



Audit Committee

Friday, January 27, 2020 at 8:30 a.m.

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

AGENDA

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
 - A. December 19, 2019 (Page 1)
5. PUBLIC PARTICIPATION
6. OLD BUSINESS
 - A. Update: Oakland Macomb Interceptor Drain Drainage District (Page 4)
Wastewater Disposal Services Contract Amendment Implementation
 - B. Continued Review - Proposed FY 2021 & FY 2022 Biennial Budget (Page 6)
and Five-Year Financial Plan
7. NEW BUSINESS
 - A. Series Ordinance Authorizing Issuance and Sale of Water Supply (Page 108)
System Revenue Bonds
 - B. Series Ordinance Authorizing Issuance and Sale of Sewage (Page 131)
Disposal System Revenue Bonds
 - C. Quarterly Water Residential Assistance Program Report for (Page 154)
October 2019
 - D. Water Residential Assistance Program Reallocation Request for (Page 161)
Uncommitted FY 2019 Funds
8. REPORTS
 - A. Monthly Financial Report for October 2019 (Page 184)
 - B. Quarterly Debt Report (Page 185)
9. LOOK AHEAD
 - Next Audit Committee Meetings
 - A. Regular Meeting February 21, 2020 at 8:00 a.m.
10. INFORMATION
11. OTHER MATTERS
12. ADJOURNMENT

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



Great Lakes Water Authority

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

Meeting Minutes - Draft

Audit Committee

Thursday, December 19, 2019

3:30 PM

Water Board Building 5th Floor

1. Call To Order

Chairman Baker called the Audit Committee meeting to order at 3:30 p.m., and adjourned the meeting to the call of the Chair.

Chairman Baker called the Audit Committee meeting back to order at 4:00 p.m.

2. Quorum Call

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

3. Approval of Agenda

Chairman Baker requested a Motion to approve the Agenda.

Motion By: Gary Brown

Support: Brian Baker

Action: Approved

The motion carried by a unanimous vote.

4. Approval of Minutes

A. [2019-468](#) Approval of Minutes of December 6, 2019

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [4A Special Audit Committee Meeting Minutes - December 6 2019.pdf](#)

Chairman Baker requested a Motion to approve the December 6, 2019 Special Audit Committee Meeting Minutes.

Motion By: Gary Brown

Support By: Brian Baker

Action: Approved

The motion carried by a unanimous vote.

5. Public Comment

Adedeji Akinkunle addressed the Audit Committee regarding Detroit Bulk Storage.

Joanne Warwick addressed the Audit Committee regarding Detroit Bulk Storage.

Cindy Darrah addressed the Audit Committee regarding Detroit Bulk Storage.

6. Old Business

A. [2019-469](#) Independent Sewer Charges Methodology Consultant Report Closeout

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [6A1 Independent Sewer Charges Methodology Consultant Report.pdf](#)
[6A2 GLWA Raftelis Report 12-16-19 Final Report.pdf](#)

Motion By: Gary Brown

Support By: Brian Baker

Action: Received and Filed

The motion carried by a unanimous vote.

7. New Business

A. [2019-470](#) Overview - Proposed FY 2021 & FY 2022 Biennial Budget and Five-Year Financial Plan

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [7A1 Overview - Proposed FY 2021 & FY 2022 Biennial Budget and Five-Year Financial Plan.pdf](#)
[7A2 Exective Summary Schedules - Biennial Budget & 5 yr plan.pdf](#)
[7A3 FY 2021 Budget Review 121719.pdf](#)
[7A4 FY 2021 O and M Budget One pager 12.17.20191.pdf](#)
[7A5 Personnel Staffing and FTE count FY 2018 - 2025_Update 12-10-19-KI.pdf](#)
[7A6 Process and Calendar FY 2021 and FY 2022 Biennial Budget v12.16.2019.pdf](#)
[7A7 Operations & Maintenance Expense by Cost Category - trend with three years history11x17.pdf](#)
[7A8 Operations & Maintenance Expense by Cost Center - with highest & lowest difference11x17.pdf](#)

Motion By: Gary Brown

Support By: Brian Baker

Action: Received and Filed

The motion carried by a unanimous vote.

8. Reports

A. [2019-472](#) Monthly Financial Report for September 2019

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [8A GLWA Monthly Financial Report September 2019.pdf](#)

Motion By: Gary Brown

Support By: Brian Baker

Action: Received and Filed

The motion carried by a unanimous vote.

9. Look Ahead

The next regular Audit Committee Meeting will be held on Friday, January 17, 2020 at 8:00 a.m.

10. Information

None

11. Other Matters

None

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 5:11 p.m.



Financial Services Audit Committee Communication

Date: January 17, 2020

To: Great Lakes Water Authority Audit Committee

From: Jon Wheatley, Public Finance Manager

Re: Update: Oakland Macomb Interceptor Drain Drainage District Wastewater Disposal Services Contract Amendment Implementation

Background: Oakland-Macomb Interceptor Drain Drainage District (OMIDDD) entered into a Wastewater Disposal Services Contract with the City of Detroit on October 22, 2009 (Contract). Pursuant to the Regional Sewerage Disposal Lease between the GLWA and the City of Detroit, the City of Detroit assigned the Contract to GLWA on January 1, 2016. The Contract provides for sewage disposal services like any other wastewater member-partner. It also includes a specific Article on the maintenance, repairs, operations and improvement to the Northeast Pump Station, Northeast Interceptor Arm and Interceptor PCI-5 (Article 22). Under normal operations, the Northeast Pump Station, in its entirety, and portions of the Northeast Interceptor Arm and Interceptor PCI-5 transport sewerage flows from OMIDDD's Service Area only (OMIDDD-only Facilities).

On March 13, 2019, the Great Lakes Water Authority (GLWA) Board of Directors approved an amendment to OMIDDD Wastewater Disposal Services Contract (the Amendment). The overall intent of the Amendment was to clarify OMIDDD's ability to finance capital improvements to the OMIDDD-only Facilities.

In addition to clarifying OMIDDD's ability to finance improvements, the Amendment also: extended the Contract Term, allowed OMIDDD to maintain the OMIDDD-only Facilities, required OMIDDD to assume responsibility for claims related with the maintenance and improvements to the OMIDDD-only Facilities, required to maintain certain levels of insurance during the Contract Term, reduced the number of votes granted to OMIDDD under the One Water Partnership bylaws, specified the requirements of annual Maintenance and Repair Plans and Improvement Plans drafted by OMIDDD for GLWA's approval, identified the GLWA and OMIDDD's Technical Representatives, amended the Service Area map, set OMIDDD's charges for the next 5 years, and set the amount of OMIDDD's contribution-in-aid to eliminate any existing bond debt.

Analysis: Pursuant to the Amendment, the Parties agreed to three provisions that had financial impacts for FY 2020 and beyond. The three provisions, and their related status are shown in the table below.

Requirement	Status
<p>1) For FY 2020, GLWA will charge an annual flat fee of \$1,341,400 to cover certain operating and maintenance of the OMIDDD-only Facilities. The annual flat fee increases 4% each year. The Parties will reopen the annual flat fee charge in FY 2024.</p>	<p>Implemented for FY 2020 (Note: there were some billing adjustments during the start phase when this contract was implemented. All corrections, adjustments, and related payments were resolved in December 2019.)</p>
<p>2) OMIDDD agreed to pay GLWA a \$11,920,000 contribution in aid to eliminate any existing debt service on the OMIDDD-only Facilities.</p> <p>Per the Amendment “Within one hundred eighty days (180) days of the Effective Date, Customer shall pay to 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. “</p>	<p>The Effective Date of the Amendment was July 1, 2019, therefore the agreed upon payment from OMIDDD was due by December 27, 2019 (180 days from the Effective Date).</p> <p>This amount was paid in full by the due date as required.</p>
<p>3) All utilities to the Northeast Sewer Pump Station (NESPS) will be separately metered and charged by GLWA to the NESPS. OMIDDD shall receive a copy of meter readings and utility invoices when billings are submitted from GLWA. GLWA shall not markup the cost of utility services consumed at the NESPS, and such charges shall be a direct pass through charge.</p>	<p>Implemented.</p>

Proposed Action: Receive and file this report.



Financial Services Audit Committee Communication

Date: January 24, 2020

To: Great Lakes Water Authority Audit Committee

From: Lisa L Mancini, Financial Planning & Analysis Manager

Re: Continued Review – Proposed FY 2021 & FY 2022 Biennial Budget
and Five-Year Financial Plan

Background: In accordance with service agreements with Great Lakes Water Authority (GLWA) member partners, charges for the next fiscal year are annually presented at the end of January each year. This year that date is January 23, 2020. Key steps in that process are the development of a proposed biennial budget and five-year plan as well as the capital improvement plan. The first year of the biennial budget is the “revenue requirement” for the purposes of establishing costs for allocation among member partners. The information presented in the “Analysis” section below continues the discussion of the proposed FY 2021 & FY 2022 Biennial Budget and Five-Year Financial Plan that was begun at the December 19, 2019 Audit Committee meeting.

Analysis: Attached are the following related to the additional analysis of the upcoming FY 2021 & FY 2022 Biennial Budget and Five-Year Financial Plan.

- Proposed FY 2021 & FY 2022 Biennial Budget and Five-Year Plan Executive Summary containing revisions for:
 - debt service refinancing savings,
 - capital spending ratio decrease from 85% to 75% for FY 2022 through FY 2025,
 - changes to revenue based on continuing review
- Memo from The Foster Group (TFG) that addresses budgeted investment earnings and operating reserve revenue requirement calculations
- Memo from PFM Asset Management, LLC, regarding the five-year interest earnings projection for GLWA
- Updated Budget One-Pager which provides highlights of the FY 2021 budget year (minor edit/correction)
- FY 2021 Budget Highlights (presentations by leadership team members) **(To be distributed at a later date)**
- Staffing Plan and Full Time Equivalent (FTE) tables for FY 2018 through FY 2025

- History of cashflow in both the Improvement & Extension (I&E) and Construction Bond funds **(To be distributed at a later date)**
- Capital Outlay overview
- Schedule of upcoming activities and due dates related to the budget cycle

Proposed Action: Receive and file this report.

Great Lakes Water Authority
Proposed FY 2021 & FY 2022 Proposed Biennial Budget & Five-Year Plan through FY 2025
Executive Summary Schedules
As of January 17, 2020

Schedule 1A - Water System Revenue Requirements Budget

Water System Revenue Requirements	Current Year		Biennial Budget						Forecast		
	FY 2020 Adopted	FY 2020 Estimated	FY 2021 Requested	FY 2021 \$ Change	FY 2021 % Change	FY 2022 Requested	FY 2022 \$ Change	FY 2022 % Change	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Revenues											
11 Revenues from Charges	\$ 330,580,000	\$ 326,132,700	\$ 338,566,200	\$ 7,986,200	2.4%	\$ 349,884,500	\$ 11,318,300	3.3%	\$ 360,478,000	\$ 371,326,900	\$ 382,539,100
11.1 Revenues from Internal Charges		-	-	-	NA	-	-	NA	-	-	-
10.1 Non-Operating Revenue	9,084,200	5,730,100	4,834,400	(4,249,800)	-46.8%	3,818,200	(1,016,200)	-21.0%	3,835,600	3,916,100	3,961,200
Total Revenues	339,664,200	331,862,800	343,400,600	3,736,400	1.1%	353,702,700	10,302,100	3.0%	364,313,600	375,243,000	386,500,300
Revenue Requirements											
1 Operations & Maintenance (O&M) Expense	\$131,490,500	\$131,490,500	\$137,127,300	\$5,636,800	4.3%	\$139,642,500	\$2,515,200	1.8%	\$140,985,200	\$143,284,900	\$146,442,600
2 O&M Legacy Pension Allocation	6,048,000	6,048,000	6,048,000	-	0.0%	6,048,000	-	0.0%	6,048,000	1,200,000	1,200,000
3 Debt Service Allocation	137,557,600	137,612,100	143,559,700	6,002,100	4.4%	145,292,100	1,732,400	1.2%	153,566,600	161,571,300	167,819,100
4 Accelerated Legacy Pension Allocation	6,268,300	6,268,300	6,268,300	-	0.0%	6,268,300	-	0.0%	6,268,300	1,933,900	1,933,900
5 Water Residential Assistance Program	1,698,300	1,698,300	1,677,600	(20,700)	-1.2%	1,768,500	90,900	5.4%	1,821,600	1,876,200	1,932,500
6 Lease Payment to Local System I&E Account	22,500,000	22,500,000	22,500,000	-	0.0%	22,500,000	-	0.0%	22,500,000	22,500,000	22,500,000
7 Improvement & Extension Fund Allocation	30,125,500	22,269,600	25,343,000	(4,782,500)	-15.9%	31,344,800	6,001,800	23.7%	32,676,300	42,110,100	43,619,600
8 Operating Reserve Deposit	3,976,000	3,976,000	876,600	(3,099,400)	-78.0%	838,400	(38,200)	-4.4%	447,600	766,600	1,052,600
9 Extraordinary Repair & Replacement Deposit	-	-	-	-	NA	-	-	NA	-	-	-
Annual Budgeted Revenue Requirements	\$ 339,664,200	\$ 331,862,800	\$ 343,400,500	\$ 3,736,300	1.1%	\$ 353,702,600	\$ 10,302,100	3.0%	\$ 364,313,600	\$ 375,243,000	\$ 386,500,300

Great Lakes Water Authority
Proposed FY 2021 & FY 2022 Proposed Biennial Budget & Five-Year Plan through FY 2025
Executive Summary Schedules
As of January 17, 2020

Schedule 1B - Sewer System Revenue Requirements Budget

Sewer System Revenue Requirements	Current Year		Biennial Budget						Forecast		
	FY 2020 Adopted	FY 2020 Estimated	FY 2021 Requested	FY 2021 \$ Change	FY 2021 % Change	FY 2022 Requested	FY 2022 \$ Change	FY 2022 % Change	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Revenues											
11 Revenues from Charges (prior to adjustment)	\$471,874,500	\$471,874,500	\$489,434,200	\$17,559,700	3.7%	\$504,550,700	\$15,116,500	3.1%	\$519,834,300	\$535,470,500	\$551,775,800
10.1 Non-Operating Revenue	8,730,800	5,060,200	5,589,300	(3,141,500)	-36.0%	5,323,400	(265,900)	-4.8%	5,336,100	5,455,000	5,377,400
Total Revenues	480,605,300	476,934,700	495,023,500	14,418,200	3.0%	509,874,100	14,850,600	3.0%	525,170,400	540,925,500	557,153,200
Revenue Requirements											
1 Operations & Maintenance (O&M) Expense	\$187,057,200	\$187,057,200	\$184,946,100	\$ (2,111,100)	-1.1%	\$188,934,600	\$3,988,500	2.2%	\$194,027,300	\$198,497,900	\$202,047,700
2 O&M Legacy Pension Allocation	10,824,000	10,824,000	10,824,000	-	0.0%	10,824,000	-	0.0%	10,824,000	2,100,000	2,100,000
3 Debt Service Allocation	215,738,800	213,802,800	209,740,400	(5,998,400)	-2.8%	217,698,400	7,958,000	3.8%	211,559,100	221,193,600	210,988,300
4 Accelerated Legacy Pension Allocation	11,620,700	11,620,700	11,620,700	-	0.0%	11,620,700	-	0.0%	11,620,700	3,863,500	3,863,500
5 Water Residential Assistance Program	2,403,000	2,403,000	2,456,200	53,200	2.2%	2,549,400	93,200	3.8%	2,625,900	2,704,600	2,785,800
6 Lease Payment to Local System	27,500,000	27,500,000	27,500,000	-	0.0%	27,500,000	-	0.0%	27,500,000	27,500,000	27,500,000
7 Improvement & Extension Fund Allocation	25,461,600	23,727,000	47,936,100	22,474,500	88.3%	49,417,500	1,481,400	3.1%	65,315,800	83,575,700	106,684,600
8 Operating Reserve Deposit	-	-	-	-	NA	1,329,500	1,329,500	NA	1,697,600	1,490,200	1,183,300
9 Extraordinary Repair & Replacement Deposit	-	-	-	-	NA	-	-	NA	-	-	-
Annual Budgeted Revenue Requirements	480,605,300	476,934,700	495,023,500	14,418,200	3.0%	509,874,100	14,850,600	3.0%	525,170,400	540,925,500	557,153,200

Great Lakes Water Authority
Proposed FY 2021 & FY 2022 Proposed Biennial Budget & Five-Year Plan through FY 2025
Executive Summary Schedules
As of January 17, 2020

Schedule 1C - Combined Water and Sewer System Revenue Requirements Budget

Combined System Revenue Requirements	Current Year		Biennial Budget						Forecast		
	FY 2020 Adopted	FY 2020 Estimated	FY 2021 Requested	FY 2021 \$ Change	FY 2021 % Change	FY 2022 Requested	FY 2022 \$ Change	FY 2022 % Change	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Revenues											
11 Revenues from Charges <i>(prior to adjustment)</i>	\$ 802,454,500	\$ 798,007,200	\$ 828,000,400	\$ 25,545,900	3.2%	\$ 854,435,200	\$ 26,434,800	3.2%	\$ 880,312,300	\$ 906,797,400	\$ 934,314,900
10.1 Non-Operating Revenue	17,815,000	10,790,300	10,423,700	(7,391,300)	-41.5%	9,141,600	(1,282,100)	-12.3%	9,171,700	9,371,100	9,338,600
Total Revenues	820,269,500	808,797,500	838,424,100	18,154,600	2.2%	863,576,800	25,152,700	3.0%	889,484,000	916,168,500	943,653,500
Revenue Requirements											
1 Operations & Maintenance (O&M) Expense	\$318,547,700	\$318,547,700	\$322,073,400	\$3,525,700	1.1%	\$328,577,100	\$6,503,700	2.0%	\$335,012,500	\$341,782,800	\$348,490,300
2 O&M Legacy Pension Allocation	16,872,000	16,872,000	16,872,000	-	0.0%	16,872,000	-	0.0%	16,872,000	3,300,000	3,300,000
3 Debt Service Allocation	353,296,400	351,414,900	353,300,100	3,700	0.0%	362,990,500	9,690,400	2.7%	365,125,700	382,764,900	378,807,400
4 Accelerated Legacy Pension Allocation	17,889,000	17,889,000	17,889,000	-	0.0%	17,889,000	-	0.0%	17,889,000	5,797,400	5,797,400
5 Water Residential Assistance Program	4,101,300	4,101,300	4,133,800	32,500	0.8%	4,317,900	184,100	4.5%	4,447,500	4,580,800	4,718,300
6 Lease Payment to Local System I&E Account	50,000,000	50,000,000	50,000,000	-	0.0%	50,000,000	-	0.0%	50,000,000	50,000,000	50,000,000
7 Improvement & Extension Fund Allocation	55,587,100	45,996,600	73,279,100	17,692,000	31.8%	80,762,300	7,483,200	10.2%	97,992,100	125,685,800	150,304,200
8 Operating Reserve Deposit	3,976,000	3,976,000	876,600	(3,099,400)	-78.0%	2,167,900	1,291,300	147.3%	2,145,200	2,256,800	2,235,900
9 Extraordinary Repair & Replacement Deposit	-	-	-	-	NA	-	-	NA	-	-	-
Annual Budgeted Revenue Requirements	820,269,500	808,797,500	838,424,000	18,154,500	2.2%	863,576,700	25,152,700	3.0%	889,484,000	916,168,500	943,653,500

Great Lakes Water Authority
Proposed FY 2021 & FY 2022 Proposed Biennial Budget & Five-Year Plan through FY 2025
Executive Summary Schedules
As of January 17, 2020

Schedule 4 - Debt Service Coverage Calculations Consistent with the Master Bond Ordinance

Flow of Funds Basis		FY 2021	FY 2021	FY 21 Combined	FY 2022	FY 2022	FY 22 Combined
		Water Fund	Sewer Fund	(Informational Only)	Water Fund	Sewer Fund	(Informational Only)
Revenues							
1	Regional System Wholesale Revenues	\$ 338,566,200	\$ 489,434,200	\$ 828,000,400	\$ 349,884,500	\$ 504,550,700	\$ 854,435,200
2	Local System Revenues	75,007,000	101,867,700	176,874,700	76,420,000	119,227,500	195,647,500
3	Miscellaneous Revenue (Local System)	2,200,000	500,000	2,700,000	2,200,000	500,000	2,700,000
4	Non-Operating Revenue (Regional System)	4,834,400	5,589,300	10,423,700	3,818,200	5,323,400	9,141,600
5	Total Revenues	<u>\$ 420,607,600</u>	<u>\$ 597,391,200</u>	<u>\$ 1,017,998,800</u>	<u>\$ 432,322,700</u>	<u>\$ 629,601,600</u>	<u>\$ 1,061,924,300</u>
Revenue Requirements							
Operations & Maintenance Expense							
6	Regional System Wholesale Expenses	\$ 137,127,300	\$ 184,946,100	\$ 322,073,400	\$ 139,642,500	\$ 188,934,600	\$ 328,577,100
7	Local System Expenses	36,001,300	70,401,900	106,403,200	37,079,500	72,485,800	109,565,300
8	GRS Pension allocable to Regional System	6,048,000	10,824,000	16,872,000	6,048,000	10,824,000	16,872,000
9	GRS Pension allocable to Local System	4,272,000	2,856,000	7,128,000	4,272,000	2,856,000	7,128,000
10	Total Operations & Maintenance Expense	<u>183,448,600</u>	<u>269,028,000</u>	<u>452,476,600</u>	<u>187,042,000</u>	<u>275,100,400</u>	<u>462,142,400</u>
11	Net Revenues after Operations & Maintenance Expense	<u>\$ 237,159,000</u>	<u>\$ 328,363,200</u>	<u>\$ 565,522,200</u>	<u>\$ 245,280,700</u>	<u>\$ 354,501,200</u>	<u>\$ 599,781,900</u>
Debt Service by Lien							
12	Senior Lien Bonds	130,866,400	132,686,600	263,553,000	133,372,200	145,905,400	279,277,600
13	Second Lien Bonds	49,280,800	54,642,000	103,922,800	44,683,600	48,104,300	92,787,900
14	SRF Junior Lien Bonds	5,236,400	54,321,500	59,557,900	13,342,400	57,541,400	70,883,800
15	Total Debt Service	<u>\$ 185,383,600</u>	<u>\$ 241,650,100</u>	<u>\$ 427,033,700</u>	<u>\$ 191,398,200</u>	<u>\$ 251,551,100</u>	<u>\$ 442,949,300</u>
Debt Service Coverage							
16	Senior Lien Bonds (11)/(12)	1.81	2.47		1.84	2.43	
17	Second Lien Bonds (11)/[(12)+(13)]	1.32	1.75		1.38	1.83	
18	SRF Junior Lien Bonds (11)/(15)	1.28	1.36		1.28	1.41	

Note: "Local System" amounts referenced in Schedule 4 are placeholders; DWSD budget is forthcoming

Great Lakes Water Authority
Proposed FY 2021 & FY 2022 Proposed Biennial Budget & Five-Year Plan through FY 2025
Executive Summary Schedules
As of January 17, 2020

Schedule 5A - Water Improvement & Extension Fund

Inflows & Outflows	Current Year	Biennial Budget		Forecast		
	FY 2020 Estimated	FY 2021 Requested	FY 2022 Forecast	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Water Improvement & Extension Fund						
Water System Revenue Transfers	\$22,269,600	\$25,343,000	\$31,344,800	\$32,676,300	\$42,110,100	\$43,619,600
Receipt of DWSD Shortfall Loan	-	-	-	-	-	-
Grant Revenues	-	-	-	-	-	-
Earnings on Investments, Net	-	-	-	-	-	-
Capital Outlay	(10,125,300)	(17,892,000)	(13,760,200)	(5,427,400)	(5,457,700)	(4,748,000)
Revenue Financed Capital - Specific	-	-	-	-	-	-
Revenue Financed Capital - Strategic	(50,000,000)	(75,000,000)	(85,000,000)	(30,000,000)	(35,000,000)	(40,000,000)
Increase (Decrease) in I&E Reserves	(\$37,855,700)	(\$67,549,000)	(\$67,415,400)	(\$2,751,100)	\$1,652,400	(\$1,128,400)
Beginning Year Balance	264,584,900	226,729,200	159,180,200	91,764,800	89,013,700	90,666,100
Projected Ending Balance	\$226,729,200	\$159,180,200	\$91,764,800	\$89,013,700	\$90,666,100	\$89,537,700

