWSD Sewer Bonds, respectively, consented to the adoption by GLWA of the MBO for the Water System and the Sewer 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 Master Bond Ordinance for each system; legal opinions that each 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 determined that all conditions precedent were satisfied to commence operations on January 1, 2016.

Activity for the Leases was recorded based upon GASB 69, *Government Combinations and Disposals of Government Operations*. Equally important to the accounting treatment is the requirement of the flow of funds in the related MBO. 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 Leases, DWSD is GLWA’s agent for retail billing and collections. The chart below depicts the DWSD and GLWA customer relationship and the impact of the MBO flow of funds.



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## GREAT LAKES WATER AUTHORITY

### Management's Discussion and Analysis

#### Leases Accounting Treatment

Key Statement of Net Assets implications include the following:

**Capital Assets:** Capital assets subject to the Leases were recorded at “acquisition value” based upon an inventory valuation performed by a certified appraisal firm. 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 General Retirement (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% of the liability was allocable to the GLWA regional operations and 29.7% to DWSD. That allocation is further subdivided between the Water System and the Sewer 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 70.3% of the total liability consistent with the allocation applied to the net pension 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 Sewer System. In accordance with GASB 69, the opening capital assets were adjusted by an amount to establish a beginning total net position of zero.

**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.

#### 2018 Memorandum of Understanding Term Sheet

In the course of operations, GLWA and DWSD determined that it would be in their mutual interest to clarify certain matters pertaining to the operation of the Leases and WSSA. Discussions began in 2016 regarding creation of a Memorandum of Understanding (“MOU”) to accomplish that goal. This led to the drafting of a Term Sheet, and ultimately an MOU, with the intent to (a) provide clarification of specific sections of the Leases, WSSA and the MBO, (b) make adjustments contemplated by the Leases and the WSSA and (c) address the liquidation of specific liabilities. On April 3, 2018, the Board of Directors for the Great Lakes Water Authority approved the MOU Term Sheet (“Term Sheet”). On April 4, 2018, the Board of Water Commissioners for DWSD approved the same Term Sheet. The final MOU agreement is expected to be completed within the subsequent 90 days.

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

The 2018 Term Sheet resulted in a special item of \$94.3 million with \$32.8 million attributable to the water system and \$61.5 million attributable to the sewer system which increased the deficit. Despite the special item, the clarifications provided by the Term Sheet provide other long-term benefits for both parties which largely negate the impact over time.

### Financial Highlights

Total business-type current assets of \$834.8 million exceed current liabilities of \$318.1 million by \$516.7 million in total or 2.6 times. For the Water System, current assets of \$426.4 million exceed current liabilities of \$136.4 million by \$290.0 million in total or 3.1 times. For the Sewer System, current assets of \$408.3 million exceed current liabilities of \$181.8 million by \$226.5 million in total or 2.2 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, 2017 by \$102.8 million (a net deficit). The net deficit for the water fund was \$36.5 million and \$66.3 million for the sewage disposal fund.

The largest category of expense is depreciation at \$329.8 million in total with \$144.2 million for the water fund and \$185.6 million for the sewage disposal fund. The depreciation is based upon the assets that were recorded at acquisition value on January 1, 2016 as previously noted. The second largest category of expense is interest expense at \$291.6 million in total with \$132.4 million for the water fund and \$159.2 million for the sewage disposal fund.

### 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 all of 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 only 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.

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## 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 Sewer System: 1) operation and maintenance (low capital investment), 2) improvement and extension (moderate capital investment and financial mechanism to lower the 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 the customers and services provided by each system are separate and distinct.

#### 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, 2017 with a \$102.8 million net deficit. The net deficit for the water fund was \$36.5 million and \$66.3 million for the sewage disposal fund.

	Net Position		
	Water Fund	Sewage Disposal Fund	Total
Current and other assets	\$ 873,202,483	\$ 683,922,878	\$ 1,557,125,361
Restricted assets	260,680,701	313,142,232	573,822,933
Capital assets	2,039,477,277	2,869,309,560	4,908,786,837
<b>Total assets</b>	<b>3,173,360,461</b>	<b>3,866,374,670</b>	<b>7,039,735,131</b>
Deferred outflows of resources	120,786,005	236,814,914	357,600,919
Long-term debt	2,629,859,336	3,301,937,037	5,931,796,373
Net pension liability	69,569,044	124,506,503	194,075,547
Other liabilities	561,718,746	681,884,056	1,243,602,802
<b>Total liabilities</b>	<b>3,261,147,126</b>	<b>4,108,327,596</b>	<b>7,369,474,722</b>
Deferred inflows of resources	69,473,490	61,222,831	130,696,321
<b>Net position</b>			
Net investment in capital assets	134,919,107	393,956,399	528,875,506
Restricted for debt service	26,194,280	107,931,677	134,125,957
Restricted for capital acquisition	172,974,994	150,930,508	323,905,502
Restricted for payment assistance program	2,218,373	3,117,744	5,336,117
Unrestricted (deficit)	(372,780,904)	(722,297,171)	(1,095,078,075)
<b>Total net position</b>	<b>\$ (36,474,150)</b>	<b>\$ (66,360,843)</b>	<b>\$ (102,834,993)</b>

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

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.

Net investments in capital assets is the largest component of the net position with a total balance of \$528.9 million (\$134.9 million the water fund and \$394.0 for the sewage disposal fund). Increases during the year were attributable to the acquisition of assets and repayment of debt which were both largely offset by depreciation expense.

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 \$134.1 million with \$26.2 million in the water fund and \$107.9 million for the sewage disposal fund.

Net position restricted for capital acquisition primarily represents unspent bond proceeds of \$323.9 million in total with \$173.0 million in the water fund and \$150.9 million in the sewage disposal fund.

The remaining unrestricted deficit is significant: a total of \$1.1 billion with \$372.8 million for the water fund and \$722.3 for the sewage disposal fund. Unrestricted net position (deficit) is generally defined as the net result of the other components of net position. This unrestricted deficit is representative of numerous cumulative historical financial activities over many years through the predecessor entity. The largest dollar amounts were driven by swap termination fees paid by debt and capital financed assets that were subsequently written off. 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, and expand its expertise in asset management.

### Change in Net Position

#### Water Fund

Wholesale water customer charges of \$331.1 million account for 94.1% of Water System revenues from 88 customers. Revenue and charge stability are important goals for GLWA and its member partners. Working within a collaborative process, the water charge structure is based on the following:

1. 40% is based on the average annual sales for each customer from their 24 prior months of usage ending September 30th each year.
2. 60% is based on fixed monthly charges.
3. Fiscal year 2017 revenue billed was 106% of budget meeting the goal of revenue stability.

Local system revenues of \$15.5 million account for 4.4% of the total operating revenue. Pursuant to the terms of the WSSA with DWSD, a \$20.7 million credit is applied in the charge methodology. This credit replaces a previous ownership benefit that was in place prior to the Effective Date of the Regional System.

The remaining 1.5% of revenue is mainly due to the bad debt recovery. Collections on the retail customers prior balances has resulted in a positive adjustment to the allowance for doubtful accounts.

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# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

Operating expenses of \$245.9 million represent 69.9% of total operating revenue. Depreciation is the largest operating expense at \$144.1 million or 58.6% of operating expense. The remaining 41.4% of operating expenses is as follows:

	Amount	Percent of Operating Expenses
Personnel	\$ 38,261,393	15.6%
Contractual services	34,257,419	13.9%
Utilities	28,469,603	11.6%
Chemicals	5,340,753	2.2%
Supplies and other expenses	7,982,562	3.2%
Capital program allocation	(977,762)	-0.4%
Shared services allocation	(11,603,019)	-4.7%

The largest category of nonoperating activities is interest expense of \$132.4 million which is net of capitalized interest on construction work in progress. Interest expense before capitalization is largely attributable to debt service (\$119.4 million) with the remainder related to the Water Lease and obligation payable.

Operating income after operating expenses (including depreciation) equals \$105.9 million or 30.1% of operating revenue.

### Sewage Disposal Fund

Wholesale customer charges of \$263.3 million account for 52.1% of Sewer System revenues from 18 customers. Wholesale customer charges are based on a "share" percentage of the annual budget billed one-twelfth each month. The shares are established based upon historical flows and are formally revisited every five years. The result is no revenue shortfall or overestimation.

Local system revenues of \$187.3 million account for 37.0% of total operating revenues. Pursuant to the terms of the WSSA with DWSD, a \$5.516 million credit is applied in the charge methodology. This credit replaces a previous ownership benefit that was in place prior to the Effective Date of the Regional System.

The remaining 10.9% of revenue is due to other charges such as industrial waste charges, pollutant surcharges which are charged to non-residential users. This also includes a bad debt recovery as collections on the retail customers prior balances has resulted in a positive adjustment to the allowance for doubtful accounts.

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## GREAT LAKES WATER AUTHORITY

### Management's Discussion and Analysis

Operating expenses of \$336.9 million represent 66.6% of total operating revenue. Depreciation is the largest operating expense at \$185.6 million or 55.1% of operating expense. The remaining 44.9% of operating expenses is as follows:

	Amount	Percent of Operating Expenses
Personnel	\$ 47,894,911	14.2%
Contractual services	55,878,440	16.5%
Utilities	27,191,866	8.1%
Chemicals	9,424,428	2.8%
Supplies and other expenses	12,180,128	3.6%
Capital program allocation	(1,150,316)	-0.3%
Shared services allocation	(101,191)	0.0%

The largest category of nonoperating activities is interest expense of \$159.2 million which is net of capitalized interest on construction work in progress. Interest expense before capitalization is largely attributable to debt service (\$141.1 million) with the remainder related to the Sewer Lease and obligation payable.

Operating income after operating expenses (including depreciation) equals \$168.9 million or 33.4% of operating revenue.

	Change in Net Position		
	Water Fund	Sewage Disposal Fund	Total
Operating revenues	\$ 351,749,944	\$ 505,807,082	\$ 857,557,026
Operating expenses	245,868,861	336,946,731	582,815,592
Operating income	105,881,083	168,860,351	274,741,434
Nonoperating expenses	(105,452,057)	(163,470,934)	(268,922,991)
Income before contributions and special item	429,026	5,389,417	5,818,443
Capital contributions	-	320,707	320,707
Special item - MOU with DWSD	(32,811,581)	(61,478,682)	(94,290,263)
Change in net position	(32,382,555)	(55,768,558)	(88,151,113)
Net position, beginning	(4,091,595)	(10,592,285)	(14,683,880)
Net position, end of year	\$ (36,474,150)	\$ (66,360,843)	\$ (102,834,993)

# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

### Capital Assets and Debt Administration

GLWA's investment in capital assets as of June 30, 2017 is \$4.9 billion (net of accumulated depreciation) with \$2.0 billion assigned to the Water System and \$2.9 billion assigned to the Sewer System. This investment in capital assets includes land, buildings, plants, transmission lines, vehicles and other equipment. Total net capital assets decreased by \$230.6 million or 4.5% when compared to the prior year. The net decrease is primarily attributable to depreciation in excess of current year additions.

#### Water Fund

Water System additions were largely due to construction work-in-progress of \$39.7 million.

Approximately one-half of that amount, \$18.9 million, is due to construction related to the following projects:

- Project # 114001: 1958 Filter Rehabilitation at the Springwells Water Treatment Plant (Contracts CS-1425, CS-200, SP-563). Fiscal year 2017 expenditures were \$11.4 million. Life to date costs through June 30, 2017 total \$82.9 million. The project is expected to be completed in fiscal year 2019.
- Project # 122012: 36-Inch Water Main in Telegraph Road (Contract WS-648A). Fiscal year 2017 expenditures were \$7.5 million. Life to date costs through June 30, 2017 total \$8.1 million. Project is expected to be substantially completed in fiscal year 2018.
- The remaining \$20.7 million is attributable to the 55 projects that are either near closeout in fiscal year 2018 or are design and study contracts related to larger projects.

#### Sewage Disposal Fund

Sewer System additions were also largely due to construction work-in-progress of \$57.3 million.

Slightly more than one-half of that amount, \$33.1 million, is due to construction related to the following projects:

- Project # 260113: Remediation at the Water Resource Recovery Facility (WRRF)-Complex II. Fiscal year 2017 expenditures and life to date costs through June 30, 2017 total \$17.0 million. Work performed represents capital remediation related to a March 2016 WRRF fire and capital improvements and enhancements prioritized by the event. It is expected to be completed in fiscal year 2018.
- Project # 211001: Rehabilitation of Primary Clarifiers, Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery (Contract PC-757). Fiscal year 2017 expenditures and life to date costs through June 30, 2017 total \$10.2 million. The project is expected to be completed in fiscal year 2020.
- Project # 212006: Rouge River Outfall Project (Contracts PC-797, CS-1781). Fiscal year 2017 expenditures were \$5.9 million. Life to date costs through June 30, 2017 total \$6.8 million. Project is expected to be completed in fiscal year 2019.
- The remaining \$24.2 million is attributable to the 35 projects that are either near closeout in fiscal year 2018 or are design and study contracts related to larger projects.

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# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

	GLWA's Capital Assets, Net		
	Water Fund	Sewage Disposal Fund	Total
Land	\$ 34,166,736	\$ 28,733,333	\$ 62,900,069
Easements	258,632,397	96,211,323	354,843,720
Construction in progress	159,386,541	153,341,462	312,728,003
Site improvements	44,469,705	26,085,887	70,555,592
Buildings and structures	502,131,859	997,629,533	1,499,761,392
Infrastructure	529,833,717	576,465,804	1,106,299,521
Machinery and equipment	509,861,713	989,666,708	1,499,528,421
Vehicles	994,609	1,175,510	2,170,119
Total	<u>\$ 2,039,477,277</u>	<u>\$ 2,869,309,560</u>	<u>\$ 4,908,786,837</u>

Additional information on the Authority's capital assets can be found in Note 5.

**Long-term Debt.** At year-end, the Authority had \$5.5 billion of long-term debt. All the outstanding bonds are revenue bonds, including capital appreciation bonds and state revolving fund loans.

### Water Fund

The total outstanding bonds for the Water System is \$2.4 billion, increasing by \$80.1 million from the prior year.

In October 2016, new revenue and refunding bonds in the amount of \$917,805,000 were issued for GLWA system improvements (\$201,090,000), refunding (\$665,975,000) and pass-thru of DWSD system improvements of (\$50,740,000). Repayment of GLWA bonds issued are funded by charges to all customers. Repayment of the DWSD specific bonds are paid by DWSD from retail customer collections.

Less than 1% 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 \$2.44 million in new state revolving fund loans and received a \$1.17 million in loan forgiveness. The state revolving fund loan activity for the year was a pass-through to DWSD for system improvements.

### Sewage Disposal Fund

The total outstanding bonds for the Sewer System is \$3.1 billion, decreasing by \$125.7 million from the prior year.

In October 2016, new revenue and refunding bonds in the amount of \$421,295,000 were issued. Repayment of GLWA bonds issued are funded by charges to all customers.

Approximately 15.4% of the total indebtedness is issued through the State of Michigan revolving fund loan program for the benefit of the Sewer System. The Sewer System received \$22.2 million in new state revolving fund loans.

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# GREAT LAKES WATER AUTHORITY

## Management's Discussion and Analysis

	GLWA's Outstanding Debt		
	Water Fund	Sewage Disposal Fund	Total
Revenue bonds	\$ 2,340,885,000	\$ 2,636,510,000	\$ 4,977,395,000
Capital appreciation bonds	-	22,815,000	22,815,000
State revolving loans	17,252,235	485,267,036	502,519,271
<b>Total</b>	<b>\$ 2,358,137,235</b>	<b>\$ 3,144,592,036</b>	<b>\$ 5,502,729,271</b>

### Credit Ratings

The ratings for the Water and Sewer Systems are at the same level. GLWA received positive ratings action from all three rating agencies in its first nine months of operations. Presently, Fitch Ratings has rated senior lien debt at A and second lien at A-; Standard & Poor's has rated senior lien debt at A- and second lien at BBB+; and Moody's has rated senior lien debt at A3 and second lien at Baa1.

Additional information on the Authority's long-term debt can be found in Note 6.

### Economic Factors Affecting Next Year's Operations and Rates

On June 7, 2017, the GLWA Board adopted the biennial budget for the Authority for fiscal years 2018 and 2019. That two-year financial plan remains true to a foundational commitment to control the budget within a 4% cap.

### Water Fund

Due to favorable Water System financial performance the budget decreased by one percent for FY 2018. This translated into a system average charge increase of 2% depending on each customer's usage in relation to other customers. An additional consideration was that an agreement was likely for the City of Flint to enter a 30-year model contract in FY 2018 which has a positive revenue impact.

### Sewage Disposal Fund

Due to favorable Sewer System financial performance the budget increased by only 0.3 percent for FY 2018. This translated into a system average charge increase of 1.9%. This average increase reflects an amended sewer shares allocation, based on a strength of flow study that will be phased-in over a two-year period (FY 2018 and FY 2019). This outcome, which shifted shares among customers, was the result of a year-long data collection and research study by a technical team comprised of GLWA and its sewer customers.

### 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](http://www.glwater.org).

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## BASIC FINANCIAL STATEMENTS

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# GREAT LAKES WATER AUTHORITY

## Statement of Net Position

June 30, 2017

	Enterprise Funds		Total Business-type Activities
	Water Fund	Sewage Disposal Fund	
<b>Assets</b>			
Current assets:			
Cash and cash equivalents	\$ 266,483,138	\$ 203,748,704	\$ 470,231,842
Restricted cash and cash equivalents	60,753,268	72,213,813	132,967,081
Restricted cash for the benefit of DWSD	288,378	-	288,378
Investments	852,420	1,430,608	2,283,028
Restricted investments	1,169,187	31,371,834	32,541,021
Receivables:			
Billed	36,459,563	52,234,778	88,694,341
Unbilled	29,539,433	24,279,170	53,818,603
Other	1,300	3,157,050	3,158,350
Allowance for doubtful accounts	(4,941,777)	(30,410,232)	(35,352,009)
Due from other governments	21,327,713	29,461,328	50,789,041
Contractual obligation receivable	12,076,942	11,262,300	23,339,242
Prepaid items and other assets	2,437,047	1,089,521	3,526,568
Inventories	-	8,509,454	8,509,454
<b>Total current assets</b>	<b>426,446,612</b>	<b>408,348,328</b>	<b>834,794,940</b>
Noncurrent assets:			
Restricted cash and cash equivalents	177,939,494	128,378,837	306,318,331
Restricted investments	20,530,374	81,177,748	101,708,122
Contractual obligation receivable	483,604,380	346,828,300	830,432,680
Prepaid lease	11,250,000	13,750,000	25,000,000
Assets not subject to depreciation	452,185,674	278,286,118	730,471,792
Capital assets being depreciated, net	1,587,291,603	2,591,023,442	4,178,315,045
Prepaid insurance on debt	14,112,324	18,581,897	32,694,221
<b>Total noncurrent assets</b>	<b>2,746,913,849</b>	<b>3,458,026,342</b>	<b>6,204,940,191</b>
<b>Total assets</b>	<b>3,173,360,461</b>	<b>3,866,374,670</b>	<b>7,039,735,131</b>
Deferred outflows of resources			
Deferred loss on refunding	99,294,499	198,351,942	297,646,441
Deferred pension amounts	21,491,506	38,462,972	59,954,478
<b>Total deferred outflows of resources</b>	<b>120,786,005</b>	<b>236,814,914</b>	<b>357,600,919</b>

continued...

