



Audit Committee

Friday, December 6, 2019 at 8:00 a.m.

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

AGENDA

Note: Binders 1,2 & 3 have been combined in agenda order and document was renumbered.

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
 - A. October 18, 2019 Page 1
 - B. October 31, 2019 Page 7
5. PUBLIC PARTICIPATION
6. OLD BUSINESS
 - A. FY 2021 Charges Rollout Update Page 9
 - B. Shared Services Update Page 11
 - C. Annual Financial Audit Update Page 17
7. NEW BUSINESS
 - A. Ethics and Compliance Hotline Page 204
 - B. Proposed Underwriting Team Selection for 2020 Refunding and Potential New Money Transaction Page 210
 - C. October Reconciliation Committee Page 224
 - D. Consultant Selection Timeline Page 233
 - E. Proposed Calendar Year 2020 Audit Committee Meeting Dates Page 235
8. REPORTS
 - A. Monthly Financial Report for August 2019 Page 237
 - B. Quarterly Investment Report Page 238
 - C. Quarterly Construction Work-in-Progress Report Page 269
 - D. CFO Updates
9. LOOK AHEAD
 - Next Audit Committee Meetings
 - A. Regular Meeting December 19, 2019 at 3:30 p.m.
10. INFORMATION
11. OTHER MATTERS
12. ADJOURNMENT



Great Lakes Water Authority

735 Randolph Street
 Detroit, Michigan 48226
 glwater.legistar.com

Meeting Minutes - Draft

Audit Committee

Friday, October 18, 2019

8:00 AM

Water Board Building 5th Floor

1. Call To Order

Chairman Baker called the meeting to order at 8:06 a.m.

2. Quorum Call

Present: 2 - Director Brian Baker, and Director Gary Brown

3. Approval of Agenda

Nicolette Bateson, Chief Financial Officer/Treasurer noted Item 7F. (Audit Firm Staffing) has been added to the Agenda.

Chairman Baker requested a Motion to approve the Agenda as amended.

Motion By: Brian Baker

Support By: Gary Brown

Action: Approved as Amended

The motion carried by a unanimous vote.

4. Approval of Minutes

A. [2019-344](#) Approval of Minutes of July 19, 2019

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [July 19, 2019 Audit Committee Meeting Minutes](#)

Chairman Baker requested a Motion to approve the July 19, 2019 Audit Committee Meeting Minutes.

Motion By: Gary Brown

Support By: Brian Baker

Action: Approved

The motion carried by a unanimous vote.

5. Public Comment

There were no public comments.

6. Old Business

A. [2019-345](#) Update: Potential Refunding Transactions

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [Update Potential Refunding Transactions 10.18.19.pdf](#)
[6A 2 - PFM Refunding Update Presentation for 10.18.19 Audit Committee.pdf](#)

Motion By: Gary Brown

Support By: Brian Baker

Action: Recommended for Approval to the Board of Directors

Agenda of October 31, 2019

The motion carried by a unanimous vote.

7. New Business

A. [2019-346](#) Charges Rollout Update

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [Audit Committee Communication - FY 2021 Charges Rollout Update.pdf](#)

Motion By: Gary Brown

Support By: Brian Baker

Action: Received and Filed

The motion carried by a unanimous vote.

B. [2019-353](#) Annual Financial Audit Update

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [FY 2019 Annual Financial Audit Update 10.10.19.pdf](#)
[FY 2019 Annual Financial Audit Update_BT Timeline.pdf](#)

Motion By: Gary Brown

Support By: Brian Baker

Action: Received and Filed

The motion carried by a unanimous vote.

C. [2019-354](#) Industrial Pretreatment Program Financial Analysis & Charges

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [IPP Financial Analysis & Charges cover memo.pdf](#)
[7C 2 IPP One-Pager draft.pdf](#)

Chairman Baker made a Motion to Receive and File, subject to an update to make the cost neutral for loss of revenue.

Motion By: Brian Baker

Support By: Gary Brown

Action: Received and Filed

The motion carried by a unanimous vote.

D. [2019-356](#) Ten Year Financial Forecast Discussion Draft

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [Ten Year Financial Forecast Discussion Draft Cover Memo.pdf](#)
[Ten Year Financial Forecast Discussion Draft.pdf](#)

Motion By: Gary Brown

Support By: Brian Baker

Action: Received and Filed

The motion carried by a unanimous vote.

E. [2019-357](#) Proposed Audit Committee Meeting Schedule

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [7E 1 Proposed Audit Committee Meeting Schedule Updates.pdf](#)

Chairman Baker requested a Motion to schedule a Special Audit Committee Meeting on Thursday, October 31, 2019 at 12:00 p.m.

Motion By: Gary Brown

Support By: Brian Baker

Action: Approved

The motion carried by a unanimous vote.

F. [2019-382](#) Audit Firm Staffing

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [Audit Firm Staffing](#)

Director Brown made a Motion, Supported by Chairman Baker, to have Baker Tilley make a recommendation to staff as to how they're going to resolve the perceived conflict and the elimination of any overlap of the other staff assigned, to address the security badging issue.

Motion By: Gary Brown

Support By: Brian Baker

Action: Recommended for Approval to the Board of Directors

Agenda of October 31, 2019

The motion carried by a unanimous vote.

8. Reports**A.** [2019-358](#) Monthly Financial Report for July 2019

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 8A Monthly Financial Report July 2019.pdf

Motion By: Gary Brown

Support By: Brian Baker

Action: Received and Filed

The motion carried by a unanimous vote.

B. [2019-359](#) Water Residential Assistance Program Update

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [Quarterly WRAP Report as of 6.30.2019.pdf](#)

Motion By: Gary Brown

Support By: Brian Baker

Action: Received and Filed

The motion carried by a unanimous vote.

C. [2019-380](#) August Audit Committee Binder

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [GLWA Audit Committee Binder 9.20.2019 Cover Memo.pdf](#)
[GLWA Audit Committee Binder 8.16.2019 .pdf](#)

Motion By: Gary Brown
Support By: Brian Baker
Action: Received and Filed
The motion carried by a unanimous vote.

D. [2019-381](#) September Audit Committee Binder

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [GLWA Audit Committee Binder 9.20.2019 Cover Memo.pdf](#)
[GLWA Audit Committee Binder 9.20.19.pdf](#)

Motion By: Gary Brown
Support By: Brian Baker
Action: Received and Filed
The motion carried by a unanimous vote.

9. CFO Update (Verbal)

Nicolette Bateson, Chief Financial Officer/Treasurer, stated that Kim Garland is President of the Michigan Government Finance Officers Association (GFOA); Deirdre Henry and Team received notification that GLWA’s Investment Policy received the Certificate of Excellence Award; and Sonya Collins is rolling out the working draft of GLWA’s Procurement Manual to be formalized in January 2020.

10. Look Ahead

The next Audit Committee Meetings are as follows:

Special Meeting October 31, 2019 12:00 p.m.
Regular Meeting November 15, 2019 at 8:00 a.m.

11. Information

None

12. Other Matters

None

13. 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 10:30 a.m.



Great Lakes Water Authority

735 Randolph Street
Detroit, Michigan 48226
glwater.legistar.com

Meeting Minutes - Draft

Audit Committee

Thursday, October 31, 2019

12:00 PM

Water Board Building 5th Floor

Special Meeting

1. Call To Order

Chairman Baker called the meeting to order at 12:00 p.m.

2. Quorum Call

Present: 2 - Chairman Brian Baker, and Director Gary Brown

3. Approval of Agenda

Chairman Baker requested a Motion to approve the Agenda.

Motion By: Gary Brown

Support By: Brian Baker

Action: Approved

The motion carried by a unanimous vote.

4. Approval of Minutes

None

5. Public Comment

There were no public comments.

6. Old Business

None

7. New Business

A. [2019-397](#) Proposed Contract for Investment Advisor Services Request

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [7A1 GLWA Audit Committee Memo Investment Advisor Appointment.pdf](#)
[7A2 Board Letter Draft RFP 1902721 Investment Advisor Services.pdf](#)
[7A3 PFM Asset Management – Fees.pdf](#)
[7A4 Procurement Report RFP 1902721.pdf](#)

Motion By: Gary Brown

Support By: Brian Baker

Action: Recommended for Approval to the Board of Directors Workshop Meeting
Agenda of November 13, 2019

The motion carried by a unanimous vote.

8. Reports

None

9. Look Ahead

The next Audit Committee Meeting is scheduled for Friday, November 15, 2019 at 8:00 a.m.

10. Information

Chairman Baker made inquiries regarding a GLWA Risk Management Annual Report, and location on the GLWA website of all contracts GLWA enters into.

11. Other Matters

Nicolette Bateson, Chief Financial Officer/Treasurer, gave an update regarding distribution of the Audit Report to the Committee and potential meetings.

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 12:19 a.m.



Financial Services Audit Committee Communication

Date: December 6, 2019

To: Great Lakes Water Authority Audit Committee

From: Jon Wheatley, Public Finance Manager

Re: FY 2021 Charges Rollout Update

Background: Over the next few months, the Great Lakes Water Authority (GLWA) will host its annual charges rollout meetings for Fiscal Year 2021. During these meetings GLWA will present and discuss how our capital improvement plan (CIP) and Budget form the basis for GLWA's proposed Revenue Requirements and how the Units of Service for each of our members is used to determine each members' charges in alignment with the Service Agreements.

Rollout Meeting #1: Water and Sewer Capital Improvement Plan on November 15, 2019

- ✓ The Draft 1 CIP was presented. The CIP was developed within a dollar scope that aligns with GLWA's ten-year financial plan presented to the Audit Committee in October 2019.

Rollout Meeting #2: November 21, 2019, Units of Service

- ✓ **Sewer:** There was not a presentation on the Sewer Shares Update for FY 2021. This is because as the Sewer Shares Workgroup recommended to the GLWA Board of Directors that the Sewer Shares remain unchanged for FY 2021 as it works to update the methodology for FY 2022.
- ✓ **Water:** Key take-aways from the water presentation:
 - FY 2019 wholesale master metered water sales volumes were materially lower than recent years, particularly in "peak" months.
 - Total (including non-master metered) FY 2021 projected sales volumes are approximately 3.5% lower than the FY 2020 figures.
 - All else being equal, this will create a negative budgeted revenue variance of approximately 1.4% for FY 2021.
 - Commodity sales account for 40% of budgeted revenue

- The Contract Alignment Process (“CAP”) effective in FY 2020 does not create any modified “demand related” allocation of costs of service to Customers.

Upcoming: Rollout Meeting #3 (Proposed FY 2021 Revenue Requirements)

- Thursday, January 9, 2020
- [VisTaTech Center Schoolcraft College](#) (18600 Haggerty Rd., Livonia, MI)
- Water: 10:30 a.m. - 12:00 p.m.
- Lunch Briefing: 12:00 p.m. - 12:30 p.m.
- Sewer: 12:30 p.m. - 2:00 p.m.

Upcoming: Rollout Meeting #4 (Proposed FY 2021 Service Charges)

- Thursday, January 23, 2020
- Location: TBD
- Sewer: 11:00 a.m. - 12:00 p.m.
- Lunch: 12:00 - 12:30 p.m.
- Water: 12:30 p.m. - 2:00 p.m.
- Optional one-on-one round table discussions for individual member partners regarding their proposed charge sheets: 2:00 p.m. - 2:30 p.m.

Budget Impact: The results of the CIP, Units of Service, Revenue Requirements and Service Charges presented at these meetings will be incorporated into the FY 2021 – FY 2025 financial plan and proposed FY 2021 service charges which will be presented to the Board of Directors at a public hearing on February 26, 2020.

Proposed Action: Receive and file this report.



Financial Services Audit Committee Communication

Date: December 6, 2019

To: Great Lakes Water Authority Audit Committee

From: Alicia Haskin, Management Professional – Intergovernmental Relations

Re: Shared Services Update

Background: The Great Lakes Water Authority (GLWA) and the Detroit Water and Sewerage Department (DWSD) are parties to a Shared Services Agreement (the Agreement) dated December 1, 2015. This agreement provides the framework for shared services for the efficient operation of both entities.

On a monthly basis, an invoice is prepared. While the intent is for the monthly invoice to represent actual costs, the reality is that the timing of certain vendor invoices and accumulation of internal charges requires a “True-up” process. Furthermore, the intent is to condense the True-up timeline each fiscal year.

The Shared Service Agreement (Section 5.1) states that:

“Each invoice, whether for Services provided regularly or “as-needed,” shall itemize the costs and charges by Services provided under each Service Delivery Schedule and shall provide sufficient detail to the Subscribing Party to identify the Services performed and the basis for the charges. A Performing Party may only charge the Service Costs for Services provided.”

In addition, the parties have come to realize that in most cases an exact itemization generates a level of detailed analysis that is not cost effective to produce. The data and experience garnered from the first three years of the program are leading a more efficient method of calculating costs while staying true to the intent of Section 5.1 above.

Analysis: The following is an update of the FY 2018 True-Up and FY 2019 and beyond.

FY 2017 Payment Update and Summary of Shared Services Billings and Payments

GLWA and DWSD have been exchanging invoices for services since January 1, 2016, the start of the Agreement. A history of this activity and applicable payments is summarized in two tables. **Table 1 – GLWA as a Service Provider** reflects activity in which GLWA is the provider

and is billing DWSD for services and **Table 2 – DWSD as a Service Provider** reflects activity in which DWSD is the provider and is billing GLWA for services.

The Shared Service Agreement (Section 5.2) states that:

“Payments for Services shall be payable monthly. Unless other specified in a Service Delivery Schedule, payment of each invoice shall be due no later than thirty (30) days after the date of delivery of the Invoice...”.

This provision has not been followed to date due to significant efforts to implement the Shared Services agreement and related business processes and operating protocols.

On July 31, 2019 GLWA and DWSD exchanged payments for the agreed-upon FY 2017 True-Up. Payments of \$12.5 million from DWSD to GLWA and \$3.6 million from GLWA to DWSD are reflected in **Table 1** and **Table 2** below.

Table 1 – GLWA as Service Provider (FY 2020 Billings through September 2019)

Summary of Shared Services Billings and Payments				
Year	Total Billings	True Up Amount Actual/Potential	Total Payments	Unpaid Amount
FY2016	\$ 4,781,194	\$ 3,311,838	\$ 8,093,032	\$ -
FY2017	\$ 9,378,922	\$ 3,076,854	\$ 12,455,776	\$ -
FY2018*	\$ 7,477,571	\$ -	\$ -	\$ 7,477,571
FY2019*	\$ 8,924,209	\$ -	\$ -	\$ 8,924,209
FY2020*	\$ 1,366,425	\$ -	\$ -	\$ 1,366,425
Subtotals	\$ 31,928,321	\$ 6,388,692	\$ 20,548,809	\$ 17,768,205

* These calculations are estimates at this time.

Table 2 – DWSD as Service Provider (FY 2020 Billings through September 2019)

Summary of Shared Services Billings and Payments				
Year	Total Billings	True Up Amount Actual/Potential	Total Payments	Unpaid Amount
FY2016	\$ 2,543,735	\$ 5,003,644	\$ 7,547,379	\$ -
FY2017	\$ 4,722,364	\$ (1,077,584)	\$ 3,644,780	\$ -
FY2018	\$ 5,255,347	\$ -	\$ -	\$ 5,255,347
FY2019	\$ 2,675,695	\$ -	\$ -	\$ 2,675,695
FY2020	\$ 1,169,339	\$ -	\$ -	\$ 1,169,339
Subtotals	\$ 16,366,480	\$ 3,926,060	\$ 11,192,159	\$ 9,100,381

FY 2018 True-Up Status Update

The FY 2018 True-Up process has begun for both GLWA and DWSD Shared Services teams. The FY 2018 True-Up process will follow the same approach as FY 2017. Per the Agreement, each entity will prepare an analysis for each shared service to calculate the proposed billings for FY 2018. For those Shared Services where there may be differences, an amount will be negotiated to settle on the billing that was reasonable and agreed to by both parties.

Table 3 - FY 2018 GLWA as a Service Provider lists the status of each Shared Service based upon GLWA's staff analysis. True-Ups are provided to DWSD as they are completed. As of November 7, 2019, GLWA has completed True-Up analysis on 16 of the 17 services. The last analysis is expected to be sent to DWSD by November 15, 2019.

The update in **Table 3** represents the progress that GLWA has made on the True-Ups related to GLWA-provided services. DWSD and GLWA Shared Service Teams will continue to meet and work on a timeline for the completion of the FY 2018 True-up. Meetings are held regularly to discuss the status of the completion and resolution of the True-Ups.

Table 3 – FY 2018 GLWA as Service Provider

FY 2018 True-Up Status

GLWA Provider Shared Service Description	GLWA Progress (1-3)	Date Sent to DWSD OR Expected Date to be Sent to DWSD
OPS-002 Miss Dig		
OPS-004 Water Quality	3	8/9/2019
OPS-005 Security	3	8/5/2019
OPS-005 Security Training	3	8/5/2019
OPS-006 Facilities		
OPS-008 Systems Control Center	2	12/13/2019
ITS-001 Retail AMR	3	10/29/2019
ITS-002 Customer Service Tech Suite	3	10/29/2019
ITS-003 See Click Fix	3	10/29/2019
ITS-004 WAM	3	10/29/2019
ITS-005 Mobile Work Force	3	11/6/2019
ITS-006 ESRI-GIS	3	10/29/2019
ITS-007 DADS	3	10/29/2019
ITS-008 TIBCO	3	10/29/2019
ITS-009 IT Infrastructure	3	11/6/2019
LS-001-A Joint Litigation and Defense, LS-001-B Environment, LS-002 Environment, LS-003 Contract Drafting	3	8/9/2019

Other items to bill not a defined shared service code		
Staff Training	3	11/6/2019
Bank Fees	3	8/9/2019
Public Finance	3	11/4/2019

Provider status:

1	True-up calculation not completed by Shared Services team.
2	True-up calculation completed by Shared Services team; under review by Executive Leadership team.
3	True-up calculation provided to subscriber.

Table 4 – FY 2018 DWSD as a Service Provider lists the status of each Shared Service based upon GLWA’s knowledge of True Ups received from DWSD.

Table 4 – FY 2018 DWSD as Service Provider

FY 2018 True-Up Status

DWSD Provider Shared Service Description	DWSD Progress (1-3)
OPS-001 Fleet	1
OPS-002 MISS DIG	1
OPS-003 As Needed Field Services	1
OPS-006 Shared Facilities	1
DoIT-001 IT Infrastructure	N/A
DoIT-002 Radios	N/A
DoIT-003 Customer Service Technology Support	1
Other items to bill not a defined shared service code	
Fuel	1
WAM Invoices	1
Oracle Invoices	1

Provider Status

1	True-up calculation not completed by Shared Services team.
2	True-up calculation completed by Shared Services team; under review by Executive Leadership team.
3	True-up calculation provided to subscriber.
	Not Billing for this Shared Service at this time.

Fiscal Year 2019 and Beyond Update

Table 5 – Shared Services Terminations and Updated Scope of Service lists the scope of each Shared Service based upon GLWA’s analysis. There have been five Shared Services that have terminated and another five that will be terminating by the end of FY 2020 if the transitions go as planned by DWSD.

Table 5 – Shared Service Terminations and Updated Scope of Service

Shared Service	Description	Provider	Scope of Service
ITS-004	WAM	GLWA	**Partially Terminating on 6/30/20
ITS-005	Mobile Workforce Management	GLWA	**Terminating on 6/30/20
ITS-007	DADS	GLWA	**Terminating on 6/30/20
ITS-008	Tibco	GLWA	**Terminating on 6/30/21
ITS-009	Infrastructure	GLWA	**Partial 3/1/19; Final on 6/30/20
OPS-005	Security and Integrity	GLWA	*Badging and Fusion Center
OPS-001	Fleet	DWSD	No changes
OPS-002	MISS DIG	DWSD	No changes
OPS-003	As Needed Field Service	DWSD	No changes
OPS-006	Facilities	DWSD	No changes
OPS-008	Systems Control	GLWA	No changes
DoIT-001	Financial Information System	City of Detroit	No changes
DoIT-002	Radios	City of Detroit	No changes
DoIT-003	Customer Service Tech Suite	City of Detroit	No changes
Training	Training	GLWA	No changes
LS-001 - LS-003	Legal Services	Both	No changes
ITS-002	Customer Service Tech Suite	GLWA	Terminated on 10/1/18
ITS-001	Retail AMR	GLWA	Terminated on 6/30/19
ITS-003	See Click Fix	GLWA	Terminated on 12/31/18
ITS-006	ESRI GIS	GLWA	Terminated on 6/30/19
OPS-004	Water Quality	GLWA	Terminated on 6/30/19
OPS-007	WWTP IWC Underground Storage Tank	N/A - not needed	
PRO-001	Applications Analyst	N/A - not needed	

*OPS-005 Terminated on 6/30/17. However, Badging and Fusion Center costs continue to be provided.

**Formal termination notice has not been received. However, the DWSD CIO has provided these termination dates to GLWA CIO.

New Shared Services

The original Shared Service Agreement did not anticipate all Shared Services. There are several new Shared Services that will need to be formalized in writing. Pursuant to Section 2.1 of the Shared Service Agreement, DWSD and GLWA may mutually agree to adopt new or modified Service Delivery Schedules as the need of such services occurs. As the new schedules are written they will be reviewed by both parties for approval.

Proposed Action: Receive and file this report.



Financial Services Audit Committee Communication

Date: December 6, 2019

To: Great Lakes Water Authority Audit Committee

From: Nicolette N. Bateson, CPA, Chief Financial Officer & Treasurer

Re: Annual Financial Audit Update

Background: Annually, the Great Lakes Water Authority (GLWA) prepares a Comprehensive Annual Financial Report (CAFR) and Schedule of Expenditures of Federal Awards (SEFA) in accordance with financial accounting standards and federal guidelines. Baker Tilly Virchow Krause LLP (Baker Tilly) has been engaged to perform the GLWA annual financial audit and issue an opinion as to whether the financial statements are fairly stated in accordance with accounting standards for fiscal years ending 2019, 2020 and 2021.

Analysis: Fieldwork for the Great Lakes Water Authority FY 2019 financial statements, started October 14, 2019 has been completed and draft financial statements have been completed. The year-end close and annual audit have gone very well. Next steps include the following.

December 6, 2019	Auditor Communications
December 6, 2019	Review of preliminary draft statements and related reports
December 9 - 13, 2019	Board Member review of draft statements and related reports
December 19, 2019	Presentation of final draft to Board of Directors; proposed recommendation to file
December 20, 2019	Tentatively, issue and file final statements and related reports

The following items are forthcoming.

1. New this year – a Trust Receipts & Disbursements Report
2. Transmittal Letter & Management Discussion & Analysis

Proposed Action: Receive and file this report.



Financial Services Audit Committee Communication

Audit Committee Meeting

December 6, 2019

Binder 2

Agenda Item 6C - Annual Financial Audit Update

Additional Materials

1. Auditor Presentation: Report on Fiscal Year 2019 Financial and Single Page 1
Audit Presented by: Jodi Dobson, CPA, Partner, Baker Tilly Virchow Krause, LLP
2. Communication to Those Charged with Governance and Management Page 15
3. Informal Management Comment Letter Page 36
4. Single Audit Report on Federal Awards Page 39

Great Lakes Water Authority
Audit Committee
Report on Fiscal Year 2019
Financial and Single Audit

Presented by:

Jodi Dobson, CPA, Partner
Baker Tilly Virchow Krause, LLP

December 6, 2019



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Audit presentation topics

- > Audit overview
- > Auditor Communication with Those Charged with Governance
- > Internal control communication
- > Questions



Audit overview

- > Audit was conducted smoothly with no major snags or difficulties.
- > Management and staff were cooperative and readily available.
- > Audit schedule was maintained and communication between management and auditors was good.
- > Fieldwork began in September and concluded October 25th.
- > CAFR preparation and review throughout November
- > No audit adjusting journal entries were noted.
- > No single audit findings noted.



Audit overview

- > Audit performed in accordance with Generally Accepted Auditing Standards and Government Auditing Standards.
- > Audit is based on assessment of control risk in key business process areas. Below are several key areas of review:

- Cash and investments
- Revenues and receivables
- General disbursements
- Payroll
- Pension liabilities
- Long-term debt
- Intangible asset and related lease obligation

- Assets under construction and plant in service
- Net position calculations
- Analytical review of statement of net position and statement of revenues, expenses and changes in net position



Audit overview

- > Audit objective – obtain reasonable assurance that financial statements are free from material misstatement.
- > Financial statements receive an *Unmodified Opinion* (clean opinion).
- > Single audit results in *Unmodified Opinion* on compliance and controls over major program.

Auditor Communication with Those Charged with Governance

Significant Findings from the Audit

Area to Be Communicated	Auditor's Response
<p>Auditor's View on Qualitative Aspects of Significant Accounting Policies</p>	<ul style="list-style-type: none"> <li>> The significant accounting policies used in the preparation of your financial statements are discussed in Note 1 to the financial statements. <li>> Accounting estimates are an integral part of the financial statements prepared by management's knowledge and experience about past and current events and assumptions about future events. We feel that all estimates made by management are in accordance with generally accepted accounting principles.

Auditor Communication with Those Charged with Governance

Significant Findings from the Audit

Area to be Communicated	Auditor's Response
<p>Significant Difficulties Encountered in Performing the Audit</p>	<p>> We encountered no difficulties in performing our audit.</p>
<p>Uncorrected Misstatements</p>	<p>> By Professional Auditing Standards, uncorrected misstatements refer to immaterial passed audit adjustments – there were no passed audit adjustments.</p>

Auditor Communication with Those Charged with Governance

Significant Findings from the Audit

Area to be Communicated	Auditor's Response
Disagreements with Management	<p>> Professional standards define a disagreement with management as a matter, whether or not resolved to our satisfaction, concerning a financial accounting, reporting, or auditing matter that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements were encountered during the course of the audit.</p>
Other Findings or Issues	<p>> There are no other issues to disclose as part of the audit in connection with these Professional Auditing Standards.</p>

Auditor Communication with Those Charged with Governance

Significant Findings from the Audit

Area to be Communicated	Auditor's Response
<p>Material Corrected Misstatements</p>	<ul style="list-style-type: none"> <li>> Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. <li>> There were no adjustments as part of this year's audit.

Auditor Communication with Those Charged with Governance

Significant Findings from the Audit

Area to be Communicated	Auditor's Response
Management Representations	> We have requested certain representations from management that are included in the management representation letter. A copy of this letter is included with our final communication document.

Auditor Communication with Those Charged with Governance

Significant Findings from the Audit (cont.)

Area to Be Communicated	Auditor's Response
<p>Management's Consultations with Other Accountants</p>	<p>> Professional standards require the consulting accountant to discuss any such contacts with the current auditor to determine that the consultant has all the relevant facts. We have been involved in any such consultations with other accountants.</p>

Auditor Communication with Those Charged with Governance

Significant Findings from the Audit

Area to be Communicated	Auditor's Response
Auditor Independence	<p>> We are not aware of any relationships between Baker Tilly Virchow Krause, and Great Lakes Water Authority that, in our professional judgment, may reasonably be thought to bear on our independence.</p>

Internal control communication

AU-C Section 265

Communicating Internal Control Related Matters Identified in an Audit

Material weaknesses noted in GLWA's internal control:

> None noted

Significant deficiencies noted in GLWA's internal control:

> None noted



Audit summary

Thank You!

We appreciate the work performed by GLWA's accounting staff and management in preparing for and assisting in the audit!

We would be happy to answer any questions regarding the audit.

GREAT LAKES WATER AUTHORITY
Southeast Michigan

COMMUNICATION TO THOSE CHARGED WITH
GOVERNANCE AND MANAGEMENT

As of and for the Year Ended June 30, 2019

DRAFT

GREAT LAKES WATER AUTHORITY

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**REQUIRED COMMUNICATION OF INTERNAL CONTROL RELATED MATTERS IDENTIFIED
IN THE AUDIT TO THOSE CHARGED WITH GOVERNANCE**

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

In planning and performing our audit of the financial statements of the Great Lakes Water Authority (the Authority) as of and for the year ended June 30, 2019, in accordance with auditing standards generally accepted in the United States of America, we considered the Authority's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and, therefore, material weaknesses or significant deficiencies may exist that were not identified.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or combination of deficiencies in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. We did not identify any deficiencies in internal control that we consider to be material weaknesses.

This communication is intended solely for the information and use of management, Board of Directors, and others within the Authority, and is not intended to be and should not be used by anyone other than these specified parties.

Madison, Wisconsin
_____, 2019

**COMMUNICATION OF OTHER RECOMMENDATIONS AND INFORMATIONAL POINTS TO
MANAGEMENT THAT ARE NOT MATERIAL WEAKNESSES OR SIGNIFICANT DEFICIENCIES**

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INFORMATIONAL POINTS

GASB UPDATES

The Government Accounting Standard Board (GASB) has been very active in recent years, issuing new standards at a fast pace. Over the next few years, your government will have many new standards to evaluate and implement. Here are the standards which may impact you in the next year:

- > GASB 84 improves guidance regarding the identification of fiduciary activities and how they should be reported, effective for fiscal year ended June 30, 2020. See additional information in the informational point which follows.

Other GASB pronouncements on the horizon, while the implementation dates is in the near term these are anticipated to have significant impacts on many government financial statements:

- > GASB 87 improves accounting and financial reporting for leases, effective for fiscal year ended June 30, 2021. See the informational note above for more detail on this standard. See additional information in the informational point which follows.

Looking even further ahead, the Technical Agenda, below, outlines significant areas GASB is currently working on:

- > Conceptual Framework
 - Disclosure
 - Recognition
- > Major Projects
 - Financial Reporting Model
 - Revenue and Expense Recognition
 - Public-Private Partnerships
- > Practice Issues
 - Deferred Compensation Plans
 - Secured Overnight Financing Rate
 - Subscription-Based IT arrangements
 - Implementation Guidance
 - Omnibus
- > Pre-Agenda Research
 - Going Concern
 - Compensated Absences
 - Prior-Period Adjustments, Accounting Changes and Error Corrections
 - Capital Assets
 - Interim Financial Reporting
 - Investment Fees

Through our firm involvement on AICPA committees, Baker Tilly follows these developments closely so that we can help you prepare for the changes as they evolve. This participation also allows us to share with GASB the experiences and perspectives of our clients to potentially influence the direction of future projects.

Full lists of projects, as well as many resources, are available on GASB's website which is located at www.gasb.org.

INFORMATIONAL POINTS (cont.)

NEW REPORTING REQUIREMENTS FOR FIDUCIARY ACTIVITIES

In January 2017, GASB issued new guidance to address how governments report fiduciary activities which is effective for fiscal years ending on or after December 31, 2019. Statement No. 84, *Fiduciary Activities*, supersedes reporting of agency funds and replaces it with a newly coined custodial fund, and requires several additional reporting requirements for fiduciary funds.

Under current guidance, Statement 34 requires that governments report fiduciary activities in fiduciary funds, but that statement does not provide a clear definition of what constitutes a fiduciary activity. GASB sought to reduce inconsistencies in reporting and provide a clear foundation for future reporting.

The new guidance will impact a significant amount of local governments. Many local governments have activities that may be considered fiduciary, including postemployment benefit plans.

Under the recently issued Statement 84, governments will need to apply specific criteria to determine if a fiduciary activity exists. The criteria focuses on determining if a government is controlling the assets of the potential fiduciary activity and determining who the beneficiaries are. A few of the major changes that will impact many governments include:

- > Pension/OPEB Plans as Fiduciary Component Units: Pension and other postemployment benefit (OPEB) plans will need to be evaluated to determine if they meet the fiduciary component unit criteria.
- > Other Fiduciary Activities: There are various other types of assets that a government controls which will need to be evaluated under the new standard. Part of this evaluation will include identification of the beneficiary of the funds, consideration of how the assets are derived and the extent of administrative or direct financial involvement with the assets.

The following is a summary of two significant changes in the reporting requirements:

- > The standard requires that governments recognize a liability to the beneficiaries in a fiduciary fund only when an event has occurred that compels the government to disburse fiduciary resources.
- > Presentation of additions and deductions on the statement of changes in fiduciary net position for all fiduciary funds, including custodial funds

The time to start assessing your government's fiduciary activities is now. We have an archived webinar to explain the requirements, which can be found at <https://bakertilly.com/insights/fiduciary-activities-changes-affecting-existing-agency-funds/>. Along with the presentation, there is a fiduciary activities tool for you to download. These resources will give you an understanding of the new criteria and requirements and help you identify the fiduciary reporting changes that will impact your financial statements

INFORMATIONAL POINTS (cont.)

UPCOMING LEASE STANDARD

In June 2017, the Governmental Accounting Standards Board (GASB) issued new guidance to establish a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. This standard is effective for the Authority's fiscal year ending June 30, 2021. Statement No. 87, *Leases*, requires recognition of certain lease assets and liabilities for leases that were previously classified as operating leases and recognize as inflows of resources or outflow of resources based on the payment provisions of the contract.

Under the new standard a lease is defined as a contract that conveys control of the right to use another entity's nonfinancial asset (underlying asset) as specified in the contract for a period of time in an exchange or exchange-like transaction. Control is defined by: 1) the right to obtain the present service capacity from the use of the underlying asset; and 2) the right to determine the nature and manner of use of the underlying asset. Any contract that meets this definition should be accounted for under the lease guidance, unless specifically excluded in this statement. Leases include contracts that, although not explicitly identified as leases, meet the above definition of a lease.

The following are contract exclusions and exceptions from applying lease accounting:

- > Intangible assets (mineral rights, patents, software, copyrights)
- > Biological assets (including timber, living plants, and living animals)
- > Service concession arrangements (See GASB Statement 60)
- > Assets financed with outstanding conduit debt unless both the asset and conduit debt are reported by lessor
- > Supply contracts
- > Inventory
- > Short-term leases - maximum possible term of 12 months or less
- > Leases that transfer ownership and do not contain termination options
- > Leases of assets that are investments
- > Certain regulated leases (e.g., airport-airline agreements)

We understand the Great Lakes Water Authority has reviewed this standard and started planning how this will affect your financial reporting. An inventory of all contracts that might meet the definition of a lease should be started. The contract listing should include key terms of the contracts such as:

- > Description of contract
- > Underlying asset
- > Contract term
- > Options for extensions and terminations
- > Service components, if any
- > Dollar amount of lease

In addition, the Authority should begin to establish a lease policy to address the future treatment of common lease types, including a dollar threshold for each lease. We are available to discuss this further and help you develop an action plan.

REQUIRED COMMUNICATIONS BY THE AUDITOR TO THOSE CHARGED WITH GOVERNANCE

DRAFT

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

Thank you for using Baker Tilly Virchow Krause, LLP as your auditor.

We have completed our audit of the financial statements of Great Lakes Water Authority (the Authority) for the year ended June 30, 2019, and have issued our report thereon dated _____, 2019. This letter presents communications required by our professional standards.

OUR RESPONSIBILITY UNDER AUDITING STANDARDS GENERALLY ACCEPTED IN THE UNITED STATES OF AMERICA, GOVERNMENT AUDITING STANDARDS AND THE UNIFORM GUIDANCE

The objective of a financial statement audit is the expression of an opinion on the financial statements. We conducted the audit in accordance with auditing standards generally accepted in the United States of America, *Government Auditing Standards*, OMB's *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). These standards require that we plan and perform our audit to obtain reasonable, rather than absolute, assurance about whether the financial statements prepared by management with your oversight are free of material misstatement, whether caused by error or fraud. Our audit included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit does not relieve management or the Board of Directors of their responsibilities.

We considered the Authority's internal control over financial reporting to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion(s) on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control over financial reporting. We also considered internal control over compliance with types of requirements that could have a direct and material effect on a major federal program to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on compliance for a major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance.

As part of obtaining reasonable assurance about whether the Authority's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit. Also, in accordance with the Uniform Guidance, we examined, on a test basis, evidence about the Authority's compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of its major federal programs for the purpose of expressing an opinion on the Authority's compliance with those requirements. While our audit provides a reasonable basis for our opinion on compliance, it does not provide a legal determination on the Authority's compliance with those requirements.

We have issued a separate document which contains the results of our audit procedures to comply with the Uniform Guidance.

OTHER INFORMATION IN DOCUMENTS CONTAINING AUDITED FINANCIAL STATEMENTS

Our responsibility does not extend beyond the audited financial statements identified in this report. We do not have any obligation to and have not performed any procedures to corroborate other information contained in client prepared documents, such as official statements related to debt issues.

PLANNED SCOPE AND TIMING OF THE AUDIT

We performed the audit according to the planned scope and timing previously communicated to you in our letter about planning matters dated September 11, 2019.

QUALITATIVE ASPECTS OF THE ENTITY'S SIGNIFICANT ACCOUNTING PRACTICES

Accounting Policies

Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by the Authority are described in Note 1 to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during 2019. We noted no transactions entered into by the Authority during the year that were both significant and unusual, and of which, under professional standards, we are required to inform you, or transactions for which there is a lack of authoritative guidance or consensus.

Accounting Estimates

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the financial statements were:

- > Management's estimate of the allowance for doubtful accounts is based on an outstanding customer receivable balance. The Authority and the customer have ongoing litigation in an attempt to resolve the dispute.
- > Management's estimate of the workers' compensation claims incurred but not reported (INBR) is based on information provided by management's third-party administrators and subsequent claim activity
- > Management's estimate of the useful lives of depreciable capital assets is based on the length of time it is believed those assets will provide economic benefit.
- > Management's estimate of the net pension liability is based on actuarial reports provided by GRS Consulting.
- > Management's estimate of accrued compensated absences is based on current hourly rates and policies regarding payment of sick and vacation balances.
- > Management's estimate of the shared services between the Authority and the City of Detroit subject to joint review and true up.

We evaluated the key factors and assumptions used to develop the estimates in determining that they are reasonable in relation to the financial statements taken as a whole.

Financial Statement Disclosures

The disclosures in the notes to the financial statements are neutral, consistent, and clear.

DIFFICULTIES ENCOUNTERED IN PERFORMING THE AUDIT

We encountered no significant difficulties in dealing with management in performing our audit.

CORRECTED AND UNCORRECTED MISSTATEMENTS

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management.

There were no such misstatements identified.

DISAGREEMENTS WITH MANAGEMENT

For purposes of this letter, professional standards define a disagreement with management as a matter, whether or not resolved to our satisfaction, concerning a financial accounting, reporting, or auditing matter that could be significant to the financial statements or the auditors' report. We are pleased to report that no such disagreements arose during the course of our audit.

CONSULTATIONS WITH OTHER INDEPENDENT ACCOUNTANTS

In some cases, management may decide to consult with other accountants about auditing and accounting matters. If a consultation involves application of an accounting principle to the governmental unit's financial statements or a determination of the type of auditors' opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, we were included in any consultations with other accountants.

MANAGEMENT REPRESENTATIONS

We have requested certain representations from management that are included in the management representation letter. This letter follows this required communication.

INDEPENDENCE

We are not aware of any relationships between Baker Tilly Virchow Krause, LLP and the Great Lakes Water Authority that, in our professional judgment, may reasonably be thought to bear on our independence.

Relating to our audit of the financial statements of the Authority for the year ended June 30, 2019, Baker Tilly Virchow Krause, LLP hereby confirms that we are, in our professional judgment, independent with respect to the Authority in accordance with the Code of Professional Conduct issued by the American Institute of Certified Public Accountants. We provided no services to the Authority other than audit services provided in connection with the audit of the current year's financial statements.

OTHER AUDIT FINDINGS OR ISSUES

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the Authority's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

OTHER MATTERS

We applied certain limited procedures to the required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

With respect to the supplementary information accompanying the financial statements, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

We were not engaged to report on the other information, which accompanies the financial statements but are not RSI. We did not audit or perform other procedures on this other information and we do not express an opinion or provide any assurance on it.

RESTRICTION ON USE

This information is intended solely for the use of the Board and management and is not intended to be, and should not be, used by anyone other than these specified parties.

We welcome the opportunity to discuss the information included in this letter and any other matters. Thank you for allowing us to serve you.

Madison, Wisconsin
_____, 2019

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MANAGEMENT REPRESENTATIONS

Baker Tilly Virchow Krause, LLP
Ten Terrace Court
PO Box 7398
Madison, WI 53707

Dear Baker Tilly Virchow Krause, LLP:

We are providing this letter in connection with your audit of the financial statements of the Great Lakes Water Authority as of June 30, 2019 and for the year then ended for the purpose of expressing opinions as to whether the financial statements present fairly, in all material respects, the financial position of the Great Lakes Water Authority (Authority), each major enterprise fund, and the respective changes in financial position and cash flows, where applicable, in conformity with accounting principles generally accepted in the United States of America. We confirm that we are responsible for the fair presentation of the previously mentioned financial statements in conformity with accounting principles generally accepted in the United States of America. We are also responsible for adopting sound accounting policies, establishing and maintaining internal control over financial reporting, and preventing and detecting fraud.

Certain representations in this letter are described as being limited to matters that are material. Items are considered material, regardless of size, if they involve an omission or misstatement of accounting information that, in the light of surrounding circumstances, makes it probable that the judgment of a reasonable person relying on the information would be changed or influenced by the omission or misstatement. An omission or misstatement that is monetarily small in amount could be considered material as a result of qualitative factors.

We confirm, to the best of our knowledge and belief, the following representations made to you during your audit.

Financial Statements

1. We have fulfilled our responsibilities, as set out in the terms of the audit engagement letter.
2. The financial statements referred to above are fairly presented in conformity with accounting principles generally accepted in the United States of America. We have engaged you to advise us in fulfilling that responsibility. The financial statements include all properly classified funds of the Authority required by accounting principles generally accepted in the United States of America to be included in the financial reporting entity.
3. We acknowledge our responsibility for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.
4. We acknowledge our responsibility for the design, implementation, and maintenance of internal control to prevent and detect fraud.
5. Significant assumptions we used in making accounting estimates, if any, are reasonable.

6. All events subsequent to the date of the financial statements and for which accounting principles generally accepted in the United States of America require adjustment or disclosure have been adjusted or disclosed. No other events, including instances of noncompliance, have occurred subsequent to the balance sheet date and through the date of this letter that would require adjustment to or disclosure in the aforementioned financial statements or in the schedule of expenditures of federal and state awards.
7. All material transactions have been recorded in the accounting records and are reflected in the financial statements and the schedule of expenditures of federal and state awards.
8. There are no known or possible litigation, claims, and assessments whose effects should be considered when preparing the financial statements. There are no unasserted claims or assessments that our lawyer has advised us are probable of assertion and must be disclosed in accordance with accounting principles generally accepted in the United States of America.
9. Guarantees, whether written or oral, under which the Authority is contingently liable, if any, have been properly recorded or disclosed.

Information Provided

10. We have provided you with:
 - a. Access to all information, of which we are aware, that is relevant to the preparation and fair presentation of the financial statements, such as financial records and related data, documentation, and other matters and all audit or relevant monitoring reports, if any, received from funding sources.
 - b. Additional information that you have requested from us for the purpose of the audit.
 - c. Unrestricted access to persons within the entity from whom you determined it necessary to obtain audit evidence.
 - d. Minutes of the meetings of Board of Directors or summaries of actions of recent meetings for which minutes have not yet been prepared.
11. We have disclosed to you results of our assessment of the risk that the financial statements may be materially misstated as a result of fraud.
12. We have no knowledge of any fraud or suspected fraud that affects the entity and involves:
 - a. Management,
 - b. Employees who have significant roles in internal control, or
 - c. Others where the fraud could have a material effect on the financial statements.
13. We have no knowledge of any allegations of fraud or suspected fraud affecting the entity received in communications from employees, former employees, regulators, or others.
14. We have no knowledge of known instances of noncompliance or suspected noncompliance with provisions of laws, regulations, contracts, or grant agreements, or abuse, whose effects should be considered when preparing financial statements.
15. There are no known related parties or related party relationships and transactions of which we are aware.

Other

16. There have been no communications from regulatory agencies concerning noncompliance with, or deficiencies in, financial reporting practices.

17. We have taken timely and appropriate steps to remedy fraud, noncompliance with provisions of laws, regulations, contracts or grant agreements, or abuse that you have reported to us.
18. We have a process to track the status of audit findings and recommendations.
19. We have provided our views on reported findings, conclusions, and recommendations, as well as our planned corrective actions, for our report.
20. The Authority has no plans or intentions that may materially affect the carrying value or classification of assets, liabilities, or equity.
21. We are responsible for compliance with federal, state, and local laws, regulations, and provisions of contracts and grant agreements applicable to us, including tax or debt limits, debt contracts, and IRS arbitrage regulations; and we have identified and disclosed to you all federal, state, and local laws, regulations and provisions of contracts and grant agreements that we believe have a direct and material effect on the determination of financial statement amounts or other financial data significant to the audit objectives, including legal and contractual provisions for reporting specific activities in separate funds.
22. There are no:
 - a. Violations or possible violations of budget ordinances, federal, state, and local laws or regulations (including those pertaining to adopting, approving and amending budgets), provisions of contracts and grant agreements, tax or debt limits, and any related debt covenants whose effects should be considered for disclosure in the financial statements or as a basis for recording a loss contingency, or for reporting on noncompliance, except those already disclosed in the financial statement, if any.
 - b. Other liabilities or gain or loss contingencies that are required to be accrued or disclosed by accounting principles generally accepted in the United States of America.
 - c. Rates being charged to customers other than the rates as authorized by the applicable authoritative body.
 - d. Violations of restrictions placed on revenues as a result of bond resolution covenants such as revenue distribution or debt service funding.
23. The Great Lakes Water Authority has satisfactory title to all owned assets, and there are no liens or encumbrances on such assets nor has any asset been pledged as collateral.
24. The Great Lakes Water Authority has complied with all aspects of contractual agreements that would have a material effect on the financial statement in the event of noncompliance.
25. The financial statements properly classify all funds and activities.
26. Components of net position (net investment in capital assets; restricted; and unrestricted) are properly classified and, if applicable, approved.
27. The Great Lakes Water Authority has no derivative financial instruments such as contracts that could be assigned to someone else or net settled, interest rate swaps, collars or caps.
28. Provisions for uncollectible receivables, if any, have been properly identified and recorded.
29. Interfund, internal, and intra-entity activity and balances have been appropriately classified and reported.
30. Deposits and investments are properly classified, valued, and disclosed (including risk disclosures, collateralization agreements, valuation methods, and key inputs, as applicable).

31. Provision, when material, has been made to reduce excess or obsolete inventories to their estimated net realizable value.
32. Capital assets, including infrastructure and intangible assets, are properly capitalized, reported, and, if applicable, depreciated/amortized. Any known impairments have been recorded and disclosed.
33. Tax-exempt bonds issued have retained their tax-exempt status.
34. We have appropriately disclosed the Great Lakes Water Authority's policy regarding whether to first apply restricted or unrestricted resources when an expense is incurred for purposes for which both restricted and unrestricted net position are available and have determined that net position were properly recognized under the policy.
35. We acknowledge our responsibility for the required supplementary information (RSI). The RSI is measured and presented within prescribed guidelines and the methods of measurement and presentation have not changed from those used in the prior period. We have disclosed to you any significant assumptions and interpretations underlying the measurement and presentation of the RSI.
36. With respect to the supplementary information, (SI):
- a. We acknowledge our responsibility for presenting the SI in accordance with accounting principles generally accepted in the United States of America, and we believe the SI, including its form and content, is fairly presented in accordance with accounting principles generally accepted in the United States of America. The methods of measurement and presentation of the SI have not changed from those used in the prior period, and we have disclosed to you any significant assumptions or interpretations underlying the measurement and presentation of the supplementary information.
 - b. If the SI is not presented with the audited financial statements, we will make the audited financial statements readily available to the intended users of the supplementary information no later than the date we issue the supplementary information and the auditor's report thereon.
37. We are responsible for the fair presentation of the Authority's net pension liability based upon calculations by the City of Detroit General Employees' Retirement System ("GRS") and related amounts. We appropriately allocated the net pension liability based on the assumptions in the lease agreements, pension agreement and the allocation letter signed by the GLWA Chief Executive Officer and the Detroit Water & Sewerage Department ("DWSD") Director on January 24, 2017. We have properly disclosed our special funding situation under GASB 68, *Accounting and Financial Reporting for Pension Plans*. We have reviewed the information provided by GRS for inclusion in the Authority's financial Statements.
38. We have evaluated and considered all debt reported as defeased in substance and believe all material amounts held in trust that are not expressly prohibited from substitution in monetary assets that are not essentially risk-free are properly disclosed.
39. We are responsible for the estimation methods and assumptions used in measuring assets and liabilities reported or disclosed at fair value, including information obtained from brokers, pricing services or third parties. Our valuation methodologies have been consistently applied from period to period. The fair value measurements reported or disclosed represent our best estimate of fair value as the measurement date in accordance with the requirements of GASB 72 – *Fair Value Measurement*. In addition our disclosures related to fair value measurements are consistent with the objectives outlined in GASB 72. We have evaluated the fair value information provided to us by brokers, pricing services or other parties that has been used in the financial statements and believe this information to be reliable and consistent with the requirements.

40. We have evaluated the existing outstanding debt for potential arbitrage liability. Any potential liability has been properly recorded.
41. We have evaluated existing contracts and agreements and are responsible for the accounting and financial reporting of any related capital or intangible assets, liabilities, receivables or deferred items in compliance with generally accepted accounting principals.
42. We are responsible for compliance with the funding requirements and the flow of funds as outlined in the Master Bond Ordinance.
43. With respect to federal award programs:
- a. We are responsible for understanding and complying with and have complied with the requirements of the Single Audit Act Amendments of 1996, *OMB's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance), including requirements relating to preparation of the schedule of expenditures of federal awards (SEFA).
 - b. We acknowledge our responsibility for presenting the SEFA in accordance with the requirements of the Uniform Guidance and we believe the SEFA, including its form and content, is fairly presented in accordance with the Uniform Guidance . The methods of measurement and presentation of the SEFA have not changed from those used in the prior period and we have disclosed to you any significant assumptions and interpretations underlying the measurement and presentation of the SEFA.
 - c. If the SEFA is not presented with the audited financial statements, we will make the audited financial statements readily available to the intended users of the SEFA no later than the date we issue the SEFA and the auditors' report thereon.
 - d. We have identified and disclosed to you all of our government programs and related activities subject to the Uniform Guidance and included in the SEFA, expenditures made during the audit period for all awards provided by federal agencies in the form of grants, federal cost reimbursement contracts, loans, loan guarantees, property (including donated surplus property), cooperative agreements, interest subsidies, insurance, food commodities, direct appropriations, and other direct assistance.
 - e. We are responsible for understanding and complying with, and have complied with the requirements of laws, regulations, and the provisions of contracts and grant agreements related to each of our federal programs and have identified and disclosed to you the requirements of laws, regulations, and the provisions of contracts and grant agreements that are considered to have a direct and material effect on each major federal program.
 - f. We are responsible for establishing and maintaining, and have established and maintained, effective internal control over compliance for federal programs that provide reasonable assurance that we are administering our federal awards in compliance with laws, regulations, and the provisions of contracts and grant agreements that could have a material effect on our federal programs. We believe the internal control system is adequate and is functioning as intended. Also, no changes have been made in the internal control over compliance or other factors to the date of this letter that might significantly affect internal control, including any corrective action taken with regard to control deficiencies reported in the schedule of findings and questioned costs.
 - g. We have made available to you all contracts and grant agreements (including amendments, if any) and any other correspondence with federal agencies or pass-through entities relevant to the programs and related activities.
 - h. We have received no requests from a federal agency to audit one or more specific programs as a major program.

- i. We have complied with the direct and material compliance requirements including when applicable, those set forth in the OMB Compliance Supplement relating to federal awards .
- j. We have disclosed any communications from grantors and pass-through entities including communications received from the end of the period covered by the compliance audit to the date of the auditors' report.
- k. Amounts claimed or used for matching were determined in accordance with relevant guidelines in the Uniform Guidance.
- l. We have disclosed to you our interpretation of compliance requirements that may have varying interpretations.
- m. We have made available to you all documentation related to the compliance with the direct and material compliance requirements, including information related to federal program financial reports and claims for advances and reimbursements.
- n. We have disclosed to you the nature of any subsequent events that provide additional evidence about conditions that existed at the end of the reporting period affecting noncompliance during the reporting period.
- o. We are not aware of any instances of noncompliance with direct and material compliance requirements that occurred subsequent to the period covered by the auditors' report.
- p. No changes have been made in internal control over compliance or other factors that might significantly affect internal control subsequent to the date as of which compliance was audited.
- q. Federal program financial reports and claims for advances and reimbursements are supported by the books and records from which the financial statements have been prepared.
- r. The copies of federal program financial reports provided you are true copies of the reports submitted, or electronically transmitted, to the respective federal agency or pass-through entity, as applicable.
- s. We have monitored subrecipients to determine that they have expended pass-through assistance in accordance with applicable laws and regulations and have met the requirements of the Uniform Guidance .
- t. We have taken appropriate action, including issuing management decisions, on a timely basis after receipt of subrecipients' auditors' reports that identified noncompliance with laws, regulations, or the provisions of contracts or grant agreements to ensure that subrecipients have taken the appropriate and timely corrective action on findings.
- u. We have considered the results of subrecipient audits and made any necessary adjustments to our books and records.
- v. We have charged costs to federal awards in accordance with applicable cost principles.
- w. We are responsible for and have accurately prepared the summary schedule of prior audit findings to include all findings required to be included by the Uniform Guidance and we have provided you with all information on the status of the follow-up on prior audit findings by federal awarding agencies and pass-through entities, including all management decisions.
- x. We are responsible for and have accurately prepared the auditee section of the Data Collection Form as required by the Uniform Guidance.

Sincerely,

Great Lakes Water Authority

Signed: _____

Signed: _____

Signed: _____

DRAFT

December 4, 2019

To the Great Lakes Water Authority Audit Committee:

We are presenting, for your consideration, our comments and management recommendations, which were identified during our audit of the financial statements of the Great Lakes Water Authority (Authority) for the year, ended June 30, 2019.

This letter, by its nature, focuses on improvements and does not comment on the many strong areas of the Authority's systems and procedures. The comments and suggestions are not intended to reflect in any way on the integrity or ability of the personnel of Authority's operations. Additionally, this letter is meant to provide management with information which may be useful when considering operating enhancements to your operation and are provided in the spirit of advisory assistance. The comments in this report are not required as part of our annual audit but are offered only as a process to assist your operations.

OVERVIEW

The focus for the 2019 Information Technology (IT) review was to continue developing our understanding of the general computer control (GCC) environment at Authority and perform detailed tests per the request of the Baker Tilly financial audit team. This document is intended to summarize the results of our review and provide any additional guidance regarding the IT environment at Authority.

The GCC review utilized the IT Risk Assessment Standards framework to obtain a more detailed understanding of the Authority IT control environment. As part of the GCC review, the following areas related to the IT function were reviewed:

- > Software Acquisition
- > Change Management
- > Data Conversion
- > Unique User Authentication
- > Passwords
- > User Account Management
- > Elevated Privileges
- > User Account Access Review
- > Access Violation Monitoring
- > Physical Security
- > Third-Party Service Providers
- > Backup and Restoration
- > Automated/Scheduled Processes

GENERAL COMPUTER CONTROL FINDINGS

Below lists some of the specific GCC findings that did not warrant a management letter comment but should be considered by the Authority.

Control Objective	IT Finding	Recommendation to Address Finding	Management's Response
Review of third party service provider controls	No documentation retained to support review of the SOC reports from Ceridian, Capturis, Comerica and review of the Authority's complementary user controls.	We recommend the Authority proactively obtain and review SOC reports for all third party providers where data is hosted and retain documentation to support the review. The Authority should review the results of IT testing and ensure they have required user entity controls in place at the Authority to ensure the security of its data.	Starting in January 2020, we will request that Ceridian, Capturis, and Comerica IPW provide their annual SOC or equivalent assessment report. We will then review the report to ensure that the appropriate user entity and require them to report remediation of any findings.
Backup Testing	Backup restores are not tested periodically.	We recommend the Authority proactively test full back up restoration on all in scope applications hosted at the Authority to test if the disaster recovery procedures are effective. We noted the Authority does perform tabletop exercises, which is a good mitigating control; however, a full restore test provides additional assurance that disaster recovery procedures are effective.	We currently have the capability to perform a full restore of BS&A and WAM if necessary. We will establish a formal process for restoration of BS&A and WAM from backups and test it annually beginning June 2020.
User Access Review	Periodic user access reviews are not consistently documented on an ongoing basis.	We recommend the Authority establish periodic access reviews for in-scope financial applications including BS&A, Capturis, Ceridian Dayforce and Comerica IPW. Periodic access reviews should include documentation of who conducted the review, if changes were made and who reviewed the changes to ensure they were appropriately modified.	We currently review Ceridian user access on a monthly basis. We have recently established a formal cadence to review BS&A, Comerica IPW, and Capturis access on a monthly basis. We began user access reviews for WAM in September 2019 and will continue on a semiannual basis. We will establish formal procedures to document all user access reviews starting in January 2020.

To the Great Lakes Water Authority Audit Committee

December 4, 2019

Page 3

GENERAL INTERNAL CONTROL RECOMMENDATIONS

During our review of internal controls surrounding the accounts payable/ disbursement process it was noted some vendors, which were established as part of the creation of the Authority, did not have completed vendor approval forms available. These vendors include, DTE Energy, Verizon, US Bank and general employee benefit payments. While we recognize, the Authority's policies have evolved during its short life, we recommend the Authority identify all vendors which do not have vendor approval form as part of the entity's creation formally document the approval of these vendors as required by the current policy.

We considered internal controls over the accounts payable/ disbursement process to be effective as we performed alternate procedures of viewing the vendor contract and W-9 for each of the vendors noted above. The documentation provided supported sufficient approval of the vendor at the creation of the Authority.

Management Response: Baker Tilly noted that the Authority did not maintain vendor forms for regulated utility and health and welfare vendor relationships. Management will review current processes to determine optimal internal control procedures and necessary remediation.

This report is intended solely for the information and use of management and others in the organization and is not intended to be, and should not be, used by anyone other than the specified parties.

We appreciate the courtesy and assistance extended to us by all your personnel during the audit. If you have any questions on our comments, or if we can offer our services in any other way during the year, please do not hesitate to contact us. Thank you for allowing us to serve you.