Schedule 5B - Sewer Improvement & Extension Fund

Inflows & Outflows	Current Year	Biennial Budget		Forecast		
	FY 2020 Estimated	FY 2021 Requested	FY 2022 Forecast	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Sewer Improvement & Extension Fund						
Sewer System Revenue Transfers	\$23,727,000	\$47,936,100	\$49,417,500	\$65,315,800	\$83,575,700	\$106,684,600
Receipt of DWSD Shortfall Loan	19,288,300	19,288,300	8,705,000	-	-	-
Grant Revenues	-	-	-	-	-	-
Earnings on Investments, Net	-	-	-	-	-	-
Capital Outlay	(20,122,200)	(20,481,100)	(15,794,700)	(9,755,200)	(10,375,800)	(14,757,200)
Revenue Financed Capital - Specific	-	-	-	-	-	-
Revenue Financed Capital - Strategic	(25,000,000)	(50,000,000)	(45,000,000)	(55,000,000)	(70,000,000)	(95,000,000)
Increase (Decrease) in I&E Reserves	(2,106,900)	(\$3,256,700)	(\$2,672,200)	\$560,600	\$3,199,900	(\$3,072,600)
Beginning Year Balance	96,648,700	94,541,800	91,285,100	88,612,900	89,173,500	92,373,400
Projected Ending Balance	\$94,541,800	\$91,285,100	\$88,612,900	\$89,173,500	\$92,373,400	\$89,300,800

Great Lakes Water Authority
Proposed FY 2021 & FY 2022 Proposed Biennial Budget & Five-Year Plan through FY 2025
Executive Summary Schedules
As of January 17, 2020

Schedule 5C - Water Construction Bond Fund

Inflows & Outflows	Current Year	Biennial Budget		Forecast		
	FY 2020 Estimated	FY 2021 Requested	FY 2022 Forecast	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Water Construction Bond Fund						
Bond Proceeds, Net	\$0	\$0	\$0	\$135,360,000	\$106,220,000	\$85,540,000
Earnings on Investments, Net	1,131,300	820,400	376,000	-	-	-
Transfer from Improvement & Extension Fund	50,000,000	75,000,000	85,000,000	30,000,000	35,000,000	40,000,000
Contributions In Aid of Construction	-	-	-	-	-	-
Grant Revenues (DWRP Loans)	12,898,300	12,365,800	16,590,200	18,889,800	18,549,900	18,956,600
Project Expenditures	(70,931,700)	(110,680,000)	(134,940,000)	(151,420,000)	(159,640,000)	(144,890,000)
Increase (Decrease) in Construction Funds	(6,902,100)	(22,493,800)	(32,973,800)	32,829,800	129,900	(393,400)
Beginning Year Balance	92,331,900	85,429,800	62,936,000	29,962,200	62,792,000	62,921,900
Projected Ending Balance	\$85,429,800	\$62,936,000	\$29,962,200	\$62,792,000	\$62,921,900	\$62,528,500

Schedule 5D - Sewer Construction Bond Fund

Inflows & Outflows	Current Year	Biennial Budget		Forecast		
	FY 2020 Estimated	FY 2021 Requested	FY 2022 Forecast	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Sewer Construction Bond Fund						
Bond Proceeds, Net	\$0	\$0	\$19,740,000	\$36,660,000	\$82,720,000	\$33,840,000
Earnings on Investments, Net	706,800	553,900	516,100	370,100	130,000	499,800
Transfer from Improvement & Extension Fund - Specific	-	-	-	-	-	-
Transfer from Improvement & Extension Fund	25,000,000	50,000,000	45,000,000	55,000,000	70,000,000	95,000,000
Contributions In Aid of Construction	-	-	-	-	-	-
Grant Revenues (CWRP Loans)	40,505,000	33,200,000	15,112,000	13,500,000	-	-
Project Expenditures	(94,826,200)	(82,980,100)	(84,568,400)	(105,630,800)	(152,444,300)	(128,953,700)
Increase (Decrease) in Construction Funds	(28,614,400)	773,800	(4,200,300)	(100,700)	405,700	386,100
Beginning Year Balance	82,031,700	53,417,300	54,191,100	49,990,800	49,890,100	50,295,800
Projected Ending Balance	\$53,417,300	\$54,191,100	\$49,990,800	\$49,890,100	\$50,295,800	\$50,681,900

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MEMORANDUM

FY 2021 Budget Schedules
Update

January 14, 2020

To: Nicolette Bateson

From: Bart Foster

This memorandum has been prepared to address two questions regarding the preliminary FY 2021 budget schedules presented at the December 19, 2019 Audit Committee meeting. Together with the accompanying exhibits, this discussion is designed to provide clarity on:

- The calculation of budgeted investment earnings for FY 2021 compared to FY 2020;
- How the budgeted revenue requirement for “operating reserve requirement” is calculated.

Investment Earnings

The budget process for estimating investment earnings has traditionally been quite simple. The financial forecast prepared as part of the budget establishes estimated year end balances in the various Funds dictated by the Master Bond Ordinance (“MBO”). The budget process applies an estimated average earnings rate to the year-end balance in each fund. Earnings on the Construction Bond Funds are required to remain in those funds, and are therefore not eligible to be treated as revenues.

The calculations for budget FYs 2020 and 2021 investment earnings are shown in Exhibit 1 to this memorandum. The “balance for investment earnings” figures shown on Line 1 are simply the year end balances in revenue generated funds, as set forth in Lines 4 through 26 of the table. Applying estimated average earnings rates on Line 2 yields the estimated investment earnings on Line 3.

Based on information provided by GLWA Treasury and PFM, an interest rate of 2.5% was used for the FY 2020 Budget, reflecting estimated earning potential at the time. The corresponding figure for the FY 2021 Budget is 1.5%. This lower rate is the principal cause for the “negative variance” in budgeted investment earnings for FY 2021. The Water figures are also impacted by a lower overall estimated fund balance, as Improvement and Extension (“I&E”) are applied to finance capital improvement projects.

Operating Reserve Requirements

The other open question relates to the decrease in amounts budgeted for the Water operating reserve revenue requirement. GLWA is required by the MBO to maintain at least 30 days of budgeted O&M in the O&M Fund. It is also required by the Trust Agreement supporting the MBO to deposit the next month's O&M requirements into that fund on the first day of the month. So in essence the minimum required balance in the O&M Fund is 60 days of budgeted expenditures. For purposes of financial planning and forecasting, GLWA has established a target balance in this Fund of 120 days of operating expense, effectively to establish an "operating reserve", which works in tandem with the I&E Funds to provide liquidity to the utilities.

Exhibit 2 illustrates the calculation of the budgeted revenue requirements necessary to maintain the operating reserve at the 120 day level. In simplest terms, an increase in budgeted O&M would lead to a corresponding increase in the operating reserve budget requirement. However, there are some complexities in recent budget developments that complicate the matter.

The original FY 2020 Budget request for the Water System included an increase of almost 10% in operating expenses, and a corresponding 10% increase in the operating reserve requirement – which would require a \$3.976 million contribution during the FY 2020 budget year. During the review process, the O&M budget was reduced by \$2 million at the request of the Board. However that was the only element of the budget that was adjusted. All other revenue requirements were held constant, including the operating reserve requirement.

A similar nuance is apparent with the FY 2021 Water budgeted amounts. The original budget target established in November assumed a 2.0% increase in O&M expense, and a corresponding 2.0% in the reserve requirement. Subsequently the preliminary O&M budget was revised to reflect a 4.3% O&M increase. However we did not initially modify the budgeted reserve requirement.

The cadence of the budget adjustments for both years discussed above illustrate the confusing nature of a "budget to budget" comparison on this item. Review of this matter has identified an opportunity to refine final FY 2021 budget amounts regarding the operating reserve and revisit how such amounts are computed in future budgets.

We note that contributions to the operating reserve and to the I&E Fund are somewhat "fungible" as both provide liquidity to the utilities, and impact calculations of debt service coverage, days cash on hand, and related metrics. From a flow of funds perspective amounts that are not maintained in the Operating Funds would be directed to the I&E Funds.

We are prepared to discuss this matter at your convenience.

Review of Budgeted Investment Income

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Water				Sewer			
	<u>FY 2020</u>	<u>FY 2021</u>	<u>Variance</u>	<u>% Variance</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Variance</u>	<u>% Variance</u>
1 Balance for Investment Earnings (Line 26)	363,331,100	319,121,000	(44,210,100)	-12.2%	347,354,400	352,932,700	5,578,300	1.6%
2 Estimated Investment Earnings Rate	2.50%	1.50%	-1.00%	-40.0%	2.50%	1.50%	-1.00%	-40.0%
3 Estimated Investment Earnings	9,084,200	4,786,800	(4,297,400)	-47.3%	8,730,800	5,294,000	(3,436,800)	-39.4%
<u>Operating Fund</u>								
4 Beginning Balance	42,803,500	46,779,500			67,301,100	67,301,100		
5 Deposit from Operations	3,976,000	876,600			0	0		
6 Ending Balance	46,779,500	47,656,100	876,600	1.9%	67,301,100	67,301,100	0	0.0%
<u>Budget Stabilization Fund</u>								
7 Beginning Balance	2,000,000	2,000,000			5,000,000	5,000,000		
8 Deposits / (Withdrawals)	0	0			0	0		
9 Ending Balance	2,000,000	2,000,000	0	0.0%	5,000,000	5,000,000	0	0.0%
<u>ER&R Fund</u>								
10 Beginning Balance	27,520,400	27,520,400			44,000,000	44,000,000		
11 Transfers from Revenues	0	0			0	0		
12 Ending Balance	27,520,400	27,520,400	0	0.0%	44,000,000	44,000,000	0	0.0%
<u>I&E Fund</u>								
13 Beginning Balance	232,865,300	226,729,200			77,209,700	94,541,800		
14 Transfers from Revenues	30,098,600	25,343,000			26,706,400	47,936,100		
15 Other Deposits						19,288,300		
16 Budgeted Capital Outlay	(10,125,300)	(17,892,000)			(20,122,200)	(20,481,100)		
17 CIP Expenditures	(45,000,000)	(75,000,000)			0	(50,000,000)		
18 Ending Balance	207,838,600	159,180,200	(48,658,400)	-23.4%	83,793,900	91,285,100	7,491,200	8.9%
<u>Total Revenue Generated Funds</u>								
19 Beginning Balance	305,189,200	303,029,100			193,510,800	210,842,900		
20 Net Sources and Uses	(21,050,700)	(66,672,400)			6,584,200	(3,256,700)		
21 Ending Balance	284,138,500	236,356,700	(47,781,800)	-16.8%	200,095,000	207,586,200	7,491,200	3.7%
<u>Other Funds</u>								
22 Bond Reserve	20,969,800	20,969,800	0	0.0%	64,796,500	64,796,500	0	0.0%
23 Bond Redemption (Avg)	58,222,800	61,794,500	3,571,700	6.1%	82,462,900	80,550,000	(1,912,900)	-2.3%
24 Construction Fund	35,307,100	50,037,700	14,730,600	41.7%	49,433,200	54,191,100	4,757,900	9.6%
25 Total Funds	398,638,200	369,158,700	(29,479,500)	-7.4%	396,787,600	407,123,800	10,336,200	2.6%
26 Subtotal w/o Construction Funds	363,331,100	319,121,000	(44,210,100)	-12.2%	347,354,400	352,932,700	5,578,300	1.6%

Review of Budgeted Operating Reserve Requirement

	(1)	(2)	(3)	(4)	
	<i>FY 2020 Budget</i>		<i>FY 2021 Budget</i>		
	Original	Potentially Revised	Original	Potentially Revised	
	<u>Plan</u>	<u>Plan</u>	<u>Plan</u>	<u>Plan</u>	
WATER					
<u>O&M Expense Budget</u>					
1	Prior Year	121,562,600	121,562,600	131,490,500	131,490,500
2	Current Year	133,490,500	131,490,500	134,120,300	137,127,300
3	Increase	11,927,900	9,927,900	2,629,800	5,636,800
4	% Increase	9.8%	8.2%	2.0%	4.3%
5	Reserve Requirement - Days	120	120	120	120
6	Reserve Requirement - %	33.3%	33.3%	33.3%	33.3%
<u>Reserve Requirement</u>					
7	Prior Year	40,520,900	40,520,900	43,830,200	43,830,200
8	Current Year	44,496,800	43,830,200	44,706,800	45,709,100
9	Increase	3,975,900	3,309,300	876,600	1,878,900
10	% Increase	9.8%	8.2%	2.0%	4.3%
SEWER					
<u>O&M Expense Budget</u>					
11	Prior Year	191,079,400	191,079,400	191,079,400	187,057,200
12	Current Year	187,968,700	187,057,200	190,798,300	184,946,100
13	Increase	(3,110,700)	(4,022,200)	(281,100)	(2,111,100)
14	% Increase	-1.6%	-2.1%	-0.1%	-1.1%
15	Reserve Requirement - Days	120	120	120	120
16	Reserve Requirement - %	33.3%	33.3%	33.3%	33.3%
<u>Reserve Requirement</u>					
17	Prior Year	63,693,100	63,693,100	63,693,100	62,352,400
18	Current Year	62,656,200	62,352,400	63,599,400	61,648,700
19	Increase	0	0	0	0
20	% Increase	0.0%	0.0%	0.0%	0.0%



Financial Services Audit Committee Communication

Date: January 17, 2020

To: Great Lakes Water Authority Audit Committee

From: Deirdre Henry, Treasury Manager

Re: Review of GLWA Five-Year Investment Earnings Projections

The Financial Services Area Treasury Management Team requested the GLWA investment advisor, PFM Asset Management (PFM), provide a five-year interest earnings projection to assist in the budget development for FY 2021 – 2025.

Using FY 2019 average balances by investment type, PFM projected average yield as follows:

Average Yield %				
<u>FY2021</u>	<u>FY2022</u>	<u>FY2023</u>	<u>FY2024</u>	<u>FY2025</u>
1.51%	1.53%	1.54%	1.55%	1.80%

Yield and earnings projections provided by PFM are based on assumptions about the economic, political, and investment market environments. The attached memo from PFM details their analysis.

After reviewing the PFM projections, GLWA forecasted FY 2021 – 2025 investment earnings based on a conservative yield rate of 1.50%.

Proposed Action: Receive and file this report.



January 8, 2020

Memorandum

To: Nicolette Bateson, CPA, Chief Financial Officer/Treasurer
Deirdre Henry, Treasury Manager
Great Lakes Water Authority

From: Brian Quinn, Managing Director
PFM Asset Management LLC

Re: Review of the Great Lakes Water Authority's Five-Year Earnings Projections

To assist the Great Lakes Water Authority (the "Authority") in developing and maintaining its five year earnings projections, PFM Asset Management LLC ("PFM") has developed the following market assumptions for the intermediate-term. We develop our assumptions by examining economic fundamentals and expected returns and also derive our assumptions based on our projections for economic growth, inflation, interest rates, and other fundamental economic and market conditions. Given the current investing environment and strong fiscal year 2019 returns, our future interest earnings projections are down from expectations this time last year. The modest reductions are driven by slightly lower expected economic growth.

In calendar year 2019, interest rates dropped significantly as global economic growth decelerated and investors' sentiment turned more cautious. In addition, as a result of slowing economic growth, the Federal Reserve and other central banks began to cut interest rates. Consequently, we have meaningfully reduced our intermediate-term fixed income expectations, especially with interest rates lower for a longer period. The slowdown in economic growth has caused central banks, including the Fed, to reverse course and become more accommodative. The slower growth, muted inflation, and continuing risks from trade frictions and political uncertainties are likely to keep the Fed accommodative and interest rates low going into fiscal year 2021.

Furthermore, the yield curve has drawn a significant amount of attention due to its track record of predicting recessions; however, over the next six to twelve months, we do not expect the U.S. to experience a recession. The yield curve, which had inverted, has more recently steepened, and when taken in combination with other fixed income market indicators, is not suggesting a recession.

Interest rates and comparable yields are down profoundly from the start of the calendar year of 2019. Likewise, expected returns for spread products (i.e., commercial paper) have been reduced due to lower starting yields and tighter spreads. For example, driven by lower interest rates versus a year ago, cash is expected to return ~1.52% over fiscal year 2021 and approximately 1.60% over the next five fiscal years (compared to the near 1.75% average that the Authority has earned in cash so far in 2020). It should be noted that the relatively lower returns driven by slower expected interest rate normalization.



Nevertheless, the tables below contain an updated interest earnings projection for the Authority for fiscal years 2021 – 2025 by category. Note that the fiscal year 2019 average balances were used to calculate the following projections as we felt that this was the best proxy that we had available for future balances. In addition, in our calculations, the implied forward rate on the 3-month Treasury Bill was used as the reinvestment assumption for the cash / money market fund accounts. The cash-flow driven funds have a duration of around 0.61 years, and the forward curve on the 6-month Treasury Bill was used for these accounts. The benchmarked managed funds have a duration of about 1.28 years and the forward curve on the 1-year Treasury Note was used for these assets. These projections may be modified in the future depending on changes in the Authority’s balance sheet.

Investment Type	Fiscal Year 2019 Average Balance	Average Yield (FY 2021)	Average Yield (FY 2022)	Average Yield (FY 2023)	Average Yield (FY 2024)	Average Yield (FY 2025)
Cash / Money Market	\$447,777,915	1.52%	1.53%	1.54%	1.54%	1.81%
Cash-flow Driven Managed Funds	\$392,714,691	1.52%	1.53%	1.54%	1.55%	1.80%
Benchmarked Managed Funds	\$216,863,701	1.44%	1.53%	1.54%	1.56%	1.79%
Total	\$1,057,356,307	1.51%	1.53%	1.54%	1.55%	1.80%

Investment Type	Fiscal Year 2019 Average Balance	Approximate Earnings (FY 2021)	Approximate Earnings (FY 2022)	Approximate Earnings (FY 2023)	Approximate Earnings (FY 2024)	Approximate Earnings (FY 2025)
Cash / Money Market	\$447,777,915	\$6,813,612	\$6,838,980	\$6,889,567	\$6,921,408	\$8,102,983
Cash-flow Driven Managed Funds	\$392,714,691	\$5,977,539	\$5,998,310	\$6,041,680	\$6,094,039	\$7,083,595
Benchmarked Managed Funds	\$216,863,701	\$3,126,420	\$3,312,325	\$3,334,954	\$3,398,937	\$3,878,410
Total	\$1,057,356,307	\$15,917,572	\$16,149,615	\$16,266,202	\$16,414,384	\$19,064,988

The Fed cut interest rates in 2019 to low levels and is once again expanding its balance sheet, calling into question how much more it can do if the economy slips into a recession. Though there is a likelihood that rates will rise over the next five years, current interest rates are at a low level. We expect the Fed to hold the key Fed Funds target rate steady well into 2020. Additionally, we also expect the U.S. economy to chug along with growth near 2.0%, and the global economy to improve modestly over the next five years. This implies that interest rates should remain within a narrow trading range for the foreseeable future. The Authority should be cognizant of these variables as it reviews its long-term investment strategy. Please note that PFM takes all of the preceding market and economic information into account when making investment decisions on behalf of the Authority.

PFM would be happy to discuss this memorandum with the Authority further should it have any questions or concerns or need any additional information or clarification.

The combined GLWA revenue requirement budget is the basis for establishing the annual charges for services. Much of the FY 2021 budget of \$838 million is fixed commitments such as debt service (41%), lease payment (6%), legacy liabilities (4%) as well as capital funding (10%), and other (1%). Operations & Maintenance (O&M) expense represents \$322 million, or 38%, of the total requirement for FY 2021 and is the focus of this One Pager. FY 2021 presents an increase of \$3.5 million, or 1.1%, over FY 2020. The second year of the biennial budget, FY 2022, increases 2%. Highlights for the upcoming year include:

Water Operations – increase of \$5.9 million

The majority of this net increase (\$5.2 million) is to the removal, hauling, and disposal of alum sludge at the water treatment plants. This mobile dredging & video piping program is a long-term maintenance effort that aligns with regulatory requirements.

Wastewater Operations – decrease \$309 thousand

Ongoing efforts to achieve operational efficiencies have resulted in budgeted reductions of \$548,000 in utilities and \$758,000 in chemicals. Additionally, increased production through the environmentally stable Bio-dryer Facility, which significantly reduces the high cost of material sent to landfills, contributed an additional \$1,469,000 in projected savings. These savings are being reinvested into a multi-year instrumentation and control systems upgrade program budgeted at \$742,000 for FY 2021.

Centralized Services¹ – decrease \$4.2 million

Factors that decreased the budget include a reduction of contractual services in the planning area (\$2.2 million) due to material completion of large consulting projects for asset management and the wastewater master plan in FY 2020. In

addition, the pace of spending for the new, annual Water Transmission System Pipe Integrity Program has been slowed to align with other operational demands and projects.

Also, the field services team expects a reduction of \$2.5 million of contracted sewer cleaning and investigation services. The facilities team expects a decrease of \$2 million dollars from improved pricing on snow removal (\$400,000), in-sourcing trade services (\$500,000), and lower facility costs based on historical review (\$1.1 million).

Factors increasing the budget are related to information technology (\$2.7 million). This includes a loss of \$1.2 million in information shared service reimbursements as well as implementation expenses for a new enterprise asset management system (\$1.6 million).

Administrative Services² – increase \$2.1 million

The administrative services budget is largely driven by personnel costs and contractual services for eight areas. Programs that are supported by these increases include One Water Institute, procurement strategic initiatives, internal audit, and government relations service.

Staffing - If all positions were filled for the entire year, the full-time-equivalent (FTE) count would be 1,219, up by 12 positions from the prior year plan. Based on assumptions related to recruitment and turnover, the budget provides funding for 1,200 positions. Two positions are in water operations, four in wastewater operations, one in safety, two in organizational development, two in financial services and a partial allocation among other areas.

Questions? Contact the Office of the Chief Financial Officer at cfo@glwater.org

¹ Includes the Planning Services, Systems Operations Control; Facility and Fleet Operations; Field Service Operations; Energy, Research & Innovation; Information Technology; and Security & Integrity/HazMat.

² Includes the Board of Directors, Chief Executive Officer, Chief Administrative & Compliance Officer, Risk Management & Safety, General Counsel, Public Affairs, Organizational Development, and Financial Services

Great Lakes Water Authority Staffing Analysis
Staffing Analysis (Continued)
FY 2020 and FY 2021

FTE (Full Time Equivalent)

The FTE staffing is based on the number of hours that the position is filled, or budgeted for, in each year based upon a standard of 2,080 hours per year.

FTE Requested indicates the % that the position will be filled for the year. A value of 1 means that the position will be filled full time by either a GLWA team member or a contractor for the entire year

Example, if the position is anticipated to be filled in the 3rd quarter, i.e. January, 1, 2020, then a 0.50 FTE would be requested for FY 2020. For FY 2021 and future years the FTE requested would be 1.00 for as long as the position is needed.