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# GREAT LAKES WATER AUTHORITY

## Statement of Net Position

June 30, 2017

	Enterprise Funds		
	Water Fund	Sewage Disposal Fund	Total Business-type Activities
<b>Liabilities</b>			
Current liabilities:			
Accounts and contracts payable	\$ 36,751,842	\$ 27,546,558	\$ 64,298,400
Accrued salaries, wages and benefits	3,190,038	-	3,190,038
Other accrued liabilities	1,353,816	898,800	2,252,616
Due to other governments	25,393,813	35,848,573	61,242,386
Interest payable	39,329,322	41,011,198	80,340,520
Current portion of:			
Long-term debt	23,393,905	65,920,307	89,314,212
Leases payable	4,618,174	5,644,435	10,262,609
Obligation payable	159,803	359,448	519,251
Accrued compensated absences	2,157,888	679,260	2,837,148
Accrued workers' compensation	25,000	-	25,000
Claims and judgments	-	3,852,062	3,852,062
Total current liabilities	<u>136,373,601</u>	<u>181,760,641</u>	<u>318,134,242</u>
Noncurrent liabilities:			
Other noncurrent liabilities	2,582,076	5,983,201	8,565,277
Long-term debt	2,606,465,431	3,236,016,730	5,842,482,161
Long-term leases payable	426,303,346	521,037,424	947,340,770
Obligation payable	17,265,503	38,835,597	56,101,100
Accrued compensated absences	2,288,125	-	2,288,125
Accrued workers' compensation	225,000	-	225,000
Claims and judgments	75,000	187,500	262,500
Net pension liability	69,569,044	124,506,503	194,075,547
Total noncurrent liabilities	<u>3,124,773,525</u>	<u>3,926,566,955</u>	<u>7,051,340,480</u>
Total liabilities	<u>3,261,147,126</u>	<u>4,108,327,596</u>	<u>7,369,474,722</u>
Deferred inflows of resources			
Deferred amounts for swap terminations	85,068	214,393	299,461
Deferred gain on refunding	62,822,646	49,257,784	112,080,430
Deferred pension amounts	6,565,776	11,750,654	18,316,430
Total deferred inflows of resources	<u>69,473,490</u>	<u>61,222,831</u>	<u>130,696,321</u>
Net position			
Net investment in capital assets	134,919,107	393,956,399	528,875,506
Restricted for debt service	26,194,280	107,931,677	134,125,957
Restricted for capital acquisition	172,974,994	150,930,508	323,905,502
Restricted for payment assistance program	2,218,373	3,117,744	5,336,117
Unrestricted (deficit)	<u>(372,780,904)</u>	<u>(722,297,171)</u>	<u>(1,095,078,075)</u>
Total net position	<u>\$ (36,474,150)</u>	<u>\$ (66,360,843)</u>	<u>\$ (102,834,993)</u>

concluded.

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

## GREAT LAKES WATER AUTHORITY

### Statement of Revenues, Expenses and Changes in Net Position

For the Year Ended June 30, 2017

	Enterprise Funds		
	Water Fund	Sewage Disposal Fund	Total Business-type Activities
Operating revenues			
Wholesale customer charges	\$ 331,115,131	\$ 263,311,745	\$ 594,426,876
Industrial waste charges	-	14,381,106	14,381,106
Pollutant surcharges	-	5,206,294	5,206,294
Local system charges	15,490,300	187,304,100	202,794,400
Bad debt recovery	5,107,125	35,065,030	40,172,155
Other revenues	37,388	538,807	576,195
Total operating revenues	351,749,944	505,807,082	857,557,026
Operating expenses			
Operating before depreciation:			
Personnel	38,261,393	47,894,911	86,156,304
Contractual services	34,257,419	55,878,440	90,135,859
Utilities	28,469,603	27,191,866	55,661,469
Chemicals	5,340,753	9,424,428	14,765,181
Supplies and other expenses	7,982,562	12,180,128	20,162,690
Capital program allocation	(977,762)	(1,150,316)	(2,128,078)
Shared services allocation	(11,603,019)	(101,191)	(11,704,210)
Total operating before depreciation	101,730,949	151,318,266	253,049,215
Depreciation	144,137,912	185,628,465	329,766,377
Total operating expenses	245,868,861	336,946,731	582,815,592
Operating income	105,881,083	168,860,351	274,741,434
Nonoperating revenues (expenses)			
Earnings on investments	1,832,918	2,209,872	4,042,790
Interest on obligations receivable	25,269,750	17,062,678	42,332,428
Interest expense, net of capitalized interest	(132,434,945)	(159,157,152)	(291,592,097)
Amortization of debt related items and costs of issuance	2,403,018	(17,340,200)	(14,937,182)
Other	(2,283,399)	(6,203,206)	(8,486,605)
Loss on disposal of capital assets	(207,900)	(42,926)	(250,826)
Loss on impairment of capital assets	(31,499)	-	(31,499)
Total nonoperating expenses	(105,452,057)	(163,470,934)	(268,922,991)
Income before contributions and special item	429,026	5,389,417	5,818,443
Capital contributions	-	320,707	320,707
Special item - memorandum of understanding with DWSD	(32,811,581)	(61,478,682)	(94,290,263)
Change in net position	(32,382,555)	(55,768,558)	(88,151,113)
Net position (deficit), beginning of year	(4,091,595)	(10,592,285)	(14,683,880)
Net position (deficit), end of year	\$ (36,474,150)	\$ (66,360,843)	\$ (102,834,993)

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, 2017

	Enterprise Funds		Total Business-type Activities
	Water Fund	Sewage Disposal Fund	
<b>Cash flows from operating activities</b>			
Cash received from customers	\$ 371,376,130	\$ 469,715,953	\$ 841,092,083
Cash payments to suppliers for goods and services	(58,059,394)	(88,808,269)	(146,867,663)
Cash payments for employee services	(65,550,769)	(85,935,607)	(151,486,376)
Cash received (paid) from interfund services provided	(65,971)	65,971	-
Cash received for DWSD budget stabilization	369,109	2,680,092	3,049,201
Cash received (net) for DWSD nonoperating pension	622,642	522,683	1,145,325
Cash payments (net) from miscellaneous nonoperating income (expense)	(2,283,399)	(6,203,206)	(8,486,605)
Other receipts	477,474	-	477,474
Principal payments received on obligation receivable	9,139,470	4,288,922	13,428,392
Interest received on obligation receivable	25,355,136	17,062,678	42,417,814
Payment of long-term debt proceeds to DWSD	(56,995,800)	-	(56,995,800)
Payments for bond issuance costs on DWSD debt	(222,234)	-	(222,234)
Proceeds to DWSD from issuance of state revolving fund loans	(2,032,280)	-	(2,032,280)
Transfer affordability bank account to DWSD	(977,278)	-	(977,278)
<b>Net cash provided by operating activities</b>	<b>221,152,836</b>	<b>313,389,217</b>	<b>534,542,053</b>
<b>Cash flows from noncapital financing activities</b>			
Proceeds from issuance of long-term debt for DWSD	57,218,034	-	57,218,034
Proceeds from state revolving fund loans for DWSD	2,436,781	-	2,436,781
Interest payments	(451,022)	-	(451,022)
<b>Net cash provided by noncapital financing activities</b>	<b>59,203,793</b>	<b>-</b>	<b>59,203,793</b>
<b>Cash flows from capital and related financing activities</b>			
Proceeds from fire remediation	-	5,000,000	5,000,000
Proceeds from issuance of long-term refunding debt	999,700,247	482,467,729	1,482,167,976
Proceeds from state revolving fund loans	-	22,216,294	22,216,294
Payment to bond refunding escrow agent	(797,926,349)	(505,629,823)	(1,303,556,172)
Payments for bond issuance costs	(4,167,889)	(2,520,484)	(6,688,373)
Principal payments on bonds	(65,195,000)	(89,045,000)	(154,240,000)
Principal payments on lease	(4,429,876)	(5,414,293)	(9,844,169)
Interest payments	(134,868,353)	(164,865,242)	(299,733,595)
Purchase of capital assets	(43,750,490)	(55,206,526)	(98,957,016)
<b>Net cash used in capital and related financing activities</b>	<b>(50,637,710)</b>	<b>(312,997,345)</b>	<b>(363,635,055)</b>

continued...

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# GREAT LAKES WATER AUTHORITY

## Statement of Cash Flows

For the Year Ended June 30, 2017

	Enterprise Funds		Total Business-type Activities
	Water Fund	Sewage Disposal Fund	
Cash flows from investing activities			
Investment purchases	\$ (210,263,613)	\$ (290,767,815)	\$ (501,031,428)
Investment maturities	270,263,564	300,005,179	570,268,743
Interest received	1,532,301	1,967,971	3,500,272
Net cash provided by investing activities	61,532,252	11,205,335	72,737,587
Net change in cash and cash equivalents	291,251,171	11,597,207	302,848,378
Cash and cash equivalents, beginning of year	214,213,107	392,744,147	606,957,254
Cash and cash equivalents, end of year	<u>\$ 505,464,278</u>	<u>\$ 404,341,354</u>	<u>\$ 909,805,632</u>
Statement of net position classification of cash			
Cash and cash equivalents	\$ 266,483,138	\$ 203,748,704	\$ 470,231,842
Restricted cash and cash equivalents	61,041,646	72,213,813	133,255,459
Noncurrent restricted cash and cash equivalents	177,939,494	128,378,837	306,318,331
	<u>\$ 505,464,278</u>	<u>\$ 404,341,354</u>	<u>\$ 909,805,632</u>

continued...

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## GREAT LAKES WATER AUTHORITY

### Statement of Cash Flows

For the Year Ended June 30, 2017

	Enterprise Funds		Total
	Water Fund	Sewage Disposal Fund	Business-type Activities
Reconciliation of operating income to net cash provided by operating activities:			
Operating income	\$ 105,881,083	\$ 168,860,351	\$ 274,741,434
Adjustments to reconcile operating income to net cash provided by operating activities:			
Depreciation	144,137,912	185,628,465	329,766,377
Miscellaneous nonoperating income (expense)	(2,283,399)	(6,203,206)	(8,486,605)
Loan forgiveness pass through to DWSD	(1,168,307)	-	(1,168,307)
Interest income on contractual obligation receivable	25,269,750	17,062,678	42,332,428
Interest expense on obligation payable	(717,819)	(1,614,602)	(2,332,421)
Adjustment of special item	(32,811,581)	(61,478,682)	(94,290,263)
Changes in:			
Receivables:			
Billed	1,169,607	(4,187,844)	(3,018,237)
Unbilled	2,768,512	(1,241,779)	1,526,733
Other (excludes capital item)	21,897,746	84,591,939	106,489,685
Allowance for doubtful accounts	(20,098,835)	(68,558,398)	(88,657,233)
Due from other governments	20,158,444	36,740,815	56,899,259
Contractual obligation receivable	(22,512,072)	13,241,150	(9,270,922)
Due from other funds	-	65,971	65,971
Prepaid lease	(11,250,000)	(13,750,000)	(25,000,000)
Other assets (excludes investing item)	(265,646)	(587,000)	(852,646)
Inventories	-	1,474,609	1,474,609
Accounts payable (excludes capital items)	(3,641,398)	(6,781,318)	(10,422,716)
Accrued salaries, wages and benefits	302,758	-	302,758
Other accrued liabilities (excludes capital items)	210,047	318,512	528,559
Due to other governments (excludes non-capital financing)	11,724,923	11,623,560	23,348,483
Due to other funds	(65,971)	-	(65,971)
Other noncurrent liabilities	(128,016)	70,508	(57,508)
Obligation payable	(152,193)	(342,331)	(494,524)
Accrued compensated absences	(850,667)	224,630	(626,037)
Accrued workers' compensation	(3,708,324)	(4,781,103)	(8,489,427)
Claims and judgments	(4,419,694)	(22,144,038)	(26,563,732)
Net pension liability and deferred items	(8,294,024)	(14,843,670)	(23,137,694)
Net cash provided by operating activities	<u>\$ 221,152,836</u>	<u>\$ 313,389,217</u>	<u>\$ 534,542,053</u>

concluded.

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

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## NOTES TO FINANCIAL STATEMENTS

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Great Lakes Water Authority ("GLWA" or the "Authority" ) is the regional wholesale provider of water and sewer 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 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" or the "Department"). The City, acting through DWSD, will continue to manage and operate its own local retail water and sewer system infrastructure. The leases assigned all revenues of both systems to the Authority for an initial term of 40 years and substituted GLWA for the City as the obligor on all outstanding debt obligations of the City related to the systems.

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 981 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 customers comprise approximately 82% of the population served by the Authority, and the retail water customers comprise the remainder served by the Authority.

The Authority's sewer system is one of the largest in the United States, both in terms of treatment capacity and population served. The sewer system currently serves an area of 850 square miles located in three Michigan counties and an estimated population of nearly 2.8 million or approximately 28% of Michigan's population. Suburban customers comprise approximately 75% of the population served by the Authority, and the retail sewer customers comprise the remainder served by the Authority.

The Authority 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 for the City retail portion of the water and sewer 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.

#### 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 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, such as 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.

The Authority has a water enterprise fund and a sewage disposal enterprise fund, both of which are presented as major funds.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *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 Equity*

#### *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.

Investments are stated at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments, and are discounted at prevailing interest rates for similar instruments. Investments that do not have established market values are reported at estimated fair value. Cash deposits are reported at carrying amounts, which reasonably approximates fair value.

State statutes authorize 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. The Authority also maintains and adheres to a formal investment policy in accordance with Michigan Public Act 20 of 1943 *Investment Surplus Funds of Political Subdivisions*.

#### *Restricted Cash and Cash Equivalents*

Restricted assets are those assets set aside as required by the Authority's Master Bond Ordinance ("MBO"). See Note 4 for further details.

#### *Unbilled Revenue*

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

#### *Contractual Obligation Receivable*

Pursuant to the Water and Sewer Services Agreement between the City and Authority, 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. Hence, the "receivable" recorded by the Authority on the "contractual obligation" of the City to the Authority. Any new debt issued on behalf of DWSD is also included in the contractual obligation receivable.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *Prepaid Items and Other Assets*

Inventories consist of operating, maintenance and repair parts for sewage 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. The water fund does not report inventory because the amounts are insignificant and for efficiency are recorded in the sewage disposal fund. Any inventory usage by the water fund is charged through an interfund payable to the sewage disposal fund.

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in the financial statements.

### *Prepaid Lease*

As described in Note 7, 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 described in Note 11, based on a Memorandum of Understanding (MOU) Term Sheet with DWSD, dated April 2018, this will be applied at the end of the 40 year term and, hence it is classified as noncurrent.

### *Capital Assets*

Capital assets are recorded at historical cost, together with interest capitalized during construction. All acquisitions of land and land improvements are capitalized regardless of cost.

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. Interest incurred during the construction phase of capital assets of business-type activities is included as part of the capitalized value of the assets constructed.

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

Capital assets acquired from the bifurcation 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.

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## GREAT LAKES WATER AUTHORITY

### Notes To Financial Statements

#### *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 and so will not be recognized as an outflow of resources (or expense) until then. 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 9.

#### *Long-term Obligations*

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.

#### *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 sewer systems. See "Obligation Payable-City of Detroit 2014 Financial Recovery Bonds" in Note 6.

#### *Leases Payable*

The effective date of the leases by the City to the Authority for the leased water and sewer facilities was January 1, 2016. See Note 7 for the detail of the leases.

#### *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 shall be 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 \$1,456,000 for the water fund and \$679,000 for the sewage disposal fund on June 30, 2017.

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, 2017 balance of the accrued compensated absences for the liability assumed on January 1, 2016 is approximately \$2,990,000. This liability is recorded in the water fund as the disbursements for payment will be processed from the water fund with reimbursement from the sewer fund. The accrued compensated absences includes the employers' share of Social Security and Medicare taxes.

#### *Bond Premiums, Discounts, and Deferred Amounts on Refunding*

Bond premiums, discounts, and gains or losses on refunding are deferred and amortized over the life of the bonds. Bond premiums and discounts are amortized using the effective interest method, and deferred amounts on refunding are amortized using the straight-line method. Bonds payable are reported net of the applicable bond premium and discounts. Deferred amounts on refunding are reported as deferred outflows and deferred inflows of resources.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *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 and so will not be recognized as an inflow of resources (or revenues) until that time. 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 lease agreements with the City. The amounts will be fully amortized for both funds by fiscal 2036. 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 related debt.

*Restricted* - consists of amounts that are legally restricted by outside parties or by law through constitutional provisions or enabling legislation.

*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.

### *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. Wholesale customer charges are shown net of bad debt expense of \$1,252,465 for the water fund and \$3,165,055 for the sewage disposal fund.

Operating expenses include the costs of operating the water and sewer utilities, administrative expenses and depreciation on capital assets. Costs related to shared facilities and personnel are allocated to the water and sewer funds on a basis that relates costs incurred to the system benefited. By agreement, the Authority provides shared services to DWSD; accordingly, operating expenses for personnel and contractual services have been reported net of the charges for shared services to DWSD.

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

### *Taxes*

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



# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *Interest Income*

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

### *Interest Expense*

Interest expense in the statement of revenues, expenses and changes in fund net position includes amounts related to the accretion of capital appreciation bonds. Interest expense is reported net of capitalized interest.

### *Capital Contributions*

Contributed capital represents the acquisition value of sewer lines received from a wholesale customer.

### *Central Services and Administrative Services*

Various common costs incurred by the Authority are allocated proratably between the water and sewer funds. The allocations are based on management's best estimate and may change from year to year depending on the activities incurred by each fund and the information available. The following table shows the allocation of these common costs for the year ended June 30, 2017:

Common Costs	Water % Allocation	Water Allocation	Sewer % Allocation	Sewer Allocation	Total Common Costs
Centralized services	52.4%	\$ 35,379,657	47.6%	\$ 32,171,959	\$ 67,551,616
Administrative services	30.3%	7,241,024	69.7%	16,656,631	23,897,655

Centralized services include security, systems operations control, field engineering and service operations, information technology, planning, 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.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 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 is 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 is required to adopt a two-year budget for the regional water and sewer systems. The budgeted expenses shall equal the sum of the revenue requirement, including the following for both the regional water and sewer systems: a) operation and maintenance expenses; b) amounts necessary to pay the principal of and interest on all bonds and to restore any reserves therefor established in the Master Bond Ordinance; c) the lease payment, which shall be a common-to-all charge; d) GLWA portions of the net pension liability and the B&C obligation payable; e) the amount necessary to be deposited 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 sewer 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 leases, through the fiscal year ending June 30, 2025, the water and sewer systems are assumed to experience 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 sewer facilities that are required to be made by applicable laws.

In the leases, the City acknowledges that all local water and sewer system revenues received from customers in the City are the property of the 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 sewer system as provided in the Water and Sewer Services Agreement.

#### *Schedule of Charges Process*

The GLWA Wholesale Customer Model Water Contract requires that the GLWA provide wholesale customers with written notice of a proposed charge, meet to review the proposed charges, 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 charge increase is to take effect.

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

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 3. CASH DEPOSITS AND INVESTMENTS

The deposits and investments of the Authority at June 30, 2017 are reported in the basic financial statements as follows:

	Water Fund	Sewage Disposal Fund	Total
<b>Statement of Net Position</b>			
Cash and cash equivalents	\$ 266,483,138	\$ 203,748,704	\$ 470,231,842
Restricted cash and cash equivalents	60,753,268	72,213,813	132,967,081
Restricted cash for the benefit of DWSD	288,378	-	288,378
Investments	852,420	1,430,608	2,283,028
Restricted investments	1,169,187	31,371,834	32,541,021
Noncurrent restricted cash and cash equivalents	177,939,494	128,378,837	306,318,331
Noncurrent restricted investments	20,530,374	81,177,748	101,708,122
<b>Total</b>	<b>\$ 528,016,259</b>	<b>\$ 518,321,544</b>	<b>\$ 1,046,337,803</b>
<b>Cash deposits and investments</b>			
Bank deposits -			
Checking/savings accounts	\$ 27,089,413	\$ 8,078,374	\$ 35,167,787
Investments in securities	22,551,981	113,980,189	136,532,170
Money market accounts	478,374,865	396,262,981	874,637,846
<b>Total</b>	<b>\$ 528,016,259</b>	<b>\$ 518,321,544</b>	<b>\$ 1,046,337,803</b>

Restricted cash of the Authority primarily consists of amounts held in reserve for construction retainage and for future debt service payments.

*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 \$505,464,278 for the water fund and \$404,341,355 for the sewage disposal fund. The bank balance of the water fund deposits and money markets was \$535,773,864 of which \$518,863,338 was uninsured and uncollateralized. The bank balance of the sewage disposal fund deposits and money markets was \$379,931,554 of which \$379,593,521 was uninsured and uncollateralized.