Sincerely,

BAKER TILLY VIRCHOW KRAUSE, LLP

A handwritten signature in cursive script that reads "Baker Tilly Virchow Krause, LLP". The signature is written in dark ink and is positioned below the typed name of the firm.

GREAT LAKES WATER AUTHORITY

REPORT ON FEDERAL AWARDS

For the Year Ended June 30, 2019

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GREAT LAKES WATER AUTHORITY

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REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER
MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH
GOVERNMENT AUDITING STANDARDS

INDEPENDENT AUDITORS' REPORT

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

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the business-type activities and each major fund of the Great Lakes Water Authority (the "Authority") as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements, and have issued our report thereon dated _____, 2019.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. *A material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. *A significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under Government Auditing Standards.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Madison, Wisconsin
_____, 2019

DRAFT

REPORT ON COMPLIANCE FOR THE MAJOR FEDERAL PROGRAM; REPORT ON INTERNAL CONTROL
OVER COMPLIANCE; AND REPORT ON THE SCHEDULE OF EXPENDITURES OF FEDERAL
AWARDS REQUIRED BY THE UNIFORM GUIDANCE

INDEPENDENT AUDITORS' REPORT

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

Report on Compliance for the Major Federal Program

We have audited the Great Lakes Water Authority's (the "Authority") compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on the Authority's major federal program for the year ended June 30, 2019. The Authority's major federal program is identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility

Management is responsible for compliance with federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal program.

Auditors' Responsibility

Our responsibility is to express an opinion on compliance for the Authority's major federal program based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Authority's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for the major federal program. However, our audit does not provide a legal determination of the Authority's compliance.

Opinion on the Major Federal Program

In our opinion, the Authority complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on its major federal program for the year ended June 30, 2019.

Report on Internal Control Over Compliance

Management of the Authority is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Authority's internal control over compliance with the types of requirements that could have a direct and material effect on the major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for the major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control over compliance.

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. *A material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Purpose of this Report

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

We have audited the financial statements of the business-type activities and each major fund of the Great Lakes Water Authority, as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Great Lakes Water Authority's basic financial statements. We issued our report thereon dated _____, 2019, which contained unmodified opinions on those financial statements. Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the basic financial statements. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the basic financial statements as a whole.

Madison, Wisconsin
_____, 2019

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GREAT LAKES WATER AUTHORITY

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
For the Year Ended June 30, 2019

Federal Grantor/ Program Title	CFDA Number	Pass-through Agency Grant Number	Payments Made to Subrecipients	Federal Expenditures
FEDERAL PROGRAMS				
U.S. ENVIRONMENTAL PROTECTION AGENCY				
Passed-through the Michigan Department of Environment, Great Lakes and Energy:				
Clean Water State Revolving Fund Cluster:				
Capitalization Grants for Clean Water State Revolving Funds				
State Revolving Fund Loan	66.458	5635-01	\$ -	\$ 1,620,556
State Revolving Fund Loan	66.458	5636-01	-	299,436
State Revolving Fund Loan	66.458	5651-01	-	3,853,321
Total Clean Water State Revolving Fund Cluster			-	5,773,313
Passed-through the Michigan Department of Environment, Great Lakes and Energy:				
Drinking Water State Revolving Fund Cluster:				
Capitalization Grants for Drinking Water State Revolving Funds				
State Revolving Fund Loan	66.468	7412-01	355,501	573,389
State Revolving Fund Loan	66.468	7413-01	32,080	32,080
State Revolving Fund Loan	66.468	7414-01	4,315,007	4,315,007
Total Drinking Water State Revolving Fund Cluster			4,702,588	4,920,476
TOTAL FEDERAL PROGRAMS			\$ 4,702,588	\$ 10,693,789

See accompanying notes to schedule of expenditures of federal awards.

GREAT LAKES WATER AUTHORITY

**NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
For the Year Ended June 30, 2019**

NOTE 1 – BASIS OF PRESENTATION

The accompanying schedule of expenditures of federal awards (the "schedule") includes the federal award activity of the Great Lakes Water Authority under programs of the federal government for the year ended June 30, 2019. The information in this schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Because the schedule presents only a selected portion of the operations of the Great Lakes Water Authority, it is not intended to and does not present the financial position, changes in net position or cash flows of the Great Lakes Water Authority.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Expenditures reported on the schedule are reported on the modified cash basis of accounting, which is described as follows:

BASIS OF ACCOUNTING

In general, expenditures are reported in the Schedule when the Authority remits payment to a vendor or contractor, rather than when an expense is incurred by the Authority in accordance with Generally Accepted Accounting Principles (GAAP). Additionally, any amounts paid to subrecipients are included when paid or transferred instead of when incurred. The Authority reports its expenditures using this method based on guidance it received from the Michigan Department of Environment, Great Lakes, and Energy (EGLE), which serves as the pass-through entity for all of the Authority's federally funded loan programs.

PRE-AWARD COSTS

In addition to the above, the EGLE may approve reimbursement of costs related to projects undertaken (and paid to vendors) in prior periods. In those cases, as the payments were not previously reported as federal expenditures, they are reported on the Schedule in the period reimbursement is approved by the EGLE which is normally with the initial project cash draw.

Such expenditures are recognized following the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement. Pass-through entity identifying numbers are presented where available.

NOTE 3 – INDIRECT COST RATE

The Great Lakes Water Authority has not elected to use the 10% de minimis indirect cost rate.

GREAT LAKES WATER AUTHORITY

SCHEDULE OF FINDINGS AND QUESTIONED COSTS
For the Year Ended June 30, 2019

SECTION I – SUMMARY OF AUDITORS’ RESULTS

FINANCIAL STATEMENTS

Type of report the auditor issued on whether the financial statements audited were prepared in accordance with GAAP: *Unmodified*

Internal control over financial reporting:

- > Material weakness identified? yes X no
- > Significant deficiency identified? yes X none reported

Noncompliance material to financial statements noted? yes X no

FEDERAL AWARDS

Internal control over the major program:

- > Material weakness identified? yes X no
- > Significant deficiency identified? yes X none reported

The type of auditors’ report issued on compliance for the major program: *Unmodified*

Any audit findings disclosed that are required to be reported in accordance with section 2 CFR 200.516(a) of the Uniform Guidance? yes X no

Auditee qualified as low-risk auditee? yes X no

Identification of major federal programs:

<u>CFDA Number</u>	<u>Name of Federal Program or Cluster</u>
66.468	Drinking Water State Revolving Fund Cluster - Capitalization Grants for Drinking Water State Revolving Funds

Dollar threshold used to distinguish between type A and type B programs: \$ 750,000

GREAT LAKES WATER AUTHORITY

SCHEDULE OF FINDINGS AND QUESTIONED COSTS
For the Year Ended June 30, 2019

**SECTION II – FINANCIAL STATEMENT FINDINGS REQUIRED TO BE REPORTED IN ACCORDANCE WITH
GOVERNMENT AUDITING STANDARDS**

None reported.

SECTION III – FEDERAL AWARDS FINDINGS AND QUESTIONED COSTS

None reported.

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Financial Services Audit Committee Communication

Audit Committee Meeting

December 6, 2019

Binder 3

Agenda Item 6C - Annual Financial Audit Update

Additional Materials

Draft Comprehensive Annual Financial Report, excluding:

1. Audit Opinion
2. Transmittal Letter
3. Management's Discussion & Analysis



GLWA
Great Lakes Water Authority

Comprehensive Annual Financial Report

Fiscal Year Ended June 30, 2019



Springwells Water Treatment Facility

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

*Prepared by
Great Lakes Water Authority Financial Services Area*

GREAT LAKES WATER AUTHORITY

Southeast Michigan

COMPREHENSIVE ANNUAL FINANCIAL REPORT

Including Independent Auditors' Report

Fiscal Year Ended June 30, 2019

DRAFT

Prepared By:

Great Lakes Water Authority Financial Services Area

GREAT LAKES WATER AUTHORITY

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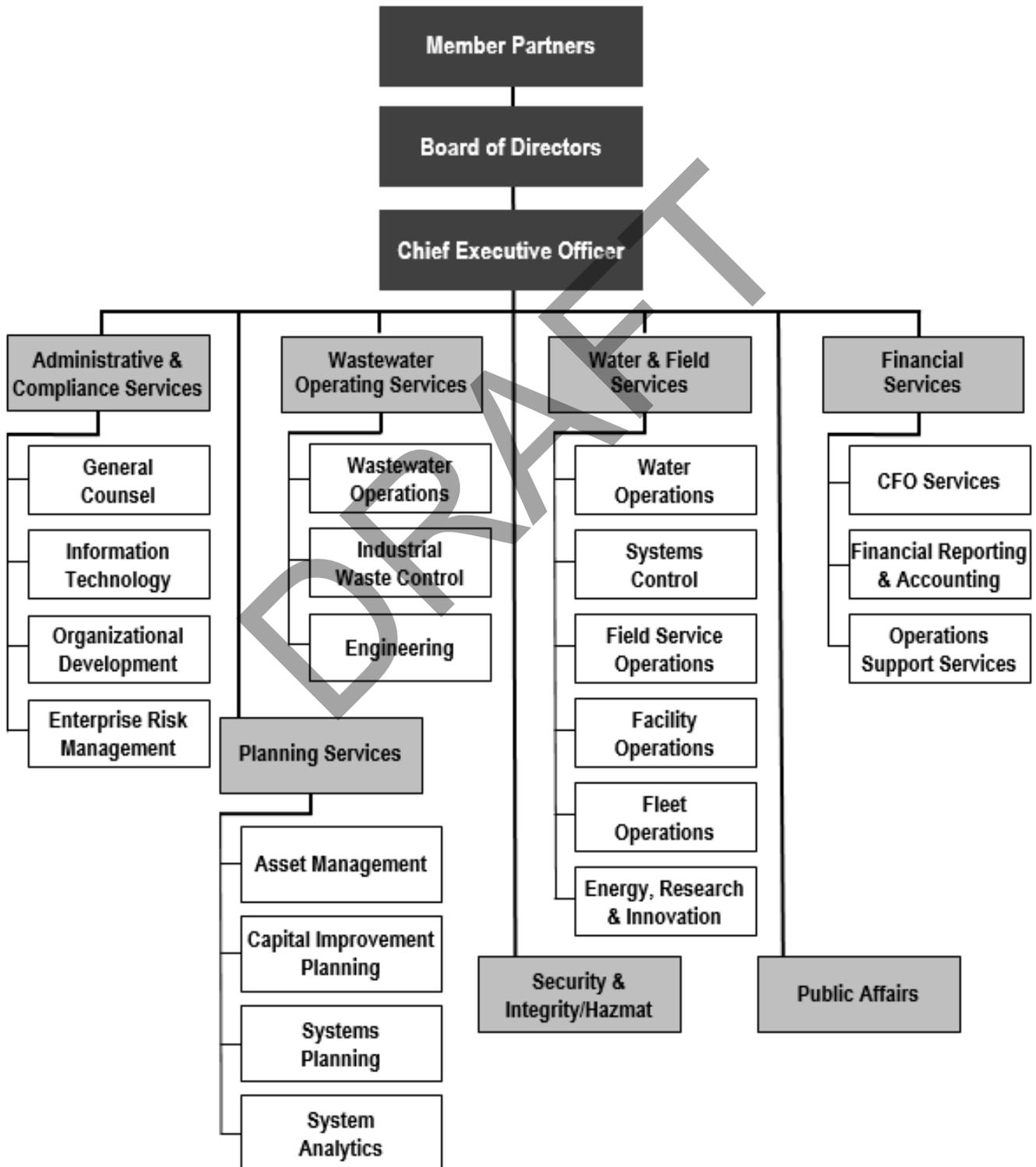
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Organizational Line of Reporting Chart





Great Lakes Water Authority Board of Directors

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

Great Lakes Water Authority Executive Leadership Team

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

Mission Statement

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

INDEPENDENT AUDITORS' REPORT

Print from Document 200.3.2
(3 pages)

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MANAGEMENT'S DISCUSSION AND ANALYSIS

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BASIC FINANCIAL STATEMENTS

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GREAT LAKES WATER AUTHORITY

STATEMENT OF NET POSITION

As of June 30, 2019

With Comparative Amounts at June 30, 2018

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

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

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, 2019
With Comparative Amounts for the Year Ended June 30, 2018

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

	Enterprise Funds		Total Business-type Activities	2018 Total Business-type Activities
	Water Fund	Sewage Disposal Fund		
Reconciliation of Operating Income to Net				
Cash Provided by Operating Activities:				
Operating income	\$ 67,642,146	\$ 126,891,732	\$ 194,533,878	\$ 193,661,964
Adjustments to reconcile operating income to net cash provided by operating activities:				
Depreciation	140,571,120	168,544,370	309,115,490	331,242,398
Amortization of intangible asset - raw water rights	3,566,664	-	3,566,664	2,080,554
Credits for raw water rights	(6,979,503)	-	(6,979,503)	(3,176,073)
Miscellaneous nonoperating income (expense)	340,044	710,028	1,050,072	50,019
Miscellaneous nonoperating income (expense)-MOU related	-	(6,527,200)	(6,527,200)	-
Legacy pension expense and administrative fee	5,788,533	10,359,635	16,148,168	(26,026,808)
WRAP (Water Residential Assistance Program)	(855,455)	(1,168,664)	(2,024,119)	(3,755,534)
Loan forgiveness pass-through to DWSD	(85,221)	-	(85,221)	(2,534,779)
Interest income on contractual obligation receivable	22,921,380	17,752,080	40,673,460	38,856,520
Interest income on loan receivable	-	1,104,242	1,104,242	-
Interest expense on obligation payable	(659,086)	(1,482,494)	(2,141,580)	(2,306,154)
Changes in:				
Receivables:				
Billed	(63,961)	(10,110,021)	(10,173,982)	(17,849)
Unbilled	3,085,361	902,968	3,988,329	(611,214)
Other (excludes capital item)	(910,224)	566,002	(344,222)	1,704,759
Allowance for doubtful accounts	1,233,932	1,939,167	3,173,099	3,732,807
Due from other governments	(6,474,817)	24,159,521	17,684,704	(26,438,819)
Due from other funds	(2,546,661)	3,435,359	888,698	16,344,093
Contractual obligation receivable	7,789,442	(80,028,432)	(72,238,990)	(3,778,220)
Loan receivable	-	(14,745,679)	(14,745,679)	-
Prepaid items and other assets (excludes investing item)	(1,613,442)	(996,444)	(2,609,886)	(840,375)
Inventories	(386,612)	3,025,646	2,639,034	37,828
Accounts and contracts payable (excludes capital items)	216,244	2,366,264	2,582,508	(3,647,703)
Accrued salaries, wages and benefits	(450,736)	-	(450,736)	1,544,918
Other accrued liabilities (excludes capital items)	(6,198,022)	627,919	(5,570,103)	10,427,076
Due to other governments (excludes non-capital financing)	4,028,066	(47,539)	3,980,527	(49,258,979)
Due to other funds	(3,435,359)	2,546,661	(888,698)	3,778,220
Obligation payable including accrued interest	(216,424)	(486,800)	(703,224)	(519,251)
Accrued compensated absences	93,651	40,242	133,893	(21,355)
Accrued workers' compensation	(10,759)	-	(10,759)	53,239
Claims and judgments	95,000	(278,281)	(183,281)	5,964,830
Other noncurrent liabilities	170,478	288,141	458,619	72,734
Net pension liability and deferred items	(16,825,241)	(30,111,840)	(46,937,081)	(5,236,538)
NET CASH PROVIDED BY OPERATING ACTIVITIES	\$ 209,830,538	\$ 219,276,583	\$ 429,107,121	\$ 481,382,308

NONCASH TRANSACTIONS

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

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

NOTES TO FINANCIAL STATEMENTS

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GREAT LAKES WATER AUTHORITY

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

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

REPORTING ENTITY

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

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

BASIS OF PRESENTATION

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

BASIS OF ACCOUNTING

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

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

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

Cash Deposits and Investments

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

GREAT LAKES WATER AUTHORITY

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

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

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

Cash Deposits and Investments (cont.)

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

Restricted Assets

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

Accounts Receivable

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

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

Due from Other Governments

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

Due to and Due from Other Funds

An amount owed between the water and sewage disposal fund based on shared centralized and administrative services administered by the water fund and allocated to the sewage disposal fund. Any water system usage of inventory in the sewage disposal fund is charged through an interfund payable to the sewage disposal fund.

Contractual Obligation Receivable

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

GREAT LAKES WATER AUTHORITY

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

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

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

Loan Receivable – DWSD

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

Prepaid Items and Other Assets

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

Inventories

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

Prepaid Lease

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

Capital Assets

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

GREAT LAKES WATER AUTHORITY

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

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

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

Capital Assets (cont.)

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

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

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

Intangible Asset - Raw Water Rights

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

Deferred Outflows of Resources

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

Other Accrued Liabilities

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

Current

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

GREAT LAKES WATER AUTHORITY

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

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

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

Other Accrued Liabilities (cont.)

Noncurrent

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

Arbitrage Rebate Payable

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

Long-Term Debt

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

Leases Payable

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

Lease Obligation - Raw Water Rights

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

Obligation Payable

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

GREAT LAKES WATER AUTHORITY

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

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

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

Compensated Absences

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

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

Claims and Judgements

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

Net Pension Liability

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

GREAT LAKES WATER AUTHORITY

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

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

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

Deferred Inflows of Resources

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

Net Position

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

Classification of Revenues and Expenses

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

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

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

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

Capital Adjustment

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

Taxes

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

Interest Income on Loan and Obligations Receivable

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

Amortization of Debt Related Items and Cost of Issuance

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

GREAT LAKES WATER AUTHORITY

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

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

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

Legacy Pension Expense

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

Centralized Services and Administrative Services

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

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

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

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

Use of Estimates

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

Effect of New Accounting Standards on Current Period Financial Statements

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

Reclassifications

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

NOTE 2 – BUDGETARY INFORMATION

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

BUDGET PROCESS

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 2 – BUDGETARY INFORMATION (cont.)

SCHEDULE OF CHARGES PROCESS

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

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

NOTE 3 – CASH DEPOSITS AND INVESTMENTS

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

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

CUSTODIAL CREDIT RISK – DEPOSITS AND MONEY MARKET ACCOUNTS

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

GREAT LAKES WATER AUTHORITY

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

NOTE 3 – CASH DEPOSITS AND INVESTMENTS (cont.)

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

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

CUSTODIAL CREDIT RISK – INVESTMENTS

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

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

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

CREDIT RISK

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 3 – CASH DEPOSITS AND INVESTMENTS (cont.)

CONCENTRATION OF CREDIT RISK

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

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

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

INTEREST RATE RISK

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 3 – CASH DEPOSITS AND INVESTMENTS (cont.)

FAIR VALUE MEASUREMENTS

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

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

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

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

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

NOTE 4 – RECEIVABLES

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 5 – RESTRICTED ASSETS

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

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

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

*Balance for July 1, 2019 required transfers

**Construction retainage and deposits

*** Amount for current liabilities related to construction funds

GREAT LAKES WATER AUTHORITY

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

NOTE 5 – RESTRICTED ASSETS (cont.)

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

*Balance for July 1, 2019 required transfers

**Construction retainage and deposits

*** Amount for current liabilities related to construction funds

GREAT LAKES WATER AUTHORITY

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

NOTE 5 – RESTRICTED ASSETS (cont.)

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 6 – DUE FROM OTHER GOVERNMENTS

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

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

NOTE 7 – LOAN RECEIVABLE – DWSD

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

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

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

<u>Year Ended June 30,</u>	2016 DWSD Budget Shortfall		
	Principal	Interest	Total
2020	\$ 9,761,148	\$ 639,047	\$ 10,400,195
2021	10,171,497	228,699	10,400,196
Total	\$ 19,932,645	\$ 867,746	\$ 20,800,391

GREAT LAKES WATER AUTHORITY

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

NOTE 7 – LOAN RECEIVABLE – DWSD (cont.)

Year Ended June 30,	2017 DWSD Budget Shortfall		
	Principal	Interest	Total
2020	\$ 7,781,521	\$ 660,000	\$ 8,441,521
2021	8,034,935	406,585	8,441,520
2022	8,296,578	144,918	8,441,496
Total	<u>\$ 24,113,034</u>	<u>\$ 1,211,503</u>	<u>\$ 25,324,537</u>

Total loan receivable to be paid by DWSD for 2016 and 2017 Budget Shortfalls:

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

NOTE 8 – INTERFUND RECEIVABLES AND PAYABLES

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 9 – CAPITAL ASSETS

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 9 – CAPITAL ASSETS (cont.)

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

ASSET IMPAIRMENT

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 9 – CAPITAL ASSETS (cont.)

RAW WATER RIGHTS ASSET

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

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

NOTE 10 – OTHER ACCRUED LIABILITIES

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 11 – DUE TO OTHER GOVERNMENTS

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

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

NOTE 12 – LONG-TERM DEBT

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

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

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

REVENUE AND CAPITAL APPRECIATION BONDS PAYABLE

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

REVENUE AND CAPITAL APPRECIATION BONDS PAYABLE (cont.)

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

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

REVENUE AND CAPITAL APPRECIATION BONDS PAYABLE (cont.)

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

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

- * Interest rates are reset quarterly based upon a formula specified in the bond using the three month LIBOR rate.
- ** Bonds are capital appreciation bonds. The outstanding balance represents the discounted present value.
- c Indicates bonds are callable under terms specified in the indenture; all other bonds are noncallable.

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

REVENUE BONDS – PLEDGES OF FUTURE REVENUE

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

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

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

	Water Fund	Sewage Disposal Fund
Remaining principal and interest requirement	\$ 3,763,040,507	\$ 4,772,842,644
Principal and interest funding requirement for the year ending June 30, 2019 (computed consistent with rate covenant basis for rate determination purposes. Not applicable for purpose of additional bond test)	\$ 167,966,455	\$ 239,172,263
Pledged revenue for the year ending June 30, 2019	\$ 228,658,878	\$ 290,350,012
Pledged revenue collected as a percentage of funding requirement	136.1%	121.4%
Amount of unspent construction funds in restricted cash and investments related to various bond indentures at June 30, 2019	\$ 153,111,303	\$ 230,974,555

At the time of issuance of the GLWA CAFR, DWSD's audited financial reports had not been released. The local system amounts included in the pledge revenue above reflect DWSD management's representation of preliminary financial results for the year ended June 30, 2019.

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

STATE REVOLVING LOANS PAYABLE

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

STATE REVOLVING LOANS PAYABLE (cont.)

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

REFUNDED DEBT – WATER FUND

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

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

REFUNDED DEBT AND NEW MONEY BOND– SEWAGE DISPOSAL FUND

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

ISSUANCE OF STATE REVOLVING LOANS

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

DEBT RATINGS

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

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

CONTRACTUAL OBLIGATION RECEIVABLE – DEBT ALLOCATION FOR DWSD RETAIL OPERATIONS

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

OBLIGATION PAYABLE – CITY OF DETROIT 2014 FINANCIAL RECOVERY BONDS

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 12 – LONG-TERM DEBT (cont.)

INTEREST EXPENSE

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

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

NOTE 13 – NET INVESTMENT IN CAPITAL ASSETS

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

NOTE 15 – LEASE OBLIGATION – RAW WATER RIGHTS

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

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

GREAT LAKES WATER AUTHORITY

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

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

The future credits to be issued are detailed below:

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

NOTE 16 – RISK MANAGEMENT/SELF-INSURANCE PROGRAMS

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

The Authority assumes all risk for motor vehicle physical damage.

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

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 17 – DEFINED CONTRIBUTION PENSION PLANS

DEFINED CONTRIBUTION PLANS

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

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

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

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

RETIREMENT HEALTH SAVINGS PLAN

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

GREAT LAKES WATER AUTHORITY

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

NOTE 18 – NET PENSION LIABILITY (SPECIAL FUNDING SITUATION)

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 19 – COMMITMENTS AND CONTINGENCIES

CAPITAL IMPROVEMENT PROGRAM

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

The total amount of construction contract commitments outstanding at June 30, 2019 was approximately \$137 million for the water fund and \$76 million for the sewage disposal fund.

CONTINGENCIES

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

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

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

GREAT LAKES WATER AUTHORITY

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

NOTE 19 – COMMITMENTS AND CONTINGENCIES (cont.)

CONTINGENCIES (cont.)

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

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

NOTE 20 – SUBSEQUENT EVENTS

Oakland-Macomb Interceptor Drain Drainage District Capital Contribution

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

REQUIRED SUPPLEMENTARY INFORMATION

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GREAT LAKES WATER AUTHORITY

REQUIRED SUPPLEMENTARY INFORMATION

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

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

*As described in Notes 1 and 12 GLWA was established on January 1, 2016. At that time, GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. This reflects only the portion allocated to GLWA.

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

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

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

GREAT LAKES WATER AUTHORITY

REQUIRED SUPPLEMENTARY INFORMATION

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

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

*As described in Notes 1 and 12 GLWA was established on January 1, 2016. At that time, GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. This reflects only the portion allocated to GLWA.

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

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

GREAT LAKES WATER AUTHORITY

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

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

*As described in Notes 1 and 12 GLWA was established on January 1, 2016, and GLWA assumed a portion of the net position and liabilities of the City of Detroit Water and Sewerage Department. This reflects only the portion allocated to GLWA.

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

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

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GREAT LAKES WATER AUTHORITY

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

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

Changes in Assumptions

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

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

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

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

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SUPPLEMENTARY INFORMATION

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COMBINING AND INDIVIDUAL FUND SCHEDULES

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GREAT LAKES WATER AUTHORITY

COMBINING SCHEDULE OF NET POSITION

WATER FUND
As of June 30, 2019

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

GREAT LAKES WATER AUTHORITY

COMBINING SCHEDULE OF NET POSITION
SEWAGE DISPOSAL FUND

As of June 30, 2019

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

GREAT LAKES WATER AUTHORITY

SCHEDULE OF INTERFUND RECEIVABLES AND PAYABLES For the Year Ended June 30, 2019

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

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

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

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

GREAT LAKES WATER AUTHORITY

SCHEDULE OF OPERATIONS AND MAINTENANCE EXPENSE FOR WATER OPERATIONS

COST TYPE CATEGORY - BUDGET TO ACTUAL

For the Year Ended June 30, 2019

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

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

DRAFT

Working Draft 12-5-2019

Revenue Requirement

Budget to Actual - Water System Operations
For the Year Ended June 30, 2019

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

The schedule below presents the Board adopted budget, adjusted for amendments, for comparison with actual revenues, expenses, and other payments. Overall, the Water System experienced a positive variance of approximately \$3.4 million. Positive operating budget variances are generally transferred to the Improvement & Extension Fund in the subsequent year to fund capital program costs to decrease the amount of capital improvements funded by debt.

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

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

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

Working Draft 12-5-2019

Revenue Requirement

Budget to Actual - Sewer System Operations

For the Year Ended June 30, 2019

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

The schedule below presents the Board adopted budget, adjusted for amendments, for comparison with actual revenues, expenses, and other payments. Overall, the Sewer System had an overall positive variance of approximately \$20.2 million. Positive variances are generally transferred to the Improvement & Extension Fund in the subsequent year to fund capital program costs to decrease the amount of capital improvement funded by debt.

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

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

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

GREAT LAKES WATER AUTHORITY

REVENUE REQUIREMENT TO STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION CROSSWALK For the Year Ended June 30, 2019

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

Key areas of reconciliation include the following:

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

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

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

GREAT LAKES WATER AUTHORITY

SCHEDULE OF DAYS CASH - LIQUIDITY
June 30, 2019

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

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

GREAT LAKES WATER AUTHORITY

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

Note 1 – Combining and Individual Fund Schedules

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

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

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

Note 2 – Budget to Actual Schedules

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

The schedule of operations and maintenance expense for the water operations and the sewage disposal operations provides the detail of the major expenditures of the Operations and Maintenance budget compared to the actual results. The total operating expenses is the Regional System Wholesale Expense included in the Schedule of Revenue Requirements. The actual expenditures are the operating expenses before depreciation for the Water Operations and the Sewer Operations Funds reported in the Combining Schedule of Revenues, Expenses and Changes in Net position for the Water Fund and the Sewage Disposal Fund.

Schedule of Revenue Requirement – Budget to Actual

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

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

Note 3 – Reconciliation of Budget and Actual to Basic Financial Statements (Crosswalk)

The Great Lakes Water Authority establishes a revenue requirements budget for the purposes of establishing charges for services. The financial report is prepared in accordance with Generally Accepted Accounting Policies for enterprise funds of a local government. Because the budget and the financial statements are prepared using different basis of accounting, the crosswalk reconciles the Schedule of Revenue Requirement Budget to Actual schedule to the Change in Net Position" in the Basic Financial Statements.

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STATISTICAL SECTION

GREAT LAKES WATER AUTHORITY

STATISTICAL SECTION TABLE OF CONTENTS

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

The statistical section information is presented in the following categories:

		<u>Page</u>
Financial Trends Schedules 1 through 2	Financial trends information is intended to show how the Authority's financial position has changed over time.	95
Revenue Capacity Schedule 3 through 7	Revenue capacity information is intended to show the factors affecting the Authority's ability to generate its own-source revenue.	104
Debt Capacity Information Schedules 8 through 13	Debt capacity information is intended to show the Authority's debt burden and its ability to issue additional debt.	112
Demographic and Economic Schedules 14 through 15	Demographic and economic information is intended to show the socioeconomic environment within which the Authority operates.	125
Operating Information Schedule 16 through 18	Operating information is intended to show contextual information about operations and resources to provide understanding and assessing the Authority's economic condition.	127

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

GREAT LAKES WATER AUTHORITY

SCHEDULE OF NET POSITION - BUSINESS-TYPE ACTIVITIES

As of June 30, 2019

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

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

GREAT LAKES WATER AUTHORITY

SCHEDULE OF NET POSITION - WATER FUND

As of June 30, 2019

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

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

GREAT LAKES WATER AUTHORITY

SCHEDULE OF NET POSITION - SEWAGE DISPOSAL FUND

As of June 30, 2019

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

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

GREAT LAKES WATER AUTHORITY

CHANGES IN NET POSITION - BUSINESS-TYPE ACTIVITIES

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

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

GREAT LAKES WATER AUTHORITY

CHANGES IN NET POSITION - WATER FUND

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

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

GREAT LAKES WATER AUTHORITY

CHANGES IN NET POSITION - SEWAGE DISPOSAL FUND

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

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

GREAT LAKES WATER AUTHORITY

OPERATING REVENUES AND CHARGE INCREASES

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

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

[1] Does not include the City of Detroit.

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

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

Source: Charge increases Great Lakes Water Authority minutes 6/20/18

Source: Charge increases Detroit retail rate Board of Water Commissioners minutes 6/20/18

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

GREAT LAKES WATER AUTHORITY

TEN LARGEST WHOLESALE WATER CUSTOMERS / TOTAL BILLED REVENUE

Last Ten Years

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

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

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

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

GREAT LAKES WATER AUTHORITY

TEN LARGEST WHOLESALE SEWER CUSTOMERS / TOTAL BILLED REVENUE

Last Ten Years

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

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

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

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

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GREAT LAKES WATER AUTHORITY

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

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

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

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

*Wholesale charges went into effect July 1, 2018

GREAT LAKES WATER AUTHORITY

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

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

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

*Wholesale charges went into effect July 1, 2018

GREAT LAKES WATER AUTHORITY

INDUSTRIAL WASTE CONTROL CHARGES AND POLLUTANT SURCHARGES

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

Charges went into effect July 1, 2018

GREAT LAKES WATER AUTHORITY

RATIOS OF OUTSTANDING DEBT BY TYPE

	2019	2018	2017	2016*
Water Fund				
Revenue bonds [1]	\$ 2,466,561,092	\$ 2,540,663,196	\$ 2,612,607,101	\$ 2,507,091,038
State revolving loans	29,860,802	25,435,902	17,252,235	17,383,761
Total Water Fund	<u>2,496,421,894</u>	<u>2,566,099,098</u>	<u>2,629,859,336</u>	<u>2,524,474,799</u>
Sewage Disposal Fund				
Revenue bonds [1]	2,764,196,913	2,739,090,653	2,797,168,264	2,922,089,599
Capital appreciation bonds [1]	13,377,972	14,984,042	19,501,737	19,668,138
State revolving loans	<u>474,177,128</u>	<u>475,677,540</u>	<u>485,267,036</u>	<u>506,435,742</u>
Total Sewage Disposal Fund	<u>3,251,752,014</u>	<u>3,229,752,235</u>	<u>3,301,937,037</u>	<u>3,448,193,479</u>
Business-type Activities				
Revenue bonds [1]	5,230,758,006	5,279,753,849	5,409,775,365	5,429,180,637
Capital appreciation bonds [1]	13,377,972	14,984,042	19,501,737	19,668,138
State revolving loans	<u>504,037,930</u>	<u>501,113,442</u>	<u>502,519,271</u>	<u>523,819,503</u>
Total Business-type Activities Debt	<u>\$ 5,748,173,908</u>	<u>\$ 5,795,851,333</u>	<u>\$ 5,931,796,373</u>	<u>\$ 5,972,668,278</u>
Total taxable value **	n/a	n/a	n/a	n/a
Total population served[2]:				
Water	3,800,000	3,800,000	3,800,000	3,800,000
Sewage disposal	2,800,000	2,800,000	2,800,000	2,800,000
Total debt per capita:				
Water	\$ 657	\$ 675	\$ 692	\$ 664
Sewage disposal	\$ 1,161	\$ 1,153	\$ 1,179	\$ 1,231
Per capital income [3]	\$ 53,748	\$ 51,493	\$ 50,863	\$ 48,692
Total debt as a percentage of income:				
Water	1.22%	1.31%	1.36%	1.36%
Sewage disposal	2.16%	2.24%	2.32%	2.53%

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

DEBT BY LIEN
As of June 30, 2019

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

GREAT LAKES WATER AUTHORITY

DEBT BY LIEN
As of June 30, 2019

	Original Principal Amount [1]	Outstanding as of June 30, 2019	Total Future Debt [2]
Sewage Disposal System Revenue Bonds			
Senior Lien Bonds (Revenue and SRF)			
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-1	\$ 21,475,000	\$ 1,340,000	\$ 1,340,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-2	46,000,000	11,125,000	11,125,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-3	31,030,000	3,850,000	3,850,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-4	40,655,000	5,040,000	5,040,000
Sewage Disposal System Revenue Bonds, Series 1999A	33,510,118	14,780,000	14,780,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C-1	154,870,000	605,000	605,000
Sewage Disposal System Senior Lien Revenue Bonds, Series 2003B	150,000,000	100,000	100,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2004A	101,435,000	35,010,000	35,010,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2006D	370,000,000	239,475,000	239,475,000
Sewage Disposal System Revenue & Revenue Refunding Senior Lien Bonds, Series 2012A	659,780,000	495,175,000	495,175,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014C-1	123,220,000	123,215,000	123,215,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014C-2	27,470,000	27,465,000	27,465,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-3	446,170,000	446,170,000	446,170,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-5	95,165,000	18,620,000	18,620,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-6	143,880,000	88,900,000	88,900,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2016B	126,105,000	126,105,000	126,105,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2018A	81,595,000	81,595,000	81,595,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2018B	131,690,000	131,690,000	131,690,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2018C	44,180,000	44,180,000	44,180,000
	<u>2,828,230,118</u>	<u>1,894,440,000</u>	<u>1,894,440,000</u>
Second Lien Bonds			
Sewage Disposal System Second Lien Revenue Bonds, Series 2001B	110,550,000	78,895,000	78,895,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2005A	273,355,000	31,885,000	31,885,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005B	40,215,000	17,115,000	17,115,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005C	63,160,000	100,000	100,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2006B	250,000,000	55,100,000	55,100,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2014C-7	76,715,000	70,640,000	70,640,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2015C	197,660,000	197,160,000	197,160,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2016C	295,190,000	295,190,000	295,190,000
	<u>1,306,845,000</u>	<u>746,085,000</u>	<u>746,085,000</u>

GREAT LAKES WATER AUTHORITY

DEBT BY LIEN
As of June 30, 2019

	Original Principal Amount [1]	Outstanding as of June 30, 2019	Total Future Debt [2]
Sewage Disposal System Revenue Bonds (concluded)			
Junior Lien Bonds (SRF)			
Sewage Disposal System Revenue Bonds, Series 2000 SRF-1	\$ 44,197,995	\$ 9,847,995	\$ 9,847,995
Sewage Disposal System Revenue Bonds, Series 2000 SRF-2	64,401,066	15,501,066	15,501,066
Sewage Disposal System Revenue Bonds, Series 2001 SRF-1	82,200,000	29,095,000	29,095,000
Sewage Disposal System Revenue Bonds, Series 2001 SRF-2	59,850,000	21,190,000	21,190,000
Sewage Disposal System Revenue Bonds, Series 2002 SRF-1	18,985,000	4,585,000	4,585,000
Sewage Disposal System Revenue Bonds, Series 2002 SRF-2	1,545,369	375,369	375,369
Sewage Disposal System Revenue Bonds, Series 2002 SRF-3	31,549,466	10,289,466	10,289,466
Sewage Disposal System Revenue Bonds, Series 2003 SRF-1	48,520,000	19,795,000	19,795,000
Sewage Disposal System Revenue Bonds, Series 2003 SRF-2	25,055,370	8,810,370	8,810,370
Sewage Disposal System Revenue Bonds, Series 2004 SRF-1	2,910,000	1,005,000	1,005,000
Sewage Disposal System Revenue Bonds, Series 2004 SRF-2	18,353,459	6,318,459	6,318,459
Sewage Disposal System Revenue Bonds, Series 2004 SRF-3	12,722,575	4,367,575	4,367,575
Sewage Disposal System Revenue Bonds, Series 2007 SRF-1	167,540,598	98,800,598	98,800,598
Sewage Disposal System Revenue Bonds, Series 2009 SRF-1	13,970,062	8,260,062	8,260,062
Sewage Disposal System Revenue Bonds, Series 2010 SRF-1	4,214,763	2,730,763	2,730,763
Sewage Disposal System Revenue Bonds, Series 2012 SRF-1	14,950,000	12,520,000	12,520,000
Sewage Disposal System Revenue Bonds, Series 2015A SRF	79,500,000	69,930,000	69,930,000
Sewage Disposal System Revenue Bonds, Series 2015B SRF	27,175,304	23,465,304	23,465,304
Sewage Disposal System Revenue Bonds, Series 2015D SRF	15,231,478	12,981,478	12,981,478
Sewage Disposal System Revenue Bonds, Series 2016 SAW-1	10,000,000	10,000,000	10,000,000
Sewage Disposal System Revenue Bonds, Series 2016 SRF-1	19,305,000	14,455,854	18,550,000
Sewage Disposal System Revenue Bonds, Series 2016 SRF-2	51,310,000	32,840,157	51,310,000
Sewage Disposal System Revenue Bonds, Series 2017 SRF-1	38,450,000	31,309,424	38,450,000
Sewage Disposal System Revenue Bonds, Series 2018 SRF-2	17,510,000	4,348,188	17,510,000
	<u>869,447,505</u>	<u>452,822,128</u>	<u>495,688,505</u>
TOTAL SEWAGE DISPOSAL SYSTEM REVENUE BONDS	<u>\$ 5,004,522,623</u>	<u>\$ 3,093,347,128</u>	<u>\$ 3,136,213,505</u>

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

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

GREAT LAKES WATER AUTHORITY

SCHEDULE OF DEBT SERVICE REQUIREMENTS

As of June 30, 2019

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

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

GREAT LAKES WATER AUTHORITY

SCHEDULE OF DEBT SERVICE REQUIREMENTS

As of June 30, 2019

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

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

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

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

GREAT LAKES WATER AUTHORITY

CURRENT DEBT RATINGS

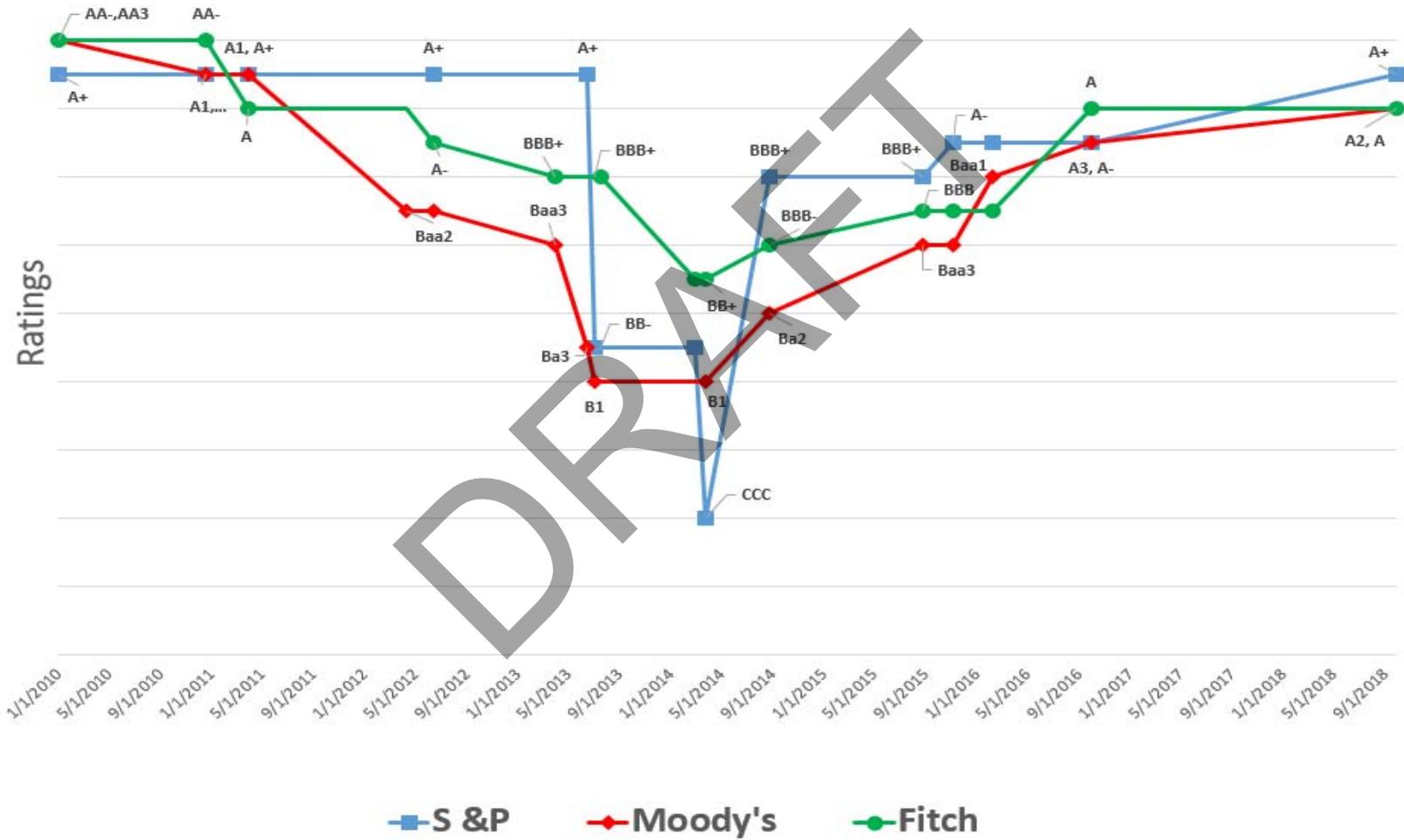
As of June 30, 2019

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

DRAFT

GREAT LAKES WATER AUTHORITY

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



Calculation of Debt Service Coverage

Water System
 As of June 30, 2019

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

	Water Fund			
	Adopted Budget	Amended Budget	Actual [5] & [6]	Variance
Calculation of Debt Service Coverage				
Operating Revenue				
Suburban Wholesale Customers [1]	\$ 309,597,100	\$ 307,382,500	\$ 304,419,633	\$ (2,962,867)
Detroit Customers				
Wholesale Service Charge Revenue [1]	20,326,100	20,181,400	20,181,400	-
Local Service Revenues [2]	70,768,200	70,912,900	63,354,585	(7,558,315)
Subtotal - Detroit Customers	91,094,300	91,094,300	83,535,985	(7,558,315)
Other Operating Revenue-GLWA	-	-	21,340	21,340
Other Operating Revenue-DWSD	6,600,300	6,600,300	\$6,481,980	(118,320)
Earnings on investments less construction fund investment earnings	3,836,600	9,425,400	11,818,203	2,392,803
Total Revenue	<u>411,128,300</u>	<u>414,502,500</u>	<u>406,277,141</u>	<u>(8,225,359)</u>
Operating Expenses				
Operations and Maintenance Regional System	124,721,700	121,562,600	117,714,203	(3,848,397)
Operations and Maintenance transfer to Local System	35,484,300	35,484,300	35,484,300	-
Legacy Pension Obligations Regional System [3]	6,048,000	6,048,000	6,048,000	-
Legacy Pension Obligations Local System [3]	4,272,000	4,272,000	4,272,000	-
Total Operating Expenses	<u>170,526,000</u>	<u>167,366,900</u>	<u>163,518,503</u>	<u>(3,848,397)</u>
Net operating revenue for the year ending June 30, 2019	<u>\$ 240,602,300</u>	<u>\$ 247,135,600</u>	<u>\$ 242,758,638</u>	<u>\$ (4,376,962)</u>
Principal and interest funding requirement for the year ending June 30, 2019 [4]:				
Senior Lien Bonds	\$ 119,230,800	\$ 119,230,800	\$ 119,230,820	\$ 20
Second Lien Bonds	49,020,500	46,214,500	46,214,385	(115)
Total Senior and Second Lien Bonds	<u>168,251,300</u>	<u>165,445,300</u>	<u>165,445,205</u>	<u>(95)</u>
Junior Lien Bonds	2,710,600	2,710,600	2,521,249	(189,351)
Total All Bonds	<u>\$ 170,961,900</u>	<u>\$ 168,155,900</u>	<u>\$ 167,966,455</u>	<u>\$ (189,445)</u>
Rate Covenant Debt Service Coverage [4]				
Senior Lien Bonds	2.02	2.07	2.04	-0.03
Senior and Second Lien Bonds	1.43	1.49	1.47	-0.02
All Bonds, Including SRF Junior Lien	1.41	1.47	1.45	-0.02

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

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

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

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

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

[6] At the time of the issuance of the GLWA CAFR, DWSD's audited financial report had not been released. The local system amounts above reflect DWSD management's representation of preliminary financial results for the year ended June 30, 2019.

DWSD Values in Red Below are not
Final

Calculation of Debt Service Coverage

Sewer System
As of June 30, 2019

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

	<u>Sewage Disposal Fund</u>			
	<u>Adopted Budget</u>	<u>Amended Budget</u>	<u>Actual [5] & [6]</u>	<u>Variance</u>
Calculation of Debt Service Coverage				
Operating Revenue				
Suburban Wholesale Customers [1]	\$ 274,101,400	\$ 271,296,300	\$ 272,772,460	\$ 1,476,160
Industrial waste charges	15,000,800	15,000,800	9,106,274	(5,894,526)
Pollutant surcharges	-	-	5,392,550	5,392,550
Subtotal - Regional System Suburban Wholesale Customer	<u>289,102,200</u>	<u>286,297,100</u>	<u>287,271,284</u>	<u>974,184</u>
Detroit Customers				
Wholesale Service Charge Revenue [1]	183,007,600	181,159,300	181,159,300	-
Local Service Revenues [2]	92,068,700	93,917,000	66,453,540	(27,463,460)
Subtotal - Detroit Customers	<u>275,076,300</u>	<u>275,076,300</u>	<u>247,612,840</u>	<u>(27,463,460)</u>
Other Operating Revenue-GLWA	-	-	506,323	506,323
Other Operating Revenue-DWSD	5,464,600	5,464,600	\$4,529,169	(935,431)
Earnings on investments less construction fund investment earnings	4,570,900	6,878,800	9,592,270	2,713,470
Total Revenue	<u>574,214,000</u>	<u>573,716,800</u>	<u>549,511,885</u>	<u>(24,204,915)</u>
Operating Expenses				
Operations and Maintenance Fund Regional System	193,122,000	191,079,400	174,019,805	(17,059,595)
Operations and Maintenance transfer to Local System	68,121,500	68,121,500	56,767,920	(11,353,580)
Legacy Pension Obligations Regional System [3]	10,824,000	10,824,000	10,824,000	-
Legacy Pension Obligations Local System [3]	2,856,000	2,856,000	2,856,000	-
Total Operating Expenses	<u>274,923,500</u>	<u>272,880,900</u>	<u>244,467,725</u>	<u>(28,413,175)</u>
Net operating revenue for the year ending June 30, 2019	<u>\$ 299,290,500</u>	<u>\$ 300,835,900</u>	<u>\$ 305,044,160</u>	<u>\$ 4,208,260</u>
Principal and interest funding requirement for the year ending June 30, 2019 [4]:				
Senior Lien Bonds	\$ 148,606,900	\$ 143,785,600	\$ 145,795,507	\$ 2,009,907
Second Lien Bonds	43,922,600	43,922,600	43,922,600	-
Total Senior and Second Lien Bonds	<u>192,529,500</u>	<u>187,708,200</u>	<u>189,718,107</u>	<u>2,009,907</u>
Junior Lien Bonds	49,936,500	49,936,500	49,454,156	(482,344)
Total All Bonds	<u>\$ 242,466,000</u>	<u>\$ 237,644,700</u>	<u>\$ 239,172,263</u>	<u>\$ 1,527,563</u>
Rate Covenant Debt Service Coverage [4]				
Senior Lien Bonds	2.01	2.09	2.09	0.00
Senior and Second Lien Bonds	1.55	1.60	1.61	0.01
All Bonds, Including SRF Junior Lien	1.23	1.27	1.28	0.01

- [1] Total GLWA Regional System Wholesale Revenue reported net of bad debt allowances.
- [2] Local Serve Revenue reported net of bad debt allowance.
- [3] The legacy pension obligations reflects only the Legacy Pension Obligation as defined in Section 504 (c) of the Water Master Bond Ordinance.
- [4] Computed consistent with rate covenant basis for rate determination purposes. Not applicable for purposes of additional bond test calculations.
- [5] Effective for the year ending June 30, 2019 operating expenses for the regional system reflect actual operating and maintenance expense of the operations funds rather than budgeted operating and maintenance transfers as reported in prior years. The O&M for the local system is the actual cash transfers to the local system O&M bank account.

GREAT LAKES WATER AUTHORITY

Schedule 13c
UNAUDITED

Calculation of Debt Service Coverage As of June 30, 2019

Working Draft 12-5-2019

	2019 [3] & [4]	2018	2017	2016 [1]
Water Fund				
Pledged revenue	\$ 242,758,638	\$ 259,822,627	\$ 272,268,873	\$ 270,117,396
Principal and interest funding requirement [2]				
Senior Lien Bonds	\$ 119,230,820	\$127,687,420	\$134,234,660	\$128,177,999
Second Lien Bonds	46,214,385	42,852,813	38,990,023	41,178,843
Total Senior and Second Lien Bonds	165,445,205	170,540,233	173,224,683	169,356,842
Junior Lien Bonds	2,521,249	2,009,658	1,785,328	1,781,683
Total All Bonds	167,966,455	172,549,891	175,010,011	171,138,525
Rate Covenant Debt Service Coverage [2]				
Senior Lien Bonds	2.04	2.03	2.03	2.11
Senior and Second Lien Bonds	1.47	1.52	1.57	1.59
All Bonds, Including SRF Junior Lien	1.45	1.51	1.56	1.58
Sewage Disposal Fund				
Pledged revenue	\$ 305,044,160	\$ 299,055,461	\$ 326,300,994	\$ 326,048,837
Principal and interest funding requirement [2]				
Senior Lien Bonds	\$ 145,795,507	\$141,718,836	\$ 140,854,010	\$ 140,191,016
Second Lien Bonds	43,922,600	43,990,100	47,918,639	48,944,924
Total Senior and Second Lien Bonds	189,718,107	185,708,936	188,772,649	189,135,940
Junior Lien Bonds	49,454,156	46,782,877	45,782,165	39,434,631
Total All Bonds	239,172,263	232,491,813	234,554,814	228,570,571
Rate Covenant Debt Service Coverage [2]				
Senior Lien Bonds	2.09	2.11	2.32	2.33
Senior and Second Lien Bonds	1.61	1.61	1.73	1.72
All Bonds, Including SRF Junior Lien	1.28	1.29	1.39	1.43

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

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

[3] At the time of the issuance of the GLWA, DWSD's audited financial report had not been released. The local system amounts above reflect DWSD management's representation of preliminary financial results for the year ended June 30, 2019.

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

GREAT LAKES WATER AUTHORITY

SERVICE AREA DEMOGRAPHICS Last Ten Years

Year	Total Population (1)	Unemployment (2)	Per Capita Income (3)	Total Debt Service (5)	Debt Per Capita	Debt Service as a Percentage of Income
Water Fund						
2019	3,800,000	4.5%	\$ 53,748 (4)	\$ 162,377,261	\$ 42.73	0.08%
2018	3,800,000	4.3%	51,493	172,549,890	45.41	0.09%
2017	3,800,000	4.6%	50,863	175,010,012	46.06	0.09%
2016	* 3,800,000	5.3%	48,692	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%
Sewage Disposal Fund						
2019	2,800,000	4.5%	\$ 53,748 (4)	\$ 235,381,235	\$ 84.06	0.16%
2018	2,800,000	4.3%	51,493	232,491,813	83.03	0.16%
2017	2,800,000	4.6%	50,863	234,554,814	83.77	0.16%
2016	* 2,800,000	5.3%	48,692	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%

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

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

LARGEST EMPLOYERS Current Year and 5 Years Ago

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

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

GREAT LAKES WATER AUTHORITY

PRODUCED AND BILLED WATER VOLUMES Last Ten Years

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

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

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

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

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

GREAT LAKES WATER AUTHORITY

TREATED AND BILLED WASTEWATER VOLUMES Last Ten Years

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

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

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

[2] Reported water usage billed to retail customers

GREAT LAKES WATER AUTHORITY

ADDITIONAL SUMMARY STATISTICS
Last Four Years

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

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



Conner Creek Combined Sewer Overflow Facility



GLWA

Great Lakes Water Authority

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



Financial Services Audit Committee Communication

Date: December 6, 2019

To: Great Lakes Water Authority Audit Committee

From: Dana Bierer-Casinelli, Management Professional Consultant
Internal Audit & Data Integrity Team

Re: Ethics and Compliance Hotline

Background: The Great Lakes Water Authority (GLWA) issued Request for Proposal (RFP) 1903808 on October 15, 2019. The RFP is for the establishment of third-party Ethics and Compliance Hotline Services. GLWA received proposal responses on November 8, 2019 from five vendors. The services, at a minimum, include the following.

1. A live call center available 24 hours a day, 7 days a week, and 365 days a year with a GLWA dedicated toll-free telephone number.
2. An internet-based compliance reporting system.
3. A case management system that allows caller anonymity.

GLWA does not currently have a third-party hotline provider. Tip hot lines of this nature are the most frequent way fraud is detected in organizations. They are considered best practice for an effective internal control environment.

Analysis: The evaluation team has reviewed the proposals and conducted oral interviews with three highest scoring of the five vendors. Reference checks were completed and found to be positive.

All three vendors under consideration meet the minimum requirements and their hotline services are best-in-class. The hotline processes for these vendors includes the following.

1. The ability for the reporter to maintain anonymity yet allows for GLWA to request additional information of the reporter to support a thorough investigation.
2. Support for multiple languages through the live call center and the internet-based compliance reporting system.
3. Case management reporting to allow for summary and detailed reports for GLWA management, Board of Directors and the public.
4. Customized communication tools to effectively advertise the hotline to employees.

The selected vendor is New Orleans Teleport, Inc. (d/b/a Calls Plus). The vendor can open a live call center toll free number within 30 days after signing a contract. The more-extensive services for the custom-built internet-based compliance reporting system, including testing, can be operational within three months of signing a contract.

Attached is the Procurement Report and the related tabulation of fees which include an implementation/installation fee as well as annual, flat monthly service fees.

Proposed Action: Receive and file this report.



Procurement Report

Date: November 22, 2019
To: Sue McCormick, Chief Executive Officer
From: Dan Edwards, Procurement Manager
Re: Procurement Report

General Information			
Contract Number:	1903808	Project Owner:	Randal Brown
Contract Title:	Ethics and Compliance Hotline Services		
Vendor:	New Orleans Teleport, Inc. d/b/a Calls Plus		
Budget:	Operations and Maintenance		
Contract Length:	Three (3) Years and Two (2) One-year renewal options		

Procurement Method

Competitively bid – Request for Proposal (RFP) Qualification Based Selection (QBS) – Evaluation Committee			
Advertised:	October 15, 2019	Addendums released:	3
Distributed to:	18	Downloaded by:	18
Response due date:	November 8, 2019	Responses received:	5

Cost Schedule

New Orleans Teleport, Inc. d/b/a Calls Plus	
Implementation Cost	Original Proposal
Implementation/Installation Cost	\$5,000.00
Set Up Fees	\$2,500.00
Cost for Agreement Year 2019-2020	\$23,100.00
Annual System Service Fees (2020-2021)	\$23,100.00
Annual System Service Fees (2021-2022)	\$23,100.00
Annual System Service Fees (2022-2023) Renewal Option	\$23,100.00
Annual System Service Fees (2023-2024) Renewal Option	\$23,100.00
Additional Costs	
Materials for GLWA individuals: Posters, wallet cards, and brochures are provided as part of the fee	\$2,000.00
System Customization	\$175.00
Upgrades	\$175.00
International Pricing	\$0.00
Totals	\$125,350.00



The fee proposed by the vendor was deemed acceptable (see attached fee tabulation). The vendor, however, was asked to expand the scope of services to provide a hotline within 30 days of an executed contract as an interim solution until a customized internet-based solution is developed, tested, and deployed. The interim solution is at no extra charge. The project timeline is 90 days after executed contract.

Evaluation and Scores

Evaluation Committee: (Designation – Organization)
A – GLWA
B – GLWA
C – GLWA

The Evaluation Committee independently reviewed and scored the proposals in accordance with GLWA’s policy. This evaluation was a two-step process. The total score rankings are below for all proposals. It should be noted that the first three firms listed were selected for an oral presentation.