	FY 2020 Requested FTE'S	FY 2020 Total Requested (Wages, Benefits)	FY 2020 Total Requested (Wages, Benefits)- Assuming 1.0 FTE All Categories	FY 2021 Requested FTE'S	FY 2021 Total Requested (Wages, Benefits)	FY 2021 Total Requested (Wages, Benefits)- Assuming 1.0 FTE All Categories
Budget Center:						
A Water System Operations						
Hire in 1st Quarter, FTE = 1.00	224.00	19,477,300	19,477,300	226.00	20,656,800	20,656,800
Hire in 2nd Quarter, FTE = 0.75	-	-	-	1.00	108,300	144,400
Hire in 3rd Quarter, FTE = 0.50	-	-	-	-	-	-
Hire in 4th Quarter, FTE = 0.25	-	-	-	-	-	-
(Subtotal)	224.00	19,477,300	19,477,300	227.00	20,765,100	20,801,200
B Wastewater System Operations						
Hire in 1st Quarter, FTE = 1.00	430.00	36,116,920	36,116,920	426.00	37,379,840	37,379,840
Hire in 2nd Quarter, FTE = 0.75	1.00	89,260	119,010	1.00	48,690	64,920
Hire in 3rd Quarter, FTE = 0.50	1.00	13,020	26,040	10.00	442,970	885,940
Hire in 4th Quarter, FTE = 0.25	-	-	-	-	-	-
(Subtotal)	432.00	36,219,200	36,261,970	437.00	37,871,500	38,330,700
C Centralized Services						
Hire in 1st Quarter, FTE = 1.00	351.00	30,936,480	30,936,480	340.00	31,760,910	31,760,910
Hire in 2nd Quarter, FTE = 0.75	1.00	83,600	111,470	1.00	55,410	73,880
Hire in 3rd Quarter, FTE = 0.50	1.00	58,520	117,040	9.00	400,770	801,540
Hire in 4th Quarter, FTE = 0.25	-	-	-	2.00	59,810	239,240
(Subtotal)	353.00	31,078,600	31,164,990	352.00	32,276,900	32,875,570
D Administrative & Other Services						
Hire in 1st Quarter, FTE = 1.00	164.00	17,479,490	17,479,490	179.00	19,007,530	19,007,530
Hire in 2nd Quarter, FTE = 0.75	3.00	207,520	276,700	-	-	-
Hire in 3rd Quarter, FTE = 0.50	11.00	474,490	948,980	4.00	242,500	485,000
Hire in 4th Quarter, FTE = 0.25	-	-	-	1.00	15,370	61,480
(Subtotal)	178.00	18,161,500	18,705,170	184.00	19,265,400	19,554,010
Grand Total	1,187.00	\$ 104,936,600	\$ 105,609,430	1,200.00	\$ 110,178,900	\$ 111,561,480

Great Lakes Water Authority Staffing Analysis
Staffing Analysis
FY 2020 and FY 2021

	FY 2020 Requested FTE'S	FY 2020 Total Requested (Wages, Benefits)	FY 2021 Requested FTE'S	FY 2021 Total Requested (Wages, Benefits)	Change in FTE'S (From FY 2020 - 2021)	\$ Change in Wages, Benefits (From FY 2020 - 2021)	% Change in Total Requested Wages, Benefits (FY 2020 - 2021)
Budget Center:							
A Water System Operations							
Budgeted FTE'S- Team Members	208.00	18,109,600	212.75	19,562,300	4.75	1,452,700	8%
Budgeted FTE'S- Vacancies	16.00	1,367,700	14.00	1,202,800	-2.00	(164,900)	-12%
Budgeted FTE'S- Transition Services Contractors	-	-	-	-	-	-	0%
(Subtotal)	224.00	19,477,300	226.75	20,765,100	2.75	1,287,800	6.6%
B Wastewater System Operations							
Budgeted FTE'S- Team Members	364.00	29,197,500	376.50	31,158,100	12.50	1,960,600	7%
Budgeted FTE'S- Vacancies	43.25	3,222,800	25.75	2,105,800	-17.50	(1,117,000)	-35%
Budgeted FTE'S- Transition Services Contractors	25.00	3,798,900	34.50	4,607,600	9.50	808,700	21%
(Subtotal)	432.25	36,219,200	436.75	37,871,500	4.50	1,652,300	4.6%
C Centralized Services							
Budgeted FTE'S- Team Members	282.00	24,571,200	302.50	27,602,500	20.50	3,031,300	12%
Budgeted FTE'S- Vacancies	67.25	5,831,200	46.25	4,086,300	-21.00	(1,744,900)	-30%
Budgeted FTE'S- Transition Services Contractors	4.00	676,200	3.00	588,100	-1.00	(88,100)	-13%
(Subtotal)	353.25	31,078,600	351.75	32,276,900	(1.50)	1,198,300	3.9%
D Administrative & Other Services							
Budgeted FTE'S- Team Members	144.00	13,966,400	149.00	15,281,200	5.00	1,314,800	9%
Budgeted FTE'S- Vacancies	21.25	2,040,100	22.75	2,019,800	1.50	(20,300)	-1%
Budgeted FTE'S- Transition Services Contractors	12.50	2,155,000	12.50	1,964,400	0.00	(190,600)	-9%
(Subtotal)	177.75	18,161,500	184.25	19,265,400	6.50	1,103,900	6%
Total Team Members	998.00	85,844,700	1,040.75	93,604,100	42.75	7,759,400	36%
Total Vacancies	147.75	12,461,800	108.75	9,414,700	(39.00)	(3,047,100)	-78%
Total Transition Services Contractors	41.50	6,630,100	50.00	7,160,100	8.50	530,000	-1%
Grand Total	1,187.25	\$ 104,936,600	1,199.50	\$ 110,178,900	12.25	\$ 5,242,300	5%

	Prior Year FY 2018 Staffing Plan	Current Year FY 2019 Staffing Plan	FY 2020 Staffing Plan	FY 2021 Staffing Plan	FY 2022 Staffing Plan	FY 2023 Staffing Plan	FY 2024 Staffing Plan	FY 2025 Staffing Plan
Operating Area and Team								
Chief Operating Officer Water Operations	354.00	360.00	363.00	366.00	366.00	366.00	366.00	366.00
COO - Water Operations & Field Services	2.00	2.00	2.00	3.00	3.00	3.00	3.00	3.00
Energy, Research & Innovation	0.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Facility Operations	22.00	22.00	25.00	25.00	25.00	25.00	25.00	25.00
Field Service Operations	44.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00
Lake Huron Water Plant	31.00	30.00	30.00	31.00	31.00	31.00	31.00	31.00
Northeast Water Plant	32.00	32.00	30.00	32.00	32.00	32.00	32.00	32.00
Southwest Water Plant	29.00	29.00	30.00	30.00	30.00	30.00	30.00	30.00
Springwells Water Plant	35.00	35.00	36.00	36.00	36.00	36.00	36.00	36.00
Systems Operations Control	79.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00
Water Director	7.00	9.00	9.00	11.00	11.00	11.00	11.00	11.00
Water Engineering	19.00	24.00	24.00	23.00	23.00	23.00	23.00	23.00
Water Quality	18.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00
Water Works Park	36.00	37.00	37.00	35.00	35.00	35.00	35.00	35.00
Chief Operating Officer Wastewater Operations	436.00	440.00	440.00	443.00	443.00	442.00	441.00	440.00
BDF, COF & Hauling	0.00	12.00	12.00	11.00	11.00	11.00	11.00	11.00
Chief Operating Officer Wastewater	18.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Combined Sewer Overflow	18.00	33.00	36.00	37.00	37.00	36.00	36.00	36.00
Industrial Waste Control	31.00	30.00	29.00	29.00	29.00	29.00	29.00	29.00
Wastewater Dewatering Process	0.00	54.00	50.00	51.00	51.00	51.00	51.00	51.00
Wastewater Director	0.00	46.00	47.00	47.00	47.00	47.00	47.00	47.00
Wastewater Engineering	32.00	26.00	24.00	24.00	24.00	24.00	24.00	24.00
Wastewater Incineration Process	0.00	52.00	52.00	51.00	51.00	51.00	51.00	51.00
Wastewater Laboratories	25.00	33.00	38.00	40.00	40.00	40.00	40.00	40.00
Wastewater Operations	312.00	16.00	15.00	15.00	15.00	15.00	15.00	15.00
Wastewater Primary Process	0.00	51.00	50.00	55.00	55.00	55.00	54.00	53.00
Wastewater Process Control	0.00	27.00	27.00	25.00	25.00	25.00	25.00	25.00
Wastewater Secondary Process	0.00	46.00	46.00	44.00	44.00	44.00	44.00	44.00
Chief Planning Officer	68.00	62.00	70.00	73.00	73.00	73.00	73.00	73.00
Asset Management	9.00	7.00	9.00	11.00	11.00	11.00	11.00	11.00
Capital Improvement Planning	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Chief Planning Officer	5.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Energy Management	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Research Innovation								
Systems Analytics	39.00	40.00	43.00	44.00	44.00	44.00	44.00	44.00
Systems Planning	4.00	4.00	7.00	7.00	7.00	7.00	7.00	7.00
Chief Administration & Compliance Officer	111.00	119.00	122.00	124.00	124.00	124.00	124.00	124.00
Chief Administrative Officer	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Enterprise Risk Management and Safety	4.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
General Counsel	6.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Info Technology Business Applications	12.00	13.00	13.00	16.00	16.00	16.00	16.00	16.00
Info Technology Enterprise Applications	14.00	13.00	13.00	10.00	10.00	10.00	10.00	10.00
Info Technology Infrastructure	14.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Info Technology Security & Risk	2.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Info Technology Service Delivery	12.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
InfoTechnology Project Management Office	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Office of the CIO	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Organizational Development	28.00	28.00	31.00	33.00	33.00	33.00	33.00	33.00
Chief Financial Officer	110.00	118.00	123.00	124.00	124.00	124.00	124.00	124.00
Chief Financial Officer	2.00	3.00	5.00	5.00	5.00	5.00	5.00	5.00
Data Analytics & Internal Audit	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Financial Planning & Analysis	6.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00
Financial Reporting & Accounting	27.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
Logistics and Materials	22.00	23.00	24.00	24.00	24.00	24.00	24.00	24.00
Owners' Representative	5.00	5.00	6.00	5.00	5.00	5.00	5.00	5.00
Procurement Director	30.00	30.00	29.00	31.00	31.00	31.00	31.00	31.00
Public Finance	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Reporting and Compliance	0.00	4.00	4.00	5.00	5.00	5.00	5.00	5.00
Transformation	6.00	7.00	8.00	8.00	8.00	8.00	8.00	8.00
Treasury	4.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Chief Executive Officer	98.00	85.00	89.00	89.00	89.00	89.00	89.00	89.00
Chief Executive Officer	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
HazMat	0.00	17.00	19.00	19.00	19.00	19.00	19.00	19.00
Public Affairs	7.00	7.00	8.00	8.00	8.00	8.00	8.00	8.00
Security and Integrity	89.00	59.00	60.00	60.00	60.00	60.00	60.00	60.00
Grand Total	1,177.00	1,184.00	1,207.00	1,219.00	1,219.00	1,218.00	1,217.00	1,216.00

Operating Area and Team	Prior Year FY 2018 FTEs	Current Year FY 2019 FTEs	FY 2020 FTEs	FY 2021 FTEs	FY 2022 FTEs	FY 2023 FTEs	FY 2024 FTEs	FY 2025 FTEs
Chief Operating Officer Water Operations	354.00	360.00	363.00	365.25	365.25	365.25	365.25	365.25
COO - Water Operations & Field Services	2.00	2.00	2.00	2.75	2.75	2.75	2.75	2.75
Energy, Research & Innovation	0.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Facility Operations	22.00	22.00	25.00	24.50	24.50	24.50	24.50	24.50
Field Service Operations	44.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00
Lake Huron Water Plant	31.00	30.00	30.00	31.00	31.00	31.00	31.00	31.00
Northeast Water Plant	32.00	32.00	30.00	32.00	32.00	32.00	32.00	32.00
Southwest Water Plant	29.00	29.00	30.00	30.00	30.00	30.00	30.00	30.00
Springwells Water Plant	35.00	35.00	36.00	36.00	36.00	36.00	36.00	36.00
Systems Operations Control	79.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00
Water Director	7.00	9.00	9.00	11.00	11.00	11.00	11.00	11.00
Water Engineering	19.00	24.00	24.00	23.00	23.00	23.00	23.00	23.00
Water Quality	18.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00
Water Works Park	36.00	37.00	37.00	35.00	35.00	35.00	35.00	35.00
Chief Operating Officer Wastewater Operations	432.50	434.50	432.25	436.75	442.50	441.50	441.00	440.00
BDF, COF & Hauling	0.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
Chief Operating Officer Wastewater	18.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Combined Sewer Overflow	18.00	32.00	31.25	36.50	36.50	36.00	36.00	36.00
Industrial Waste Control	31.00	30.00	29.00	28.50	29.00	29.00	29.00	29.00
Wastewater Dewatering Process	0.00	52.00	49.00	51.00	51.00	51.00	51.00	51.00
Wastewater Director	0.00	46.00	47.00	46.00	47.00	47.00	47.00	47.00
Wastewater Engineering	32.00	26.00	24.00	23.50	24.00	24.00	24.00	24.00
Wastewater Incineration Process	0.00	52.00	52.00	49.75	51.00	51.00	51.00	51.00
Wastewater Laboratories	25.00	33.00	38.00	40.00	40.00	40.00	40.00	40.00
Wastewater Operations	308.50	15.50	12.00	13.50	15.00	15.00	15.00	15.00
Wastewater Primary Process	0.00	50.50	50.00	54.50	55.00	54.50	54.00	53.00
Wastewater Process Control	0.00	27.00	26.00	24.50	25.00	25.00	25.00	25.00
Wastewater Secondary Process	0.00	45.50	46.00	44.00	44.00	44.00	44.00	44.00
Chief Planning Officer	63.50	60.25	64.25	63.25	70.00	72.00	72.00	72.00
Asset Management	8.00	7.00	9.00	9.50	10.00	10.00	10.00	10.00
Capital Improvement Planning	6.00	6.25	4.25	5.50	7.50	8.00	8.00	8.00
Chief Planning Officer	4.50	3.00	2.00	3.00	3.00	3.00	3.00	3.00
Energy Management	2.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Systems Analytics	39.00	40.00	43.00	39.25	42.50	44.00	44.00	44.00
Systems Planning	3.25	4.00	6.00	6.00	7.00	7.00	7.00	7.00
Chief Administration & Compliance Officer	110.75	119.00	120.00	124.00	124.00	124.00	124.00	124.00
Chief Administrative Officer	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Enterprise Risk Management and Safety	4.00	8.00	6.00	8.00	8.00	8.00	8.00	8.00
General Counsel	6.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Info Technology Business Applications	12.00	13.00	13.00	16.00	16.00	16.00	16.00	16.00
Info Technology Enterprise Applications	14.00	13.00	13.00	10.00	10.00	10.00	10.00	10.00
Info Technology Infrastructure	14.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Info Technology Security & Risk	2.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Info Technology Service Delivery	12.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
InfoTechnology Project Management Office	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Office of the CIO	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Organizational Development	28.00	28.00	31.00	33.00	33.00	33.00	33.00	33.00
Chief Financial Officer	109.50	114.25	119.25	122.00	122.00	122.00	122.00	122.00
Chief Financial Officer	2.00	3.00	5.00	4.50	4.50	4.50	4.50	4.50
Data Analytics & Internal Audit	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Financial Planning & Analysis	6.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00
Financial Reporting & Accounting	26.50	25.00	26.00	25.00	25.00	25.00	25.00	25.00
Logistics and Materials	22.00	23.00	23.25	24.00	24.00	24.00	24.00	24.00
Owners' Representative	5.00	4.25	6.00	5.00	5.00	5.00	5.00	5.00
Procurement Director	30.00	29.25	27.00	30.50	30.50	30.50	30.50	30.50
Public Finance	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Reporting and Compliance	0.00	4.00	4.00	5.00	5.00	5.00	5.00	5.00
Transformation	6.00	6.75	8.00	8.00	8.00	8.00	8.00	8.00
Treasury	4.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Chief Executive Officer	97.50	84.50	88.50	88.25	89.00	89.00	89.00	89.00
Chief Executive Officer	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
HazMat	0.00	17.00	19.00	19.00	19.00	19.00	19.00	19.00
Public Affairs	7.00	7.00	7.50	7.25	8.00	8.00	8.00	8.00
Security and Integrity	88.50	58.50	60.00	60.00	60.00	60.00	60.00	60.00
Grand Total	1,167.75	1,172.50	1,187.25	1,199.50	1,212.75	1,213.75	1,213.25	1,212.25

The Great Lakes Water Authority assures effective operational flexibility, while controlling spending and optimizing the cost of capital. This is accomplished by utilizing five categories in GLWA’s Capital Financial Plan for funding both “Capital Outlay” and the “Capital Improvement Plan” (CIP) which are listed below.

Category	Capital Outlay - Over \$5,000 (O&M - Not Capitalized)	Capital Outlay - Direct Purchase Over \$5,000 (I&E Funded)	Capital Outlay - Projects and Programs (I&E Funded)	Capital Improvement Plan (I&E Funded)	Capital Improvement Plan (Bonds)
Funding Source	Operations & Maintenance	Improvement & Extension Fund	Improvement & Extension Fund	Improvement & Extension Fund	Construction Bond Fund
Fund Number	5910 - Water 5960 - Sewer	5506 - Water 5404 - Sewer	5506 - Water 5404 - Sewer	5506 - Water 5404 - Sewer	5519 - Water 5421 - Sewer
Account Number	901060	901100	901100	See CA&FR Team	See CA&FR Team
Rationale	Controllable asset, tagged and tracked for internal control purposes. Shorter lived assets such as computer software and hardware.	Items that cause variability in the annual financial plan that do not meet the criteria for CIP	Items that cause variability in the annual financial plan that do not meet the criteria for GLWA criteria bond funding	Engineering, design, and study services associated with a specific constructed asset in the CIP	Constructed assets eligible for bond funding
Frequency	Recurring in nature	Unique, nonrecurring purchases, and/or large dollar assets on a replacement program	Unique, nonrecurring purchases, and/or large dollar assets on a replacement program	Project specific	Project Specific
Life	Greater than One Year	Greater than One Year	Greater than One Year	Greater than 20 Years	Greater than 20 Years
Examples	IT Equipment & Software that does not meet the Capitalization Policy threshold	Vehicles, large equipment, pumps, motors, and security equipment; no or low relative amount of	Infrastructure, plant, and facility upgrade, rehabilitation, and/or replacement	Infrastructure, plant, and facility upgrade, rehabilitation, and/or replacement	Infrastructure, plant, and facility upgrade, rehabilitation, and/or replacement
Justification	Internal review panel, prioritization	Internal review panel, prioritization, replacement validation with asset records and other current market information	Internal review panel, prioritization, replacement validation with asset records and other current market information	Business Case Evaluation; Internal Review Panel; Member Outreach; GLWA Board Committee	Business Case Evaluation; Internal Review Panel; Member Outreach; GLWA Board Committee

Items identified as “Capital Outlay” are assets or programs acquired for the betterment of the system and are both above the dollar threshold for capitalizing on the financial statements (i.e. over \$5,000), and are assets that should be tagged and tracked for internal control purposes. In both instances, these assets have an estimated useful life of greater than one year.

Capital Outlay includes vehicles, shop, lab, plant and field equipment, office furniture and equipment, as well as software and hardware. Generally capital outlay items have a life of less than

20 years. Capital Outlay items are not included in the “Capital Improvement Program” (CIP). The CIP focuses on longer lived constructed assets with a useful life greater than 20 years.

Many of the tables in this section present an entity-wide view of GLWA’s capital outlay. This is because some capital outlay is subject to cost sharing between the water and sewer systems. Examples of this include fleet, centralized services and facilities, and information technology.

Since assets are replaced on a periodic basis, annual expenditures may not be consistent. In addition, some capital outlay projects span several years and five-year planning documents. Examples of these projects include the following.

- ❖ The replacement of the security perimeter fencing and electronic components around all GLWA facilities. This project is scheduled to run from FY 2018 through FY 2022 replacing approximately 20% of these assets each year at an average annual projected cost of \$1.1 million.
- ❖ Instrumentation & control hardware and software for the wastewater system. This project is forecast for FY 2019 through FY 2022 at an average annual cost of \$4.0 million.
- ❖ GLWA enterprise wide software systems. The forecast replacement of these systems is scheduled from FY 2019 through FY 2023 at an average annual cost of \$1.0 million.
- ❖ Facility renovations such as the data center move. This project is expected to run from FY 2020 through FY 2022 at an average annual cost of \$1.0 million.
- ❖ An assessment of the Combined Sewer Overflow facilities reviewing the criticality, condition and forecast replacement schedule of these facilities. The assessment is scheduled to run from FY 2020 through FY 2021 at an average annual cost of \$2.3 million.

Funding Sources

The Capital Outlay expenditures are proposed to be \$45.7 million for FY 2021, and \$37.4 million for FY 2022. As shown in Table 1A – *Capital Outlay Biennial Budget by Funding Source* and Table 1B – *Capital Outlay by Funding Source*, Capital Outlay is funded by two primary sources: Operations & Maintenance (O&M) and Improvement & Extension (I&E) funds.

Operations & Maintenance: Capital outlay items funded by the O&M Fund are paid with current year revenues. The nature of these items is recurring so the impact on charges from year-to-year is not significant.

Improvement & Extension: Capital outlay items funded by the I&E Fund are paid with revenue financed capital carried over from prior years. The nature of these items is not necessarily recurring each year. They are, instead, replaced on a longer-term cycle or unique to a three to five-year planning horizon.

Table 1A – Capital Outlay Biennial Budget by Funding Source

Funding Source	FY 2020 Amended Budget	FY 2020 Activity thru 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested
Operations & Maintenance	\$ 7,177,000	\$ 2,214,600	\$ 7,311,600	\$ 134,900	1.9%	\$ 7,859,800	\$ 6,740,400	\$ 7,422,100	\$ 6,808,100
Improvement & Extension	30,247,400	2,893,100	38,373,100	8,125,600	26.9%	29,554,900	15,182,500	15,833,500	19,505,200
Grand Total	\$ 37,424,400	\$ 5,107,700	\$ 45,684,700	\$ 8,260,500	22.1%	\$ 37,414,700	\$ 21,922,900	\$ 23,255,600	\$ 26,313,300

Table 1B – Capital Outlay by Funding Source

Funding Source	FY 2020 Department Requested	FY 2021 Department Requested	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested
Operations & Maintenance	\$ 7,177,000	\$ 7,311,600	\$ 7,859,800	\$ 6,740,400	\$ 7,422,100	\$ 6,808,100
Improvement & Extension	30,247,400	38,373,100	29,554,900	15,182,500	15,833,500	19,505,200
Grand Total	\$ 37,424,400	\$ 45,684,700	\$ 37,414,700	\$ 21,922,900	\$ 23,255,600	\$ 26,313,300

Table 2 - Total Capital Outlay by Asset Type (funded by both I&E and O&M)

Asset Type	FY 2020 Amended Budget	FY 2021 Department Requested	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested
Operations & Maintenance	\$ 7,177,000	\$ 7,311,600	\$ 7,859,800	\$ 6,740,400	\$ 7,422,100	\$ 6,808,100
Information Technology	5,690,600	6,419,300	6,931,100	5,855,500	6,372,500	5,900,000
Data/Network	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Hardware	1,156,000	1,272,900	1,291,300	1,310,500	1,330,000	1,334,000
Software	2,534,600	3,146,400	3,639,800	2,545,000	3,042,500	2,566,000
Leasehold Improvements	192,000	2,000	2,000	2,000	2,000	2,000
Machinery & Equipment	1,210,600	688,600	664,500	669,900	820,800	693,800
Computers & IT	4,650	4,700	60,400	14,200	151,700	17,900
Controls & Communication	656,000	237,300	189,800	206,400	255,200	208,400
Flow Measuring & Meters	2,750	-	3,000	-	3,000	-
Furniture & Fixtures	501,200	282,100	280,200	280,500	280,700	280,800
Laboratory	2,000	45,000	6,000	46,500	7,000	48,500
Machinery & Equipment	25,000	50,000	50,000	50,000	50,000	50,000
Pipes, Gates & Valves	-	12,500	12,500	12,600	12,700	12,800
Process Equipment	15,000	35,000	35,000	36,000	36,200	36,600
Pumps & Motors	4,000	22,000	27,600	23,700	24,300	38,800
Tools, Shop & Warehouse	22,600	105,300	111,800	110,900	119,100	109,000
Multiple Asset Types	35,700	70,400	70,600	70,800	70,800	70,800
Safety & Security	25,500	26,000	79,800	31,300	36,900	32,500

Asset Type	FY 2020 Amended Budget	FY 2021 Department Requested	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested
Improvement & Extension	\$ 30,247,400	\$ 38,373,100	\$ 29,554,900	\$ 15,182,500	\$ 15,833,500	\$ 19,505,200
Buildings & Structures	1,007,500	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Information Technology	5,580,500	10,830,500	10,830,500	80,500	80,500	80,500
Hardware	5,500,000	6,750,000	6,750,000	-	-	-
Software	80,500	4,080,500	4,080,500	80,500	80,500	80,500
Leasehold Improvements	910,000	278,000	750,000	250,000	1,050,000	208,000
Machinery & Equipment	16,110,300	16,273,200	11,976,900	10,711,100	11,030,000	15,882,700
Computers & IT	4,380,000	3,507,500	4,437,200	2,315,000	1,533,000	1,071,500
Controls & Communication	610,000	2,220,000	200,000	816,000	3,185,000	8,022,000
Flow Measuring & Meters	820,600	626,000	747,000	250,900	220,000	175,000
Furniture & Fixtures	484,000	556,000	120,000	110,000	105,000	123,800
Heavy Equipment	605,000	985,000	485,000	89,000	120,000	512,000
Heavy Equipment & Misc.	-	500,000	-	-	-	-
Laboratory	364,700	279,000	357,100	393,400	258,000	376,000
Machinery & Equipment	-	68,000	-	-	68,000	-
Pipes, Gates & Valves	767,000	955,000	941,500	1,489,000	655,000	565,000
Process Equipment	2,164,000	1,199,000	1,166,500	1,590,200	1,045,000	995,000
Pumps & Motors	5,749,000	5,297,100	3,417,600	3,622,600	3,766,000	4,032,400
Tools, Shop & Warehouse	166,000	80,600	105,000	20,000	75,000	10,000
Utility Vehicle	-	-	-	15,000	-	-
Multiple Asset Types	2,000,000	2,950,000	2,000,000	-	-	-
Safety & Security	2,359,000	1,093,800	850,300	-	-	-
Site Improvements	50,000	50,000	50,000	50,000	50,000	50,000
Vehicles	2,230,100	2,864,600	2,097,200	3,090,900	2,623,000	2,284,000
Heavy Truck	385,000	150,000	-	-	475,000	-
Light Truck	495,000	590,000	130,000	110,000	80,000	80,000
Passenger	773,000	1,036,300	1,034,600	1,512,600	1,013,000	1,130,000
Trailer & Towable Equipm	-	20,000	40,000	-	40,000	-
Utility Vehicle	57,000	32,000	-	7,000	15,000	74,000
Vehicles	520,100	1,036,300	892,600	1,461,300	1,000,000	1,000,000
Non-Capitalizable Improvement	-	3,033,000	-	-	-	-
Grand Total	\$ 37,424,400	\$ 45,684,700	\$ 37,414,700	\$ 21,922,900	\$ 23,255,600	\$ 26,313,300