In accordance with the Authority's investment policy and State law, all deposits are uncollateralized, 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.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

*Custodial Credit Risk - Investments.* Following is a summary of the Authority's investments as of June 30, 2017:

	Water Fund	Sewage Disposal Fund	Total
U.S. treasury notes	\$ 11,415,294	\$ 65,805,779	\$ 77,221,073
U.S. government agencies	11,136,687	48,174,410	59,311,097
<b>Total</b>	<b>\$ 22,551,981</b>	<b>\$ 113,980,189</b>	<b>\$ 136,532,170</b>

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, 2017, all of the Authority's investments in securities of U.S. agencies were rated AA+ by Standard & Poor's and Aaa by Moody's. U.S. treasury securities are explicitly guaranteed by the U.S. government and not considered to have credit risk. The Authority's money market accounts were not rated.

*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, 2017, the Authority had greater than 5% of its total investment portfolio concentrated as follows:

Investment Type	Issuer	% of Portfolio
<b>Water fund</b>		
U.S. government agencies	Federal Home Loan Bank	10.5%
U.S. government agencies	Federal National Mortgage Association	89.5%
<b>Sewage disposal fund</b>		
U.S. government agencies	Federal Home Loan Bank	64.75%
U.S. government agencies	Federal National Mortgage Association	10.36%
U.S. government agencies	Federal Farm Credit Banks	24.89%

*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.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

As of June 30, 2017, the Authority's fixed income investments had the following maturities:

	< 1 year	1 - 5 years	6 - 10 years	Total
<b>Water fund</b>				
U.S. treasury notes	\$ 9,783,063	\$ 1,632,231	\$ -	\$ 11,415,294
U.S. government agencies	1,169,187	9,967,500	-	11,136,687
	<u>10,952,250</u>	<u>11,599,731</u>	<u>-</u>	<u>22,551,981</u>
<b>Sewage disposal fund</b>				
U.S. treasury notes	36,244,899	29,560,880	-	65,805,779
U.S. government agencies	48,174,410	-	-	48,174,410
	<u>84,419,309</u>	<u>29,560,880</u>	<u>-</u>	<u>113,980,189</u>
<b>Total</b>	<u>\$ 95,371,559</u>	<u>\$ 41,160,611</u>	<u>\$ -</u>	<u>\$ 136,532,170</u>

*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, 2017:

	Level 1	Level 2	Level 3	Total
<b>Water fund</b>				
Investments by fair value level:				
U.S. treasury notes	\$ 11,415,294	\$ -	\$ -	\$ 11,415,294
U.S. government agencies	-	11,136,687	-	11,136,687
	<u>11,415,294</u>	<u>11,136,687</u>	<u>-</u>	<u>22,551,981</u>
<b>Sewage disposal fund</b>				
Investments by fair value level:				
U.S. treasury notes	65,805,779	-	-	65,805,779
U.S. government agencies	-	48,174,410	-	48,174,410
	<u>65,805,779</u>	<u>48,174,410</u>	<u>-</u>	<u>113,980,189</u>
<b>Total</b>	<u>\$ 77,221,073</u>	<u>\$ 59,311,097</u>	<u>\$ -</u>	<u>\$ 136,532,170</u>

## 4. 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 Board guidance, the Authority follows a detailed and sequential flow of funds concept and set of procedures that establishes various physically segregated accounts through which monies flow and are maintained at certain levels in satisfaction of all borrowing and other legal requirements.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

The following schedules provide, in the order of the flow of funds per the Master Bond Ordinance, the distribution of water and sewage disposal fund cash and investments between restricted and unrestricted assets based on the source of the monies as of June 30, 2017:

	Funded from Revenue		Funded from Debt Issuance	Total
	Unrestricted	Restricted	Restricted	
<b>Water fund</b>				
Operations and maintenance	\$ 62,578,684	\$ 989,627	\$ -	\$ 63,568,311
Senior lien debt service	-	29,065,663	-	29,065,663
Senior lien bond reserve	-	-	122,034,996	122,034,996
Second & Junior lien debt service	-	15,763,514	-	15,763,514
Second & Junior lien debt reserve	-	-	52,267,696	52,267,696
Pension Obligation	-	2,371,431	-	2,371,431
Water Residential Assistance Program (WRAP)	-	2,800,449	-	2,800,449
Budget Stabilization	-	2,000,000	-	2,000,000
Extraordinary Repair and Replacement	27,500,000	-	-	27,500,000
Improvement and Extension-Regional	177,256,874	-	-	177,256,874
Subtotal - reserves defined by ordinance	267,335,558	52,990,684	174,302,692	494,628,934
Less: funded by surety (non-cash)	-	-	(153,608,267)	(153,608,267)
Total - reserves defined by ordinance (net of surety coverage)	267,335,558	52,990,684	20,694,425	341,020,667
Cash held for the benefit of DWSD	-	288,378	-	288,378
Unspent construction bond proceeds	-	-	186,707,214	186,707,214
<b>Total cash, cash equivalents and investments</b>	<b>267,335,558</b>	<b>53,279,062</b>	<b>207,401,639</b>	<b>528,016,259</b>
<b>Sewage disposal fund</b>				
Operations and Maintenance	99,335,780	-	-	99,335,780
Senior Lien Debt Service	-	46,822,343	-	46,822,343
Senior Lien Bond Reserve	-	-	142,860,146	142,860,146
Second & Junior lien debt service	-	37,576,233	-	37,576,233
Second & Junior lien debt reserve	-	-	70,106,077	70,106,077
Pension Obligation	-	4,167,903	-	4,167,903
Water Residential Assistance Program (WRAP)	-	3,600,945	-	3,600,945
Budget Stabilization	-	5,500,000	-	5,500,000
Extraordinary Repair and Replacement	44,000,000	-	-	44,000,000
Improvement and Extension-Regional	61,843,532	-	-	61,843,532
Subtotal - reserves defined by ordinance	205,179,312	97,667,424	212,966,223	515,812,959
Less: funded by surety (non-cash)	-	-	(148,421,923)	(148,421,923)
Total - reserves defined by ordinance (net of surety coverage)	205,179,312	97,667,424	64,544,300	367,391,036
Unspent construction bond proceeds	-	-	150,930,508	150,930,508
<b>Total cash, cash equivalents and investments</b>	<b>205,179,312</b>	<b>97,667,424</b>	<b>215,474,808</b>	<b>518,321,544</b>
<b>Total cash, cash equivalents and investments - business-type activities</b>	<b>\$ 472,514,870</b>	<b>\$ 150,946,486</b>	<b>\$ 422,876,447</b>	<b>\$ 1,046,337,803</b>

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## GREAT LAKES WATER AUTHORITY

### Notes To Financial Statements

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
<b>Water</b>				
Cash and cash equivalents	\$ 266,483,138	\$ 60,753,268	\$ 177,939,494	\$ 505,175,900
Cash held for the benefit of DWSD	-	288,378	-	288,378
Investments	852,420	1,169,187	20,530,374	22,551,981
	<u>267,335,558</u>	<u>62,210,833</u>	<u>198,469,868</u>	<u>528,016,259</u>
<b>Sewage disposal</b>				
Cash and cash equivalents	203,748,704	72,213,813	128,378,837	404,341,354
Investments	1,430,608	31,371,834	81,177,748	113,980,190
	<u>205,179,312</u>	<u>103,585,647</u>	<u>209,556,585</u>	<u>518,321,544</u>
<b>Total</b>	<u>\$ 472,514,870</u>	<u>\$ 165,796,480</u>	<u>\$ 408,026,453</u>	<u>\$ 1,046,337,803</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.

### 5. CAPITAL ASSETS

Capital assets activity for the year ended June 30, 2017 was as follows:

	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
<b>Water fund</b>					
<b>Nondepreciable capital assets:</b>					
Land	\$ 34,244,101	\$ -	\$ (77,365)	\$ -	\$ 34,166,736
Easements	258,632,397	-	-	-	258,632,397
Construction in progress	122,681,592	39,662,580	-	(2,957,631)	159,386,541
Total nondepreciable assets	<u>415,558,090</u>	<u>39,662,580</u>	<u>(77,365)</u>	<u>(2,957,631)</u>	<u>452,185,674</u>
<b>Depreciated capital assets:</b>					
Site improvements	57,687,528	-	-	494,399	58,181,927
Buildings and structures	555,265,762	-	-	-	555,265,762
Infrastructure	586,102,646	-	-	330,348	586,432,994
Machinery and equipment	598,755,988	475,561	(350,877)	2,132,884	601,013,556
Vehicles	1,538,031	203,948	-	-	1,741,979
Total depreciable assets	<u>1,799,349,955</u>	<u>679,509</u>	<u>(350,877)</u>	<u>2,957,631</u>	<u>1,802,636,218</u>
<b>Less accumulated depreciation:</b>					
Site improvements	(4,570,741)	(9,141,481)	-	-	(13,712,222)
Buildings and structures	(17,711,187)	(35,422,716)	-	-	(53,133,903)
Infrastructure	(18,866,429)	(37,732,848)	-	-	(56,599,277)
Machinery and equipment	(29,898,877)	(61,341,808)	88,842	-	(91,151,843)
Vehicles	(248,311)	(499,059)	-	-	(747,370)
Total accumulated depreciation	<u>(71,295,545)</u>	<u>(144,137,912)</u>	<u>88,842</u>	<u>-</u>	<u>(215,344,615)</u>
<b>Total capital assets being depreciated, net</b>	<u>1,728,054,410</u>	<u>(143,458,403)</u>	<u>(262,035)</u>	<u>2,957,631</u>	<u>1,587,291,603</u>
<b>Water fund net capital assets</b>	<u>2,143,612,500</u>	<u>(103,795,823)</u>	<u>(339,400)</u>	<u>-</u>	<u>2,039,477,277</u>



# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
<b>Sewage disposal fund</b>					
Nondepreciable capital assets:					
Land	\$ 28,733,333	\$ -	\$ -	\$ -	\$ 28,733,333
Easements	96,211,323	-	-	-	96,211,323
Construction in progress	170,931,602	57,328,097	-	(74,918,237)	153,341,462
Total nondepreciable assets	295,876,258	57,328,097	-	(74,918,237)	278,286,118
Depreciated capital assets:					
Site improvements	36,280,397	12,981	(14,467)	-	36,278,911
Buildings and structures	1,059,318,822	19,050	-	18,135,132	1,077,473,004
Infrastructure	596,856,313	320,707	-	-	597,177,020
Machinery and equipment	1,091,711,217	920,875	(26,105)	56,783,105	1,149,389,092
Vehicles	1,426,261	611,843	(12,140)	-	2,025,964
Total depreciable assets	2,785,593,010	1,885,456	(52,712)	74,918,237	2,862,343,991
Less accumulated depreciation:					
Site improvements	(3,398,076)	(6,796,224)	1,276	-	(10,193,024)
Buildings and structures	(26,554,348)	(53,289,123)	-	-	(79,843,471)
Infrastructure	(6,903,182)	(13,808,034)	-	-	(20,711,216)
Machinery and equipment	(48,575,116)	(111,151,221)	3,953	-	(159,722,384)
Vehicles	(271,143)	(583,863)	4,552	-	(850,454)
Total accumulated depreciation	(85,701,865)	(185,628,465)	9,781	-	(271,320,549)
Total capital assets being depreciated, net	2,699,891,145	(183,743,009)	(42,931)	74,918,237	2,591,023,442
Sewage disposal fund net capital assets	2,995,767,403	(126,414,912)	(42,931)	-	2,869,309,560
Business-type activities capital assets, net	\$ 5,139,379,903	\$ (230,210,735)	\$ (382,331)	\$ -	\$ 4,908,786,837

Capital assets were evaluated during the year to determine if any asset impairments exist, defined as a significant, unexpected decline in the service utility of a capital asset. The Authority did not have any significant impairments for the year.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 6. LONG-TERM DEBT

Changes in long-term debt and accrued compensated absences for the year ended June 30, 2017 were as follows:

	Beginning Balance	Increase	Decrease	Refunding	Ending Balance	Amount due within one
<b>Water fund</b>						
Revenue bonds	\$2,260,675,000	\$ 917,805,000	\$ (63,795,000)	\$ (773,800,000)	\$2,340,885,000	\$ 6,075,000
State revolving loans	17,383,761	1,268,474	(1,400,000)	-	17,252,235	1,435,000
Deferred amounts for:						
Unamortized premiums	264,672,431		(116,095,392)	139,113,281	287,690,320	19,119,372
Unamortized discounts	(18,256,393)	-	2,288,174	-	(15,968,219)	(3,235,467)
Total debt, net	2,524,474,799	919,073,474	(179,002,218)	(634,686,719)	2,629,859,336	23,393,905
Compensated absences	5,296,680	1,668,823	(2,519,490)	-	4,446,013	2,157,888
<b>Total water fund</b>	<b>2,529,771,479</b>	<b>920,742,297</b>	<b>(181,521,708)</b>	<b>(634,686,719)</b>	<b>2,634,305,349</b>	<b>25,551,793</b>
<b>Sewage disposal fund</b>						
Revenue bonds	2,739,665,000	421,295,000	(44,310,000)	(480,140,000)	2,636,510,000	11,430,000
Capital appreciation bonds	24,165,000	-	(1,350,000)	-	22,815,000	5,565,000
Discount on capital appreciation bonds	(4,496,962)	-	1,183,699	-	(3,313,263)	(1,047,305)
State revolving loans	506,435,742	22,216,294	(43,385,000)	-	485,267,036	44,340,000
Deferred amounts for:						
Unamortized premiums	308,918,380	-	(97,287,469)	61,172,729	272,803,640	17,944,003
Unamortized discounts	(126,493,781)	-	14,348,405	-	(112,145,376)	(12,311,391)
Total debt, net	3,448,193,379	443,511,294	(170,800,365)	(418,967,271)	3,301,937,037	65,920,307
Compensated absences	454,630	1,325,402	(1,100,772)	-	679,260	679,260
<b>Total sewage disposal fund</b>	<b>3,448,648,009</b>	<b>444,836,696</b>	<b>(171,901,137)</b>	<b>(418,967,271)</b>	<b>3,302,616,297</b>	<b>66,599,567</b>
<b>Total business-type activities</b>	<b>\$5,978,419,488</b>	<b>\$1,365,578,993</b>	<b>\$ (353,422,845)</b>	<b>\$ (1,053,653,990)</b>	<b>\$5,936,921,646</b>	<b>\$ 92,151,360</b>

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## GREAT LAKES WATER AUTHORITY

### Notes To Financial Statements

As of June 30, 2017, 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,	Principal	Interest	Total
<b>Water fund</b>				
	2018	\$ 7,510,000	\$ 96,828,481	\$ 104,338,481
	2019	54,325,000	116,777,608	171,102,608
	2020	54,710,000	114,146,149	168,856,149
	2021	63,620,000	111,236,502	174,856,502
	2022	70,985,000	107,815,846	178,800,846
	2023-2027	409,967,820	480,324,881	890,292,701
	2028-2032	520,334,415	362,731,733	883,066,148
	2033-2037	615,160,000	220,803,756	835,963,756
	2038-2042	309,905,000	105,305,700	415,210,700
	2043-2047	251,620,000	32,679,000	284,299,000
		<u>\$2,358,137,235</u>	<u>\$1,748,649,656</u>	<u>\$ 4,106,786,891</u>
<b>Sewage disposal fund</b>				
	2018	\$ 61,335,000	\$ 110,240,488	\$ 171,575,488
	2019	97,210,000	133,554,997	230,764,997
	2020	107,670,000	129,866,991	237,536,991
	2021	112,280,000	125,861,663	238,141,663
	2022	110,582,370	121,782,125	232,364,495
	2023-2027	603,930,293	535,302,905	1,139,233,198
	2028-2032	739,471,085	396,865,059	1,136,336,144
	2033-2037	823,313,288	231,254,093	1,054,567,381
	2038-2042	394,230,000	61,911,756	456,141,756
	2043-2045	94,570,000	7,236,250	101,806,250
		<u>\$3,144,592,036</u>	<u>\$1,853,876,326</u>	<u>\$ 4,998,468,362</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, 2017 are not included in the debt service requirements amounts above as they were paid on June 26, 2017.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### Revenue Bonds Payable

Net revenues of the Authority are pledged to repayment of bonds. The following is a schedule of the revenue bonds payable at June 30, 2017:

Issue	Bond Date	Original Issue Amount	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Water fund						
Series 2001-C	5/14/08	\$ 4,055,000	4.25%	7/01/17-18	\$ 705,000	
Series 2001-C	5/14/08	186,350,000	4.50-5.75%	7/01/19-29	178,735,000	c
Series 2003-A	1/30/03	234,805,000	5.00%	7/01/34	100,000	c
Series 2003-B	1/30/03	172,945,000	5.00%	7/01/34	100,000	c
Series 2005-B	5/14/08	19,070,000	4.00-5.50%	7/01/17-18	3,185,000	
Series 2005-B	5/14/08	175,830,000	4.75-5.25%	7/01/35	100,000	c
Series 2006-A	8/16/06	237,205,000	5.00%	7/01/34	100,000	c
Series 2006-B	4/01/09	900,000	4.60-5.00%	7/01/17-19	250,000	
Series 2006-B	4/01/09	119,100,000	6.25%	7/01/36	100,000	c
Series 2011-A	12/22/11	37,880,000	5.00%	7/01/17-20	8,210,000	
Series 2011-A	12/22/11	341,710,000	5.00-5.75%	7/01/27-41	289,605,000	c
Series 2011-B	12/22/11	7,455,000	5.00%	7/01/17-21	2,630,000	
Series 2011-B	12/22/11	9,740,000	6.00%	7/01/23-33	2,295,000	c
Series 2011-C	12/22/11	3,925,000	5.00%	7/01/21	1,020,000	
Series 2011-C	12/22/11	99,965,000	4.50-5.25%	7/01/23-41	74,125,000	c
Series 2014-A (D-1)	9/04/14	162,350,000	5.00%	7/01/17-23	147,960,000	
Series 2014-A (D-1)	9/04/14	44,190,000	5.00%	7/01/35-37	44,190,000	c
Series 2014-B (D-2)	9/04/14	51,530,000	5.00%	7/01/23-24	51,530,000	
Series 2014-B (D-2)	9/04/14	136,925,000	5.00%	7/01/25-28	136,925,000	c
Series 2014-C (D-3)	9/04/14	62,700,000	5.00%	7/01/18-20	62,700,000	
Series 2014-D (D-4)	9/04/14	209,360,000	5.00%	7/01/29-34	209,360,000	c
Series 2014-E (D-5)	9/04/14	9,270,000	2.85%	7/01/19	9,270,000	
Series 2014-F (D-6)	9/04/14	21,735,000	5.00%	7/01/19-24	21,735,000	
Series 2014-F (D-6)	9/04/14	43,690,000	5.00%	7/01/25-36	43,690,000	c
Series 2014-G (D-7)	9/04/14	14,815,000	5.00%	7/01/17-18	8,300,000	
Series 2015-A (D-1)	12/15/15	20,155,000	3.00-5.00%	7/01/17-22	19,650,000	
Series 2015-A (D-1)	12/15/15	69,275,000	5.00%	7/01/27-35	69,275,000	c
Series 2015 (D-2)	12/15/15	37,235,000	5.00%	7/01/34	37,235,000	c
Series 2016-A	10/27/16	30,000	5.00%	7/01/21-26	30,000	
Series 2016-A	10/27/16	87,970,000	5.00%	7/01/27-46	87,970,000	c
Series 2016-B	10/27/16	30,000	5.00%	7/01/21-26	30,000	
Series 2016-B	10/27/16	163,800,000	5.00%	7/01/27-46	163,800,000	c
Series 2016-C	10/27/16	76,245,000	5.00%	7/01/22-26	76,245,000	
Series 2016-C	10/27/16	367,685,000	5.00-5.25%	7/01/27-35	367,685,000	c
Series 2016-D	10/27/16	4,665,000	5.00%	7/01/24-26	4,665,000	
Series 2016-D	10/27/16	217,380,000	4.00-5.00%	7/01/27-36	217,380,000	c
Total water fund revenue bonds payable					<u>2,340,885,000</u>	