Vendor (Highest to Lowest Score) The top 3 was short-listed for oral interviews	Total Score (Technical/Oral/ References)
New Orleans Teleport, Inc. d/b/a Calls Plus	179.56
WhistleBlower Security, Inc.	168.11
Veritas Solutions Group, LLC.	148.56
Inspirit Group, LLC dba Stopit Solutions	75.44
Decima	24.78

Other Data Requested by GLWA Board Members

- Minority Business Enterprise (MBE): Yes
- Detroit Based Business (DBB): No
- Small Business Enterprise (SBE): Yes
- Sub-Contractor(s) List: Not Applicable
- Vendor Response Survey: Not Applicable



Financial Services Group

Procurement

735 Randolph Street, Suite 1508

Detroit, Michigan 48226

Phone: 313-964-9157

Litigation

This vendor is not currently nor has been previously involved in any litigation with the GLWA.

Financials

A financial risk assessment was performed by the GLWA via Dun & Bradstreet and was determined that the selected vendor has the financial capacity to perform the tasks under this contract. This information is available for the Board of Directors to review upon request.

RFP COST EVALUATION

Owner: Great Lakes Water Authority (GLWA)
Title: Ethics and Compliance Hotline Services

Contract No.: 1903808

#	Items	QTY	UM	Decima		New Orleans Teleport, Inc. d/b/a CALLS PLUS		STOPit Solutions		Veritas Solutions Group LLC		WhistleBlower Security Inc.	
				Unit Price	Total Cost	Unit Price	Total Cost	Unit Price	Total Cost	Unit Price	Total Cost	Unit Price	Total Cost
#1-1	Implementation / Installation Cost	1	Lump Sum	\$44,000.00	\$44,000.00	\$5,000.00	\$5,000.00	\$2,500.00	\$2,500.00	\$0	\$0	\$3,800.00	\$3,800.00
#1-2	Set Up Fees	1	Lump Sum	\$8,500.00	\$8,500.00	\$2,500.00	\$2,500.00	\$0	\$0	\$0	\$0	\$350	\$350
#1-3	Cost for Agreement Year 2019-2020	1	Lump Sum	\$6,500.00	\$6,500.00	\$23,100.00	\$23,100.00	\$13,000.00	\$13,000.00	\$10,000.00	\$10,000.00	\$4,150.00	\$4,150.00
#1-4	Annual System Service Fees (2020-2021)	1	Lump Sum	\$188,000.00	\$188,000.00	\$23,100.00	\$23,100.00	\$10,500.00	\$10,500.00	\$10,000.00	\$10,000.00	\$3,800.00	\$3,800.00
#1-5	Annual System Service Fees (2021-2022)	1	Lump Sum	\$199,000.00	\$199,000.00	\$23,100.00	\$23,100.00	\$9,450.00	\$9,450.00	\$10,000.00	\$10,000.00	\$3,800.00	\$3,800.00
#1-6	Annual System Service Fees (2022-2023) Renewal Option	1	Lump Sum	\$212,000.00	\$212,000.00	\$23,100.00	\$23,100.00	\$9,450.00	\$9,450.00	\$12,000.00	\$12,000.00	\$3,800.00	\$3,800.00
#1-7	Annual System Service Fees (2023-2024) Renewal Option	1	Lump Sum	\$220,000.00	\$220,000.00	\$23,100.00	\$23,100.00	\$9,450.00	\$9,450.00	\$12,000.00	\$12,000.00	\$3,800.00	\$3,800.00
Total Cost including additional Services					\$878,000.00		\$123,000.00		\$54,350.00		\$54,000.00		\$23,500.00

RFP COST EVALUATION

Owner: Great Lakes Water Authority (GLWA)
Title: Ethics and Compliance Hotline Services

Contract No.: 1903808

				Decima		New Orleans Teleport, Inc. d/b/a CALLS PLUS		STOPit Solutions		Veritas Solutions Group LLC		WhistleBlower Security Inc.	
				Unit Price	Total Cost	Unit Price	Total Cost	Unit Price	Total Cost	Unit Price	Total Cost	Unit Price	Total Cost
Additional Services													
#0-1	Materials for GLWA individuals: Posters, wallet cards, and brochures are provided as part of the fee.	1	Lump Sum	\$5,000.00	\$5,000.00	\$2,000.00	\$2,000.00	\$0	\$0	\$750	\$750	\$0	\$0
#0-2	System Customization	1	Lump Sum	\$6,000.00	\$6,000.00	\$175	\$175	\$0	\$0	\$12,500.00	\$12,500.00	\$0	\$0
#0-3	Upgrades	1	Lump Sum	\$8,500.00	\$8,500.00	\$175	\$175	\$0	\$0	\$1,200.00	\$1,200.00	\$0	\$0
#0-4	International Pricing	1	Lump Sum	\$5,000.00	\$5,000.00	\$0	\$0	\$0	\$0	\$5	\$5	\$0	\$0
Total Cost including additional Services					\$902,500.00		\$125,350.00		\$54,350.00		\$68,455.00		\$23,500.00



Financial Services Audit Committee Communication

Date: December 6, 2019

To: Great Lakes Water Authority Audit Committee

From: Jon Wheatley, Public Finance Manager

Re: Proposed Underwriting Team Selection for 2020 Refunding and Potential New Money Transaction

Background/Analysis: See attached Board Letter.

Proposed Action: Audit Committee recommends that the GLWA Board of Directors:

1. Approves Citigroup as Bookrunning Senior Managing Underwriter;
2. Approves Siebert Williams Shank & Co., LLC as Co-Senior Managing Underwriter;
3. Authorizes a Takedown Fee of \$2.50 per bond (plus expenses);
4. Approves Goldman Sachs & Co., JP Morgan Securities LLC, Morgan Stanley & Co., Ramirez & Co. and Wells Fargo Securities as Co-Managers; and
5. Adopts a policy for current and future underwriter selection that states a) the bookrunning senior manager recommendation aligns with GLWA's competitive procurement process with the highest scoring firm being recommended (subject to negotiation of reasonable fees) and b) GLWA administration makes a recommendation for co-senior manager based upon other considerations which may include maintaining working relationships among a pool of firms to provide experience serving as GLWA's Managers and Co-Managers, complements the Bookrunning Senior Manager's team in expertise and resources, and other considerations that are pertinent to the proposed transaction.

..Title

RESOLUTION APPROVAL PROPOSED UNDERWRITING TEAM FOR 2020 REFUNDING AND POTENTIAL NEW MONEY TRANSACTIONS

..Body

Agenda of: December 11, 2019
Item No.: **2019-___**
Amount: N/A

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Sue F. McCormick
Chief Executive Officer
Great Lakes Water Authority

DATE: December 11, 2019

RE: RESOLUTION APPROVAL PROPOSED UNDERWRITING TEAM FOR 2020 REFUNDING AND POTENTIAL NEW MONEY TRANSACTIONS

MOTION

Upon recommendation of Nicolette Bateson, Chief Financial Officer & Treasurer, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA):

- 1) Approves Citigroup as Bookrunning Senior Managing Underwriter;**
- 2) Approves Siebert Williams Shank & Co., LLC as Co-Senior Managing Underwriter;**
- 3) Authorizes a Takedown Fee of \$2.50 per bond (plus expenses);**

4) Approves Goldman Sachs & Co., JP Morgan Securities LLC, Morgan Stanley & Co., Ramirez & Co. and Wells Fargo Securities as Co-Managers;

5) Adopts a policy for current and future underwriter selection that states that a) bookrunning senior manager recommendation align with GLWA's competitive procurement process with highest scoring firm being recommended (subject to negotiation of reasonable fees) and b) GLWA administration makes recommendation for co-senior manager based upon other considerations which may include maintaining working relationships among a pool of firms that have experience serving as GLWA's Managers and Co-Managers, complements the Senior Manager's team in expertise and resources, and other considerations that are pertinent to the proposed transaction;

6) and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

At its meeting on June 20, 2018, as part of the underwriter selection process related to its 2018 bond transaction, the Great Lakes Water Authority (GLWA) Board of Directors (Board) approved the following list of seven (7) firms that were deemed qualified to act as senior managing underwriters for subsequent GLWA bond issuances:

- Citigroup Global Markets, Inc.
- Goldman Sachs & Co.
- JP Morgan Securities LLC
- Morgan Stanley & Co.
- Ramirez & Co.
- Siebert Williams Shank & Co., LLC (Formerly Siebert Cisneros Shank & Co., LLC)
- Wells Fargo Securities

JUSTIFICATION

To begin preparations for GLWA's proposed transactions as outlined below, GLWA is required to select the Senior (Book Running) Underwriter as directed by the GLWA Board, for the proposed bond issues. For the proposed 2020 transactions, GLWA solicited Request for Proposals (RFP) from the 7 firms approved by the GLWA Board in 2018 (GLWA RFP 1903828).

The target date to complete the proposed transaction is March 2020. To meet this time schedule, the financing team needs to be finalized as soon as possible to allowing sufficient time and flexibility to approve resolutions, draft and circulate disclosure documents, meet with rating

agencies, conduct an effective investor outreach, and price and deliver the bonds – all before the *preferred* March 2020 deadline in advance of asking the Board to adopt a budget and charges.

Proposed Transactions: The outstanding GLWA bonds for the water and sewer systems that are the focus of the refunding plan total approximately \$365 million for the water system and approximately \$675 million for the sewer system. These include the Series 2011A, 2011B, and 2011C senior lien bonds of the Water System, as well as Series 2012A and Series 2014C senior lien bonds and Series 2005A and Series 2006B second lien bonds of the Sewer System. An update related to the potential refunding by PFM Financial Advisors was presented to the Audit Committee on October 18, 2019.

Additionally, GLWA has been working with DWSD to determine if it will need GLWA to issue any new money bonds on its behalf.

Time Schedule: GLWA put together an aggressive time schedule of less than 30 days to advertise and select the Senior Underwriter from the previously approved pool noted above. This schedule and proposed selection processes were reviewed and approved by the GLWA Audit Committee at its October 18, 2019 meeting as we were seeking concurrence to proceed with this possible, and until very recently, unexpected savings opportunity.

Selection Process: GLWA, through its Procurement Group, issued a Request for Updated Proposals from the pre-approved list of the seven underwriters above. All firms responded to the request. Evaluation panelists reviewed the written proposals and participated in an oral interview.

Evaluation Panel: The evaluation panel was comprised of the following members:

Nicolette Bateson, CPA, Chief Financial Officer/Treasurer, GLWA

Thomas Naughton, Chief Financial Officer, DWSD

Jon Wheatley, Public Finance Manager, GLWA

Robert Rice, Public Finance Manager, DWSD

Kim Garland, Reporting & Compliance Manager, GLWA

Proposal Scoring: The scoring of the proposals was based on the written responses to the proposals, which included recommended financing plan and structure, rating agency strategy and investor marketing strategy. The scoring for the written responses was completed prior to the oral interviews. The oral interviews with all 7 underwriting firms were held on November 22, 2019. The oral interviews and firm team members were also scored as part of the evaluations. After the written response and oral interview scoring the fees were also scored

based on the separate submissions by the firms. The total weighting of the evaluation criteria is shown below.

**Underwriter Solicitation
Scoring Criteria**

Category	Points
Refinancing Plan and Structure	25
Credit and Market Strategy	20
Fees	10
Oral Interview and Project Team	45
Total	100

It should be noted that all seven firms brought top level directors and bankers to the proposal interviews. The creativity, insight, expertise, and, in many instances, willingness to offer their balance sheet support to ensure the success of GLWA’s transaction was remarkable.

Evaluation Panel Recommendation – Bookrunning Senior Managing Underwriter: Based on the panel’s final scoring of the evaluation criteria referenced above, the highest scoring firm is Citigroup. For this reason, it is recommended that Citi be appointed as the Bookrunning Senior Managing Underwriter (see, “Roles of the Underwriter” below). The summary of the evaluation panel’s final scoring is provided in *Attachment A*.

Administrative Recommendation – Co-Senior Manager: Previously, the GLWA has appointed the Co-Senior Manager by selecting the highest scoring firm. This approach, while adhering to the merits of a defined procurement process, is not necessarily the norm. Further, the Board and Administration have struggled with balancing the merits of a proscribed procurement process with considering the merits of assembling and underwriting “team” where the merits of selection decisions go beyond scores. Areas of concern include: a) ensuring participation among several firms to expand the network of those who are well-informed to speak to the complex GLWA credit story and legal framework; b) strengthening working relationships with each top-notch team that continues to demonstrate an interest in working with GLWA; c) assembling a team that complements, rather than duplicates, strengths and weaknesses; and d) introducing new perspectives to each transaction.

For the reasons stated above, it is proposed that the Board consider adopting a policy for current and future underwriter selection that states that a) the bookrunning senior manager recommendation align with GLWA's competitive procurement process with highest scoring firm being recommended (subject to negotiation of reasonable fees) and b) GLWA administration makes a recommendation for co-manager based upon other considerations which may include maintaining working relationships among a pool of firms that have experience serving as GLWA's Managers and Co-Managers, complements the Senior Manager's team in expertise and resources, and other considerations that are pertinent to the proposed transaction.

With that background, it is recommended that Siebert Williams Shank & Co., LLC be appointed as the Co-Senior Manager for the upcoming calendar year transaction. Reasons include: experience on a transaction for a key peer utility; has relevant historical understanding and perspective of the DWSD system, rationale that resulted in the creation of the authority, and the outstanding debt; experience of key team members in discussing the rating agency approach that appeared to complement the drive that Citi and the GLWA team have in seeking further bond rating upgrades. It should also be noted that two other firms in the pre-selected pool have served as co-senior manager on prior GLWA transactions.

Administrative Recommendation – Co-Managers: In addition to the Bookrunning Senior Manager and Co-Senior Managers selected above, the evaluation panel also recommends the following list of co-managers for the upcoming transactions.

- Goldman Sachs & Co.
- JP Morgan Securities LLC
- Morgan Stanley & Co.
- Ramirez & Co.
- Wells Fargo Securities

Proposed Underwriter Takedown: The Takedown Fee in a bond transaction is the compensation paid to the underwriter for selling the bonds. It is expressed as a dollar amount per \$1,000 of the par amount of the transaction. A summary of the Takedown Fees proposed by all seven underwriters on the proposed GLWA transaction can be found in *Appendix A*. Citigroup, as the recommended underwriter, bid a takedown of \$2.50 per \$1,000 (not including expenses). The proposed Takedown Fee was not the lowest of the fees proposed however it is within the market range for similar transactions. As a benchmarking comparison *Attachment B* shows the Takedown Fees from GLWA's 2016 and 2018 transactions as well as Takedown Fees from similar transactions as provided by GLWA's Financial Advisor, PFM Financial Management.

As can be seen in the fee benchmarking analysis at *Attachment B*, the \$2.50 per bond Takedown Fee proposed by Citigroup is lower than GLWA's 2016 transaction and the same as GLWA's 2018

transaction. Citigroup's Takedown Fee is well within the range (\$1.64 per \$1,000 for the Southern California Public Power Authority on the low end and \$4.65 per \$1,000 for the City of Bridgeport on the high end) of the average Takedown Fees for comparable transactions.

BUDGET IMPACT

All fees related to the proposed transactions will be paid out of the proceeds of the bonds issued. The budget impact and timing related to financial savings from the refunding is not determinable at this time.

COMMITTEE REVIEW

This matter was reviewed by the GLWA Audit Committee at its meetings on December 6, 2019. The Audit Committee recommended that the GLWA Board:

1. Approves Citigroup as Bookrunning Senior Managing Underwriter;
2. Approves Siebert Williams Shank & Co., LLC as Co-Senior Managing Underwriter;
3. Authorizes a Takedown Fee of \$2.50 per bond (plus expenses);
4. Approves Goldman Sachs & Co., JP Morgan Securities LLC, Morgan Stanley & Co., Ramirez & Co. and Wells Fargo Securities as Co-Managers; and
5. Adopts a policy for current and future underwriter selection that states that a) bookrunning senior manager recommendation align with GLWA's competitive procurement process with highest scoring firm being recommended (subject to negotiation of reasonable fees) and b) GLWA administration makes recommendation for co-senior manager based upon other considerations which may include maintaining working relationships among a pool of firms to provide experience serving as GLWA's Managers and Co-Managers, complements the Bookrunning Senior Manager's team in expertise and resources, and other considerations that are pertinent to the proposed transaction.

Roles of the Underwriters¹:

Senior (Book Running) Underwriter-

- Manages the affairs of any underwriting syndicate formed in connection with a new issue;
- In a negotiated offering:
 - works with state or local government and municipal advisor to design the plan of finance, develops the bond structure
 - assists in determining timing to sell bonds based on market conditions – assists in the development of the bond documents
 - assists in preparing any rating agency strategy and presentation

- “runs numbers” providing quantitative analysis of financing structure – manages the pricing process
- executes pre-sale marketing – solicits price views from syndicate members, which provides preliminary pricing indications among underwriters and customers about the offering range of a new issue
- prepares distribution analysis
- works with the state or local government to determine how orders are filled from the bond pricing order period – executes the bond purchase agreement with the municipal government on behalf of the syndicate
- Provides proceeds at closing and obtains funds from investors

Co-Manager (also known as Underwriting Syndicate)-

- Under the direction of the senior manager, purchases an initial bond issue from state or local government and offers it for resale to investors
- Provides sufficient capital to purchase an issue
- Shares the risks of underwriting the issue with the senior manager
- Distributes the bonds to investors

ⁱFrom the MSRB website- Roles and Responsibilities: The Financing Team in an Initial Municipal Bond Offering
<http://msrb.org/msrb1/pdfs/Financing-Team.pdf>



Financial Services Group
Procurement
 735 Randolph Street, Suite 1508
 Detroit, Michigan 48226
 Phone: 313-964-9157

Procurement Report

Date: December 11, 2019
To: Sue McCormick, Chief Executive Officer
From: Dan Edwards, Procurement Manager
Re: Procurement Report

General Information			
Contract Number:	1903828	Project Owner:	Jon Wheatley
Contract Title:	Updated Proposals from Pre-Approved Underwriters for Potential Bond Transactions in 2020.		
Vendor:	Citigroup Global Markets		
Budget:	N/A		
Contract Length:	12 Months		

Procurement Method

Competitively bid – Request for Proposal (RFP) Qualification Based Selection (QBS) – Evaluation Committee			
Advertised:	10-25-19	Addendums released:	
Distributed to:	7	Downloaded by:	7
Response due date:	11-15-19	Responses received:	7

Benchmarking was completed by comparing the proposals for this project. This analysis confirmed that rates are in competitive range. The rate comparisons and allowances (if any) are illustrated in the attached document labeled cost tabulation.

Evaluation and Scores

Evaluation Committee: (Designation – Organization)
A – Manager, GLWA
B – Manager, GLWA
C – Chief Financial Officer/Treasurer, GLWA
D – Manager, DWSD
E – Chief Financial Officer, DWSD



The Evaluation Committee independently reviewed and scored the written and oral proposals in accordance with GLWA’s policy. The composite rankings are below.

Maximum Score Possible:			
Vendor (Highest to lowest score)	Score	Proposed Commission Takedown Fee prior to Negotiations*	Total Fees including Estimated Expenses (\$/bond)
Citigroup Global Markets Inc.	91.69	\$2.50	\$2.61
Wells Fargo Securities	86.83	\$2.00	\$2.09
Morgan Stanley	86.49	\$2.50	\$2.63
Siebert Williams Shank & Co., LLC	80.89	\$2.50	\$2.60
Goldman Sachs & Co., LLC	79.65	\$2.40	\$2.50
Ramirez & Co., Inc.	76.78	\$2.50	\$2.63
J.P. Morgan	74.97	\$1.25 - \$2.00	\$1.97

Negotiated Cost Schedule

Citigroup Global Markets Inc.		
Description	Original Proposal	* Negotiated
Task 1 - Commission Takedown	\$ 2.50	N/A
Task 2 - Additional Fees	Not Quoted	N/A
Task 3 - Breakdown of Expenses	\$129,198.08	N/A

***Negotiation Strategy**

Benchmark data (market information, historical fees and comparison of other proposing firms) validated that proposed fees are competitive therefore negotiations were not conducted.

Other Data Requested by GLWA Board Members

Minority Business Enterprise (MBE): No
 Detroit Based Business (DBB): No
 Small Business Enterprise (SBE): No

Sub-Contractor(s) List: None

Vendor Response Survey: N/A



Financial Services Group

Procurement

735 Randolph Street, Suite 1508

Detroit, Michigan 48226

Phone: 313-964-9157

Litigation

This vendor is not currently nor has been previously involved in any litigation with the GLWA.

Financials

A financial risk assessment was performed with the assistance of GLWA's public finance adviser, PFM Financial Advisors, LLC. It was determined that the selected vendor has the capacity to perform the tasks under this contract.

Great Lakes Water Authority
Underwriter Takedown History Comparable Transactions

Great Lakes Water Authority Water System Senior Lien Series 2016A/C			Great Lakes Water Authority Water System Second Lien Series 2016B/D			Great Lakes Water Authority Sewer System Senior Lien Series 2016B			Great Lakes Water Authority Sewer System Second Lien Series 2016C			Great Lakes Water Authority Water System Second Lien Series 2018A			Great Lakes Water Authority Sewer System Senior Lien Series 2018A/B/C		
Sale Date	10/13/2016		Sale Date	10/13/2016		Sale Date	10/13/2016		Sale Date	10/13/2016		Sale Date	9/17/2018		Sale Date	9/17/2018	
Senior Managers	Citigroup		Senior Managers	Citigroup		Senior Managers	Citigroup		Senior Managers	Citigroup		Senior Managers	Citigroup		Senior Managers	Citigroup	
	Goldman, Sachs & Co.			Goldman, Sachs & Co.			Goldman, Sachs & Co.			Goldman, Sachs & Co.			Wells Fargo Securities			Wells Fargo Securities	
Co-Managers	Barclays		Co-Managers	Barclays		Co-Managers	Barclays		Co-Managers	Barclays		Co-Managers	Goldman, Sachs & Co.		Co-Managers	Goldman, Sachs & Co.	
	J.P. Morgan			J.P. Morgan			J.P. Morgan			J.P. Morgan			J.P. Morgan			J.P. Morgan	
	Morgan Stanley			Morgan Stanley			Morgan Stanley			Morgan Stanley			Morgan Stanley			Morgan Stanley	
	Siebert Cisneros Shank & Co.			Siebert Cisneros Shank & Co.			Siebert Cisneros Shank & Co.			Siebert Cisneros Shank & Co.			Siebert Cisneros Shank & Co.			Siebert Cisneros Shank & Co.	
	Ramirez & Co.			Ramirez & Co.			Ramirez & Co.			Ramirez & Co.			Ramirez & Co.			Ramirez & Co.	
	Wells Fargo Securities			Wells Fargo Securities			Wells Fargo Securities			Wells Fargo Securities							
Ratings	M / S&P / F	A3 / A- / A	Ratings	M / S&P / F	Baa1 / BBB+ / A-	Ratings	M / S&P / F	A3 / A- / A	Ratings	M / S&P / F	Baa1 / BBB+ / A-	Ratings	M / S&P / F	A3 / A+ / A-	Ratings	M / S&P / F	A2 / A+ / A
Total Size	531,930,000		Total Size	385,875,000		Total Size	126,105,000		Total Size	295,190,000		Total Size	155,595,000		Total Size	257,465,000	
Total Takedown	1,462,808		Total Takedown	1,030,871		Total Takedown	346,789		Total Takedown	808,210		Total Takedown	388,988		Total Takedown	643,663	
Average Takedown	2.75		Average Takedown	2.67		Average Takedown	2.75		Average Takedown	2.74		Average Takedown	2.50		Average Takedown	2.50	
<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>
												1	8,170,000	2.50			
												2	12,180,000	2.50	2	4,245,000	2.50
												3	12,785,000	2.50	3	5,370,000	2.50
												4	13,420,000	2.50	4	7,555,000	2.50
												5	12,965,000	2.50	5	16,470,000	2.50
												6	13,925,000	2.50	6	20,975,000	2.50
6	4,865,000	2.75										7	14,030,000	2.50	7	16,805,000	2.50
7	23,380,000	2.75										8	15,755,000	2.50	8	11,075,000	2.50
8	5,325,000	2.75	8	1,480,000	2.75	8	4,610,000	2.75				9	15,690,000	2.50	9	11,295,000	2.50
9	25,290,000	2.75	9	1,505,000	2.75	9	9,455,000	2.75				10	18,165,000	2.50	10	44,690,000	2.50
10	17,385,000	2.75	10	1,680,000	2.75	10	380,000	2.75				11	18,510,000	2.50	11	53,975,000	2.50
11	20,110,000	2.75	11	2,680,000	2.75	11	405,000	2.75	11	380,000	2.75	12			12	2,130,000	2.50
12	39,855,000	2.75	12	2,705,000	2.75							13			13	2,235,000	2.50
13	18,025,000	2.75	13	3,365,000	2.75							14			14	2,345,000	2.50
14	19,640,000	2.75	14	25,900,000	2.75	14	27,710,000	2.75	14	32,275,000	2.75	15			15	2,465,000	2.50
15	48,860,000	2.75	15	27,200,000	2.75	15	16,935,000	2.75	15	33,895,000	2.75	16			16	2,585,000	2.50
16	62,395,000	2.75	16	28,560,000	2.75	16	3,500,000	2.75	16	1,505,000	2.75	17			17	2,720,000	2.50
17	66,915,000	2.75	17	40,380,000	2.00	17	20,670,000	2.75	17	4,750,000	2.00	18			18	2,850,000	2.50
18	17,775,000	2.75				18	42,440,000	2.75	18	19,245,000	2.75	19			19	2,995,000	2.50
19	74,110,000	2.75	19	1,205,000	2.75				19	50,580,000	2.75	20			20	3,145,000	2.50
			20	85,385,000	2.75				20	152,560,000	2.75	21			21	3,305,000	2.50
												22			22	3,465,000	2.50
												23			23	3,645,000	2.50
												24			24	3,820,000	2.50
												25			25	4,015,000	2.50
												26			26	4,215,000	2.50
												27			27	4,425,000	2.50
												28			28	4,645,000	2.50
												29			29	4,880,000	2.50
30	88,000,000	2.75	30	163,830,000	2.75							30			30	5,125,000	2.50

Great Lakes Water Authority
Underwriter Takedown History Comparable Transactions

DC Water Series 2019A/D			Southern California Public Power Authority Series 2019			Turlock Irrigation District Series 2020			Municipal Electric Authority of Georgia Series 2019A			City of Portland Oregon - Water Second Lien Series 2019A			City of Bridgeport Series 2019C		
Sale Date	10/8/2019		Sale Date	10/3/2019		Sale Date	9/24/2019		Sale Date	9/18/2019		Sale Date	10/3/2019		Sale Date	10/10/2019	
Senior Managers	Siebert Cisneros Shank J.P. Morgan		Senior Managers	Wells Fargo Securities		Senior Managers	Goldman, Sachs & Co.		Senior Managers	Goldman, Sachs & Co.		Senior Managers	Citigroup		Senior Managers	Raymond James	
Co-Managers	FTN Financial Jefferies LLC Morgan Stanley Raymond James Stern Brothers & Co.		Co-Managers	TD Securities Siebert Cisneros Shank & Co.		Co-Managers	Citigroup		Co-Managers	Wells Fargo Securities Barclays BAML PNC Capital Markets TD Securities		Co-Managers	Wells Fargo Securities J.P. Morgan Morgan Stanley D.A. Davidson & Co.		Co-Managers	Mesirow Financial Oppenheimer FTN Financial	
Ratings	M / S&P / F	Aa2 / AA+ / AA	Ratings	M / S&P / F	NR / AA- / AA	Ratings	M / S&P / F	NR / AA- / AA-	Ratings	M / S&P / F	A2 / A / BBB+	Ratings	M / S&P / F	Aa1 / NR / NR	Ratings	M / S&P / F	Baa1 / AA / A
Total Size	447,170,000		Total Size	111,920,000		Total Size	137,150,000		Total Size	445,635,000		Total Size	112,005,000		Total Size	125,405,000	
Total Takedown	1,750,879		Total Takedown	184,008		Total Takedown	411,450		Total Takedown	1,710,364		Total Takedown	224,010		Total Takedown	582,888	
Average Takedown	3.92		Average Takedown	1.64		Average Takedown	3.00		Average Takedown	3.84		Average Takedown	2.00		Average Takedown	4.65	
<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>	<u>Years to Maturity</u>	<u>Principal</u>	<u>Takedown (\$/\$1000)</u>
1	1,650,000	1.25	1	5,975,000	1.50	2	1,220,000	3.00				1	2,520,000	2.00			
2	1,625,000	2.50	2	9,625,000	1.50	3	4,115,000	3.00				2	2,475,000	2.00			
3	1,650,000	2.50	3	10,105,000	1.50	4	4,315,000	3.00				3	2,600,000	2.00			
4	1,680,000	2.50	4	10,590,000	1.50	5	4,530,000	3.00				4	2,730,000	2.00			
5	1,710,000	2.50	5	11,115,000	1.50	6	4,760,000	3.00				5	2,865,000	2.00			
6	1,745,000	2.75	6	11,675,000	1.75	7	4,995,000	3.00	6	4,035,000	3.75	6	3,010,000	2.00			
7	1,780,000	2.75	7	12,255,000	1.75	8	5,245,000	3.00	7	4,235,000	3.75	7	3,160,000	2.00			
8	1,815,000	2.75	8	12,870,000	1.75	9	5,510,000	3.00	8	4,450,000	3.75	8	3,320,000	2.00			
9	1,855,000	2.75	9	13,520,000	1.75	10	5,785,000	3.00	9	4,665,000	3.75	9	3,485,000	2.00			
10	1,895,000	2.75	10	14,190,000	1.75	11	6,075,000	3.00	10	4,905,000	3.75	10	3,660,000	2.00			
11	1,940,000	3.50				12	6,375,000	3.00	11	5,145,000	3.75	11	3,840,000	2.00			
12	1,985,000	3.50				13	6,695,000	3.00	12	5,405,000	3.75	12	4,035,000	2.00			
13	2,035,000	3.50				14	7,030,000	3.00	13	5,675,000	3.75	13	4,235,000	2.00			
14	2,090,000	3.50				15	7,380,000	3.00	14	5,955,000	3.75	14	4,445,000	2.00			
15	2,145,000	3.50				16	7,750,000	3.00	15	6,255,000	3.75	15	4,670,000	2.00			
						17	8,140,000	3.00	16	6,570,000	3.75	16	4,905,000	2.00			
						18	8,550,000	3.00	17	6,895,000	3.75	17	5,150,000	2.00			
	2,290,000	3.75				19	8,975,000	3.00	18	7,245,000	3.75	18	5,405,000	2.00			
	6,455,000	3.75				20	9,425,000	3.00	19	7,605,000	3.75	19	5,675,000	2.00			
20	18,480,000	3.75				21			20	7,985,000	3.75	20	5,900,000	2.00			
						22	20,280,000	3.00	21			21		2.00			
						23			22			22					
						24			23			23					
						25			24			24					
25	39,310,000	4.00							25	45,400,000	3.75	25	33,920,000	2.00	25	49,210,000	5.00
									26			26					
									27			27					
28	303,855,000	4.00							28			28					
									29			29					
30	49,180,000	4.00							30-40	156,280,000	3.75						
									40-50	156,930,000	4.00						



Financial Services Audit Committee Communication

Date: December 6, 2019

To: Great Lakes Water Authority Audit Committee

From: Alicia Haskin, Management Professional – Intergovernmental Relations

Re: October Reconciliation Committee

Background: The 2018 Memorandum of Understanding between the Detroit Water and Sewerage Department (DWSD) and Great Lakes Water Authority (GLWA) states that the Reconciliation Committee defined by the Water and Sewer Services Agreement shall meet quarterly, at a minimum. The last meeting was on October 18, 2019.

The purpose of the quarterly meetings is to ensure there is communication between the two entities related to financial, operational, legal, capital planning, and other matters.

Analysis: The attached documents from the October 18th Reconciliation Committee Meeting include the following.

- Reconciliation Committee Meeting Summary
 - Summarizes the items discussed and the action items from the meeting.
- GLWA-DWSD Quarterly Reconciliation thru June 30, 2019
 - Illustrates the Cash Held for the Benefit of DWSD and other related accounts that are reconciled thru June 30, 2019.
- DWSD-GLWA Standard Operating Procedures Tracking
 - Tracks the Standard Operating Procedures that are completed, in Review and in Development to document the operational interactions of DWSD and GLWA.
- Information Technology Shared Services Status
 - Lists the IT Shared Services with termination dates as currently anticipated by both entities.

Proposed Action: Receive and file this report.



**DWSD & GLWA
Reconciliation Committee
October 18, 2019 at 10:30 a.m.
Water Board Building
735 Randolph, Ste. 1606, Detroit, MI 48226**

Summary

- 1) Chairman Brian Baker represented the GLWA Board at the meeting. At the time of the meeting there was no appointed representative from the GLWA Board due to recent vacancies on the Board.
- 2) **Status Report: Financial Highlights**
 - a. Cash Held for the Benefit of DWSD and other related accounts were reconciled as of June 30, 2019. Both DWSD and GLWA financial teams meet weekly and are on target to be reconciled for the first quarter of FY 2020 by the end of October.
 - b. Shortfall Notes payments are up to date and on schedule as of October 1, 2019.
 - c. FY 2019 Audit is on schedule. GLWA target date for presentation to the Board for December 20, 2019.
 - d. Standard Operating Procedures (SOPs) development status was handed out. Nickie Bateson and Tom Naughton sign off on the SOPs as they are completed for Financial matters.
 - e. Upcoming: Potential Taxable Refunding (Next 3 – 6 months)
 - i. Borrowing rates are at an all time historic low. They are almost 100 basis points less than a year ago.
- 3) **Status Report: Current Arbitrations**
 - a. Chlor/Dechlor Facility and Watermain Transmission Mains
 - i. This arbitration was stayed as parties worked together.
 - ii. DWSD reported that there is a preliminary map from the technical group that shows the preliminary list of lines that should stay with GLWA.
 - iii. Next phase is to look at lines that should be decommissioned.
 - iv. DWSD requested that the OHM Technical Team work together with the Black & Veatch team to come up with a master plan for the lines in question.
 - v. DWSD and GLWA teams will be meeting to discuss the preliminary list.
 - b. Water Utility Billing
 - i. GLWA has submitted requests to DWSD for routine administrative review of account billing matters. No final decision from DWSD at the time of the meeting. DWSD was responding with questions regarding the initial submissions.
 - ii. Debra Pospiech and Randal Brown to follow up to determine if there were any final decisions.
- 4) **Status Report: Information Technology Shared Services Update**
 - a. Terminated Services
 - i. ITS-001 Retail Automatic Meter Reading Technology Suite as of June 30, 2019

- ii. ITS-002 Customer Service Technology Suite as of October 1, 2018
 - iii. ITS-003 See Click Fix as of January 1, 2019
 - iv. ITS-006 GIS as of July 1, 2019
 - v. ITS-009 IT Infrastructure (partial) as of March 1, 2019
- b. There are three IT Shared Services that are affected by discussions with Oracle.
- i. ITS-004 (WAM)
 - ii. ITS-005 (Mobile Workforce Management)
 - iii. ITS-008 (Tibco)
- c. Although ITS-009 has had several areas separated that DWSD has assumed responsibility for these areas, there are additional areas that will be separated by June 30, 2020.
- i. Services that will continue with GLWA
 - 1. Print Shop
 - 2. Security networking and badging access
 - 3. Security cameras
- d. FY 2018 and FY 2019 Timeline
- i. The GLWA Shared Services goal was to get all FY 2018 Shared Services charges finalized and to DWSD by October 31, 2019.
 - ii. After FY 2018 is completed, the team will focus on completing the FY 2019 Shared Services true-up.

5) Scheduled Meetings: January 17, 2020
10:30 a.m. – 12 p.m.

Reconciliation Committee

Linda D. Forte, Board of Water Commissioners

Brian Baker, Great Lakes Water Authority Board of Directors (temporary designee)

Reconciliation Committee Participants

Gary Brown, Director, Detroit Water & Sewerage Department

Sue McCormick, Chief Executive Officer, Great Lakes Water Authority

Tom Naughton, Chief Financial Officer, Detroit Water & Sewerage Department

Nickie Bateson, Chief Financial Officer & Treasurer, Great Lakes Water Authority

Debra Pospiech, Chief Administrative Officer and General Counsel

Randal Brown, General Counsel, Great Lakes Water Authority

Note: Where a one-to-one comparison between accounts can be made, a difference is calculated. Otherwise, the analysis compares groups of related accounts to identify variances.

GLWA General Ledger Accounts

DWSD General Ledger Accounts

as of 10.14.19 TB

Description	Fund	Object	Project	Balance 6.30.19	Description per TB	Description	Fund	Approp	C. Center	Object	Balance 6.30.19	Difference	Remarks
Cash Held fbo DWSD													
Cash held FBO DWSD - Water	5910	000000	000	225572	(2,173,619)	Cash on Deposit with Trustee-GLWA	5720	00000	000000	103101	2,679,355		
Current Affordability Collections (to be transferred)	5910	000000	000	225572	(11,036)	Cash on Deposit with Trustee-GLWA	5820	00000	000000	103101	627,926		
Cash held FBO DWSD - Sewer	5960	000000	000	225582	(622,618)	A/R-Cash Held for Budget Stabilization	5720	00000	000000	124592	2,000,000		
Cash held FBO DWSD Budget stabilization - Water	5910	000000	000	225592	(2,000,000)	A/R-Cash Held for Budget Stabilization	5820	00000	000000	124592	5,500,000		
Cash held FBO DWSD Budget stabilization - Sewer	5960	000000	000	225592	(5,500,000)	Current Affordability Collections	5720	00000	000000	124591	11,036		(Shows in the shared services account for DWSD as a year-end only entry, will reverse in Sep 2019)
Cash held FBO DWSD Debt Service - Water	5910	000000	000	225562	(505,736)								
Cash held FBO DWSD Debt Service - Sewer	5960	000000	000	225562	(5,308)								
				(10,818,316)							10,818,316	0	
Sewer Loan Receivable													
Loan Receivable - current	5960	000000	000	142605	17,542,669								
Loan Receivable - long term	5960	000000	000	143605	26,503,010	AP-GLWA-Sewer	5821	00000	000000	225996	(44,045,679)		
					44,045,679						(44,045,679)	(0)	
Obligation Receivable - DWSD Local Debt													
Contractual Obligation Receivable - Current	5910	000000	000	142572	14,186,800	Bonds Payable-DWSD	5720	00000	000000	262000	(412,140,600)		
Contractual Obligation Receivable - Current	5960	000000	000	142572	11,741,100	Bonds Payable-DWSD	5820	00000	000000	262000	(335,574,500)		
Contractual Obligation Receivable - Long Term	5910	000000	000	143572	462,496,666	Bonds Payable-DWSD	5731	00000	000000	262000	(50,740,000)		
Contractual Obligation Receivable - Long Term	5960	000000	000	143572	405,428,400	Bonds Payable-DWSD	5831	00000	000000	262000	(81,595,000)		
						S.R.F. A/P	5731	00000	000000	265525	(13,802,866)		
				893,852,966							(893,852,966)	-	
Obligation Receivable - DWSD Local Debt Premium													
Obligation Receivable Premium - Current	5910	000000	000	142573	002016	141,568							
Obligation Receivable Premium	5910	000000	000	143573	5,985,053	Premium-Revenue Bonds Sold	5731	00000	000000	144200	(6,126,621)		
Obligation Receivable Premium - Current	5960	000000	000	142573	348,679								
Obligation Receivable Premium	5960	000000	000	143573	002018	9,338,553	Premium-Revenue Bonds Sold	5831	00000	000000	144200	(9,687,232)	
					15,813,853						(15,813,853)	0.63	
Obligation Receivable - Interest on DWSD Local Debt													
Interest Income - Obligation Receivable	5910	887511	000	461120	(23,057,167)	Interest on Bonded Debt	5720	20172	487111	703100	18,411,483		
Interest Income - Obligation Receivable	5960	897511	000	461120	(18,001,619)	Interest on Bonded Debt	5820	20183	487111	703100	14,975,742		
						Interest on Bonded Debt	5720	20172	487111	703100	886,250		
						Interest on Bonded Debt	5720	20172	487111	703100	1,650,750		
						Interest on Bonded Debt	5731	20301	487800	703100	1,834,417		
						Interest Exp-State Rev Loans	5731	20301	487800	703400	304,944		
						Interest on Bonded Debt	5795	90049	489950	703100	(1,834,417)		
						Interest on Bonded Debt	5895	90050	499950	703100	(41,958)		
						Interest On Bonded Debt	5831	20310	497800	703100	2,983,899		
						Interest on Bonded Debt	5831	20310	497800	703100	41,958		
				(41,058,786)							39,213,069	(1,845,718)	Difference OK - due to FY 19 capitalized interest by DWSD
Contractual Obligation Payable - B&C Notes (GLWA portion of debt held by DWSD)													
Contractual Obligation - Current	5910	000000	000	236170	(176,203)	A/R Current GLWA B & C Note	5720	00000	000000	124597	176,183		
Contractual Obligation - Current	5960	000000	000	236170	(396,328)	A/R Current GLWA B & C Note	5820	00000	000000	124597	396,291		
Contractual Obligation - Long Term (B)	5910	000000	000	262500	(15,556,024)	A/R LT GLWA B & C Notes	5720	00000	000000	124598	16,921,526		
Contractual Obligation - Long Term (B)	5960	000000	000	262500	(34,990,439)	A/R LT GLWA B & C Notes	5820	00000	000000	124598	38,061,884		
Contractual Obligation - Long Term (C)	5910	000000	000	262501	(1,365,483)								
Contractual Obligation - Long Term (C)	5960	000000	000	262501	(3,071,410)								
					(55,555,887)						55,555,884	(2.14)	Due to B&C Note schedule rounding variances between GLWA and DWSD
Long-Term Lease of DWSD Assets to GLWA													
Lease (Consideration) Payable - Current	5910	000000	000	236597	(5,019,121)								
Lease (Consideration) Payable - Current	5960	000000	000	269597	(6,134,481)	Consideration Wat AR GLWA	5721	00000	000000	143573	446,984,447		
Lease(Consideration) Payable - Long Term	5910	000000	000	262597	(416,469,750)	Consideration Wat AR GLWA	5821	00000	000000	143573	546,314,323		Variance is within acceptable range when compared to historic yearend close differences and is associated with the discount rate used by each entity to value the initial assets.
Lease (Consideration) Payable - Long Term	5960	000000	000	262597	(509,018,588)								
					(936,641,940)						993,298,770	56,656,830	
Prepayment of 1st Six Months of Long-Term Lease Obligation													
Prepaid Lease	5910	000000	000	143980	11,250,000	Deferred Rev-Unearned Revenue	5721	00000	000000	271200	(11,250,000)		
Prepaid Lease	5960	000000	000	143980	13,750,000	Deferred Rev-Unearned Revenue	5821	00000	000000	271200	(13,750,000)		
					25,000,000						(25,000,000)	-	
Long-Term Lease Obligation Interest													
Lease Interest Expense	5910	887511	000	703110	17,668,794	Int Rev from GLWA Lease	5721	20244	487711	461102	(16,676,124)		
Lease Interest Expense	5960	897511	000	703110	21,595,197	Int Rev from GLWA Lease	5821	20243	497711	461102	(20,381,928)		Variance is within acceptable range when compared to historic yearend close differences and is associated with the discount rate used by each entity to value the initial assets.
					39,263,991						(37,058,052)	2,205,939	
Local System Water & Sewer Charges													

Note: Where a one-to-one comparison between accounts can be made, a difference is calculated. Otherwise, the analysis compares groups of related accounts to identify variances.

GLWA General Ledger Accounts

DWSD General Ledger Accounts

as of 10.14.19 TB

Description	Fund	Object	Project	Balance 6.30.19	Description per TB	Description	Fund	Approp	C. Center	Object	Balance 6.30.19	Difference	Remarks
Income - Local System Charges	5910	887211	000	447300		GLWA Charge	5720	20267	488001	628512	20,181,400	-	
Income - Local System Charges	5960	897211	000	447300		GLWA Charge	5820	20268	498001	628512	181,159,300	-	
				<u>(20,181,400)</u>							<u>20,181,400</u>	-	
				<u>(181,159,300)</u>							<u>181,159,300</u>	-	
				<u>(201,340,700)</u>							<u>201,340,700</u>	-	
Shared Services - Due from DWSD to GLWA													
Accounts Receivable Shared Services	5910	000000	000	124410		AP-GLWA - Sewer	5720	00000	000000	225996	(11,008,459)		object 241200 was re-classed to 225996
Accounts Receivable Shared Services	5960	000000	000	124410		AP-GLWA - Sewer	5820	00000	000000	225996	(18,624,952)		object 241200 was re-classed to 225996
AR Shared Services Accrual	5910	000000	000	124411									
Unbilled Shared Services	5910	000000	000	124415									
Unbilled Shared Services	5960	000000	000	124415									
				<u>27,943,152</u>							<u>(11,008,459)</u>		
				<u>179,585</u>							<u>(18,624,952)</u>		
				<u>487,524</u>									
				<u>1,551,094</u>									
				<u>-</u>									
				<u>30,161,355</u>							<u>(29,633,411)</u>	<u>527,944</u>	
Shared Services - Due from GLWA to DWSD													
Accrued Payable Shared Services	5910	000000	000	241110		AR-GLWA-Water	5720	00000	000000	124591	8,954,367		(7,009,567)
Accrued Payable Shared Services	5960	000000	000	241110		AR-GLWA-Sewer	5820	00000	000000	124596	18,344,503		18,344,503
				<u>(15,963,934)</u>							<u>8,954,367</u>		<u>(7,009,567)</u>
				<u>-</u>							<u>18,344,503</u>		<u>18,344,503</u>
				<u>(15,963,934)</u>							<u>27,298,869</u>		<u>11,334,936</u>

Key			
GLWA Fund:	Fund	DWSD Fund:	Fund
Water	5910	Water O&M	5720
Sewer	5960	Water - I & E	5721
		Water - Bond Fund 2016	5731
		Sewer O&M	5820
		Sewer I & E	5821
		Sewer - Bond Fund 2018	5831

68,879,930 Total Variance
 (57,017,050) Reconciled Variance
11,862,880 Difference - Shared Services

DWSD-GLWA Standard Operating Procedure Development
Status as of 10-15-2019

Standard Operating Procedure	Status
Retail Revenue Collections Bank Account	4 - Completed
Lease Payment Allocation	3 - CFO Review
Weekly Lockbox Cash Transfers to Receiving	3 - CFO Review
General Ledger Balance Confirmations	2 - Staff Review
Budget Stabilization Interest	2 - Staff Review
Receiving Fund Interest	1 - Development
Debt Service Interest	1 - Development
Operating & NonOperating Pension Interest	1 - Development
Retail Lockbox Reconciliation	1 - Development
DWSD Utility & Deposit Refunds	1 - Development
Final Yearend MBO Transfers and Adjustments	1 - Development
Use of Budget Stabilization Funds	1 - Development
Special Cash Transfer Requests	0 - Not Started
Monthly MBO Transfers & Reporting	0 - Not Started
Tax Lien Receipt Accounting	0 - Not Started

From the June 27, 2018 Memorandum of Understanding:

11. Standard Operating Procedures (“SOPs”). DWSD and GLWA shall jointly develop 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

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the GLWA Chief Executive Officer and the DWSD Director, the issue may be brought forward to the Reconciliation Committee.

Memorandum

To: Sue McCormick, Chief Executive Officer

From: Jeffrey E. Small, Chief Information Officer

CC: Nicolette Bateson, Chief Financial Officer & Treasurer
Randal Brown, General Counsel

Date: October 16, 2019

RE: Information Technology Shared Services Status

There are a total of nine Information Technology shared services that were agreed to as part of the bifurcation process with GLWA being the provider and the City of Detroit (DWSD) being the subscriber. All shared services are scheduled to end by 6/30/2021. However, the provider (GLWA) can opt out with a two-year notification and the subscriber (DWSD) can opt out with a six-month notification on any or all of these shared services.

As of the date of this memo, DWSD has formally requested termination of four shared services and a partial termination of one. Below is the current status of these shared services.

Shared Service Number	Shared Service Name	Description	Notice Given	Current Expected/Anticipated Termination Date	Comments
ITS-002	Customer Service Suite	<ul style="list-style-type: none"> • Retail billing system • Retail cashiering system • Payment processing systems 	4/1/2018	9/30/2018	Completed.
ITS-003	See-Click-Fix	Software package that allows citizens to report items in the City that need to be repaired	4/1/2018 9/15/2018	12/31/2018	Completed

Shared Service Number	Shared Service Name	Description	Notice Given	Current Expected/Anticipated Termination Date	Comments
ITS-001	Retail Automatic Meter Reading Technology Suite	<ul style="list-style-type: none"> • AMR Historian • Itron Meter Reading • Support of data collection units 	4/1/2018 9/15/2018 12/15/2018	6/30/2019	Completed
ITS-006	GIS	Analyses spatial data and organization information related to assets into visualization using maps	12/27/2018	6/30/2019	Completed
ITS-004	WAM	Oracle Work and Asset Management System	No	6/30/2020	Informal date for planning purposes is 6/30/20 - no formal notice received at this time.
ITS-005	Service Link	Mobile Workforce Management Suite	No	6/30/2020	This service is tied to ITS-004 - WAM - no formal notice received at this time.
ITS-008	TIBCO	Collection of software that provides system monitoring, automated data interfaces between systems, and automated business workflows	No	6/30/2020	This service is tied to ITS-004 - WAM - no formal notice received at this time.

Shared Service Number	Shared Service Name	Description	Notice Given	Current Expected/Anticipated Termination Date	Comments
ITS-007	DADS	Legacy DWSD applications	No	6/30/2020	This service is tied to the business network separation piece of ITS-009
ITS-009	IT Infrastructure	<ul style="list-style-type: none"> • Data Center Services • Servers • Network (LAN, WAN, Internet) • Telecommunications • Service Desk • Mobility • Desktop/laptop deployment and support • Printer deployment & Support • Fax Support • Print Shop 	8/31/18 (partial)	3/1/2019 (partial)	<p>Completed 3/1/2019 Service Desk transition, Mobility, Desktop/laptop deployment and support, Printer deployment and support</p> <p>Planned Completion 6/30/20 Business Network (LAN, WAN, Internet) TBD Data Center Services, Fax Support Servers, File Shares</p> <p>Continuing Services Print Shop, Security Network including Badge Access and Cameras</p>



Financial Services Audit Committee Communication

Date: December 6, 2019
To: Great Lakes Water Authority Audit Committee
From: Nicolette Bateson, CPA
Chief Financial Officer/Treasurer
Re: Consultant Selection Timeline

Background: At its meeting on November 13, 2019, the Board of Directors requested that staff provide a proposed timeline for the issuance and conduct of a competitive solicitation for feasibility consultant services for market transactions subsequent to the bond refunding and potential new money bond transaction expected to occur in the first half of calendar year 2020.

Analysis: The firm currently engaged to provide feasibility services also provides a range of other financial and charges consulting services. That contract expires June 30, 2021. It is expected that a proposal for the feasibility and charges consulting may continue to be combined. This service is also very engaged with Member Partners and DWSD – and has been for many years. For this reason, additional time is being provided in the schedule below to engage member partners in the evaluation process. Further, there are significant initiatives underway which will require knowledge transfer. Not knowing whether the existing service provider will submit a proposal, it would be beneficial to have some overlap time before the contract expires. Working backwards from the current contract expiration in June 2021, the following is proposed (see table on next page).

Month	Current Firm Work Plan	Request for Proposal	Selected Firm*
January 2020	Current Scope (includes special projects for sewer shares methodology and future water methodology)	GLWA Public Finance Team drafts strawman scope	
February 2020		Engage Member Partner Outreach for input, review, scheduling	
March 2020			
April 2020		Issue Request for Proposal	
May 2020		Proposals Due	
June 2020		Proposal Evaluation and Interviews	
July 2020			
August 2020		Contract Negotiations	
September 2020		Board Approval	
October 2020	Modified Scope for transition and special projects related to coordination with current and/or new in-house financial team members as it relates to strategic planning and forecasting modeling.		Start Work for FY 2021 Cost of Service Study.
November 2020			Present Cost of Service Study & Charges; Update as needed.
December 2020			
January 2021			
February 2021			
March 2021			
April 2021			
May 2021			
June 2021			

* Or current firm if submits a proposal and is selected.

Proposed Action: Receive and file report.



Financial Services Audit Committee Communication

Date: December 6, 2019

To: Great Lakes Water Authority Audit Committee

From: Nicolette Bateson, CPA
Chief Financial Officer/Treasurer

Re: Proposed Calendar Year 2020 Audit Committee Meeting Dates

Background: In planning for calendar year 2020, it is time to establish the meeting calendar for the Great Lakes Water Authority Audit Committee.

Analysis: Listed below are the proposed 2020 Audit Committee meeting dates based upon a general protocol of scheduling meetings for the third Friday of each month (or the fourth Friday if the third Friday is a holiday). The proposed meeting time is 8:00 a.m. and the meetings will be held at the Water Board Building, 735 Randolph, 5th floor, Detroit, MI 48226.

January 17, 2020	July 17, 2020
February 21, 2020	August 21, 2020
March 20, 2020	September 18, 2020
April 17, 2020	October 16, 2020
May 15, 2020	November 20, 2020
June 19, 2020	December 18, 2020

Proposed Action: Approve the meeting schedule as proposed or amended.

AUDIT COMMITTEE ANNUAL MEETING SCHEDULE

(As of December 6, 2019 – Subject to Change)

Meetings begin at 8:00 a.m. on the third Friday of the month (unless noted otherwise) and are held at the Water Board Building, 735 Randolph, 5th floor, Detroit, MI 48226.

January 17, 2020

February 21, 2020

March 20, 2020

April 17, 2020

May 15, 2020

June 19, 2020

July 17, 2020

August 21, 2020

September 18, 2020

October 16, 2020

November 20, 2020

December 18, 2020

Audit Committee materials are posted online at <https://www.glwater.org/financials/>

Any questions regarding this meeting notice or Audit Committee agendas may be directed to Office of the Chief Financial Officer at 313.999.4149 or to Ms. Phyllis Walsh at phyllis.walsh@glwater.org.

GLWA

Great Lakes Water Authority



Monthly Financial Report Binder

August 2019

**Presented to the
Great Lakes Water Authority
Audit Committee on December 6, 2019**

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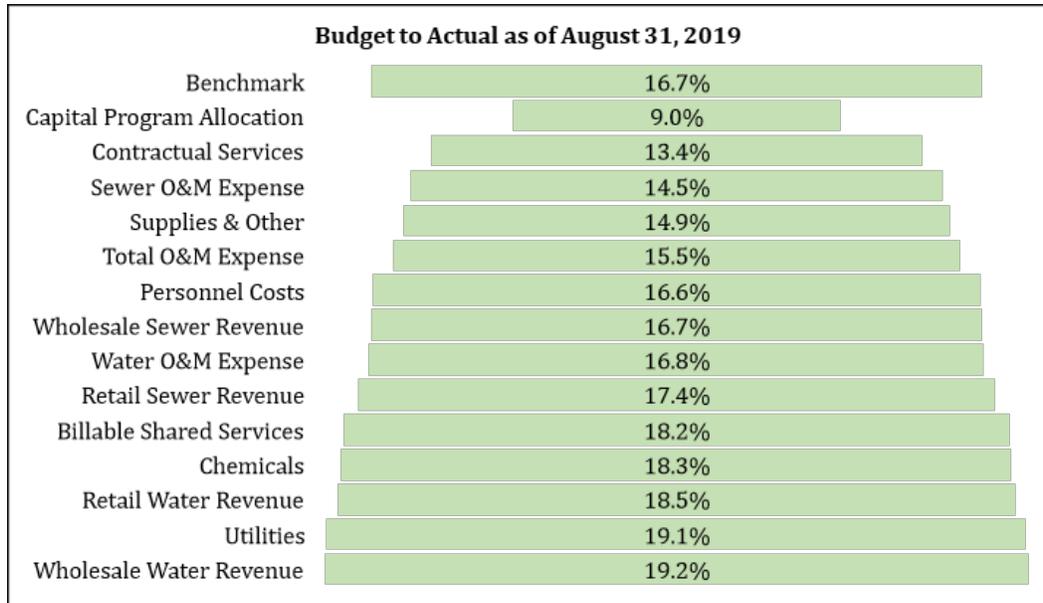
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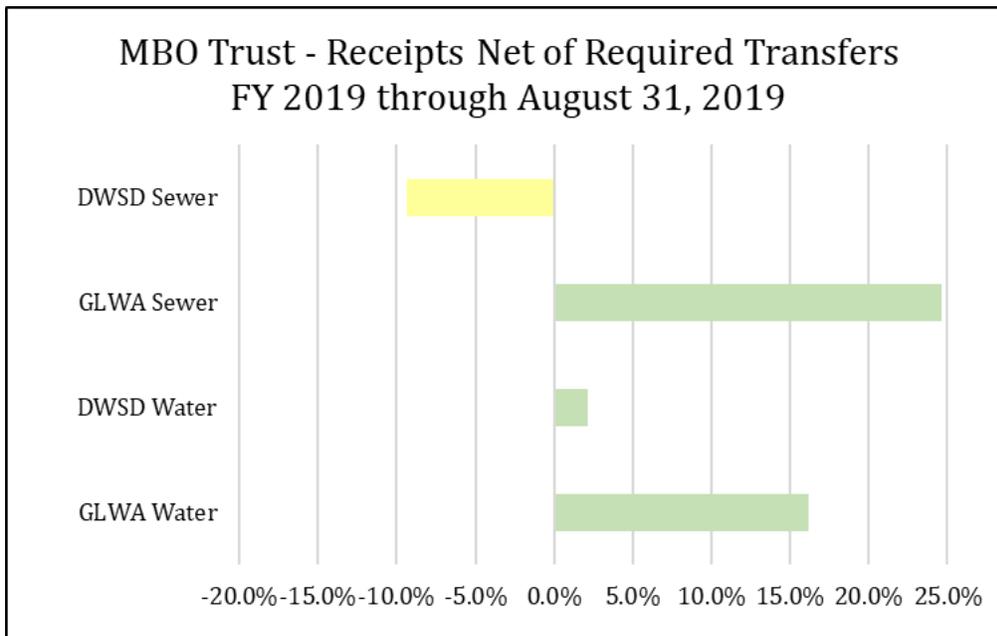
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Revenue and Expense Budget to Actual¹ – Pro-rata Benchmark of 16.7%

Current period financial results indicate all revenue and expense reporting categories fall within the 7.5% of the pro-rata budget to actual benchmark.