Table 3 - Total Capital Outlay by Team (funded by both I&E and O&M)

Team	FY 2020 Amended Budget	FY 2021 Department Requested	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested
881101 - Public Affairs	\$ 37,500	\$ 5,000	\$ 18,000	\$ 10,000	\$ 22,000	\$ 5,000
881201- Security	1,173,200	-	-	-	-	-
881202- HazMat	31,800	26,000	79,800	31,200	36,900	32,500
882111 - Water Engineering	5,500	11,500	5,500	5,500	5,500	11,500
882111- Water Engineering	54,700	5,000	5,000	5,000	5,000	5,000
882121 - Water Quality	37,000	47,000	45,000	66,000	37,000	65,000
882131 - Water Works Park	365,400	636,100	358,100	423,800	404,000	404,000
882141 - Springwells Water Plant	745,200	979,400	642,600	361,800	911,800	360,800
882151 - Northeast Water Plant	940,300	930,000	410,000	610,000	410,000	610,000
882161 - Southwest Water Plant	248,200	640,000	275,000	275,000	275,000	275,000
882171 - Lake Huron Water Plant	159,000	678,000	63,000	28,000	436,000	50,000
882301 - Systems Operations Control	1,477,000	1,605,000	1,567,500	1,605,000	1,505,000	1,505,000
882421 - Facility Operations	162,500	187,500	187,500	187,500	187,500	187,500
882422 - Fleet Operations	990,100	1,506,300	942,600	1,550,100	1,000,000	1,000,000
882431 - Field Service Operations	-	75,000	75,000	75,000	75,000	75,000
882501 - Energy, Research & Innovation	-	127,000	-	75,000	-	50,000
883321- Info Technology Service Desk	1,170,100	1,410,000	1,433,300	1,454,000	1,474,000	1,482,000
883331- Info Technology Infrastructure	4,741,800	4,313,800	4,788,100	3,362,500	3,859,000	3,378,000
883341- Info Technology Business Applications	-	50,000	50,000	50,000	50,000	50,000
883341- Info Technology Enterprise Applications	666,100	4,000,000	4,000,000	-	-	-
883351- Info Technology Business Applications	2,800,000	5,582,500	5,596,200	925,000	925,000	925,000
883361- Info Technology Security & Risk	62,500	63,000	63,500	64,000	64,500	65,000
884124- Logistics & Materials	-	1,250,000	-	-	-	-
886001 - Chief Planning Officer	-	28,000	-	-	-	-
886001- Chief Planning Officer	2,000	2,000	2,000	2,000	2,000	2,000
886101 - Systems Planning	194,800	450,000	20,000	10,000	5,000	5,000
886201 - Asset Mangement	55,000	-	14,000	-	-	-
886401 - Systems Analytics	285,700	827,900	765,800	763,900	849,900	760,400
886601 - Capital Improvement Planning	57,500	-	-	-	-	-
891101 - Public Affairs	37,500	2,500	9,000	5,000	11,000	-
891201- Security	1,173,200	1,093,800	850,300	-	-	-
891202- HazMat	6,300	-	-	-	-	-
892201 - Wastewater Director	1,302,500	435,000	346,000	347,000	623,000	149,000
892211 - Wastewater Engineering	445,700	-	-	-	-	-
892221 - Wastewater Operations	1,200,000	1,620,000	1,651,000	1,098,500	1,056,000	1,116,000
892222 - Wastewater Process Control	3,034,600	1,304,700	2,970,600	814,200	151,700	584,400
892223 - Wastewater Primary Process	2,605,000	1,892,000	370,300	306,600	395,700	308,200
892224 - Wastewater Secondary Process	320,000	485,000	135,300	165,100	135,900	136,200
892225 - Wastewater Dewatering Process	350,000	368,000	238,000	259,000	211,700	146,600
892226 - Wastewater Incineration Process	253,100	88,000	178,500	89,000	49,500	496,000
892231 - Industrial Waste Control	154,900	73,000	190,000	75,500	36,500	226,800
892235 - Wastewater Laboratories	137,000	-	40,100	143,200	15,000	3,500

Team	FY 2020 Amended Budget	FY 2021 Department Requested	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested
892270 - Combined Sewer Overflow	-	3,033,000	-	-	-	-
892271 - Puritan-Fenkell						
Combined Sewer Overflow	374,300	149,800	230,000	235,500	95,000	990,000
892272 - 7 Mile						
Combined Sewer Overflow	451,800	5,100	131,000	35,000	60,000	1,256,400
892273 - Hubbell-Southfield						
Combined Sewer Overflow	180,000	110,000	260,000	110,000	2,710,000	110,000
892274 - Leib						
Combined Sewer Overflow	220,000	462,000	302,000	197,500	42,000	42,000
892275 - St. Aubin						
Combined Sewer Overflow	33,000	281,000	152,000	827,400	18,000	68,000
892276 - Conner Creek						
Combined Sewer Overflow	140,000	325,000	275,000	573,000	285,000	6,140,000
892277 - Baby Creek						
Combined Sewer Overflow	424,200	307,000	222,000	324,800	229,000	234,000
892278 - Oakwood						
Combined Sewer Overflow	385,000	150,000	95,000	332,000	1,095,000	95,000
892301 - Systems Operations Control	1,375,000	1,475,000	1,125,000	1,475,000	1,375,000	1,375,000
892421 - Facility Operations	62,500	62,500	62,500	62,500	62,500	62,500
892422 - Fleet Operations	520,100	1,036,300	1,362,600	1,461,300	1,000,000	1,470,000
893331- Info Technology Infrastructure	1,000,000	1,000,000	1,000,000	-	-	-
893351- Info Technology						
Business Applications	2,750,000	2,750,000	2,750,000	-	-	-
896101 - Systems Planning	168,000	-	-	-	-	-
896201 - Asset Mangement	55,000	-	-	-	-	-
896401 - Systems Analytics	1,745,300	1,740,000	1,061,000	1,045,500	1,045,000	-
896601 - Capital Improvement Planning	57,500	-	-	-	13,000	-
Grand Total	\$ 37,424,400	\$ 45,684,700	\$ 37,414,700	\$ 21,922,900	\$ 23,255,600	\$ 26,313,300

Financial Plan Calendar

FY 2021 and 2022 Biennial Budget & Five-Year Financial Planning Cycle

The Great Lakes Water Authority (GLWA) Financial Planning Cycle includes:

1. FY 2021 and 2022 Biennial Budget
2. FY 2021 through FY 2025 Five-Year Financial Plan
3. FY 2021 through FY 2025 Five-Year Capital Improvement Plan
4. FY 2021 Schedule of Revenues and Charges

The schedule below reflects planning for the comprehensive GLWA Financial Plan.

Date	Activity
Friday, August 30, 2019	Internal – Deadline for Cost Center Budget Request
Thursday, October 17, 2019	Charges Rollout Meeting #1 – Water & Sewer Capital Improvement Plan Update
Thursday, November 21, 2019	Charges Rollout Meeting #2 – Units of Service Update
Sunday, December 1, 2019	GLWA and DWSD (City) - Exchange shared services to be provided and related costs (Shared Services Agreement 5.4)
Thursday, December 19, 2019	GLWA Audit Committee Meeting – Revenue Requirement Status Report
Wednesday, January 1, 2020	DWSD – Preliminary two-year budget forecast including key assumptions and impact statement due to GLWA (Water and Sewer Services Agreement 5.3a)
Wednesday, January 8, 2020	GLWA Board Workshop – Review of Proposed FY 2021 and 2022 Biennial Budget (Revenue Requirement) and Five-Year Financial Plan
Thursday, January 9, 2020	Charges Rollout Meeting #3 – Proposed FY 2021 Revenue Requirement
Friday, January 17, 2020 (rescheduled) January 24, 2020	GLWA Audit Committee Meeting – Regular Meeting
Wednesday, January 22, 2020	GLWA Board Meeting – Status Report FY 2021 Service Charges, FY 2021 and 2022 Biennial Budget (Revenue Requirement) and Five-Year Financial Plan
Thursday, January 23, 2020	Charges Rollout Meeting #4 – Proposed FY 2021 Service Charges

Friday, January 24, 2020	Publish notice of the hearing by publication in a newspaper of general circulation (B)
Friday, January 24, 2020	Mail Notice to Member Partners of Public Hearing to be held on February 26, 2020 (minimum 30 days prior to Act 279 Public Hearing) (D)
Saturday, February 1, 2020	DWSD – Current capital improvement plan due to GLWA (Water and Sewer Services Agreement 5.3d(i))
Wednesday, February 26, 2020	GLWA Board Meeting – Public Hearing FY 2021 & FY 2022 Biennial Budget (A)
Wednesday, February 26, 2020	GLWA Board Meeting – Public Hearing FY 2021 Schedule of Revenues and Charges (Act 279, minimum 120 days before effective date) (C)
Wednesday, February 26, 2020	GLWA Board Meeting – Proposed Approval of the FY 2021 & FY 2022 Biennial Budget (A)
Wednesday, February 26, 2019	GLWA Board Meeting – Proposed Approval of FY 2021–2025 Capital Improvement Plan
Wednesday, February 26, 2020	GLWA Board Meeting – Public Hearing & Proposed Approval of FY 2021 Schedule of Revenues and Charges (Act 279, minimum 120 days before effective date) (C)
Monday, March 2, 2020	Mail Notice to Member Partners of Approved Charges
Monday, March 23, 2020	DWSD – Local system adopted biennial budget due to GLWA (Water and Sewer Services Agreement 5.3b)
Friday, May 1, 2020	DWSD – Local system provides direction to GLWA on how to apply lease payment (Water and Sewer Services Agreement 4.3)
Wednesday, July 1, 2020	GLWA – Effective date of FY 2020 and 2021 Biennial Budget, FY 2020 Schedule of Charges, and FY 2020-2024 Capital Improvement Plan

(A) thru (D) - The above schedule is designed to meet applicable statutory and contractual requirements with excerpts shown below.

- A. **Uniform Budgeting and Accounting Act, Act 2 of 1968, Section 141.434**, “Before final passage of a general appropriations act by the legislative body, a public hearing shall be held as required by 1963 (2nd Ex Sess) PA 43, MCL 141.411 to 141.415, and the open meetings act, 1976 PA 267, MCL 15.261 to 15.275.” (For purposes of Public Act 2, the GLWA Board is the legislative body.)

- B. **Budget Hearings of Local Governments, Act 43 of 1963 (2nd Ex. Sess.), Section 141.412**, “The local unit shall give notice of the hearing by publication in a newspaper of general circulation within the local unit at least 6 days before the hearing.” (For purposes of Public Act 2, the GLWA Board is a local unit.)
- C. **Home Rule City Act, Act 279 of 1909, Section 117.5e**, “Municipal water or sewage system; annual audit; public hearing before proposed rate increase. A municipal water or sewage system established by a city incorporated under this act which serves more than 40% of the population of the state shall:(b) Hold at least 1 public hearing at least 120 days before a proposed rate increase is scheduled to take effect. Each hearing shall be conducted in compliance with Act No. 267 of the Public Acts of 1976, being sections 15.261 to 15.275 of the Michigan Compiled Laws. Notice of the time, date, and place of each hearing shall be given in the manner required by Act No. 267 of the Public Acts of 1976, shall be prominently printed in a daily newspaper of general circulation within the area, and shall be mailed to each city, village, or township served by the system not less than 30 days before each hearing. A final vote by the governing body of the city to implement a proposed rate increase shall not be taken until the hearings provided for in this subdivision are concluded and the results of those hearings are considered by the city's governing body.” (Emphasis added)

It should be noted that the Home Rule City Act does not apply to GLWA. It is relevant to GLWA’s planning cycle, however, as it is referenced in the *Wholesale Customer Model Water Contract* as noted below.

- D. **GLWA Wholesale Customer Model Water Contract Section 7.02** provides: “Notification of Rates. As soon as possible in the ratemaking process, the Board shall provide information on proposed rates and the draft data and information used in the calculation of proposed rates in a format that will enable Customer to assist in the ratemaking process. Not less than thirty calendar days prior to the hearing required by Act 279, the Board shall provide Customer with written notice of a proposed rate and the underlying data used to calculate the rate. The Board shall meet with Customer to review the rate and the data.” (Emphasis added; Act 279 is the Home Rule City Act noted above.)

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MEMORANDUM

Preliminary Proposed FY 2021 Budget/Charges
Executive Summary

January 20, 2020

To: Nicolette Bateson

From: Bart Foster

This memorandum is intended to provide an executive summary introduction of our preliminary proposed water and sewer service charges for FY 2021. The preliminary proposed service charges are designed to support the proposed FY 2021 GLWA proposed budgets based on cost of service principles. We'll first address the proposed budget, then introduce a summary of the preliminary proposed service charges.

Preliminary Proposed FY 2021 Budget

Our observations and understanding of the proposed budgets is set forth in a memorandum dated December 17, 2019. With minor exceptions noted herein, those budgets have not changed. The overall FY 2021 Water BUDGET (Revenue Requirement) reflects an increase of 1.1 percent compared to FY 2020. The increase in the FY 2021 Sewer BUDGET reflects an increase of 2.5%, which is 0.5% lower than the preliminary budget in order to address feedback received during the review process.

The debt service revenue requirement for both the Water and Sewer Systems in the original budget reflected anticipated savings associated with the upcoming bond refinancing transactions. The presentation of that preliminary budget indicated GLWA's commitment to maintain the "top line" BUDGET amounts irrespective of the refinancing results. In other words, if the transactions did not produce the anticipated savings, GLWA would simply balance the budget by reducing the "bottom line" revenue requirement – the deposit to the Improvement and Extension ("I&E") Fund – and not adjusting charges to Member Partners. Similarly, if the transactions produced greater than anticipated savings, the "bottom line" deposit would be adjusted accordingly without adjusting the charges.

Subsequently, discussions with advisors and stakeholders has indicated that it would be more appropriate to prepare initial budget documents that do not anticipate the refinancing savings, but to be prepared to reflect those savings via a budget amendment when they occur. The overall financial plan still anticipates the savings, and the commitment to maintain the "top line" remains the same. However the presentation of the individual elements is slightly different than in the original document.

Also, as part of the initial planning for the refinancing transactions purposes it became apparent the originally estimated potential debt service savings for the Sewer System may have been conservative. As such, our analysis assumes that GLWA will formally reduced the overall BUDGET increase for Sewer from 3.0% to 2.5%.

The resulting BUDGETs used to establish the proposed FY 2021 Charges are summarized below.

	Water System				Sewer System				Total GLWA			
	FY 2020	FY 2021	Variance	% Variance	FY 2020	FY 2021	Variance	% Variance	FY 2020	FY 2021	Variance	% Variance
Annual BUDGET												
Operation and Maintenance Expense	131.5	137.1	5.6	4.3%	187.1	184.9	(2.1)	-1.1%	318.5	322.1	3.5	1.1%
Debt Service	137.6	143.6	6.0	4.4%	215.7	209.7	(6.0)	-2.8%	353.3	353.3	0.0	0.0%
Master Bond Ordinance ("MBO") Commitments	36.5	36.5	(0.0)	-0.1%	52.3	52.4	0.0	0.1%	88.9	88.9	0.0	0.0%
Deposit to I&E (and other reserve) Funds	34.1	26.2	(7.9)	-23.1%	25.5	45.5	20.1	78.9%	59.6	71.8	12.2	20.5%
Total BUDGET	339.7	343.4	3.7	1.1%	480.6	492.6	12.0	2.5%	820.3	836.0	15.8	1.9%

Preliminary Proposed FY 2021 Service Charges

Our proposed FY 2021 Water and Sewer Service Charges for GLWA have been developed to align with desires expressed by Member Partners: Service Charges that embrace core principles of **simplicity** and **stability**. As we were finalizing our analyses to support a cost of service study in support of proposed FY 2021 Service Charges, we recognized several dynamics that are somewhat unique to the FY 2021 planning period:

- The current (FY 2020) Water and Sewer Service Charges were computed via a detailed cost of service study applied to the FY 2020 BUDGET (Revenue Requirements);
- The overall FY 2021 BUDGET reflects minor changes from FY 2020 in total, and the specifics of GLWA business area budgets are not materially different;
 - *Not likely that cost pool allocations would vary materially if finalized for FY 2021*
- FY 2021 Units of Service are virtually unchanged from those used to compute the FY 2020 Charges;
 - *Only one Water Member Partner (Bruce Township) has a revised Exhibit B demand;*
 - *Estimates of non revenue water and peak demand use for Non Master Metered Water Customers are unchanged from the phase 2 Units of Service ("UoS") study prepared by Black & Veatch, which were used for FY 2020 Charges;*
 - *Sewer SHARES are unchanged from FY 2020 Charges*
- Producing Water and Sewer Service Charges that precisely align with a Cost of Service Study for FY 2021 would not produce results that vary materially from an "average" charge adjustment for any Member Partner;
 - *All charge adjustments would be clustered around the average;*

- This stability opportunity for FY 2021 is not likely to be long lasting;
 - Sewer SHARES are anticipated to be adjusted for FY 2022 via adjustments to the “Sewer Charge Methodology Review” project and related discussions;
 - GLWA is embarking on a “Water Charge Methodology Review” which may introduce material changes as soon as FY 2022¹;

Given these unique circumstances, we believe that a simplified approach to calculating FY 2021 Service Charges is in order. We are proposing that GLWA increase ALL (with the necessary caveats noted herein) Service Charges “across the board” by 3.5% - the amount required to produce revenues that meet revenue requirements of the FY 2021 BUDGET.

We note that there is recent precedence for this general approach. The FY 2014 Sewer Service Charges for the Suburban Wholesale Customer Class were increased “across the board” by 3.7%. Both the FY 2014 and the FY 2015 Water Service Charges grouped Member Partners into two classes. The “Mods” class contained those Member Partners that modified the terms of their Exhibit B contract demands. Charges for these Member Partners reflected the results of the detailed cost of service study on their individual demands. All Member Partners that did not modify their demands were treated uniformly as the “No Mods” class, and received the uniform class average charge adjustment.

Our proposed FY 2021 Water and Sewer Service Charges follow that same general philosophy and approach. There are a few special considerations that must be accommodated to execute the strategy for both the Water and Sewer Service Charges. Specifically, the one Member Partner that modified its units of service should be treated accordingly, and the 3.5% “across the board” adjustment needs to be applied to the full “gross” wholesale revenue requirement for Member Partners that have special contract arrangements. The calculations of the Water and Sewer Service Charges are set forth in the attached exhibits and summarized below.

Water Service Charges are summarized on Exhibit Page 1.

1. Bruce Township is treated as a “Mod” Member Partner in a manner that reflects the units of service indicated by their updated Exhibit B Demands. Our analyses indicate that their charges would be reduced by 1.0% as a result, and their proposed FY 2021 Water Service Charges reflect that premise. *See Line 2.*
2. The 3.5% “across the board” adjustment is applied to the full “gross” wholesale revenue requirement for Detroit, prior to the \$20.7 million ownership benefit adjustment. *See Lines 10 through 12.*
3. The 3.5% “across the board” adjustment is applied to the full “gross” wholesale revenue requirement for Flint, prior to the \$6.65 million KWA debt service adjustment. *See Lines 13 through 15.*

¹ At the very least, we know that some change will occur once the existing methodology for distance factor units of service is recalculated to remove the Northeast Water Plant.

4. Revenue requirements for all other Member Partners are increased uniformly by applying the 3.5% “across the board” adjustment to the proforma revenues associated with the current (FY 2020) Water Service Charges. *See Line 1.*
5. This approach results in projected revenues from Water Service Charges that fully recover the budgeted revenue requirements, with a minor positive variance of \$9,100. *See Line 8.* We suggest that the budgeted investment income be modified by that amount to result in a fully balanced BUDGET.

Calculations of Water Service Charges for each individual Member Partner are set forth on Exhibit Pages 3 through 6. The Water Service Charges continue to be designed to recover 60% of the allocated revenue requirements from fixed monthly charges, and the remaining 40% from commodity charges. In effect, both charge elements are increased uniformly by the 3.5% “across the board” adjustment.

Sewer Service Charges are summarized on Exhibit Page 2. In order to execute the uniform adjustment strategy it is necessary to separate the “bad debt recovery” element in the suburban wholesale service charges from the amounts related to the budgeted wholesale revenue requirements.

1. The 3.5% “across the board” adjustment is applied to the “common to all” wholesale revenue requirement for OMID. The OMID specific revenue requirement responsibility is set by contract. *See Lines 11 through 13.*
2. The 3.5% “across the board” adjustment is applied to the full “gross” wholesale revenue requirement for Detroit, prior to the \$5.5 million ownership benefit adjustment. *See Lines 14 through 16.*
3. Wholesale revenue requirements for all other Member Partners are increased uniformly by applying the 3.5% “across the board” adjustment to the proforma revenues associated with the current (FY 2020) Sewer Service Charges. *See Line 1.*
4. The bad debt recovery element of the current Sewer Service Charges is treated separately. The current charges include additional amounts for all suburban wholesale Member Partners designed to recover \$2.26 million related to prospective FY 2020 Highland Park bad debt expense. The proposed FY 2021 charges have been calculated to eliminate this amount, as discussed under separate cover². *See Columns 2 and 7.*
5. This approach results in projected revenues from Sewer Service Charges that fully recover the budgeted revenue requirements, with a minor negative variance of \$18,300. *See Line 9.* We suggest that the budgeted investment income be modified by that amount to result in a fully balanced BUDGET.

² See “Highland Park Bad Debt Expense Review” attached at the end of this document.

Calculations of Sewer Service Charges for each individual Member Partner are set forth on Exhibit Page 7. The Sewer Service Charges continue to be consist entirely of fixed monthly charges. The charges are separated into “budget” recovery and “bad debt” recovery for suburban wholesale Member Partners. The budget charge element for Member Partners without contract adjustments reflects the 3.5% “across the board” adjustment. The elimination of the bad debt recovery element for FY 2021 results in a reduction of 0.9% from that amount for the Suburban Wholesale class.

Proposed Industrial Waste Control Charges and Industrial Surcharges also reflect the uniform 3.5% “across the board” adjustment. See Exhibit Page 8.

We continue diligent review of the proposed charges and preparation of additional materials to present our findings. We are prepared to discuss this matter at your convenience.