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

Issue	Bond Date	Original Issue Amount	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Sewage disposal fund						
Series 1998-A	12/14/06	\$ 18,540,000	5.50%	7/1/17	\$ 2,265,000	
Series 1998-A	12/14/06	49,075,000	5.25%	7/01/18-23	18,485,000	c
Series 1998-B	12/14/06	18,750,000	5.50%	7/1/17	3,390,000	
Series 1998-B	12/14/06	48,770,000	5.25%	7/01/18-23	18,260,000	c
Series 1999-A **	12/01/99	33,510,118	—	7/01/17-21	19,501,737	
Series 2001-B	9/15/01	110,550,000	5.50%	7/01/23-29	78,895,000	
Series 2001-C-1	6/17/09	6,360,000	5.25%	7/01/17-19	1,095,000	
Series 2001-C-1	6/17/09	148,510,000	6.50-7.00%	7/01/20-27	40,705,000	c
Series 2001-C-2	5/08/08	3,275,000	4.00%	7/01/17-18	705,000	
Series 2001-C-2	5/08/08	119,630,000	4.00-5.25%	7/01/19-29	107,045,000	c
Series 2003-A	5/15/03	213,395,000	5.50%	7/01/17-18	3,150,000	
Series 2003-B	6/17/09	150,000,000	7.50%	7/1/33	100,000	c
Series 2004-A	2/12/04	101,435,000	5.25%	7/01/19-24	35,010,000	
Series 2005-A	3/17/05	237,805,000	4.50%	7/1/35	100,000	c
Series 2005-A	3/17/05	31,785,000	5.00%	7/01/34-35	31,785,000	c
Series 2005-B	3/17/05	40,215,000	5.50%	7/01/21-22	17,115,000	
Series 2005-C	4/05/05	41,095,000	5.00%	7/1/25	100,000	c
Series 2006-B	8/10/06	183,150,000	5.00%	7/1/36	100,000	c
Series 2006-B	8/10/06	55,000,000	5.00%	7/01/34-36	55,000,000	c
Series 2006-D	12/14/06	370,000,000	Variable (*)	7/01/26-32	239,475,000	c
Series 2012-A	6/26/12	95,445,000	5.00%	7/01/17-22	64,545,000	
Series 2012-A	6/26/12	564,335,000	5.00 - 5.50	7/01/23-39	462,810,000	c
Series 2014-A (C-1)	9/04/14	20,000	5.00%	7/01/19-22	20,000	
Series 2014-A (C-1)	9/04/14	123,200,000	5.00%	7/01/23-44	123,200,000	c
Series 2014-B (C-2)	9/04/14	20,000	5.00%	7/01/19-22	20,000	
Series 2014-B (C-2)	9/04/14	27,450,000	5.00%	7/01/23-44	27,450,000	c
Series 2014-C (C-3)	9/04/14	142,600,000	5.00%	7/01/21-24	142,600,000	
Series 2014-C (C-3)	9/04/14	303,570,000	5.00%	7/01/25-33	303,570,000	c
Series 2014-D (C-5)	9/04/14	95,165,000	5.00%	7/01/18-20	69,595,000	
Series 2014-E (C-6)	9/04/14	88,900,000	5.00%	7/01/32-33	88,900,000	c
Series 2014-F (C-7)	9/04/14	32,650,000	5.00%	7/01/19-24	32,650,000	
Series 2014-F (C-7)	9/04/14	44,065,000	5.00%	7/01/25-36	44,065,000	c
Series 2014-G (C-8)	9/04/14	23,240,000	5.00%	7/01/17-18	5,850,000	
Series 2015 (C-1)	12/15/15	197,160,000	5.00%	7/01/26-35	197,160,000	c
Series 2016-B	10/27/16	14,445,000	5.00%	7/01/24-26	14,445,000	
Series 2016-B	10/27/16	111,660,000	5.00%	7/01/27-34	111,660,000	c
Series 2016-C	10/27/16	295,190,000	4.00-5.00%	7/01/27-36	295,190,000	c
Total sewage disposal fund revenue and capital appreciation bonds payable					<u>2,656,011,737</u>	
Total business-type activities					<u>\$4,996,896,737</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 periodically at the stated current market interest 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.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 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, 2017 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 bonds 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 Fund is through 2047 and through 2045 for the Sewage Disposal Fund.

See table below for pledged revenue requirements as of June 30, 2017:

	Water Fund	Sewage Disposal Fund
Remaining principal and interest requirement	\$ 4,106,786,891	\$4,998,468,362
Principal and interest funding requirement for the year ending June 30, 2017 (Computed consistent with rate Covenant basis for rate determination purposes. Not applicable for purposes of additional bond test.)	\$ 175,010,012	\$ 234,554,814
Pledged revenue for the year ending June 30, 2017	\$ 286,317,089	\$ 354,290,815
Pledged revenue collected as a percentage of funding requirement	163.6%	151.0%
Approximate amount in restricted cash investments related to various bond indentures at June 30, 2017	\$ 186,700,000	\$ 150,900,000

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### State Revolving Loans Payable

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, 2017:

Issue	Bond Date	Amount Issued	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance
<b>Water fund</b>					
Series 2005 SRF-1	9/22/05	\$ 13,805,164	2.125%	10/01/17-26	\$ 7,385,164
Series 2005 SRF-2	9/22/05	8,891,730	2.125%	10/01/17-26	4,641,730
Series 2006 SRF-1	9/21/06	5,180,926	2.125%	10/01/17-26	2,750,926
Series 2008 SRF-1	9/29/08	2,590,941	2.50%	10/01/17-28	1,205,941
Series 2016B SRF	9/16/16	4,180,000	2.50%	4/1/19-28	1,268,474
Total water fund state revolving loans payable					<u>17,252,235</u>
<b>Sewage disposal fund</b>					
Series 1997-B-SRF	9/30/97	5,430,174	2.25%	10/01/17-18	650,000
Series 1999-SRF-1	6/24/99	21,475,000	2.50%	4/01/18-20	3,930,000
Series 1999-SRF-2	9/30/99	46,000,000	2.50%	10/01/17-22	16,280,000
Series 1999-SRF-3	9/30/99	31,030,000	2.50%	10/01/17-20	7,505,000
Series 1999-SRF-4	9/30/99	40,655,000	2.50%	10/01/17-20	9,830,000
Series 2000-SRF-1	3/30/00	44,197,995	2.50%	10/01/17-22	13,947,995
Series 2000-SRF-2	9/28/00	64,401,066	2.50%	10/01/17-22	22,691,066
Series 2001-SRF-1	6/28/01	82,200,000	2.50%	10/01/17-24	37,865,000
Series 2001-SRF-2	12/20/01	59,850,000	2.50%	10/01/17-24	27,575,000
Series 2002 SRF-1	6/27/02	18,985,000	2.50%	4/01/18-23	6,710,000
Series 2002-SRF-2	6/27/02	1,545,369	2.50%	4/01/18-23	545,369
Series 2002-SRF-3	12/19/02	31,549,466	2.50%	10/01/17-24	13,399,466
Series 2003-SRF-1	6/26/03	48,520,000	2.50%	10/01/17-25	24,845,000
Series 2003-SRF-2	9/25/03	25,055,370	2.50%	4/01/18-25	11,460,370
Series 2004 SRF-1	6/24/04	2,910,000	2.125%	10/01/17-24	1,310,000
Series 2004 SRF-2	6/24/04	18,353,459	2.125%	4/01/18-25	8,258,459
Series 2004 SRF-3	6/24/04	12,722,575	2.125%	4/01/18-25	5,707,575
Series 2007 SRF-1	9/20/07	167,540,598	1.625%	10/01/17-29	114,950,598
Series 2009 SRF-1	4/17/09	13,970,062	2.50%	4/01/18-30	9,545,062
Series 2010 SRF-1	1/22/10	4,214,763	2.50%	4/01/18-31	3,115,763
Series 2012 SRF-1	8/30/12	14,950,000	2.50%	10/01/17-34	13,765,000
Series 2015 SRF-1	3/20/15	79,500,000	2.50%	4/01/18-36	76,390,000
Series 2015 SRF-2	3/20/15	33,030,000	2.50%	10/01/17-35	24,814,000
Series 2015 SRF-3	12/11/15	19,485,000	2.50%	10/01/17-35	14,399,288
Series 2016 SRF-1	9/16/16	19,305,000	2.50%	4/01/19-38	2,602,370
Series 2016 SRF-2	9/16/16	51,310,000	2.50%	4/01/20-39	8,384,993
Series 2016 SAW	5/25/16	10,000,000	2.50%	10/01/19-38	4,789,662
Total sewage disposal fund state revolving loans payable					<u>485,267,036</u>
Total business-type activities					<u>\$ 502,519,271</u>

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.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *Refunded Debt - Water Fund*

In October 2016 the Authority issued \$88,000,000 in Series 2016A senior lien revenue bonds, \$163,830,000 in Series 2016B second lien revenue bonds, \$443,930,000 in Series 2016C senior lien revenue refunding bonds and \$224,045,000 in Series 2016D second lien revenue refunding bonds. The net proceeds of the Series 2016A and Series 2016B will be used to pay certain costs of improvements, enlargements and extensions and repairs to the Regional Water System and Local Water System. The net proceeds of the Series 2016C and Series 2016D were used to purchase securities that were placed in an irrevocable trust with an escrow agent to refund \$116,645,000 of Series 2003D revenue bonds, \$30,335,000 of Series 2004A revenue bonds, \$15,725,000 of Series 2004B revenue bonds, \$147,985,000 of Series 2005B revenue bonds, \$119,345,000 of Series 2006A revenue bonds, \$85,250,000 of Series 2006B revenue bonds, \$198,700,000 of Series 2006C revenue bonds and \$59,815,000 of Series 2006D revenue bonds. As a result, the bonds are considered to be defeased and the liability for these bonds has been removed from the financial statements. The refunding bonds resulted in a savings of \$185,424,383 over the next 20 years and an economic gain of \$120,780,483.

### *Refunded Debt - Sewage Disposal Fund*

In October 2016, the Authority issued \$126,105,000 in Series 2016B senior lien revenue refunding bonds and \$295,190,000 in Series 2016C second lien revenue refunding bonds. The net proceeds were used to purchase securities that were placed in an irrevocable trust with an escrow agent to refund \$134,745,000 of Series 2001E revenue bonds, \$25,550,000 of Series 2003B revenue bonds, \$123,185,000 of Series 2006A revenue bonds, \$174,565,000 of Series 2006B revenue bonds, \$9,740,000 of Series 2006C revenue bonds and \$12,355,000 of Series 2012A revenue bonds. As a result, the bonds are considered to be defeased and the liability for these bonds has been removed from the financial statements. The refunding bonds resulted in a savings of \$123,710,549 over the next 20 years and an economic gain of \$71,155,202.

### *Issuance of State Revolving Loans*

The Authority's water fund received loans from the State of Michigan Revolving Loan Fund totaling \$2,436,781, of which \$1,168,307 has been forgiven, and the sewage disposal fund received \$22,216,294 during the year ended June 30, 2017. 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 Systems. The water fund loans were for DWSD, the subrecipient of the loans. At June 30, 2017, \$19,191,526 for the water fund and \$114,539,687 for the sewage disposal fund was authorized and unissued.

### *Debt Ratings*

As of September 30, 2016, Standard & Poor's Ratings Services ratings on the senior and second lien debt was A-/BBB+; Moody's rating was A3/Baa1 and Fitch's rating was A/A-.

### *Contractual Obligation Receivable - Debt Allocation for DWSD Retail Operations*

As part of the lease transaction in which GLWA leased the regional water and sewer 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 Water and Sewer Services Agreement between the DWSD and GLWA dated June 12, 2015 and the Master Bond Ordinance dated October 7, 2015, as amended, 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 sewer 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. A Memorandum of Understanding (MOU) Term Sheet was entered into with DWSD dated April 2018 with an agreed upon allocation and amortization schedule. The June 30, 2017 balance has been adjusted to the revised allocation. The total obligation receivable at June 30, 2017, including the additional water fund debt issued during the year, is \$495,681,322 for the water fund and \$358,090,600 for the sewage disposal fund.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### *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 bear interest at 5.0 percent per annum. The bonds mature on December 10, 2026. 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.

The following is a schedule of the obligation payable for the Financial Recovery Bonds at June 30, 2017:

	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	4/1/2044	\$ 15,556,025
	Series 2014-C	3,829,794	5.00%	12/10/2026	1,869,281
	Total water fund				17,425,306
Sewage disposal fund					
	Series 2014-B	44,233,463	4.00% and variable	4/1/2044	34,990,438
	Series 2014-C	6,382,990	5.00%	12/10/2026	4,204,607
	Total sewage disposal fund				39,195,045
Total business-type activities					\$ 56,620,351

As of June 30, 2017, debt service requirements of the Financial Recovery Bonds were as follows:

	Year Ended June 30,	Principal	Interest	Total
Water fund				
	2018	\$ 159,803	\$ 715,705	\$ 875,508
	2019	167,793	707,715	875,508
	2020	176,183	699,326	875,509
	2021	184,992	690,516	875,508
	2022	194,242	681,266	875,508
	2023-2027	3,319,672	3,154,254	6,473,926
	2028-2032	3,889,006	2,333,403	6,222,409
	2033-2037	3,889,006	1,975,615	5,864,621
	2038-2042	3,889,006	1,166,702	5,055,708
	2043-2044	1,555,603	140,004	1,695,607
		17,425,306	12,264,506	29,689,812

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

	Year Ended June 30,	Principal	Interest	Total
Sewage disposal fund				
2018	\$	359,448	\$ 1,609,848	\$ 1,969,296
2019		377,420	1,591,876	1,969,296
2020		396,291	1,573,005	1,969,296
2021		416,106	1,553,190	1,969,296
2022		436,911	1,532,384	1,969,295
2023-2027		7,466,997	7,094,919	14,561,916
2028-2032		8,747,610	5,248,565	13,996,175
2033-2037		8,747,610	4,443,786	13,191,396
2038-2042		8,747,609	2,624,283	11,371,892
2043-2044		3,499,043	314,914	3,813,957
		<u>39,195,045</u>	<u>27,586,770</u>	<u>66,781,815</u>
Total business-type activities	\$	<u>56,620,351</u>	\$ <u>39,851,276</u>	\$ <u>96,471,627</u>

### Interest expense

The following represents the amounts recorded as interest expense for the year ended June 30, 2017:

	Water Fund	Sewage Disposal Fund	Total
Bonded debt	\$ 119,367,849	\$ 141,080,363	\$ 260,448,212
Obligation payable	717,819	1,614,602	2,332,421
Lease payable	18,054,730	22,066,892	40,121,622
Less: amounts capitalized	<u>(5,705,453)</u>	<u>(5,604,705)</u>	<u>(11,310,158)</u>
	<u>\$ 132,434,945</u>	<u>\$ 159,157,152</u>	<u>\$ 291,592,097</u>

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## GREAT LAKES WATER AUTHORITY

### Notes To Financial Statements

#### 7. LONG-TERM LEASES PAYABLE AND RELATED PREPAID

On January 1, 2016, the Great Lakes Water Authority effectuated lease agreements with the City of Detroit, Michigan for the regional water system and regional sewer system 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 sewer 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 sewer system provides service to the wholesale customers and the retail sewer customers of the City up to the point of connection to the local sewer 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 are transferred to GLWA, all revenues of the regional and local water and sewer 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.

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, 2017 were as follows:

	Beginning Balance	Increase	Decrease	Ending Balance	Amount Due Within One Year *
Water fund	\$ 435,351,396	\$ -	\$ (4,429,876)	\$ 430,921,520	\$ 4,618,174
Sewage disposal fund	532,096,152	-	(5,414,293)	526,681,859	5,644,435
Total business-type activities	<u>\$ 967,447,548</u>	<u>\$ -</u>	<u>\$ (9,844,169)</u>	<u>\$ 957,603,379</u>	<u>\$ 10,262,609</u>

\* The current portion of the long-term leases payable represents the 12 monthly payments required from July 1, 2017 through June 30, 2018. Future revenues are intended to cover these payments.

Principal and interest portions of the lease payable for the year ended June 30, 2017 were as follows:

	Water	Sewage Disposal	Total
Gross future payments	\$ 866,250,000	\$ 1,058,750,000	\$1,925,000,000
Less: interest	<u>(435,328,480)</u>	<u>(532,068,141)</u>	<u>(967,396,621)</u>
Total principal remaining	<u>\$ 430,921,520</u>	<u>\$ 526,681,859</u>	<u>\$ 957,603,379</u>

As part of the Memorandum of Understanding (MOU) Term Sheet with DWSD dated April 2018, the MBO requirement for six months of lease payments made to DWSD on January 1, 2016 will be treated as prepaid lease payments. The initial term of the 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.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 8. 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; job 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 purchases a variety of insurance policies including: public official's and employment practices liability insurance, property insurance, pollution legal liability insurance and casualty insurance for workers' compensation, general liability, and automobile liability. The Authority purchases excess liability insurance for its casualty program which provides per occurrence and aggregate protection for up to \$8 million. The Authority's retention is \$1,250,000 for workers' compensation and \$250,000 for general liability and automobile. The Authority also has coverage under a pollution legal liability policy with limits of \$50 million, a property insurance policy with limits of \$750 million and a public officials policy with limits of \$25 million.

Settled claims relating to commercial insurance have not exceeded the amount of insurance coverage in any of the past two fiscal years.

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.

Under most circumstances, the Authority's maximum loss retention per occurrence was as follows:

Type of Risk	Maximum Retention Per Occurrence
Workers' compensation	\$1,250,000 per occurrence
General and automobile liability	\$250,000 per occurrence
Motor vehicle physical damage	Authority assumes all risk
Property damage	\$1,000,000 per occurrence
Public officials	\$250,000 per occurrence
Pollution legal liability	\$500,000 per occurrence

The Authority estimates the liability for medical and worker's compensation claims that have been incurred through the end of the fiscal year, including claims that have been reported as well as those that have not yet been reported, which includes estimates of both future payments of losses and related claim adjustments expense. The liability is based on individual claims and management's evaluation of experience with respect to the probable number and nature of claims. Any adjustments resulting from settlement of losses will be reflected in earnings at the time the adjustments are determined.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

*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.

	2017	2016
Unpaid claims, beginning of year	\$ 933,567	\$ -
Incurred claims (including change in IBNR provisions)	8,986,780	4,565,983
Claims payments	(8,894,169)	(3,632,416)
Unpaid claims, end of year	<u>\$ 1,026,178</u>	<u>\$ 933,567</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.

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

	2017	2016
Unpaid claims, beginning of year	\$ 351,231	\$ -
Incurred claims	238,483	533,897
Claims payments	(339,714)	(182,666)
Unpaid claims, end of year	<u>\$ 250,000</u>	<u>\$ 351,231</u>

## 9. DEFINED CONTRIBUTION PENSION PLAN

### *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 pre-tax 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. Employer contributions totaled \$3,986,841 million for the year ended June 30, 2017. At June 30, 2017, there were 893 plan members.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

The Great Lakes Water Authority Defined Contribution Plan Make-Up Benefit Plan 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 roll over to the Authority's Section 457 Deferred Compensation Plan their refunded employee mandatory contribution from GRS. The amount of the make-up benefit will be determined by an actuary based on the present value of the lost GRS benefit. Employees are 100% vested after one year of service.

The Authority has also adopted a Section 457 Deferred Compensation Plan which employees can make pre-tax contributions which are immediately 100% vested. At June 30, 2017, there were 729 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. Employer contributions were \$1,661,440 and employee contributions were \$207,670 for the year ended June 30, 2017. At June 30, 2017, there were 975 plan members.

## 10. NET PENSION LIABILITY (SPECIAL FUNDING SITUATION)

As part of the City of Detroit bankruptcy plan of adjustment (POA) and the 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 information is available in a separate audit report for the "Legacy Pension Plan (Component II) of the General Retirement System of the City of Detroit Statement of Changes in Fiduciary Net Position by Division with Supplemental Information as of June 30, 2017" and is available by contacting the Authority's management. This agreement constitutes a special funding situation pursuant to the provisions of GASB 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.