Master Bond Ordinance (MBO) Trust Net Receipts



Net cash flow (receipts) is positive for GLWA Water and Sewer. This means that all legal commitments of the MBO Trust and the lease payment are fully funded to date – and that positive cash flow is available for additional

capital program funding in subsequent year(s). DWSD Water net receipts have rebounded after in the first month of the fiscal year. DWSD Sewer net receipts result in an August shortfall of \$0.9 million and a cumulative FY 2020 DWSD Sewer shortfall of \$4.1 million. Looking ahead, DWSD reports an increase October Sewer cash receipts.

Questions? Contact the Office of the Chief Financial Officer at CFO@glwater.org

¹ All amounts are GLWA entity-wide unless noted as water, sewer, and/or retail.

The Monthly Budget to Actual Analysis report includes the following three sections.

1. Revenue Requirement Budget Basis Analysis
2. Operations & Maintenance Budget – Major Budget Categories
3. Alignment of Operations & Maintenance Budget Priorities – Expense Variance Analysis

Revenue Requirement Budget Basis Analysis

GLWA's annual revenue requirement represents the basis for calculating Member Partner charges and aligns with the Master Bond Ordinance flow of funds categories. The budget basis is not the same as the full accrual basis used for financial reporting although the revenues and operations and maintenance expense are largely reported on an accrual basis. The primary difference between the revenue requirement budget basis to the financial reporting basis is the treatment of debt service, legacy pension obligations, and lease related activities. The Revenue Requirement Basis is foundational to GLWA's daily operations, financial plan, and of most interest to key stakeholders.

Table 1A – Water Revenue Requirement Budget and **Table 1B – Sewer Revenue Requirement Budget** presents a year-over-year budget to actual performance report. The revenue requirement budget is accounted for in the operations and maintenance fund for each system. Since this report is for August 2019, the pro-rata benchmark is 16.7% (2 of 12 months of the fiscal year).

Items noted below are highlighted in gold on Tables 1A (Water) and 1B (Sewer).

1. **Revenues:** For *both* systems, FY 2020 revenues are either at or above target and are consistent with the prior year (FY 2019) at the same time. Detailed schedules related to revenues are provided in the *Wholesale Billings, Collections, and Receivables* section of this financial report binder.
2. **Investment Earnings:** For *both* systems, investment earnings are below target for FY 2020. July 2019 includes the reversal of the market adjustment from FY 2019 of \$1.6 million for the *water* system and \$0.6 million for the *sewer* system. Without these adjustments both systems would be above target for FY 2020. Detailed analysis of investment earnings activity to date can be found in the *Cash & Investment Income* section of this financial report binder.
3. **Other Revenues:** These are one-time and unusual items that do not fit an established revenue category. Both the *water* and *sewer* systems actual amount will vary from budget due to the nature of the items recorded in this category.

4. **Operations & Maintenance Expense:** Actual expenses¹ for *both* systems have variances from the pro-rata benchmark. The *water* system is slightly above the pro-rata benchmark for FY 2020 at 16.8%. Conversely the *sewer* system O&M expenses, at 14.5%, is less than the pro-rata benchmark.
5. **Debt Service:** *Both* systems are less than the pro-rata benchmark for FY 2020; the water system is at 14.0%; while the *sewer* system is at 15.2%. The activity is based on the payment schedules adjusted for the State Revolving Fund loans that are still being drawn down. In addition, the monies invested in FY 2019 realized a higher return than projected. This gain was applied to the debt requirements which reduced the payments for July and August.
6. **DWSD Budget Shortfall Pending:** To the extent that the local (DWSD) system experiences budgetary shortfalls as defined by the Water & Sewer Services Agreement, the GLWA budget is impacted.² Steps to proactively detect, and ideally prevent, this shortfall scenario were put into place with the 2018 Memorandum of Understanding (dated June 27, 2018). For FY 2018, the DWSD sewer shortfall through June 30, 2018, was \$24.1 million. A plan for payment of this shortfall is in place with the outer boundary of payment terms being paid over three years plus interest at the three-year treasury rate plus 1.5% with payments beginning in July 2019. For FY 2019, DWSD sewer had a surplus through August 31, 2018, of \$1.9 million (FY 2019 ended with a zero surplus/shortfall). In order to achieve the goal of positive, net cash flows for FY 2019, DWSD reduced its *sewer* system O&M transfers in May and June. The transfers reduced were \$5,676,792 each for a total of \$11,353,584. For FY 2020, the DWSD *water* system has budgetary surplus of \$353 thousand and the DWSD *sewer* system budgetary shortfall is approximately \$4.1 million through August 31, 2019.
7. **Improvement & Extension (I&E) Fund Transfer Pending:** The contribution to the I&E Fund is for improvements, enlargements, extensions or betterment of the Water System. Transfers to the I&E Fund from net revenues typically occur later in the year or after year end close when final net revenue is validated.
8. **Other Revenue Requirements:** The remaining revenue requirements for *both* systems are funded on a 1/12th basis each month in accordance with the Master Bond Ordinance.
9. **Overall:** Total revenue requirements for *both* systems are in line with the benchmark.

¹The tables in this analysis reflect actual amounts spent. If this analysis was on a master bond ordinance (MBO) basis, like that used for calculating debt service coverage, O&M “expense” would equal the pro-rata budget because 1/12 of the O&M budget is transferred monthly outside the MBO trust to an O&M bank account.

² As a reminder, the monthly O&M transfer for MBO purposes are at 1/12 of the budget to a DWSD O&M bank account outside the trust. Actual budget may be less than that amount providing an actual positive variance for DWSD.

Table 1A – Water Revenue Requirement Budget (year-over-year) – (\$000)

	FY2019 AMENDED BUDGET	FY 2019 THRU 8/31/2018	Percent Year-to- Date	FY 2020 BOARD ADOPTED BUDGET	FY 2020 AMENDED BUDGET	FY 2020 THRU 8/31/2019	Percent Year-to- Date
Water System							
Revenues							
Wholesale Customer Charges	\$ 307,383	\$ 62,427	20.3%	\$ 309,285	\$ 309,285	\$ 59,653	19.3%
Retail Services Agreement	20,181	3,388	16.8%	21,296	21,296	3,549	16.7%
Investment Earnings	9,425	1,415	15.0%	9,084	9,084	36	0.4%
Other Revenues	-	13	0.0%	-	-	-	0.0%
Total Revenues	\$ 336,989	\$ 67,243	20.0%	\$ 339,664	\$ 339,664	\$ 63,239	18.6%
Revenue Requirements							
Operations & Maintenance Expense	\$ 121,563	\$ 19,195	15.8%	\$ 131,491	\$ 131,491	\$ 22,058	16.8%
O&M Legacy Pension	6,048	1,008	16.7%	6,048	6,048	1,008	16.7%
Debt Service	131,242	22,168	16.9%	137,558	137,558	19,214	14.0%
Accelerated Legacy Pension	6,268	1,045	16.7%	6,268	6,268	1,045	16.7%
Extraordinary Repair & Replacement							
Deposit	-	-	0.0%	-	-	-	0.0%
Lease Payment	22,500	3,750	16.7%	22,500	22,500	3,750	16.7%
Operating Reserve Deposit	-	-	0.0%	3,976	3,976	663	0.0%
Water Residential Assistance Program	1,673	279	16.7%	1,698	1,698	283	16.7%
Improvement & Extension Fund							
Transfer Pending	47,695	7,949	16.7%	30,126	30,126	5,021	16.7%
Total Revenue Requirements	\$ 336,989	\$ 55,394	16.4%	\$ 339,664	\$ 339,664	\$ 53,041	15.6%
Net Difference		\$ 11,848				\$ 10,198	
<i>Recap of Net Positive Variance</i>							
Revenue Variance		\$ 11,078				\$ 6,628	
Revenue Requirement Variance		771				3,569	
Overall Variance		\$ 11,848				\$ 10,198	

Table 1B – Sewer Revenue Requirement Budget (year-over-year) – (\$000)

	FY 2019 AMENDED BUDGET	FY 2019 THRU 8/31/2018	Percent Year-to- Date	FY 2020 BOARD ADOPTED BUDGET	FY 2020 AMENDED BUDGET	FY 2020 THRU 8/31/2019	Percent Year-to- Date
Sewer System							
Revenues							
Wholesale Customer Charges	\$ 271,296	\$ 45,826	16.9%	\$ 272,324	\$ 272,324	\$ 45,765	16.8%
Retail Services Agreement	181,159	30,501	16.8%	185,807,300.0	185,807,300.0	30,968	16.7%
Industrial Waste Control Charges	15,001	1,611	10.7%	13,743,600.0	13,743,600.0	1,386	10.1%
Pollutant Surcharges	-	1,611	0.0%	-	-	936	0.0%
Investment Earnings	6,879	1,795	26.1%	8,730,800.0	8,730,800.0	1,013	11.6%
Other Revenues	-	104	0.0%	-	-	77	0.0%
Total Revenues	\$ 474,335	\$ 81,447	17.2%	\$ 480,605	\$ 480,605	\$ 80,145	16.7%
Revenue Requirements							
Operations & Maintenance Expense	\$ 191,079	\$ 25,556	13.4%	\$ 187,057	\$ 187,057	\$ 27,198	14.5%
O&M Legacy Pension	10,824	1,804	16.7%	10,824	10,824	1,804	16.7%
Debt Service	208,389	34,936	16.8%	215,739	215,739	32,779	15.2%
Accelerated Legacy Pension	11,621	1,937	16.7%	11,621	11,621	1,937	16.7%
Extraordinary Repair & Replacement							
Deposit	-	-	0.0%	-	-	-	0.0%
Lease Payment	27,500	4,583	16.7%	27,500	27,500	4,583	16.7%
Operating Reserve Deposit	-	-	0.0%	-	-	-	0.0%
Water Residential Assistance Program	2,374	396	16.7%	2,403	2,403	401	16.7%
DWSD Budget Shortfall Pending	-	(1,925)	0.0%	-	-	4,140	0.0%
Improvement & Extension Fund							
Transfer Pending	22,548	3,758	16.7%	25,462	25,462	4,244	16.7%
Total Revenue Requirements	\$ 474,335	\$ 71,044	15.0%	\$ 480,605	\$ 480,605	\$ 77,085	16.0%
Net Difference		\$ 10,402				\$ 3,060	
<i>Recap of Net Positive Variance</i>							
Revenue Variance		\$ 2,391				\$ 44	
Revenue Requirement Variance		8,012				3,016	
Overall Variance		\$ 10,402				\$ 3,060	

Operations & Maintenance Budget – Major Budget Categories

The year-over-year benchmark ratio as of August 31, 2019, is 16.7% (two months). When comparing FY 2020 to FY 2019 in **Table 2 – Operations & Maintenance Budget – Major Budget Categories**, it appears that overall spending is consistent.

In addition to the four major budget categories, an internal charge cost center for employee benefits is shown in the table below. If the number is positive, it indicates that the internal cost allocation rate charges to other cost centers is not sufficient. An analysis of the benefits is currently being conducted using updated benefit information. A budget amendment may be needed to increase the budget for the FY 2020 employee benefits. A negative number indicates a surplus in the internal cost center. A moderate surplus is preferred as it provides a hedge for mid-year benefit program cost adjustments (premiums adjust on January 1 each year) as well as managing risk as the program is partially self-insured.

Table 2 – Operations & Maintenance Budget – Major Budget Categories – (\$000)

Major Budget Categories	FY 2019 AMENDED BUDGET	FY 2019 ACTIVITY THRU 8/31/2018	Percent Year-to-Date	FY 2020 BOARD ADOPTED BUDGET	FY 2020 AMENDED BUDGET	FY 2020 ACTIVITY THRU 8/31/2019	Percent Year-to-Date
Water	\$ 66,596	\$ 15,044	22.6%	\$ 66,021	\$ 66,021	\$ 11,248	17.0%
Sewer	118,319	15,746	13.3%	115,985	115,985	17,892	15.4%
Centralized	99,045	10,679	10.8%	106,914	106,914	15,748	14.7%
Administrative	28,683	3,702	12.9%	29,628	29,628	4,211	14.2%
Employee Benefits	-	(419)	0.0%	-	-	157	0.0%
Total O&M Budget	\$ 312,642	\$ 44,751	14.3%	\$ 318,548	\$ 318,548	\$ 49,256	15.5%

Alignment of Operations & Maintenance Budget Priorities – Expense Variance Analysis

The purpose of **Table 3 – Operations & Maintenance Expense Variance Analysis** is to evaluate whether the actual spend rate within a natural cost category is in alignment with the budget. Given the effort to develop an accurate budget, a variance is a red flag of a *potential* budget amendment or misalignment of priorities.

Total: In total, the O&M expenses are at 15.5% which is reasonably within the pro-rata benchmark of 16.7%. This positive variance equates to a dollar amount of \$3.8 million. The expense category commentary is provided below for items highlighted on Table 3.

Personnel Costs: The overall category is on target with the pro-rata benchmark; coming in at 16.6% through August 2019.

Utilities: The overall category is higher than the benchmark; coming in at 19.1% through August 2019. This variance is not unexpected as usage varies throughout the year. Electric is higher than the benchmark; coming in at 21.6%. This increase is primarily due to the pumps being required to run longer than normal as a result of the wet weather that Michigan has been experiencing. Gas is lower than the benchmark; coming in at 9.7%. The related bills are currently being reviewed to identify the cause for the lower readings.

Chemicals: This category is higher than the benchmark; coming in at 18.3% through August 2019. While variances in this category are not unexpected as usage varies throughout the year, the variance for August 2019 continues to be primarily related to the high lake levels which caused the CSO basins to process more flow than is typical. This resulted in higher use of Sodium Hypochlorite.

Supplies & Other: This category is lower than the benchmark; coming in at 14.9% through August 2019. Given that the nature of the items in this category are subject to one-time expenses that do not occur evenly throughout the year, this variance is not a concern at this time.

Contractual Services: The overall category is lower than the benchmark; coming in at 13.4% through August 2019. Variances in this category are not unexpected as the usage of contracts varies throughout the year. While this category is being reviewed, this variance is not a concern at this time.

Capital Program Allocation: This category is lower than the benchmark; coming in at 9.0% through August 2019. A review of this category is being conducted.

Shared Services: This category is slightly higher than the benchmark; coming in at 18.2% through August 2019. The shared services reimbursement is comprised of both labor (tracked via BigTime) and expenses, such as annual fees for software licensing. Staff from both GLWA and DWSD have been working together to evaluate and refine the budget for the shared services agreements. Based on these evaluations, adjustments have been made to both the billings and accounting accruals to more accurately reflect the forecasted activity for FY 2020. A budget amendment will be entered to adjust the shared services budget to this revised FY 2020 forecast.

Table 3 – Operations & Maintenance Expense Variance Analysis – (\$000)

Expense Categories Entity-wide	FY 2019	FY 2019	Percent	FY 2019	Percent	FY 2020	FY 2020	FY 2020	Percent	PRORATED
	AMENDED BUDGET	ACTIVITY THRU 8/31/2018	Year-to- Date at 8/31/2018	ACTIVITY THRU 6/30/2019	Year-to- Date at 6/30/2019	AMENDED BUDGET	AMENDED BUDGET (2 MONTHS)	ACTIVITY THRU 8/31/2019	Year-to- Date	BUDGET LESS FY 2020 ACTIVITY
Salaries & Wages	\$ 61,600	\$ 9,778	15.9%	\$ 59,922	16.3%	\$ 68,301	\$ 11,384	\$ 10,809	15.8%	\$ 575
Workforce Development	751	120	15.9%	794	15.1%	1,014	169	148	14.6%	21
Overtime	7,612	1,229	16.1%	7,554	16.3%	6,140	1,023	1,257	20.5%	(234)
Employee Benefits	23,778	4,247	17.9%	21,998	19.3%	23,005	3,834	4,251	18.5%	(417)
Transition Services	8,556	1,652	19.3%	8,322	19.8%	6,630	1,105	822	12.4%	283
Employee Benefits Fund	-	(419)	0.0%	-	0.0%	-	-	157	0.0%	(157)
<i>Personnel Costs</i>	<u>102,296</u>	<u>16,606</u>	<u>16.2%</u>	<u>98,589</u>	<u>16.8%</u>	<u>105,091</u>	<u>17,515</u>	<u>17,444</u>	<u>16.6%</u>	<u>71</u>
Electric	39,019	9,095	23.3%	39,103	23.3%	38,386	6,398	8,287	21.6%	(1,889)
Gas	6,631	888	13.4%	6,568	13.5%	6,444	1,074	623	9.7%	451
Sewage Service	2,491	153	6.1%	2,094	7.3%	1,847	308	337	18.2%	(29)
Water Service	3,648	598	16.4%	3,631	16.5%	4,658	776	547	11.7%	229
<i>Utilities</i>	<u>51,789</u>	<u>10,734</u>	<u>20.7%</u>	<u>51,396</u>	<u>20.9%</u>	<u>51,334</u>	<u>8,556</u>	<u>9,794</u>	<u>19.1%</u>	<u>(1,238)</u>
Chemicals	13,385	2,146	16.0%	13,276	16.2%	13,899	2,316	2,544	18.3%	(228)
Supplies & Other	36,206	3,923	10.8%	37,121	10.6%	36,392	6,065	5,406	14.9%	659
Contractual Services	102,803	13,079	12.7%	101,873	12.8%	115,307	19,218	15,471	13.4%	3,747
Capital Program Allocation	(3,356)	(489)	14.6%	(3,381)	14.5%	(5,414)	(902)	(488)	9.0%	(414)
Shared Services	(9,005)	(1,248)	13.9%	(7,139)	17.5%	(5,025)	(838)	(914)	18.2%	77
Unallocated Reserve	18,524	-	0.0%	-	0.0%	6,965	1,161	-	0.0%	1,161
Total Expenses	<u>\$ 312,642</u>	<u>\$ 44,751</u>	<u>14.3%</u>	<u>\$ 291,734</u>	<u>15.3%</u>	<u>\$ 318,548</u>	<u>\$ 53,091</u>	<u>\$ 49,256</u>	<u>15.5%</u>	<u>\$ 3,835</u>

The Basic Financial Statements report includes the following four tables.

1. Statement of Net Position - All Funds Combined
2. Statement of Revenues, Expenses and Changes in Net Position – All Funds Combined
3. Supplemental Schedule of Operations & Maintenance Expenses -All Funds Combined
4. Supplemental Schedule of Nonoperating Expenses – All Funds Combined

At a macro level GLWA has two primary funds for financial reporting purposes: *Water Fund* and *Sewage Disposal Fund*. These funds represent the combined total of four sub-funds for each system that are used internally to properly account for sources and uses of funds. Those sub-funds for each system are: *Operations & Maintenance Fund, Improvement & Extension Fund, Construction Fund, and Capital Asset Fund*.

The Comparative June 2019 basic financial statements are presented in a draft format. Adjustments related to fiscal year end 2019 audit affect the basic financial statements. The results of these adjustments will be presented in the audited CAFR.

Statement of Net Position – All Funds Combined

Explanatory notes follow the Statement of Net Position shown in Table 1 below.

Table 1 – Statement of Net Position - All Funds Combined
As of August 31, 2019
(\$000)

	Water	Sewage Disposal	Total Business- type Activities	Comparative June 30, 2019
Assets				
Cash (a)	\$ 136,625	\$ 216,559	\$ 353,184	\$ 571,015
Investments (a)	367,445	286,304	653,749	460,078
Accounts Receivable	96,550	85,787	182,337	208,914
Due from Other Funds (b)	12,803	-	12,803	2,890
Other Assets (c)	594,825	450,665	1,045,489	1,046,518
Cash Held FBO DWSD Advance (d)	-	3,517	3,517	
Capital Assets, net of Depreciation	1,661,094	2,455,624	4,116,718	4,165,441
Construction Work in Process (e)	182,069	203,494	385,563	368,748
Total assets	3,051,412	3,701,949	6,753,361	6,823,603
Deferred Outflows (f)	93,186	178,046	271,232	273,596
Liabilities				
Liabilities - Short-Term (g)	115,582	158,459	274,041	321,270
Due to Other Funds (b)	-	12,803	12,803	2,890
Other Liabilities (h)	2,852	6,372	9,224	9,097
Cash Held FBO DWSD (d)	2,538	-	2,538	2,807
Liabilities - Long-Term (i)	3,037,433	3,775,986	6,813,419	6,853,419
Total liabilities	3,158,404	3,953,621	7,112,026	7,189,483
Deferred Inflows (f)	59,720	47,631	107,351	108,541
Total net position (j)	\$ (73,527)	\$ (121,257)	\$ (194,784)	\$ (200,825)

Totals may be off due to rounding

In general, the Statement of Net Position - Draft reflects a mature organization with no unexpected trends. Cash balances as of August 31, 2019 are lower when compared to June 30, 2019 (highlighted in gold on Table 1). This is because of the high liquidity needs at June 30, 2019 to meet annual debt and interest payments, legacy pension obligation payments, and annual operational requirements whereas more funds are being invested as of August 31, 2019.

An ongoing challenge is the Net Position Deficit. The underlying causes took years to build (largely heavy use of debt to finance capital asset investment versus a strategic blend of debt, state revolving funds, and cash). The effect is reflected in GLWA's high debt interest expense. The GLWA is regularly updating the FY 2030 forecast which helps to provide a pathway to a positive Net Position in the future.

Footnotes to Statement of Net Position

- a. *Cash and Investments* include restricted amounts and are reported at book value. Investments at June 30, 2019 are reported at market value. The August 31, 2019 values differ from the Cash and Investment section of this Financial Report Binder due to timing of certain items recognized on a cash versus accrual basis.
- b. *Due from Other Funds* and *Due to Other Funds* is shown at the gross level for sub-fund activity.
- c. *Other Assets* primarily consists of the contractual obligation receivable from DWSD related to reimbursement of bonded indebtedness for local system improvements.
- d. *Cash Held FBO Advance (for benefit of) DWSD* and *Cash Held FBO DWSD* represents the net difference between DWSD retail cash received from customers and net financial commitments as outlined in the Master Bond Ordinance.
- e. *Construction Work in Process* represents the beginning balance of CWIP plus any construction spending during the fiscal year. The balance will fluctuate based on the level of spend less any capitalizations or write-offs.
- f. *Deferred Inflow* and *Deferred Outflow* relate to financing activity and GLWA's share of the legacy General Retirement System (GRS) pension obligation.
- g. *Liabilities - Short-term* include accounts payable, retainage payable, and certain accrued liabilities. Some items, such as compensated absences and worker's compensation, are reviewed periodically but are only adjusted on an interim basis if there is a material change.
- h. *Other Liabilities* account for the cash receipts set aside for the Budget Stabilization Fund and the Water Residential Assistance Program.
- i. *Liabilities - Long-term* include bonds payable, lease payable, and legacy General Retirement System pension liabilities.
- j. *Net Position Deficit* is defined by 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. GLWA's net deficit is largely driven by an increase in depreciation

expense as a result of the increase in the acquisition valuation approach for recording capital asset values in the opening Statement of Net Position on January 2016. Efforts are underway to evaluate the net operating effect of this matter over the long term.

Statement of Revenues, Expenses and Changes in Net Position - All Funds Combined

This statement, shown in Table 2, is presented in summary format. The accrual basis of revenues and operations and maintenance expense vary from the revenue requirement basis presented in the *Budget to Actual Analysis* and the *Wholesale Billings, Receivables & Collections* sections of the August 2019 Financial Report Binder. Prior year ending balances are provided in the June 30, 2019 column as a reference for comparative purposes. Explanatory notes follow this statement.

**Table 2 - Statement of Revenues, Expenses and Changes in Net Position
- All Funds Combined
For the Two Months ended August 31, 2019
(\$000)**

	Water	Percent of Revenue	Sewage Disposal	Percent of Revenue	Total Business- type Activities	Comparative FY June 30, 2019
Revenue						
Wholesale customer charges	\$ 60,762	94.5%	\$ 45,765	57.8%	\$ 106,527	\$ 584,172
Local system charges	3,549	5.5%	30,968	39.1%	34,517	201,341
Industrial waste charges	-	0.0%	1,386	1.8%	1,386	9,106
Pollutant surcharges	-	0.0%	936	1.2%	936	5,933
Other revenues	-	0.0%	77	0.1%	77	528
Total Revenues	\$ 64,312	100%	\$ 79,132	100%	\$ 143,443	\$ 801,079
Operating expenses						
Operations and Maintenance	22,058	34.3%	27,245	34.4%	49,303	293,863
Depreciation	22,492	35.0%	26,277	33.2%	48,768	309,115
Total operating expenses	44,550	69.3%	53,522	67.6%	98,071	602,978
Operating income	19,762	30.7%	25,610	32.4%	45,372	198,101
Total Nonoperating (revenue) expense	16,407	25.5%	22,925	29.0%	39,331	220,170
Increase/(Decrease) in Net Position	3,355	5.2%	2,686	3.4%	6,041	(22,070)
Net position (deficit), beginning of year	(76,882)		(123,943)		(200,825)	(178,755)
Net position (deficit), end of year	\$ (73,527)		\$ (121,257)		\$ (194,784)	\$ (200,825)

Totals may be off due to rounding

Water Fund

- ✓ The increase in Water Fund Net Position is \$3.4 million.
- ✓ Wholesale water customer charges of \$60.7 million account for 94.5% of Water System revenues.
- ✓ Operating expenses of \$44.5 million represent 69.3% of total operating revenue. Depreciation is the largest operating expense at \$22.5 million or 50.5% of operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$19.7 million or 30.7% of operating revenue.
- ✓ The largest category within nonoperating activities is bonded debt interest expense of \$14.8 million (this equates to the bonded debt interest expense less the offset from DWSD contractual obligation income).

Sewage Disposal Fund

- ✓ The increase in the Sewage Disposal Fund Net Position is \$2.7 million.
- ✓ Wholesale customer charges of \$45.7 million account for 57.8% of Sewer System revenues. Wholesale customer charges are billed one-twelfth each month based on an agreed-upon historical average “share” of each customer’s historical flows which are formally revisited on a periodic basis. The result is no revenue shortfall or overestimation.
- ✓ Local system (DWSD) charges of \$30.9 million account for 39.1% of total operating revenues. These are also billed at one-twelfth of the annual revenue requirement.
- ✓ Operating expenses of \$53.5 million represent 67.6% of total operating revenue. Depreciation is the largest operating expense at \$26.2 million or 49.1% of total operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$25.6 million or 32.4% of operating revenue.
- ✓ The largest category within nonoperating activities is bonded debt interest expense of \$19.6 million (this equates to the bonded debt interest expense less the offset from DWSD contractual obligation income).

Supplemental Schedule of Operations & Maintenance Expenses - All Funds Combined

This Supplemental Schedule of Operations & Maintenance Expenses (O&M) schedule is shown below in Table 3. This accrual basis of operations and maintenance expense may vary from the revenue requirement basis presented in the *Budget to Actual Analysis* section of the August 2019 Financial Report Binder. Explanatory notes follow this schedule.

**Table 3 – Supplemental Schedule of Operations & Maintenance Expenses
- All Funds Combined
For the Two Months ended August 31, 2019
(\$000)**

	Water	Percent of Total	Sewage Disposal	Percent of Total	Total Business- type Activities	Percent of Total
Operating expenses						
Personnel						
Salaries & Wages	4,075	18.5%	7,703	28.3%	11,778	23.9%
Overtime	758	3.4%	499	1.8%	1,257	2.6%
Benefits	2,845	12.9%	1,563	5.7%	4,408	8.9%
Total Personnel	\$ 7,679	34.8%	\$ 9,765	35.8%	\$ 17,444	35.4%
Utilities						
Electric	5,766	26.1%	2,521	9.3%	8,287	16.8%
Gas	31	0.1%	592	2.2%	623	1.3%
Sewage	38	0.2%	299	1.1%	337	0.7%
Water		0.0%	547	2.0%	547	1.1%
Total Utilities	\$ 5,835	26.5%	\$ 3,959	14.5%	\$ 9,794	19.9%
Chemicals	970	4.4%	1,575	5.8%	2,544	5.2%
Supplies and other	2,160	9.8%	3,246	11.9%	5,406	11.0%
Contractual services	6,578	29.8%	8,339	30.6%	14,917	30.3%
Capital Adjustment	-	0.0%	600	2.2%	600	1.2%
Capital program allocation	(305)	-1.4%	(183)	-0.7%	(488)	-1.0%
Shared services allocation	(859)	-3.9%	(55)	-0.2%	(914)	-1.9%
Operations and Maintenance Expenses	\$ 22,058	100.0%	\$ 27,245	100.0%	\$ 49,303	100.0%

Totals may be off due to rounding.

- ✓ Core expenses for water and sewage disposal systems are utilities (19.9% of total O&M expenses) and chemicals (5.2%).
- ✓ Personnel costs (35.4% of total O&M expenses) include all salaries, wages, and benefits for employees as well as staff augmentation contracts that fill a vacant position (contractual transition services).
- ✓ Contractual services (30.3%) includes:
 - Sewage Disposal System costs for the operation and maintenance of the biosolids dryer facility (approximately \$2.5 million); and
 - Centralized and administrative contractual costs allocated to both systems for information technology, building maintenance, field, planning and other services.
- ✓ Capital Adjustment represents expenses for a CIP project that was canceled.

Supplemental Schedule of Nonoperating Expenses – All Funds Combined

The Supplemental Schedule of Nonoperating Expenses – All Funds Combined is shown in Table 4. Explanatory notes follow this schedule.

Table 4 – Supplemental Schedule of Nonoperating Expenses – All Funds Combined
For the Two Months ended August 31, 2019
(\$000)

	Water	Sewage Disposal	Total Business-type Activities	Comparative FY June 30, 2019
Nonoperating (Revenue)/Expense				
Interest income contractual obligation	\$ (3,724)	\$ (3,032)	\$ (6,756)	\$ (40,673)
Interest income DWSD Shortfall	-	(262)	(262)	(1,104)
Investment earnings	(285)	(1,040)	(1,325)	(26,518)
Other nonoperating revenue				(420)
Interest expense				-
Bonded debt	18,584	22,658	41,242	250,966
Lease obligation	2,925	3,575	6,500	39,264
Other obligations	812	262	1,074	6,368
Total interest expense	22,321	26,495	48,816	296,597
Other non-capital expense	200	426	625	-
Memorandum of Understanding	-	-	-	6,527
Capital Contribution	-	-	-	-
Amortization, issuance costs, debt	(2,699)	339	(2,360)	(3,995)
Amortization, raw water rights	594	-	594	3,567
(Gain) loss on disposal of capital assets	-	(1)	(1)	(81)
Loss on impairment of capital assets	-	-	-	1,025
Water Residential Assistance Program	-	-	-	2,024
Legacy pension expense	-	-	-	(16,778)
Total Nonoperating (Revenue)/Expense	\$ 16,407	\$ 22,925	\$ 39,331	\$ 220,170

Totals may be off due to rounding.

- ✓ Interest income on contractual obligation relates to the portion of the total GLWA debt obligation attributable to DWSD. This interest income offsets the total debt interest expense paid by GLWA on behalf of both entities monthly.
- ✓ Interest income DWSD shortfall represents interest from a budgetary shortfall loan from fiscal years 2016, 2017 and 2018 and is paid in accordance with the 2018 Memorandum of Understanding (MOU). The repayment of the shortfall will last for three years (two years remain on the 2016 & 2017 shortfall balance and three years remain on the 2018 shortfall balance).
- ✓ Investment earnings in this report are reflected at book value. Any differences between the Basic Financial report and Cash and Investment section of this Financial

Report binder are due to accrued interest and reversal of the market adjustment from FY 2019. FY 2019 market value adjustments for Water and Sewer totaled of \$1.6 million and \$600 thousand, respectively.

- ✓ Interest expense, the largest category of nonoperating expenses, is made up of three components:
 - Bonded debt;
 - Lease obligation for the regional assets from the City of Detroit; and
 - Other obligations such as an obligation payable to the City of Detroit for an allocation BC Notes related to assumed DWSD liabilities; acquisition of raw water rights related to the KWA Pipeline.

FY 2019 Items of note:

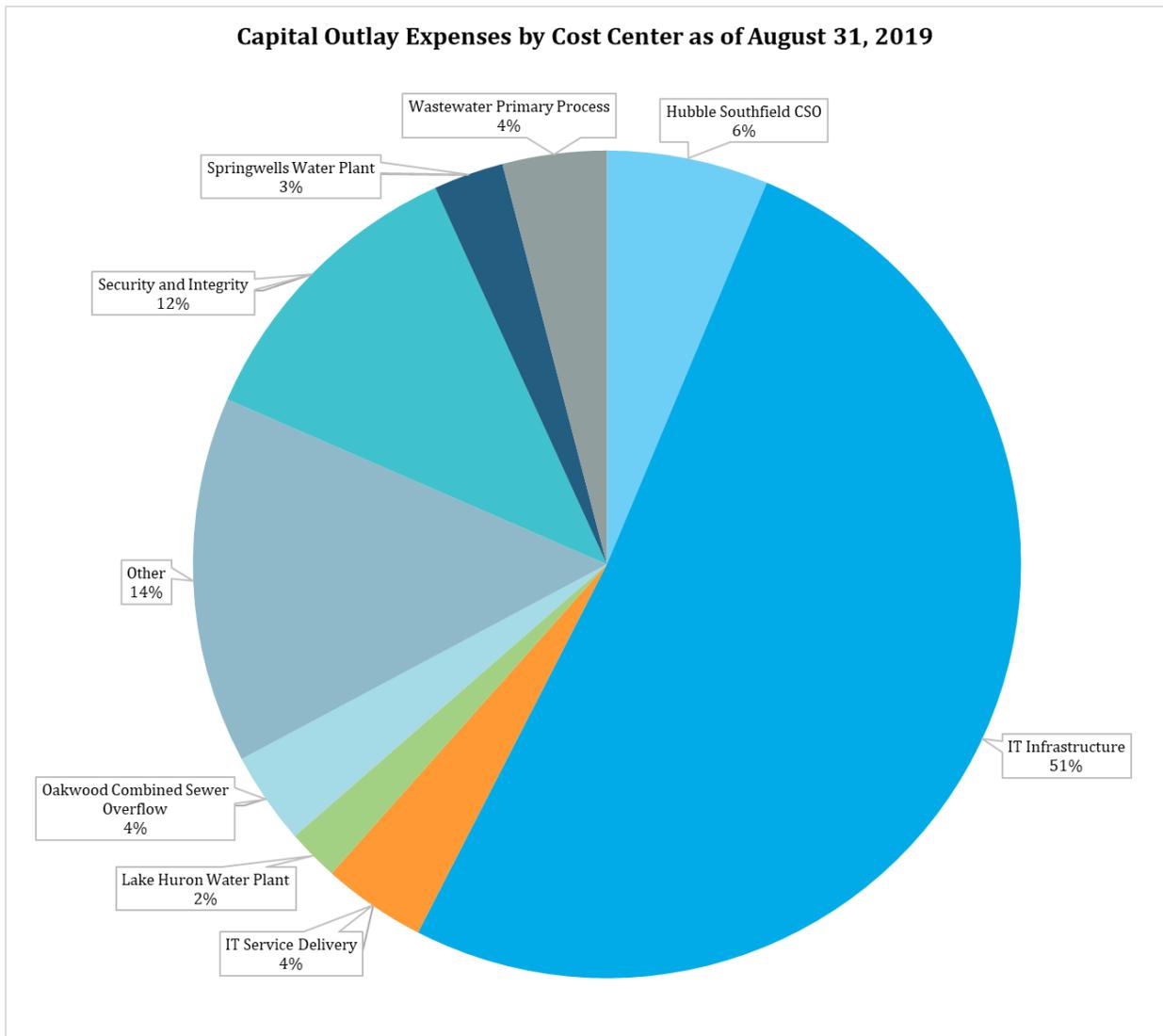
- ✓ Legacy Pension expense is reflected as income due to changes in actuarial assumptions and rates from the June 30, 2018 City of Detroit General Retirement System Component II audited financial statement.
- ✓ Sewer Other Non-operating expense includes the 2018 MOU Item 8a from June 27, 2018 for a final sewer lookback adjustment for DWSD of \$6.5 million.

Financial Activity Charts

Chart 1 – Capital Outlay – Water and Sewer System Combined

Capital Outlay represents purchases of equipment, software, and small facility improvement projects. It *excludes* any capital investment which is included in the monthly construction work-in-progress report related to the Capital Improvement Program. Some items span several months so the entire cost may not have been incurred yet. In addition, items are capitalized only if they meet GLWA’s capitalization policy.

Through August 31, 2019, total capital outlay spend is \$2.6 million. Following this chart is a sample list of projects and purchases from the total spend of \$2.6 million:



Note: Due to rounding totals may not equal 100%.

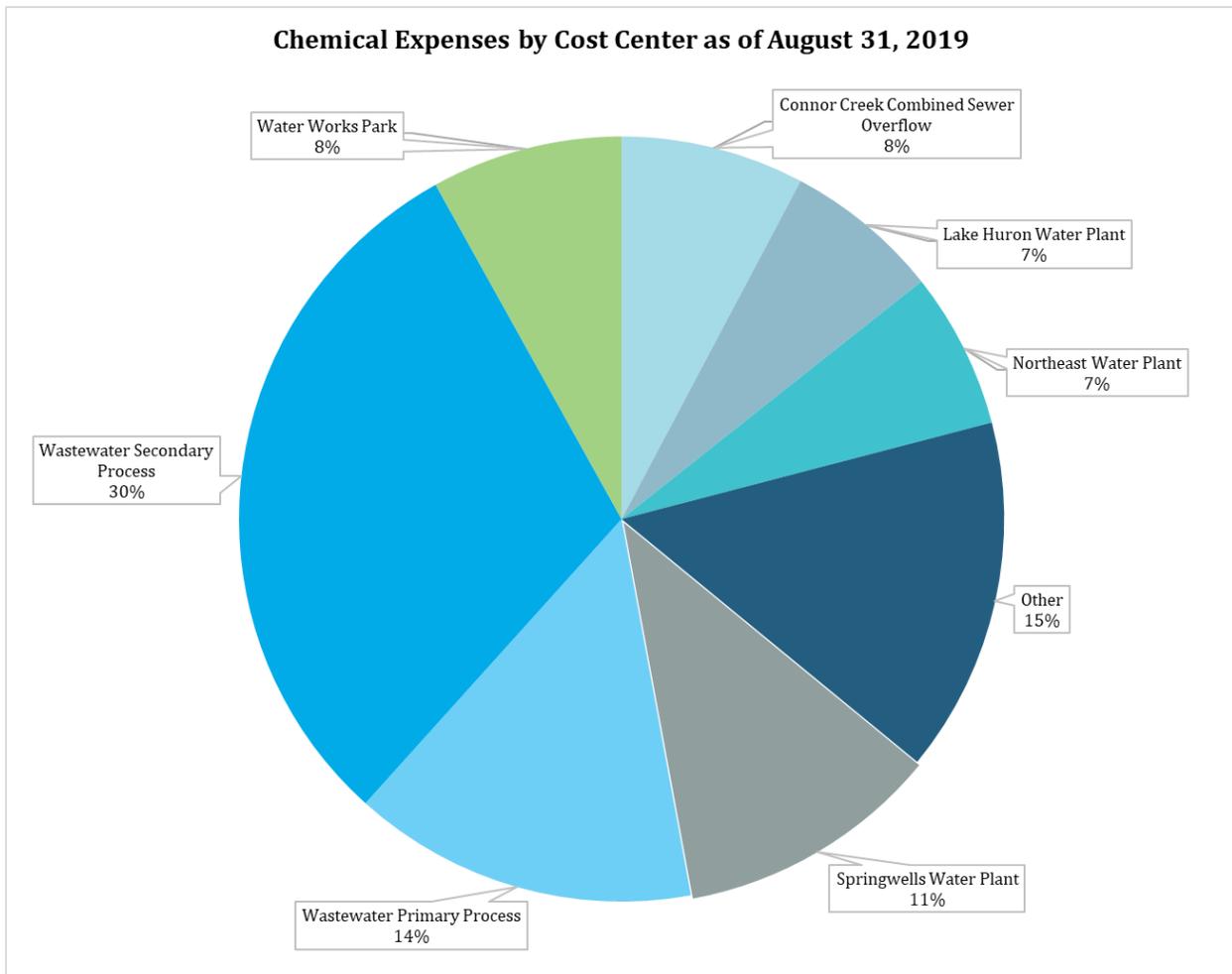
Water Operations: a chlorine liquid header replacement (\$61k) at the Springwells Water Plant; skid steer loader (\$44k) under ‘other’ for the Southwest Water Plant and Seepex Cavity Pump (\$36k) at Lake Huron Water Plant.

Wastewater Operations: Accusonic flow meters (\$168k); chemical feed pump (\$96k); water heater for Scum building (\$76k); HVAC controls upgrade (\$52k); Transformer C structure at Water Resource Recovery Facility (\$47k)

Centralized & Administrative Facilities: Low voltage wiring services (\$1.0m); security infrastructure improvements (\$303k); IT software (\$236k); IT computers (\$40k); IT monitors (\$34k) and office suite renovation (\$26k) under the category of ‘other’ for the Logistics and Materials team

Chart 2 – Chemical Spend – Water and Sewer System Combined

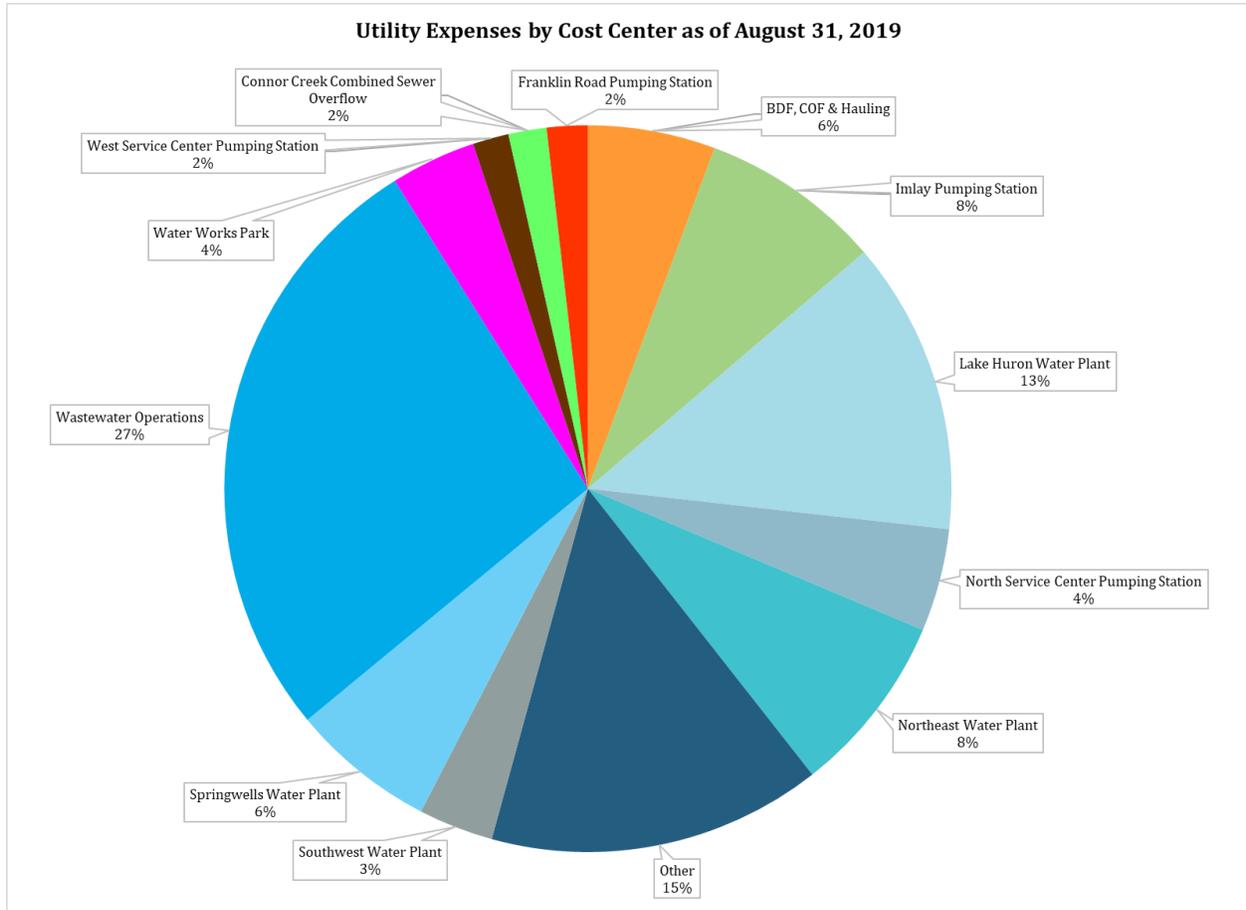
Chemical spend is \$2.5 million through August 31, 2019. The allocation is shown in the chart below and remains consistent with prior periods.



Note: “Other” includes Combined Sewer Overflow (CSO), portions of the Wastewater process and two departments from Water. Due to rounding totals may not equal 100%.

Chart 3 – Utility Spend – Water and Sewer System Combined

Utility spend is \$9.8 million through August 31, 2019. The allocation is shown in the chart below and consistent with prior periods.



Note: Due to rounding totals may not equal 100%.

Financial Operations KPI

This key performance indicator shown in **Chart 1 - Bank Reconciliation Completion Status** below provides a measure of the progress made in the month-end close process which includes bank reconciliations with a completed status at month end.

There were no changes in accounts from July 2019.

Chart 1 - Bank Reconciliation Completion Status

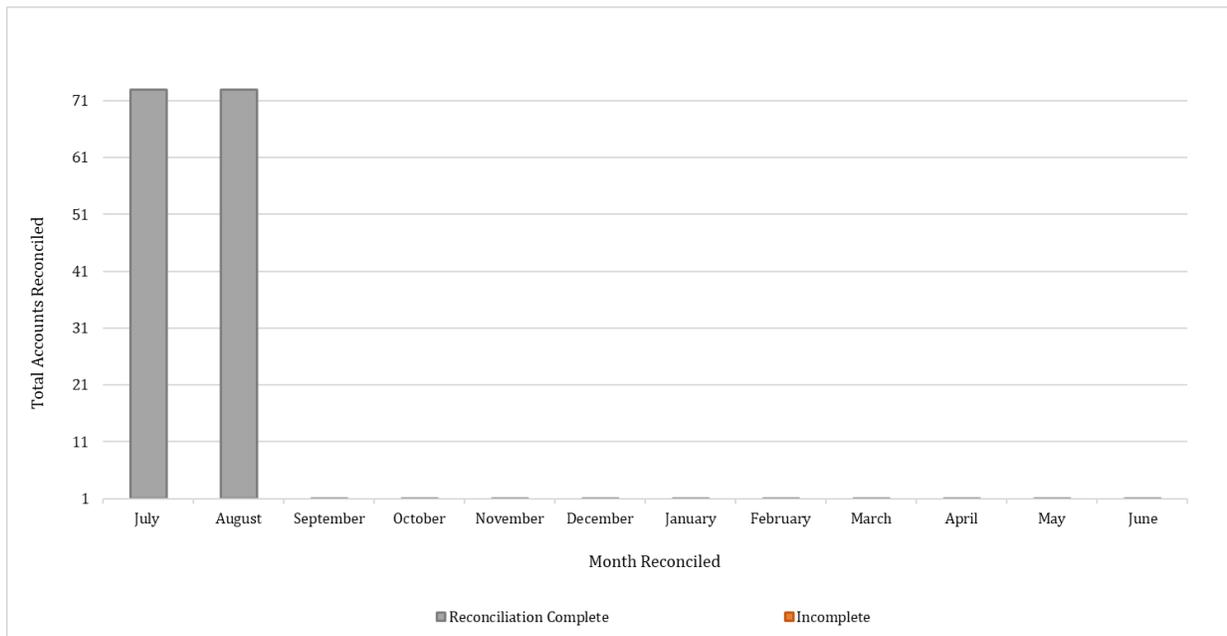


Table 1 - Fiscal Year 2020 GL Cash Account Rollforward

Total GL Cash accounts as of July 1, 2019	71
New GL Cash accounts	2
Inactivated GL Cash accounts	<u>0</u>
Total GL Cash accounts as of August 31, 2019	<u><u>73</u></u>

The monthly Budget to Financial Statements Crosswalk includes the following.

1. Crosswalk Budget Basis to Financial Reporting Basis
2. Explanatory Notes for Crosswalk

Purpose for Crosswalk: The Great Lakes Water Authority establishes a “Revenue Requirements” budget for the purposes of establishing charges for services. The financial report is prepared in accordance with Generally Accepted Accounting Policies for enterprise funds of a local government. Because the budget and the financial statements are prepared using different basis of accounting, the crosswalk reconciles the “Net Revenue Requirement Basis” from the Budget to Actual Analysis (Table 1A and Table 1B) to the “Increase/(Decrease) in Net Position” in Table 2 of the Basic Financial Statements in the monthly Financial Report.

The Authority has a Water Master Bond Ordinance and a Sewer Master Bond Ordinance (MBO). The Ordinances provide additional security for payment of the bonds. All revenues of the system are deposited into Revenue Receipts Funds which are held in trust by a trustee. The cash is moved to multiple bank accounts monthly based on 1/12th of the budget as defined in the MBO (“the flow of funds”) for all revenue requirements except for the Debt Service monthly transfer. The Debt Service monthly requirement is computed by the trustee, U.S. Bank. The cash transfer for debt is net of investment earnings that remain in the debt service accounts to be used for debt service.

The budget is prepared on a modified cash basis. The revenue requirements are determined based upon the cash needed to meet the financial commitments as required by the Master Bond Ordinance.

- Operation & Maintenance (O&M) expenses based on an accrual basis
- O&M Legacy Pension Allocation (includes administrative fee) and Accelerated Legacy Pension Allocation (includes B&C notes obligation) based on a cash basis
- Debt Service Allocation based on a cash set aside basis to provide the cash for the debt payments on the due dates
- Lease payments based on a cash basis
- Water Residential Assistance Program based on a percentage of budgeted revenue
- Regional System Improvement & Extension Fund Allocation on a cash basis

Budget: In Table 1A and Table 1B of the Budget to Actual Analysis the ‘Revenues’ section is the accrual basis revenues that are available to meet the ‘Revenue Requirements’. The “Revenue Requirements’ section budget column indicates the annual cash transfers to be made.

Financial Reporting: The Authority’s financial statements are prepared in conformity with generally accepted accounting principles (GAAP) as applied to government units. The Authority maintains its records on the accrual basis of accounting to conform to GAAP. Revenues from operations, investments and other sources are recorded when earned. Expenses (including depreciation) are recorded when incurred.

Table 1 – Crosswalk Budget Basis to Financial Reporting Basis provides a reconciliation of the “Net Difference” in Table 1A and Table 1B in the Budget to Actual Analysis report to the “Increase/(Decrease) in Net Position” in Table 2 of the Basic Financial Statements in this monthly Financial Report. Explanatory notes follow the Crosswalk shown in Table 1 below.

Table 1 – Crosswalk Budget Basis to Financial Reporting Basis (\$000)
For the Two Months Ended August 31, 2019

	Water	Sewer	Total
Net Revenue Requirement Budget Variance (a)	\$ 10,198	\$ 3,060	\$ 13,258
Budgetary categories adjustments to financial reporting basis			
Pension delayed accounting election adjustments			
Current year pension transfers/payments recorded as deferral (c)	1,907	3,413	5,320
Prior year pension contribution accounted for in current year (d)	-	-	-
Administrative prepaid adjustment (e)	-	-	-
Debt service (f)	4,353	13,154	17,507
Accelerated pension B&C notes obligation portion (g)	29	66	95
Lease payment (h)	825	1,008	1,833
WRAP (i)	283	401	684
DWSD short term allocation (j)	-	4,140	4,140
Improvement & Extension Fund (j)	5,684	4,197	9,881
Nonbudgeted financial reporting categories adjustments			
Depreciation (k)	(22,492)	(26,277)	(48,769)
Amortization (k)	2,105	(339)	1,766
Other nonoperating income (k)	-	-	-
Other nonoperating expense (k)	(200)	(426)	(626)
Gain(loss) on disposal of capital assets (k)	-	1	1
Raw water rights (l)	414	-	414
Investment earnings construction fund (m)	249	288	537
Net Position Increase/(Decrease) per Financial Statements (b)	\$ 3,355	\$ 2,686	\$ 6,041

Table 2- Explanatory Notes for Crosswalk

- (a) Source: Budget to Actual Table 1A and Table 1B in Monthly Financial Binder
- (b) Source: Basic Financial Statements Table 2 in Monthly Financial Binder
- (c) Current year pension payments are an expense for budget purposes but not for financial reporting purposes.

- (d) Prior year pension payments are accounted for in the current year financial statements.
- (e) The administrative fee is part of the O&M Legacy Pension shown as an expense for budget purposes. For financial reporting purposes part of the administrative fee is considered prepaid based on the prior year General Retirement System audit information and therefore not an expense for the current year financial reporting. The prepaid portion is adjusted in June each year.
- (f) Debt service (principal and interest payments) are shown as an expense for budget purposes. Most of the adjustment relates to principal payments which are not an expense for financial reporting purposes. A portion of the adjustment relates to interest expense variances on state revolving fund debt due to the timing of payment draws. The cash set aside basis for interest expense generally is the same as the accrual basis for financial reporting.
- (g) The accelerated pension payment includes the obligation payable for the B&C notes. The pension portion is included in item (c) above. This adjustment relates to the B&C note obligation payments. The principal and interest cash basis payments are treated as an expense for budget purposes. The principal portion is not an expense for financial reporting purposes. For financial reporting purposes interest is expensed on an accrual basis which is different from the cash basis.
- (h) The lease payment is included as an expense for budget and includes both principal and interest payments. Most of the adjustment relates to the principal payments which are not an expense for financial reporting purposes. A portion of the adjustment relates to interest expense which is recorded on an accrual basis for financial reporting which is different from the cash basis.
- (i) WRAP is shown as an expense for budget purposes. For financial reporting purposes the expense is not recognized until the funds have been transferred to the WRAP administrator. The adjustment shown is the amount of current year transfers that have not been transferred to the WRAP administrator. Note that there are funds from the prior year that have not been transferred to the WRAP administrator.
- (j) The DWSD short term allocation and Improvement & Extension Fund transfers are shown as an expense for budget purposes but not for financial reporting purposes. For FY 2020, the Sewer Improvement and Extension Fund adjustments also reflect a \$47 thousand Sewer Improvement and Extension Fund expense relating to a repair paid for through the Sewer Improvement and

Extension Fund. This is a consolidated expense for financial reporting purposes but is not reflected in the current Operations and Maintenance budget expenses.

- (k) Certain nonoperating income and expenses are reported in financial statements only.
- (l) The water service contract with Flint includes a license for raw water rights which has been recorded as an asset and liability by the Authority. The contract provides a credit to Flint as Flint satisfies its monthly bond payment obligation to KWA. This KWA credit is treated as a noncash payment of principal and interest on the liability recorded for the raw water rights. For budget, wholesale customer charges are net of the anticipated KWA credits to Flint as that is the cash that will be received and available to meet the budgeted revenue requirements. For financial reporting basis the Flint wholesale charges are recorded at the total amount billed. When the KWA credit is issued, the receivable from Flint is reduced and the principal and interest payments on the liability for the raw water rights are recorded as a noncash transaction. Most of the adjustment shown relates to the principal reduction made for the credits applied which are not an expense for financial reporting basis.
- (m) Investment earnings from the construction fund are not shown as revenue in the budget and are shown as revenue in the financial statements. Construction fund investment earnings are excluded from the definition of revenue for budget purposes as they are used for construction costs and are not used to meet the revenue requirements in the budget.

The Monthly Construction Work in Progress (CWIP) Summary includes the following.

1. Water System Construction Work in Progress costs incurred to date
2. Sewer System Construction Work in Progress costs incurred to date

Construction Work in Progress

Great Lakes Water Authority (GLWA) capital improvement projects generally span two or more years due to size and complexity. Therefore, the GLWA Board of Directors adopts a biennial budget that establishes allowable amounts for construction spending during that period to support a five-year capital improvement plan (CIP). The CIP is a five-year, rolling plan which is updated annually, reviewed, and formally adopted by the GLWA Board of Directors.