FY 2021 Water Supply System Wholesale Service Charges
Calculation of "Across the Board" Charge Adjustments for "Mod" and "No Mod" Member Partners

	(1)	(2)	(3)	(4)	(5)
	Proforma Revenue Existing Charges \$	"No Mod" Across the Board Chg Adj 3.50%	Effective Across the Board Chg Adj \$	Revenue Req'd from Proposed Charges \$	Effective Charge Adjustment
			(1) * (2)	(1) + (3)	(3) / (1)
1 "No Mod" Member Partners w/o Contract Adjs	301,307,400	3.50%	10,545,800	311,853,200	3.5%
2 "Mod" Member Partners with Contract Adjs	323,600	-1.0%	(3,300)	320,300	-1.0%
3 "Net" from Member Partners with Adjs (a)	25,755,200		1,858,700	27,613,900	7.2%
4 Total System	327,386,200		12,401,200	339,787,400	3.8%
5 less: Bad Debt Expense	(1,171,200)		(41,000)	(1,212,200)	3.5%
6 Adjusted System Revenue from Charges	326,215,000		12,360,200	338,575,200	3.8%
7 Revenues Required from Charges				338,566,100	
8 Revenue Requirement Recovery - \$				9,100	
9 Revenue Requirement Recovery - %				100.0%	
<u>(a) Adjusted Member Partner Detail</u>					
10 Detroit "Gross" Revenues	41,995,500	3.50%	1,469,800	43,465,300	3.5%
11 less: Ownership Benefit Credit	(20,700,000)		0	(20,700,000)	0.0%
12 Detroit "Net" Revenue Requirement	21,295,500		1,469,800	22,765,300	6.9%
13 Flint "Gross" Revenues	11,111,900	3.50%	388,900	11,500,800	3.5%
14 less: KWA Debt Service Credit	(6,652,200)		0	(6,652,200)	0.0%
15 Flint "Net" Revenue Requirement	4,459,700		388,900	4,848,600	8.7%
16 Combined "Gross" Revenues	53,107,400		1,858,700	54,966,100	3.5%
17 less: Combined Credit	(27,352,200)		0	(27,352,200)	0.0%
18 Combined "Net" Revenues	25,755,200		1,858,700	27,613,900	7.2%

FY 2021 Sewage Disposal System Wholesale Service Charges
 Calculation of "Across the Board" Charge Adjustments Reflecting Member Partner Contract Adjustments

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Proforma Revenue - Existing Charges			Across the Board	Revenue from Charge Adjustments			Proforma Revenue - Proposed Charges			Effective Charge Adjustment		
	FY 2020	Bad Debt			FY 2021	Bad Debt		FY 2021	Bad Debt		FY 2021	Bad Debt	
	BUDGET	Recovery	Total	Chg Adj	BUDGET	Recovery	Total	BUDGET	Recovery	Total	BUDGET	Recovery	Total
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
				3.50%		0							
1 Member Partners w/o Contract Adjs	197,072,400	1,759,200	198,831,600	3.50%	6,897,500	0	6,897,500	203,969,900		203,969,900	3.5%	0.9%	2.6%
2 "Net" from Member Partners with Adjs (a)	261,064,100	501,600	261,565,700	0.2%	9,079,000	0	9,079,000	270,143,100		270,143,100	3.5%	0.2%	3.3%
3 Total System	458,136,500	2,260,800	460,397,300	0.5%	15,976,500	0	15,976,500	474,113,000	0	474,113,000	3.5%	0.5%	3.0%
4 less: Bad Debt Expense	(2,260,800)		(2,260,800)	0.0%	0		0	(1,310,000)	0	(1,310,000)	-42.1%	0.0%	-42.1%
5 Subtotal Member Partner Charge Revenue	455,875,700	2,260,800	458,136,500		15,976,500	0	15,976,500	472,803,000	0	472,803,000	3.7%	0.5%	3.2%
6 Industrial Specific Charges	13,729,300		13,729,300	3.50%	480,500		480,500	14,209,800	0	14,209,800	3.5%	0.0%	3.5%
7 Adjusted System Revenue from Charges	469,605,000	2,260,800	471,865,800	0.5%	16,457,000	0	16,457,000	487,012,800	0	487,012,800	3.7%	0.5%	3.2%
8 Revenues Required from Charges										487,031,100			
9 Revenue Requirement Recovery - \$										(18,300)			
10 Revenue Requirement Recovery - %										100.00%			
<u>(a) Adjusted Member Partner Detail</u>													
11 OMID "CTA" Revenues	67,205,400	501,600	67,707,000	3.50%	2,352,200	0	2,352,200	69,557,600		69,557,600	3.5%	0.8%	2.7%
12 plus: OMID Specific	8,051,400	0	8,051,400		30,500	0	30,500	8,081,900		8,081,900	0.4%	0.0%	0.4%
13 Total OMID Revenues	75,256,800	501,600	75,758,400		2,382,700	0	2,382,700	77,639,500		77,639,500	3.2%	0.7%	2.5%
14 Detroit "Gross" Revenues	191,323,300		191,323,300	3.50%	6,696,300		6,696,300	198,019,600		198,019,600	3.5%	0.0%	3.5%
15 less: Ownership Benefit Credit	(5,516,000)		(5,516,000)		0		0	(5,516,000)		(5,516,000)	0.0%	0.0%	0.0%
16 Detroit "Net" Revenue Requirement	185,807,300		185,807,300		6,696,300		6,696,300	192,503,600		192,503,600	3.6%	0.0%	3.6%
17 Combined Adjusted Charge Revenue	261,064,100	501,600	261,565,700		9,079,000	0	9,079,000	270,143,100		270,143,100			

FY 2021 Water Supply System Wholesale Service Charges
Calculation of "Across the Board" Charge Adjustments for "Mod" and "No Mod" Member Partners

	(1)	(2)	(3)	(4)	(5)	(6)	(7) (8) (9) (10)				
	Proforma Revenue Existing Charges	"No Mod" Across the Board Chg Adj	Effective Across the Board Chg Adj	Revenue Req'd from Proposed Charges	Projected Sales Volume	Effective Unit Cost	Charge Design				
	\$	3.50%	\$	\$	Mcf	\$/Mcf	Recover Via Monthly Charges	Commodity Charges	Fixed Monthly Charges	Commodity Charges	
			(1) * (2)	(1) + (3)		(4) / (5)	60%	40%	\$	\$/Mcf	
							~ (4) *	~ (4)	(7) / 12	(8) / (5)	
1	Allen Park	2,377,000	3.5%	83,200	2,460,200	125,500	19.60	1,476,000	984,200	123,000	7.84
2	Almont Village	237,100	3.5%	8,300	245,400	9,300	26.39	147,600	97,800	12,300	10.52
3	Ash Township	823,600	3.5%	28,800	852,400	41,000	20.79	511,200	341,200	42,600	8.32
4	Belleville	310,700	3.5%	10,900	321,600	13,100	24.55	193,200	128,400	16,100	9.80
5	Berlin Township	727,000	3.5%	25,400	752,400	26,300	28.61	451,200	301,200	37,600	11.45
6	Brownstown Township	3,639,500	3.5%	127,400	3,766,900	138,600	27.18	2,259,600	1,507,300	188,300	10.88
7	Bruce Twp	323,600	-1.0%	(3,300)	320,300	1,870	171.28	192,000	128,300	16,000	68.61
8	Canton Township	10,244,800	3.5%	358,600	10,603,400	346,700	30.58	6,362,400	4,241,000	530,200	12.23
9	Center Line	464,700	3.5%	16,300	481,000	30,800	15.62	289,200	191,800	24,100	6.23
10	Chesterfield Township	4,225,400	3.5%	147,900	4,373,300	168,600	25.94	2,624,400	1,748,900	218,700	10.37
11	Clinton Township	7,574,200	3.5%	265,100	7,839,300	400,300	19.58	4,704,000	3,135,300	392,000	7.83
12	Commerce Township	3,561,600	3.5%	124,700	3,686,300	101,200	36.43	2,211,600	1,474,700	184,300	14.57
13	Dearborn	10,483,300	3.5%	366,900	10,850,200	596,700	18.18	6,510,000	4,340,200	542,500	7.27
14	Dearborn Heights	3,673,100	3.5%	128,600	3,801,700	196,500	19.35	2,281,200	1,520,500	190,100	7.74
15	Eastpointe	1,564,800	3.5%	54,800	1,619,600	104,800	15.45	972,000	647,600	81,000	6.18
16	Ecorse	1,529,800	3.5%	53,500	1,583,300	146,300	10.82	950,400	632,900	79,200	4.33
17	Farmington	1,015,600	3.5%	35,500	1,051,100	45,300	23.20	631,200	419,900	52,600	9.27
18	Farmington Hills	8,950,400	3.5%	313,300	9,263,700	361,700	25.61	5,558,400	3,705,300	463,200	10.24
19	Ferndale	1,014,600	3.5%	35,500	1,050,100	67,400	15.58	630,000	420,100	52,500	6.23
20	Flat Rock	1,369,300	3.5%	47,900	1,417,200	61,500	23.04	850,800	566,400	70,900	9.21
21	Flint (a) - Gross, prior to credit	11,111,900	3.5%	388,900	11,500,800	522,600	22.01	6,900,000	4,600,800	575,000	8.80
22	Fraser	1,226,200	3.5%	42,900	1,269,100	59,300	21.40	762,000	507,100	63,500	8.55
23	Garden City	1,706,300	3.5%	59,700	1,766,000	84,700	20.85	1,059,600	706,400	88,300	8.34
24	Gibraltar	335,700	3.5%	11,700	347,400	16,600	20.93	208,800	138,600	17,400	8.35
25	Grosse Ile Township	1,113,300	3.5%	39,000	1,152,300	39,400	29.25	691,200	461,100	57,600	11.70
26	Grosse Pt. Park	1,488,500	3.5%	52,100	1,540,600	55,500	27.76	924,000	616,600	77,000	11.11
27	Grosse Pt. Shores	657,700	3.5%	23,000	680,700	19,900	34.21	408,000	272,700	34,000	13.70
28	Grosse Pt. Woods	1,431,500	3.5%	50,100	1,481,600	64,600	22.93	889,200	592,400	74,100	9.17
29	Hamtramck	793,400	3.5%	27,800	821,200	60,600	13.55	493,200	328,000	41,100	5.41

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FY 2021 Water Supply System Wholesale Service Charges
 Calculation of "Across the Board" Charge Adjustments for "Mod" and "No Mod" Member Partners

	(1)	(2)	(3)	(4)	(5)	(6)	(7) (8) (9) (10)			
	Proforma Revenue Existing Charges	"No Mod" Across the Board Chg Adj	Effective Across the Board Chg Adj	Revenue Req'd from Proposed Charges	Projected Sales Volume	Effective Unit Cost	Charge Design		Fixed Monthly Charges	Commodity Charges
	\$	3.50%	\$	\$	Mcf	\$/Mcf	Recover Via Monthly Charges	Commodity Charges	\$	\$/Mcf
			(1) * (2)	(1) + (3)		(4) / (5)	~ (4) *	~ (4)	(7) / 12	(8) / (5)
30 Harper Woods	826,000	3.5%	28,900	854,900	50,400	16.96	512,400	342,500	42,700	6.80
31 Harrison Township	1,536,300	3.5%	53,800	1,590,100	92,800	17.13	954,000	636,100	79,500	6.85
32 Hazel Park	741,900	3.5%	26,000	767,900	51,100	15.03	460,800	307,100	38,400	6.01
33 Highland Park	1,171,200	3.5%	41,000	1,212,200	104,600	11.59	727,200	485,000	60,600	4.64
34 Huron Township	1,475,900	3.5%	51,700	1,527,600	60,300	25.33	916,800	610,800	76,400	10.13
35 Imlay City	1,449,300	3.5%	50,700	1,500,000	44,200	33.94	900,000	600,000	75,000	13.57
36 Imlay Twp	16,200	3.5%	600	16,800	180	93.33	9,600	7,200	800	40.00
37 Inkster	1,239,200	3.5%	43,400	1,282,600	93,700	13.69	769,200	513,400	64,100	5.48
38 Keego Harbor	300,500	3.5%	10,500	311,000	10,000	31.10	187,200	123,800	15,600	12.38
39 Lapeer	1,558,600	3.5%	54,600	1,613,200	54,200	29.76	968,400	644,800	80,700	11.90
40 Lenox Township	297,100	3.5%	10,400	307,500	14,900	20.64	184,800	122,700	15,400	8.23
41 Lincoln Park	2,250,400	3.5%	78,800	2,329,200	151,400	15.38	1,398,000	931,200	116,500	6.15
42 Livonia	11,549,800	3.5%	404,200	11,954,000	479,600	24.92	7,172,400	4,781,600	597,700	9.97
43 Macomb Township	12,678,900	3.5%	443,800	13,122,700	325,900	40.27	7,873,200	5,249,500	656,100	16.11
44 Madison Heights	1,929,600	3.5%	67,500	1,997,100	116,600	17.13	1,198,800	798,300	99,900	6.85
45 Mayfield Twp	48,000	3.5%	1,700	49,700	840	59.17	30,000	19,700	2,500	23.45
46 Melvindale	651,500	3.5%	22,800	674,300	43,000	15.68	404,400	269,900	33,700	6.28
47 New Haven, Village of	397,900	3.5%	13,900	411,800	24,300	16.95	247,200	164,600	20,600	6.77
48 N O C W A	22,205,600	3.5%	777,200	22,982,800	895,500	25.66	13,789,200	9,193,600	1,149,100	10.27
49 Northville	895,400	3.5%	31,300	926,700	31,500	29.42	555,600	371,100	46,300	11.78
50 Northville Township	5,633,200	3.5%	197,200	5,830,400	136,900	42.59	3,498,000	2,332,400	291,500	17.04
51 Novi	9,102,700	3.5%	318,600	9,421,300	295,500	31.88	5,653,200	3,768,100	471,100	12.75
52 Oak Park	1,391,800	3.5%	48,700	1,440,500	95,100	15.15	864,000	576,500	72,000	6.06
53 Oakland Co. Drain Comm.	84,300	3.5%	3,000	87,300	10,700	8.16	52,800	34,500	4,400	3.22
54 Plymouth	1,078,000	3.5%	37,700	1,115,700	43,400	25.71	669,600	446,100	55,800	10.28
55 Plymouth Township	4,463,900	3.5%	156,200	4,620,100	162,600	28.41	2,772,000	1,848,100	231,000	11.37
56 Redford Township	3,208,900	3.5%	112,300	3,321,200	164,400	20.20	1,993,200	1,328,000	166,100	8.08
57 River Rouge	676,400	3.5%	23,700	700,100	37,000	18.92	420,000	280,100	35,000	7.57
58 Riverview	872,900	3.5%	30,600	903,500	45,900	19.68	542,400	361,100	45,200	7.87



FY 2021 Water Supply System Wholesale Service Charges
 Calculation of "Across the Board" Charge Adjustments for "Mod" and "No Mod" Member Partners

	(1)	(2)	(3)	(4)	(5)	(6)	(7) (8)		(9)	(10)	
	Proforma Revenue Existing Charges	"No Mod" Across the Board Chg Adj	Effective Across the Board Chg Adj	Revenue Req'd from Proposed Charges	Projected Sales Volume	Effective Unit Cost	Charge Design		Fixed Monthly Charges	Commodity Charges	
	\$	3.50%	\$ (1) * (2)	\$ (1) + (3)	Mcf	\$/Mcf (4) / (5)	Recover Via Monthly Charges	Commodity Charges	\$ (7) / 12	\$/Mcf (8) / (5)	
							60%	40%			
							~ (4) *	~ (4)			
59	Rockwood	278,800	3.5%	9,800	288,600	9,900	29.15	172,800	115,800	14,400	11.70
60	Romeo	252,000	3.5%	8,800	260,800	5,700	45.75	156,000	104,800	13,000	18.39
61	Romulus	4,202,600	3.5%	147,100	4,349,700	210,500	20.66	2,610,000	1,739,700	217,500	8.26
62	Roseville	2,694,000	3.5%	94,300	2,788,300	188,000	14.83	1,672,800	1,115,500	139,400	5.93
63	Royal Oak Township	204,300	3.5%	7,200	211,500	11,800	17.92	127,200	84,300	10,600	7.14
64	S O C W A	23,162,200	3.5%	810,700	23,972,900	1,258,300	19.05	14,383,200	9,589,700	1,198,600	7.62
65	Shelby Township	14,069,000	3.5%	492,400	14,561,400	382,600	38.06	8,737,200	5,824,200	728,100	15.22
66	South Rockwood	116,100	3.5%	4,100	120,200	4,800	25.04	72,000	48,200	6,000	10.04
67	Southgate	2,224,800	3.5%	77,900	2,302,700	116,000	19.85	1,381,200	921,500	115,100	7.94
68	St. Clair County-Burtchville Twp	326,200	3.5%	11,400	337,600	7,200	46.89	202,800	134,800	16,900	18.72
69	St. Clair County-Greenwood	466,400	3.5%	16,300	482,700	15,000	32.18	289,200	193,500	24,100	12.90
70	St. Clair Shores	3,073,200	3.5%	107,600	3,180,800	189,500	16.79	1,908,000	1,272,800	159,000	6.72
71	Sterling Heights	15,243,100	3.5%	533,500	15,776,600	571,400	27.61	9,465,600	6,311,000	788,800	11.04
72	Sumpter Township	669,500	3.5%	23,400	692,900	28,600	24.23	415,200	277,700	34,600	9.71
73	Sylvan Lake	234,900	3.5%	8,200	243,100	6,400	37.98	146,400	96,700	12,200	15.11
74	Taylor	4,687,300	3.5%	164,100	4,851,400	266,600	18.20	2,911,200	1,940,200	242,600	7.28
75	Trenton	1,683,600	3.5%	58,900	1,742,500	85,600	20.36	1,045,200	697,300	87,100	8.15
76	Troy	13,606,800	3.5%	476,200	14,083,000	461,800	30.50	8,450,400	5,632,600	704,200	12.20
77	Utica	579,400	3.5%	20,300	599,700	25,600	23.43	360,000	239,700	30,000	9.36
78	Van Buren Township	3,440,100	3.5%	120,400	3,560,500	127,200	27.99	2,136,000	1,424,500	178,000	11.20
79	Walled Lake	809,200	3.5%	28,300	837,500	31,300	26.76	502,800	334,700	41,900	10.69
80	Warren	10,291,200	3.5%	360,200	10,651,400	615,200	17.31	6,391,200	4,260,200	532,600	6.92
81	Washington Township	2,269,100	3.5%	79,400	2,348,500	74,800	31.40	1,408,800	939,700	117,400	12.56
82	Wayne	3,097,800	3.5%	108,400	3,206,200	95,400	33.61	1,923,600	1,282,600	160,300	13.44
83	West Bloomfield Township	10,447,200	3.5%	365,700	10,812,900	264,200	40.93	6,487,200	4,325,700	540,600	16.37
84	Westland	6,245,700	3.5%	218,600	6,464,300	330,000	19.59	3,878,400	2,585,900	323,200	7.84
85	Wixom	2,477,200	3.5%	86,700	2,563,900	74,300	34.51	1,538,400	1,025,500	128,200	13.80
86	Woodhaven	1,683,000	3.5%	58,900	1,741,900	58,200	29.93	1,045,200	696,700	87,100	11.97
87	Ypsilanti Comm Util Auth	10,502,200	3.5%	367,600	10,869,800	493,800	22.01	6,522,000	4,347,800	543,500	8.80



FY 2021 Water Supply System Wholesale Service Charges
Calculation of "Across the Board" Charge Adjustments for "Mod" and "No Mod" Member Partners

	(1)	(2)	(3)	(4)	(5)	(6)	(7) (8) (9) (10)				
	Proforma Revenue Existing Charges	"No Mod" Across the Board Chg Adj	Effective Across the Board Chg Adj	Revenue Req'd from Proposed Charges	Projected Sales Volume	Effective Unit Cost	Charge Design		Monthly Charges	Fixed Monthly Charges	Commodity Charges
	\$	3.50%	\$	\$	Mcf	\$/Mcf	Recover Via	Monthly Charges	Commodity Charges	Monthly Charges	Commodity Charges
			(1) * (2)	(1) + (3)		(4) / (5)	~ (4) *	~ (4)	(7) / 12	(8) / (5)	
88	Total Suburban Wholesale Billed Revenue	312,742,900	3.5%	10,931,700	323,674,600	13,552,890	23.88	194,206,800	129,467,800	16,183,900	9.55
89	Detroit Customers (a) - Gross, prior to credit	41,995,500	3.5%	1,469,800	43,465,300	4,339,100	10.02	43,465,300		3,622,100	
90	Total (a) - Gross, prior to credits	354,738,400	3.5%	12,401,500	367,139,900	17,891,990	20.52	237,672,100	129,467,800	19,806,000	
91	less: KWA Debt Svc Credit to Flint	(6,652,200)	0.0%	0	(6,652,200)			(6,652,200)		(554,400)	
92	less: Ownership Adj Credit to Detroit	(20,700,000)	0.0%	0	(20,700,000)			(20,700,000)		(1,725,000)	
93	less: Bad Debt Expense	(1,171,200)	3.5%	(41,000)	(1,212,200)			(1,212,200)		(101,000)	
94	Adjusted System Revenue	326,215,000	3.8%	12,360,500	338,575,500	17,891,990	18.92	209,107,700	129,467,800	17,425,600	
95	Suburban Wholesale Revenue	312,742,900	3.5%	10,931,700	323,674,600	13,552,890	23.88	194,206,800	129,467,800	16,183,900	
96	less: KWA Debt Svc Credit to Flint	(6,652,200)	0.0%	0	(6,652,200)			(6,652,200)		(554,400)	
96	less: Bad Debt Expense	(1,171,200)	3.5%	(41,000)	(1,212,200)			(1,212,200)		(101,000)	
97	Net Suburban Wholesale Revenue	304,919,500	3.6%	10,890,700	315,810,200	13,552,890	23.30	186,342,400	129,467,800	15,528,500	
	<u>(a) Flint / Detroit Adjusted Impacts</u>										
98	Flint "Gross" Revenues	11,111,900	3.5%	388,900	11,500,800	522,600	22.01	6,900,000	4,600,800	575,000	8.80
99	less: KWA Debt Service Credit	(6,652,200)		0	(6,652,200)	522,600	(12.73)	(6,652,200)		(554,400)	0.00
100	Flint "Net" Revenue Requirement	4,459,700	8.7%	388,900	4,848,600	522,600	9.28	247,800	4,600,800	20,600	8.80
101	Detroit "Gross" Revenues	41,995,500	3.5%	1,469,800	43,465,300	4,339,100	10.02	43,465,300		3,622,100	
102	less: Ownership Benefit Credit	(20,700,000)		0	(20,700,000)	4,339,100	(4.77)	(20,700,000)		(1,725,000)	
103	Detroit "Net" Revenue Requirement	21,295,500	6.9%	1,469,800	22,765,300	4,339,100	5.25	22,765,300		1,897,100	

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FY 2021 Sewage Disposal System Wholesale Service Charges
 Calculation of "Across the Board" Charge Adjustments Reflecting Member Partner Contract Adjustments

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Proforma Revenue - Existing Charges			Across the Board	Revenue from Charge Adjustments			Proforma Revenue - Proposed Charges			Effective Charge Adjustment		
	FY 2020 BUDGET	Bad Debt Recovery	Total	Chg Adj	FY 2021 BUDGET	Bad Debt Recovery	Total	FY 2021 BUDGET	Bad Debt Recovery	Total	FY 2021 BUDGET	Bad Debt Recovery	Total
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
				3.50%		0							
<u>Suburban Wholesale</u>													
1 OMID	75,256,800	501,600	75,758,400		2,382,700	0	2,382,700	77,639,500		77,639,500	3.2%	0.7%	2.5%
2 Rouge Valley	53,702,400	459,600	54,162,000	3.50%	1,879,600	0	1,879,600	55,582,000		55,582,000	3.5%	0.9%	2.6%
3 Oakland GWK	44,842,800	421,200	45,264,000	3.50%	1,569,500	0	1,569,500	46,412,300		46,412,300	3.5%	1.0%	2.5%
4 Evergreen Farmington	34,551,600	288,000	34,839,600	3.50%	1,209,300	0	1,209,300	35,760,900		35,760,900	3.5%	0.9%	2.6%
5 SE Macomb San Dist	24,610,800	226,800	24,837,600	3.50%	861,400	0	861,400	25,472,200		25,472,200	3.5%	0.9%	2.6%
6 Dearborn	19,320,000	182,400	19,502,400	3.50%	676,200	0	676,200	19,996,200		19,996,200	3.5%	1.0%	2.5%
7 Grosse Pointe Farms	2,726,400	24,000	2,750,400	3.50%	95,400	0	95,400	2,821,800		2,821,800	3.5%	0.9%	2.6%
8 Grosse Pointe Park	1,795,200	16,800	1,812,000	3.50%	62,800	0	62,800	1,858,000		1,858,000	3.5%	1.0%	2.5%
9 Melvindale	1,520,400	13,200	1,533,600	3.50%	53,200	0	53,200	1,573,600		1,573,600	3.5%	0.9%	2.6%
10 Farmington	1,141,200	9,600	1,150,800	3.50%	39,900	0	39,900	1,181,100		1,181,100	3.5%	0.9%	2.6%
11 Center Line	1,024,800	8,400	1,033,200	3.50%	35,900	0	35,900	1,060,700		1,060,700	3.5%	0.8%	2.7%
12 Allen Park	847,200	7,200	854,400	3.50%	29,700	0	29,700	876,900		876,900	3.5%	0.9%	2.6%
13 Highland Park	5,620,800	49,200	5,670,000	3.50%	196,700	0	196,700	5,817,500		5,817,500	3.5%	0.9%	2.6%
14 Hamtramck	3,955,200	39,600	3,994,800	3.50%	138,400	0	138,400	4,093,600		4,093,600	3.5%	1.0%	2.5%
15 Grosse Pointe	884,400	9,600	894,000	3.50%	31,000	0	31,000	915,400		915,400	3.5%	1.1%	2.4%
16 Harper Woods	217,200	2,400	219,600	3.50%	7,600	0	7,600	224,800		224,800	3.5%	1.1%	2.4%
17 Redford Township	261,600	1,200	262,800	3.50%	9,200	0	9,200	270,800		270,800	3.5%	0.5%	3.0%
18 Wayne County #3	50,400	0	50,400	3.50%	1,800	0	1,800	52,200		52,200	3.6%	0.0%	3.6%
19 Subtotal Suburban Wholesale	272,329,200	2,260,800	274,590,000		9,280,300	0	9,280,300	281,609,500	0	281,609,500	3.4%	0.9%	2.6%
20 Detroit "Gross" Revenues	191,323,300		191,323,300	3.50%	6,696,300		6,696,300	198,019,600		198,019,600	3.5%	0.0%	3.5%
21 less: Ownership Benefit	(5,516,000)		(5,516,000)		0		0	(5,516,000)		(5,516,000)	0.0%	0.0%	0.0%
22 Detroit Retail Customers (Net)	185,807,300		185,807,300		6,696,300	0	6,696,300	192,503,600		192,503,600	3.6%	0.0%	3.6%
23 SUBTOTAL	458,136,500	2,260,800	460,397,300		15,976,600	0	15,976,600	474,113,100	0	474,113,100	3.5%	0.5%	3.0%
<u>Industrial Specific Charges</u>													
24 Industrial Waste Control	8,582,300		8,582,300	3.50%	300,400	0	300,400	8,882,700		8,882,700	3.5%	0.0%	3.5%
25 Industrial Surcharges	5,147,000		5,147,000	3.50%	180,100	0	180,100	5,327,100		5,327,100	3.5%	0.0%	3.5%
26 Subtotal	13,729,300	0	13,729,300		480,500	0	480,500	14,209,800	0	14,209,800	3.5%	0.0%	3.5%
27 Total	471,865,800	2,260,800	474,126,600		16,457,100	0	16,457,100	488,322,900	0	488,322,900	3.5%	0.5%	3.0%
28 less: Bad Debt	(2,260,800)	0	(2,260,800)		0	0	0	(1,310,000)	0	(1,310,000)			
29 Total System Revenue	469,605,000	2,260,800	471,865,800		16,457,100	0	16,457,100	487,012,900	0	487,012,900	3.7%	0.5%	3.2%