**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.

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## GREAT LAKES WATER AUTHORITY

### Notes To Financial Statements

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](http://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 - 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.

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

**Component II - Employer contributions** to the GRS were determined by the provisions of the POA. Included within contributions in Component II are amounts sourced from the one-time sale of City-owned artwork with proceeds from the Foundation for Detroit's Future in the amount of \$32,886,827 along with \$4,005,830 from unlimited tax general obligation bonds and \$67,900,000 of contributions from the City and related entities, of which \$45,400,000 of contributions were from GLWA and DWSD. Employer contributions were also made into the income stabilization fund in the amount of \$1,689,857 from the 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 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 2017. 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.

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 board of trustees in accordance with the City Charter, union contracts, and plan provisions. For the year ended June 30, 2017, there were minimal employee contributions into Component II, only related to military service credit, as the plan was frozen as of June 30, 2014; contributions into Component I began thereafter.

**Net Pension Liability.** The net pension liability was measured as of June 30, 2016, 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

**Actuarial Assumptions.** The total pension liability in the June 30, 2016 actuarial valuation was determined using the following actuarial assumptions.

Inflation	NA
Salary increases	NA
Investment rate of return	7.23%, 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 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, 2016, 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%	6.22%	2.67%
Fixed income	12.0%	2.95%	0.35%
Private equity	8.0%	7.35%	0.59%
Cash	1.0%	0.98%	0.01%
Real estate	10.0%	3.92%	0.39%
Global asset allocation/risk parity/real assets	21.0%	5.02%	1.05%
Hedge funds	5.0%	4.41%	0.22%
	<u>100.0%</u>		<u>5.28%</u>
Inflation			<u>1.95%</u>
Investment rate of return			<u><u>7.23%</u></u>

**Discount Rate.** The discount rate used to measure the total pension liability was 7.23%. 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 Authority contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member 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. 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.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

*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	\$ 196,712,089	\$ 352,052,192	\$ 548,764,281
Plan fiduciary net position	(127,143,045)	(227,545,689)	(354,688,734)
Authority's net pension liability	<u>\$ 69,569,044</u>	<u>\$ 124,506,503</u>	<u>\$ 194,075,547</u>
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Water			
Balances at June 30, 2016	<u>\$ 202,696,454</u>	<u>\$ 141,675,375</u>	<u>\$ 61,021,079</u>
Changes for the year:			
Interest	14,475,348	-	14,475,348
Differences between expected and actual experience	(1,815,233)	-	(1,815,233)
Changes in assumptions	6,318,782	-	6,318,782
Employer contributions	-	10,810,800	(10,810,800)
Net investment loss	-	(470,295)	470,295
Benefit payments, including refunds of employee contributions	(24,963,262)	(24,963,262)	-
Other changes	-	90,427	(90,427)
Net changes	<u>(5,984,365)</u>	<u>(14,532,330)</u>	<u>8,547,965</u>
Balances at June 30, 2017	<u>\$ 196,712,089</u>	<u>\$ 127,143,045</u>	<u>\$ 69,569,044</u>

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Sewer			
Balances at June 30, 2016	\$ 362,762,305	\$ 253,553,946	\$ 109,208,359
Changes for the year:			
Interest	25,906,278	-	25,906,278
Differences between expected and actual experience	(3,248,690)	-	(3,248,690)
Changes in assumptions	11,308,613	-	11,308,613
Employer contributions	-	19,347,900	(19,347,900)
Net investment loss	-	(841,679)	841,679
Benefit payments, including refunds of employee contributions	(44,676,314)	(44,676,314)	-
Other changes	-	161,836	(161,836)
Net changes	(10,710,113)	(26,008,257)	15,298,144
Balances at June 30, 2017	\$ 352,052,192	\$ 227,545,689	\$ 124,506,503

*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 7.23%, as well as what the Authority's net pension liability would be if it were calculated using a discount rate that is 1% lower (6.23%) or 1% higher (8.23%) than the current rate:

	1% Decrease (6.23%)	Current Discount Rate (7.23%)	1% Increase (8.23%)
Water	\$ 88,176,626	\$ 69,569,044	\$ 53,745,695
Sewage disposal	157,808,168	124,506,503	96,187,732
Authority's net pension liability	\$ 245,984,794	\$ 194,075,547	\$ 149,933,427

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

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

*Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions.* For the year ended June 30, 2017, the Authority recognized pension expense of \$2,516,776 and \$4,504,230 for the water and sewage disposal funds, respectively. At June 30, 2017, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows (Inflows) of Resources
<i>Water</i>			
Net difference between projected and actual earnings on pension plan investments	\$ 10,680,706	\$ 6,565,776	\$ 4,114,930
Employer contributions to the plan subsequent to the measurement date	10,810,800	-	10,810,800
	<u>21,491,506</u>	<u>6,565,776</u>	<u>14,925,730</u>
<i>Sewage disposal</i>			
Net difference between projected and actual earnings on pension plan investments	19,115,072	11,750,654	7,364,418
Employer contributions to the plan subsequent to the measurement date	19,347,900	-	19,347,900
	<u>38,462,972</u>	<u>11,750,654</u>	<u>26,712,318</u>
<b>Total business-type activities</b>	<b>\$ 59,954,478</b>	<b>\$ 18,316,430</b>	<b>\$ 41,638,048</b>

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, 2018. 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
2018	\$ (437,101)	\$ (782,272)	\$ (1,219,373)
2019	(437,101)	(782,272)	(1,219,373)
2020	2,845,786	5,093,054	7,938,840
2021	2,143,346	3,835,908	5,979,254
<b>Total</b>	<b>\$ 4,114,930</b>	<b>\$ 7,364,418</b>	<b>\$ 11,479,348</b>

*Payable to the Pension Plan.* At June 30, 2017, the Authority did not have any outstanding contributions payable to the pension plan for the year then ended.

As noted above, the net pension liability is a contractual obligation to the City of Detroit, and as such, presenting RSI schedules for the plan is not necessary or applicable.

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# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 11. 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 \$800.6 million for the water fund and \$752.7 million for the sewage disposal fund through fiscal year 2022. The Program is being financed primarily from revenue bond proceeds in addition to customer charges revenue. The latter is accounted for in the Improvement & Extension Fund as defined in the MBO. As of June 30, 2017, the water fund has unspent bond proceeds of \$173.0 million in addition to the Improvement & Extension funds of \$177.3 million available for use in funding these commitments. Similarly, the sewage disposal fund has unspent bond proceeds of \$150.9 million in addition to Improvement & Extension funds of \$61.8 million available for use in funding these commitments.

The total amount of construction contract commitments outstanding at June 30, 2017 was approximately \$34.5 million for the water fund and \$139.0 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, 2017.

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 an NPDES permit that is in effect through October 1, 2017.

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 \$75,000 for the water fund and \$4,039,562 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.

# GREAT LAKES WATER AUTHORITY

## Notes To Financial Statements

### 12. SPECIAL ITEM

On April 3, 2018, the Board of Directors for the Great Lakes Water Authority approved a Memorandum of Understanding (MOU) Term Sheet. On April 4, 2018, the Board of Water Commissioners for the DWSD approved the same Term Sheet. The Term Sheet was not intended to impose any legal obligation on the parties. A final MOU that will make the provisions of the Term Sheet binding on GLWA and DWSD is expected to be completed and approved by both Boards by July 1, 2018. The Leases and the Water and Sewer Services Agreement (“WSSA”) between the City and GLWA and the MBO, govern the relationship between DWSD and GLWA, which began on January 1, 2016 (the “Effective Date”). The intent of the MOU is to (a) provide clarification of specific sections of the Leases, WSSA and MBO; (b) make adjustments contemplated by the Leases and the WSSA; and (c) address the liquidation of specific liabilities. The transactions associated with this MOU Term Sheet resulted in a special item on the statement of activities for the year ended June 30, 2017, comprised of the following:

	Water	Sewage Disposal
Consideration for assumption of pre-bifurcation liabilities	\$ (17,759,200)	\$ (51,675,100)
Reduction of claims and judgements for pre-bifurcation retail cases	294,199	11,417,600
Sewer lookback adjustment	-	(1,333,900)
Recognize prepayment on leases	11,250,000	13,750,000
Change in obligation receivable for DWSD share of debt	(26,749,580)	(8,952,228)
Transfer of retail receivables and related amounts	153,000	(9,510,854)
Allocation of sewage disposal fund capital funds to DWSD	-	(15,174,200)
Total special item	<u>\$ (32,811,581)</u>	<u>\$ (61,478,682)</u>

### 13. SUBSEQUENT EVENTS

*Partnership between the Great Lakes Water Authority, City of Flint, Karegnondi Water Authority, Genesee County Drain Commission and State of Michigan*

Effective December 1, 2017, the Authority, the City of Flint (the City), 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 comprised of seven separate exhibits includes: 1) a 30-year water service contract with the City 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.

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## REQUIRED SUPPLEMENTARY INFORMATION

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## GREAT LAKES WATER AUTHORITY

### Required Supplementary Information

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

	Fiscal Year Ended June 30,	
	2017	2016
Share of total pension liability		
Interest	\$ 14,475,348	\$ 18,422,673
Differences between expected and actual experience	(1,815,233)	(153,112)
Changes in assumptions	6,318,782	(7,093,982)
Benefit changes	-	(54,618,440)
Benefit payments, including refunds of employee contributions	(24,963,262)	(19,462,302)
Net change	(5,984,365)	(62,905,163)
Share of total pension liability, beginning of year	202,696,454	265,601,617
Share of total pension liability, end of year	196,712,089	202,696,454
Share of plan fiduciary net position		
Employer contributions	10,810,800	10,808,000
Employee contributions	-	46,941
Net investment income (loss)	(470,295)	6,194,355
Benefit payments, including refunds of employee contributions	(24,963,262)	(19,462,302)
Administrative expense	-	(7,633)
Other changes	90,427	9,950,436
Net change	(14,532,330)	7,529,797
Share of plan fiduciary net position, beginning of year	141,675,375	134,145,578
Share of plan fiduciary net position, end of year	127,143,045	141,675,375
Share of net pension liability	\$ 69,569,044	\$ 61,021,079
Nonemployer contributing entity share of collective net pension liability - Water Fund	7.0%	7.4%
Plan fiduciary net position as a percentage of total pension liability	64.6%	69.9%

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

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## GREAT LAKES WATER AUTHORITY

### Required Supplementary Information

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

	Fiscal Year Ended June 30,	
	2017	2016
Share of total pension liability		
Interest	\$ 25,906,278	\$ 32,970,738
Differences between expected and actual experience	(3,248,690)	(274,022)
Changes in assumptions	11,308,613	(12,695,976)
Benefit changes	-	(97,749,668)
Benefit payments, including refunds of employee contributions	(44,676,314)	(34,831,342)
Net change	(10,710,113)	(112,580,270)
Share of total pension liability, beginning of year	362,762,305	475,342,575
Share of total pension liability, end of year	352,052,192	362,762,305
Share of plan fiduciary net position		
Employer contributions	19,347,900	19,342,889
Employee contributions	-	84,010
Net investment income (loss)	(841,679)	11,085,930
Benefit payments, including refunds of employee contributions	(44,676,314)	(34,831,342)
Administrative expense	-	(13,661)
Other changes	161,836	17,808,122
Net change	(26,008,257)	13,475,948
Share of plan fiduciary net position, beginning of year	253,553,946	240,077,998
Share of plan fiduciary net position, end of year	227,545,689	253,553,946
Share of net pension liability	\$ 124,506,503	\$ 109,208,359
Nonemployer contributing entity share of collective net pension liability - Sewage Disposal Fund	12.5%	13.2%
Plan fiduciary net position as a percentage of total pension liability	64.6%	69.9%

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

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## GREAT LAKES WATER AUTHORITY

### Required Supplementary Information

#### Nonemployer Contributing Entity Share of City of Detroit General Employees' Retirement System Schedule of Contributions

Fiscal Year Ending June 30,	Contractually Required Contribution	Actual Contribution	Contribution Deficiency (Excess)
Water fund			
2016	\$ 10,808,000	\$ 10,808,000	\$ -
2017	10,810,800	10,810,800	-
Sewage disposal fund			
2016	19,342,889	19,342,889	-
2017	19,347,900	19,347,900	-

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

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## COMBINING AND INDIVIDUAL FUND SCHEDULES

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**Combining Schedule of Net Position**

Water Fund

June 30, 2017

	Water Operations	Water Improvement and Extension	Water Construction Projects	Total
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 90,581,675	\$ 175,901,463	\$ -	\$ 266,483,138
Restricted cash and cash equivalents	47,021,048	-	13,732,220	60,753,268
Restricted cash for the benefit of DWSD	288,378	-	-	288,378
Investments	852,420	-	-	852,420
Restricted investments	1,169,187	-	-	1,169,187
Receivables:				
Billed	36,459,563	-	-	36,459,563
Unbilled	29,539,433	-	-	29,539,433
Other	1,300	-	-	1,300
Allowance for doubtful accounts	(4,941,777)	-	-	(4,941,777)
Due from other governments	21,327,713	-	-	21,327,713
Contractual obligation receivable	12,076,942	-	-	12,076,942
Due from other funds	-	-	-	-
Prepaid items and other assets	2,437,047	-	-	2,437,047
<b>Total current assets</b>	<b>236,812,929</b>	<b>175,901,463</b>	<b>13,732,220</b>	<b>426,446,612</b>
Noncurrent assets:				
Restricted cash and cash equivalents	4,964,501	-	172,974,993	177,939,494
Restricted investments	20,530,374	-	-	20,530,374
Contractual obligation receivable	483,604,380	-	-	483,604,380
Prepaid lease	11,250,000	-	-	11,250,000
Assets not subject to depreciation	452,185,674	-	-	452,185,674
Capital assets being depreciated, net	1,587,291,603	-	-	1,587,291,603
Prepaid insurance on debt	14,112,324	-	-	14,112,324
<b>Total noncurrent assets</b>	<b>2,573,938,856</b>	<b>-</b>	<b>172,974,993</b>	<b>2,746,913,849</b>
<b>Total assets</b>	<b>2,810,751,785</b>	<b>175,901,463</b>	<b>186,707,213</b>	<b>3,173,360,461</b>
Deferred outflows of resources				
Deferred loss on refunding	99,294,499	-	-	99,294,499
Deferred pension amounts	21,491,506	-	-	21,491,506
<b>Total deferred outflows of resources</b>	<b>120,786,005</b>	<b>-</b>	<b>-</b>	<b>120,786,005</b>

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**Combining Schedule of Net Position**

Water Fund

June 30, 2017

	Water Operations	Water Improvement and Extension	Water Construction Projects	Total
<b>Liabilities</b>				
Current liabilities:				
Accounts and contracts payable	\$ 22,838,286	\$ 181,337	\$ 13,732,219	\$ 36,751,842
Accrued salaries, wages and benefits	3,190,038	-	-	3,190,038
Other accrued liabilities	1,353,816	-	-	1,353,816
Due to other governments	25,393,813	-	-	25,393,813
Interest payable	39,329,322	-	-	39,329,322
Current portion of:				
Long-term debt	23,393,905	-	-	23,393,905
Lease payable	4,618,174	-	-	4,618,174
Obligation payable	159,803	-	-	159,803
Accrued compensated absences	2,157,888	-	-	2,157,888
Accrued workers' compensation	25,000	-	-	25,000
Total current liabilities	122,460,045	181,337	13,732,219	136,373,601
Noncurrent liabilities:				
Other noncurrent liabilities	2,582,076	-	-	2,582,076
Long-term debt	2,606,465,431	-	-	2,606,465,431
Long-term lease payable	426,303,346	-	-	426,303,346
Obligation payable	17,265,503	-	-	17,265,503
Accrued compensated absences	2,288,125	-	-	2,288,125
Accrued workers' compensation	225,000	-	-	225,000
Claims and judgments	75,000	-	-	75,000
Net pension liability	69,569,044	-	-	69,569,044
Total noncurrent liabilities	3,124,773,525	-	-	3,124,773,525
Total liabilities	3,247,233,570	181,337	13,732,219	3,261,147,126
Deferred inflows of resources				
Deferred amounts for swap terminations	85,068	-	-	85,068
Deferred gain on refunding	62,822,646	-	-	62,822,646
Deferred pension amounts	6,565,776	-	-	6,565,776
Total deferred inflows of resources	69,473,490	-	-	69,473,490
Net position				
Net investment in capital assets	134,919,107	-	-	134,919,107
Restricted for debt service	26,194,280	-	-	26,194,280
Restricted for capital acquisition	-	-	172,974,994	172,974,994
Restricted for payment assistance program	2,218,373	-	-	2,218,373
Unrestricted (deficit)	(548,501,030)	175,720,126	-	(372,780,904)
Total net position	\$ (385,169,270)	\$ 175,720,126	\$ 172,974,994	\$ (36,474,150)

concluded.

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## GREAT LAKES WATER AUTHORITY

### Combining Schedule of Revenues, Expenses and Changes in Fund Net Position

Water Fund

UNAUDITED

For the Year Ended June 30, 2017

	Water Operations	Water Improvement and Extension	Water Construction Projects	Total
Operating revenues				
Wholesale customer charges	\$ 331,115,131	\$ -	\$ -	\$ 331,115,131
Local system charges	15,490,300	-	-	15,490,300
Bad debt recovery	5,107,125	-	-	5,107,125
Other revenues	37,388	-	-	37,388
Total operating revenues	351,749,944	-	-	351,749,944
Operating expenses				
Operating before depreciation:				
Personnel	38,261,393	-	-	38,261,393
Contractual services	34,257,419	-	-	34,257,419
Utilities - Gas	952,285	-	-	952,285
Utilities - Electric	26,942,016	-	-	26,942,016
Utilities - Sewage	574,267	-	-	574,267
Utilities - Water	1,035	-	-	1,035
Chemicals	5,340,753	-	-	5,340,753
Supplies and other expenses	7,834,678	147,884	-	7,982,562
Capital program allocation	(977,762)	-	-	(977,762)
Shared services allocation	(11,603,019)	-	-	(11,603,019)
Total operating before depreciation	101,583,065	147,884	-	101,730,949
Depreciation	144,137,912	-	-	144,137,912
Total operating expenses	245,720,977	147,884	-	245,868,861
Operating income (loss)	106,028,967	(147,884)	-	105,881,083
Nonoperating revenues (expenses)				
Earnings on investments	1,342,272	6,626	484,020	1,832,918
Interest on obligations receivable	25,269,750	-	-	25,269,750
Interest expense, net of capitalized interest	(132,434,945)	-	-	(132,434,945)
Amortization of debt related items and costs of issuance	2,733,535	-	(330,517)	2,403,018
Other	(2,283,399)	-	-	(2,283,399)
Capital outlay	40,342,148	(858,305)	(39,483,843)	-
Loss on disposal of capital assets	(207,900)	-	-	(207,900)
Loss on impairment of capital assets	(31,499)	-	-	(31,499)
Total nonoperating revenues (expenses)	(65,270,038)	(851,679)	(39,330,340)	(105,452,057)
Income (loss) before special item and transfers	40,758,929	(999,563)	(39,330,340)	429,026
Special item - memorandum of understanding with DWSD	(32,811,581)	-	-	(32,811,581)
Transfer in	-	110,100,000	234,786,360	344,886,360
Transfer out	(344,671,815)	(214,545)	-	(344,886,360)
Change in net position	(336,724,467)	108,885,892	195,456,020	(32,382,555)
Net position (deficit), beginning of year	(48,444,803)	66,834,234	(22,481,026)	(4,091,595)
Net position (deficit), end of year	\$ (385,169,270)	\$ 175,720,126	\$ 172,974,994	\$ (36,474,150)

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

**Combining Schedule of Net Position**

Sewage Disposal Fund

June 30, 2017

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 160,397,101	\$ 43,351,603	\$ -	\$ 203,748,704
Restricted cash and cash equivalents	57,194,643	-	15,019,170	72,213,813
Investments	1,430,608	-	-	1,430,608
Restricted investments	31,371,834	-	-	31,371,834
Receivables:				
Billed	52,234,778	-	-	52,234,778
Unbilled	24,279,170	-	-	24,279,170
Other	3,157,050	-	-	3,157,050
Allowance for doubtful accounts	(30,410,232)	-	-	(30,410,232)
Due from other governments	29,461,328	-	-	29,461,328
Contractual obligation receivable	11,262,300	-	-	11,262,300
Prepaid items and other assets	1,063,284	-	26,237	1,089,521
Inventories	8,509,454	-	-	8,509,454
Total current assets	349,951,318	43,351,603	15,045,407	408,348,328
Noncurrent assets:				
Restricted cash and cash equivalents	9,449,348	-	118,929,489	128,378,837
Restricted investments	64,195,898	-	16,981,850	81,177,748
Contractual obligation receivable	346,828,300	-	-	346,828,300
Prepaid lease	13,750,000	-	-	13,750,000
Assets not subject to depreciation	278,286,118	-	-	278,286,118
Capital assets being depreciated, net	2,591,023,442	-	-	2,591,023,442
Prepaid insurance on debt	18,581,897	-	-	18,581,897
Total noncurrent assets	3,322,115,003	-	135,911,339	3,458,026,342
Total assets	3,672,066,321	43,351,603	150,956,746	3,866,374,670
Deferred outflows of resources				
Deferred loss on refunding	198,351,942	-	-	198,351,942
Deferred pension amounts	38,462,972	-	-	38,462,972
Total deferred outflows of resources	236,814,914	-	-	236,814,914

continued...