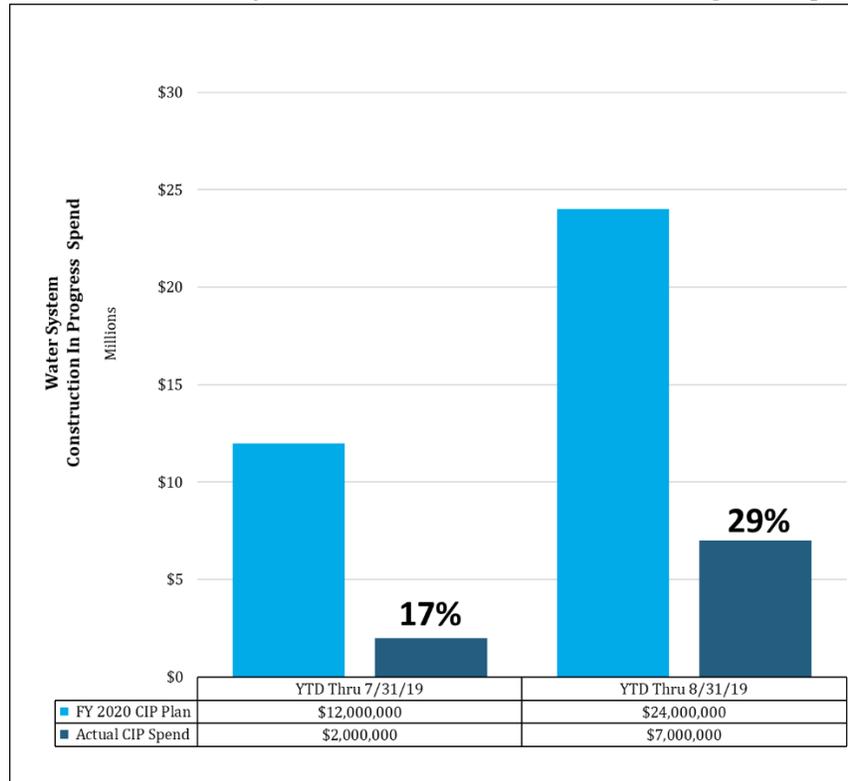
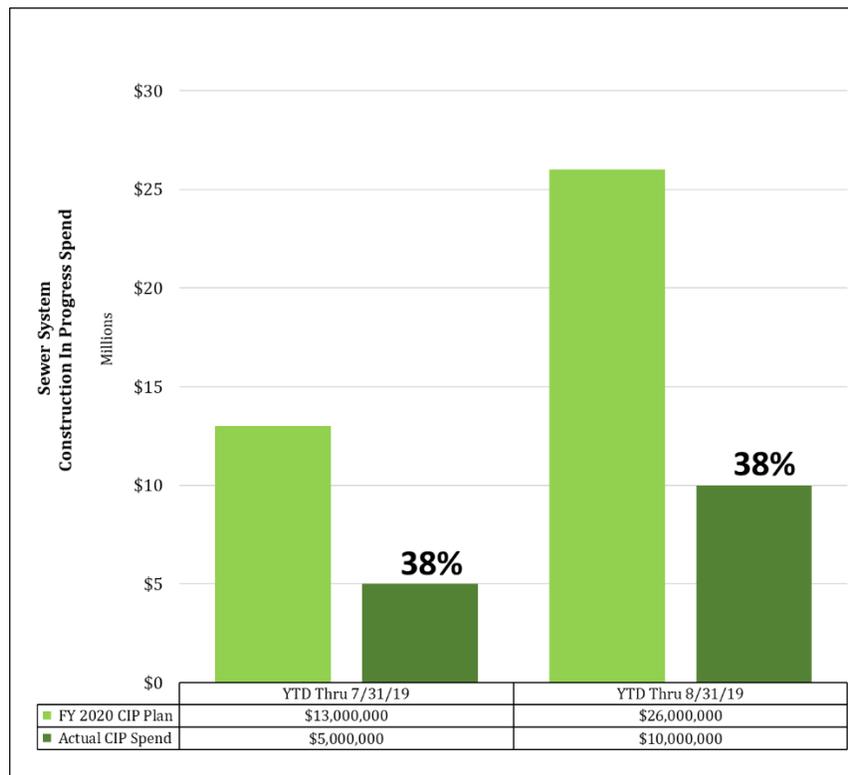
This report presents quarterly and monthly CWIP spending trends against a prorated spending plan. The prorated spending plan is calculated by dividing the total fiscal year 2020 board-approved CIP plan by twelve equal months. It should be noted that these interim reports are prepared on a modified cash basis. Known expenses, where material in nature, have been accrued.

Chart 1 – Water System Construction in Work in Progress Spend

As of August 2019, the Water system incurred nearly \$7 million of construction costs to date. While this is only 29% of the fiscal year 2020 prorated spending plan through August, future months are anticipated to increase closer to plan.

Chart 2 – Sewer System Construction in Work in Progress Spend

As of August 2019, the Sewer system incurred nearly \$10 million of construction costs to date. While this is only 38% of the fiscal year 2020 prorated spending plan through August, future months are anticipated to increase closer to plan.

Chart 1 – Water System Construction Work in Progress Spend

Chart 2 – Sewer System Construction Work in Progress Spend


This report includes the following.

1. Master Bond Ordinance (MBO) Required Transfers to Accounts Held by GLWA
2. Master Bond Ordinance (MBO) Required Transfers to Accounts Held by DWSD

MBO Transfers to Accounts Held by GLWA

GLWA Transfers: The Treasury team completes required MBO transfers on the first business day of each month. These transfers are completed in accordance with the Great Lakes Water Authority (GLWA) and Detroit Water & Sewerage Department (DWSD) budgets as approved and adopted by the GLWA Board of Directors and DWSD Board of Water Commissioners annually.

Monthly transfers for Operations & Maintenance (O&M), Pension, and Water Residential Assistance Program (WRAP) are one-twelfth of the annual, budgeted amount. Budget stabilization should not require additional funding due to new, baseline funding levels established as part of the June 2018 Memorandum of Understanding but is included to reflect historical activity. Transfers to the Extraordinary Repair & Replacement (ER&R) fund are completed annually based on budget and year-end fund status.

Table 1 - GLWA FY 2020 Water MBO Transfers reflects the required transfers for FY 2020 completed through August 1, 2019. MBO transfers for water totaling \$25.0 million have been transferred to GLWA accounts.

Table 2 - GLWA FY 2020 Sewer MBO Transfers reflects the required transfers for FY 2020 completed through August 1, 2019. MBO transfers for sewer totaling \$35.9 million have been transferred to GLWA accounts.

Table 3 - GLWA MBO Transfer History reflects historical transfers for FY 2016 through FY 2020 to date.

Table 1 – GLWA FY 2020 Water MBO Transfers

WATER							
	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Water
FY 2020							
July 2019	10,957,542	504,000	891,308	165,067	-	-	12,517,917
August 2019	10,957,542	504,000	891,308	165,067	-	-	12,517,917
Total FY 2020	\$21,915,084	\$1,008,000	\$1,782,616	\$330,134	\$0	\$0	\$25,035,834

Table 2 – GLWA FY 2020 Sewer MBO Transfers

SEWER							
	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Sewer
FY 2020							
July 2019	15,588,100	902,000	1,223,959	240,608	-	-	17,954,667
August 2019	15,588,100	902,000	1,223,959	240,608	-	-	17,954,667
Total FY 2020	\$31,176,200	\$1,804,000	\$2,447,918	\$481,216	\$0	\$0	\$35,909,334

Table 3 – GLWA MBO Transfer History

GLWA MBO Transfer History							
WATER							
	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Water
Total FY 2016	\$71,052,000	\$6,037,100	\$10,297,200	\$1,983,300	\$2,326,900	\$606,000	\$92,302,500
Total FY 2017	111,879,600	6,037,200	10,297,200	2,077,200	360,000	-	130,651,200
Total FY 2018	121,562,604	6,048,000	10,695,696	2,159,400	-	-	140,465,700
Total FY 2019	121,562,604	6,048,000	10,695,696	2,061,000	-	-	140,367,300
Total FY 2020 (2 month)	21,915,084	1,008,000	1,782,616	330,134	-	-	25,035,834
Life to Date	\$447,971,892	\$25,178,300	\$43,768,408	\$8,611,034	\$2,686,900	\$606,000	\$528,822,534
SEWER							
	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Sewer
Total FY 2016	\$100,865,600	\$10,838,400	\$14,025,800	\$2,523,400	\$5,591,700	\$779,600	\$134,624,500
Total FY 2017	175,858,800	10,838,400	14,026,800	2,654,400	2,654,400	-	206,032,800
Total FY 2018	191,079,396	10,824,000	14,687,496	2,760,804	-	-	219,351,696
Total FY 2019	191,079,396	10,824,000	14,687,496	2,870,992	-	-	219,461,884
Total FY 2020 (2 month)	31,176,200	1,804,000	2,447,918	481,216	-	-	35,909,334
Life to Date	\$690,059,392	\$45,128,800	\$59,875,510	\$11,290,812	\$8,246,100	\$779,600	\$815,380,214

MBO Required and Lease Payment Transfers to DWSD

DWSD Transfers: The GLWA Treasury team completes the required MBO transfers on the first business day of each month. These transfers are completed in accordance with the GLWA and DWSD budgets as approved and adopted by the GLWA Board of Directors and DWSD Board of Water Commissioners annually. Transfers are coordinated with other areas of GLWA Financial Services in advance of the first business day of each month. GLWA Treasury sends confirmation of transfers made to DWSD Treasury.

Monthly transfers for O&M and O&M Pension are one-twelfth of the annual, budgeted amount. The annual lease payment, as stated in the Water & Sewer Lease Agreements, is \$22,500,000 for Water and \$27,500,000 for Sewer. The monthly lease transfer is one-twelfth of the amount as stated in the Lease agreements unless otherwise designated by DWSD. 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.

Table 4 - DWSD FY 2020 Water MBO Transfers reflects the required transfers for FY 2020 completed through August 1, 2019. MBO transfers for Water totaling \$9.6 million have been transferred to accounts held by DWSD. For FY 2020, DWSD has requested that \$3,548,000.00 of the lease payment be utilized to offset a portion of debt service of which one-twelfth is applied monthly.

Table 5 - DWSD FY 2020 Sewer MBO Transfers reflects the required transfers for FY 2020 completed through August 1, 2019. MBO transfers for Sewer totaling \$15.8 million have been transferred to accounts held by DWSD. For FY 2020, DWSD has requested that \$5,032,700.00 of the lease payment be utilized to offset a portion of debt service of which one-twelfth is applied monthly.

Table 6 - DWSD MBO and Lease Payment Transfer History reflects historical transfers for FY 2016 through FY 2020 to date.

Table 4 – DWSD FY 2020 Water MBO Transfers

WATER				
	<u>Operations & Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&E Fund)</u>	<u>Total Water</u>
FY 2020				
July 2019	\$ 2,888,533	\$ 356,000	\$ 1,579,333	\$ 4,823,866
August 2019	\$ 2,888,533	\$ 356,000	\$ 1,579,333	4,823,866
Total FY 2020	\$ 5,777,066	\$ 712,000	\$ 3,158,666	\$ 9,647,732

Table 5 – DWSD FY 2020 Sewer MBO Transfers

SEWER				
	<u>Operations & Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&E Fund)</u>	<u>Total Sewer</u>
FY 2020				
July 2019	\$ 5,778,625	\$ 238,000	\$ 1,872,275	\$ 7,888,900
August 2019	\$ 5,778,625	\$ 238,000	\$ 1,872,275	7,888,900
Total FY 2020	\$ 11,557,250	\$ 476,000	\$ 3,744,550	\$ 15,777,800

Table 6 – DWSD MBO and Lease Payment Transfer History

Transfers to DWSD				
WATER				
	Operations & Maintenance	Operations & Maintenance Pension	Lease Payment (I&E Fund)	Total Water
FY 2016 *				
MBO/Lease Requirement	\$ 26,185,600	\$ 4,262,700	\$ 22,500,000	\$ 52,948,300
Offset to Debt Service	-	-	(2,326,900)	(2,326,900)
Net MBO Transfer	26,185,600	4,262,700	20,173,100	50,621,400
FY 2017				
MBO/Lease Requirement	33,596,400	4,262,400	22,500,000	60,358,800
Offset to Debt Service	-	-	-	-
Net MBO Transfer	33,596,400	4,262,400	22,500,000	60,358,800
FY 2018				
MBO/Lease Requirement	35,059,704	4,272,000	22,500,000	61,831,704
Offset to Debt Service	-	-	(1,875,000)	(1,875,000)
Net MBO Transfer	35,059,704	4,272,000	20,625,000	59,956,704
FY 2019				
MBO/Lease Requirement	35,484,300	4,272,000	22,500,000	62,256,300
Offset to Debt Service	-	-	(3,972,200)	(3,972,200)
Net MBO Transfer	35,484,300	4,272,000	18,527,800	58,284,100
FY 2020 (2 month)				
MBO/Lease Requirement	5,777,066	712,000	3,750,000	10,239,066
Offset to Debt Service	-	-	(591,334)	(591,334)
Net MBO Transfer	5,777,066	712,000	3,158,666	9,647,732
Life-to-Date				
MBO/Lease Requirement	136,103,070	17,781,100	93,750,000	247,634,170
Offset to Debt Service	-	-	(8,765,434)	(8,765,434)
Total Water	\$ 136,103,070	\$ 17,781,100	\$ 84,984,566	\$ 238,868,736
SEWER				
	Operations & Maintenance	Operations & Maintenance Pension	Lease Payment (I&E Fund)	Total Water
FY 2016 *				
MBO/Lease Requirement	\$ 19,774,300	\$ 2,861,800	\$ 27,500,000	\$ 50,136,100
Offset to Debt Service	-	-	(19,991,500)	(19,991,500)
Total MBO Transfer	19,774,300	2,861,800	7,508,500	30,144,600
FY 2017				
MBO/Lease Requirement	41,535,600	2,862,000	27,500,000	71,897,600
Offset to Debt Service	-	-	-	-
Total MBO Transfer	41,535,600	2,862,000	27,500,000	71,897,600
FY 2018				
MBO/Lease Requirement	60,517,992	2,856,000	27,500,000	90,873,992
Offset to Debt Service	-	-	(9,166,664)	(9,166,664)
Total MBO Transfer	60,517,992	2,856,000	18,333,336	81,707,328
FY 2019				
MBO/Lease Requirement	56,767,920	2,856,000	27,500,000	87,123,920
Offset to Debt Service	-	-	(4,415,000)	(4,415,000)
Total MBO Transfer	56,767,920	2,856,000	23,085,000	82,708,920
FY 2020 (2 month)				
MBO/Lease Requirement	11,557,250	476,000	4,583,333	16,616,583
Offset to Debt Service	-	-	(838,783)	(838,783)
Total MBO Transfer	11,557,250	476,000	3,744,550	15,777,800
Life-to-Date				
MBO/Lease Requirement	190,153,062	11,911,800	114,583,333	316,648,195
Offset to Debt Service	-	-	(34,411,947)	(34,411,947)
Total Sewer	\$ 190,153,062	\$ 11,911,800	\$ 80,171,386	\$ 282,236,248

* **Note:** FY 2016 lease transfer amounts shown do not include prepayment on the lease amount for the 6 month period before bifurcation.

This report includes the following:

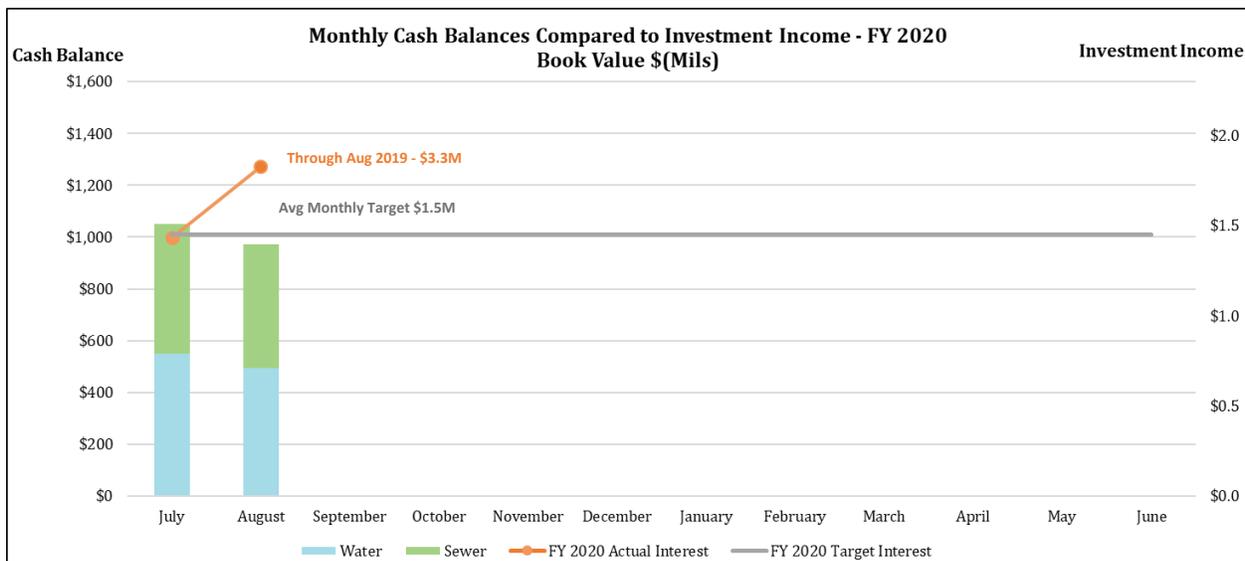
1. Monthly Cash Balances Compared to Investment Income
2. Cash Balance Detail

Monthly Cash Balances Compared to Investment Income

GLWA's investment holdings comply with the requirements of Public Act 20 of 1948, as amended and the GLWA Investment Policy. The cash balances shown in this report include bank deposits, money market funds, a local government investment pool, U.S. Treasuries, Federal Agencies, and commercial paper.

Cash and investment balances change each month based on Master Bond Ordinance (MBO) funding requirements, operational needs, capital spending pace, and mandatory debt payments. Investment income fluctuates monthly based on cash and investment balances as well as market conditions and investment strategy. The cumulative investment earnings through August 2019 of \$3.3 million is 19% of the FY 2020 target of \$17.4 million. As the market environment fluctuates, GLWA will continue to monitor the FY 2020 target.

Chart 1 – Monthly Cash Balances Compared to Investment Income – Through August 2019



\$(Mils)	July	August	September	October	November	December	January	February	March	April	May	June
Water	\$549	\$494										
Sewer	\$501	\$479										
Total	\$1,050	\$973										
Investment Income	\$1.4	\$1.8										

Cash Balance Detail

Funds Held By GLWA: GLWA cash balances are held in accounts as defined by the Master Bond Ordinance. The accounts are funded by monthly transfers, as stipulated in the MBO, on the first business day of each month. The “operations and maintenance” (O&M) fund transfer amounts are based upon the annual O&M budget approved by the GLWA Board of Directors for the regional systems and by the Board of Water Commissioners for the Detroit Water & Sewerage Department (DWSD) local system budgets. The water and sewer funds held by GLWA and their purpose, as defined by the MBO, are listed below.

Funds Held Within Trust:

- Receiving – all retail and wholesale revenues collected which are distributed in subsequent month(s)
- Debt Service – funds set aside for debt service and debt reserve requirements
- Pension Obligation – funds set aside to meet GLWA’s annual funding requirements for the legacy General Retirement System Pension Plan
- Water Residential Assistance Program (WRAP) – funds set aside to be used to provide financial assistance to qualified residents throughout the local and regional water system as directed by program guidelines
- Budget Stabilization – funds held by GLWA on behalf of DWSD that can be applied against shortfalls in retail revenues
- Emergency Repair & Replacement (ER&R) – funds set aside to pay the costs for major unanticipated repairs and replacements of the local and regional systems
- Improvement & Extension (I&E) – funds set aside to be used for the improvements, enlargements and extensions of the regional system

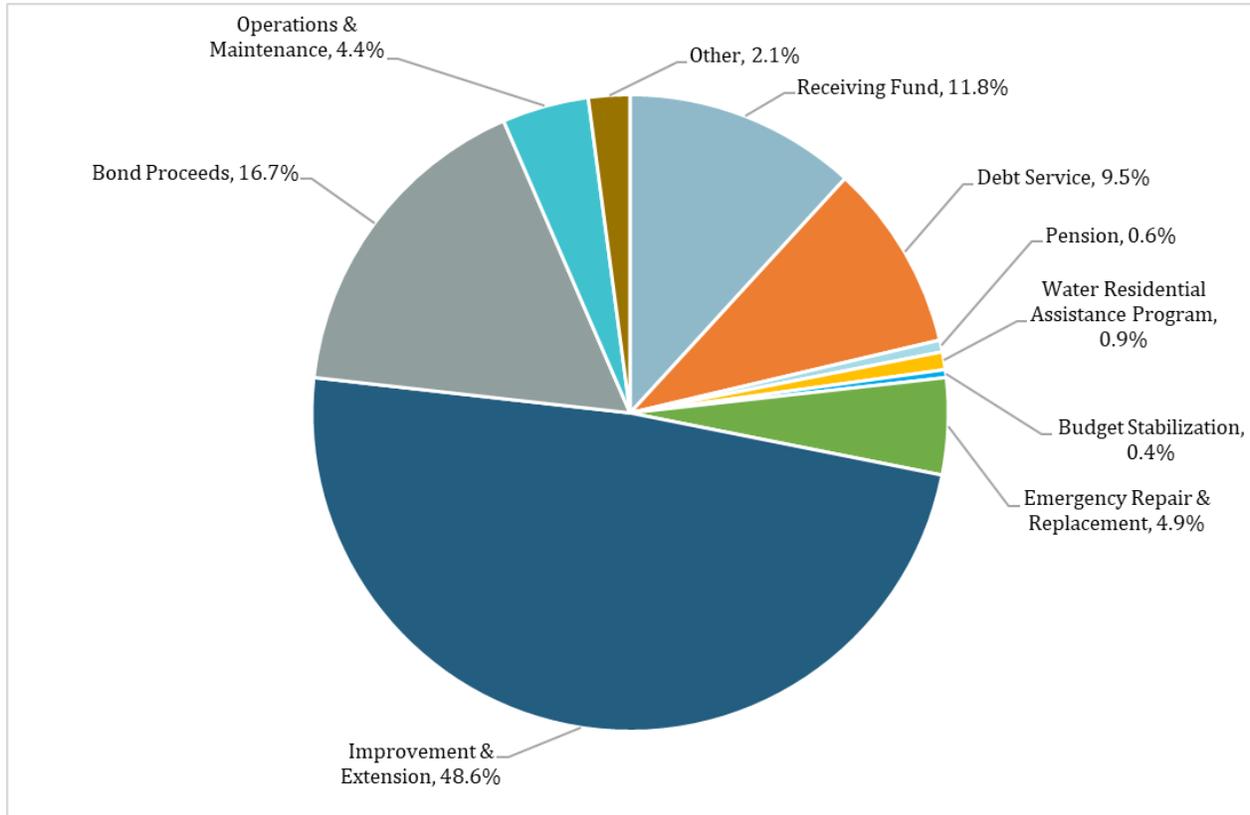
Funds Held Outside Trust:

- Bond Proceeds – funds raised from debt issuance used for costs of repairs, construction, and improvements of the regional system
- Operations & Maintenance (O&M) – funds used to meet the operational and maintenance requirements of the regional system
- Other – retainage funds held on behalf of contractors and security deposit funds held on behalf of the City of Flint

A [chart](#) depicting the follow of funds is online at glwater.org as well as the [MBO](#) documents.

Chart 2 – Cash Balances - Water Funds as of August 31, 2019 - Shows the allocation of the balance among the different categories defined in the section above. The total cash balance for Water Funds as of August 31, 2019 is \$494 million. The allocation of balances among the I&E, bond proceeds, and debt service reserve funds reflects GLWA’s commitment to funding capital improvements and meeting debt reserve requirements while simultaneously increasing I&E resources to fund pay-as-you-go capital funding to reduce long-term debt in the future.

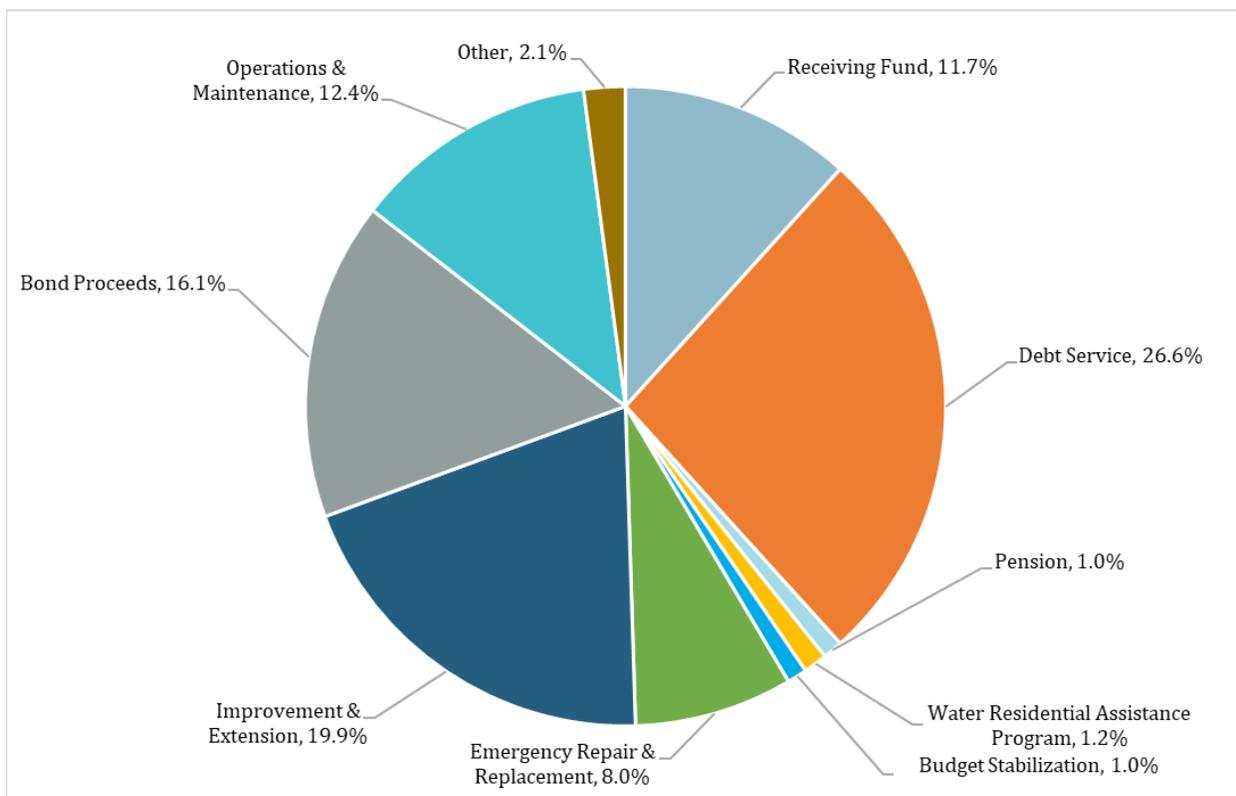
Chart 2 – Cash Balances - Water Funds as of August 31, 2019



Note: Due to rounding totals may not equal 100%.

Chart 3 – Cash Balances - Sewer Funds as of August 31, 2019 - Shows the allocation of the balance among the different funds defined in the section above. The total cash balance for Sewer Funds as of August 31, 2019 is \$479 million. Like the Water Funds, the allocation of balances among the I&E, bond proceeds, and debt service reserve funds reflects GLWA’s commitment to funding capital improvements and meeting debt reserve requirements while simultaneously increasing I&E resources to fund pay-as-you-go capital funding to reduce long-term debt in the future. The pace for Sewer Funds I&E deposits has been less than budget to address a budget shortfall over multiple years by DWSD. Beginning in February 2019, DWSD began making payments which will replenish the I&E Fund.

Chart 3 – Cash Balances - Sewer Funds as of August 31, 2019



Note: Due to rounding totals may not equal 100%.

Retail Revenues, Receivables, and Collections: Pursuant to the terms of the lease agreement between the City of Detroit and the Great Lakes Water Authority (GLWA), the Detroit Water & Sewerage Department (DWSD) serves as GLWA's agent for billing activities for the City of Detroit retail customer class. All water and sewer service collections from DWSD customers are deposited in a trust account and are administered in accordance with the GLWA Master Bond Ordinance.

The Monthly Retail Revenues, Receivables, & Collections Report includes the following.

1. DWSD Retail Water Revenue Billings and Collections
2. DWSD Retail Sewer Revenue Billings and Collections
3. DWSD Retail Water & Sewer System Accounts Receivable Aging Report

Note: Wholesale customer revenues are billed by the Great Lakes Water Authority.

DWSD Retail Water Billings and Collections

Retail Billing Basis: DWSD bills retail customers monthly. Customers are billed throughout the month in cycles based on a meter reading schedule beginning with residential accounts and ending with commercial and industrial customers.

Table 1 - DWSD Retail Billings shows the FY 2020 water usage and billed revenue which are provided by DWSD staff. As of August 31, 2019, the DWSD usage was at 91.46% of the budget and billed revenue was at 97.79% of budget.

DWSD Retail Water Collections: The collections represent payments made by DWSD retail customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA's Master Bond Ordinance.

Table 2 - Retail Water Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods.

Table 1 – FY 2020 DWSD Retail Water Billings Report

RETAIL WATER CUSTOMERS								
Month (1)	FY 2020 - Budget/Goal			FY 2020 - Actual			FY 2020 - Variance	
	Volume	Revenue	Unit Revenue	Volume	Revenue (2)	Unit Revenue	Volume	Revenue
	Mcf	\$	\$/Mcf	Mcf	\$	\$/Mcf	Mcf	\$
July	286,871	9,909,302	34.54	267,054	9,670,167	36.21	(19,817)	(239,135)
August	288,810	9,698,584	33.58	259,489	9,504,240	36.63	(29,321)	(194,344)
September	246,846	9,159,992	37.11					
October	228,814	8,288,490	36.22					
November	218,154	8,078,402	37.03					
December	216,372	7,975,070	36.86					
January	228,259	8,282,968	36.29					
February	225,150	8,294,177	36.84					
March	222,601	8,159,386	36.65					
April	215,049	8,120,879	37.76					
May	230,957	8,499,721	36.80					
June	254,554	9,084,129	35.69					
Total	2,862,437	103,551,100	36.18	526,543	19,174,407	36.42	(49,138)	(433,479)
Subtotals ytd	575,681	19,607,886	34.06	526,543	19,174,407	36.42	(49,138)	(433,479)
Achievement of Budget				91.46%	97.79%			

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

(2) Retail Revenues include Miscellaneous Revenues and Penalties

Table 2 – DWSD Retail Water Collections

Water				
Month	Current Year	Prior Year	Variance	Ratio
September	9,766,449	8,949,906	816,543	9.12%
October	9,015,400	9,528,528	(513,128)	-5.39%
November	7,938,517	8,049,328	(110,811)	-1.38%
December	7,297,698	8,265,636	(967,938)	-11.71%
January	8,158,817	8,066,448	92,369	1.15%
February	7,927,299	6,432,245	1,495,054	23.24%
March	8,707,578	8,280,635	426,943	5.16%
April	8,475,657	9,226,675	(751,018)	-8.14%
May	8,415,767	8,969,019	(553,252)	-6.17%
June	7,554,457	7,940,939	(386,482)	-4.87%
July	8,093,394	7,858,272	235,122	2.99%
August	8,671,848	8,692,784	(20,936)	-0.24%
Rolling, 12-Month Total	100,022,881	100,260,415		
Rolling, 12-Month Average	8,335,240	8,355,035		

DWSD Retail Sewer Billings and Collections

Retail billing basis: DWSD bills retail customers monthly. Customers are billed throughout the month in cycles based on a meter reading schedule beginning with residential accounts and ending with commercial and industrial customers.

Table 3 - DWSD Retail Sewer Billings shows the FY 2020 sewer billed revenue which are provided by DWSD staff. As of August 31, 2019, the DWSD usage was at 96.29% of the budget and billed revenue was at 98.23% of budget.

DWSD Retail Sewer Collections: The collections represent payments made by DWSD retail customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA's Master Bond Ordinance.

Table 4 - DWSD Retail Sewer Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods.

Table 3 – FY 2020 DWSD Retail Sewer Billings Report

RETAIL SEWER CUSTOMERS						
Month (1)	FY 2020 - Budget/Goal		FY 2020 - Actual		FY 2020 - Variance	
	Volume	Revenue	Volume	Revenue (2)	Volume	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$
July	251,738	28,535,420	244,810	27,985,611	(6,928)	(549,809)
August	258,984	28,327,270	246,989	27,871,381	(11,995)	(455,889)
September	255,527	26,788,442				
October	227,141	26,444,548				
November	211,617	25,759,684				
December	195,192	25,905,017				
January	197,099	26,341,264				
February	206,164	26,312,394				
March	200,672	26,467,728				
April	204,606	25,894,612				
May	203,480	27,185,600				
June	218,340	27,376,921				
Total	2,630,560	321,338,900	491,799	55,856,992	(18,923)	(1,005,698)
<i>Subtotals ytd</i>	<i>510,722</i>	<i>56,862,690</i>	<i>491,799</i>	<i>55,856,992</i>	<i>(18,923)</i>	<i>(1,005,698)</i>
<i>Achievement of Budget/Goal</i>			<i>96.29%</i>	<i>98.23%</i>		

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

(2) Retail Revenues include Miscellaneous Revenues and Penalties

Table 4 – DWSD Retail Sewer Collections

Sewer				
Month	Current Year	Prior Year	Variance	Ratio
September	23,727,505	21,320,358	2,407,147	11.29%
October	23,938,933	23,786,903	152,030	0.64%
November	20,624,039	19,485,270	1,138,769	5.84%
December	19,612,154	19,522,952	89,203	0.46%
January	21,140,835	18,308,458	2,832,377	15.47%
February	20,758,852	17,495,563	3,263,289	18.65%
March	22,111,691	23,015,525	(903,834)	-3.93%
April	20,930,511	16,159,844	4,770,667	29.52%
May	22,807,283	18,341,298	4,465,985	24.35%
June	20,426,151	21,461,926	(1,035,775)	-4.83%
July	20,940,157	27,332,605	(6,392,448)	-23.39%
August	23,175,643	21,746,714	1,428,929	6.57%
Rolling 12-Month Total	260,193,754	247,977,415		
Rolling, 12-Month Average	21,682,813	20,664,785		

DWSD Retail Water and Sewer Accounts Receivable Aging Report

The DWSD detailed accounts receivable aging is categorized by customer category.

Table 5 is a summary of the total, current and non-current Water and Sewer receivables by category as of August 31, 2019 with comparative totals from August 31, 2018.

Table 5 – DWSD Retail Accounts Receivable Aging Report – Water & Sewer Combined

Sales Class	# of Accounts	Avg. Balance	Current	> 30 Days	> 60 Days	> 180 Days	Accounts Receivable Balance
Residential	287,191	\$ 326.62	\$ 15,670,000 16.7%	\$ 7,148,000 7.6%	\$ 17,698,000 18.9%	\$ 53,287,000 56.8%	\$ 93,803,000 100.0%
Commercial	28,134	1,403.55	10,204,000 25.8%	3,504,000 8.9%	6,532,000 16.5%	19,247,000 48.7%	39,487,000 100.0%
Industrial	4,811	3,632.49	5,015,000 28.7%	1,011,000 5.8%	2,704,000 15.5%	8,746,000 50.0%	17,476,000 100.0%
Tax Exempt Entities	8,131	1,874.29	2,697,000 17.7%	947,000 6.2%	2,343,000 15.4%	9,253,000 60.7%	15,240,000 100.0%
Government Entities	2,859	1,640.14	1,557,000 33.2%	206,000 4.4%	808,000 17.2%	2,117,000 45.2%	4,689,000 100.0%
Subtotal - Active Accounts	331,126	\$ 515.50	\$ 35,143,000 20.6%	\$ 12,816,000 7.5%	\$ 30,086,000 17.6%	\$ 92,650,000 54.3%	\$ 170,696,000 100.0%
Inactive Accounts	266,543	83.55	144,000 0.6%	180,000 0.8%	1,251,000 5.6%	20,694,000 92.9%	22,269,000 100.0%
Total	597,669	\$ 322.86	\$ 35,287,000	\$ 12,996,000	\$ 31,336,000	\$ 113,345,000	\$ 192,965,000
% of Total A/R			18.3%	6.7%	16.2%	58.7%	100.0%
Water Fund	223,909	180.01	\$ 8,748,000	\$ 2,362,000	\$ 6,096,000	\$ 23,101,000	\$ 40,306,000
Sewer Fund	284,603	536.39	\$ 26,540,000	\$ 10,634,000	\$ 25,241,000	\$ 90,244,000	\$ 152,659,000
Total August 31, 2019	597,669	322.86	\$ 35,287,000	\$ 12,996,000	\$ 31,336,000	\$ 113,345,000	\$ 192,965,000
Water Fund- Allowance							\$ (25,711,000)
Sewer Fund- Allowance							\$ (88,163,000)
Total August 31, 2019 Bad Debt Allowance							\$ (113,874,000)
Comparative Totals from August 31, 2018	580,345	297.07	\$ 33,235,000	\$ 10,763,000	\$ 29,850,000	\$ 98,555,000	\$ 172,402,000

The Monthly Wholesale Billings, Receivables, & Collections Report includes the following.

1. Wholesale Water Billings and Collections
2. Wholesale Sewer Billings and Collections
3. City of Highland Park Billings and Collections
4. Wholesale Water & Sewer Accounts Receivable Aging Report

Wholesale Water Billings and Collections

Wholesale Water Contracts: Great Lakes Water Authority (GLWA) provides wholesale water service to 87 member-partners through a variety of service arrangements.

Service Arrangement Type

Model Contract	82
Emergency	1
Older Contracts	<u>4</u>
Total	<u>87</u>

Note: Services are provided to the Detroit Water & Sewerage Department (DWSD) via a Water and Sewer Services Agreement (WSSA). See the “Retail Revenues, Receivables, and Collections Report” section of this monthly report.

Wholesale Water Billing Basis: Beginning with FY 2016, wholesale water charges were restructured to create a more stable revenue stream by using a historical rolling average to project customer volumes which accounts for 40% of the monthly charges and 60% of the annual customer revenue requirement as a monthly fixed charge.

Table 1 - Wholesale Water Billings shows the FY 2020 water billed usage and revenues. As of August 31, 2019, the billed usage was at 93.19% of budget and billed revenue at 96.71% of budget. Billings and usage from the City of Flint are included as they were assumed in the FY 2020 Budget.

Wholesale Water Collections: The collections represent payments made by wholesale customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA’s Master Bond Ordinance.

Table 2 - Wholesale Water Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods. The difference in rolling average from current year to prior year reflects the gentle downward trend in water usage over time.

Table 1 - FY 2020 Wholesale Water Billings Report

WHOLESALE WATER CUSTOMERS								
Month (1)	FY 2020 - Budget/Goal			FY 2020 - Actual			FY 2020 - Variance	
	Volume	Revenue	Unit	Volume	Revenue	Unit	Volume	Revenue
	Mcf	\$	\$/Mcf	Mcf	\$	\$/Mcf	Mcf	\$
July	1,777,138	32,544,400	18.31	1,545,631	30,356,570	19.64	(231,507)	(2,187,830)
August	1,549,587	30,383,100	19.61	1,554,426	30,501,606	19.62	4,839	118,506
September	1,368,496	28,270,400	20.66					
October	1,066,653	25,351,200	23.77					
November	917,034	24,049,100	26.22					
December	1,004,420	24,714,000	24.61					
January	1,018,192	24,861,000	24.42					
February	893,007	23,780,800	26.63					
March	1,008,766	24,753,300	24.54					
April	948,751	24,262,000	25.57					
May	1,073,966	25,549,300	23.79					
June	1,383,200	28,595,300	20.67					
Total	14,009,210	317,113,900	22.64	3,100,057	60,858,176	19.63	(226,668)	(2,069,324)
Subtotals ytd	3,326,725	62,927,500	18.92	3,100,057	60,858,176	19.63	(226,668)	(2,069,324)
Achievement of Budget				93.19%	96.71%			

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

Table 2 - Wholesale Water Collections

Water				
Month	Current Year	Prior Year	Variance	Ratio
September	26,037,313	26,757,992	(720,679)	-2.69%
October	27,827,722	38,336,777	(10,509,055)	-27.41%
November	29,238,260	27,261,391	1,976,869	7.25%
December	27,720,646	22,125,972	5,594,674	25.29%
January	23,430,974	32,002,334	(8,571,360)	-26.78%
February	26,147,082	21,352,903	4,794,179	22.45%
March	24,967,335	27,715,696	(2,748,361)	-9.92%
April	23,045,654	18,489,754	4,555,900	24.64%
May	20,755,103	30,447,581	(9,692,478)	-31.83%
June	25,676,458	21,815,013	3,861,445	17.70%
July	23,212,979	21,923,590	1,289,389	5.88%
August	28,808,254	31,920,586	(3,112,332)	-9.75%
Rolling 12-Month Total	306,867,780	320,149,589		
Rolling, 12-Month Average	25,572,315	26,679,132		

Wholesale Sewer Billings and Collections

Wholesale Sewer Contracts: GLWA provides wholesale sewer service to 18 member-partners via multiple service arrangements.

Service Arrangement Type

Model Contract	11
Emergency	0
Older Contracts	<u>7</u>
Total	<u><u>18</u></u>

Note: Services are provided to the Detroit Water & Sewerage Department via a Water and Sewer Services Agreement (WSSA). See the “Retail Revenues, Receivables, and Collections Report” section of the monthly report.

Wholesale Sewer Billing Basis: Beginning in FY 2015, the “sewer rate simplification” initiative was applied which provides for a stable revenue stream and predictability for our member partners. Wholesale sewer customers are billed a fixed monthly fee based upon the annual revenue requirement.

Table 3 - Wholesale Sewer Billings shows the FY 2020 sewer billed revenue. Consistent with expectations as a result of sewer rate simplification, billed revenue is at 100.00% of budget through August 31, 2019.

Wholesale Sewer Collections: The collections represent payments made by wholesale customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA’s Master Bond Ordinance.

Table 4 - Wholesale Sewer Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods. The year-over-year rolling average from FY 2019 to FY 2020 remains consistent.

The shift in wholesale sewer collection patterns is largely attributable to the timing of payments received. There are several large accounts whose payments swing between the end of the current month and the beginning of the next month. Table 6 confirms that these payments are not delinquent as sewer past due balances relate in full to Highland Park.

Table 3 – FY 2020 Wholesale Sewer Billings Report

WHOLESALE SEWER CUSTOMERS						
Month (1)	FY 2020 - Budget/Goal		FY 2020 - Actual		FY 2020 - Variance	
	Volume (2)	Revenue	Volume (2)	Revenue	Volume (2)	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$
July	N/A	22,882,500	N/A	22,882,500	N/A	-
August	N/A	22,882,500	N/A	22,882,500	N/A	-
September	N/A	22,882,500	N/A		N/A	
October	N/A	22,882,500	N/A		N/A	
November	N/A	22,882,500	N/A		N/A	
December	N/A	22,882,500	N/A		N/A	
January	N/A	22,882,500	N/A		N/A	
February	N/A	22,882,500	N/A		N/A	
March	N/A	22,882,500	N/A		N/A	
April	N/A	22,882,500	N/A		N/A	
May	N/A	22,882,500	N/A		N/A	
June	N/A	22,882,500	N/A		N/A	
Total		274,590,000		45,765,000		-
<i>Subtotals ytd</i>		45,765,000		45,765,000		-
<i>Achievement of Budget</i>				100.00%		

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

(2) Not tracked as part of the wholesale sewer charges.

Table 4 - Wholesale Sewer Collections

Sewer				
Month	Current Year	Prior Year	Variance	Ratio
September	22,672,400	21,040,913	1,631,487	7.75%
October	16,105,200	21,902,800	(5,797,600)	-26.47%
November	28,633,300	22,662,700	5,970,600	26.35%
December	24,440,000	23,643,400	796,600	3.37%
January	26,874,927	22,057,972	4,816,955	21.84%
February	13,895,100	30,280,800	(16,385,700)	-54.11%
March	22,388,600	15,552,000	6,836,600	43.96%
April	23,203,703	27,812,417	(4,608,714)	-16.57%
May	9,284,000	15,342,700	(6,058,700)	-39.49%
June	32,639,436	28,810,500	3,828,936	13.29%
July	27,222,400	16,179,117	11,043,283	68.26%
August	35,153,500	28,384,600	6,768,900	23.85%
Rolling 12-Month Total	282,512,566	273,669,919		
Rolling, 12-Month Average	23,542,714	22,805,827		

City of Highland Park Billings and Collections

The City of Highland Park is provided water service pursuant to an emergency service basis. Sewer service is provided pursuant to a 1982 amended contract which indicates that the parties are guided in their legal relationship by a Michigan Supreme Court decision from 1949.

As of August 31, 2019, Highland Park had a delinquent balance of \$41.7 million, including \$32.4 million for wastewater treatment services, \$1.7 million for industrial waste control services, and \$7.6 million for water supply services.

Table 5 - City of Highland Park Billings and Collections provides a life-to-date balance summary of the billing and collection history for Highland Park with detail provided for fiscal year 2020 through August 31, 2019. Please note the numbers below reflect the month the billing was sent and not the month the service was provided. A life-to-date summary is provided as an appendix to this monthly financial report.

Table 5 - City of Highland Park Billings and Collections

	Water	Sewer	IWC	Total
September 30, 2018 Balance	6,440,247	31,874,311	1,639,270	39,953,828
October 2018 Billing	109,298	467,900	4,281	581,479
October 2018 Payments	-	-	-	-
October 31, 2018 Balance	6,549,545	32,342,211	1,643,551	40,535,307
November 2018 Billing	104,007	467,900	3,963	575,869
November 2018 Payments	-	-	-	-
November 30, 2018 Balance	6,653,552	32,810,111	1,647,514	41,111,176
December 2018 Billing	101,944	467,900	3,961	573,805
December 2018 Payments	-	-	-	-
December 31, 2018 Balance	6,755,496	33,278,011	1,651,474	41,684,981
January 2019 Billing	98,430	467,900	3,961	570,290
January 2019 Payments	-	(2,116,727)	-	(2,116,727)
January 31, 2019 Balance	6,853,926	31,629,183	1,655,435	40,138,544
February 2019 Billing	98,898	467,900	3,932	570,731
February 2019 Payments	-	-	-	-
February 28, 2019 Balance	6,952,824	32,097,083	1,659,368	40,709,275
March 2019 Billing	98,353	467,900	3,881	570,134
March 2019 Payments	-	-	-	-
March 31, 2019 Balance	7,051,177	32,564,983	1,663,248	41,279,409
April 2019 Billing	99,879	467,900	4,101	571,880
April 2019 Payments	-	(1,089,003)	-	(1,089,003)
April 30, 2019 Balance	7,151,056	31,943,880	1,667,350	40,762,286
May 2019 Billing	98,118	467,900	3,963	569,981
May 2019 Payments	-	-	-	-
May 31, 2019 Balance	7,249,174	32,411,780	1,671,312	41,332,267
June 2019 Billing	101,871	467,900	3,931	573,702
June 2019 Payments	-	(1,406,836)	-	(1,406,836)
June 30, 2019 Balance	7,351,045	31,472,844	1,675,243	40,499,132
July 2019 Billing	104,702	467,900	4,121	576,722
July 2019 Payments	-	-	-	-
July 31, 2019 Balance	7,455,747	31,940,744	1,679,363	41,075,854
August 2019 Billing	106,638	472,500	4,026	583,164
August 2019 Payments	-	-	-	-
August 31, 2019 Balance	7,562,385	32,413,244	1,683,389	41,659,018

Wholesale Water & Sewer Accounts Receivable Aging Report

The detailed accounts receivable aging is in the Appendix to this monthly report. This report reflects the wholesale receivables only and does not include DWSD.

Table 6 - Wholesale Accounts Receivable Aging Report Summary is a summary of the total, current and non-current receivables by category as of August 31, 2019.

Table 7 - Wholesale Accounts Receivable Aging Report, Net of Highland Park is the same summary *without* the past due balances for the City of Highland Park. The \$2,056,000 sewer balance that is 46-74 days past due is made up of a balance for Wayne County Northeast. The balance is not past due and is showing due to an adjustment that was made in the billing system. The correct balance will be reflected on the September 2019 report.

Table 8 - Wholesale Accounts Receivable Aging Report, Net of Highland Park and WTUA is a summary *without* the past due balances for the City of Highland Park and net of pending credits for certain n Western Township Utilities Authority (WTUA). Credits for billed services are pending receipt of a final agreement from Wayne County to effectuate a transfer retroactive to July 1, 2018.

Table 6 - Wholesale Accounts Receivable Aging Report Summary

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 41,707,531.33	\$ 34,355,202.65	\$ 103,154.73	\$ 98,117.93	\$ 7,151,056.02
Sewer	\$ 39,512,743.61	\$ 5,515,999.50	\$ 2,523,900.00	\$ 467,900.00	\$ 31,004,944.11
IWC	\$ 3,392,914.85	\$ 554,382.36	\$ 54,887.36	\$ 45,892.86	\$ 2,737,752.27
Pollutant Surcharge	\$ 1,232,335.54	\$ 1,166,596.12	\$ 18,209.73	\$ 1,835.21	\$ 45,694.48
Total	\$ 85,845,525.33	\$ 41,592,180.63	\$ 2,700,151.82	\$ 613,746.00	\$ 40,939,446.88
	100.00%	48.45%	3.15%	0.71%	47.69%

Table 7 - Wholesale Accounts Receivable Aging Report, Net of Highland Park

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 34,145,146.98	\$ 34,143,863.36	\$ 1,283.62	\$ -	\$ -
Sewer	\$ 7,099,499.50	\$ 5,043,499.50	\$ 2,056,000.00	\$ -	\$ -
IWC	\$ 1,709,525.57	\$ 550,356.78	\$ 50,766.51	\$ 41,962.27	\$ 1,066,440.01
Pollutant Surcharge	\$ 1,232,335.54	\$ 1,166,596.12	\$ 18,209.73	\$ 1,835.21	\$ 45,694.48
Total	\$ 44,186,507.59	\$ 40,904,315.76	\$ 2,126,259.86	\$ 43,797.48	\$ 1,112,134.49
	100.00%	92.57%	4.81%	0.10%	2.52%

Table 8 - Wholesale Accounts Receivable Aging Report, Net of Highland Park and WTUA

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 34,145,146.98	\$ 34,143,863.36	\$ 1,283.62	\$ -	\$ -
Sewer	\$ 7,099,499.50	\$ 5,043,499.50	\$ 2,056,000.00	\$ -	\$ -
IWC	\$ 541,310.80	\$ 515,777.69	\$ 14,394.75	\$ 5,590.51	\$ 5,547.85
Pollutant Surcharge	\$ 1,232,335.54	\$ 1,166,596.12	\$ 18,209.73	\$ 1,835.21	\$ 45,694.48
Total	\$ 43,018,292.82	\$ 40,869,736.67	\$ 2,089,888.10	\$ 7,425.72	\$ 51,242.33
	100.00%	95.00%	4.86%	0.02%	0.12%

Note: percentages vary from 100% due to rounding.

The Monthly Trust Receipts & Disbursements Report includes the following.

1. GLWA Trust Receipts & Disbursements – Net Cash Flows and Receipts
2. DWSD Trust Receipts & Disbursements – Net Cash Flows, Receipts & Loan Receivable
3. Combined System Trust Receipts & Disbursements – Net Cash Flows

GLWA Trust Receipts & Disbursements

Net Cash Flows and Receipts Basis: The trusts established pursuant to the Master Bond Ordinance (MBO) outline a flow of funds that governs the priority of the application of cash receipts from both the regional wholesale (i.e. Great Lakes Water Authority or GLWA) and local retail (i.e. Detroit Water & Sewerage Department or DWSD) activities which are further separated by the water system and the sewage disposal system.

This report provides an ongoing status of the net cash flow of both organizations (GLWA and DWSD) to fund their allocated share of Master Bond Ordinance requirements in accordance with the leases for the regional systems.

Table 1 – GLWA Net Cash Flows from Trust Receipts & Disbursements provides a summary of cash receipt collections and required MBO transfers by fiscal year as well as a total of all activity for GLWA since inception at January 1, 2016. Fiscal year 2020 reflects two months of activity to date.

Water fund activity exceeded required MBO disbursements by 19% through August 31, 2019 with a historical ratio of cash receipts exceeding MBO disbursements by 15% since January 1, 2016.

Sewer fund cash receipts exceeded disbursements by 33% through August 31, 2019 with a historical ratio of cash receipts exceeding MBO disbursements by 6% since January 1, 2016. This is a continued correction of the lower net receipts at yearend related to late payments by a large customer which have been fully caught up in October. This ratio is expected to return to its average level consistent with prior years over the next several periods.

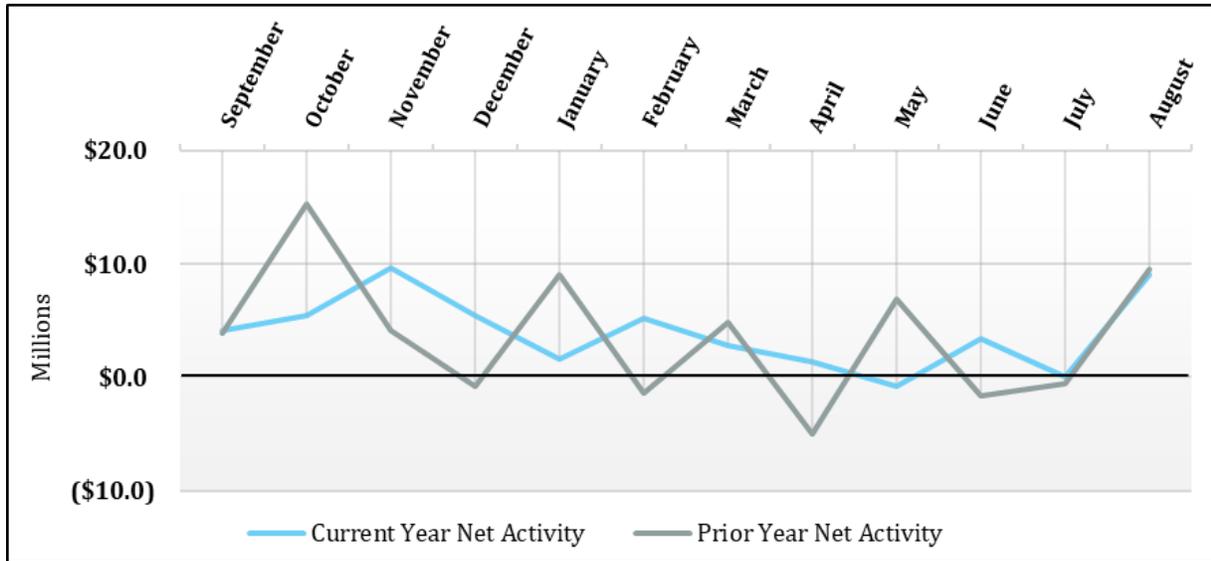
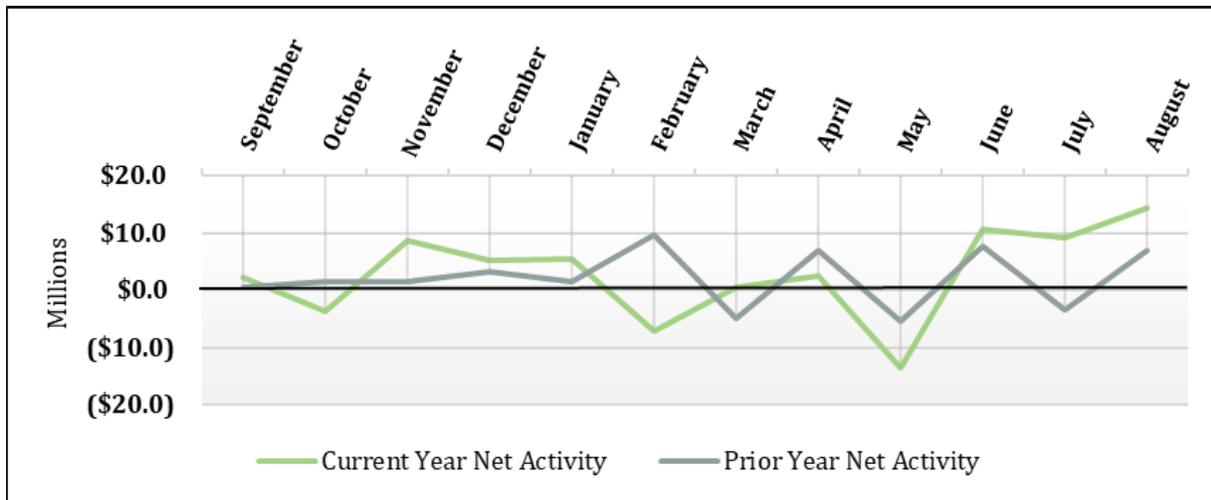
Chart 1 – GLWA 12-Month Net Receipts – Water outlines monthly cash receipt trends across two points of reference for the regional water system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

Chart 2 – GLWA 12-Month Net Receipts – Sewer outlines monthly cash receipt trends across two points of reference for the regional sewer system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

Table 1 – GLWA Net Cash Flows from Trust Receipts & Disbursements

	FY 2016	FY 2017	FY 2018	FY 2019 (Prelim)	FY 2020	Life-to-Date Total
Water						
1 Receipts	\$ 149,688,711	\$ 352,941,909	\$ 338,452,001	\$ 336,594,234	\$ 56,329,051	\$1,234,005,906
2 MOU Adjustments	-	-	-	-	-	-
3 Adjusted Receipts	149,688,711	352,941,909	338,452,001	336,594,234	56,329,051	1,234,005,906
4 Disbursements	(146,256,185)	(288,777,985)	(297,064,810)	(289,230,481)	(47,214,728)	(1,068,544,189)
5 Receipts Net of Required Transfers	3,432,526	64,163,924	41,387,191	47,363,753	9,114,323	165,461,717
6 I&E Transfer	-	-	(25,739,700)	(47,695,000)	-	(73,434,700)
7 Net Receipts	\$ 3,432,526	\$ 64,163,924	\$ 15,647,491	\$ (331,247)	\$ 9,114,323	\$ 92,027,017
8 <i>Ratio of Receipts to Required Disbursements (Line 3/Line 4)</i>	102%	122%	114%	116%	119%	115%
Sewer						
9 Receipts	\$ 232,377,715	\$ 469,788,882	\$ 476,269,761	\$ 467,743,744	\$ 96,402,774	\$1,742,582,876
10 MOU Adjustments	-	-	-	-	-	-
11 Adjusted Receipts	232,377,715	469,788,882	476,269,761	467,743,744	96,402,774	1,742,582,876
12 Disbursements	(219,538,325)	(441,443,340)	(458,903,335)	(453,406,636)	(72,679,449)	(1,645,971,085)
13 Receipts Net of Required Transfers	12,839,390	28,345,542	17,366,426	14,337,108	23,723,325	96,611,791
14 I&E Transfer	-	-	(22,698,100)	(22,547,700)	-	(45,245,800)
15 DWSD Shortfall Advance	(1,285,466)	(28,014,534)	(24,113,034)	-	-	(53,413,034)
16 Shortfall Repayment (principal)	-	-	-	9,367,355	2,878,736	12,246,091
17 Net Receipts	\$ 11,553,924	\$ 331,008	\$ (29,444,708)	\$ 1,156,763	\$ 26,602,061	\$ 10,199,048
18 <i>Ratio of Receipts to Required Disbursements (Line 11/Line 12)</i>	106%	106%	104%	103%	133%	106%
Combined						
19 Receipts	\$ 382,066,426	\$ 822,730,791	\$ 814,721,762	\$ 804,337,978	\$ 152,731,825	\$2,976,588,782
20 MOU Adjustments	-	-	-	-	-	-
21 Adjusted Receipts	382,066,426	822,730,791	814,721,762	804,337,978	152,731,825	2,976,588,782
22 Disbursements	(365,794,510)	(730,221,325)	(755,968,145)	(742,637,117)	(119,894,177)	(2,714,515,274)
23 Receipts Net of Required Transfers	16,271,916	92,509,466	58,753,617	61,700,861	32,837,648	262,073,508
24 I&E Transfer	-	-	(48,437,800)	(70,242,700)	-	(118,680,500)
25 Shortfall Advance	(1,285,466)	(28,014,534)	(24,113,034)	-	-	(53,413,034)
26 Shortfall Repayment	-	-	-	9,367,355	2,878,736	12,246,091
27 Net Receipts	\$ 14,986,450	\$ 64,494,932	\$ (13,797,217)	\$ 825,516	\$ 35,716,384	\$ 102,226,065
28 <i>Ratio of Receipts to Required Disbursements (Line 21/Line 22)</i>	104%	113%	108%	108%	127%	110%

MOU Adjustments applies to DWSD and is shown here for consistency.