FY 2021 Sewage Disposal System Industrial Specific Service Charges
Calculation of "Across the Board" Charge Adjustments

		(1)	(2)	(3)
		FY 2020 <u>Charge</u>	Across the Board <u>Chg Adj</u>	FY 2021 <u>Charge</u>
			3.50%	
<u>Industrial Waste Control Charges - \$/mo</u>				
	Meter <u>Size</u>	Equivalency <u>Ratio</u>		
	5/8	1.0	3.37	3.50%
	3/4	1.5	5.06	5.24
	1	2.5	8.43	8.73
	1-1/2	5.5	18.54	19.20
	2	8.0	26.96	27.92
	3	14.5	48.87	50.61
	4	20.0	67.40	69.80
	6	30.0	101.10	104.70
	8	50.0	168.50	174.50
	10	70.0	235.90	244.30
	12	80.0	269.60	279.20
	14	100.0	337.00	349.00
	16	120.0	404.40	418.80
	18	140.0	471.80	488.60
	20	160.0	539.20	558.40
	24	180.0	606.60	628.20
	30	200.0	674.00	698.00
	36	220.0	741.40	767.80
	48	240.0	808.80	837.60
<u>Industrial Surcharges - \$/lb</u>				
	BIOCHEMICAL OXYGEN DEMAND (BOD)			
	for concentrations > 275 mg/l		0.491	3.50%
	TOTAL SUSPENDED SOLIDS (TSS)			
	for concentrations > 350 mg/l		0.499	3.50%
	PHOSPHORUS (P)			
	for concentrations > 12 mg/l		7.354	3.50%
	FATS, OIL AND GREASE (FOG)			
	for concentrations > 100 mg/l		0.473	3.50%
	SEPTAGE DISPOSAL FEE			
	Per 500 gallons of disposal		47.00	3.50%

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MEMORANDUM

Highland Park Bad Debt Expense Review

January 15, 2020

To: Nicolette Bateson

From: Bart Foster

You have asked for observations regarding the level of Highland Park bad debt expense recognized in the FY 2018 audited financial statements, and a review of how such amounts impact charges to other GLWA Customers. The attached exhibit summarizes our initial analysis, which reflects an update of the approach we’ve been applying for several years. Herewith a brief introduction:

The year-end working papers supporting the FY 2019 audit reveal an “allowance for doubtful accounts” for Highland Park totaling approximately \$41.1 million, and a resulting FY 2019 bad debt expense of approximately \$2.3 million, as summarized below.

	<u>6/30/18</u>	<u>6/30/19</u>	<u>Change</u>
			<i>(a)</i>
Sewer	30,938,511	31,940,744	1,002,233
Sewer Industrial Waste Control <i>(b)</i>	<i>1,584,564</i>	1,679,364	<i>94,800</i>
Water	<u>6,221,815</u>	<u>7,455,747</u>	<u>1,233,932</u>
Total <i>(b)</i>	38,744,890	41,075,855	2,330,965

(a) The change in the allowance is equivalent to the bad debt expense during the fiscal year, unless any accounts receivable were written off during the year.

(b) Estimated - prior balance includes a small amount not related to Highland Park.

The table indicates the amount for the Sewer System and Water System separately, and also identifies the portion of the Sewer bad debt expense related to Industrial Waste Control (“IWC”) charges. Let’s address each the Sewer and Water elements separately in terms of how they impact charges to GLWA Customers.

Sewer

At the risk of complicating the instant discussion, some historical background is important to provide context to the discussion.

Terms of the original 1995 **Sewer** Rate Settlement Agreement between the predecessor DWSD and the Suburban Wholesale Contract Customers stipulated that any bad debt expense incurred by City of Detroit Customers would be charged to Detroit Customers, and that any bad debt expense incurred by a Suburban Wholesale Customer would be charged to all Suburban Wholesale Customers. This requirement was originally implemented by including an estimated amount for bad debt expense for the Detroit customer class in prospective charges, and then “trueing it up” via the old Look-Back process. The same approach was applied to Suburban Wholesale Customer bad debt, although originally no prospective amounts were included in charges – rather the actual amounts were recovered via the Look-Back process.

The terms of the 1995 Rate Settlement Agreement were effectively made part of the service agreements when the Federal Court oversight ended, and the bad debt true up provisions were maintained as part of the Rate Simplification Initiative adopted for the FY 2015 sewer charges. However, the old Look-Back process was discontinued as part of Rate Simplification, and the only “true-up” notion carried forward was that related to prospective and actual bad debt expense. Upon formation of GLWA, the “bad debt true up” requirement was included in the water and sewer services agreement between GLWA and the City of Detroit. That agreement also introduced additional provisions to ensure collections from the Detroit customer class, including establishment of a Budget Stabilization Fund and monitoring of actual collections compared to actual revenue requirements.

When GLWA and DWSD representatives were negotiating the 2018 Memorandum of Understanding (the “2018 MOU”) they recognized that the Budget Stabilization Fund and monthly monitoring aspects of the agreements were adequate to ensure full collections from the Detroit customer class. The parties realized that the bad debt true-up requirement served only to confuse the issue and create unnecessary volatility. The 2018 MOU eliminated that bad debt true-up aspect - as it relates to the Detroit customer class - from the agreements. However, the original true-up requirement for Suburban Wholesale bad debt expense technically remains in the service agreements with GLWA’s Suburban Wholesale Sewer Customers. Which brings us to the discussion of Highland Park sewer bad debt expense . . .

First, let’s examine the recent payment history for the Highland Park sewer charges. As shown in the table below, payment performance has improved over the past two fiscal years. After averaging 33% from FY 2013 through FY 2017, the average collection rate in FYs 2018 and 2019 was 83%.

<u>Highland Park Sewer Payment History</u>	<u>Billings</u>	<u>Payments</u>	<u>Net</u>	<u>Balance</u>	<u>Collection Rate</u>
FY 2012				10,207,956	
FY 2013	4,987,635	2,206,211	2,781,424	12,989,380	44%
FY 2014	6,980,442	1,612,633	5,367,809	18,357,189	23%
FY 2015	5,553,123	1,444,623	4,108,500	22,465,689	26%
FY 2016	5,612,167	2,022,335	3,589,832	26,055,521	36%
FY 2017	5,802,000	2,309,186	3,492,814	29,548,335	40%
FY 2018	5,657,101	4,108,108	1,548,993	31,097,328	73%
FY 2019	<u>5,642,400</u>	<u>5,241,583</u>	<u>400,817</u>	31,498,145	93%
Cumulative	40,234,868	18,944,679	21,290,189		47%
<i>FY 2013 - FY 2017</i>	<i>28,935,367</i>	<i>9,594,988</i>	<i>19,340,379</i>		<i>33%</i>
<i>FY 2018 + FY 2019</i>	<i>11,299,501</i>	<i>9,349,691</i>	<i>1,949,810</i>		<i>83%</i>

Next, a nutshell summary of the impact on Customer charges, as illustrated in the exhibit below.

	(1)	(2)	(3)	(4)	(5)	(6)
True-Up Recovery Amounts	<u>Pre-2016</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Total</u>
1 Bad Debt in Prospective Charges	0	5,569,200	5,600,000	4,390,000	2,780,000	18,339,200
2 Actual Bad Debt	17,295,300	2,975,200	2,782,200	2,100,800	1,002,200	26,155,700
3 True-Up Variance	17,295,300	(2,594,000)	(2,817,800)	(2,289,200)	(1,777,800)	7,816,500
True-Up Recovery History	Balance to Recover (<i>Ln 3</i>)	Recovered via True-Ups in:				Remaining Balance
		<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Total -> 2019</u>	
4 Pre-2016 Bad Debt "True-Up"	17,295,300	3,459,100	3,459,100	3,459,100	10,377,300	6,918,000
5 FY 2016 True-Up	(2,594,000)		(648,500)	(648,500)	(1,297,000)	(1,297,000)
6 FY 2017 True-Up	(2,817,800)			(939,300)	(939,300)	(1,878,500)
7 FY 2018 True-Up	(2,289,200)				0	(2,289,200)
8 FY 2019 True-Up	(1,777,800)				0	(1,777,800)
9 Subtotal thru 2019	7,816,500	3,459,100	2,810,600	1,871,300	8,141,000	(324,500)

- The FY 2019 Sewer bad debt expense for Highland Park was \$1.0 million compared to the \$2.78 million prospective amount included in Charges to suburban wholesale Customers; *See Lines 1 and 2, Column 5.*
- This creates a \$1.77 million “credit” due to suburban wholesale Customer related to FY 2019 activity; *See Line 3, Column 5.*
- Cumulatively since we started this approach after the old 5-year look-back was terminated, the running “true-up” total (the variance between prospective bad debt included in charges and actual bad debt experienced) is \$7.82 million; *See Line 5.*
 - This amount includes the \$17.3 million that remained at the conclusion of the old Look-Back process; *See Column 1.*
- GLWA had originally embarked on a “phased” recovery of the original amounts, designed to run through FY 2022;
- Through the end of FY 2019, \$8.14 million will have been recognized via the true up amounts included in Charges; *See Line 9, Column 5.*

- As a result of this mechanism, through FY 2019 GLWA has effectively recovered approximately \$324,500 more in charges for Highland Park bad debt expense than actual bad debt expense incurred. *See Line 9, Column 6.* This amount is technically due to suburban wholesale customers via a credit to their allocated FY 2021 revenue requirements.

Finally, let’s examine the amounts that included the current (FY 2020) Charges for this matter, and potential amounts to include in the FY 2021 Charges, as introduced below. *Please note that some of these assumptions are preliminary pending final charge calculations.*

	<u>FY 2020</u>	<u>FY 2021</u>	<u>Change</u>
		(a)	
1 Allocated Revenue Requirement	5,620,600	5,828,600	208,000
2 Assumed Collection Rate	60%	77.5%	18%
3 Projected Bad Debt Expense	2,250,000	1,310,000	(940,000)
4 Bad Debt True Up Adjustment thru FY 2019	0	(324,500)	(324,500)
5 Subtotal Bad Debt Expense Revenue Req't	2,250,000	985,500	(1,264,500)
6 <i>Relative Impact on Wholesale Charges</i>	0.83%	0.35%	-0.48%
7 <u>Potential</u> FY 2020 Collection Rate (a)	77.5%		
8 <u>Potential</u> FY 2020 Bad Debt	1,266,000		
9 <u>Potential</u> FY 2020 Bad Debt True-Up (8) - (3)	(984,000)	(984,000)	
10 Potential FY 2021 Bad Debt Expense Revenue Req't		1,500	

(a) Preliminary, subject to change during final charge development.

- The current charges are designed to recover estimated FY 2020 Highland Park bad debt expense of \$2.25 million; *See Line 3.*
- The current charges do not contain any amounts related to bad debt true up adjustments;
- Assuming a collection rate of 77.5% (*moderately lower than the recent average presented earlier*), a potential credit adjustment totaling approximately \$984,000 **could** occur for FY 2020; *See Line 9.*
- At that same assumed collection rate, it would be appropriate to include projected FY 2021 bad debt expense of \$1.31 million in the FY 2021 Charges; *See Line 3.*
- Together with the \$324,500 (*see Line 4*) bad debt true up credit introduced earlier, this combination of assumptions results in a net FY 2021 “bad debt revenue requirement” of \$1,500; *See Line 10.*
- To the extent these assumptions are validated via final charge development, I would recommend not including **any** bad debt (projected nor true-up) in the FY 2021 Charges.

If accepted, these recommendations would eliminate the \$2.25 million charged to Suburban Wholesale Sewer Customers related to Highland Park prospective and true-up bad debt from

the preliminary FY 2021 Charges. This would have the effect of offsetting approximately 0.8% of the preliminary 3.7% charge increase.

One final comment - given the apparent historical balance in bad debt “true ups”, and the fact that the original “true-up” notion has been removed from the agreement with the Detroit customer class, it would seem to be reasonable to revisit the application of the true-up concept for Suburban Wholesale bad debt expense.

Water

There are not any contractual nor other agreements on how bad debt expense related to water service to Highland Park should be treated. Starting with the FY 2017 Water service charges, we began effectively increasing charges to ALL Customers (including Detroit) by amounts equivalent to Highland Park’s allocated revenue requirement. This approach recognized an assumption that the entire amount of billings for water service to Highland Park would go unpaid. The FY 2019 Water bad debt expense for Highland Park was \$1.23 million, which was consistent with the amount we included in the FY 2019 charges. The FY 2021 Water Charges will include the entire revenue requirement allocated to Highland Park as a “bad debt revenue requirement” allocable to all customers, including Highland Park.

We are prepared to discuss this matter at your convenience.



Proposed FY 2021 Water Service Charges

*Board of Directors
Meeting
January 22, 2020*



GLWA
Great Lakes Water Authority



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Key Takeaways

- The final review of the FY 2021 BUDGET and Charges has produced minor changes
 - ✓ FY 2021 Sewer BUDGET represents a ~~3.0%~~ 2.5% increase compared to the FY 2020 BUDGET
- FY 2021 Service Charges reflect a simplified “across the board” adjustment strategy
 - ✓ Wholesale Service Charges to ALL Member Partners proposed to increase 3.5%
 - ✓ Certain modifications required to reflect specific contract requirements



Presentation Topics

1. Introduction and Key Terms
2. UPDATE: FY 2021 BUDGET and Revenue Requirements for Charges
3. UPDATE: FY 2021 – FY 2030 Financial Plan Forecast
4. Proposed FY 2021 Service Charges



3

Introduction and Key Terms



“BUDGET” = Comprehensive Annual Revenue Requirement:

- Budgeted O&M Expense
- Master Bond Ordinance Commitments
 - ✓ *Projected Debt Service*
 - ✓ *“Fixed” Non-Operating Expenses*
 - Pension Reimbursement Obligations;
 - WRAP Deposit;
 - Lease Payment (part of revenue financed capital below);
 - Other Reserve Requirements, etc.
- Deposit to the Improvement and Extension (I&E) Funds
 - ✓ *Revenue Financed Capital Improvements*



5

“Financial Plan” Consists of

- Capital Improvement Program
- Operation and Maintenance Expense Budget
- Capital Financing elements of the BUDGET
 - ✓ *Debt Service, Revenue Financed Capital, etc.*
- Charges for Service
- ***Each of these are subject to individual action by the Board***



6

“The Agreements” Include:

- The Lease(s) establishing GLWA;
- The Water and Sewer Services Agreement between GLWA and the City of Detroit;
- The Master Bond Ordinance(s), authorizing issuance of debt by GLWA;
- The Trust Agreement(s) supporting the Master Bond Ordinances;
- The 2018 GLWA / DWSD Memorandum of Understanding
 - ✓ *Implementation Plan for “The Agreements”*
- Related supporting documentation



7

“4% Increase Limitation” as defined by The Agreements

“As provided in the MOU, through the Fiscal Year ending June 30, 2025, the Water (Sewer) System is assumed to experience annual increases in the Authority Revenue Requirement of not more than 4%; provided however, this limitation shall not be applicable if the Authority 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 (Sewer) Facilities that are required to be made by Applicable Laws.”



8

“System Charge Adjustment” vs. “Wholesale Charge Adjustment”

- System Charge Adjustment
 - ✓ *The amount by which revenues from existing charges must be adjusted to meet budgeted revenue requirements*
- Wholesale Charge Adjustment
 - ✓ *Recognizes that certain GLWA revenue requirements are fixed by contract*
 - Detroit’s Water and Sewer “ownership benefit”
 - Flint’s Water KWA debt service credit
 - OMID specific Sewer revenue requirements
 - ✓ *Will be slightly different than Wholesale Charge Adj*



*FY 2021 BUDGET and Revenue
Requirements for Charges
UPDATE*



FY 2021 BUDGET and “System Charge” Adjustments – *What’s New?*

- Restructuring of how possible refinancing savings are reflected
 - ✓ *Original budget schedules reflected anticipated debt service savings, and an increase in bottom line deposit to I&E Fund (reserves)*
 - ✓ *Prudent to prepare BUDGET without showing debt service savings until they are achieved*
 - ✓ *Business plan is still to achieve savings and accommodate via budget amendment without changing “top line” revenues and charges*



11

FY 2021 WATER BUDGET and “System Charge” Adjustments – *What’s New?*

- No change in overall BUDGET
- System BUDGET Increase = 1.1%
- System Charge Increase = 3.8%
 - ✓ *Designed to address negative budget variances in Sales and investment income*



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FY 2021 SEWER BUDGET and “System Charge” Adjustments – *What’s New?*

- Moderate reduction in overall BUDGET recognizing updated potential refinancing savings
- Reduces System BUDGET increase from ~~3.0%~~ to **2.5%**
- Reduces System CHARGE increase from ~~3.7%~~ to **3.2%**



13

FY 2021 BUDGET and “System Charge” Adjustments

- Average “System Charge Adjustment” is 3.8% for Water and ~~3.7%~~ **3.2%** for Sewer
✓ Charge design will strategically implement

	Water System				Sewer System				Total GLWA			
	FY 2020	FY 2021	Variance	% Variance	FY 2020	FY 2021	Variance	% Variance	FY 2020	FY 2021	Variance	% Variance
Annual BUDGET												
1 Operation and Maintenance Expense	131.5	137.1	5.6	4.3%	187.1	184.9	(2.1)	-1.1%	318.5	322.1	3.5	1.1%
2 Debt Service	137.6	143.6	6.0	4.4%	215.7	209.7	(6.0)	-2.8%	353.3	353.3	0.0	0.0%
3 Master Bond Ordinance (“MBO”) Commitments	36.5	36.5	(0.0)	-0.1%	52.3	52.4	0.0	0.1%	88.9	88.9	0.0	0.0%
4 Deposit to I&E (and other reserve) Funds	34.1	26.2	(7.9)	-23.1%	25.5	45.5	20.1	78.9%	59.6	71.8	12.2	20.5%
5 Total BUDGET	339.7	343.4	3.7	1.1%	480.6	492.6	12.0	2.5%	820.3	836.0	15.8	1.9%
Charge Adjustment Illustration												
6 Revenue from Charges	330.6	326.2	(4.4)	1.3%	471.9	471.9	0.0	0.0%	802.5	798.1	(4.4)	0.5%
7 Investment (and other miscellaneous) Income	9.1	4.8	(4.2)	1.3%	8.7	5.6	(3.1)	0.7%	17.8	10.4	(7.4)	0.9%
8 Net Proforma Revenue Comparison	339.7	331.0	(8.6)		480.6	477.5	(3.1)		820.3	808.5	(11.8)	
9 Adjustment to Address Revenue Variance				2.6%				0.7%				1.5%
10 Adjustment to Address BUDGET Variance (Line 5)				1.1%				2.5%				1.9%
11 Average Charge Adjustment				3.7%				3.2%				3.4%



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FY 2021 Budget Indices Compared to Prior GLWA Budgets

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Water					
Annual Change in Budgeted Revenue Req't (a)	4.0%	-0.9%	1.0%	2.5%	1.1%
Annual Average Charge Increase					
Total Regional System, Including Detroit Customer Class	4.5%	1.9%	1.6%	0.6%	3.8%
(a) Revenue Requirement Budget Indices					
O&M Budget Adjustment (b)	4.0%	8.7%	0.0%	8.2%	4.3%
Budgeted Deposit to I&E Fund - \$ millions	23.8	32.8	39.1	30.1	30.1
Budgeted Deposit to All Reserve Funds - \$ millions	23.8	34.6	39.1	34.1	31.0
Regional System Debt Service Coverage	1.34	1.48	1.52	1.47	1.44
Sewer					
Annual Change in Budgeted Revenue Req't (a)	4.0%	0.3%	1.0%	2.2%	2.5%
Annual Average Charge Increase					
Total Regional System, Including Detroit Customer Class	8.3%	-0.7%	0.1%	0.8%	3.2%
(a) Revenue Requirement Budget Indices					
O&M Budget Adjustment (b)	4.0%	8.7%	0.0%	-2.1%	-1.1%
Budgeted Deposit to I&E Fund - \$ millions	14.1	11.9	12.2	25.5	45.5
Budgeted Deposit to All Reserve Funds - \$ millions	14.1	14.5	12.2	25.5	45.5
Regional System Debt Service Coverage	1.25	1.27	1.25	1.31	1.42
Combined Water and Sewer					
Annual Change in Budgeted Revenue Req't (a)	4.0%	-0.2%	1.0%	2.3%	1.9%
Annual Average Charge Increase					
Total Regional System, Including Detroit Customer Class	6.7%	0.3%	0.7%	0.7%	3.5%
(a) Revenue Requirement Budget Indices					
O&M Budget Adjustment (b)	4.0%	8.7%	0.0%	1.9%	1.1%
Budgeted Deposit to I&E Fund - \$ millions	37.9	44.7	51.3	55.6	75.6
Budgeted Deposit to All Reserve Funds - \$ millions	37.9	49.1	51.3	59.6	76.5
Regional System Debt Service Coverage	1.29	1.35	1.35	1.37	1.43



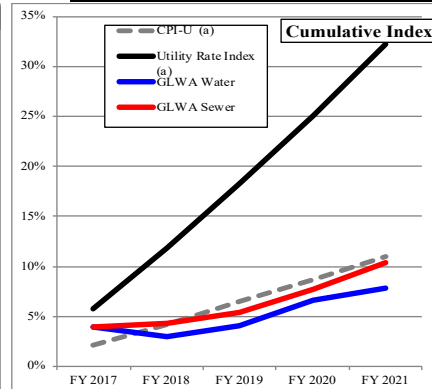
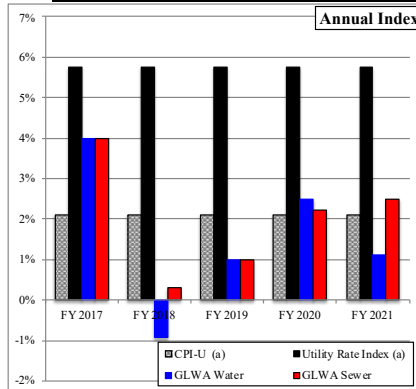
(b) FY 2018 Budget reflects reassignment of \$10 million per system from minor capital expense to O&M expense.