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**Combining Schedule of Net Position**

Sewage Disposal Fund

June 30, 2017

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
<b>Liabilities</b>				
Current liabilities:				
Accounts and contracts payable	\$ 12,013,399	\$ 513,989	\$ 15,019,170	\$ 27,546,558
Other accrued liabilities	898,800	-	-	898,800
Due to other governments	35,801,034	-	47,539	35,848,573
Interest payable	41,011,198	-	-	41,011,198
Current portion of:				
Long-term debt	65,920,307	-	-	65,920,307
Lease payable	5,644,435	-	-	5,644,435
Obligation payable	359,448	-	-	359,448
Accrued compensated absences	679,260	-	-	679,260
Claims and judgments	3,852,062	-	-	3,852,062
Total current liabilities	166,179,943	513,989	15,066,709	181,760,641
Noncurrent liabilities:				
Other noncurrent liabilities	5,983,201	-	-	5,983,201
Long-term debt	3,236,016,730	-	-	3,236,016,730
Long-term lease payable	521,037,424	-	-	521,037,424
Obligation payable	38,835,597	-	-	38,835,597
Claims and judgments	187,500	-	-	187,500
Net pension liability	124,506,503	-	-	124,506,503
Total noncurrent liabilities	3,926,566,955	-	-	3,926,566,955
Total liabilities	4,092,746,898	513,989	15,066,709	4,108,327,596
Deferred inflows of resources				
Deferred amounts for swap terminations	214,393	-	-	214,393
Deferred gain on refunding	49,257,784	-	-	49,257,784
Deferred pension amounts	11,750,654	-	-	11,750,654
Total deferred inflows of resources	61,222,831	-	-	61,222,831
Net position				
Net investment in capital assets	393,956,399	-	-	393,956,399
Restricted for debt service	107,931,677	-	-	107,931,677
Restricted for capital acquisition	15,040,471	-	135,890,037	150,930,508
Restricted for payment assistance program	3,117,744	-	-	3,117,744
Unrestricted (deficit)	(765,134,785)	42,837,614	-	(722,297,171)
Total net position	\$ (245,088,494)	\$ 42,837,614	\$ 135,890,037	\$ (66,360,843)

concluded.

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# GREAT LAKES WATER AUTHORITY

UNAUDITED

## Combining Schedule of Revenues, Expenses and Changes in Fund Net Position

Sewage Disposal Fund

For the Year Ended June 30, 2017

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
Operating revenues				
Wholesale customer charges	\$ 263,311,745	\$ -	\$ -	\$ 263,311,745
Industrial waste charges	14,381,106	-	-	14,381,106
Pollutant surcharges	5,206,294	-	-	5,206,294
Local system charges	187,304,100	-	-	187,304,100
Bad debt recovery	35,065,030	-	-	35,065,030
Other revenues	538,807	-	-	538,807
Total operating revenues	505,807,082	-	-	505,807,082
Operating expenses				
Operating before depreciation:				
Personnel	47,894,911	-	-	47,894,911
Contractual services	55,878,440	-	-	55,878,440
Utilities - Gas	5,497,215	-	-	5,497,215
Utilities - Electric	14,570,263	-	-	14,570,263
Utilities - Sewage	1,656,052	-	-	1,656,052
Utilities - Water	5,468,336	-	-	5,468,336
Chemicals	9,424,428	-	-	9,424,428
Supplies and other expenses	12,180,128	-	-	12,180,128
Capital program allocation	(1,150,316)	-	-	(1,150,316)
Shared services allocation	(101,191)	-	-	(101,191)
Total operating before depreciation	151,318,266	-	-	151,318,266
Depreciation	185,628,465	-	-	185,628,465
Total operating expenses	336,946,731	-	-	336,946,731
Operating income	168,860,351	-	-	168,860,351
Nonoperating revenues (expenses)				
Earnings on investments	1,356,821	27,404	825,647	2,209,872
Interest on obligations receivable	17,062,678	-	-	17,062,678
Interest expense, net of capitalized interest	(159,157,152)	-	-	(159,157,152)
Amortization of debt related items	(17,340,200)	-	-	(17,340,200)
Other	(6,203,206)	-	-	(6,203,206)
Capital outlay	58,892,845	(19,110,580)	(39,782,265)	-
Loss on disposal of capital assets	(42,926)	-	-	(42,926)
Total nonoperating revenues (expenses)	(105,431,140)	(19,083,176)	(38,956,618)	(163,470,934)
Income (loss) before contributions, special item and transfers	63,429,211	(19,083,176)	(38,956,618)	5,389,417
Capital contributions	320,707	-	-	320,707
Special item - memorandum of understanding with DWSD	(61,478,682)	-	-	(61,478,682)
Transfer in	-	(49,600,000)	27,820,997	(21,779,003)
Transfer out	21,997,506	(218,503)	-	21,779,003
Change in net position	24,268,742	(68,901,679)	(11,135,621)	(55,768,558)
Net position (deficit), beginning of year	(269,357,236)	111,739,293	147,025,658	(10,592,285)
Net position (deficit), end of year	\$ (245,088,494)	\$ 42,837,614	\$ 135,890,037	\$ (66,360,843)

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

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# GREAT LAKES WATER AUTHORITY

## Schedule of Operations and Maintenance Expense for Water Operations

Cost Type Category - Budget and Actual

For the Year Ended June 30, 2017

	Original Budget	Amended Budget	Administrative and Centralized Services Reclassification
Operating expenses			
Personnel	\$ 58,395,600	\$ 58,395,600	\$ (17,975,100)
Contractual services	79,616,800	104,148,500	(35,828,400)
Utilities	34,903,600	34,903,600	(143,300)
Chemicals	6,192,400	6,192,400	-
Supplies and other expenses	16,490,700	16,490,700	-
Shared services reimbursement	(10,306,900)	(10,306,900)	-
Capital program allocation	(23,315,600)	(23,315,600)	-
Unallocated reserve	3,849,400	(20,682,300)	-
Centralized services allocation	(34,980,600)	(34,980,600)	34,980,600
Administrative services allocation	(18,966,200)	(18,966,200)	18,966,200
Total operating expenses	<u>\$ 111,879,200</u>	<u>\$ 111,879,200</u>	<u>\$ -</u>

continued...

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

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UNAUDITED

Final Amended Budget	Actual	Amount Over (Under) Budget	Percent Over (Under) Budget
\$ 40,420,500	\$ 38,261,393	\$ (2,159,107)	-5.3%
68,320,100	34,257,419	(34,062,681)	-49.9%
34,760,300	28,469,603	(6,290,697)	-18.1%
6,192,400	5,340,753	(851,647)	-13.8%
16,490,700	7,982,562	(8,508,138)	-51.6%
(10,306,900)	(11,603,019)	(1,296,119)	12.6%
(23,315,600)	(977,762)	22,337,838	-95.8%
(20,682,300)	-	20,682,300	-100.0%
-	-	-	0.0%
-	-	-	0.0%
<u>\$ 111,879,200</u>	<u>\$ 101,730,949</u>	<u>\$ (10,148,251)</u>	-9.1%

concluded.

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# GREAT LAKES WATER AUTHORITY

## Schedule of Operations and Maintenance Expense for Sewer Operations

Cost Type Category - Budget and Actual  
For the Year Ended June 30, 2017

	Original Budget	Amended Budget	Administrative and Centralized Services Reclassification
Operating expenses			
Personnel	\$ 33,777,300	\$ 33,777,300	\$ 17,975,100
Contractual services	28,778,700	28,778,700	35,828,400
Utilities	31,660,100	31,660,100	143,300
Chemicals	14,345,700	14,345,700	-
Supplies and other expenses	9,694,800	9,694,800	-
Shared services reimbursement	-	-	-
Capital program allocation	(3,061,400)	(3,061,400)	-
Unallocated reserve	6,716,900	6,716,900	-
Centralized services allocation	34,980,600	34,980,600	(34,980,600)
Administrative services allocation	18,966,200	18,966,200	(18,966,200)
Total operating expenses	<u>\$ 175,858,900</u>	<u>\$ 175,858,900</u>	<u>\$ -</u>

continued...

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

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UNAUDITED

Final Amended Budget	Actual	Amount Over (Under) Budget	Percent Over (Under) Budget
\$ 51,752,400	\$ 47,894,911	\$ (3,857,489)	-7.5%
64,607,100	55,878,440	(8,728,660)	-13.5%
31,803,400	27,191,866	(4,611,534)	-14.5%
14,345,700	9,424,428	(4,921,272)	-34.3%
9,694,800	12,180,128	2,485,328	25.6%
-	(101,191)	(101,191)	0.0%
(3,061,400)	(1,150,316)	1,911,084	-62.4%
6,716,900	-	(6,716,900)	-100.0%
-	-	-	0.0%
-	-	-	0.0%
<u>\$ 175,858,900</u>	<u>\$ 151,318,266</u>	<u>\$ (24,540,634)</u>	-14.0%

concluded.

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**Schedule of Revenue Requirement**

Budget to Actual

For the Year Ended June 30, 2017

	Original Budget	Amended Budget	Actual	Over (Under) Budget
<b>Water fund</b>				
Revenue:				
Revenue Requirement from Charges	\$ 329,135,600	\$ 329,135,600	\$ 346,605,431	\$ 17,469,831
Bad Debt Expense Recovery	-	-	5,107,125	5,107,125
Other Revenue	2,077,600	2,077,600	37,388	(2,040,212)
	<u>\$ 331,213,200</u>	<u>\$ 331,213,200</u>	<u>\$ 351,749,944</u>	<u>\$ 20,536,744</u>
<b>Revenue requirements*</b>				
Operations & maintenance expense	\$ 111,879,200	\$ 111,879,200	\$ 111,879,600	\$ 400
Operations & maintenance legacy pension allocation	6,037,100	6,037,100	6,048,100	11,000
Debt service allocation	159,277,500	159,277,500	141,481,548	(17,795,952)
Accelerated legacy pension allocation	6,035,200	6,035,200	6,260,724	225,524
Water residential assistance program	1,645,700	1,645,700	1,646,100	400
Lease payment to local system improvement & extension fund	22,500,000	22,500,000	22,500,000	-
Regional system improvement & extension fund**	23,838,500	23,838,500	23,838,500	-
<b>Total revenue requirements</b>	<u>\$ 331,213,200</u>	<u>\$ 331,213,200</u>	<u>\$ 313,654,572</u>	<u>\$ (17,558,628)</u>
<b>Sewage disposal fund</b>				
Revenue:				
Revenue Requirement from Charges	\$ 467,594,400	\$ 467,594,400	\$ 470,203,245	\$ 2,608,845
Bad Debt Expense Recovery	-	-	35,065,030	35,065,030
Other Revenue	4,115,800	4,115,800	538,807	(3,576,993)
	<u>\$ 471,710,200</u>	<u>\$ 471,710,200</u>	<u>\$ 505,807,082</u>	<u>\$ 34,096,882</u>
<b>Revenue requirements*</b>				
Operations & maintenance expense	\$ 175,858,900	\$ 175,858,900	\$ 175,858,800	\$ (100)
Operations & maintenance legacy pension allocation	10,838,400	10,838,400	10,824,000	(14,400)
Debt service allocation	222,418,500	222,418,500	211,556,875	(10,861,625)
Accelerated legacy pension allocation	11,096,500	11,096,500	11,604,538	508,038
Water residential assistance program	2,299,800	2,299,800	2,299,600	(200)
Lease payment to local system improvement & extension fund	27,500,000	27,500,000	27,500,000	-
Regional system improvement & extension fund**	21,698,100	21,698,100	21,698,100	-
<b>Total revenue requirements</b>	<u>\$ 471,710,200</u>	<u>\$ 471,710,200</u>	<u>\$ 461,341,913</u>	<u>\$ (10,368,287)</u>

\*Item is not considered an expense for accounting purposes but is for revenue requirement basis in establishing customer charges. Actual amounts are based on cash transfers made to the MBO defined bank accounts that must be funded by revenue.

\*\*Amount determined to be available after all of MBO requirements are met.

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# Schedule of Days Cash - Liquidity

June 30, 2017

	Water Fund	Sewage Disposal Fund	Total Business-type Activities
<i>Cash and investments</i>			
Unrestricted	\$ 267,335,558	\$ 205,179,312	\$ 472,514,870
<i>Operating expense</i>			
Operating expense	\$ 245,868,861	\$ 336,946,731	\$ 582,815,592
Less: depreciation	(144,137,912)	(185,628,465)	(329,766,377)
<i>Net operating expense</i>	\$ 101,730,949	\$ 151,318,266	\$ 253,049,215
Operating expense per day (365 days)	\$ 278,715	\$ 414,571	\$ 693,286
<i>Days cash</i>			
Number of days cash	959	495	682

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## STATISTICAL SECTION

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# 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 and 2	Financial trends information is intended to show how the Authority's financial position has changed over time.	90
Revenue Capacity Schedule 3	Revenue capacity information is intended to show the factors affecting the Authority's ability to generate its own-source revenue.	92
Debt Capacity Information Schedules 4 through 7	Debt capacity information is intended to show the Authority's debt burden and its ability to issue additional debt.	95
Demographic and Economic Schedules 8 through 12	Demographic and economic information is intended to show the socioeconomic environment within which the Authority operates.	105
Operating Information Schedule 13 through 15	Operating information is intended to show contextual information about operations and resources to provide understanding and assessing the Authority's economic condition.	113

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# GREAT LAKES WATER AUTHORITY

Schedule 1

UNAUDITED

## Net Position by Component (accrual basis of accounting)

	2017	2016*
Business-type activities		
Net investment in capital assets	\$ 528,875,506	\$ 851,734,519
Restricted for debt service	134,125,957	178,540,029
Restricted for capital acquisition	323,905,502	164,326,618
Restricted for payment assistance program	5,336,117	977,278
Unrestricted (deficit)	<u>(1,095,078,075)</u>	<u>(1,210,262,324)</u>
Total business-type activities net position	<u>\$ (102,834,993)</u>	<u>\$ (14,683,880)</u>

\*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.

Source: Great Lakes Water Authority Financial Services Area

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# GREAT LAKES WATER AUTHORITY

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## Changes in Net Position (accrual basis of accounting)

Schedule 2  
UNAUDITED

	2017	2016*
Operating revenues		
Wholesale customer charges	\$ 594,426,876	\$ 281,883,522
Industrial waste charges	14,381,106	6,910,192
Pollutant surcharges	5,206,294	2,423,910
Local system charges	202,794,400	102,660,400
Bad debt recovery	40,172,155	-
Other revenues	576,195	4,252,477
<b>Total operating revenues</b>	<b>857,557,026</b>	<b>398,130,501</b>
Operating expenses		
Personnel	86,156,304	21,590,763
Contractual services	90,135,859	17,179,869
Utilities	55,661,469	25,037,499
Chemicals	14,765,181	6,451,484
Supplies and other expenses	20,162,690	17,903,355
Capital program allocation	(2,128,078)	-
Shared services allocation	(11,704,210)	-
Centralized services	-	35,228,282
Administrative services	-	10,534,428
Depreciation	329,766,377	157,316,574
<b>Total operating expenses</b>	<b>582,815,592</b>	<b>291,242,254</b>
<b>Operating income</b>	<b>274,741,434</b>	<b>106,888,247</b>
Nonoperating revenues (expenses)		
Earnings on investments	4,042,790	1,481,398
Interest on obligations receivable	42,332,428	21,062,500
Interest expense, net of capitalized interest	(291,592,097)	(148,447,442)
Amortization of debt related items and costs of issuance	(14,937,182)	2,055,724
Other	(8,486,605)	-
Gain (loss) on disposal of capital assets	(250,826)	275,693
Loss on impairment of capital assets	(31,499)	-
<b>Total nonoperating expenses</b>	<b>(268,922,991)</b>	<b>(123,572,127)</b>
<b>Income (loss) before contributions and special item</b>	<b>5,818,443</b>	<b>(16,683,880)</b>
<b>Capital contributions</b>	<b>320,707</b>	<b>2,000,000</b>
<b>Special item - memorandum of understanding with DWSD</b>	<b>(94,290,263)</b>	<b>-</b>
<b>Change in net position</b>	<b>(88,151,113)</b>	<b>(14,683,880)</b>
<b>Net position (deficit), beginning of year</b>	<b>(14,683,880)</b>	<b>-</b>
<b>Net position (deficit), end of year</b>	<b>\$ (102,834,993)</b>	<b>\$ (14,683,880)</b>

\*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.

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY

## Operating Revenues and Charge Increases Last Ten Years

	2008 [1]	2009 [1]	2010 [1]	2011 [1]
<b>Water fund</b>				
Operating revenues:				
Wholesale customers	\$ 216,867,005	\$ 206,282,285	\$ 210,662,057	\$ 237,099,865
Detroit local system	74,442,186	65,360,449	65,580,546	74,810,362
Bad debt recovery	-	-	-	-
Other revenues	1,674,029	2,452,729	9,227,823	4,091,974
<b>Total operating revenues</b>	<b>\$ 292,983,220</b>	<b>\$ 274,095,463</b>	<b>\$ 285,470,426</b>	<b>\$ 316,002,201</b>
Wholesale charge increases	5.1%	8.9%	6.4%	5.5%
Detroit retail rate increase	6.8%	6.3%	5.2%	9.3%
Number of wholesale customers [2]	86	86	85	85
<b>Sewage disposal fund</b>				
Operating Revenues:				
Wholesale customers	\$ 201,722,312	\$ 219,638,029	\$ 187,874,924	\$ 213,888,870
Detroit local system	135,966,630	162,813,091	167,986,001	188,929,588
Industrial waste and surcharges	1,435,519	2,957,031	3,730,043	3,424,043
Bad debt recovery	-	-	-	-
Other revenues	7,784,370	4,718,247	5,946,422	4,476,574
<b>Total operating revenues</b>	<b>\$ 346,908,831</b>	<b>\$ 390,126,398</b>	<b>\$ 365,537,390</b>	<b>\$ 410,719,075</b>
Detroit retail rate increase	7.6%	10.1%	15.8%	8.4%
Wholesale charge increases (decreases)	0.0%	2.5%	8.2%	3.7%
Number of wholesale customers [2]	24	24	24	22

[1] Amounts presented are from operations under the DWSD. GLWA assumed operations on January 1, 2016. DWSD information is being included for comparative purposes.

[2] Does not include the City of Detroit.

[3] Amounts presented include 6 months of operations under DWSD and 6 months of operations under GLWA.

[4] Detroit local system revenues reflect only the wholesale portion once GLWA assumed operations. Operations under DWSD would include higher revenues to cover the expenditures related to operating the local system. When GLWA assumed operations on January 1, 2016, DWSD continued to operate the local system under a services agreement with GLWA.