Chart 1 - GLWA 12-Month Net Receipts - Water

Chart 2 - GLWA 12-Month Net Receipts - Sewer


DWSD Trust Receipts & Disbursements

Net Cash Flows and Receipts Basis: The trusts established pursuant to the Master Bond Ordinance (MBO) outline a flow of funds that governs the priority of the application of cash receipts from both the regional wholesale (i.e. Great Lakes Water Authority or GLWA) and local retail (i.e. Detroit Water & Sewerage Department or DWSD) activities which are further separated by the water system and the sewage disposal system.

This report provides an ongoing status of the net cash flow of both organizations (GLWA and DWSD) to fund their allocated share of Master Bond Ordinance requirements in accordance with the leases for the regional systems.

Table 2 – DWSD Net Cash Flows from Trust Receipts & Disbursements provides a summary of cash receipt collections and required MBO transfers by fiscal year as well as a total of all activity for DWSD since inception at January 1, 2016. Fiscal year 2020 reflects two months of activity to date.

Water fund cash receipts exceeded required MBO disbursements by 2% through August 31, 2019 with a historical ratio of 3% since January 1, 2016.

Sewer fund cash receipts fell short of required MBO disbursements by 9% through August 31, 2019 with a historic shortfall of 6% since January 1, 2016. (Looking ahead, DWSD cash receipts rebound in October due to improved collections and the result of July 1, 2019 rate increases on current invoices due.)

Table 3 – FY 2017 DWSD Loan Receivable - Sewer provides an activity summary of loan receivable established under the terms of the April 2018 MOU addressing the cash shortfall from FY 2016 and FY 2017.

Table 4 – FY 2017 DWSD Loan Receivable Payments - Sewer provides an activity summary of loan receivable payments to date on the FY 2017 Sewer Loan Receivable including the interest on the loan. This payment is transferred directly to GLWA Sewer Improvement & Extension fund monthly.

The Reconciliation Committee monitors this balance and repayment progress as part of its quarterly meetings.

Table 5 – FY 2018 DWSD Loan Receivable - Sewer provides an activity summary of loan receivable established under the terms of the April 2018 MOU addressing the cash shortfall from FY 2018.

Table 6 – FY 2018 DWSD Loan Receivable Payments - Sewer provides an activity summary of loan receivable payments to date on the FY 2018 Sewer Loan Receivable including the interest on the loan. This payment is transferred directly to GLWA Sewer Improvement & Extension fund monthly.

The Reconciliation Committee monitors this balance and repayment progress as part of its quarterly meetings.

Chart 3 – DWSD 12-Month Net Receipts – Water outlines monthly activity trends across two points of reference for the local water system—current year and prior year. The black line at the zero highlights the breakeven goal for net receipts.

Chart 4 – DWSD 12-Month Net Receipts – Sewer outlines monthly activity trends across two points of reference for the local sewer system—current year and prior year. The black line at the zero highlights the breakeven goal for net receipts.

Table 2 – DWSD Net Cash Flows from Trust Receipts & Disbursements

	FY 2016	FY 2017	FY 2018	FY 2019 (Prelim)	FY 2020	Life-to-Date Total
Water						
1 Receipts	\$ 26,201,881	\$ 96,451,105	\$ 101,233,147	\$ 99,868,219	\$ 16,770,428	\$ 340,524,780
2 MOU Adjustments	18,446,100	-	-	-	-	18,446,100
3 Adjusted Receipts	44,647,981	96,451,105	101,233,147	99,868,219	16,770,428	358,970,880
4 Disbursements	(47,809,552)	(93,066,144)	(93,049,457)	(97,694,600)	(16,417,082)	(348,036,835)
5 Receipts Net of Required Transfers	(3,161,571)	3,384,961	8,183,690	2,173,619	353,346	10,934,045
6 I&E Transfer	-	-	-	(8,407,080)	-	(8,407,080)
7 Net Receipts	\$ (3,161,571)	\$ 3,384,961	\$ 8,183,690	\$ (6,233,461)	\$ 353,346	\$ 2,526,965
8 Ratio of Receipts to Required Disbursements (Line 3/Line 4)	93%	104%	109%	102%	102%	103%
Sewer						
9 Receipts	\$ 65,256,734	\$ 233,723,367	\$ 242,104,791	\$ 265,339,797	\$ 44,128,931	\$ 850,553,620
10 MOU Adjustments	55,755,100	-	-	6,527,200	-	62,282,300
11 Adjusted Receipts	121,011,834	233,723,367	242,104,791	271,866,997	44,128,931	912,835,920
12 Disbursements	(122,297,300)	(261,963,973)	(266,217,825)	(271,018,306)	(48,268,770)	(969,766,174)
13 Receipts Net of Required Transfers	(1,285,466)	(28,240,606)	(24,113,034)	848,691	(4,139,839)	(56,930,254)
14 I&E Transfer	-	-	-	-	-	-
15 Shortfall Advance from GLWA	1,285,466	28,014,534	24,113,034	-	-	53,413,034
16 Net Receipts (a)	\$ -	\$ (226,072)	\$ -	\$ 848,691	\$ (4,139,839)	\$ (3,517,220)
17 Ratio of Receipts to Required Disbursements (Line 11/Line 12)	99%	89%	91%	100%	91%	94%
Combined						
18 Receipts	\$ 91,458,615	\$ 330,174,472	\$ 343,337,938	\$ 365,208,016	\$ 60,899,359	\$1,191,078,400
19 MOU Adjustments	74,201,200	-	-	6,527,200	-	80,728,400
20 Adjusted Receipts	165,659,815	330,174,472	343,337,938	371,735,216	60,899,359	1,271,806,800
21 Disbursements	(170,106,852)	(355,030,117)	(359,267,282)	(368,712,906)	(64,685,852)	(1,317,803,009)
22 Receipts Net of Required Transfers	(4,447,037)	(24,855,645)	(15,929,344)	3,022,310	(3,786,493)	(45,996,209)
23 I&E Transfer	-	-	-	(8,407,080)	-	(8,407,080)
24 Shortfall Advance from GLWA	1,285,466	28,014,534	24,113,034	-	-	53,413,034
25 Net Receipts	\$ (3,161,571)	\$ 3,158,889	\$ 8,183,690	\$ (5,384,770)	\$ (3,786,493)	\$ (990,255)
26 Ratio of Receipts to Required Disbursements (Line 20/Line 21)	97%	93%	96%	101%	94%	97%

(a) The \$226,072 difference in FY 2017 is due to the June IWC payment from DWSD that was not past due at yearend and the \$12,272 rounding difference on the loan receivable.

Note 1: The \$29,300,000 for the DWSD loan receivable balance is calculated as follows.

(1,285,466)	FY 2016 Shortfall
<u>(28,240,606)</u>	FY 2017 Shortfall
<u>(29,526,072)</u>	Subtotal
238,264	June IWC not due until July
<u>(29,287,808)</u>	FY 2017 Shortfall-to-Date

29,300,000 FY 2017 Shortfall-to-Date, Rounded

Table 3 – FY 2017 DWSD Loan Receivable - Sewer

Date	Transaction	Amount	Balance
6/30/2019	Record FY 16 and FY 17 Loan Receivable		29,300,000
2/8/2019	Loan Receivable Payment (for the months of Jul - Dec)	4,635,462	24,664,538
2/22/2019	Loan Receivable Payment (for the months of Jan - Mar)	2,353,768	22,310,770
4/15/2019	Loan Receivable Payment (for the month of Apr)	789,990	21,520,780
5/8/2019	Loan Receivable Payment (for the month of May)	792,705	20,728,075
6/7/2019	Loan Receivable Payment (for the month of June)	795,430	19,932,645
7/5/2019	Loan Receivable Payment (for the month of July)	798,164	19,134,480
8/8/2019	Loan Receivable Payment (for the month of August)	800,908	18,333,572
		10,966,428	18,333,572

Table 4 – FY 2017 DWSD Loan Receivable Payments - Sewer

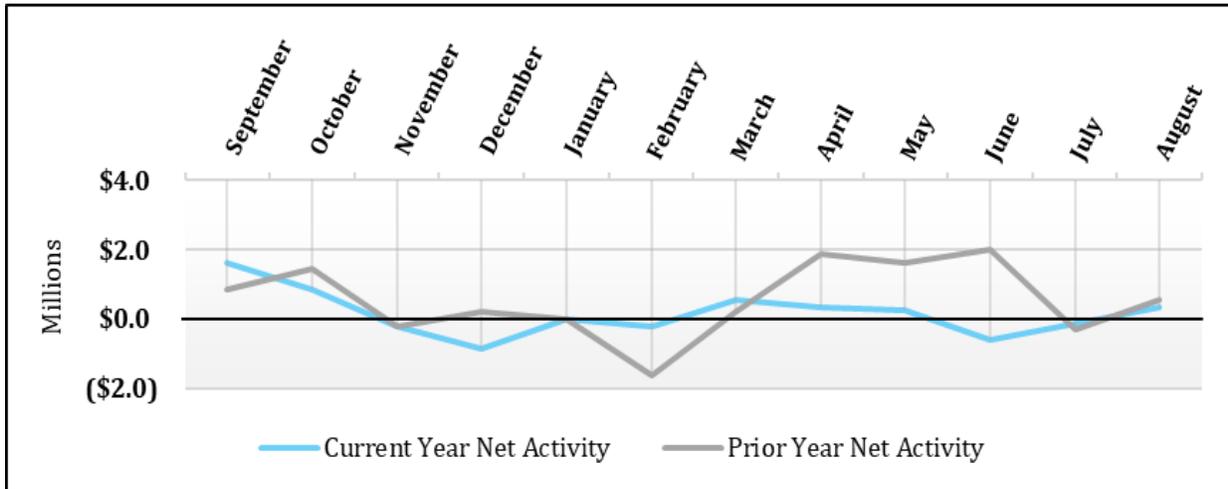
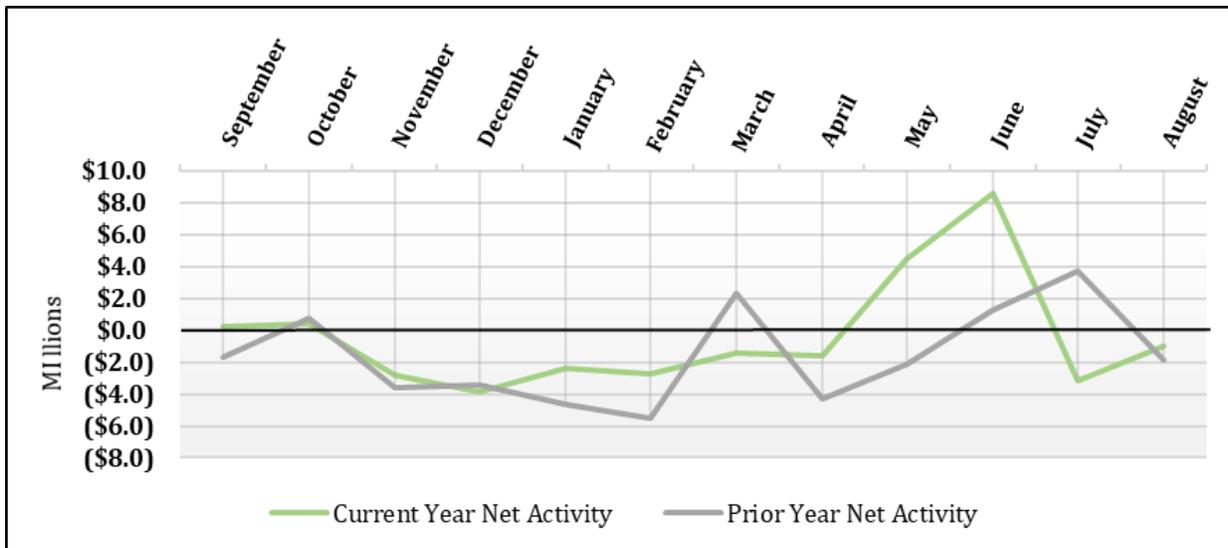
Date	Transaction	Principal	Interest	Total Paid
2/8/2019	Loan Receivable Payment (for the months of Jul - Dec)	4,635,462	564,636	5,200,098
2/22/2019	Loan Receivable Payment (for the months of Jan - Mar)	2,353,768	246,280	2,600,049
4/15/2019	Loan Receivable Payment (for the month of Apr)	789,990	76,693	866,683
5/8/2019	Loan Receivable Payment (for the month of May)	792,705	73,978	866,683
6/7/2019	Loan Receivable Payment (for the month of June)	795,430	71,253	866,683
7/5/2019	Loan Receivable Payment (for the month of July)	798,164	68,518	866,683
8/8/2019	Loan Receivable Payment (for the month of August)	800,908	65,775	866,683
		10,966,428	1,167,133	12,133,561

Table 5 – FY 2018 DWSD Loan Receivable - Sewer

Date	Transaction	Amount	Balance
6/30/2019	Record FY 18 Loan Receivable		24,113,034
7/15/2019	Loan Receivable Payment (for the month of July)	638,978	23,474,056
8/8/2019	Loan Receivable Payment (for the month of August)	640,686	22,833,370
		1,279,664	22,833,370

Table 6 – FY 2018 DWSD Loan Receivable Payments - Sewer

Date	Transaction	Principal	Interest	Total Paid
7/15/2019	Loan Receivable Payment (for the month of July)	638,978	64,482	703,460
8/8/2019	Loan Receivable Payment (for the month of August)	640,686	62,774	703,460
		1,279,664	127,256	1,406,920

Chart 3 - DWSD 12-Month Net Receipts - Water

Chart 4 - DWSD 12-Month Net Receipts - Sewer


Combined System Trust Receipts & Disbursements

Net Cash Flows and Receipts Basis: The trusts established pursuant to the Master Bond Ordinance (MBO) outline a flow of funds that governs the priority of the application of cash receipts from both the regional wholesale (i.e. Great Lakes Water Authority or GLWA) and local retail (i.e. Detroit Water & Sewerage Department or DWSD) activities which are further separated by the water system and the sewage disposal system.

Table 7 – Combined Net Cash Flows from Trust Receipts & Disbursements provides a summary of cash receipt collections and required MBO transfers by fiscal year as well as a total of all activity for GLWA since inception at January 1, 2016. Fiscal year 2020 reflects two months of activity to date.

Water fund cash receipts exceeded required MBO disbursements by 15% through August 31, 2019 with a historical ratio of cash receipts exceeding MBO disbursements by 12% since January 1, 2016.

Sewer fund cash receipts exceeded required MBO disbursements by 16% through August 31, 2019 and with a historical ratio of cash receipts exceeding MBO disbursements by 2% since January 1, 2016.

Table 7 – Combined Net Cash Flows from Trust Receipts & Disbursements

	FY 2016	FY 2017	FY 2018	FY 2019 (Prelim)	FY 2020	Life-to-Date Total
Water						
1 Receipts	\$ 175,890,592	\$ 449,393,014	\$ 439,685,148	\$ 436,462,453	\$ 73,099,479	\$1,574,530,686
2 MOU Adjustments	18,446,100	-	-	-	-	18,446,100
3 Adjusted Receipts	194,336,692	449,393,014	439,685,148	436,462,453	73,099,479	1,592,976,786
4 Disbursements	(194,065,737)	(381,844,129)	(390,114,267)	(386,925,081)	(63,631,810)	(1,416,581,024)
5 Receipts Net of Required Transfers	270,955	67,548,885	49,570,881	49,537,372	9,467,669	176,395,762
6 I&E Transfer	-	-	(25,739,700)	(56,102,080)	-	(81,841,780)
7 Net Receipts	\$ 270,955	\$ 67,548,885	\$ 23,831,181	\$ (6,564,708)	\$ 9,467,669	\$ 94,553,982
8 <i>Ratio of Receipts to Required Disbursements (Line 3/Line 4)</i>	100%	118%	113%	113%	115%	112%
Sewer						
9 Receipts	\$ 297,634,449	\$ 703,512,249	\$ 718,374,552	\$ 733,083,541	\$ 140,531,705	\$2,593,136,496
10 MOU Adjustments	55,755,100	-	-	6,527,200	-	62,282,300
11 Adjusted Receipts	353,389,549	703,512,249	718,374,552	739,610,741	140,531,705	2,655,418,796
12 Disbursements	(341,835,625)	(703,407,313)	(725,121,160)	(724,424,942)	(120,948,219)	(2,615,737,259)
13 Receipts Net of Required Transfers	11,553,924	104,936	(6,746,608)	15,185,799	19,583,486	39,681,537
14 I&E Transfer	-	-	(22,698,100)	(22,547,700)	-	(45,245,800)
15 Shortfall Advance	-	-	-	-	-	-
16 Shortfall Repayment (principal)	-	-	-	9,367,355	2,878,736	12,246,091
17 Net Receipts	\$ 11,553,924	\$ 104,936	\$ (29,444,708)	\$ (7,361,901)	\$ 22,462,222	\$ 6,681,829
18 <i>Ratio of Receipts to Required Disbursements (Line 11/Line 12)</i>	103%	100%	99%	102%	116%	102%
Combined						
19 Receipts	\$ 473,525,041	\$1,152,905,263	\$1,158,059,700	\$1,169,545,994	\$ 213,631,184	\$4,167,667,182
20 MOU Adjustments	74,201,200	-	-	6,527,200	-	80,728,400
21 Adjusted Receipts	547,726,241	1,152,905,263	1,158,059,700	1,176,073,194	213,631,184	4,248,395,582
22 Disbursements	(535,901,362)	(1,085,251,442)	(1,115,235,427)	(1,111,350,023)	(184,580,029)	(4,032,318,283)
23 Receipts Net of Required Transfers	11,824,879	67,653,821	42,824,273	64,723,171	29,051,155	216,077,299
24 I&E Transfer	-	-	(48,437,800)	(78,649,780)	-	(127,087,580)
25 Shortfall Advance	-	-	-	-	-	-
26 Shortfall Repayment	-	-	-	9,367,355	2,878,736	12,246,091
27 Net Receipts	\$ 11,824,879	\$ 67,653,821	\$ (5,613,527)	\$ (4,559,254)	\$ 31,929,891	\$ 101,235,811
28 <i>Ratio of Receipts to Required Disbursements (Line 21/Line 22)</i>	102%	106%	104%	106%	116%	105%

APPENDIX

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$224,851.05	\$224,851.05	\$0.00	\$0.00	\$0.00
ASH TOWNSHIP	\$74,157.53	\$74,157.53	\$0.00	\$0.00	\$0.00
BELLEVILLE	\$29,226.25	\$29,226.25	\$0.00	\$0.00	\$0.00
BERLIN TOWNSHIP	\$68,171.81	\$68,171.81	\$0.00	\$0.00	\$0.00
BROWNSTOWN TOWNSHIP	\$364,296.60	\$364,296.60	\$0.00	\$0.00	\$0.00
BRUCE TOWNSHIP	\$40,078.54	\$40,078.54	\$0.00	\$0.00	\$0.00
BURTCHVILLE TOWNSHIP	\$36,944.25	\$36,944.25	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$1,018,829.97	\$1,018,829.97	\$0.00	\$0.00	\$0.00
CENTER LINE	\$41,439.93	\$41,439.93	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$420,917.79	\$420,917.79	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$761,644.77	\$761,644.77	\$0.00	\$0.00	\$0.00
COMMERCE TOWNSHIP	\$380,659.22	\$380,659.22	\$0.00	\$0.00	\$0.00
DEARBORN	\$884,194.67	\$884,194.67	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$330,310.76	\$330,310.76	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$135,265.98	\$135,265.98	\$0.00	\$0.00	\$0.00
ECORSE	\$136,070.19	\$136,070.19	\$0.00	\$0.00	\$0.00
FARMINGTON	\$93,600.63	\$93,600.63	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$856,018.49	\$856,018.49	\$0.00	\$0.00	\$0.00
FERNDALE	\$171,402.42	\$171,402.42	\$0.00	\$0.00	\$0.00
FLAT ROCK	\$115,726.90	\$115,726.90	\$0.00	\$0.00	\$0.00
FLINT	\$381,921.98	\$381,921.98	\$0.00	\$0.00	\$0.00
FRASER	\$113,432.97	\$113,432.97	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$152,734.69	\$152,734.69	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
GIBRALTAR	\$29,808.12	\$29,808.12	\$0.00	\$0.00	\$0.00
GREENWOOD TOWNSHIP	\$70,423.81	\$70,423.81	\$0.00	\$0.00	\$0.00
GROSSE ILE TOWNSHIP	\$102,322.90	\$102,322.90	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$148,947.27	\$148,947.27	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$71,767.12	\$71,767.12	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$147,944.57	\$147,944.57	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$71,049.19	\$71,049.19	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$66,056.97	\$66,056.97	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$148,382.35	\$148,382.35	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$63,818.54	\$63,818.54	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$7,562,384.35	\$211,339.29	\$101,871.11	\$98,117.93	\$7,151,056.02
HURON TOWNSHIP	\$140,651.37	\$140,651.37	\$0.00	\$0.00	\$0.00
IMLAY CITY	\$147,832.87	\$147,832.87	\$0.00	\$0.00	\$0.00
IMLAY TOWNSHIP	\$1,301.01	\$1,301.01	\$0.00	\$0.00	\$0.00
INKSTER	\$207,781.93	\$207,781.93	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$29,109.40	\$29,109.40	\$0.00	\$0.00	\$0.00
LAPEER	\$134,356.30	\$134,356.30	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$24,312.72	\$24,312.72	\$0.00	\$0.00	\$0.00
LINCOLN PARK	\$197,718.73	\$197,718.73	\$0.00	\$0.00	\$0.00
LIVONIA	\$1,134,814.35	\$1,134,814.35	\$0.00	\$0.00	\$0.00
MACOMB TWP	\$1,511,199.83	\$1,511,199.83	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MAYFIELD TOWNSHIP	\$7,938.04	\$6,654.42	\$1,283.62	\$0.00	\$0.00
MELVINDALE	\$54,334.52	\$54,334.52	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$33,206.95	\$33,206.95	\$0.00	\$0.00	\$0.00
NOCWA	\$2,238,814.06	\$2,238,814.06	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$91,424.07	\$91,424.07	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$597,683.69	\$597,683.69	\$0.00	\$0.00	\$0.00
NOVI	\$945,883.86	\$945,883.86	\$0.00	\$0.00	\$0.00
OAK PARK	\$122,415.86	\$122,415.86	\$0.00	\$0.00	\$0.00
OAKLAND CO DR COM	\$7,142.59	\$7,142.59	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$103,815.17	\$103,815.17	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$810,390.40	\$810,390.40	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$282,252.71	\$282,252.71	\$0.00	\$0.00	\$0.00
RIVER ROUGE	\$57,424.10	\$57,424.10	\$0.00	\$0.00	\$0.00
RIVERVIEW	\$85,851.12	\$85,851.12	\$0.00	\$0.00	\$0.00
ROCKWOOD	\$25,018.34	\$25,018.34	\$0.00	\$0.00	\$0.00
ROMEO	\$25,390.83	\$25,390.83	\$0.00	\$0.00	\$0.00
ROMULUS	\$404,152.53	\$404,152.53	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$233,493.80	\$233,493.80	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$17,610.76	\$17,610.76	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$1,553,004.03	\$1,553,004.03	\$0.00	\$0.00	\$0.00
SOCWA	\$4,215,466.89	\$4,215,466.89	\$0.00	\$0.00	\$0.00
SOUTH ROCKWOOD	\$10,116.94	\$10,116.94	\$0.00	\$0.00	\$0.00
SOUTHGATE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ST. CLAIR SHORES	\$271,781.93	\$271,781.93	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$1,513,291.56	\$1,513,291.56	\$0.00	\$0.00	\$0.00
SUMPTER TOWNSHIP	\$60,690.70	\$60,690.70	\$0.00	\$0.00	\$0.00
SYLVAN LAKE	\$21,399.46	\$21,399.46	\$0.00	\$0.00	\$0.00
TAYLOR	\$432,061.20	\$432,061.20	\$0.00	\$0.00	\$0.00
TRENTON	\$157,659.68	\$157,659.68	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$1,261,073.57	\$1,261,073.57	\$0.00	\$0.00	\$0.00
UTICA	\$100,524.90	\$100,524.90	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$366,986.23	\$366,986.23	\$0.00	\$0.00	\$0.00
VILLAGE OF ALMONT	\$21,463.66	\$21,463.66	\$0.00	\$0.00	\$0.00
WALLED LAKE	\$72,108.90	\$72,108.90	\$0.00	\$0.00	\$0.00
WARREN	\$933,343.89	\$933,343.89	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$273,903.58	\$273,903.58	\$0.00	\$0.00	\$0.00
WAYNE	\$279,186.01	\$279,186.01	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$1,918,299.80	\$1,918,299.80	\$0.00	\$0.00	\$0.00
WESTLAND	\$1,060,631.78	\$1,060,631.78	\$0.00	\$0.00	\$0.00
WIXOM	\$251,880.60	\$251,880.60	\$0.00	\$0.00	\$0.00
WOODHAVEN	\$164,714.57	\$164,714.57	\$0.00	\$0.00	\$0.00
YCUA	\$1,779,816.96	\$1,779,816.96	\$0.00	\$0.00	\$0.00
TOTAL WATER ACCOUNTS	\$41,707,531.33	\$34,355,202.65	\$103,154.73	\$98,117.93	\$7,151,056.02

GLWA Aged Accounts Receivable- SEWER ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$71,200.00	\$71,200.00	\$0.00	\$0.00	\$0.00
CENTER LINE	\$86,099.50	\$86,099.50	\$0.00	\$0.00	\$0.00
DEARBORN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EVERGREEN-FARMINGTON	\$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	\$ (100.00)	\$ (100.00)	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$332,900.00	\$332,900.00	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$32,413,244.11	\$472,500.00	\$467,900.00	\$467,900.00	\$31,004,944.11
MELVINDALE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
OAKLAND COUNTY GWK DD	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
OMID	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$21,900.00	\$21,900.00	\$0.00	\$0.00	\$0.00
ROUGE VALLEY	\$4,513,500.00	\$4,513,500.00	\$0.00	\$0.00	\$0.00
WAYNE COUNTY N.E.	\$2,069,800.00	\$13,800.00	\$2,056,000.00	\$0.00	\$0.00
WAYNE COUNTY-AREA #3	\$4,200.00	\$4,200.00	\$0.00	\$0.00	\$0.00
TOTAL SEWER ACCOUNTS	\$39,512,743.61	\$5,515,999.50	\$2,523,900.00	\$467,900.00	\$31,004,944.11

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$1,532.83	\$1,532.83	\$0.00	\$0.00	\$0.00
AUBURN HILLS (C-O)	\$18,576.48	\$18,576.48	\$0.00	\$0.00	\$0.00
AUBURN HILLS (E-F)	\$348.14	\$348.14	\$0.00	\$0.00	\$0.00
BERKLEY	\$3,004.82	\$3,004.82	\$0.00	\$0.00	\$0.00
BEVERLY HILLS	\$949.78	\$949.78	\$0.00	\$0.00	\$0.00
BINGHAM FARMS	\$1,008.93	\$1,008.93	\$0.00	\$0.00	\$0.00
BIRMINGHAM (E-F)	\$2,296.71	\$2,296.71	\$0.00	\$0.00	\$0.00
BIRMINGHAM (SEOC)	\$22,042.40	\$5,309.98	\$5,594.06	\$5,590.51	\$5,547.85
BLOOMFIELD HILLS	\$1,570.01	\$1,570.01	\$0.00	\$0.00	\$0.00
BLOOMFIELD TOWNSHIP	\$7,219.68	\$7,219.68	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$612,330.22	\$18,126.94	\$19,066.46	\$19,066.46	\$556,070.36
CENTER LINE	\$3,501.68	\$3,501.68	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$11,569.74	\$11,569.74	\$0.00	\$0.00	\$0.00
CITY OF FARMINGTON (E-F)	\$89.69	\$89.69	\$0.00	\$0.00	\$0.00
CITY OF FERNDALE	\$17,371.81	\$8,466.90	\$8,904.91	\$0.00	\$0.00
CITY OF ROCHESTER	\$3,540.55	\$3,540.55	\$0.00	\$0.00	\$0.00
CLARKSTON	\$263.64	\$263.64	\$0.00	\$0.00	\$0.00
CLAWSON	\$(5,664.09)	\$0.00	\$(5,664.09)	\$0.00	\$0.00
CLINTON TOWNSHIP	\$24,319.10	\$24,319.10	\$0.00	\$0.00	\$0.00
DEARBORN	\$35,146.93	\$35,146.93	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$8,926.58	\$8,926.58	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$101.40	\$101.40	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$6,151.60	\$6,151.60	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
FARMINGTON	\$3,846.44	\$3,846.44	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$23,070.19	\$23,070.19	\$0.00	\$0.00	\$0.00
FRASER	\$4,715.10	\$4,715.10	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$5,855.85	\$5,855.85	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$1,985.75	\$1,985.75	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$1,123.76	\$1,123.76	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$302.51	\$302.51	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$2,462.33	\$2,462.33	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$3,968.12	\$3,968.12	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$1,799.85	\$1,799.85	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$3,009.89	\$3,009.89	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$3,001.44	\$3,001.44	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$1,683,389.28	\$4,025.58	\$4,120.85	\$3,930.59	\$1,671,312.26
HUNTINGTON WOODS	\$272.09	\$272.09	\$0.00	\$0.00	\$0.00
INDEPENDENCE	\$4,655.95	\$4,655.95	\$0.00	\$0.00	\$0.00
INKSTER	\$10,846.19	\$5,286.32	\$5,559.87	\$0.00	\$0.00
KEEGO HARBOR	\$670.93	\$670.93	\$0.00	\$0.00	\$0.00
LAKE ORION	\$763.88	\$763.88	\$0.00	\$0.00	\$0.00
LATHRUP	\$1,336.79	\$1,336.79	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$309.27	\$309.27	\$0.00	\$0.00	\$0.00
LIVONIA	\$38,403.56	\$38,403.56	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MACOMB TWP	\$196.04	\$196.04	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MELVINDALE	\$3,450.98	\$3,450.98	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$584.74	\$584.74	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$2,016.17	\$2,016.17	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$146,924.57	\$4,348.37	\$4,574.03	\$4,574.03	\$133,428.14
NOVI	\$16,489.33	\$16,489.33	\$0.00	\$0.00	\$0.00
OAK PARK	\$6,381.44	\$6,381.44	\$0.00	\$0.00	\$0.00
OAKLAND TOWNSHIP	\$392.08	\$392.08	\$0.00	\$0.00	\$0.00
ORCHARD LAKE VILLAGE	\$381.94	\$381.94	\$0.00	\$0.00	\$0.00
ORION TOWNSHIP (C-O)	\$5,147.74	\$5,147.74	\$0.00	\$0.00	\$0.00
OXFORD TOWNSHIP	\$1,019.07	\$1,019.07	\$0.00	\$0.00	\$0.00
OXFORD VILLAGE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PLEASANT RIDGE	\$260.26	\$260.26	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$408,959.98	\$12,103.78	\$12,731.27	\$12,731.27	\$371,393.66
REDFORD TOWNSHIP	\$11,037.70	\$11,037.70	\$0.00	\$0.00	\$0.00
ROCHESTER HILLS	\$17,409.87	\$17,409.87	\$0.00	\$0.00	\$0.00
ROMULUS	\$880.49	\$880.49	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$14,163.89	\$14,163.89	\$0.00	\$0.00	\$0.00
ROYAL OAK	\$12,865.97	\$12,865.97	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$887.25	\$887.25	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$11,848.59	\$11,848.59	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
SOUTHFIELD (E-F)	\$27,060.28	\$27,060.28	\$0.00	\$0.00	\$0.00
SOUTHFIELD (SEOC)	\$3,643.64	\$3,643.64	\$0.00	\$0.00	\$0.00
ST. CLAIR SHORES	\$11,454.82	\$11,454.82	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$29,801.46	\$29,801.46	\$0.00	\$0.00	\$0.00
TROY (E-F)	\$365.04	\$365.04	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$35,613.37	\$35,613.37	\$0.00	\$0.00	\$0.00
UTICA	\$2,862.86	\$2,862.86	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$1,918.15	\$1,918.15	\$0.00	\$0.00	\$0.00
VILLAGE OF FRANKLIN	\$62.53	\$62.53	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$1,331.72	\$1,331.72	\$0.00	\$0.00	\$0.00
WATERFORD TOWNSHIP	\$11,909.43	\$11,909.43	\$0.00	\$0.00	\$0.00
WAYNE	\$4,770.87	\$4,770.87	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$875.42	\$875.42	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (E-F)	\$6,048.51	\$6,048.51	\$0.00	\$0.00	\$0.00
WESTLAND	\$21,910.85	\$21,910.85	\$0.00	\$0.00	\$0.00
TOTAL IWC ACCOUNTS	\$3,392,914.85	\$554,382.36	\$54,887.36	\$45,892.86	\$2,737,752.27

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
3M COMPANY	\$2,869.89	\$2,869.89	\$0.00	\$0.00	\$0.00
A & R PACKING CO., LLC	\$6,015.81	\$6,015.81	\$0.00	\$0.00	\$0.00
AACTRON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ACADEMY PACKING CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ACME RUSTPROOF	\$41.16	\$41.16	\$0.00	\$0.00	\$0.00
ADVANCED RESOURCE RECOVERY	\$860.98	\$860.98	\$0.00	\$0.00	\$0.00
AEVITAS SPECIALITY SERVICES	\$43,478.64	\$22,568.24	\$20,910.40	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ALGAL SCIENTIFIC CORPORATION	\$16,533.05	\$0.00	\$0.00	\$0.00	\$16,533.05
ALL CHEM CORP, LLC.	\$0.00	\$0.00	\$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
AMERITI MFG. CO.	\$4,431.95	\$4,431.95	\$0.00	\$0.00	\$0.00
ATWATER IN THE PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AUTOMOTIVE FINISH	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AXLE BREWING COMPANY, LLC	\$212.70	\$212.70	\$0.00	\$0.00	\$0.00
B. NEKTAR MEADERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BAFFIN BREWING COMPANY	\$348.65	\$119.85	\$0.00	\$119.85	\$108.95
BARON INDUSTRIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BARTZ BAKERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BASTONE BREWERY	\$39.47	\$39.47	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
BATCH BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BAYS MICHIGAN CORPORATION	\$6.43	\$6.43	\$0.00	\$0.00	\$0.00
BEIRUT BAKERY, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BETTER MADE SNACK FOOD	\$24,196.11	\$24,196.11	\$0.00	\$0.00	\$0.00
BLACK LOTUS BREWING CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BOZEK'S MARKET	\$147.01	\$147.01	\$0.00	\$0.00	\$0.00
BREW DETROIT	\$7,320.50	\$7,310.50	\$10.00	\$0.00	\$0.00
BROADWAY MKT CORNED BEEF	\$(63.31)	\$0.00	\$0.00	\$0.00	\$(63.31)
BROOKS BREWING, LLC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BROWN IRON BREWHOUSE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CANTON BREW WORKS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CAPITAL REPRODUCTIONS	\$1.62	\$0.00	\$1.62	\$0.00	\$0.00
CF BURGER CREAMERY	\$19,740.53	\$19,740.53	\$0.00	\$0.00	\$0.00
CHILANGO'S BAKERY	\$2,401.76	\$46.28	\$20.57	\$23.73	\$2,311.18
CINTAS CORP. - MACOMB TWP.	\$52,552.05	\$52,552.05	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CITY LAUNDRY, INC.	\$(7.99)	\$0.00	\$(7.99)	\$0.00	\$0.00
CLASSIC CONTAINER CORP.	\$(3,279.52)	\$0.00	\$(3,279.52)	\$0.00	\$0.00
COCA-COLA REFRESHMENTS USA,	\$640.92	\$640.92	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COUNTRY FRESH DAIRY CO.	\$8,369.33	\$8,369.33	\$0.00	\$0.00	\$0.00
CROSS CHEMICAL COMPANY, INC.	\$ (1,925.97)	\$0.00	\$0.00	\$0.00	\$ (1,925.97)
DARLING INGREDIENTS, INC.	\$8,438.50	\$8,438.50	\$0.00	\$0.00	\$0.00
DAVE'S SAUSAGE FACTORY 2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DEARBORN BREWING	\$44.15	\$44.15	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE CO., INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT BEER	\$112.79	\$112.79	\$0.00	\$0.00	\$0.00
DETROIT LINEN SERVICE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$497,306.20	\$497,306.20	\$0.00	\$0.00	\$0.00
DETROIT RIVERTOWN BREWERY CC	\$2,906.29	\$2,906.29	\$0.00	\$0.00	\$0.00
DETROIT SAUSAGES CO INC	\$39.41	\$28.22	\$11.19	\$0.00	\$0.00
DETRONIC INDUSTRIES, INC.	\$152.07	\$152.07	\$0.00	\$0.00	\$0.00
DIFCO LABORATORIES, INC.	\$21,019.07	\$21,019.07	\$0.00	\$0.00	\$0.00
DIVERSIFIED CHEM TECH. INC.	\$122.58	\$122.58	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$1,088.79	\$1,088.79	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$2,071.00	\$2,071.00	\$0.00	\$0.00	\$0.00
DOWNEY BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
E.W. GROBBEL'S SONS, INC.	\$3,409.40	\$3,409.40	\$0.00	\$0.00	\$0.00
EASTERN MARKET BREWING COMPF	\$160.13	\$160.13	\$0.00	\$0.00	\$0.00
ENVIROSOLIDS, L.L.C.	\$28,710.82	\$28,710.82	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
EQ DETROIT, INC.	\$2,792.65	\$2,792.65	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$12,304.11	\$12,304.11	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$0.37	\$0.37	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ETON ST BREWERY- GRIFFIN CLF	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EXTRUDE HONE CORPORATION	\$73.60	\$73.60	\$0.00	\$0.00	\$0.00
EXTRUDEHODE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON BREWING COMPANY	\$25.24	\$25.24	\$0.00	\$0.00	\$0.00
FAYGO BEVERAGES, INC.	\$15,145.19	\$15,145.19	\$0.00	\$0.00	\$0.00
FORD NEW MODEL PROGRAM	\$1,076.74	\$1,076.74	\$0.00	\$0.00	\$0.00
FOUNDERS BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$288.85	\$288.85	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
G2O ENERGY, LLC	\$2,653.74	\$2,653.74	\$0.00	\$0.00	\$0.00
GENERAL LINEN SUPPLY CO.	\$12,027.25	\$12,027.25	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$94.12	\$94.12	\$0.00	\$0.00	\$0.00
GREAT BARABOO BREWING CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HACIENDA MEXICAN FOODS	\$2,858.28	\$1,414.50	\$0.00	\$621.91	\$821.87
HENKEL CORPORATION	\$238.85	\$0.00	\$238.85	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
HOME STYLE FOOD INC.	\$12,913.39	\$12,913.39	\$0.00	\$0.00	\$0.00
HOMEGROWN BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HOODS CLEANERS	\$211.33	\$0.00	\$0.00	\$0.00	\$211.33
HOUGHTON INTERNATIONAL INC.	\$232.72	\$232.72	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$132.98	\$132.98	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$2,626.43	\$2,626.43	\$0.00	\$0.00	\$0.00
HUNTINGTON CLEANERS	\$545.15	\$545.15	\$0.00	\$0.00	\$0.00
IDP, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
INDUSTRIAL METAL COATING	\$1,013.06	\$1,013.06	\$0.00	\$0.00	\$0.00
ISLAMIC SLAUGHTER HOUSE	\$931.97	\$931.97	\$0.00	\$0.00	\$0.00
ITALIAN BUTTER BREAD STICKS	\$15.95	\$15.95	\$0.00	\$0.00	\$0.00
J & G FOOD PRODUCTS, INC.	\$12.30	\$12.30	\$0.00	\$0.00	\$0.00
JAMEX BREWING CO.	\$72.32	\$37.88	\$0.00	\$0.00	\$34.44
KAR NUT PRODUCTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
KOWALSKI SAUSAGES, CO.	\$2,945.94	\$2,945.94	\$0.00	\$0.00	\$0.00
KUHNHENN BREWING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$ (495.27)	\$0.00	\$ (495.27)	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$ (60.47)	\$0.00	\$ (60.47)	\$0.00	\$0.00
LEAR CORPORATION DBA EAGLE C	\$0.00	\$0.00	\$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	\$55.97	\$55.97	\$0.00	\$0.00	\$0.00
MACDERMID, INC.	\$1,926.08	\$1,926.08	\$0.00	\$0.00	\$0.00
MCCLURE'S PICKLES	\$1,145.72	\$1,145.72	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MCNICHOLS POLISHING & ANODIZ	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MELLO MEATS INC, - KUBISCH S	\$142.30	\$142.30	\$0.00	\$0.00	\$0.00
METROPOLITAN BAKERY	\$1,002.03	\$1,002.03	\$0.00	\$0.00	\$0.00
MIBA HYDRAMECHANICA CORP.	\$190.83	\$190.83	\$0.00	\$0.00	\$0.00
MICHIGAN DAIRY	\$108,522.55	\$108,522.55	\$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.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MILANO BAKERY	\$2,216.72	\$2,216.72	\$0.00	\$0.00	\$0.00
MILTON CHILI CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MINNIE MARIE BAKERS, INC	\$5,006.99	\$5,006.99	\$0.00	\$0.00	\$0.00
MISTER UNIFORM & MAT RENTALS	\$131.90	\$6.21	\$21.92	\$0.00	\$103.77
MOTOR CITY BREWING WORKS	\$956.99	\$175.22	\$0.00	\$175.22	\$606.55
NATIONAL CHILI COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTH CENTER BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTHERN LAKES SEAFOOD & MEA	\$65.86	\$65.86	\$0.00	\$0.00	\$0.00
OAKWOOD BAKERY	\$176.90	\$176.90	\$0.00	\$0.00	\$0.00
PARKER'S HILLTOP BREWER & SE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PELLERITO FOODS INC.	\$2,190.02	\$2,190.02	\$0.00	\$0.00	\$0.00
PEPSI COLA, INC.	\$89,602.74	\$89,602.74	\$0.00	\$0.00	\$0.00
PERSONAL UNIFORM SERVICE, IN	\$61.48	\$61.48	\$0.00	\$0.00	\$0.00
PETRO ENVIRON TECH, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
PINE TREE ACRES, INC.	\$55,430.18	\$55,430.18	\$0.00	\$0.00	\$0.00
PLATING SPEC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
POWER VAC OF MICHIGAN, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PREMIER PLATING, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PRODUCTION SPRING, LLC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
QUALA SERVICES, LLC	\$1,295.63	\$1,295.63	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
RIVER ROUGE BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROAK BREWING CO. LLC	\$937.83	\$937.83	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS BEER COMPANY	\$261.47	\$261.47	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS PROD BREWERY	\$2,519.91	\$1,131.61	\$0.00	\$0.00	\$1,388.30
RTT	\$27,772.36	\$1,524.98	\$743.76	\$718.62	\$24,785.00
SEAFARE FOODS, INC.	\$79.41	\$79.41	\$0.00	\$0.00	\$0.00
SHERWOOD BREWING COMPANY	\$926.80	\$98.74	\$0.00	\$98.74	\$729.32
SMITH-WATKINS, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SPRAYTEK, INC.	\$73.82	\$49.15	\$24.67	\$0.00	\$0.00
SWEETHEART BAKERY, INC.	\$1,547.27	\$151.18	\$70.00	\$77.14	\$1,248.95
THE CROWN GROUP-LIVONIA PLAN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
THE ROYAL OAK BREWERY	\$(1,162.69)	\$0.00	\$0.00	\$0.00	\$(1,162.69)
TOM LAUNDRY CLEANERS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TRAFFIC JAM & SNUG	\$20.66	\$20.66	\$0.00	\$0.00	\$0.00
TURRI'S ITALIAN FOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
TURRI'S ITALIAN FOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
U-METCO, INC.	\$1,341.94	\$1,341.94	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$65,101.58	\$65,101.58	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$2,909.73	\$2,909.73	\$0.00	\$0.00	\$0.00
UNIQUE LINEN SERVICES, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
UNITED FISH DISTRIBUTORS	\$15.05	\$15.05	\$0.00	\$0.00	\$0.00
UNITED LINEN SERVICE, LLC.	\$309.64	\$309.64	\$0.00	\$0.00	\$0.00
UNITED MEAT & DELI	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
URBANREST BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
US ECOLOGY MICHIGAN	\$143.97	\$143.97	\$0.00	\$0.00	\$0.00
US ECOLOGY ROMULUS, INC.	\$2,673.26	\$2,673.26	\$0.00	\$0.00	\$0.00
USHER OIL SERVICES	\$5,281.95	\$5,281.95	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS	\$10,805.59	\$10,805.59	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS, INC.	\$6,291.18	\$6,291.18	\$0.00	\$0.00	\$0.00
VERNOR FOOD PRODUCTS	\$(36.26)	\$0.00	\$0.00	\$0.00	\$(36.26)
WIGLEY'S MEAT PROCESS	\$290.28	\$290.28	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$1,004.61	\$1,004.61	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$241.89	\$241.89	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO	\$8,006.82	\$8,006.82	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO.	\$3,583.00	\$3,583.00	\$0.00	\$0.00	\$0.00
WOODWARD AVENUE BREWERS	\$83.82	\$83.82	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 08/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
TOTAL POLLUTANT SURCHARGE ACCOUNTS	\$1,232,335.54	\$1,166,596.12	\$18,209.73	\$1,835.21	\$45,694.48

City of Highland Park Billings and Collections

	<u>Water</u>	<u>Sewer</u>	<u>IWC</u>	<u>Cumulative Total</u>
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	<u>(65,652)</u>	<u>(2,206,211)</u>	<u>-</u>	<u>(2,271,863)</u>
				-
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	<u>-</u>	<u>(1,612,633)</u>	<u>-</u>	<u>(1,612,633)</u>
				-
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	<u>-</u>	<u>(1,444,623)</u>	<u>-</u>	<u>(1,444,623)</u>
				-
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	<u>-</u>	<u>(2,022,335)</u>	<u>-</u>	<u>(2,022,335)</u>
				-
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	<u>-</u>	<u>(2,309,186)</u>	<u>-</u>	<u>(2,309,186)</u>
				-
June 30, 2017 Balance	\$ 4,835,070	\$ 29,548,335	\$ 1,543,550	\$ 35,926,954
FY 2018 Billings	1,277,179	5,657,101	80,472	7,014,752
FY 2018 Payments	<u>-</u>	<u>(4,108,108)</u>	<u>-</u>	<u>(4,108,108)</u>
				-
June 30, 2018 Balance	\$ 6,112,248	\$ 31,097,327	\$ 1,624,022	\$ 38,833,597
FY 2019 Billings (12 Months)	1,238,797	5,617,100	51,220	6,907,117
FY 2019 Payments (12 Months)	<u>-</u>	<u>(5,241,583)</u>	<u>-</u>	<u>(5,241,583)</u>
				-
June 30, 2019 Balance	\$ 7,351,045	\$ 31,472,844	\$ 1,675,243	\$ 40,499,132
FY 2020 Billings (2 Months)	211,340	940,400	8,147	1,159,886
FY 2020 Payments (2 Months)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
				-
Balance as of August 31, 2019	<u>\$ 7,562,385</u>	<u>\$ 32,413,244</u>	<u>\$ 1,683,389</u>	<u>\$ 41,659,018</u>



Financial Services Audit Committee Communication

Date: December 6, 2019

To: Great Lakes Water Authority Audit Committee

From: Deirdre Henry, Treasury Manager

Re: Quarterly Investment Report

Background: As stated in section 14 of the Great Lakes Water Authority (GLWA) Investment Policy, quarterly reporting shall be presented to provide a clear picture of the status of the current GLWA investment portfolio. The attached report, prepared and presented by PFM Asset Management LLC, summarizes portfolio information through September 30, 2019 (unaudited).

Analysis: The Quarterly Investment Report complies with the requirements of Public Act 20 of 1948, as amended and the GLWA Investment Policy. GLWA is investing its funds in a diversified portfolio which includes bank deposits, money market funds, a local government investment pool, U.S. Treasuries, Federal Agencies, and commercial paper. All securities in the portfolio are in compliance with the GLWA investment policy. Key metrics are provided below, and additional commentary is included in the attached report.

- Yield to Market at Cost compared to market index:
 - As of September 30, 2019: 1.81% vs 1.84% (3-Month Treasury Index)
 - As of June 30, 2019: 2.13% vs 2.09% (3-Month Treasury Index)

- Portfolio Allocation in Cash/Money Market Securities
 - As of September 30, 2019: 32%
 - As of June 30, 2019: 56%

The GLWA treasury group continues to work with PFM Asset Management LLC to identify strategies to maximize investment returns while meeting GLWA standards for safety and liquidity.

Proposed Action: Receive and file this report.

Great Lakes Water Authority

Investment Performance Report – September 2019



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Executive Summary

PORTFOLIO RECAP

- **Safety** – The aggregate portfolio is diversified amongst cash, bank deposits, U.S. Treasuries, Federal Agencies, commercial paper, SEC-registered money market funds, and a local government investment pool. The total credit profile of the portfolio is strong with over 98% of the assets invested in bank deposits or securities that are rated within the two highest short and long-term rating classifications as established by Standard & Poor’s.
- **Liquidity** – Great Lakes Water Authority (GLWA) has continued to monitor its portfolio with the goal of limiting the allocation to cash and bank deposit accounts and maximizing the use of short-term investments to meet liquidity requirements. As of September 30, 2019, only 32% of the total assets were held in cash and money market accounts maturing overnight.
- **Return** – The overall yield decreased to 1.81% as of September 30th versus 2.13% as of June 30th. The lower yield is a result of the declining interest rate environment. GLWA earned \$5.3 million (unaudited) in investment income for fiscal year-to-date on a book value basis. Based on the current interest rate environment, the income earned for the previous quarter, and assuming GLWA maintains the same investable balances for the remainder of the fiscal year, we are projecting earnings of approximately \$17.4 million in investment income for FY 2020.

AVAILABLE FUNDS (Unaudited)

Type	Financial Institution	Book Value	Market Value	YTM @ Market (as of 9/30/19)
Deposit Account	Comerica	\$3,717,173	\$3,717,173	0.18%
Deposit Account - Retainage	First Independence	\$17,121,026	\$17,121,026	0.05%
Deposit Account – Flint Security Deposit	Chase	\$3,800,685	\$3,800,685	1.08%
Deposit Account	Chase	\$7,376,244	\$7,376,244	1.10%
Trust Money Market Fund	U.S. Bank	\$145,484,530	\$145,484,530	1.79%
Money Market Fund	JP Morgan	\$71,773,077	\$71,773,077	1.86%
Local Government Investment Pool	GovMIC	\$68,387,618	\$68,387,618	2.15%
Managed Funds	PFM	\$682,234,869	\$685,062,525	1.83%
<u>TOTAL</u>		<u>\$999,895,221</u>	<u>\$1,002,722,877</u>	<u>1.81%</u>

The accounts at Comerica Bank get an earnings credit to offset bank fees. The funds and earnings in the Retainage account are held on behalf of the contractors and do not belong to GLWA. The funds and earnings in the Flint Security Deposit account are held on behalf of the City of Flint and do not belong to GLWA. Note that market values move inversely to interest rates, and the recent rise in yields has led to the overall market value being less than the book value. In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of 9/30/2019.

Investment Strategy

GLWA INVESTMENT STRATEGY

- The aggregate portfolio is in compliance with GLWA’s investment policy and Michigan Public Act 20.
- To date, GLWA has continued to invest its funds in a mixture of short and intermediate-term investments to ensure adequate liquidity.
- The aggregate portfolio was yielding 1.81% at the end of September.*
 - This compares to the 1.84% yield of the Bank of America / Merrill Lynch 3-Month U.S. Treasury Bill Index as of 9/30/2019, which is a comparable market indicator, despite the inverted yield curve environment.
 - It should be noted that even though the 3-Month Treasury Bill Index has been selected as a benchmark, the GLWA portfolio has slightly more intermediate-term investments than the index. The inversion of the yield curve at 9/30/2019 had more of an impact on the intermediate-term investments, which resulted in the GLWA portfolio yield being lower than the benchmark.
- GLWA continues to implement a disciplined investment plan to provide improved safety and diversification and putting every dollar to work.
- PFM Asset Management (PFM) will continue to actively manage long-term portfolios with full discretion and align short-term balances with expected liabilities, subject to GLWA’s investment policy.
- GLWA will continue to work with PFM to identify strategies in this somewhat volatile market to maximize future investment income while meeting the objectives of safety and liquidity.
- Assuming GLWA maintains the similar investable balances and the declining interest rate environment continues, the interest income earnings projection for FY2020 will be approximately \$17.4 million.

* Current market yield as of September 30, 2019.

Summary Market Overview and Outlook

ECONOMIC HIGHLIGHTS UPDATE

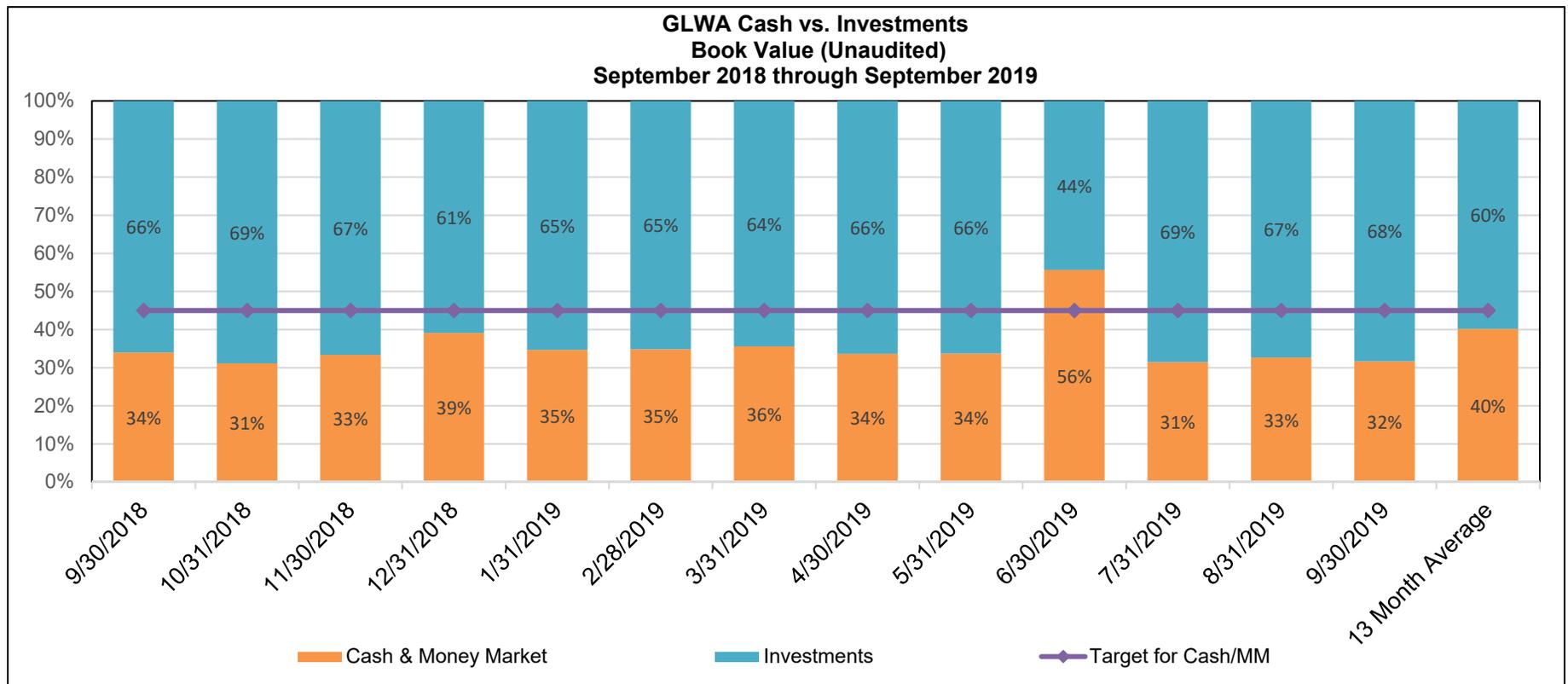
- The global economy has continued to cool, following the change of seasons in the U.S. and Europe. With mounting manufacturing woes, a looming Brexit deadline, and the threat of escalating trade wars, the economic outlook has weakened. Recent geopolitical events around the globe (e.g., Iran/Saudi Arabia, Syria/Turkey/U.S. and Ukraine/Russia/U.S.) add yet another layer of uncertainty and the specter of a presidential impeachment in the U.S. does not help.
- The Federal Reserve cut the overnight interbank rate by 0.25% in September and then once again in October, while also hitting a pause for future cuts. The Fed cut interest rates on October 30th for the third time this year in an attempt to help sustain U.S. growth amid a global economic slowdown. However, they signaled that rates would not be reduced further unless the economy stalls sharply. Market expectations for an additional 25 basis point rate cut at December's Federal Open Market Committee (FOMC) meeting are currently around 25%, based on effective Fed Funds futures.