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GLWA BUDGET Adjustments Compared to Utility Indices

Annual	Annual Index					Cumulative Index				
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
CPI-U (a)	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	4.2%	6.4%	8.7%	11.0%
Utility Rate Index (a)	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	11.8%	18.3%	25.1%	32.3%
GLWA Water	4.0%	-0.9%	1.0%	2.5%	1.1%	4.0%	3.0%	4.1%	6.7%	7.8%
GLWA Sewer	4.0%	0.3%	1.0%	2.2%	2.5%	4.0%	4.3%	5.4%	7.7%	10.4%

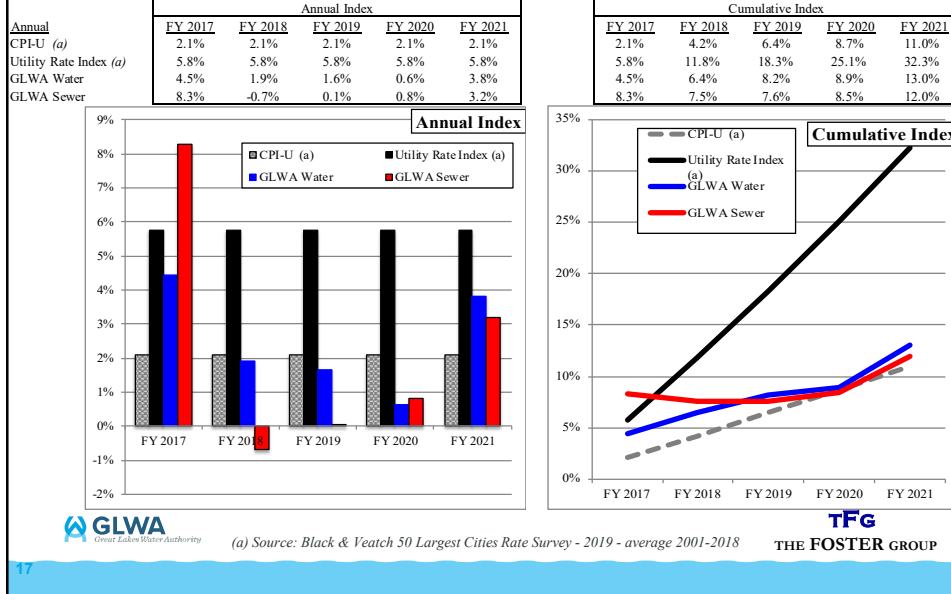


(a) Source: Black & Veatch 50 Largest Cities Rate Survey - 2019 - average 2001-2018



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GLWA System CHARGE Adjustments Compared to Utility Indices



FY 2021 – FY 2030 Financial Plan Forecast UPDATE



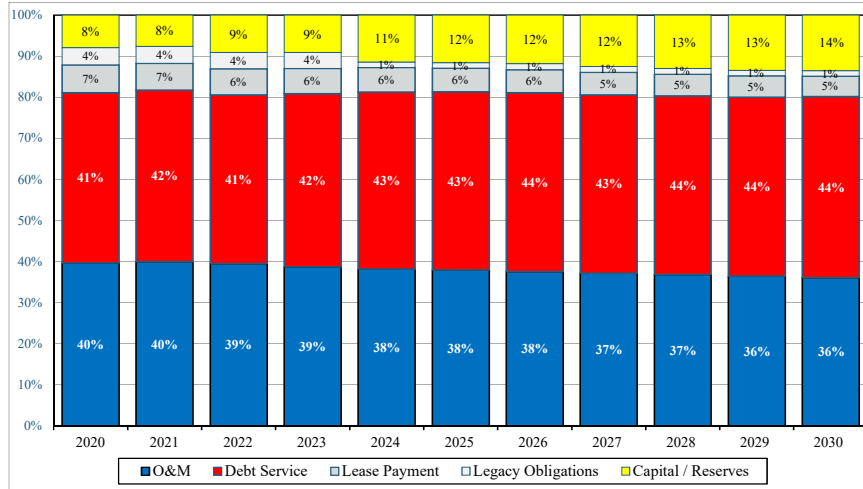
FY 2021 – FY 2030 Financial Plan Forecast: *What's New?*

- Updated to exclude forecasted refinancing savings
- Updated to reflect lower Sewer BUDGET increase for FY 2021
✓ From 3.0% to 2.5%

FY 2021 – FY 2030 Financial Plan Forecast: *What's New?*

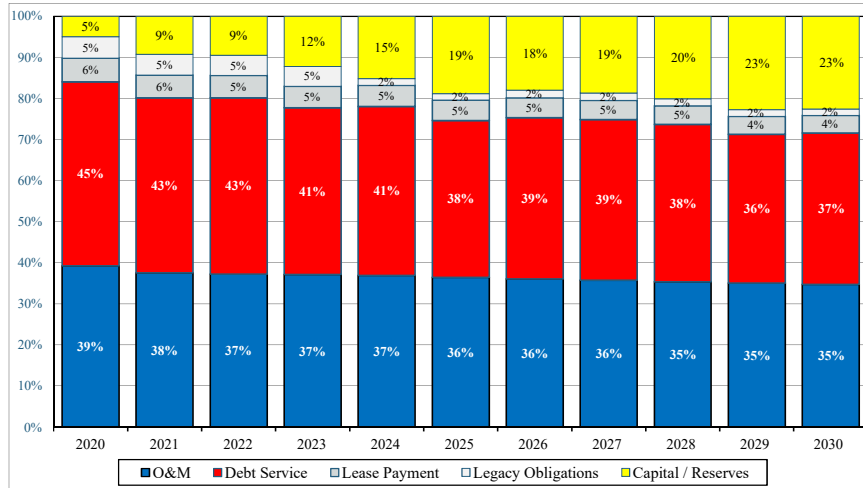
- **Forecasts still preliminary as of 1/20/2020**
✓ Updates and revisions will continue in support of the Final FY 2021 Budget and Charges and the upcoming refinancing transactions
- **Further review may result in additional changes**
✓ Not material to the core forecasts
- **Formal updates will reflect results of upcoming refinancing transactions**

FY 2021 – FY 2030 Financial Plan Forecast: Relative Water Revenue Requirement Distribution



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FY 2021 – FY 2030 Financial Plan Forecast: Relative Sewer Revenue Requirement Distribution



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*Preliminary Proposed FY 2021
Water and Sewer Service
Charges*



**Background Dynamics Impacting Proposed
FY 2021 Service Charges**

- What we've heard from Member Partners:
 - ✓ *Embrace core principles of **simplicity** and **stability***
- Current (FY 2020) Service Charges reflect detailed Cost of Service Study
- Overall FY 2021 BUDGET reflects minor changes in total and amongst GLWA business areas
 - ✓ *Not likely that cost pool allocations would vary materially if finalized for FY 2021*



Background Dynamics Impacting Proposed FY 2021 Service Charges *(continued)*

- FY 2021 Units of Service are virtually unchanged from those used for current charges
 - ✓ *Due to Water Contract Alignment Process (“CAP”) only one Member Partner (Bruce Township) has a revised Exhibit B Demand*
 - ✓ *Estimates of non-revenue water and peak demand use for NMM Member Partners are unchanged from Phase 2 of UoS Study*
 - ✓ *Sewer SHARES unchanged from FY 2020 Charges*



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Background Dynamics Impacting Proposed FY 2021 Service Charges *(continued)*

- Producing Water and Sewer Service Charges that precisely align with a Cost of Service Study for FY 2021 would not produce results that vary materially from an “average” charge adjustment for any Member Partner
 - ✓ *All charge adjustments would be clustered around the average*



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Background Dynamics Impacting Proposed FY 2021 Service Charges *(continued)*

- This extraordinary stability opportunity for FY 2021 is not likely to be long lasting
 - ✓ *Sewer SHARES are anticipated to be adjusted for FY 2022 via adjustments to the “Sewer Charge Methodology Review” project and related discussions*
 - ✓ *GLWA is embarking on a “Water Charge Methodology Review” which may introduce material changes as soon as FY 2022*
 - At the very least, distance factors will need to be updated to remove Northeast Water Treatment Plant from calculations



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Strategy for Proposed FY 2021 Service Charges

- **Given these unique circumstances, a simplified approach for FY 2021 Service Charges is in order**
- **Proposed Service Charges increase ALL Wholesale Service Charges “across the board” by 3.5%**
 - ✓ *This amount required to produce revenues that meet revenue requirements of the FY 2021 BUDGET*
 - ✓ *Certain additional adjustments necessary to reflect specific contract requirements*



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Strategy for Proposed FY 2021 Service Charges *(continued)*

- Precedent for this approach
 - ✓ *FY 2014 Suburban Wholesale Sewer Service Charges were increased "across the board" by 3.7%*
 - ✓ *FY 2014 and FY 2015 Suburban Wholesale Water Service Charges*
 - "Mod" Member Partners with changing contract demands were adjusted in accordance with cost of service results on their individual demands
 - All other "No Mod" Member Partners received an average charge adjustment for the class at large



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Strategy for Proposed FY 2021 Service Charges – Special Considerations

- One Water Member Partner has modified contract demands and should be allocated revenue requirements accordingly
- The "across the board" adjustment needs to be applied to the "wholesale proxy" for Member Partners with specific contract requirements
 - ✓ *Detroit ownership benefit adjustments for both Water and Sewer*
 - ✓ *Flint KWA Water debt service credit*
 - ✓ *OMID specific Sewer cost pool*



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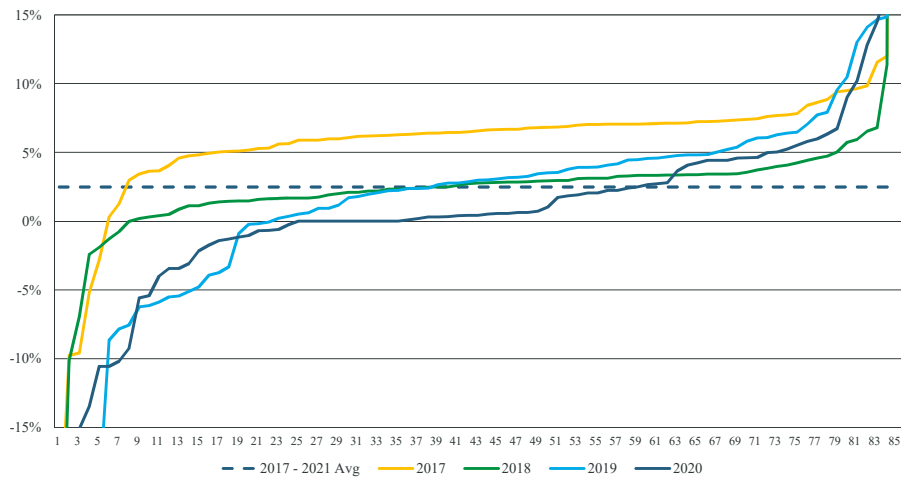
Strategy for Proposed FY 2021 Service Charges – Special Considerations *(continued)*

- FY 2020 Charges to Suburban Wholesale Sewer Member Partners carry \$2.26 million for prospective FY 2020 bad debt expense related to Highland Park
- Proposed FY 2021 Charges
 - ✓ Reduce the prospective amount to \$1.31 million
 - ✓ Recognize a potential “bad debt true-up” credit of \$1.31 million for FYs 2019 and 2020
- Net result is no Highland Park bad debt adjustment in FY 2021 Sewer Charges
 - ✓ Reduces 3.5% “across the board” increase to 2.6%

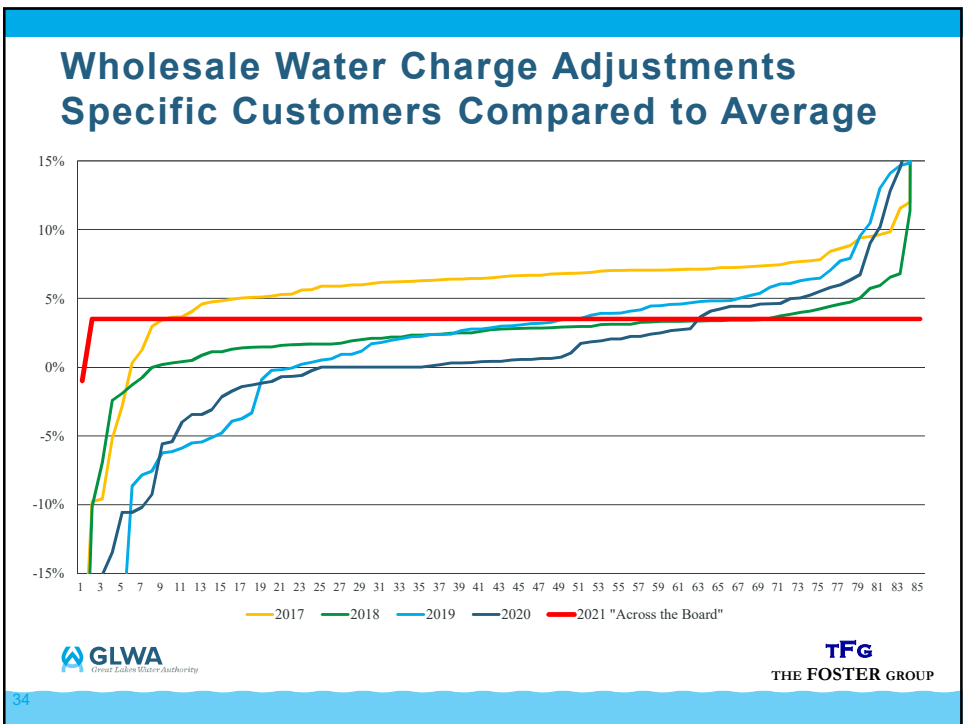
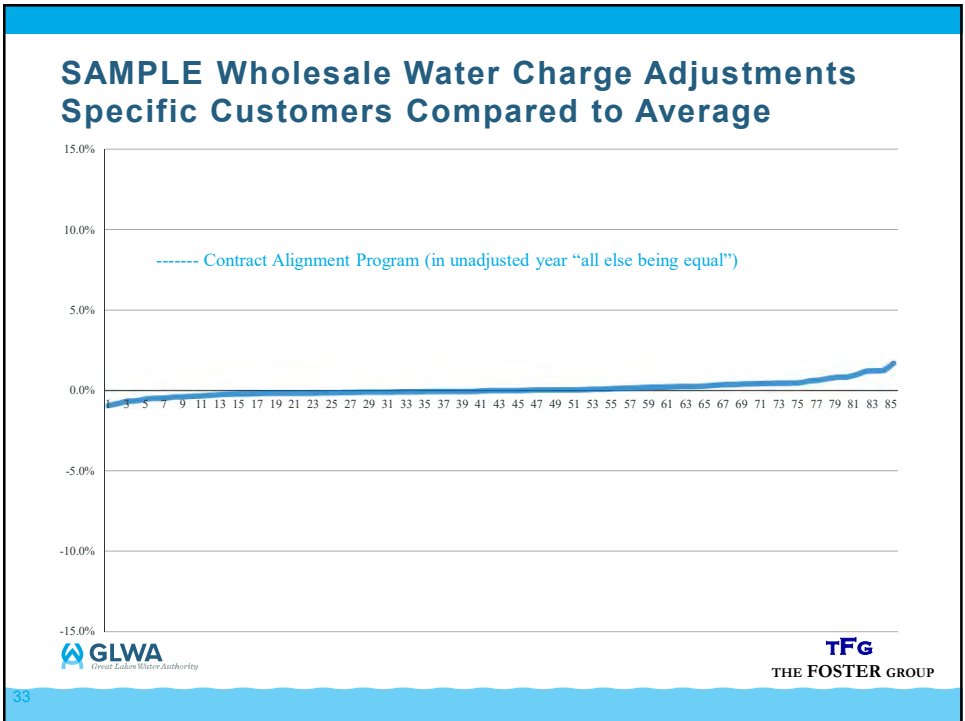


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Wholesale Water Charge Adjustments Specific Customers Compared to Average



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A large, dynamic splash of blue water dominates the left and center of the page. The water is captured in mid-air, with numerous droplets and a main stream of water curving from the bottom left towards the right. The background is white, making the blue water stand out.

FY 2021 & FY 2022 Operational Budget Highlights

*Audit Committee Meeting
January 27, 2020*



Presentation Topics

- Water and Field Services (Water Operating Services & Centralized Services)
- Wastewater System Operating Services
- Planning Services (Centralized Services)
- Information Technology (Centralized Services)
- Security and Integrity (Centralized Services)
- Administrative & Compliance Officer (Administrative Services)
- General Counsel (Administrative Services)
- Organizational Development (Administrative Services)
- Public Affairs (Administrative Services)
- Financial Services (Administrative Services)

Water System Budget Proposal as of January 10, 2020

Schedule 1A - Water System Revenue Requirements Budget

Water System Revenue Requirements	Current Year		Biennial Budget						Forecast		
	FY 2020 Adopted	FY 2020 Estimated	FY 2021 Requested	FY 2021 \$ Change	FY 2021 % Change	FY 2022 Requested	FY 2022 \$ Change	FY 2022 % Change	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Revenues											
11 Revenues from Charges	\$ 330,580,000	\$ 326,132,700	\$ 338,566,200	\$ 7,986,200	2.4%	\$ 349,884,500	\$ 11,318,300	3.3%	\$ 360,478,000	\$ 371,326,900	\$ 382,539,100
11.1 Revenues from Internal Charges		-	-	-	NA	-	-	NA	-	-	-
10.1 Non-Operating Revenue	9,084,200	5,730,100	4,834,400	(4,249,800)	-46.8%	3,818,200	(1,016,200)	-21.0%	3,835,600	3,916,100	3,961,200
Total Revenues	339,664,200	331,862,800	343,400,600	3,736,400	1.1%	353,702,700	10,302,100	3.0%	364,313,600	375,243,000	386,500,300
Revenue Requirements											
1 Operations & Maintenance (O&M) Expense	\$131,490,500	\$131,490,500	\$137,127,300	\$5,636,800	4.3%	\$139,642,500	\$2,515,200	1.8%	\$140,985,200	\$143,284,900	\$146,442,600
2 O&M Legacy Pension Allocation	6,048,000	6,048,000	6,048,000	-	0.0%	6,048,000	-	0.0%	6,048,000	1,200,000	1,200,000
3 Debt Service Allocation	137,557,600	137,612,100	143,559,700	6,002,100	4.4%	145,292,100	1,732,400	1.2%	153,566,600	161,571,300	167,819,100
4 Accelerated Legacy Pension Allocation	6,268,300	6,268,300	6,268,300	-	0.0%	6,268,300	-	0.0%	6,268,300	1,933,900	1,933,900
5 Water Residential Assistance Program	1,698,300	1,698,300	1,677,600	(20,700)	-1.2%	1,768,500	90,900	5.4%	1,821,600	1,876,200	1,932,500
6 Lease Payment to Local System I&E Account	22,500,000	22,500,000	22,500,000	-	0.0%	22,500,000	-	0.0%	22,500,000	22,500,000	22,500,000
7 Improvement & Extension Fund Allocation	30,125,500	22,269,600	25,343,000	(4,782,500)	-15.9%	31,344,800	6,001,800	23.7%	32,676,300	42,110,100	43,619,600
8 Operating Reserve Deposit	3,976,000	3,976,000	876,600	(3,099,400)	-78.0%	838,400	(38,200)	-4.4%	447,600	766,600	1,052,600
9 Extraordinary Repair & Replacement Deposit	-	-	-	-	NA	-	-	NA	-	-	-
Annual Budgeted Revenue Requirements	\$ 339,664,200	\$ 331,862,800	\$ 343,400,500	\$ 3,736,300	1.1%	\$ 353,702,600	\$ 10,302,100	3.0%	\$ 364,313,600	\$ 375,243,000	\$ 386,500,300

Sewer System Budget Proposal as of January 10, 2020

Schedule 1B - Sewer System Revenue Requirements Budget

Sewer System Revenue Requirements	Current Year		Biennial Budget						Forecast		
	FY 2020 Adopted	FY 2020 Estimated	FY 2021 Requested	FY 2021 \$ Change	FY 2021 % Change	FY 2022 Requested	FY 2022 \$ Change	FY 2022 % Change	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Revenues											
11 Revenues from Charges <i>(prior to adjustment)</i>	\$ 471,874,500	\$ 471,874,500	\$ 489,434,200	\$ 17,559,700	3.7%	\$ 504,550,700	\$ 15,116,500	3.1%	\$ 519,834,300	\$ 535,470,500	\$ 551,775,800
10.1 Non-Operating Revenue	8,730,800	5,060,200	5,589,300	(3,141,500)	-36.0%	5,323,400	(265,900)	-4.8%	5,336,100	5,455,000	5,377,400
Total Revenues	480,605,300	476,934,700	495,023,500	14,418,200	3.0%	509,874,100	14,850,600	3.0%	525,170,400	540,925,500	557,153,200
Revenue Requirements											
1 Operations & Maintenance (O&M) Expense	\$187,057,200	\$187,057,200	\$184,946,100	\$ (2,111,100)	-1.1%	\$188,934,600	\$3,988,500	2.2%	\$194,027,300	\$198,497,900	\$202,047,700
2 O&M Legacy Pension Allocation	10,824,000	10,824,000	10,824,000	-	0.0%	10,824,000	-	0.0%	10,824,000	2,100,000	2,100,000
3 Debt Service Allocation	215,738,800	213,802,800	209,740,400	(5,998,400)	-2.8%	217,698,400	7,958,000	3.8%	211,559,100	221,193,600	210,988,300
4 Accelerated Legacy Pension Allocation	11,620,700	11,620,700	11,620,700	-	0.0%	11,620,700	-	0.0%	11,620,700	3,863,500	3,863,500
5 Water Residential Assistance Program	2,403,000	2,403,000	2,456,200	53,200	2.2%	2,549,400	93,200	3.8%	2,625,900	2,704,600	2,785,800
6 Lease Payment to Local System	27,500,000	27,500,000	27,500,000	-	0.0%	27,500,000	-	0.0%	27,500,000	27,500,000	27,500,000
7 Improvement & Extension Fund Allocation	25,461,600	23,727,000	47,936,100	22,474,500	88.3%	49,417,500	1,481,400	3.1%	65,315,800	83,575,700	106,684,600
8 Operating Reserve Deposit	-	-	-	-	NA	1,329,500	1,329,500	NA	1,697,600	1,490,200	1,183,300
9 Extraordinary Repair & Replacement Deposit	-	-	-	-	NA	-	-	NA	-	-	-
Annual Budgeted Revenue Requirements	480,605,300	476,934,700	495,023,500	14,418,200	3.0%	509,874,100	14,850,600	3.0%	525,170,400	540,925,500	557,153,200

Entity-wide Budget Proposal as of January 10, 2020

Schedule 1C - Combined Water and Sewer System Revenue Requirements Budget

Combined System Revenue Requirements	Current Year		Biennial Budget						Forecast		
	FY 2020 Adopted	FY 2020 Estimated	FY 2021 Requested	FY 2021 \$ Change	FY 2021 % Change	FY 2022 Requested	FY 2022 \$ Change	FY 2022 % Change	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast
Revenues											
11 Revenues from Charges <i>(prior to adjustment)</i>	\$ 802,454,500	\$ 798,007,200	\$ 828,000,400	\$ 25,545,900	3.2%	\$ 854,435,200	\$ 26,434,800	3.2%	\$ 880,312,300	\$ 906,797,400	\$ 934,314,900
10.1 Non-Operating Revenue	17,815,000	10,790,300	10,423,700	(7,391,300)	-41.5%	9,141,600	(1,282,100)	-12.3%	9,171,700	9,371,100	9,338,600
Total Revenues	820,269,500	808,797,500	838,424,100	18,154,600	2.2%	863,576,800	25,152,700	3.0%	889,484,000	916,168,500	943,653,500
Revenue Requirements											
1 Operations & Maintenance (O&M) Expense	\$318,547,700	\$318,547,700	\$322,073,400	\$3,525,700	1.1%	\$328,577,100	\$6,503,700	2.0%	\$335,012,500	\$341,782,800	\$348,490,300
2 O&M Legacy Pension Allocation	16,872,000	16,872,000	16,872,000	-	0.0%	16,872,000	-	0.0%	16,872,000	3,300,000	3,300,000
3 Debt Service Allocation	353,296,400	351,414,900	353,300,100	3,700	0.0%	362,990,500	9,690,400	2.7%	365,125,700	382,764,900	378,807,400
4 Accelerated Legacy Pension Allocation	17,889,000	17,889,000	17,889,000	-	0.0%	17,889,000	-	0.0%	17,889,000	5,797,400	5,797,400
5 Water Residential Assistance Program	4,101,300	4,101,300	4,133,800	32,500	0.8%	4,317,900	184,100	4.5%	4,447,500	4,580,800	4,718,300
6 Lease Payment to Local System I&E Account	50,000,000	50,000,000	50,000,000	-	0.0%	50,000,000	-	0.0%	50,000,000	50,000,000	50,000,000
7 Improvement & Extension Fund Allocation	55,587,100	45,996,600	73,279,100	17,692,000	31.8%	80,762,300	7,483,200	10.2%	97,992,100	125,685,800	150,304,200
8 Operating Reserve Deposit	3,976,000	3,976,000	876,600	(3,099,400)	-78.0%	2,167,900	1,291,300	147.3%	2,145,200	2,256,800	2,235,900
9 Extraordinary Repair & Replacement Deposit	-	-	-	-	NA	-	-	NA	-	-	-
Annual Budgeted Revenue Requirements	820,269,500	808,797,500	838,424,000	18,154,500	2.2%	863,576,700	25,152,700	3.0%	889,484,000	916,168,500	943,653,500

Water System Operations Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 19,349,000	\$ 19,477,100	\$ 6,956,500	\$ 20,765,100	\$ 1,288,000	6.6%	\$ 20,859,400
3.1 Electric	24,391,800	23,468,500	9,882,700	24,417,800	949,300	4.0%	24,433,700
3.2 Gas	1,088,000	1,060,100	79,500	1,082,000	21,900	2.1%	1,082,100
3.3 Sewage Service	649,800	527,000	93,300	649,000	122,000	23.1%	649,000
3.4 Water Service	800	23,300	200	5,000	(18,300)	-78.5%	5,000
4.1 Chemicals	5,088,800	4,774,700	2,014,300	5,053,900	279,200	5.8%	5,059,600
4.2 Supplies & Other	4,998,600	4,739,900	1,164,800	5,168,800	428,900	9.0%	5,176,000
4.3 Contractual Services	15,851,600	11,290,200	1,675,800	14,900,700	3,610,500	32.0%	14,916,300
5.1 Capital Program Allocation	(1,873,300)	(1,983,900)	(561,500)	(1,805,200)	178,700	-9.0%	(1,812,800)
5.2 Shared Services	(351,500)	(53,000)	-	-	53,000	-100.0%	-
7.0 Unallocated Reserve	-	2,697,300	-	1,729,300	(968,000)	-35.9%	2,723,000
Grand Total	\$ 69,193,600	\$ 66,021,200	\$ 21,305,600	\$ 71,966,400	\$ 5,945,200	9.0%	\$ 73,091,300

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
Pumping Stations	\$ 11,062,000	\$ 9,192,100	\$ 4,224,000	\$ 10,714,800	\$ 1,522,700	16.6%	\$ 10,731,100
Administration	1,821,400	1,977,400	589,700	2,187,100	209,700	10.6%	2,195,100
Water Treatment Plants	53,581,200	48,635,500	15,263,400	54,029,600	5,394,100	11.1%	54,147,600
Water Engineering	1,456,300	1,672,300	563,700	1,360,900	(311,400)	-18.6%	1,365,100
Water Quality	1,272,700	1,846,600	664,800	1,944,700	98,100	5.3%	1,929,400
Water System Operations	-	2,697,300	-	1,729,300	(968,000)	-35.9%	2,723,000
Unallocated	-	2,697,300	-	1,729,300	(968,000)	-35.9%	2,723,000
Grand Total	\$ 69,193,600	\$ 66,021,200	\$ 21,305,600	\$ 71,966,400	\$ 5,945,200	9.0%	\$ 73,091,300

Water System Operations

Alum Sludge Hauling Project:

- Sludge that accumulates in the sedimentation basins and flocculation chambers at the Northeast, Southwest, and Springwells Water Treatment Plants must be removed manually, dewatered on site, loaded, transported, and disposed at a licensed solid waste landfill on a regular basis.
- Contract No. GLWA-CON-170 dated August 2017, with Mobile Dredging & Video Pipe, Inc., provides turn-key sludge removal, hauling and disposal services at the Northeast, Southwest, and Springwells WTPs.
- This service ensures regulatory compliance and drinking water of unquestionable quality. FY 2021 budget for Water Operations contractual services reflects a more realistic approach for the realignment of operational needs.