[5] Data before January 1, 2016 included industrial waste in wholesale customer revenues.

Source: FY 2008 - 2016 Audited Financial Statements City of Detroit Water Fund and Sewage Disposal Fund -Statement of Revenues, Expenses and Changes in Fund Net Position

Source: Charge Increases Water Official Statement Series 2016 and Sewer Official Statement 2016 Series

Source: Great Lakes Water Authority Financial Services Area

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2012 [1]	2013 [1]	2014 [1]	2015 [1]	2016 [3]	2017
\$ 258,587,439	\$ 275,185,243	\$ 272,458,933	\$ 264,930,716	\$ 319,682,064	\$ 331,115,131
71,540,060	75,653,761	72,420,199	93,221,433	59,145,143 [4]	15,490,300
-	-	-	-	-	5,107,125
6,002,446	4,688,757	4,490,230	6,125,905	6,597,597	37,388
<u>\$ 336,129,945</u>	<u>\$ 355,527,761</u>	<u>\$ 349,369,362</u>	<u>\$ 364,278,054</u>	<u>\$ 385,424,804</u>	<u>\$ 351,749,944</u>
9.1%	7.9%	3.9%	3.9%	11.3%	4.3%
9.0%	10.3%	4.4%	13.8%	5.3%	3.25%
85	86	87	87	85	88
\$ 242,759,761	\$ 238,301,009	\$ 257,264,293	\$ 257,677,591	\$ 253,432,574	\$ 263,311,745
186,551,894	193,098,413	207,522,787	237,164,889	239,976,793 [4]	187,304,100
2,601,809	5,204,732	5,830,344	5,608,521	11,172,828 [5]	19,587,400
-	-	-	-	-	35,065,030
5,741,427	4,259,106	5,153,420	5,220,613	8,298,340	538,807
<u>\$ 437,654,891</u>	<u>\$ 440,863,260</u>	<u>\$ 475,770,844</u>	<u>\$ 505,671,614</u>	<u>\$ 512,880,535</u>	<u>\$ 505,807,082</u>
11.0%	9.9%	4.2%	9.1%	8.6%	4.9%
11.0%	6.7%	3.7%	2.8%	-1.1%	3.5%
22	22	22	21	21	18

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# GREAT LAKES WATER AUTHORITY

Schedule 4

UNAUDITED

## Debt by Lien

as of June 30, 2017

	Original Principal Amount	Outstanding as of June 30, 2017	Total Future Debt*
<b>Water Supply System Revenue Bonds</b>			
<b>Senior Lien Bonds</b>			
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	3,285,000	3,285,000
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	297,815,000	297,815,000
Water Supply System Revenue Senior Lien Bonds, Series 2011B	17,195,000	4,925,000	4,925,000
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 2014A	206,540,000	192,150,000	192,150,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014B	188,455,000	188,455,000	188,455,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014C	62,700,000	62,700,000	62,700,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014D	307,645,000	209,360,000	209,360,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014E	9,270,000	9,270,000	9,270,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2015A	89,430,000	88,925,000	88,925,000
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>2,606,350,000</u>	<u>1,664,160,000</u>	<u>1,664,160,000</u>
<b>Second Lien Bonds</b>			
Water Supply System Revenue Refunding Second Lien Bonds, Series 2001C	190,405,000	179,440,000	179,440,000
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	350,000	350,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2014F	65,425,000	65,425,000	65,425,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2014G	14,815,000	8,300,000	8,300,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2015B	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
	<u>986,700,000</u>	<u>676,725,000</u>	<u>676,725,000</u>
<b>SRF Junior Lien Bonds</b>			
Water Supply System Revenue Bonds, Series 2005-SRF-1	13,805,164	7,385,164	7,385,164
Water Supply System Revenue Bonds, Series 2005-SRF-2	8,891,730	4,641,730	4,641,730
Water Supply System Revenue Bonds, Series 2006-SRF	5,180,926	2,750,926	2,750,926
Water Supply System Revenue Bonds, Series 2008-SRF	2,590,941	1,205,941	1,205,941
Water Supply System Revenue Bonds, Series 2016A-SRF	9,605,000	-	9,605,000
Water Supply System Revenue Bonds, Series 2016B-SRF	4,180,000	1,268,474	4,180,000
Water Supply System Revenue Bonds, Series 2017-SRF	6,675,000	-	6,675,000
	<u>50,928,761</u>	<u>17,252,235</u>	<u>36,443,761</u>
<b>Total water supply system revenue bonds</b>	<u><u>\$ 3,643,978,761</u></u>	<u><u>\$ 2,358,137,235</u></u>	<u><u>\$ 2,377,328,761</u></u>

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**Debt by Lien**

as of June 30, 2017

	Original Principal Amount	Outstanding as of June 30, 2017	Total Future Debt*
<b>Sewage Disposal System Revenue Bonds</b>			
<b>Senior Lien Bonds (revenue and SRF)</b>			
Sewage Disposal System Revenue Bonds (Senior), Series 1997-B-SRF	\$ 5,430,174	\$ 650,000	\$ 650,000
Sewage Disposal System Revenue Refunding Bonds, Series 1998A	67,615,000	20,750,000	20,750,000
Sewage Disposal System Revenue Refunding Bonds, Series 1998B	67,520,000	21,650,000	21,650,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF1	21,475,000	3,930,000	3,930,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF2	46,000,000	16,280,000	16,280,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF3	31,030,000	7,505,000	7,505,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF4	40,655,000	9,830,000	9,830,000
Sewage Disposal System Revenue Bonds, Series 1999A	33,510,118	22,815,000	22,815,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C1	154,870,000	41,800,000	41,800,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C2	122,905,000	107,750,000	107,750,000
Sewage Disposal System Senior Lien Revenue & Revenue Refunding Bonds, Series 2003A	599,380,000	3,150,000	3,150,000
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	527,355,000	527,355,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014A	123,220,000	123,220,000	123,220,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014B	27,470,000	27,470,000	27,470,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C	446,170,000	446,170,000	446,170,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014D	95,165,000	69,595,000	69,595,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014E	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
	<b>3,433,615,292</b>	<b>1,939,510,000</b>	<b>1,939,510,000</b>
<b>Second Lien Bonds</b>			
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 2014F	76,715,000	76,715,000	76,715,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2014G	23,240,000	5,850,000	5,850,000
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
	<b>1,330,085,000</b>	<b>758,010,000</b>	<b>758,010,000</b>

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**Debt by Lien**

as of June 30, 2017

	Original Principal Amount	Outstanding as of June 30, 2017	Total Future Debt*
<b>Sewage Disposal System Revenue Bonds (concluded)</b>			
<b>Junior Lien Bonds (SRF)</b>			
Sewage Disposal System Revenue Bonds, Series 2000-SRF1	\$ 44,197,995	\$ 13,947,995	\$ 13,947,995
Sewage Disposal System Revenue Bonds, Series 2000-SRF2	64,401,066	22,691,066	22,691,066
Sewage Disposal System Revenue Bonds, Series 2001-SRF1	82,200,000	37,865,000	37,865,000
Sewage Disposal System Revenue Bonds, Series 2001-SRF2	59,850,000	27,575,000	27,575,000
Sewage Disposal System Revenue Bonds, Series 2002-SRF1	18,985,000	6,710,000	6,710,000
Sewage Disposal System Revenue Bonds, Series 2002-SRF2	1,545,369	545,369	545,369
Sewage Disposal System Revenue Bonds, Series 2002-SRF3	31,549,466	13,399,466	13,399,466
Sewage Disposal System Revenue Bonds, Series 2003-SRF1	48,520,000	24,845,000	24,845,000
Sewage Disposal System Revenue Bonds, Series 2003-SRF2	25,055,370	11,460,370	11,460,370
Sewage Disposal System Revenue Bonds, Series 2004-SRF1	2,910,000	1,310,000	1,310,000
Sewage Disposal System Revenue Bonds, Series 2004-SRF2	18,353,459	8,258,459	8,258,459
Sewage Disposal System Revenue Bonds, Series 2004-SRF3	12,722,575	5,707,575	5,707,575
Sewage Disposal System Revenue Bonds, Series 2007-SRF1	167,540,598	114,950,598	114,950,598
Sewage Disposal System Revenue Bonds, Series 2009-SRF1	13,970,062	9,545,062	9,545,062
Sewage Disposal System Revenue Bonds, Series 2010-SRF1	4,214,763	3,115,763	3,115,763
Sewage Disposal System Revenue Bonds, Series 2012-SRF1	14,950,000	13,765,000	13,765,000
Sewage Disposal System Revenue Bonds, Series 2015A-SRF	79,500,000	76,390,000	76,390,000
Sewage Disposal System Revenue Bonds, Series 2015B-SRF	33,030,000	24,814,000	31,740,000
Sewage Disposal System Revenue Bonds, Series 2015D-SRF	19,485,000	14,399,288	18,725,000
Sewage Disposal System Revenue Bonds, Series 2016-SAW	10,000,000	2,602,370	10,000,000
Sewage Disposal System Revenue Bonds, Series 2016-SRF1	19,305,000	8,384,993	19,305,000
Sewage Disposal System Revenue Bonds, Series 2016-SRF2	51,310,000	4,789,662	51,310,000
Sewage Disposal System Revenue Bonds, Series 2017-SRF1	38,450,000	-	38,450,000
	<u>862,045,723</u>	<u>447,072,036</u>	<u>561,611,723</u>
<b>Total sewage disposal system revenue bonds</b>	<u>\$ 5,625,746,015</u>	<u>\$ 3,144,592,036</u>	<u>\$ 3,259,131,723</u>

concluded.

\*Includes the full purchase contract amounts not drawn by June 30, 2017. Final amounts will be determined after project close-out.

Source: Great Lakes Water Authority Financial Services Area

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# GREAT LAKES WATER AUTHORITY

## Schedule of Debt Service Requirements as of June 30, 2017

Fiscal Year Ending	Senior Lien Bonds (in \$1,000s)			Second Lien Bonds (in \$1,000s)		
	Principal	Interest	Total Debt Service	Principal	Interest	Total Debt Service
Water fund						
2018	\$ 5,735	\$ 65,197	\$ 70,932	\$ 340	\$ 31,271	\$ 31,611
2019	43,955	82,629	126,584	8,815	33,819	42,634
2020	37,705	80,683	118,388	15,420	33,168	48,588
2021	44,070	78,738	122,808	17,925	32,238	50,163
2022	48,980	76,412	125,392	20,345	31,179	51,524
2023	52,225	73,881	126,106	16,875	30,141	47,016
2024	58,610	71,105	129,715	18,185	29,154	47,339
2025	61,550	68,084	129,634	19,275	28,105	47,380
2026	64,650	64,902	129,552	20,350	26,995	47,345
2027	67,915	61,574	129,489	21,490	25,822	47,312
2028	71,310	58,092	129,402	22,700	24,583	47,283
2029	74,870	54,436	129,306	23,970	23,363	47,333
2030	78,625	50,597	129,222	25,135	22,193	47,328
2031	82,550	46,566	129,116	26,310	20,949	47,259
2032	86,690	42,333	129,023	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>\$ 1,664,160</u>	<u>\$ 1,196,119</u>	<u>\$ 2,860,279</u>	<u>\$ 676,725</u>	<u>\$ 550,478</u>	<u>\$ 1,227,203</u>

**Schedule 5**  
**UNAUDITED**

Junior Lien Bonds (in \$1,000s)			Total (in \$1,000s)		
Principal	Interest	Total Debt Service	Total Debt Service as of June 30, 2017	Additional Future Junior Lien Debt Service on Undrawn SRF Loans	Total Future Debt Service including undrawn SRF Loans
\$ 1,435	\$ 360	\$ 1,795	\$ 104,338	\$ 442	\$ 104,780
1,555	329	1,884	171,102	700	171,802
1,585	295	1,880	168,856	847	169,703
1,625	261	1,886	174,857	848	175,705
1,660	225	1,885	178,801	848	179,649
1,700	189	1,889	175,011	848	175,859
1,735	151	1,886	178,940	848	179,788
1,770	113	1,883	178,897	848	179,745
1,805	75	1,880	178,777	847	179,624
1,833	35	1,868	178,669	846	179,515
235	12	247	176,932	850	177,782
236	6	242	176,881	848	177,729
78	2	80	176,630	893	177,523
-	-	-	176,375	978	177,353
-	-	-	176,249	973	177,222
-	-	-	176,236	977	177,213
-	-	-	176,109	975	177,084
-	-	-	175,786	974	176,760
-	-	-	143,887	976	144,863
-	-	-	163,945	974	164,919
-	-	-	80,088	971	81,059
-	-	-	84,218	977	85,195
-	-	-	84,139	978	85,117
-	-	-	84,057	973	85,030
-	-	-	82,708	974	83,682
-	-	-	56,978	973	57,951
-	-	-	56,924	972	57,896
-	-	-	56,864	976	57,840
-	-	-	56,800	973	57,773
-	-	-	56,733	971	57,704
-	-	-	-	978	978
-	-	-	-	319	319
<u>\$ 17,252</u>	<u>\$ 2,053</u>	<u>\$ 19,305</u>	<u>\$ 4,106,787</u>	<u>\$ 28,375</u>	<u>\$ 4,135,162</u>

# GREAT LAKES WATER AUTHORITY

## Schedule of Debt Service Requirements

as of June 30, 2017

Fiscal Year Ending	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						
2018	\$ 25,310	\$ 69,294	\$ 94,604	\$ -	\$ 31,147	\$ 31,147
2019	53,715	86,593	140,308	5,850	37,994	43,844
2020	60,620	84,079	144,699	6,075	37,696	43,771
2021	61,935	81,388	143,323	8,335	37,335	45,670
2022	50,395	78,962	129,357	17,515	36,663	54,178
2023	65,440	76,255	141,695	11,905	35,885	47,790
2024	74,955	72,734	147,689	3,215	35,485	38,700
2025	75,790	68,842	144,632	16,035	34,971	51,006
2026	74,635	64,877	139,512	16,995	34,087	51,082
2027	92,895	60,979	153,874	21,040	33,075	54,115
2028	97,065	57,126	154,191	25,795	31,840	57,635
2029	100,895	53,033	153,928	26,640	30,462	57,102
2030	105,475	48,725	154,200	19,860	29,230	49,090
2031	109,890	44,721	154,611	32,550	27,883	60,433
2032	113,795	40,922	154,717	34,175	26,215	60,390
2033	117,875	36,327	154,202	21,910	24,813	46,723
2034	123,245	30,594	153,839	25,915	23,641	49,556
2035	43,920	26,411	70,331	118,345	20,155	138,500
2036	1,450	25,274	26,724	168,680	13,076	181,756
2037	1,410	25,198	26,608	177,175	4,429	181,604
2038	107,095	22,370	129,465	-	-	-
2039	112,675	16,641	129,316	-	-	-
2040	118,550	10,614	129,164	-	-	-
2041	27,275	6,842	34,117	-	-	-
2042	28,635	5,445	34,080	-	-	-
2043	30,065	3,977	34,042	-	-	-
2044	31,570	2,436	34,006	-	-	-
2045	32,935	823	33,758	-	-	-
Total	\$ 1,939,510	\$ 1,201,482	\$ 3,140,992	\$ 758,010	\$ 586,082	\$ 1,344,092

Source: Great Lakes Water Authority Financial Services Area

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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, 2017	Additional Future Junior Lien Debt Service on Undrawn SRF Loans	Total Future Debt Service including undrawn SRF Loans
\$ 36,025	\$ 9,800	\$ 45,825	\$ 171,576	\$ 2,644	\$ 174,220
37,645	8,968	46,613	230,765	2,863	233,628
40,975	8,092	49,067	237,537	3,604	241,141
42,010	7,138	49,148	238,141	4,395	242,536
42,672	6,157	48,829	232,364	4,933	237,297
43,335	5,165	48,500	237,985	5,216	243,201
34,005	4,242	38,247	224,636	7,389	232,025
34,731	3,470	38,201	233,839	7,430	241,269
20,815	2,820	23,635	214,229	7,437	221,666
18,140	2,415	20,555	228,544	7,437	235,981
18,495	2,041	20,536	232,362	7,433	239,795
18,880	1,658	20,538	231,568	7,431	238,999
19,175	1,307	20,482	223,772	7,481	231,253
8,421	957	9,378	224,422	7,938	232,360
8,360	746	9,106	224,213	7,933	232,146
6,968	555	7,523	208,448	9,525	217,973
5,650	399	6,049	209,444	11,001	220,445
5,795	258	6,053	214,884	10,999	225,883
4,975	124	5,099	213,579	10,996	224,575
-	-	-	208,212	7,654	215,866
-	-	-	129,465	7,659	137,124
-	-	-	129,316	6,419	135,735
-	-	-	129,164	-	129,164
-	-	-	34,117	-	34,117
-	-	-	34,080	-	34,080
-	-	-	34,042	-	34,042
-	-	-	34,006	-	34,006
-	-	-	33,758	-	33,758
<u>\$ 447,072</u>	<u>\$ 66,312</u>	<u>\$ 513,384</u>	<u>\$ 4,998,468</u>	<u>\$ 155,817</u>	<u>\$ 5,154,285</u>

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# GREAT LAKES WATER AUTHORITY

Schedule 6

UNAUDITED

## Current Debt Ratings as of June 30, 2017

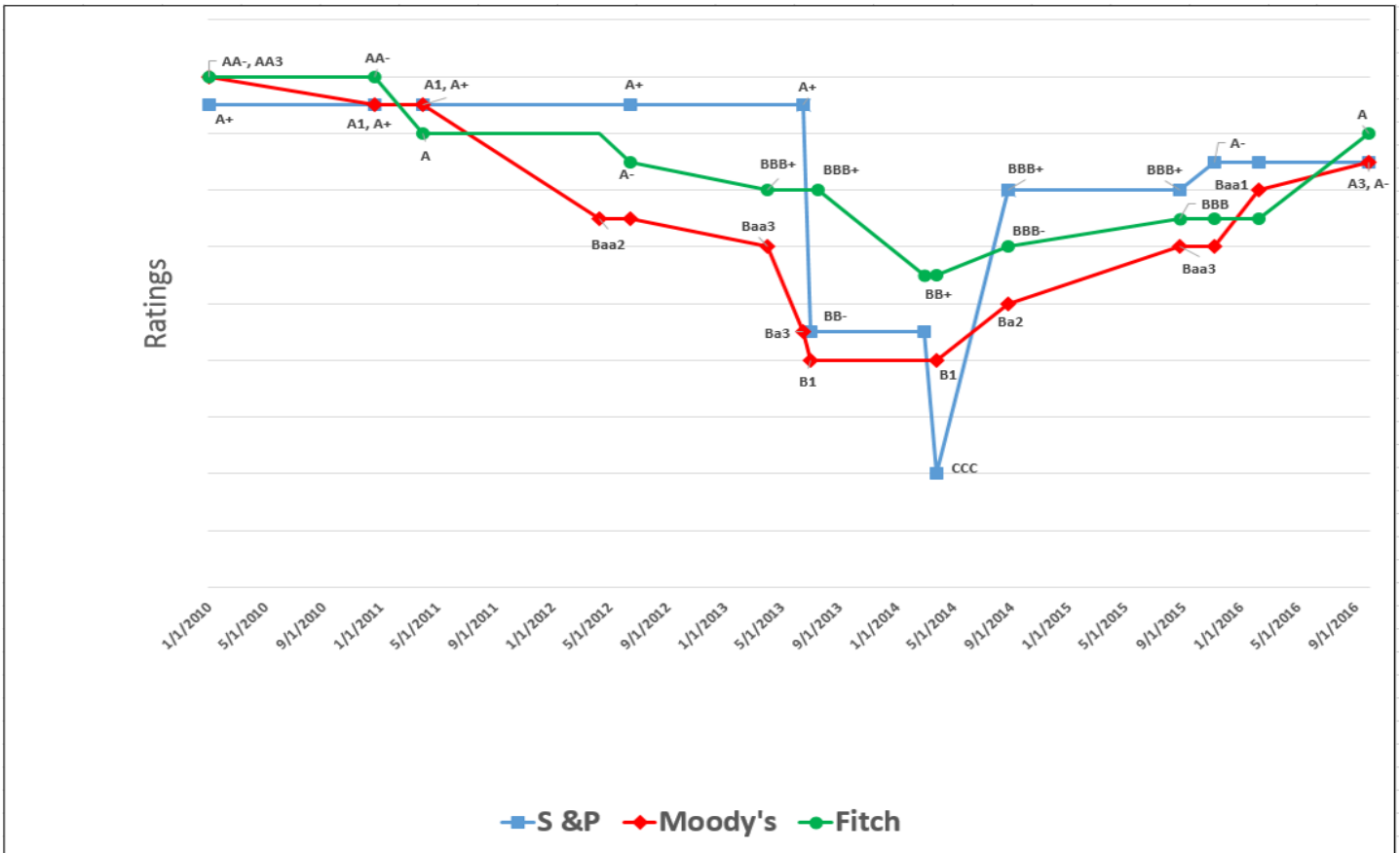
Debt Type	Rating Agency		
	Standard & Poor's	Moody's	Fitch
<b>Water supply system revenue</b>			
Senior lien	A-	A3	A
Second lien	BBB+	Baa1	A-
Junior lien	N/A	N/A	N/A
<b>Sewage disposal system revenue</b>			
Senior lien	A-	A3	A
Second lien	BBB+	Baa1	A-
Junior lien	N/A	N/A	N/A