ECONOMIC IMPACT ON PORTFOLIO

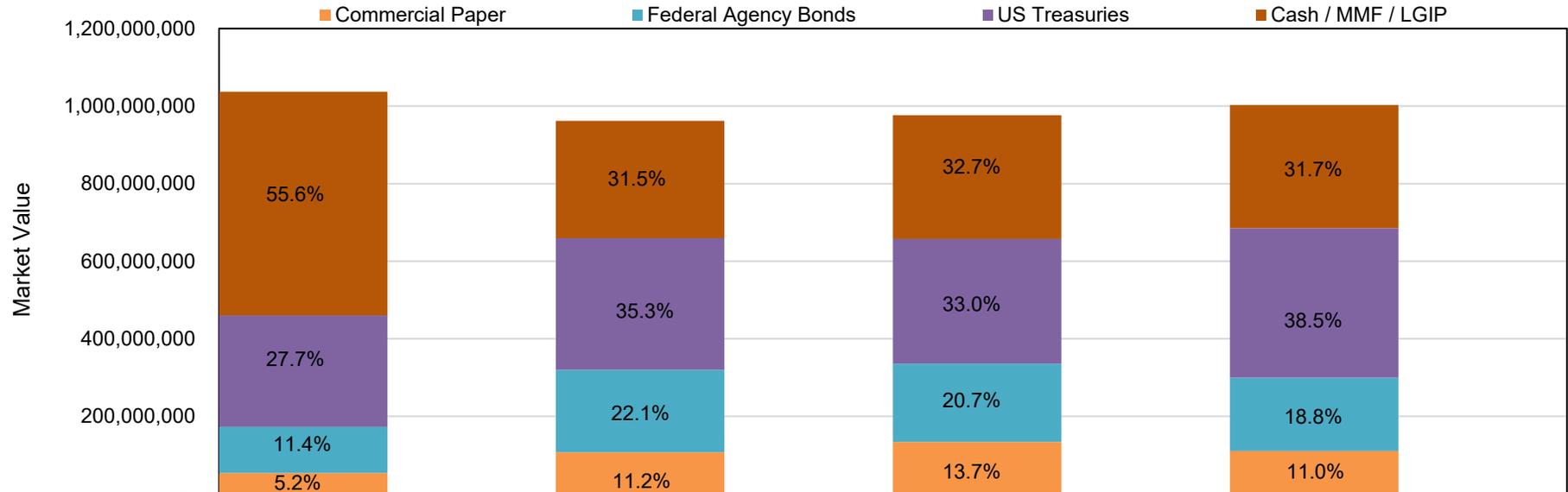
- The new range for the Fed Funds target rate is now between 1.50% and 1.75%. “We took this step to help keep the economy strong in the face of global developments and to provide some insurance against ongoing risks,” said Fed Chair Jerome Powell. He also stated that “we see the current stance of monetary policy as likely to remain appropriate as long as incoming information about the economy remains broadly consistent with our outlook.”
- U.S. Treasury yields reversed their year-long decline in September as rates on Treasuries with maturities greater than one year rose. Longer-term yields rose 10 to 20 basis points over the month of September and into October. Meanwhile, shorter-term yields (less than six months) declined by 15 to 25 basis points as the curve adjusted to the three recent Fed rate cuts.
- For some months we have maintained a portfolio strategy built on an outlook that the economy would grow slowly but avoid a recession. As a result, we maintained a neutral duration strategy, and this strategy remains in place.
- Money market investors enjoyed a mid-September spike in repurchase agreement yields which forced the Fed to calm short-term markets by providing liquidity through open market repo operations. Yield spreads on short-term commercial paper and bank CDs widened during the month, providing good opportunities for ultra short-term investors.

Portfolio Mix Cash / Money Market vs. Investments

- GLWA’s liquidity requirements fluctuate each month based on operational requirements, capital funding, and debt payments. Based on a review of historical activity and refinement of cash flow projections, GLWA has set an average target of 45% cash/money market accounts and 55% investments for the portfolio holdings. The 13-month average at the end of September of 2019 was ahead of the target.
- The chart below compares the monthly allocation of the portfolio holdings to the 13-month average and the target. The allocation between cash and investments will vary each month based on liquidity requirements.



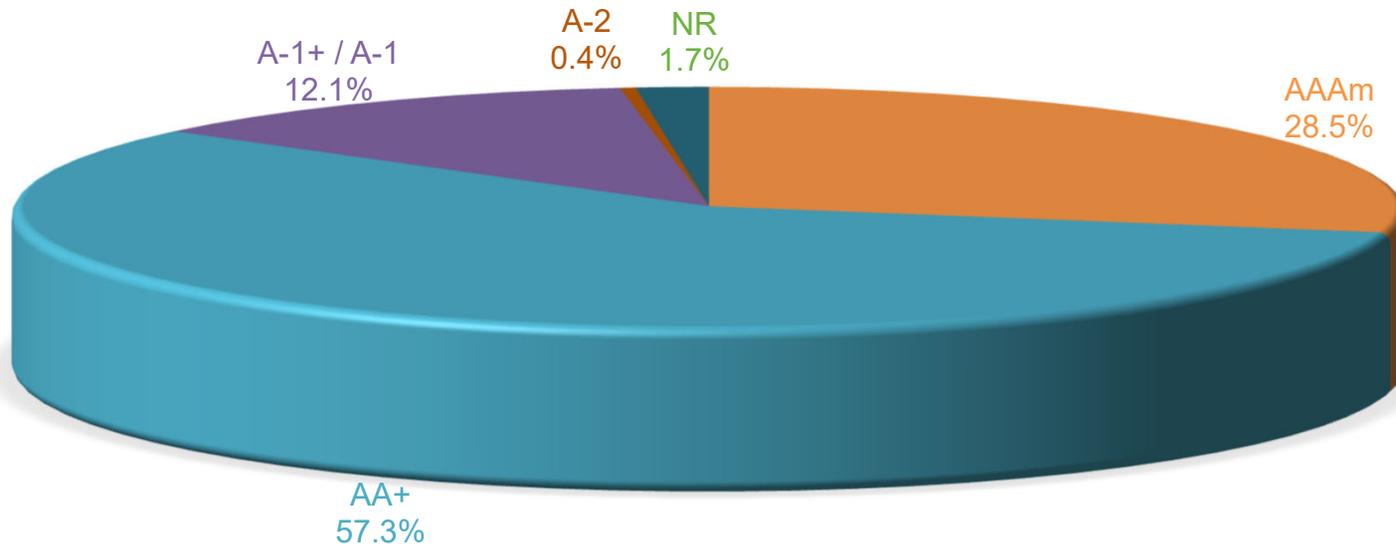
Investments – By Security Type



Security Type	June		July		August		September	
	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation
Commercial Paper	53,840,560	5.2%	107,303,757	11.2%	133,989,323	13.7%	110,547,317	11.0%
Federal Agencies	118,656,693	11.4%	212,295,043	22.1%	201,717,542	20.7%	188,918,038	18.8%
U.S. Treasuries	287,580,347	27.7%	339,802,420	35.3%	321,846,509	33.0%	385,597,171	38.5%
Cash / MMF / LGIP	576,849,927	55.6%	302,573,205	31.5%	318,968,086	32.7%	317,660,352	31.7%
Total	1,036,927,527	100.0%	961,974,424	100.0%	976,521,459	100.0%	1,002,722,877	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of September 30, 2019.

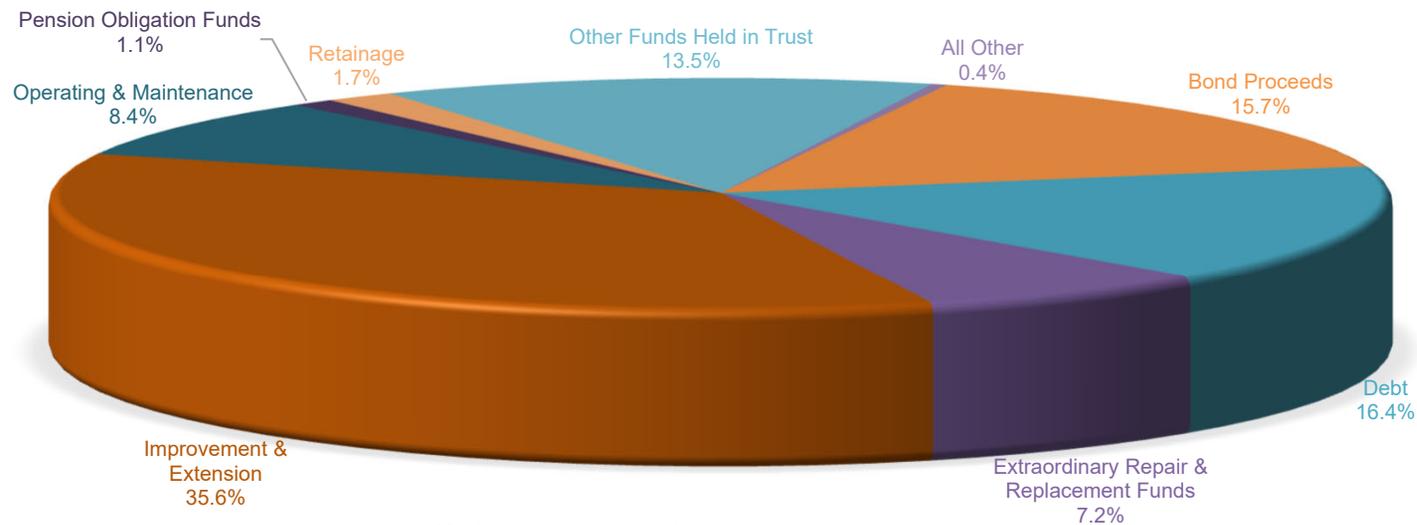
Investments – By Credit Quality



Credit Quality	Market Value	Asset Allocation
Ratings		
AAAm	285,645,224	28.5%
AA+	574,515,208	57.3%
A-1 + / A-1	121,724,245	12.1%
A-2	3,717,173	0.371%
NR	17,121,026	1.7%
Totals	1,002,722,877	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of September 30, 2019.

Investments – By Account Purpose



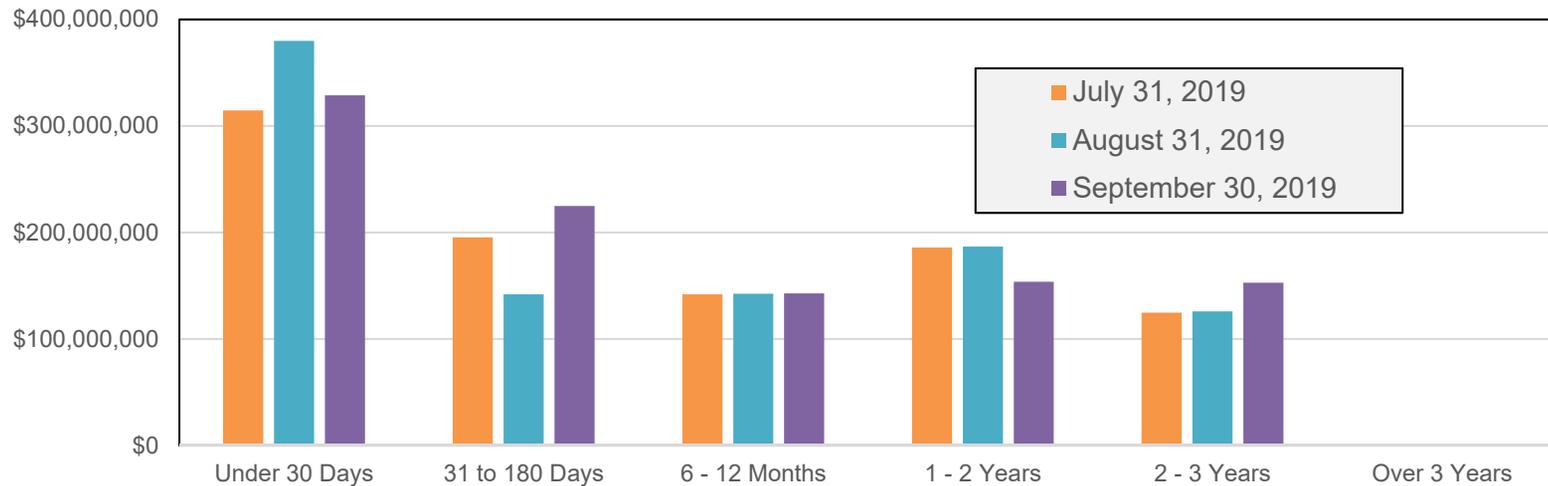
Account Purpose	Market Value	% Allocation
Bond Proceeds	\$ 157,872,157	15.7%
Debt	\$ 164,742,441	16.4%
Extraordinary Repair & Replacement Funds	\$ 71,975,423	7.2%
Improvement & Extension	\$ 356,815,816	35.6%
Operating & Maintenance	\$ 83,902,217	8.4%
Pension Obligation Funds	\$ 10,627,020	1.1%
Retainage	\$ 17,121,026	1.7%
Other Funds Held in Trust	\$ 135,866,094	13.5%
All Other	\$ 3,800,685	0.4%
Total	\$ 1,002,722,877	100.0%

Other Funds Held in Trust	Market Value	% Allocation
Budget Stabilization Funds	\$ 7,591,599	5.6%
Receiving Funds	\$ 118,597,558	87.3%
WRAP Funds	\$ 9,676,937	7.1%
Total	\$ 135,866,094	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of September 30, 2019. "All Other" funds includes the Flint Security Deposit account which is held on behalf of the City of Flint and do not belong to GLWA.

Investments – By Maturity

Maturity Distribution	July 31, 2019		August 31, 2019		September 30, 2019	
	\$	%	\$	%	\$	%
Under 30 Days	\$ 314,495,279	32.7%	\$ 379,815,398	38.9%	\$ 328,790,736	32.8%
31 to 180 Days	195,301,767	20.3%	141,891,388	14.5%	224,797,377	22.4%
6 - 12 Months	141,789,328	14.7%	142,395,570	14.6%	142,673,351	14.2%
1 - 2 Years	185,738,271	19.3%	186,628,361	19.1%	153,681,146	15.3%
2 - 3 Years	124,649,780	13.0%	125,790,742	12.9%	152,780,266	15.2%
Over 3 Years	-	0.0%	-	0.0%	-	0.0%
Totals	\$ 961,974,424	100.0%	\$ 976,521,459	100.0%	\$ 1,002,722,877	100.0%



In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of September 30, 2019.

Investment Accounts – Yield at Cost & Market

	As of September 30, 2019		As of June 30, 2019	
	YTM @ Cost	YTM @ Market	YTM @ Cost	YTM @ Market
Bank Deposits				
Comerica	0.18%	0.18%	0.18%	0.18%
First Independence	0.05%	0.05%	0.05%	0.05%
Flint Deposit Account	1.08%	1.08%	1.30%	1.30%
JP Morgan Chase	1.10%	1.10%	1.30%	1.30%
Sub-Total Bank Deposits	0.43%	0.43%	0.37%	0.37%
Money Market Funds / LGIPs				
GoMIC	2.15%	2.15%	2.39%	2.39%
U.S. Bank - First American MMF	1.79%	1.79%	2.25%	2.25%
JP Morgan Securities - Blackrock MMF	1.86%	1.86%	2.29%	2.29%
Sub-Total MMF / LGIPs	1.89%	1.89%	2.28%	2.28%
Investment Portfolios				
Sewage SR Debt Serv 5403	2.07%	2.00%	0.00%	0.00%
Sewage SR Res 5400	1.69%	1.73%	1.58%	1.96%
Sew 2nd Debt Serv 5403	2.07%	2.02%	0.00%	0.00%
Sewage 2nd Res 5481	1.74%	1.69%	2.12%	2.04%
Sew SRF Debt Serv 5410	2.01%	1.98%	2.62%	2.39%
Sewage ER & R	2.47%	1.78%	2.60%	1.95%
Sewer Improvement & Extension	2.15%	1.76%	2.64%	1.99%
Sewer Pension Obligation	1.91%	1.89%	0.00%	0.00%
Sewer Wrap Fund	2.19%	2.03%	2.42%	3.30%
Sewer Budget Stabilization Fund	2.53%	1.79%	2.66%	1.94%
Sewer Bond Fund	2.25%	2.05%	1.93%	2.24%
Sewer O&M Pension Sub Account	2.00%	1.87%	0.00%	0.00%
Water SR Debt Ser 5503	2.08%	2.01%	0.00%	0.00%
Water SR Reserve 5500	2.19%	1.70%	2.71%	1.96%
Water 2nd Debt Serv 5503	2.05%	2.00%	0.00%	0.00%
Water 2nd Res 5581	1.84%	1.69%	0.00%	0.00%
Water SRF Debt Serv 5575	2.00%	1.96%	2.64%	2.41%
Water ER & R	2.45%	1.77%	2.56%	1.94%
Water Improvement & Extension	2.35%	1.78%	2.65%	1.99%
Water Pension Obligation	1.90%	1.88%	0.00%	0.00%
Water Wrap Fund	2.11%	2.04%	2.39%	3.35%
Water Budget Stabilization Fund	2.53%	1.79%	2.66%	1.94%
Water Bond Fund	2.33%	1.96%	2.06%	2.15%
Water O&M Pension Sub Account	2.00%	1.87%	0.00%	0.00%
Sub-Total Investment Portfolios	2.23%	1.83%	2.45%	2.08%
Grand Total	2.08%	1.81%	2.30%	2.13%

The accounts at Comerica Bank get an earnings credit to offset bank fees. The earnings in the accounts at First Independence Bank is credited to the contractors and not the Authority. The funds in the Flint Security Deposit account are held on behalf of the City of Flint and the earnings do not belong to GLWA. YTM @ Cost is the expected return, based on the original cost, the annual interest receipts, maturity value and the time period from purchase date to maturity, stated as a percentage, on an annualized basis. YTM @ Market is the rate of return, based on the current market value, the annual interest receipts, maturity value and time period remaining until maturity, stated as a percentage, on an annualized basis.

Demonstration of Yield to Maturity vs. Duration

- The comparison agencies included in the list below were selected based on type and/or other non-performance based criteria to show a broad range of water entities/utilities. This peer group list does not represent an endorsement of any of the public agencies or their services. The types of funds (e.g., bond proceeds, debt service, etc.) and duration of the overall portfolios listed below as well as the various differences in permitted investments and allowable credit capacity in state statutes (i.e., the ability or non-ability to invest in long-term corporate credit) will have a direct impact on the corresponding yields at market.
- The overall yield of GLWA's aggregate portfolio compares somewhat favorably to those of other short-term market indices (i.e., the S&P LGIP index and the 3-month U.S. Treasury index), despite the inverted yield curve environment.
- GLWA does not have a potential for a longer duration portfolio when compared to other similar water entities/utilities as the Authority's covenants limits and restricts its ability in managing assets to a longer-term strategy.

As of September 30, 2019

	Market Value	YTM @ Market	Effective Duration	Weighted Average Maturity
GLWA				
Great Lakes Water Authority	\$1,002,722,877	1.81%	0.72 Years	270 Days
Short/Intermediate-Term Indices				
S&P Rated Government Investment Pool Index		2.05%	0.08 Years	30 Days
BoA / ML 3-Month Treasury Index		1.84%	0.16 Years	90 Days
BoA / ML 6-Month Treasury Index		1.83%	0.40 Years	180 Days
BoA / ML 1-Year Treasury Index		1.85%	0.90 Years	365 Days
BoA / ML 1-3 Year Treasury Index		1.69%	1.81 Years	661 Days
BoA / ML 1-5 Year Treasury Index		1.64%	2.56 Years	934 Days
Peer Analysis (Water Entities / Utilities)				
Alameda County Water District, CA	\$136,533,540	1.75%	2.52 Years	967 Days
Coachella Valley Water District, CA	\$409,983,827	1.86%	1.80 Years	815 Days
District of Columbia Water & Sewer Authority, DC	\$356,111,702	1.83%	0.56 Years	214 Days
DuPage Water Commission, IL	\$144,435,919	1.78%	2.39 Years	1,262 Days
Fairfax County Water Authority, VA	\$183,098,775	1.74%	1.92 Years	730 Days
San Bernardino Valley Municipal Water District, CA	\$354,960,699	1.81%	1.84 Years	696 Days
Truckee Meadows Water Authority, NV	\$114,636,958	1.77%	1.78 Years	679 Days

The BoA / ML indexes are unmanaged indexes tracking on-the-run Treasuries. These indexes are produced and maintained by Bank of America / Merrill Lynch & Co. Yield to maturity is the rate of return, based on the current market value, the annual interest receipts, maturity value and time period remaining until maturity, stated as a percentage, on an annualized basis.

Monthly Investment Income (Book Value)

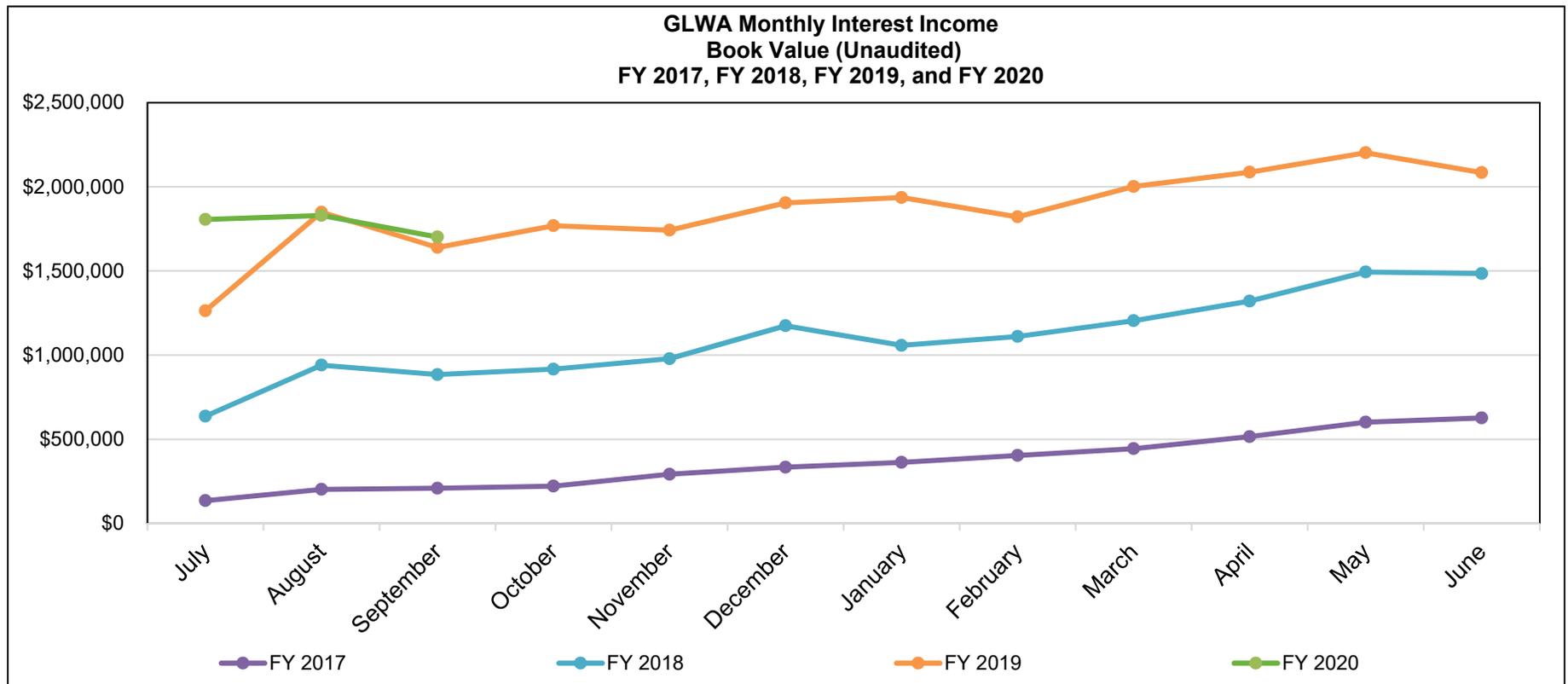
FY 2020 INVESTMENT INCOME BY MONTH (Unaudited)

Month	Interest Earned During Period	Realized Gain / Loss	Investment Income
July 2019	\$1,763,209.65	\$43,136.83	\$1,806,346.48
August 2019	\$1,829,826.44	\$0.00	\$1,829,826.44
September 2019	\$1,700,961.33	\$1,005.57	\$1,701,966.90
<u>FY 2020 Y-T-D</u>	<u>\$5,293,997.42</u>	<u>\$44,142.40</u>	<u>\$5,338,139.82</u>

These figures are based upon actual interest earned and posted to the Authority's various accounts via book value and does not include any earnings credit rate tied to the Authority's bank deposits.

Year-Over-Year Investment Income

- GLWA has earned \$5,338,140 in investment income for fiscal year 2020 on a book value basis compared to \$4,753,458 for the first three months of fiscal year 2019.
- Projected investment income for fiscal year 2020 is \$17.4 million as the market is pricing in expectations for more projected interest rate cuts by the Fed during fiscal year 2020.



Appendix I: Portfolio Holdings

Portfolio Holdings As of September 30, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Short-Term Bank Deposits / MMF / LGIP									
COMERICA BANK		\$ 3,717,173	7/1/2019	6/30/2019	0.18%	\$ 3,717,173	1	\$ -	\$ 3,717,173
FIRST INDEPENDENCE BANK		17,121,026	7/1/2019	6/30/2019	0.05%	17,121,026	1	-	17,121,026
FLINT DEPOSIT ACCOUNT		3,800,685	7/1/2019	6/30/2019	1.08%	3,800,685	1	-	3,800,685
JP MORGAN CHASE		7,376,244	7/1/2019	6/30/2019	1.10%	7,376,244	1	-	7,376,244
GoMIC		68,387,618	7/1/2019	6/30/2019	2.15%	68,387,618	1	-	68,387,618
U.S. BANK - FIRST AMERICAN MMF		145,484,530	7/1/2019	6/30/2019	1.79%	145,484,530	1	-	145,484,530
JP MORGAN SECURITIES - BLACKROCK MMF		71,773,077	7/1/2019	6/30/2019	1.86%	71,773,077	1	-	71,773,077

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of September 30, 2019.

Portfolio Holdings As of September 30, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Commercial Paper									
MUFG Bank NY 0 10/1/2019	62479MX16	\$ 1,330,000	10/1/2019	7/15/2019	2.32%	\$ 1,323,343	1	\$ -	\$ 1,330,000
BNP Paribas 0 10/1/2019	09659CX11	1,000,000	10/1/2019	5/10/2019	2.52%	990,040	1	-	1,000,000
Bank of Montreal 0 10/9/2019	06366HX93	1,000,000	10/9/2019	7/10/2019	2.31%	994,186	9	-	999,515
Bank of Montreal 0 10/9/2019	06366HX93	2,750,000	10/9/2019	7/10/2019	2.31%	2,734,012	9	-	2,748,666
MUFG LTD NY 0 11/1/2019	62479MY15	200,000	11/1/2019	7/10/2019	2.34%	198,531	32	-	199,656
MUFG LTD NY 0 11/1/2019	62479MY15	180,000	11/1/2019	8/8/2019	2.18%	179,078	32	-	179,690
MUFG LTD NY 0 11/1/2019	62479MY15	160,000	11/1/2019	9/6/2019	2.09%	159,482	32	-	159,725
NATIXIS NY 0 11/7/2019	63873KY76	2,500,000	11/7/2019	6/14/2019	2.28%	2,477,086	38	-	2,494,425
NATIXIS NY 0 11/7/2019	63873KY76	2,750,000	11/7/2019	6/14/2019	2.28%	2,724,795	38	-	2,743,868
Cooperatieve Rabobank 0 11/29/2019	21687BYV7	725,000	11/29/2019	8/5/2019	2.14%	720,047	60	-	722,450
Credit Agricole NY 0 11/29/2019	22533UYV9	1,000,000	11/29/2019	8/8/2019	2.19%	993,173	60	-	996,720
Credit Agricole NY 0 11/29/2019	22533UYV9	325,000	11/29/2019	8/8/2019	2.19%	322,781	60	-	323,934
MUFG Bank NY 0 12/2/2019	62479MZ22-1	2,500,000	12/2/2019	7/2/2019	2.24%	2,476,413	63	-	2,490,778
MUFG Bank NY 0 12/2/2019	62479MZ22-1	2,750,000	12/2/2019	7/2/2019	2.24%	2,724,054	63	-	2,739,855
MUFG LTD NY 0 12/2/2019	62479MZ22-2	680,000	12/2/2019	7/10/2019	2.29%	673,783	63	-	677,647
MUFG LTD NY 0 12/2/2019	62479MZ22-2	175,000	12/2/2019	9/6/2019	2.09%	174,120	63	-	174,395
Credit Agricole NY 0 12/10/2019	22533UZA4	3,325,000	12/10/2019	8/8/2019	2.08%	3,301,370	71	-	3,311,999
Credit Agricole NY 0 12/10/2019	22533UZA4	2,875,000	12/10/2019	8/9/2019	2.10%	2,854,568	71	-	2,863,759
Credit Agricole NY 0 12/10/2019	22533UZA4	7,350,000	12/10/2019	8/9/2019	2.10%	7,297,766	71	-	7,321,262
BNP Paribas NY 0 12/11/2019	09659CZB7	2,500,000	12/11/2019	7/11/2019	2.25%	2,476,306	72	-	2,489,670
BNP Paribas NY 0 12/11/2019	09659CZB7	2,500,000	12/11/2019	7/11/2019	2.25%	2,476,306	72	-	2,489,670
JPMorgan Securities 0 12/16/2019	46640QZG9	4,000,000	12/16/2019	6/14/2019	2.30%	3,953,339	77	-	3,982,444
JPMorgan Securities 0 12/16/2019	46640QZG9	4,750,000	12/16/2019	6/14/2019	2.30%	4,694,590	77	-	4,729,152
Credit Agricole NY 0 12/18/2019	22533UZJ5	2,250,000	12/18/2019	9/18/2019	2.06%	2,238,341	79	-	2,239,583
Credit Agricole NY 0 12/18/2019	22533UZJ5	2,500,000	12/18/2019	9/18/2019	2.06%	2,487,045	79	-	2,488,425
BNP Paribas NY 0 12/19/2019	09659CZK7	4,600,000	12/19/2019	7/16/2019	2.21%	4,556,346	80	-	4,579,714
Lloyds Bank 0 12/19/2019	53943SZK6	2,525,000	12/19/2019	7/15/2019	2.20%	2,500,994	80	-	2,513,865
Lloyds Bank 0 12/19/2019	53943SZK6	6,000,000	12/19/2019	7/15/2019	2.20%	5,942,957	80	-	5,973,540
Natixis Bank NY 0 12/19/2019	63873KZK6	3,000,000	12/19/2019	7/15/2019	2.23%	2,971,086	80	-	2,986,770
BNP Paribas NY 0 12/19/2019	09659CZK7	1,795,000	12/19/2019	7/16/2019	2.21%	1,777,965	80	-	1,787,084
Lloyds Bank 0 12/19/2019	53943SZK6	3,865,000	12/19/2019	7/15/2019	2.20%	3,828,255	80	-	3,847,955
Lloyds Bank 0 12/19/2019	53943SZK6	5,610,000	12/19/2019	7/15/2019	2.20%	5,556,664	80	-	5,585,260
Natixis Bank NY 0 12/19/2019	63873KZK6	3,000,000	12/19/2019	7/15/2019	2.23%	2,971,086	80	-	2,986,770
MUFG Bank NY 0 12/31/2019	62479MZX4	1,780,000	12/31/2019	7/16/2019	2.21%	1,761,808	92	-	1,770,958
Toyota Motor Credit 0 1/2/2020	89233GA22-2	4,150,000	1/2/2020	9/16/2019	2.05%	4,124,602	94	-	4,128,362
Toyota Motor Credit 0 1/2/2020	89233GA22-1	1,005,000	1/2/2020	9/6/2019	1.98%	998,510	94	-	999,784
Credit Agricole NY 0 1/2/2020	22533TA22	1,000,000	1/2/2020	8/8/2019	2.04%	991,752	94	-	994,810
Toyota Motor Credit 0 2/3/2020	89233GB39	1,010,000	2/3/2020	9/6/2019	1.97%	1,001,794	126	-	1,002,880
Toyota Motor Credit 0 3/2/2020	89233GC20	3,800,000	3/2/2020	9/16/2019	2.07%	3,763,647	154	-	3,768,186
Toyota Motor Credit 0 3/13/2020	89233GCD6	410,000	3/13/2020	7/11/2019	2.21%	403,892	165	-	406,191
Toyota Motor Credit 0 3/13/2020	89233GCD6	665,000	3/13/2020	7/11/2019	2.21%	655,094	165	-	658,822
Swedbank 0 3/16/2020	87019RCG9	2,500,000	3/16/2020	8/29/2019	2.08%	2,471,389	168	-	2,476,130
Swedbank 0 3/16/2020	87019RCG9	2,100,000	3/16/2020	8/29/2019	2.08%	2,075,967	168	-	2,079,949
Cooperatieve Rabobank 0 3/18/2020	21687ACJ0	3,750,000	3/18/2020	9/18/2019	2.04%	3,711,704	170	-	3,713,520
Toyota Motor Credit 0 3/20/2020	89233GCL8	145,000	3/20/2020	9/9/2019	2.00%	143,461	172	-	143,595
MUFG Bank NY 0 3/20/2020	62479LCL7	1,235,000	3/20/2020	8/9/2019	2.05%	1,219,477	172	-	1,223,033
Toyota Motor Credit 0 3/20/2020	89233GCL8	5,072,000	3/20/2020	9/9/2019	2.00%	5,018,161	172	-	5,022,852

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of September 30, 2019.

Portfolio Holdings As of September 30, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Federal Agencies									
FHLMC 1.25 10/2/2019	3137EADM8	\$ 5,045,000	10/2/2019	12/28/2017	1.93%	\$ 4,985,469	2	\$ 31,181	\$ 5,044,849
FHLB 2.125 2/11/2020	3130ADN32	3,750,000	2/11/2020	6/28/2018	2.52%	3,726,750	134	10,846	3,752,715
FHLMC 2.5 4/23/2020	3137EAEM7	3,750,000	4/23/2020	6/28/2018	2.56%	3,746,288	206	40,885	3,762,780
FHLB 2.625 5/28/2020	3130AECJ7	3,750,000	5/28/2020	6/28/2018	2.57%	3,753,825	241	33,359	3,768,251
FHLMC 2.375 2/16/2021	3137EAEL9	3,500,000	2/16/2021	8/8/2018	2.79%	3,465,210	505	10,160	3,528,315
FHLMC 2.375 2/16/2021	3137EAEL9	20,000,000	2/16/2021	8/8/2018	2.79%	19,801,200	505	58,056	20,161,800
FHLMC 2.375 2/16/2021	3137EAEL9	250,000	2/16/2021	8/9/2018	2.78%	247,563	505	726	252,023
FHLMC 2.375 2/16/2021	3137EAEL9	685,000	2/16/2021	8/9/2018	2.78%	678,321	505	1,988	690,542
FNMA 2.5 4/13/2021	3135G0U27	3,500,000	4/13/2021	8/8/2018	2.82%	3,471,685	561	40,590	3,541,685
FNMA 2.5 4/13/2021	3135G0U27	20,000,000	4/13/2021	8/8/2018	2.82%	19,838,200	561	231,944	20,238,200
FNMA 2.5 4/13/2021	3135G0U27	250,000	4/13/2021	8/9/2018	2.81%	247,985	561	2,899	252,978
FNMA 2.5 4/13/2021	3135G0U27	3,400,000	4/13/2021	8/8/2018	2.81%	3,372,698	561	39,431	3,440,494
FNMA 2.5 4/13/2021	3135G0U27	685,000	4/13/2021	8/9/2018	2.81%	679,479	561	7,944	693,158
FNMA 2.5 4/13/2021	3135G0U27	5,750,000	4/13/2021	8/8/2018	2.81%	5,703,828	561	66,684	5,818,483
FHLB 2.25 6/11/2021	3130A1W95	10,000,000	6/11/2021	7/11/2019	1.94%	10,058,200	620	68,125	10,096,400
FHLB 2.25 6/11/2021	3130A1W95	25,000,000	6/11/2021	7/11/2019	1.94%	25,145,500	620	170,313	25,241,000
FHLB 1.875 7/7/2021	3130AGLD5	3,715,000	7/7/2021	6/10/2019	1.96%	3,708,982	646	16,060	3,728,114
FHLB 1.875 7/7/2021	3130AGLD5	3,910,000	7/7/2021	6/10/2019	1.96%	3,903,666	646	16,903	3,923,802
FHLMC 2.375 1/13/2022	3137EADB2	10,000,000	1/13/2022	7/11/2019	1.89%	10,118,700	836	50,799	10,154,000
FHLMC 2.375 1/13/2022	3137EADB2	25,000,000	1/13/2022	7/11/2019	1.89%	25,296,750	836	126,997	25,385,000
FHLB 2.125 6/10/2022	313379Q69	10,000,000	6/10/2022	7/11/2019	1.92%	10,059,200	984	64,931	10,126,700
FHLB 2.125 6/10/2022	313379Q69	25,000,000	6/10/2022	7/11/2019	1.92%	25,148,000	984	162,326	25,316,750

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of September 30, 2019.

Portfolio Holdings As of September 30, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
U.S. Treasuries									
T-Note 1.25 10/31/2019	912828TV2	\$ 1,275,000	10/31/2019	2/7/2019	2.54%	\$ 1,263,196	31	\$ 6,626	\$ 1,274,120
T-Note 1.5 10/31/2019	912828F62-2	2,000,000	10/31/2019	8/8/2018	2.56%	1,974,453	31	12,473	1,999,020
T-Note 1.5 10/31/2019	912828F62-1	3,405,000	10/31/2019	6/28/2018	2.43%	3,363,635	31	21,235	3,403,332
T-Note 1.25 10/31/2019	912828TV2	11,275,000	10/31/2019	2/7/2019	2.53%	11,171,499	31	58,596	11,267,220
T-Note 1.5 10/31/2019	912828F62-2	4,000,000	10/31/2019	8/8/2018	2.56%	3,948,906	31	24,946	3,998,040
T-Note 1.5 10/31/2019	912828F62-2	1,000,000	10/31/2019	6/10/2019	2.22%	997,227	31	6,236	999,510
T-Note 1.75 11/30/2019	9128283H1	3,350,000	11/30/2019	6/28/2018	2.44%	3,317,809	61	19,542	3,348,292
T-Note 1.75 11/30/2019	9128283H1	3,780,000	11/30/2019	6/28/2018	2.44%	3,743,677	61	22,050	3,778,072
T-Note 1.875 12/31/2019	9128283N8-1	3,300,000	12/31/2019	6/28/2018	2.46%	3,271,770	92	15,469	3,299,614
T-Note 1.875 12/31/2019	9128283N8-1	3,750,000	12/31/2019	6/28/2018	2.46%	3,717,920	92	17,578	3,749,561
T-Note 1.625 12/31/2019	912828G95	3,756,000	12/31/2019	8/9/2019	2.01%	3,750,278	92	15,259	3,752,770
T-Note 1.625 12/31/2019	912828G95	3,670,000	12/31/2019	8/9/2019	2.01%	3,664,409	92	14,909	3,666,844
T-Note 1.875 12/31/2019	9128283N8-2	3,974,000	12/31/2019	9/5/2019	1.93%	3,973,224	92	18,628	3,973,523
T-Note 1.875 12/31/2019	9128283N8-2	10,263,000	12/31/2019	9/5/2019	1.93%	10,260,996	92	48,108	10,261,768
T-Note 1.625 12/31/2019	912828G95	928,000	12/31/2019	8/9/2019	2.01%	926,586	92	3,770	927,202
T-Note 1.625 12/31/2019	912828G95	4,197,000	12/31/2019	8/9/2019	2.01%	4,190,606	92	17,050	4,193,391
T-Note 1.875 12/31/2019	9128283N8-2	3,789,000	12/31/2019	9/5/2019	1.93%	3,788,260	92	17,761	3,788,545
T-Note 1.875 12/31/2019	9128283N8-2	11,520,000	12/31/2019	9/5/2019	1.93%	11,517,750	92	54,000	11,518,618
T-Note 2 1/31/2020	9128283S7	3,750,000	1/31/2020	6/28/2018	2.46%	3,723,047	123	12,432	3,751,024
T-Note 2.25 2/29/2020	9128283Y4	3,500,000	2/29/2020	8/8/2018	2.63%	3,479,902	152	6,490	3,504,935
T-Note 2.25 2/29/2020	9128283Y4	20,000,000	2/29/2020	8/8/2018	2.63%	19,885,156	152	37,088	20,028,200
T-Note 2.25 2/29/2020	9128283Y4	250,000	2/29/2020	8/9/2018	2.62%	248,594	152	464	250,353
T-Note 2.25 2/29/2020	9128283Y4	3,400,000	2/29/2020	8/8/2018	2.63%	3,380,477	152	6,305	3,404,794
T-Note 2.25 2/29/2020	9128283Y4	685,000	2/29/2020	8/9/2018	2.62%	681,147	152	1,270	685,966
T-Note 2.25 2/29/2020	9128283Y4	5,750,000	2/29/2020	8/8/2018	2.63%	5,716,982	152	10,663	5,758,108
T-Note 2.25 3/31/2020	9128284C1	3,725,000	3/31/2020	6/28/2018	2.49%	3,709,431	183	-	3,731,549
T-Note 2.375 4/30/2020	9128284J6	3,500,000	4/30/2020	4/30/2019	2.40%	3,499,043	213	34,560	3,509,975
T-Note 2.375 4/30/2020	9128284J6	15,000,000	4/30/2020	4/30/2019	2.40%	14,996,484	213	148,115	15,042,750
T-Note 2.5 5/31/2020	9128284Q0	3,500,000	5/31/2020	8/8/2018	2.66%	3,489,883	244	29,167	3,514,070
T-Note 2.5 5/31/2020	9128284Q0	4,750,000	5/31/2020	7/11/2019	2.02%	4,770,039	244	39,583	4,769,095
T-Note 2.5 5/31/2020	9128284Q0	20,000,000	5/31/2020	8/8/2018	2.66%	19,942,188	244	166,667	20,080,400
T-Note 2.5 5/31/2020	9128284Q0	250,000	5/31/2020	8/9/2018	2.66%	249,297	244	2,083	251,005
T-Note 2.5 5/31/2020	9128284Q0	3,400,000	5/31/2020	8/8/2018	2.66%	3,390,172	244	28,333	3,413,668
T-Note 2.5 5/31/2020	9128284Q0	685,000	5/31/2020	8/9/2018	2.66%	683,073	244	5,708	687,754
T-Note 2.5 5/31/2020	9128284Q0	5,750,000	5/31/2020	8/8/2018	2.66%	5,733,379	244	47,917	5,773,115
T-Note 1.5 6/15/2020	912828XU9-2	355,000	6/15/2020	7/10/2019	1.99%	353,391	259	1,557	354,084
T-Note 1.5 6/15/2020	912828XU9-2	1,784,000	6/15/2020	9/5/2019	1.82%	1,779,679	259	7,823	1,779,397
T-Note 1.5 6/15/2020	912828XU9-1	635,000	6/15/2020	7/10/2019	2.00%	632,098	259	2,785	633,361

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of September 30, 2019.



Portfolio Holdings As of September 30, 2019

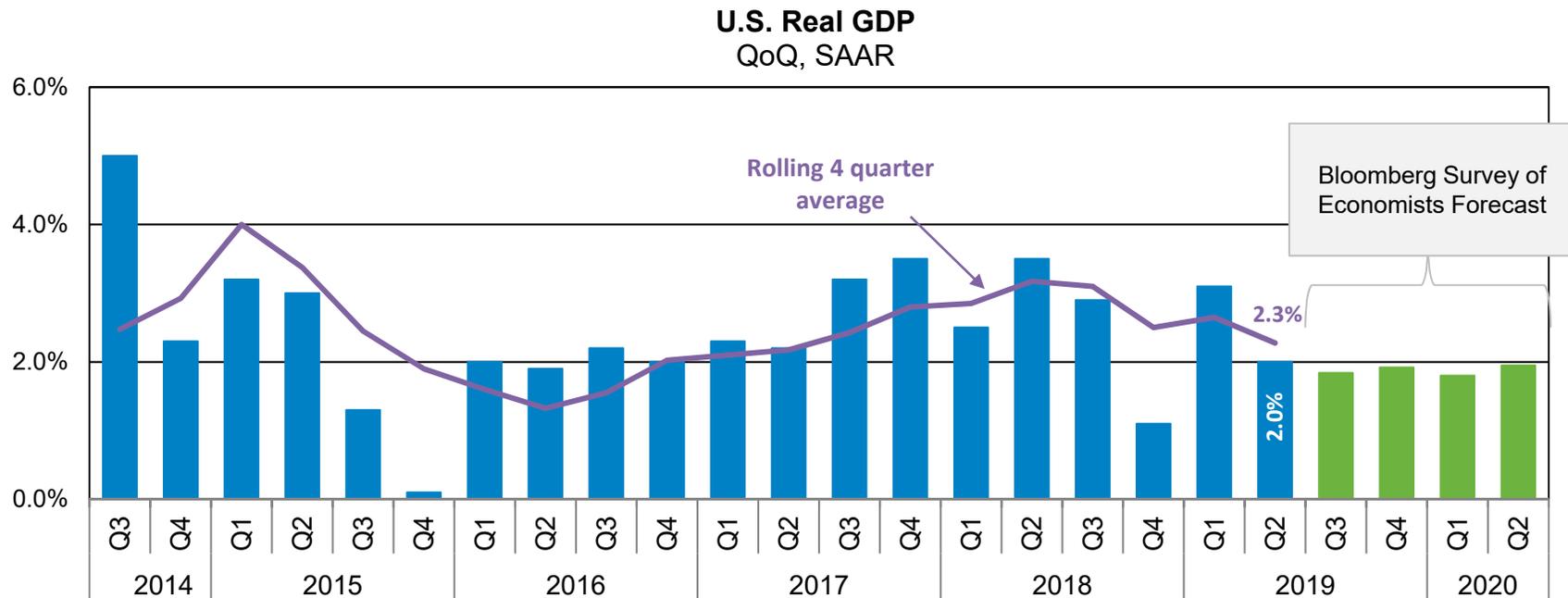
DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
U.S. Treasuries									
T-Note 1.5 6/15/2020	912828XJ9-2	299,000	6/15/2020	7/10/2019	1.99%	297,645	259	1,311	298,229
T-Note 1.5 6/15/2020	912828XJ9-2	2,449,000	6/15/2020	9/6/2019	1.82%	2,443,069	259	10,739	2,442,682
T-Note 1.5 6/15/2020	912828XJ9-1	1,140,000	6/15/2020	7/10/2019	2.00%	1,134,790	259	4,999	1,137,058
T-Note 1.875 6/30/2020	912828VJ6-1	3,750,000	6/30/2020	6/28/2018	2.52%	3,703,271	274	17,578	3,750,293
T-Note 1.875 6/30/2020	912828VJ6-2	1,740,000	6/30/2020	7/3/2018	2.54%	1,717,638	274	8,156	1,740,139
T-Note 1.875 6/30/2020	912828VJ6-2	2,760,000	6/30/2020	10/30/2018	2.81%	2,718,061	274	12,938	2,760,221
T-Note 1.625 6/30/2020	912828XH8	9,705,000	6/30/2020	10/11/2017	1.61%	9,709,928	274	39,427	9,687,919
T-Note 1.625 6/30/2020	912828XH8	4,565,000	6/30/2020	2/27/2017	1.54%	4,578,374	274	18,545	4,556,966
T-Note 1.625 6/30/2020	912828XH8	6,560,000	6/30/2020	10/11/2017	1.61%	6,563,331	274	26,650	6,548,454
T-Note 2.125 8/31/2020	912828VV9	3,500,000	8/31/2020	8/8/2018	2.69%	3,460,762	336	6,130	3,508,610
T-Note 2.125 8/31/2020	912828VV9	5,000,000	8/31/2020	7/11/2019	1.95%	5,009,570	336	8,757	5,012,300
T-Note 2.125 8/31/2020	912828VV9	20,000,000	8/31/2020	8/8/2018	2.69%	19,775,781	336	35,027	20,049,200
T-Note 2.125 8/31/2020	912828VV9	250,000	8/31/2020	8/9/2018	2.69%	247,188	336	438	250,615
T-Note 2.125 8/31/2020	912828VV9	3,400,000	8/31/2020	8/8/2018	2.69%	3,361,883	336	5,955	3,408,364
T-Note 2.125 8/31/2020	912828VV9	685,000	8/31/2020	8/9/2018	2.69%	677,294	336	1,200	686,685
T-Note 2.125 8/31/2020	912828VV9	5,750,000	8/31/2020	8/8/2018	2.69%	5,685,537	336	10,070	5,764,145
T-Note 2 11/30/2020	912828A42	3,500,000	11/30/2020	8/8/2018	2.72%	3,444,082	427	23,333	3,507,665
T-Note 2 11/30/2020	912828A42	6,100,000	11/30/2020	9/6/2019	1.74%	6,119,539	427	40,667	6,113,359
T-Note 2 11/30/2020	912828A42	20,000,000	11/30/2020	8/8/2018	2.72%	19,680,469	427	133,333	20,043,800
T-Note 2 11/30/2020	912828A42	250,000	11/30/2020	8/9/2018	2.72%	246,006	427	1,667	250,548
T-Note 2 11/30/2020	912828A42	3,400,000	11/30/2020	9/17/2018	2.81%	3,341,828	427	22,667	3,407,446
T-Note 2 11/30/2020	912828A42	685,000	11/30/2020	8/9/2018	2.72%	674,056	427	4,567	686,500
T-Note 2 11/30/2020	912828A42	5,750,000	11/30/2020	9/17/2018	2.81%	5,651,621	427	38,333	5,762,593
T-Note 1.875 12/15/2021	912828L2	2,070,000	12/15/2021	7/10/2019	1.91%	2,069,030	442	11,347	2,071,863
T-Note 2.625 5/15/2021	9128284P2	245,000	5/15/2021	2/7/2019	2.49%	245,708	593	2,412	248,530
T-Note 2.625 5/15/2021	9128284P2	3,455,000	5/15/2021	2/7/2019	2.49%	3,464,852	593	34,010	3,504,787
T-Note 2.625 5/15/2021	9128284P2	700,000	5/15/2021	2/7/2019	2.49%	702,023	593	6,891	710,087
T-Note 2.625 5/15/2021	9128284P2	5,685,000	5/15/2021	2/7/2019	2.49%	5,701,211	593	55,962	5,766,921
T-Note 1.25 10/31/2021	912828T67	10,000,000	10/31/2021	7/11/2019	1.83%	9,870,703	762	51,970	9,918,800
T-Note 1.25 10/31/2021	912828T67	2,500,000	10/31/2021	7/11/2019	1.83%	2,467,676	762	12,993	2,479,700
T-Note 1.25 10/31/2021	912828T67	17,500,000	10/31/2021	9/6/2019	1.55%	17,388,574	762	90,948	17,357,900
T-Note 1.25 10/31/2021	912828T67	270,000	10/31/2021	9/6/2019	1.55%	268,313	762	1,403	267,808
T-Note 1.25 10/31/2021	912828T67	3,405,000	10/31/2021	9/6/2019	1.55%	3,383,586	762	17,696	3,377,351
T-Note 1.25 10/31/2021	912828T67	730,000	10/31/2021	9/6/2019	1.55%	725,438	762	3,794	724,072
T-Note 1.25 10/31/2021	912828T67	5,765,000	10/31/2021	9/6/2019	1.55%	5,728,744	762	29,961	5,718,188
T-Note 2.625 12/15/2021	9128285R7	2,700,000	12/15/2021	7/10/2019	1.80%	2,752,945	807	20,720	2,759,481
T-Note 2.625 12/15/2021	9128285R7	7,100,000	12/15/2021	7/10/2019	1.80%	7,239,227	807	54,487	7,256,413
T-Note 2.625 12/15/2021	9128285R7	20,350,000	12/15/2021	7/10/2019	1.80%	20,749,051	807	156,170	20,798,311
T-Note 2.625 12/15/2021	9128285R7	10,900,000	12/15/2021	7/10/2019	1.80%	11,113,742	807	83,649	11,140,127

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of September 30, 2019.

Appendix II: Economic Update

Economic Growth Declines in Second Quarter

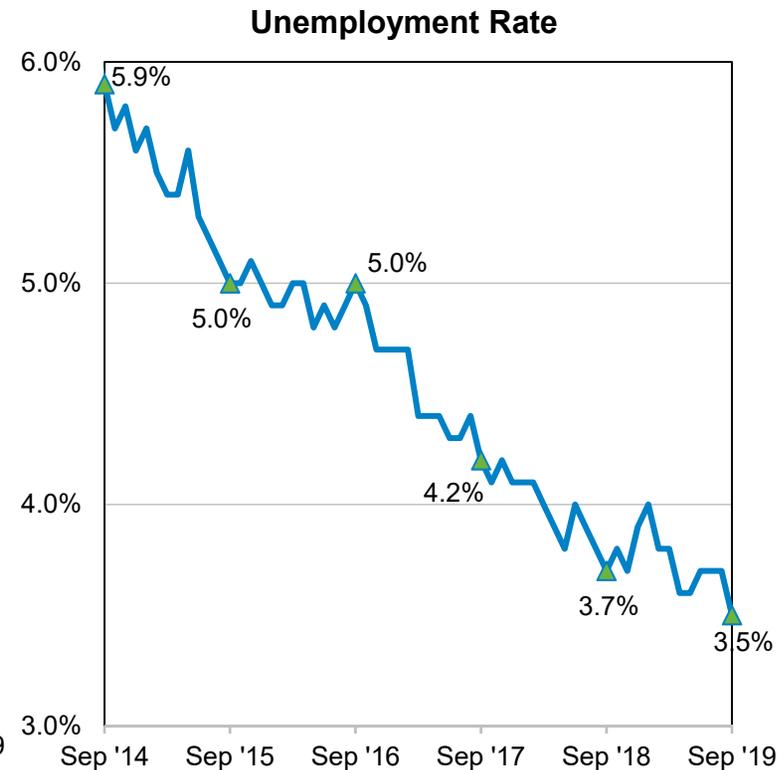
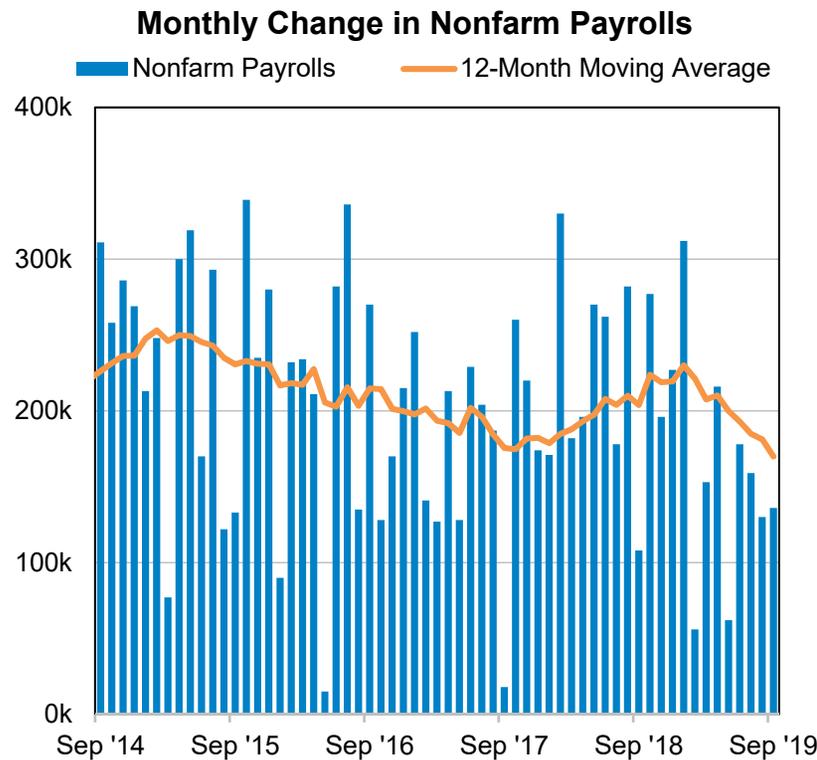
- U.S. economic activity experienced moderate growth during the second quarter of 2019
 - The final estimate of U.S. GDP growth for the second quarter was 2.0%, coinciding with the second estimate, and is modestly above trend in the first half of 2019
- Growth is still projected to steadily decline in the remaining quarters of 2019 and into 2020, highlighting positive but moderate growth
 - Over the past few quarters, economic risks in the U.S. have risen; however, domestic economic data remains supportive of moderate, sustained growth over the near-term



Source: Bloomberg, as of September 30, 2019. SAAR is seasonally adjusted annualized rate. Purple denotes rolling four-quarter averages.

Labor Market Job Growth Continues to Slow

- The U.S. economy added 136,000 jobs in September, below the street's expected 145,000
- The September unemployment rate fell below expectations to arrive at 3.5%, the lowest reading since 1969

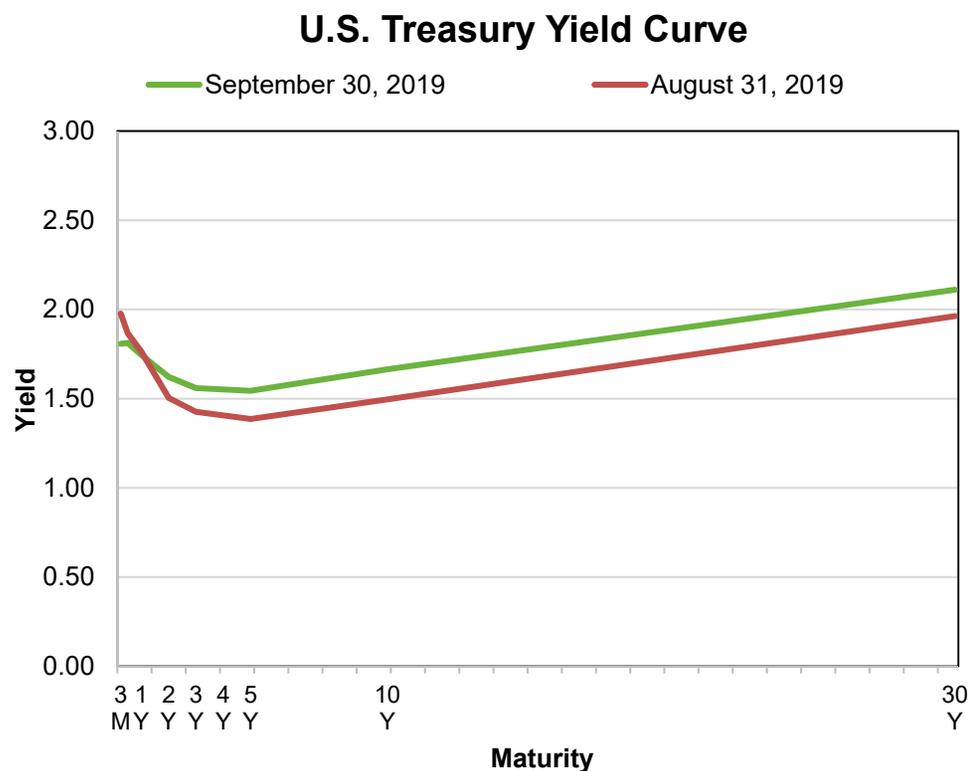


Source: Bloomberg, as of September 30, 2019.

U.S. Treasury Yield Curve

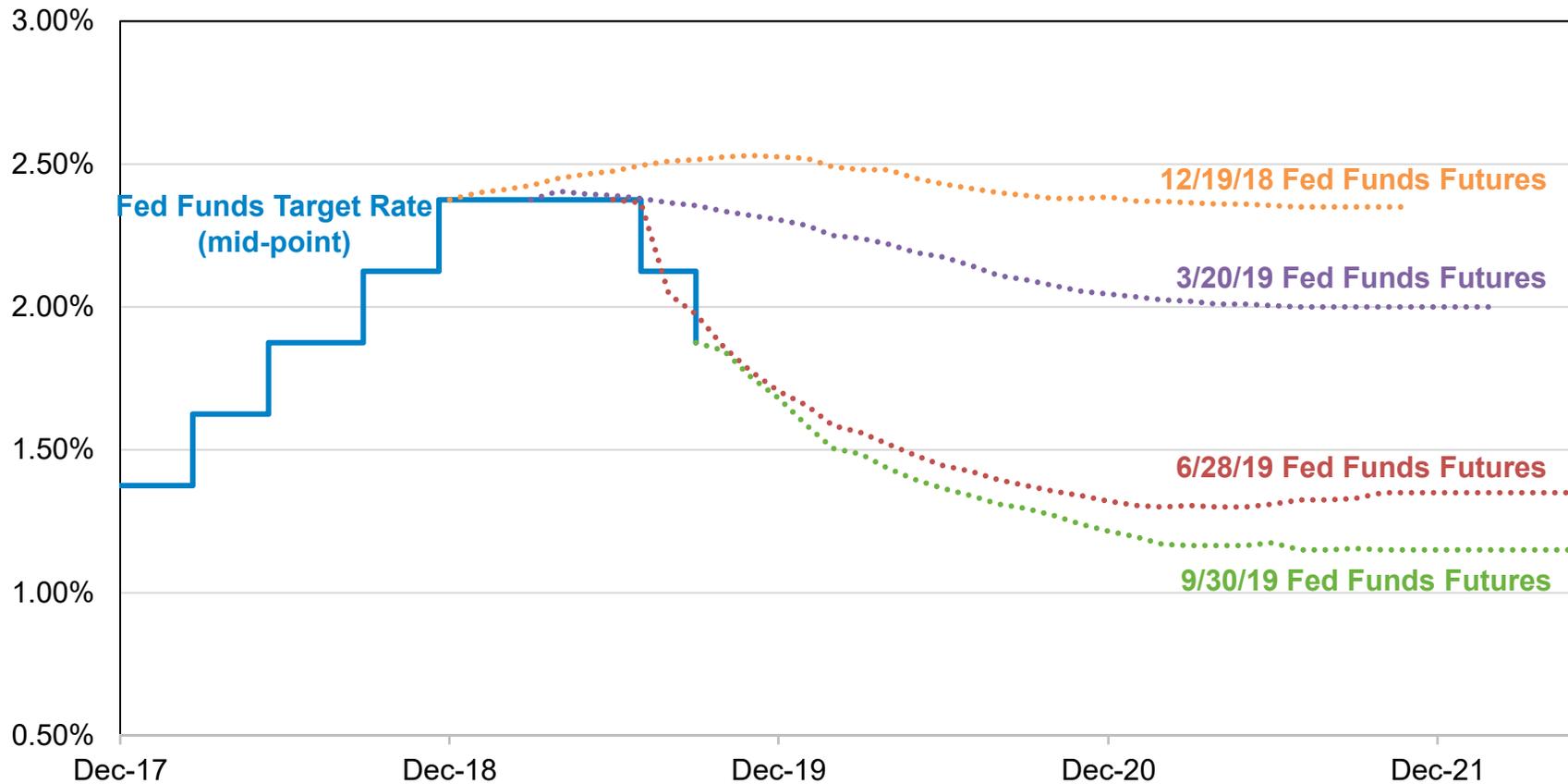
- Long-term U.S. Treasury yields increased in September while short-term rates fell as the curve becomes less inverted amid expansionary Federal Reserve policy and moderate economic growth
- As of September 30, 2019, the yield curve is inverted between the 3-month and 10-year maturities; over the month, longer-term yields rose to correct the inversion between the 3-month and 30-year maturities

	<u>8/31/2019</u>	<u>9/30/2019</u>	<u>Change</u>
3 month	1.98%	1.81%	-0.17%
6 month	1.87%	1.81%	-0.05%
1 year	1.77%	1.74%	-0.02%
2 year	1.51%	1.62%	0.12%
3 year	1.43%	1.56%	0.13%
5 year	1.41%	1.54%	0.16%
10 year	1.50%	1.66%	0.17%
30 year	1.96%	2.11%	0.15%



Source: Bloomberg, as of September 30, 2019.

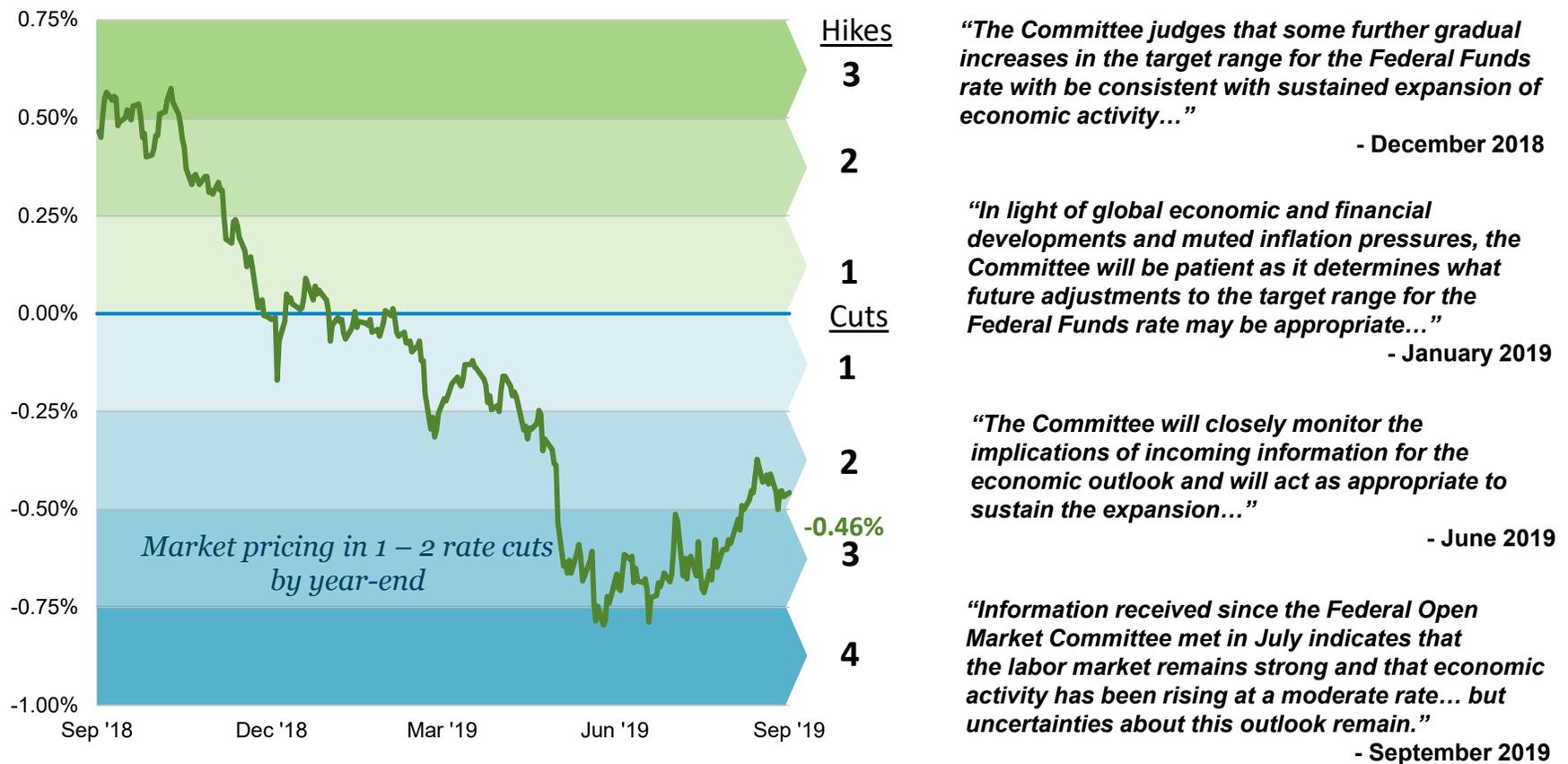
The Market Expects 1 – 2 More Rate Cuts by Year End



Source: Federal Reserve and Bloomberg. Fed Funds futures as of Fed meeting dates of 12/19/2018 and 3/20/2019 as well as 9/30/2019.

Market Expectations Adjust to FOMC Guidance

2019 Rate Moves Priced into the Futures Market

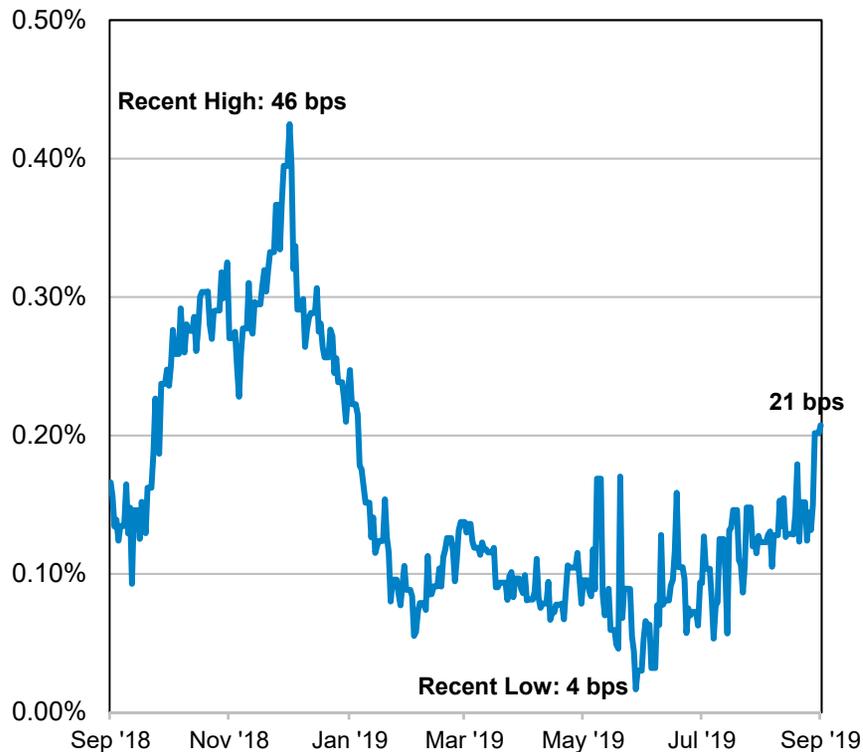


Source: Bloomberg, as of September 30, 2019.

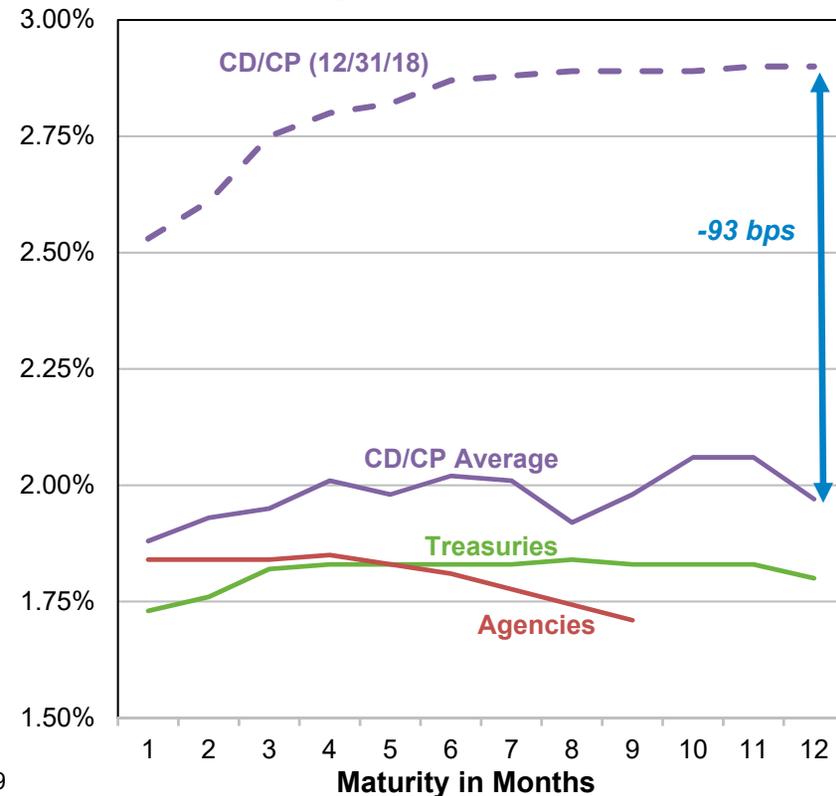
Current Short-Term Interest Rate Environment

- In September, commercial paper and bank certificate of deposit (CP / CD) yield spreads bounced backed from recent lows but remain narrow
- Treasuries continue to be relatively attractive versus Agency discount notes

Yield Spread on 6-month Commercial Paper over T-Bill



Money Market Yield Curves



Source: Bloomberg, PFMAM Trading Desk, as of 9/30/19. Not a specific recommendation. Actual yields may vary by issue.

Fixed Income Market Overview and Outlook

FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS

- Interest rates continued their decline in the third quarter in response to further weakness in manufacturing activity, the on-again, off-again trade conflict with China, and heightened recession fears for the U.S. and global economies.
- Yields on intermediate-term maturity (2 – 5 year) U.S. Treasuries fell by 12 – 22 basis points (0.12% – 0.22%).
 - Long-term Treasury yields fell even more, with the benchmark 30-year Treasury bond declining by more than 40 basis points (0.40%) after briefly falling below 2.00% for the first time in history.
 - The front end of the yield curve (less than 6 months) declined by 25 – 30 basis points (0.25% – 0.30%) in response to the Fed's July and September rate cuts.
- Because yields were sharply lower over the past quarter (and year-to-date), bond market returns have been exceptionally strong: year-to-date returns were around 1.75% on cash, 3% – 4% on shorter-duration strategies, 8.5% on the U.S. Bond Aggregate, and over 12% on longer-term investment-grade credit.
- Our strategy for the third quarter included the following elements:
 - We continued to rotate out of the Federal Agency sector as their yield spreads remained near historical highs. Even new issue concessions were less attractive than in prior quarters. While limited supply is partly to blame, insatiable market demand has essentially capped any upside. As a result, we continued to prefer Treasury allocations over Federal Agencies.
 - After narrowing in the first half of 2019, yield spreads on short-term commercial paper gradually increased from multi-year lows. Short-term credit sectors once again offered favorable incremental yield opportunities for ultra-short term investors.

Fixed Income Market Overview and Outlook

FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS

- Over the past few quarters, economic risks in the U.S. have risen; however, domestic economic data remains supportive of moderate, sustained growth over the near-term.
 - While our view remains that a recession is not imminent, we acknowledge that trade disputes and politics are significant wildcards.
- After two well-telegraphed Fed rate cuts, the future path of short-term rates is less certain.
 - One more cut before year-end is the consensus view, but recent inflation readings have improved, and the Fed may prefer to save its monetary policy ammunition for an actual slowdown.
- Our strategy as we enter the final quarter of 2019 is to maintain well-diversified portfolios as we seek to balance portfolio earnings potential with profit-taking in sectors that appear overly expensive.
 - Issue selection has become increasingly important, regardless of sector, as market cross-currents have created both risks and opportunities.
- Our outlook for the major investment-grade fixed-income sectors are as follows:
 - Federal Agency yield spreads remain very tight. In some cases, Agencies offer yields less than those on Treasuries of similar maturity. The U.S. Treasury Department also released an updated housing reform plan that seeks to reduce the role of the federal government, but implementation faces many political and practical difficulties. We continue to favor further reductions in Agency holdings because their upside is limited.
 - On the heels of two Fed rate cuts in the third quarter, money market investors may see further rate adjustments in the coming months. Short-term credit spreads have widened recently, creating investment opportunities that offset some of the Fed's lower overnight target rate.

Disclosure

This material is based on information obtained from sources generally believed to be reliable and available to the public, however PFM Asset Management LLC cannot guarantee its accuracy, completeness or suitability. This material is for general information purposes only and is not intended to provide specific advice or a specific recommendation. All statements as to what will or may happen under certain circumstances are based on assumptions, some but not all of which are noted in the presentation. Assumptions may or may not be proven correct as actual events occur, and results may depend on events outside of your or our control. Changes in assumptions may have a material effect on results. Past performance does not necessarily reflect and is not a guaranty of future results. The information contained in this presentation is not an offer to purchase or sell any securities.



Financial Services Audit Committee Communication

Date: November 15, 2019

To: Great Lakes Water Authority Audit Committee

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

Re: FY 2019 Q4 Construction Work-in-Progress Report through June 30, 2019
(Unaudited)

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 (CIP).

Analysis: The attached documents summarize the FY 2019 Q4 CWIP activity and provides a detailed snapshot to inform decision makers and stakeholders.

Proposed Action: Receive and file this report.



**Construction Work-in-Progress Quarterly Report
(Unaudited)**

As of June 30, 2019

For questions, please contact:

Andrew Sosnoski
Construction Accounting and Financial Reporting Manager
Phone: 313.999.2585
Email: Andrew.Sosnoski@glwater.org

Issued 11.05.2019

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November 15, 2019

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 June 30, 2019. The information in this report presents a detailed snapshot and is important as we track the execution of the FY 2020–2024 Capital Improvement Plan (CIP) and look to inform decision makers as we prepare the FY 2021–2025 CIP.

As we continue to refine this report to better communicate pertinent information to inform decision makers and stakeholders, content and formatting may be changed. With the summary of active projects now regularly being reported to the Capital Planning Committee the project highlights previously being reported have been removed from this report.

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:

Executive Summary: Presentation of spend information is necessary to report our progress on CIP projects.

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

Spending Plan Amendment Summary: The award of CIP contracts and the related execution thereof may result in deviations from the amount and timing of planned spend. Spending plan amendments are prepared to fund the related increase or decrease with either an adjustment to Capital Reserve or Program / Allowance accounts to amend the board approved fiscal year planned spend accordingly and to inform decision makers in the development of future Capital Improvement Plans.

Financial Information

All project amounts are unaudited. This means that direct contractor costs are generally included in these totals with most pay estimates entered through June 30, 2019. There may, however, be some pay estimates that lag. The totals do not include indirect overhead.

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
- ✓ After contracts are awarded at amounts variant from the CIP plan and more reliable anticipated spend data becomes available, the amended budget for the current fiscal year may increase or decrease by way of "Capital Reserve" budget amendments.
- ✓ 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.

WATER SYSTEM

Executive Summary

The rate of spend is a key performance indicator. The development of the FY 2019-2023 and related CIP budget for FY 2019 were based on anticipation of FY 2019 activity resulting in 100% of planned spend. The Water System spend for the period ending June 30, 2019 is 93.3% of the FY 2019 board approved CIP spend and 85.1% of the FY 2019 amended spend. Detailed analysis behind the reasons and projects for which planned spend is amended from \$66,038,000 to \$72,348,044 is provided in the subsequent Spending Plan Amendment Summary section of this report.

Water System Projects	FY 2018 Planned Spend	FY 2018 Activity	FY 2018 as a Percentage of Planned Spend	FY 2019 Planned Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Planned Spend (Unaudited)
FY 2018 CIP Project Requests	\$ 137,655,000	\$ 37,013,482	26.9%			
FY 2018 CIP Realigned Forecast as per 2019 CIP	40,043,000	37,013,482	92.4%			
FY 2019 Board Approved CIP Plan				\$ 66,038,000	\$ 61,583,574	93.3%
FY 2019 Amended Spend Plan				72,348,044	61,583,574	85.1%

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.

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.

As part of our project life cycle review the CA&FR team identifies when it is appropriate for projects to be capitalized. Projects are to be capitalized when they have been completed in totality or are inclusive of identifiable assets that have been placed in service. Capitalization of project cost for the following projects occurred in the FY 2019 4th quarter:

<u>Project</u>	<u>Contract</u>	<u>Description</u>
113004	CON-247	Raw Water Sampling Modifications at Southwest WTP
114006	SP-563	Rapid Mix Units at SPWTP 1958 Process
170104	CON-225	Orion & Newberg Pumping Station Improvements
170120	CON-248	Isolation Gate Valves for Line Pumps at the West Service Center Pumping Station

\$175 million is in CWIP as of June 30, 2019 as shown in the table beginning on the next page.

The order of the report on the subsequent pages is in ascending order by CIP project number.

Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity for the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Activity / Project Estimate	Life to Date Activity / Total Estimate
004430	DWSD: Contract Replacement Water Main	\$ -	\$ 75,804	\$ -	\$ -	\$ (75,804)	\$ 0	\$ -	\$ 0	0	100%
007412	SRF WS-693 Water System Improvements	-	3,390,974	-	-	41,800	-	3,432,774	3,432,774	100%	100%
111001	Energy Management: Lake Huron Water Treatment Plant Low Lift Pumping Improvements	52,388,000	-	-	-	14,083	14,083	-	14,083	0%	0%
111002	LHWTP Backflow Replacement	8,324,000	1,864,811	3,666,000	3,666,000	4,972,169	6,836,980	155,348	6,992,328	84%	84%
111004	Electrical Tunnel Rehabilitation at Lake Huron WTP	4,749,000	62,685	414,000	2,728,786	2,705,923	2,768,608	-	2,768,608	58%	58%
111006	Replacement of Filter Instrumentation and Raw Water Flow Metering Improvements at Lake Huron WTP-Raw Sludge Clarifier and Raw Sludge Pumping System	10,789,000	734,756	43,000	55,000	43,204	777,960	-	777,960	7%	7%
111007	Improvements	9,799,000	283,989	212,000	212,000	355,997	639,986	-	639,986	7%	7%
111008	LHWTP Architectural Programming - Lab	300,000	-	-	-	-	-	-	-	0%	0%
111009	Lake Huron WTP-35 MGD HLP, Flow Meters	26,106,000	-	-	-	35,864	35,864	-	35,864	0%	0%
112002	Low Lift Pumping Plant Caisson Rehabilitation at Northeast WTP	1,565,000	472,953	831,000	831,000	661,814	1,134,767	-	1,134,767	73%	73%
112003	NE WTP High Lift Pumping Electrical	62,234,000	-	-	-	-	-	-	-	0%	0%
112005	Northeast Water Treatment Plant - Replacement of Covers for Process Water Conduits	813,000	-	-	-	13,357	13,357	-	13,357	2%	2%
112006	Northeast Water Treatment Plant Flocculator Replacements	2,718,000	-	-	-	2,891	2,891	-	2,891	0%	0%
113001	Southwest Water Treatment Plant, Sludge Treatment & Waste Wash water Treatment Facilit	-	39,885	-	-	(39,885)	(0)	-	(0)	100%	100%
113002	High Lift Pump Discharge Valve Actuators Replacement at Southwest WTP	5,432,000	249,447	1,157,000	1,238,000	2,230,044	2,479,491	-	2,479,491	46%	46%

Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity for the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Activity / Project Estimate
113003	Replacement of Butterfly Valves	148,286,000	-	-	-	-	-	-	-	0%
113004	Residual Handling Facility's Decant Flow Modifications at Southwest WTP	898,000	198,431	1,054,000	1,054,000	654,788	0	853,219	853,219	95%
113006	SW WTP Chloring Scrubber	7,032,000	-	-	-	-	-	-	-	0%
113007	Architectural and Building Mechanical	37,336,000	-	-	-	-	-	-	-	0%
114001	Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities	97,288,000	66,571,119	3,501,000	4,952,000	7,384,505	73,955,624	22,738,455	96,694,079	99%
114002	Springwells Water Treatment Plant - Low Lift and High Lift Pump Station	114,816,000	498,042	1,433,000	1,433,000	1,582,820	2,080,862	-	2,080,862	2%
114003	Water Production Flow Metering Improvements at NE, SW, and SPW WTP	7,105,000	3,444,814	2,506,000	2,888,459	2,887,107	6,331,921	-	6,331,921	89%
114005	Springwells WTP Admin Building Improvements	8,125,000	-	30,000	26,610	10,555	10,555	-	10,555	0%
114006	Replacement of Rapid Mix Units at Springwells WTP 1958 Process Train	1,124,000	176,992	1,284,000	1,169,924	844,047	0	1,021,039	1,021,039	91%
114007	Powder Activated Carbon Systems	3,938,000	-	-	-	-	-	-	-	0%
114008	1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements at Springwells WTP	17,125,000	-	424,000	424,000	195,645	195,645	-	195,645	1%
114009	Springwells Water Treatment Plant Service Area Redundancy Study	311,000	311,129	-	-	-	311,129	-	311,129	100%
114010	Yard Piping Improvements	110,650,000	-	-	-	3,947	3,947	-	3,947	0%
114011	Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP	24,989,000	473,029	1,406,000	3,397,632	1,900,058	2,373,087	-	2,373,087	9%
114012	Springwells Water Treatment Plant 1930 Filter Building-Roof Replacement	3,912,000	1,123,542	2,420,000	2,420,000	2,787,606	(0)	3,911,148	3,911,148	100%
114013	Springwells Reservoir Fill Line Improvements	4,732,000	332,385	2,469,000	2,469,000	2,497,479	2,829,864	-	2,829,864	60%
114015	Emergency Grating Replacement at Springwells WTP	3,466,000	203,833	11,000	556,186	628,907	(0)	3,365,903	3,365,903	97%

Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity For the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Project Estimate	Life to Date Activity / Total Project Estimate
114016	Springwells Water Treatment Plant 1958 Settled Water Conduits Concrete Pavement Replacement	862,000	-	-	-	801	801	-	801	801	0%
114017	Springwells Water Treatment Plant Flocculator Drive Replacement	2,328,000	-	-	-	-	-	-	-	-	0%
115001	Yard Piping, Valves and Venturi Meters Replacement at Water Works Park	53,580,000	681,626	968,000	968,000	1,077,057	1,758,683	-	1,758,683	1,758,683	3%
115003	Comprehensive Condition Assessment at Waterworks Park WTP	855,000	439,606	262,000	262,000	73,933	513,539	-	513,539	513,539	60%
115004	Water Works Park WTP Chlorine System Upgrade	8,771,000	2,526,753	3,124,000	3,124,000	4,159,001	6,685,754	-	6,685,754	6,685,754	76%
115005	WWP WTP Building Ventilation Improvements	5,071,000	-	-	-	-	-	-	-	-	0%
116002	Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements based on	30,090,000	2,177,985	9,042,000	9,042,000	8,022,100	10,200,085	-	10,200,085	10,200,085	34%
122001	Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road	33,566,000	33,565,809	-	-	(324,088)	33,241,721	-	33,241,721	33,241,721	99%
122002	Replacement of Five (5) PRV Pits of Treated Water Transmission System	2,648,000	1,844,499	-	641,494	940,502	0	2,785,001	2,785,001	2,785,001	105%
122003	New Waterworks Park to Northeast Transmission Main	133,272,000	1,655,004	1,372,000	1,882,701	960,189	2,615,193	-	2,615,193	2,615,193	2%
122004	96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main	132,666,000	1,129,751	1,797,000	1,797,000	657,639	1,787,390	-	1,787,390	1,787,390	1%
122005	Replacement Schoolcraft Watermain	18,062,000	3,960	50,000	50,000	137,212	141,172	-	141,172	141,172	1%
122006	Transmission System Water Main Work-Wick Road Parallel Water Main	31,918,000	126,146	1,743,000	63,000	290,735	416,881	-	416,881	416,881	1%
122007	Design and Construction of a new Newburgh Road 24" Main along Newburgh Road between Ch	5,239,000	-	653,000	653,000	783	783	-	783	783	0%

Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity for the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Project Estimate	Life to Date Activity / Total Estimate
122009	Water System Improvements in Joy Road from Southfield Road to Trinity	107,000	106,881	-	-	-	106,881	-	106,881	106,881	100%
122011	Park-Merriman Water Main- Final Phase	8,203,000	156,338	955,000	1,055,000	829,686	986,024	-	986,024	986,024	12%
122012	36-inch Water Main in Telegraph Road	9,573,000	9,418,001	3,000	130,187	568,282	(1)	9,986,284	9,986,283	9,986,283	104%
122013	Lyon Township Transmission Main Extension Project	54,426,000	-	-	620,000	637,635	637,635	-	637,635	637,635	1%
122016	Downriver Transmission Loop	37,197,000	-	-	-	24,251	24,251	-	24,251	24,251	0%
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station	20,500,000	-	-	-	-	-	-	-	-	0%
132001	Wick Road Station Rehabilitation	165,000	130,253	-	-	4,820	135,073	-	135,073	135,073	82%
132003	Isolation Gate Valves for Line Pumps for West Service Center Pumping Station	1,814,000	138,390	1,229,000	239,000	109,364	247,754	-	247,754	247,754	14%
132004	Hydraulic Surge Control for North Service Center Pumping Station	215,000	214,771	-	-	-	214,771	-	214,771	214,771	100%
132006	Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chica	2,929,000	161,460	245,000	185,000	128,133	289,593	-	289,593	289,593	10%
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station	2,160,000	9,170	38,000	44,800	88,015	97,185	-	97,185	97,185	4%
132008	Needs Assessment Study for all Water Booster Pumping Stations	1,677,000	912,550	1,178,000	1,178,000	925,857	1,838,407	-	1,838,407	1,838,407	110%
132009	Study Phase Services for Proposed East Service Center Booster Pumping Station and Rese	-	10,313	-	-	(10,313)	(1)	-	(1)	(1)	100%
132010	West Service Center/Duval Rd Division Valve Upgrades	37,136,000	-	-	240,890	296,375	296,375	-	296,375	296,375	1%
132012	Ypsilanti PS Improvements	9,861,000	3,648	93,000	93,000	16,891	20,539	-	20,539	20,539	0%
132014	Adams Road Booster Pumping Improvements	5,674,000	-	-	-	-	-	-	-	-	0%

Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity For the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Activity / Project Estimate
132015	Newburgh BPS	12,169,000	-	-	-	2,811	2,811	-	2,811	0%
	North Service Center BPS									
132016	Improvements	24,920,000	-	-	-	-	-	-	-	0%
	North Service Center BPS -									
132017	On-Site & Off	5,076,000	-	-	-	-	-	-	-	0%
132018	Schoolcraft BPS	10,564,000	-	-	-	-	-	-	-	0%
132019	Wick Road BPS - Switchgear	5,569,000	-	-	-	-	-	-	-	0%
	Franklin BPS - Isolation Gate									
132020	Valves	10,109,000	-	-	-	-	-	-	-	0%
	Imlay BPS - Replace VFDs,									
132021	Pumps & Motors	12,109,000	-	-	-	-	-	-	-	0%
	Joy Road BPS - Replace									
132022	Reservoir Pumps	6,109,000	-	-	-	-	-	-	-	0%
	Northwest Booster Station									
132025	Yard Piping Improvements	5,500,000	-	-	-	972	972	-	972	0%
	Allowance: WTP/Pump									
170100	Station	39,811,000	-	4,296,000	-	-	-	-	-	0%
	Water Production Plant Flow									
	Metering Improvements at									
170102	NE, SP & SW WTP	-	335,197	-	-	24,062	359,259	-	359,259	100%
	Belle Isle Water Supply									
	Intake and Ice Boom									
170103	Improvements	-	-	-	-	3,278	3,278	286,596	289,874	100%
	Orion and Newburgh									
	Pumping Stations									
170104	Improvements	-	364,343	-	2,167,000	1,714,145	170,663	1,907,825	2,078,488	100%
170108	DWS-063 Adams Road	-	625	-	-	(625)	-	-	-	100%
	Inspection of Raw Water									
	Intakes and Tunnels									
170109	Raw Water Sampling	-	3,054,241	-	3,000	48,524	3,102,765	-	3,102,765	100%
	Improvements									
170110	Improvements	-	2,926	-	-	-	2,926	-	2,926	100%
	Instrument Air Compressor									
	Systems Replacement at NE-									
170117	WTP	-	226,483	-	-	-	-	226,483	226,483	100%
	Phosphoric Acid Feed System									
	Improvements at Southwest									
170120	WTP	-	130,688	-	460,000	503,822	1	634,509	634,510	100%
170121	Franklin PS Valve Rehab	-	-	-	1,000,000	38,681	38,681	-	38,681	100%
	Meter Pit at Brownstown									
170122	Township	-	-	-	159,000	133,306	133,306	-	133,306	100%

Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity for the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Activity / Project Estimate
170200	As Needed Construction Materials, Environmental Media and Special Allowance	1,618,000	-	472,000	472,000	-	-	-	-	0%
170201	Construction & Environmental Testing	-	1,609	-	93,310	61,834	63,443	-	63,443	100%
170300	Water Treatment Plant Automation Program	7,740,000	-	61,000	-	-	-	-	-	0%
170301	Water Plant Automation	-	1,376,747	-	296,225	280,899	1,657,646	-	1,657,646	100%
170400	Water Transmission Improvement Program	110,656,000	-	1,000,000	1,000,000	-	-	-	-	0%
170401	Emergency Bypass Around Ypsilanti Station	-	0	-	-	1,643,165	1,643,165	-	1,643,165	100%
170402	Emergency Manned Visual Inspection 84-Inch Transmission Main	-	156,020	-	-	(156,020)	-	-	-	100%
170500	Transmission System Valve Assessment and Rehabilitation/Replacement Program	36,704,000	-	4,000,000	-	-	-	-	-	0%
170502	Transmission System Valve Assessment and Rehabilitation/Replacement Program	-	248,175	-	4,000,000	2,599,050	(1)	6,029,544	6,029,544	100%
170600	Water Transmission Main Asset Assessment Program	48,500,000	-	2,501,000	2,501,000	-	-	-	-	0%
170800	Reservoir Inspection, Design and Rehabilitation Program	59,164,000	-	472,000	-	-	-	-	-	0%
170801	Reservoir Inspection, Design and Rehabilitation	-	-	-	489,500	456,574	456,574	-	456,574	100%
170900	Suburban Water Meter Pit Rehabilitation and Meter Replacement Program	43,797,000	-	4,613,000	-	-	-	-	-	0%
170901	Suburban Water Meter Pit Rehabilitation and Meter Replacement	-	-	-	1,200,000	1,237,565	1,237,565	-	1,237,565	100%
171000	LH - WTP Sanitary Improvements Program	-	-	45,000	45,000	-	-	-	-	100%
171100	NE - WTP Sanitary Improvements	-	-	75,000	75,000	-	-	-	-	100%
171200	SW - WTP Sanitary Survey Improvements Program	-	-	6,000	6,000	-	-	-	-	100%
171300	WWP - WTP Sanitary Improvements Program	-	-	45,000	45,000	-	-	-	-	100%

Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity For the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Project Estimate	Life to Date Activity / Total Estimate
171400	Energy Management Program	5,787,000	-	-	-	-	-	-	-	-	0%
171500	Roof Replacement - Var Water Facilities Program	6,707,000	-	-	-	-	-	-	-	-	0%
171501	Roof Replacement - Var Water Facilities	-	50,420	111,000	111,000	68,864	119,284	-	119,284	119,284	100%
331001	Roof Replacement - Var Water Facilities	5,425,000	-	-	-	-	-	-	-	-	0%
341001	Security Infrastructure Improvements	-	-	-	3,706,340	962,675	962,675	-	962,675	962,675	100%
351001	Water Facility Lighting Renovations	500,000	-	1,172,000	1,172,000	6,211	6,211	-	6,211	6,211	1%
361002	Data Center Reliability/Availability Improvements	-	16,080	-	-	-	16,080	-	16,080	16,080	100%
380400	As-needed CIP Implementation Assistance and Related Services	-	-	803,000	803,000	-	-	-	-	-	100%
380600	General Engineering Services Allowance	95,000	-	276,000	276,000	-	-	-	-	-	0%
380601	Alfred Benesh:General Engineer	-	674	-	-	-	674	-	674	674	100%
380700	As-needed Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services Allowance	620,000	-	477,000	477,000	-	-	-	-	-	0%
381000	Energy Management: Electric Metering Improvement Program	2,500,000	-	-	-	-	-	-	-	-	0%
Grand Total		\$ 1,888,664,000	\$ 141,885,761	\$ 66,038,000	\$ 72,348,044	\$ 61,583,574	\$ 175,031,088	\$ 85,495,597	\$ 260,526,684	\$ 260,526,684	14%
					Net FY 2019 Spending Plan Amendments \$ 6,310,044						

FY 2019 Spending Plan Amendment Summary

The purpose of the Spending Plan Amendment Summary is to illustrate the amendments to the current fiscal year spend for each project with a spending plan amendment resulting in an amended spend amount or the use of allowance and program funding for a specific project necessitated by contract award.

The award of CIP contracts and the related execution thereof may result in deviation from the amount and timing of planned spend. Acknowledging the aforementioned deviation, spending plan amendments are prepared to fund the related increase or decrease either to or from the Capital Reserve to amend the board approved fiscal year planned spend accordingly and to inform decision makers in the development of future Capital Improvement Plans. Similar to the spending plan amendments prepared for the Capital Reserve, spending plan amendments are also prepared for contracts that are planned or funded by way of the CIP Program and Allowance accounts. As additional contracts are awarded and other project information becomes available additional spending plan amendments to the Capital Reserve will be prepared to amend the planned spend for FY 2019.

\$6.31 million of Capital Reserve spending plan amendments have been prepared as of June 30, 2019 as shown in the table on the next page along with spending plan amendments detailing the assignment of funding within Program and Allowance accounts.

The order of the report on the subsequent page is in ascending order by CIP project number.

Construction Work-in-Progress Quarterly Report

As of June 30, 2019

Great Lakes Water Authority
 Water System Budget Amendment Summary
 Unaudited Activity For the Fiscal Year Ended June 30, 2019

Project	Project Name	Program / Allowance	Capital Reserve	Grand Total
111004	Electrical Tunnel Rehabilitation at Lake Huron WTP	\$ -	\$ 2,314,786	\$ 2,314,786
111006	Replacement of Filter Instrumentation and Raw Water Flow Metering Improvements at Lake	-	12,000	12,000
113002	High Lift Pump Discharge Valve Actuators Replacement at Southwest WTP	-	81,000	81,000
114001	Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities	-	1,451,000	1,451,000
114003	Water Production Flow Metering Improvements at NE, SW, and SPW WTP	307,000	75,459	382,459
114005	Springwells WTP Admin Building Improvements	-	(3,390)	(3,390)
114006	Replacement of Rapid Mix Units at Springwells WTP 1958 Process Train	-	(114,076)	(114,076)
114011	Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP	-	1,991,632	1,991,632
114015	Emergency Grating Replacement at Springwells WTP	545,186	-	545,186
122002	Replacement of Five (5) PRV Pits of Treated Water Transmission System	-	641,494	641,494
122003	New Waterworks Park to Northeast Transmission Main	-	510,701	510,701
122006	Transmission System Water Main Work-Wick Road Parallel Water Main	-	(1,680,000)	(1,680,000)
122011	Park-Merriman Water Main-Final Phase	-	100,000	100,000
122012	36-inch Water Main in Telegraph Road	-	127,187	127,187
122013	Lyon Township Transmission Main Extension Project	-	620,000	620,000
132003	Isolation Gate Valves for Line Pumps for West Service Center Pumping Station	-	(990,000)	(990,000)
132006	Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chica	-	(60,000)	(60,000)
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station	6,800	-	6,800
132010	West Service Center/Duval Rd Division Valve Upgrades	240,890	-	240,890
170100	Allowance: WTP/Pump Station	(4,982,186)	686,186	(4,296,000)
170104	Orion and Newburgh Pumping Stations Improvements	2,167,000	-	2,167,000
170109	Inspection of Raw Water Intakes and Tunnels	3,000	-	3,000
170120	Phosphoric Acid Feed System Improvements at Southwest WTP	460,000	-	460,000
170121	Franklin PS Valve Rehab	1,000,000	-	1,000,000
170122	Meter Pit at Brownstown Township	159,000	-	159,000
170201	Construction & Environmental Testing	93,310	-	93,310
170300	Water Treatment Plant Automation Program	(296,225)	235,225	(61,000)
170301	Water Plant Automation	296,225	-	296,225
170500	Transmission System Valve Assessment and Rehabilitation/Replacement Program	(4,000,000)	-	(4,000,000)
170502	Transmission System Valve Assessment and Rehabilitation/Replaceme	4,000,000	-	4,000,000
170800	Reservoir Inspection, Design and Rehabilitation Program	(472,000)	-	(472,000)
170801	Reservoir Inspection, Design and Rehabilitation	472,000	17,500	489,500
170900	Suburban Water Meter Pit Rehabilitation and Meter Replacement Program	(4,613,000)	-	(4,613,000)
170901	Suburban Water Meter Pit Rehabilitation and Meter Replacement	4,613,000	(3,413,000)	1,200,000
341001	Security Infrastructure Improvements	-	3,706,340	3,706,340
Grand Total		\$ -	\$ 6,310,044	\$ 6,310,044

WASTEWATER SYSTEM

Executive Summary

The rate of spend is a key performance indicator. The development of the FY 2019-2023 and related CIP budget for FY 2019 were based on anticipation of FY 2019 activity resulting in 100% of planned spend. The Wastewater System spend for the period ending June 30, 2019 is 78.1% of the FY 2019 board approved CIP spend and 81.9% of the FY 2019 amended spend. Detailed analysis behind the reasons and projects for which planned spend is amended from \$105,183,000 to \$100,264,934 is provided in the subsequent Spending Plan Amendment Summary section of this report.

Wastewater System Projects	FY 2018 Planned Spend	FY 2018 Activity	FY 2018 as a Percentage of Planned Spend	FY 2019 Planned Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Planned Spend (Unaudited)
FY 2018 CIP Project Requests	\$ 160,746,000	69,567,318	43.3%			
FY 2018 CIP Realigned Forecast as per 2019 CIP	70,632,000	69,567,318	98.5%			
FY 2019 Board Approved CIP Spend				\$ 105,183,000	82,133,532	78.1%
FY 2019 Amended Spend Plan				100,264,934	82,133,532	81.9%

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.

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.

As part of our project life cycle review the CA&FR team identifies when it is appropriate for projects to be capitalized. Projects are to be capitalized when they have been completed in totality or are inclusive of identifiable assets that have been placed in service. Capitalization of project cost for the following projects occurred in the FY 2019 4th quarter:

<u>Project</u>	<u>Contract</u>	<u>Description</u>
260113	Multiple POs	WRRF Fire Remediation
214001	CON-280	IWC Laboratory Operation Construction
260201	CON-149	Sewer and Interceptor Rehabilitation
260502	CON-260	CSO Outfall Rehabilitation
260604	CON-219	Baby Creek CSO Rehabilitation

\$193.7 million is in CWIP as of June 30, 2019 as shown in the table beginning on the next page.

The order of the report on the subsequent pages is in ascending order by CIP project number.

Wastewater System Construction Work-in-Progress Quarterly Report

As of June 30, 2019

Great Lakes Water Authority
Wastewater System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity For the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Project Estimate	Life to Date Activity / Total Estimate
004824	DWSD-Reha/Replacement Existing Sewer	\$ -	\$ 56,280	\$ -	\$ -	\$ (56,280)	\$ -	\$ -	\$ -	\$ -	100%
211001	Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery	54,858,000	25,098,344	16,308,000	16,608,000	20,270,372	45,368,716	-	45,368,716	83%	
211002	Pump Station No. 2 Pumping Improvments	3,812,000	322,436	2,454,000	2,454,000	1,589,413	1,911,849	-	1,911,849	50%	
211004	Pump Station 1 Rack & Grit and MPI Sampling Station 1 Improvements	27,198,000	24,505,435	2,752,000	2,752,000	1,997,148	26,502,583	-	26,502,583	97%	
211005	Pump Station No. 2 Improvements	21,599,000	-	-	-	1,002	1,002	-	1,002	0%	
211006	Pump Station No. 1 Improvements	22,315,000	88	500,000	500,000	6,219	6,307	-	6,307	0%	
211007	Replacement of Bar Racks and Grit Collection System at Pump Station No. 2	17,836,000	-	7,000	7,000	628	628	-	628	0%	
211008	Rehabilitation of Ferric Chloride Feed systems at the Pump Station -1 and Complex B Sludge Lines	10,566,000	12,386	7,000	7,000	187,663	200,049	-	200,049	2%	
211009	Rehabilitation of the Circular Primary Clarifier Scum Removal System	11,394,000	-	-	-	29	29	-	29	0%	
212002	Study, Design, & Construction,Management Services for Modified Detroit River Outfall No. 2 - WRRF	-	10,818,870	-	-	2,282	10,821,152	-	10,821,152	100%	
212003	Aeration System Improvemen	16,682,000	11,850,544	2,719,000	2,569,000	4,506,245	16,356,789	-	16,356,789	98%	
212004	ProjectChlorination/Dechlorination Process Equipment Improvements	5,045,000	116,927	2,101,000	242,000	75,992	192,919	-	192,919	4%	
212006	PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract	48,033,000	26,440,608	15,817,000	15,817,000	15,250,770	41,691,378	-	41,691,378	87%	
212007	Rehabilitation of the Secondary Clarifiers	30,118,000	-	-	-	-	-	-	-	0%	
212008	WRRF Rehabilitation of Intermediate Lift	20,833,000	-	-	-	-	-	-	-	0%	
213002	Rehabilitation of Central Offload Facility	16,179,000	982,301	6,447,000	-	(982,302)	(1)	-	(1)	0%	

Great Lakes Water Authority
Wastewater System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity For the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Activity / Project Estimate
213004	Biosolids Dryer Facility at WRRF	-	-	23,000	23,000	-	-	2,408,470	2,408,470	100%
213005	Complex I Incinerators Decommissioning and Reusability	4,452,000	42,950	-	-	326,698	369,648	-	369,648	8%
213006	Improvements to Sludge Feed Pumps at Dewatering Facilities	3,726,000	4,856	-	-	-	4,856	-	4,856	0%
213007	Construction of the Improved Sludge Conveyance and Lighting System at the WWTP	20,049,000	2,329,474	6,787,000	6,883,404	8,479,720	10,809,194	-	10,809,194	54%
213008	Rehabilitation of the Wet and Dry Ash Handling Systems	18,505,000	-	-	-	85	85	-	85	0%
213009	Phosphorous Recovery Facility at the WRRF	-	3,536	-	-	(3,635)	(99)	-	(99)	100%
214001	Relocation of Industrial Waste Division and Analytical Laboratory Operations	10,968,000	572,845	4,001,000	4,001,000	1,726,433	17,018	2,282,260	2,299,278	21%
216004	Rehabilitation of Various Sampling Sites and PS# 2 Ferric Chloride System at WWTP	5,576,000	439,040	551,000	784,000	375,328	814,368	-	814,368	15%
216006	Rehabilitation of the Screened Final Effluent (SFE) Pump Station and Secondary Water System	24,853,000	-	-	-	17,582	17,582	-	17,582	0%
216007	DTE Primary Electric 3rd Feed Supply Line to the WRRF	7,447,000	40,186	2,002,000	2,002,000	2,153,983	2,194,169	543,500	2,737,669	37%
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station	24,948,000	-	-	-	-	-	-	-	0%
222001	Intercommunity Relief Sewer Modifications in Detroit Oakwood District	38,031,000	-	-	-	-	-	-	-	0%
222002	Detroit River Interceptor Evaluation and Rehabilitation	49,071,000	2,647,174	1,084,000	3,508,010	7,964,469	10,611,643	-	10,611,643	22%
222003	North Interceptor East Arm (NIEA) Evaluation and Rehabilitation	30,000,000	-	-	-	-	-	-	-	0%

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Great Lakes Water Authority
Wastewater System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity For the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Activity / Project Estimate
222004	Collection System Valve Remote Operation Structures Improvements	87,033,000	-	1,019,000	1,019,000	4,245	4,245	-	4,245	0%
222005	Collection System Access Hatch Improvements	-	-	1,000,000	1,000,000	-	-	-	-	100%
222007	North Interceptor East Arm (NIEA) Evaluation and Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.	-	-	4,000	4,000	-	-	-	-	100%
232001	Fairview Pumping Station - Replace Four Sanitary Pumps	30,442,000	1,550,604	12,094,000	11,985,000	1,924,844	3,475,448	-	3,475,448	11%
232002	Freud and Connor Creek Pump Station Improvements	162,429,000	5,052,490	1,192,000	1,192,000	520,844	5,573,334	57,734	5,631,069	3%
232003	Northeast Pump Station Improvements	31,500,000	-	-	-	-	-	-	-	0%
233002	Collection System In System Storage Devices (ISDs) Improvements	-	-	82,000	82,000	235	235	-	235	100%
251002	Wastewater System Wide Instrumentation & Controls Software and Hardware Upgrade	-	-	877,000	877,000	71	71	-	71	100%
260100	Water Resource Recovery Facility (WRRF), Lift Station & Wastewater Collection System Allowance	34,038,000	-	1,100,000	1,003,596	-	-	-	-	0%
260113	Fire Remediation	-	19,233,711	-	-	193,871	(1)	19,427,582	19,427,582	100%
260200	Sewer and Interceptor Evaluation and Rehabilitation Program	192,164,000	-	10,601,000	2,000,000	-	-	-	-	0%
260201	Conveyance System Intercept	-	8,912,692	-	8,601,000	5,073,977	4,810,116	9,176,553	13,986,669	100%
260202	Conveyance System Intercept	-	-	-	-	17,031	17,031	-	17,031	100%
260203	Conveyance System Intercept	-	4,642,066	-	-	67	4,642,133	-	4,642,133	100%
260204	Energy Services for Rehabilitation of Conveyance Sewer System	-	-	-	-	133	133	-	133	100%
260400	Sewage Meter Design, Installation, Replacement and Rehabilitation Program	-	-	1,700,000	1,700,000	-	-	-	-	100%
260500	CSO Outfall Rehab	89,188,000	-	507,000	-	-	-	-	-	0%
260502	CSO Outfall Rehab	-	8,799	-	507,000	3,321,203	(0)	3,330,002	3,330,002	100%
260503	Collection System Backwater Gates	-	-	-	-	760	760	-	760	100%

Wastewater System Construction Work-in-Progress Quarterly Report

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Great Lakes Water Authority
Wastewater System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity For the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Activity / Project Estimate
260600	CSO Facilities Improvements	63,591,000	191,848	9,277,000	175,650	(191,848)	0	-	0	0%
	Oakwood Drain Valve									
260601	Improvements	-	-	-	523,000	539,857	539,857	-	539,857	100%
260602	CSO Fire Alarm System									
	Improvements	-	-	-	917,458	812,407	812,407	-	812,407	100%
260603	Conner Creek CSO Basin									
	Rehab	-	243,224	-	6,821,000	4,161,481	4,404,705	-	4,404,705	100%
260604	Baby Creek CSO Rehab	-	45,791	-	311,375	320,821	(0)	366,612	366,612	100%
260605	CSO Facilities CA	-	-	-	-	16,914	16,914	-	16,914	100%
260606	Puritan Fenkell Roof									
	Replacement	-	-	-	313,259	1,943	1,943	-	1,943	100%
260607	Lieb SDF Electrical									
	Improvements	-	-	-	215,258	241,514	241,514	-	241,514	100%
260608	Seven Mile RTB - Roof									
	Replacement	-	-	-	-	12,451	12,451	-	12,451	100%
260609	Seven Mile RTB - Parking Lot									
	/ Sitework	-	-	-	-	23,197	23,197	-	23,197	100%
260610	Baby Creek MAU									
	Replacement	-	-	-	-	1,773	1,773	-	1,773	100%
260611	HVAC Improvements At Lieb									
	SDF	-	-	-	-	5,284	5,284	-	5,284	100%
260613	Baby Creek HVAC									
	Improvements	-	-	-	-	76	76	-	76	100%
260614	CSO Facilities Structural									
	Improvements	-	-	-	-	335,143	335,143	-	335,143	100%
331002	Roofing Systems									
	Replacement at GLWA									
	Wastewater Treatment									
	Plant, CSO Retention									
	Treatment Basins (RTB) and									
	Screening Disinfection									
	Facilities (SDF)	9,709,000	-	286,000	873,000	802,470	802,470	-	802,470	8%
341001	Security Infrastructure									
	Improvements	-	-	-	102,924	102,924	102,924	-	102,924	100%
380400	As-needed CIP									
	Implementation Assistance									
	and Related Services	-	-	803,000	803,000	-	-	-	-	100%
380500	Department-wide General									
	Engineering Services on an									
	As-needed Basis	-	-	114,000	114,000	-	-	-	-	100%
380600	General Engineering									
	Services Allowance	1,000	-	51,000	51,000	-	-	-	-	0%
380601	Alfred Benesh:General									
	Engineer	-	632	-	-	-	632	-	632	100%

Wastewater System Construction Work-in-Progress Quarterly Report

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Great Lakes Water Authority
Wastewater System Construction Work-in-Progress (CWIP) FY 2019 Rollforward
Unaudited Activity For the Fiscal Year Ended June 30, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend Plan	FY 2019 Amended Spend Plan	FY 2019 Activity through June 30, 2019	CWIP Balance June 30, 2019 (Unaudited)	Life to Date Capitalization through June 30, 2019	Life to Date Activity through June 30, 2019	Life to Date Total Project Estimate	Life to Date Activity / Total Project Estimate
380900	General Engineering Services Allowance	-	-	916,000	916,000	-	-	-	-	-	100%
381000	Energy Management: Electric Metering Improvement Program	2,500,000	-	-	-	-	-	-	-	-	0%
Grand Total		\$ 1,246,689,000	\$ 146,166,135	\$ 105,183,000	\$ 100,264,934	\$ 82,133,532	\$ 193,716,658	\$ 187,676,654	\$ 381,393,312		31%
				Net FY 2019 Spending Plan Amendments	\$ (4,918,066)						

FY 2019 Spending Plan Amendment Summary

The purpose of the Spending Plan Amendment Summary is to illustrate the amendments to the current fiscal year spend for each project with a spending plan amendment resulting in an amended spend amount or the use of allowance and program funding for a specific project necessitated by contract award.

The award of CIP contracts and the related execution thereof may result in deviation from the amount and timing of planned spend. Acknowledging the aforementioned deviation, spending plan amendments are prepared to fund the related increase or decrease either to or from the Capital Reserve to amend the board approved fiscal year planned spend accordingly and to inform decision makers in the development of future Capital Improvement Plans. Similar to the spending plan amendments prepared for the Capital Reserve, spending plan amendments are also prepared for contracts that are planned or funded by way of the CIP Program and Allowance accounts. As additional contracts are awarded, and other project information becomes available additional spending plan amendments to the Capital Reserve will be prepared to amend the planned spend for FY 2019.

\$(4.92) million of Capital Reserve spending plan amendments have been prepared as of June 30, 2019 as shown in the table on the next page along with spending plan amendments detailing the assignment of funding within Program and Allowance accounts.

The order of the report on the subsequent page is in ascending order by CIP project number.

**Great Lakes Water Authority
Water System Budget Amendment Summary
Unaudited Activity For the Fiscal Year Ended June 30, 2019**

Project	Project Name	Program / Allowance	Capital Reserve	Grand Total
211001	Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Buil	-	300,000	300,000
212003	Aeration System Improvements	-	(150,000)	(150,000)
212004	Chlorination/Dechlorination Process Equipment Improvements	-	(1,859,000)	(1,859,000)
213002	Rehabilitation of Central Offload Facility	-	(6,447,000)	(6,447,000)
213007	Construction of the Improved Sludge Conveyance and Lighting System at the WWTP	96,404	-	96,404
216004	Rehabilitation of Various Sampling Sites and PS# 2 Ferric Chloride System at WWTP	-	233,000	233,000
222002	Detroit River Interceptor Evaluation and Rehabilitation	-	2,424,010	2,424,010
232001	Fairview Pumping Station - Replace Four Sanitary Pumps	-	(109,000)	(109,000)
260100	Water Resource Recovery Facility (WRRF), Lift Station & Wastewater Collection System Allow.	(96,404)	-	(96,404)
260200	Sewer and Interceptor Evaluation and Rehabilitation Program	(8,601,000)	-	(8,601,000)
260201	Conveyance System Interceptor Rehab	8,601,000	-	8,601,000
260500	CSO Outfall Rehab	(507,000)	-	(507,000)
260502	CSO Outfall Rehab	507,000	-	507,000
260600	CSO Facilities Improvements	(9,101,350)	-	(9,101,350)
260601	Oakwood Drain Valve Improvements	523,000	-	523,000
260602	CSO Fire Alarm System Improvements	917,458	-	917,458
260603	Conner Creek CSO Basin Rehab	6,821,000	-	6,821,000
260604	Baby Creek CSO Rehab	311,375	-	311,375
260606	Puritan Fenkell Roof Replacement	313,259	-	313,259
260607	Lieb SDF Electrical Improvements	215,258	-	215,258
331002	Roofing Systems Replacement at GLWA Wastewater Treatment Plant, CSO Retention Treatmer	-	587,000	587,000
341001	Security Infrastructure Improvements	-	102,924	102,924
Grand Total		\$ -	\$ (4,918,066)	\$ (4,918,066)