Source: Great Lakes Water Authority Financial Services Area

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Water and Sewer Senior Lien - Debt Ratings History  
2010 to Present



Source: Great Lakes Water Authority Financial Services Area

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# GREAT LAKES WATER AUTHORITY

Schedule 8

UNAUDITED

## 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
<b>Water fund</b>						
2017	3,800,000	4.4%	\$ 49,612 (4)	\$ 175,010,012	\$ 46.06	0.09%
2016 *	3,800,000	5.4%	48,467 (4)	171,138,525	45.04	0.09%
2015 *	3,800,000	5.9%	46,894	178,923,900	47.09	0.10%
2014 *	3,800,000	8.1%	44,718	182,464,900	48.02	0.11%
2013 *	3,800,000	9.7%	42,555	172,458,800	45.38	0.11%
2012 *	3,800,000	10.1%	42,168	153,524,200	40.40	0.10%
2011 *	3,800,000	11.4%	40,607	164,435,900	43.27	0.11%
2010 *	3,800,000	13.9%	37,837	157,590,500	41.47	0.11%
2009 *	3,976,100	15.1%	36,874	156,775,100	39.43	0.11%
2008 *	3,976,100	8.2%	38,998	135,156,500	33.99	0.09%
<b>Sewage disposal fund</b>						
2017	2,800,000	4.4%	\$ 49,612 (4)	\$ 234,554,814	\$ 83.77	0.17%
2016 *	2,800,000	5.4%	48,467 (4)	228,570,571	81.63	0.17%
2015 *	2,807,000	5.9%	46,894	232,612,800	82.87	0.18%
2014 *	2,807,000	8.1%	44,718	229,611,100	81.80	0.18%
2013 *	2,807,000	9.7%	42,555	225,222,900	80.24	0.19%
2012 *	2,807,000	10.1%	42,168	203,092,300	72.35	0.17%
2011 *	2,807,000	11.4%	40,607	209,063,900	74.48	0.18%
2010 *	2,807,000	13.9%	37,837	200,985,100	71.60	0.19%
2009 *	2,998,200	15.1%	36,874	195,544,837	65.22	0.18%
2008 *	2,998,200	8.2%	38,998	175,248,600	58.45	0.15%

(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 2017 the September 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 1st debt payment.

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data for 2016 includes six months of operation under DWSD and six months of operation under GLWA.

Source: Great Lakes Water Authority Financial Services Area

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# GREAT LAKES WATER AUTHORITY

## Ten Largest Wholesale Water Customers / Total Billed Revenue Last Ten Years

	2008 [1]	2009 [1]	2010 [1]	2011 [1]
Operating revenues				
Flint (a)	\$ 16,297,870	\$ -	\$ 17,421,663	\$ 17,103,752
Genesee County Drain Commission (a)	-	17,421,571	-	-
Southeast Oakland County Water Authority	10,165,018	9,285,621	9,285,621	10,293,814
Troy	8,606,895	7,445,795	7,550,028	7,295,491
Sterling Heights	9,424,067	8,578,659	8,696,601	8,113,053
Farmington Hills	7,611,586	7,547,579	7,547,585	7,775,635
Warren	7,775,671	-	-	7,532,208
Livonia	7,530,863	7,033,848	7,033,853	7,804,684
Shelby Township	7,537,378	7,403,055	7,403,056	8,175,322
Novi	-	6,913,500	6,782,362	7,063,698
Macomb Township	-	-	-	-
Rochester Hills	8,823,580	8,644,531	8,553,457	9,047,860
North Oakland County Water Authority	-	-	-	-
West Bloomfield Township	-	-	-	-
Canton Township	7,803,359	6,876,444	7,142,729	-
Total	<u>\$ 91,576,287</u>	<u>\$ 87,150,603</u>	<u>\$ 87,416,955</u>	<u>\$ 90,205,517</u>
% of total operating revenues	<u>31.26%</u>	<u>31.80%</u>	<u>30.62%</u>	<u>28.55%</u>
Total operating revenues	<u>\$ 292,983,220</u>	<u>\$ 274,095,463</u>	<u>\$ 285,470,426</u>	<u>\$ 316,002,201</u>

(a) 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.

[1] GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under 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

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2012 [1]	2013 [1]	2014 [1]	2015 [1]	2016 [1]	2017
\$ 20,919,987	\$ 23,308,800	\$ 23,871,366	\$ 15,804,309	\$ -	\$ 13,256,330
-	-	-	-	17,231,935	18,493,530
12,111,306	19,541,038	19,467,746	19,779,978	22,846,983	22,434,129
-	9,311,146	9,715,613	9,761,438	12,365,922	13,939,815
9,882,899	12,089,582	12,015,093	12,650,819	14,678,915	15,480,008
8,503,722	10,575,173	9,769,372	9,797,153	-	-
9,121,108	9,945,794	9,060,112	9,297,285	-	-
8,806,767	10,338,724	9,728,576	10,325,750	12,809,124	13,483,657
9,966,936	10,824,461	10,770,614	11,035,002	12,689,582	13,462,808
8,340,815	-	-	-	11,869,865	-
-	-	-	-	10,103,536	10,945,117
10,324,388	9,529,341	9,600,373	9,432,554	-	-
-	-	-	-	22,585,698	22,913,261
7,973,620	9,655,154	-	-	-	-
-	-	9,400,322	9,692,530	12,319,875	13,872,584
<u>\$ 105,951,548</u>	<u>\$ 125,119,213</u>	<u>\$ 123,399,187</u>	<u>\$ 117,576,818</u>	<u>\$ 149,501,435</u>	<u>\$ 158,281,239</u>
<u>31.52%</u>	<u>35.19%</u>	<u>35.32%</u>	<u>32.28%</u>	<u>38.79%</u>	<u>45.00%</u>
<u>\$ 336,129,945</u>	<u>\$ 355,527,761</u>	<u>\$ 349,369,362</u>	<u>\$ 364,278,054</u>	<u>\$ 385,424,804</u>	<u>\$ 351,749,944</u>

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# GREAT LAKES WATER AUTHORITY

## Ten Largest Wholesale Sewer Customers / Total Billed Revenue Last Ten Years

	2008 [1]	2009 [1]	2010 [1]	2011 [1]
Operating revenues				
Oakland Macomb Interceptor Drainage District	\$ 52,832,546	\$ 57,753,543	\$ 52,780,322	\$ 51,216,403
Wayne County - Rouge Valley	35,784,848	40,843,614	35,175,971	41,807,733
Oakland County-George W Kuhn Drainage District	29,822,251	33,965,834	27,820,025	35,810,320
Evergreen Farmington	24,404,725	26,875,478	22,080,501	24,951,389
NE Wayne County	14,838,182	18,023,991	14,760,986	19,146,923
Dearborn	12,853,361	13,572,269	12,752,026	14,441,467
Highland Park	4,363,745	4,438,562	3,965,206	4,490,709
Hamtramck	2,428,484	2,689,250	4,386,331	3,249,930
Grosse Pointe Farms	1,715,608	1,370,953	1,605,103	1,857,469
Grosse Pointe Park	1,198,731	1,206,275	976,896	1,151,516
Total	<u>\$ 180,242,481</u>	<u>\$ 200,739,770</u>	<u>\$ 176,303,366</u>	<u>\$ 198,123,859</u>
% of total operating revenues	<u>51.96%</u>	<u>51.46%</u>	<u>48.23%</u>	<u>48.24%</u>
Total operating revenues	<u>\$ 346,908,831</u>	<u>\$ 390,126,398</u>	<u>\$ 365,537,390</u>	<u>\$ 410,719,075</u>

[1] GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under 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

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2012 [1]	2013 [1]	2014 [1]	2015 [1]	2016 [1]	2017
\$ 59,379,605	\$ 62,302,424	\$ 71,972,397	\$ 74,853,600	\$ 69,206,904	\$ 69,627,600
47,309,391	44,972,847	51,181,360	50,930,400	51,784,039	55,486,800
39,620,971	38,148,325	41,658,188	42,046,800	42,804,155	45,682,800
28,097,941	27,556,982	29,198,838	29,686,800	30,177,613	32,179,200
20,532,777	19,293,968	20,406,419	22,585,200	22,993,819	24,120,000
15,884,591	15,292,901	16,406,661	18,190,800	18,368,762	19,603,200
4,840,249	5,007,724	6,887,428	5,569,200	5,616,167	5,818,800
3,437,744	3,586,927	3,941,094	4,054,800	3,936,205	4,086,000
1,922,441	2,462,068	2,502,113	2,449,200	2,486,773	2,667,600
1,413,363	1,273,953	1,244,951	1,465,200	1,492,206	1,626,000
<u>\$ 222,439,074</u>	<u>\$ 219,898,118</u>	<u>\$ 245,399,451</u>	<u>\$ 251,832,000</u>	<u>\$ 248,866,643</u>	<u>\$ 260,898,000</u>
<u>50.83%</u>	<u>49.88%</u>	<u>51.58%</u>	<u>49.80%</u>	<u>48.52%</u>	<u>51.58%</u>
<u>\$ 437,654,891</u>	<u>\$ 440,863,260</u>	<u>\$ 475,770,844</u>	<u>\$ 505,671,614</u>	<u>\$ 512,880,535</u>	<u>\$ 505,807,082</u>

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**FY 2016-17 Wholesale Water Schedule of 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	\$ 113,700	\$ 6.59	Madison Heights	\$ 99,700	\$ 5.39
Almont, Village of	10,700	9.51	Mayfield Township	1,400	23.86
Ash Township	36,400	7.28	Melvindale	32,700	5.57
Belleville	15,300	8.19	New Haven, Village of	17,100	9.79
Berlin Township	35,300	9.74	North Oakland County Water Authority	1,137,400	9.78
Brownstown Township	165,800	9.75	Northville, City	36,400	9.11
Bruce Township	2,400	19.40	Northville Township	321,900	20.12
Canton Township	638,600	15.77	Novi	426,900	12.98
Centerline	23,300	5.49	Oak Park	64,400	5.00
Chesterfield Township	186,000	9.18	Oakland County Drain Commission	3,200	2.84
Clinton Township	377,500	7.59	Plymouth City	50,100	9.54
Commerce Township	245,600	21.13	Plymouth Township	205,200	9.95
Dearborn	463,100	5.90	Redford Township	166,500	7.70
Dearborn Heights	186,400	6.84	River Rouge	34,400	4.75
East Pointe	79,400	5.43	Riverview	44,800	7.79
Ecorse	70,300	3.60	Rockwood	14,700	10.66
Farmington City	47,500	8.09	Romeo	12,800	17.05
Farmington Hills	430,900	9.50	Romulus	179,600	7.33
Ferndale	47,000	5.70	Roseville	130,500	5.02
Flat Rock	58,100	7.50	Royal Oak Township	11,200	7.47
Flint	662,100	8.93	Shelby Township	667,900	13.49
Fraser	63,600	7.83	Southeastern Oakland County Water Authority	1,099,900	6.84
Garden City	81,200	7.06	South Rockwood	5,000	8.08
Genesee County Drain Commission	964,800	12.71	Southgate	105,900	6.83
Gibraltar	22,900	10.79	St. Clair County-Burtchville Township	14,600	12.98
Grosse Ile	62,600	11.64	St. Clair County-Greenwood	19,000	15.17
Grosse Pointe Park	69,300	9.09	St. Clair Shores	150,400	5.45
Grosse Pointe Shores	30,100	12.68	Sterling Heights	774,900	10.05
Grosse Pointe Woods	69,600	7.42	Sumpter Township	31,800	8.49
Hamtramck	34,300	4.49	Sylvan Lake	11,700	13.37
Harper Woods	42,400	5.84	Taylor	235,800	6.60
Harrison Township	68,800	5.92	Trenton	103,800	9.12
Hazel Park	34,600	5.13	Troy	653,000	12.01
Highland Park	62,600	4.56	Utica	28,900	10.05
Huron Township	68,800	9.18	Van Buren Township	140,900	8.54
Imlay City	56,800	11.22	Walled Lake	45,200	11.66
Imlay Township	134	10.84	Warren	490,200	5.42
Inkster	89,800	6.90	Washington Township	150,800	18.28
Keego Harbor	15,300	11.13	Wayne	132,500	10.70
Lapeer	69,700	9.36	West Bloomfield Township	487,000	15.16
Lenox Township	14,800	6.23	Westland	295,300	7.45
Lincoln Park	108,400	5.94	Wixom	115,900	14.48
Livonia	663,700	10.88	Woodhaven	100,100	12.52
Macomb Township	516,000	13.90	Ypsilanti Community Utilities Authority	524,500	8.56

Total Revenue Requirement for the Detroit Retail Class \$15,490,300 - Effective July 1, 2016

\*Wholesale charges went into effect July 1, 2016

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**Schedule of Wholesale Sewer Monthly Charges\***  
**and Total Revenue Requirement for the Detroit Retail Class**

	Total
<b>Billing Meter Customers</b>	
Oakland Macomb Interceptor District (OMID)	\$ 5,802,300
Rouge Valley	4,623,900
Oakland County - George W. Kuhn (GWK)	3,806,900
Evergreen Farmington	2,681,600
Northeast Wayne County	2,010,000
Dearborn	1,633,600
Grosse Pointe Farms	222,300
Grosse Pointe Park	135,500
Melvindale	115,100
Farmington	92,500
Center Line	77,200
Allen Park	56,000
Highland Park	484,900
Hamtramck	340,500
Grosse Pointe	78,500
Harper Woods	20,000
Redford Township	21,700
Wayne County #3	3,900

Total Revenue Requirement for the Detroit Retail Class \$187,304,100 - Effective July 1, 2016

\*Wholesale charges went into effect July 1, 2016

Source: Great Lakes Water Authority Financial Services Area

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# GREAT LAKES WATER AUTHORITY

## Industrial Waste Control Charges & Pollutant Surcharges Schedule 12 Effective July 1, 2016 UNAUDITED

	Charge \$/Month
<b>Industrial waste control charges</b>	
Meter size - inches:	
5/8	\$ 5.65
3/4	8.48
1	14.13
1 1/2	31.08
2	45.20
3	81.93
4	113.00
6	169.50
8	282.50
10	395.50
12	452.00
14	565.00
16	678.00
18	791.00
20	904.00
24	1,017.00
30	1,130.00
36	1,243.00
48	1,356.00
<b>Pollutant surcharges</b>	
Biochemical Oxygen Demand (BOD) for concentrations > 275 mg/l	\$ 0.491
Total Suspended Solids (TSS) for concentrations > 350 mg/l	\$ 0.498
Phosphorus (P) for concentrations > 12 mg/l	\$ 7.346
Fats, Oil and Grease (FOG) for concentrations > 100 mg/l	\$ 0.473
Septage Disposal Fee \$ per 500 gallons of disposal	\$ 47.00

Source: Great Lakes Water Authority Financial Services Area

**Produced and Billed Water Volumes**  
 Last Ten Years

Fiscal Year	Total Water Produced (Mcf)	Wholesale Customer Billed (Mcf)	Local System Billed (Mcf)	Total Water Billed (Mcf)	Non-Revenue Water (Mcf)	Non-Revenue % of Production
2008 *	29,360,700	18,405,500	4,145,500	22,551,000	6,809,700	23.2%
2009 *	27,180,700	16,682,100	4,138,100	20,820,200	6,360,500	23.4%
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%

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data from 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

Source: Great Lakes Water Authority Financial Services Area

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**Treated and Billed Wastewater Volumes**

Last Ten Years

Fiscal Year	Total	Customer Wastewater Volume (Mg)		
	Wastewater Treated (Mg)	Wholesale Customers (a)	Local System (b)	Total
2008 *	244,200	114,200	27,800	142,000
2009 *	260,800	123,200	29,600	152,800
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

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data from 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

(a) Primarily metered wastewater volumes, but also includes water sales volumes for some customers whose wastewater is not metered. For 2015 through 2017 a fixed charge billing methodology was implemented. Volumes reflect measured and monitored wastewater flow.

(b) Reported water sales to retail customers

Source: Great Lakes Water Authority Financial Services Area and DWSD

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**Pledges of Revenue and Debt Service Coverage**  
as of June 30, 2017

The Authority has pledged specific revenue streams to secure the repayment of the revenue bonds and State of Michigan revolving fund loans. The bonds and loans are paid solely from the net revenues of the Water System and Sewer System including the Retail Revenues from the Retail Customers who are serviced under the Water and Sewer Services Agreement with the City of Detroit. The pledged revenues for the fiscal year ending June 30, 2017 were reported by two entities due to the lease agreement between the City of Detroit and Great Lakes Water Authority which became effective on January 1, 2016. The pledge revenue definition in the Great Lakes Water Authority Master Bond Ordinance includes the retail revenues of the City of Detroit Water and Sewerage Department as this revenue is pledged for payment of the bonded debt owed by Great Lakes Water Authority. A summary of the pledged revenue and the applicable debt as of June 30, 2017 is as follows:

	Water Fund	Sewage Disposal Fund
Type of Debt	Revenue Bonds and State of Michigan Revolving Fund Loans	Revenue Bonds and State of Michigan Revolving Fund Loans
Type of revenue pledged	All Water Fund revenues except for those transferred to the Operation and Maintenance Fund	All Sewer Fund revenues except for those transferred to the Operation and Maintenance Fund
General purpose for debt	Funding for various water treatment and transmission capital improvements, refund certain water revenue bonds, pay termination amounts for interest rate swap agreements, and funding reserve requirements	Funding for various waste water treatment and collection capital improvements, refund certain sewage disposal revenue bonds, pay termination amounts for interest rate swap agreements, and funding reserve requirements
Term of pledged commitment	Thru 2047	Thru 2045
Remaining principal and interest requirement	\$4,106,786,891	\$4,998,468,362
Principal and interest funding requirement for the year ending June 30, 2017:		
Senior lien bonds	\$134,234,660	\$140,854,010
Second lien bonds	38,990,023	47,918,639
Total senior and second lien bonds	173,224,684	188,772,649
Junior lien bonds	1,785,328	45,782,165
Total all bonds	<u>\$175,010,012</u>	<u>\$ 234,554,814</u>
Pledged revenue for the year ending June 30, 2017	\$ 286,317,089	\$ 354,290,815
Pledged revenue collected as a percentage of funding requirement	163.6%	151.0%
Rate covenant debt service coverage (1)		
Senior lien bonds	2.13	2.52
Senior and second lien bonds	1.65	1.88
All bonds, including SRF junior lien	1.64	1.51
Approximate amount in restricted cash and investments related to various bond indentures at June 30, 2017	\$ 186,700,000	\$ 150,900,000

(1) Computed consistent with rate covenant basis for rate determination purposes. Not applicable for purposes of additional bonds test calculations.

Source: Great Lakes Water Authority Financial Services Area

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DRAFT



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