Mobile Dredging & Video Pipe, CON-170 - Analysis (Alum Sludge hauling, removal & disposal program)								
Location	FY 2019 Adopted Budget	FY 2019 Activity	FY 2020 Activity Annualized	FY 2021 Department Requested	FY 2022 Department Requested	FY 2023 Department Requested	FY 2024 Department Requested	FY 2025 Department Requested
Springwells WTP	\$ 1,628,600	\$ 5,038,952	\$ 5,053,556	\$ 3,482,600	\$ 3,541,800	\$ 3,601,100	\$ 3,601,100	\$ 3,601,100
Northeast WTP	696,400	2,981,707	1,611,841	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Southwest WTP	-	2,613,760	907,443	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000
Totals:	\$ 2,325,000	\$ 10,634,418	\$ 7,572,840	\$ 8,082,600	\$ 8,141,800	\$ 8,201,100	\$ 8,201,100	\$ 8,201,100

Water System Operations- Personnel

The personnel headcount increase in FY 2021 from the FY 2020 level is a result of:

- A new management professional position is being added to support the Water Director and improve operational efficiency by managing the chemical, engineering, and maintenance contracts related to water operations. This higher level of expertise is necessary to support the increasing demand for tracking and accuracy of high dollar contracts.
- Recruiting and developing talent is a high priority for GLWA. For this reason, two new positions are added to support the existing Electrical Instrumentation Control Technician – Instrument Technician (EICT-I) and the new Maintenance Technician Apprenticeship/Training programs through Focus Hope. The investment in this program will enable GLWA to develop a workforce for positions which have been challenging to recruit and fill.

Field Service Operations Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 4,457,400	\$ 5,214,200	\$ 1,626,000	\$ 5,216,300	\$ 2,100	0.0%	\$ 5,241,100
4.2 Supplies & Other	637,900	402,700	157,400	578,200	175,500	43.6%	578,200
4.3 Contractual Services	11,663,200	15,021,300	2,797,100	12,308,100	(2,713,200)	-18.1%	12,453,900
5.1 Capital Program Allocation	(600)	(128,400)	-	(127,500)	900	-0.7%	(128,000)
5.2 Shared Services	(28,400)	(16,700)	(5,500)	(17,000)	(300)	1.8%	(17,400)
Grand Total	\$ 16,729,500	\$ 20,493,100	\$ 4,575,000	\$ 17,958,100	\$ (2,535,000)	-12.4%	\$ 18,127,800

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
Field Service Operations	\$ 16,729,500	\$ 20,493,100	\$ 4,575,000	\$ 17,958,100	\$ (2,535,000)	-12.4%	\$ 18,127,800
Grand Total	\$ 16,729,500	\$ 20,493,100	\$ 4,575,000	\$ 17,958,100	\$ (2,535,000)	-12.4%	\$ 18,127,800

Field Service Operations (Centralized Services)

- The contractual services budget decrease in FY 2021 from the FY 2020 level is due in part to a reduction in contracted sewer cleaning and investigation services.
- Contractual services are dependent on several factors and unforeseen circumstances, therefore the expenses for projects that are a combination of operations and maintenance (O&M) and capital improvement projects (CIP) fluctuate from fiscal year to fiscal year.
- Sewer cleaning and investigation services is an ongoing project for the Field Service Operations team.

Facility Operations Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 1,576,100	\$ 2,090,400	\$ 664,400	\$ 2,129,600	\$ 39,200	1.9%	\$ 2,139,400
4.2 Supplies & Other	728,300	963,200	311,900	727,900	(235,300)	-24.4%	709,600
4.3 Contractual Services	3,025,000	5,546,400	1,511,900	3,330,800	(2,215,600)	-39.9%	3,332,200
5.1 Capital Program Allocation	-	(61,800)	-	-	61,800	-100.0%	-
5.2 Shared Services	29,500	-	-	-	-	0.0%	-
Grand Total	\$ 5,358,900	\$ 8,538,200	\$ 2,488,200	\$ 6,188,300	\$ (2,349,900)	-27.5%	\$ 6,181,200

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
Facility Operations	\$ 5,358,900	\$ 8,538,200	\$ 2,488,200	\$ 6,188,300	\$ (2,349,900)	-27.5%	\$ 6,181,200
Grand Total	\$ 5,358,900	\$ 8,538,200	\$ 2,488,200	\$ 6,188,300	\$ (2,349,900)	-27.5%	\$ 6,181,200

Facility Operations (Centralized Services)

The contractual services budget decrease in FY 2021 from the FY 2020 level is a result of:

- Lower facility costs based on historical review
 - ✓ Shared Services Agreement OPS-006 (Shared Facilities Shared Cost)
- Improved pricing on snow removal contract
 - ✓ Contract 1901555, dated November 2019, with Premier Group Associates
- In-sourcing of trade services
 - ✓ The Facility Operations Area is reaching a steady state in staffing and accommodating the higher level of expertise required in order to efficiently maintain the GLWA facilities as needed.

Wastewater System Operations Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 36,668,300	\$ 36,219,200	\$ 12,014,000	\$ 37,871,500	\$ 1,652,300	4.6%	\$ 38,559,200
3.1 Electric	12,329,000	12,491,400	4,223,400	12,538,000	46,600	0.4%	12,782,000
3.2 Gas	5,432,200	5,344,600	1,193,700	5,491,000	146,400	2.7%	5,597,000
3.3 Sewage Service	1,408,900	1,280,200	528,500	1,417,500	137,300	10.7%	1,443,500
3.4 Water Service	3,569,500	4,566,700	1,069,800	3,880,100	(686,600)	-15.0%	3,955,300
4.1 Chemicals	8,186,800	9,123,900	3,207,200	8,365,900	(758,000)	-8.3%	8,492,000
4.2 Supplies & Other	17,535,400	14,248,600	3,998,100	13,344,400	(904,200)	-6.3%	13,036,000
4.3 Contractual Services	25,771,200	28,012,900	7,971,700	26,663,100	(1,349,800)	-4.8%	26,870,300
5.1 Capital Program Allocation	(1,325,900)	(1,239,400)	(359,200)	(1,325,800)	(86,400)	7.0%	(1,331,600)
5.2 Shared Services	(229,500)	(154,300)	(51,400)	(157,400)	(3,100)	2.0%	(160,400)
7.0 Unallocated Reserve		3,264,900		4,603,900	1,339,000	41.0%	5,971,800
Grand Total	\$ 109,369,800	\$ 113,158,700	\$ 33,795,800	\$ 112,692,200	\$ (466,500)	-0.4%	\$ 115,215,100

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
Wastewater Administration	\$ 1,983,900	\$ 2,507,800	\$ 546,500	\$ 2,667,300	\$ 159,500	6.4%	\$ 2,695,000
Water Resource Recovery Facility	86,163,100	87,482,400	26,457,100	86,374,600	(1,107,800)	-1.3%	87,918,200
Wastewater Engineering	1,778,200	2,262,000	552,500	2,453,300	191,300	8.5%	2,563,500
Industrial Waste Control	2,708,600	2,407,100	775,500	2,496,300	89,200	3.7%	2,511,500
Wastewater Laboratories	4,047,300	4,148,900	1,547,200	4,558,500	409,600	9.9%	4,195,500
Combined Sewer Overflow	12,688,700	11,085,600	3,917,000	9,538,300	(1,547,300)	-14.0%	9,359,600
Wastewater Operations Unallocated		3,264,900	-	4,603,900	1,339,000	41.0%	5,971,800
Grand Total	\$ 109,369,800	\$ 113,158,700	\$ 33,795,800	\$ 112,692,200	\$ (466,500)	-0.4%	\$ 115,215,100

Wastewater System Operations

- ✓ Operational optimization
 - Biosolid management
 - Chemical reduction
- ✓ Focus areas for coming fiscal year
 - Overhaul of the instrumentation and controls for the facilities
 - SCADA reliability and security
 - Implementation of predictive tools
 - Maximizing our CMMS system
 - Focus on small focused projects
- ✓ Addition of Cyber Security personnel to safeguard the organizations' operational systems

Planning Services Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 4,538,200	\$ 6,272,400	\$ 1,610,100	\$ 6,450,600	\$ 178,200	2.8%	\$ 7,220,900
3.1 Electric	88,600	80,500	17,400	81,700	1,200	1.5%	82,000
4.2 Supplies & Other	475,800	726,400	160,000	564,900	(161,500)	-22.2%	565,000
4.3 Contractual Services	10,415,300	13,918,400	4,450,900	10,051,200	(3,867,200)	-27.8%	9,833,400
5.1 Capital Program Allocation	-	(1,776,200)		(47,500)	1,728,700	-97.3%	(1,300)
5.2 Shared Services	(378,400)	(60,000)	(40,000)	-	60,000	-100.0%	-
6.0 Capital Outlay	-	-	-	-	-	0.0%	-
Grand Total	\$ 15,139,500	\$ 19,161,500	\$ 6,198,400	\$ 17,100,900	\$ (2,060,600)	-10.8%	\$ 17,700,000

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY2021 Percent Variance	FY 2022 Department Requested
Chief Planning Officer	\$ 368,600	\$ 408,900	\$ 104,100	\$ 382,000	\$ (26,900)	-6.6%	\$ 383,600
Systems Planning	4,842,900	2,433,100	1,373,000	2,960,700	527,600	21.7%	3,046,900
Asset Management	3,115,100	4,990,100	1,020,800	3,693,900	(1,296,200)	-26.0%	4,370,200
Systems Analytics	6,155,800	9,385,500	1,665,800	6,504,700	(2,880,800)	-30.7%	6,610,800
Capital Improvement Planning	657,100	1,943,900	2,034,700	3,559,600	1,615,700	83.1%	3,288,500
Grand Total	\$ 15,139,500	\$ 19,161,500	\$ 6,198,400	\$ 17,100,900	\$ (2,060,600)	-10.8%	\$ 17,700,000

Planning Services (Centralized Services)

Systems Planning

- Completion of the Wastewater Master Plan (CDM Smith)
- Begin Mini Water Master Plan
- Begin Long Term CSO Control Plan
- Begin providing Aquasight analysis tool to partner community

Asset Management

- Completion of Strategic Asset Master Plan (CH2M Hill engineers)
- Slowed pace of Water Transmission System Pipe Integrity Program due to lessons learned from the pilot

Systems Analytics

- Integrated East and West Side Sewer Modeling & Monitoring programs with overall Wastewater Master Plan eliminating overlap

Capital Improvement Planning

- Begin system wide CIP with contractual services provided by AECOM

Information Technology Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 5,977,100	\$ 7,550,300	\$ 2,232,900	\$ 7,761,300	\$ 211,000	2.8%	\$ 7,794,800
4.2 Supplies & Other	6,238,700	5,991,400	\$ 2,080,200	7,662,800	1,671,400	27.9%	7,138,800
4.3 Contractual Services	16,904,500	21,007,900	\$ 6,510,400	20,069,300	(938,600)	-4.5%	19,808,500
5.2 Shared Services	(5,409,100)	(3,185,700)	\$ (1,312,900)	(2,020,000)	1,165,700	-36.6%	(357,000)
6.0 Capital Outlay	2,249,100	4,890,500	\$ 1,659,500	5,503,300	612,800	12.5%	5,998,800
Grand Total	\$ 25,960,300	\$ 36,254,400	\$ 11,170,100	\$ 38,976,700	\$ 2,722,300	7.5%	\$ 40,383,900

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
Information Technology	\$ 25,960,300	\$ 36,254,400	\$ 11,170,100	\$ 38,976,700	\$ 2,722,300	7.5%	\$ 40,383,900
Enterprise Asset Management Systems	\$ 5,371,300	\$ 5,914,000	\$ 1,572,700	\$ 9,685,800	\$ 3,771,800	63.8%	\$ 9,811,200
Business Productivity Systems	635,900	4,098,700	679,600	2,570,600	(1,528,100)	-37.3%	2,139,600
Infrastructure	14,779,500	19,432,400	7,238,300	19,802,900	370,500	1.9%	21,443,400
Security & Risk	223,500	403,200	96,300	459,800	56,600	14.0%	462,100
Service Delivery	3,123,300	3,807,700	870,700	3,875,200	67,500	1.8%	3,928,700
Project Management Office	1,164,000	1,622,600	465,900	1,704,200	81,600	5.0%	1,716,700
Office of the CIO	662,800	975,800	246,600	878,200	(97,600)	-10.0%	882,200
Grand Total	\$ 25,960,300	\$ 36,254,400	\$ 11,170,100	\$ 38,976,700	\$ 2,722,300	7.5%	\$ 40,383,900

Information Technology (Centralized Services)

- Shared Services reimbursement decrease
- Implementation of Enterprise Asset Management System (EAM)
- Data Center Modernization

Security and Integrity Budget Summary

Biennial Budget Request by Expense Category

Expense Categories	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 5,420,900	\$ 5,431,500	\$ 2,012,800	\$ 5,492,500	\$ 61,000	1.1%	\$ 5,520,000
4.2 Supplies & Other	502,000	378,500	61,400	453,100	74,600	19.7%	485,000
4.3 Contractual Services	312,400	314,100	36,400	345,300	31,200	9.9%	352,200
5.2 Shared Services	(487,700)	(325,000)	(108,400)	(331,500)	(6,500)	2.0%	(338,100)
Grand Total	\$ 5,747,600	\$ 5,799,100	\$ 2,002,200	\$ 5,959,400	\$ 160,300	2.8%	\$ 6,019,100

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
Security & Integrity Area	\$ 5,747,600	\$ 5,799,100	\$ 1,488,157	\$ 5,959,400	\$ 160,300	2.8%	\$ 6,019,100
HazMat	1,540,800	1,545,500	\$ 521,800	1,594,200	48,700	3.2%	1,666,800
Security and Integrity	4,206,800	4,253,600	\$ 1,480,400	4,365,200	111,600	2.6%	4,352,300
Grand Total	\$ 5,747,600	\$ 5,799,100	\$ 2,002,200	\$ 5,959,400	\$ 160,300	2.8%	\$ 6,019,100

Security and Integrity (Centralized Services)

- Continuing the implementation of the Continuity of Operations Planning (COOP)
- Upgrading vehicle technology i.e. cellular hardware, monitor screen and the keyboard in each vehicle (24 vehicles)
- Purchase of racks, trays and lockboxes for security vehicles and the purchase of a new drone

Chief Administrative & Compliance Officer Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 922,000	\$ 1,233,300	\$ 363,400	\$ 1,469,000	\$ 235,700	19.1%	\$ 1,475,300
4.2 Supplies & Other	20,800	23,100	8,700	28,100	5,000	21.6%	28,200
4.3 Contractual Services	3,562,200	3,911,300	1,497,700	4,089,200	177,900	4.5%	4,144,600
Grand Total	\$ 4,505,000	\$ 5,167,700	\$ 1,869,800	\$ 5,586,300	\$ 418,600	8.1%	\$ 5,648,100

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
Chief Administrative Officer	\$ 378,900	\$ 936,600	\$ 255,000	\$ 1,123,600	\$ 187,000	20.0%	\$ 1,131,600
Risk Management and Safety	1,785,300	4,231,100	1,614,800	4,462,700	231,600	5.5%	4,516,500
Grand Total	\$ 2,164,200	\$ 5,167,700	\$ 1,869,800	\$ 5,586,300	\$ 418,600	8.1%	\$ 5,648,100

Chief Administrative & Compliance Officer (Administrative Services)

- Promote GLWA legislative and regulatory objectives with the support of a government relations contractor
- Expansion of the Risk Management Team

General Counsel Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 817,800	\$ 941,400	\$ 332,100	\$ 971,900	30,500	3.2%	\$ 975,800
4.2 Supplies & Other	24,100	78,400	6,600	79,900	1,500	1.9%	81,500
4.3 Contractual Services	1,164,700	2,019,100	615,800	2,059,400	40,300	2.0%	2,100,500
Grand Total	\$ 2,006,600	\$ 3,038,900	\$ 954,500	\$ 3,111,200	\$ 72,300	2.4%	\$ 3,157,800

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
General Counsel	\$ 2,006,600	\$ 3,038,900	\$ 954,500	\$ 3,111,200	\$ 72,300	2.4%	\$ 3,157,800
Grand Total	\$ 2,006,600	\$ 3,038,900	\$ 954,500	\$ 3,111,200	\$ 72,300	2.4%	\$ 3,157,800

General Counsel (Administrative Services)

- Work collaboratively with GLWA customers to secure resolutions supporting GLWA's Industrial Pretreatment Program (IPP)
- Provide training for areas, groups and teams on contractual, real estate, employment and regulatory matters impacting GLWA
- Develop GLWA Templates

Organizational Development Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 2,411,600	\$ 2,856,100	\$ 888,000	\$ 3,135,700	\$ 279,600	9.8%	\$ 3,149,700
4.2 Supplies & Other	222,800	210,300	86,200	419,000	208,700	99.2%	427,000
4.3 Contractual Services	580,000	1,300,000	137,900	866,500	(433,500)	-33.3%	1,131,500
5.2 Shared Services	(7,100)						
Grand Total	\$ 3,207,300	\$ 4,366,400	\$ 1,112,100	\$ 4,421,200	\$ 54,800	1.3%	\$ 4,708,200

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
Organizational Development	\$ 3,207,300	\$ 4,366,400	\$ 1,112,100	\$ 4,421,200	\$ 54,800	1.3%	\$ 4,708,200
Grand Total	\$ 3,207,300	\$ 4,366,400	\$ 1,112,100	\$ 4,421,200	\$ 54,800	1.3%	\$ 4,708,200

Organizational Development (Administrative Services)

- Transfer of the Managed Services function from the vendor to Organizational Development
- Establishment of a Compensation Team
- Implementation of the third Apprenticeship Program EICT-E

Public Affairs Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 526,000	\$ 728,300	\$ 217,300	\$ 755,100	\$ 26,800	3.7%	\$ 804,700
4.2 Supplies & Other	336,900	333,800	55,300	476,300	142,500	42.7%	432,000
4.3 Contractual Services	398,800	324,000	141,800	356,500	32,500	10.0%	356,500
Grand Total	\$ 1,261,700	\$ 1,386,100	\$ 414,400	\$ 1,587,900	\$ 201,800	14.6%	\$ 1,593,200

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
Public Affairs	\$ 1,261,700	\$ 1,386,100	\$ 414,400	\$ 1,587,900	\$ 201,800	14.6%	\$ 1,593,200
Grand Total	\$ 1,261,700	\$ 1,386,100	\$ 414,400	\$ 1,587,900	\$ 201,800	14.6%	\$ 1,593,200

Public Affairs (Administrative Services)

- Year two of GLWA Brand Awareness Campaign (five-month broadcast/ digital initiative)
- Funding of GLWA five-year anniversary activities (one-time funding request)
- Implementation of the team member recognition program

Financial Services Budget Summary

Biennial Budget Request by Expense Category

Expense Category	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
2.0 Personnel	\$ 10,531,000	\$ 12,016,100	\$ 3,710,400	\$ 12,536,600	\$ 520,500	4.3%	\$ 12,583,500
3.0 Utilities	59,500	16,200	7,200	94,800	78,600	485.2%	96,500
4.2 Supplies & Other	391,100	629,600	118,900	654,700	25,100	4.0%	653,400
4.3 Contractual Services	2,904,600	2,523,900	944,400	2,711,000	187,100	7.4%	2,690,100
5.1 Capital Program Allocation	(90,700)	(78,500)	-	(84,900)	(6,400)	8.2%	(85,300)
5.2 Shared Services	(326,800)	(623,900)	(63,800)	(268,400)	355,500	-57.0%	(273,700)
Grand Total	\$ 13,468,700	\$ 14,483,400	\$ 4,717,100	\$ 15,643,800	\$ 1,160,400	8.0%	\$ 15,664,500

Biennial Budget Request by Team

Team	FY 2019 Actual	FY 2020 Amended Budget	FY 2020 Activity as of 10.31.2019	FY 2021 Department Requested	FY 2021 Dollar Variance	FY 2021 Percent Variance	FY 2022 Department Requested
CFO Services	\$ 4,777,900	\$ 4,488,400	\$ 1,645,100	\$ 5,298,700	\$ 810,300	18.1%	\$ 5,265,000
Chief Financial Officer	678,100	840,400	268,600	828,900	(11,500)	-1.4%	831,800
Data Analytics & Internal Audit	633,700	544,000	221,100	750,500	206,500	38.0%	756,800
Financial Planning & Analysis	1,150,400	1,239,200	398,400	1,358,600	119,400	9.6%	1,369,400
Public Finance	1,147,400	878,400	333,000	1,014,300	135,900	15.5%	946,500
Reporting and Compliance	447,000	395,200	173,300	516,900	121,700	30.8%	519,200
Treasury	721,300	591,200	250,700	829,500	238,300	40.3%	841,300
Business Operations Support Services	5,651,000	6,483,200	2,073,600	6,963,100	479,900	7.4%	6,989,500
Procurement Director	2,596,200	2,715,300	915,900	3,111,600	396,300	14.6%	3,121,900
Logistics and Materials	1,691,400	1,723,900	679,400	1,921,300	197,400	11.5%	1,934,400
Owners' Representative	615,800	629,100	220,600	590,300	(38,800)	-6.2%	594,200
Transformation	747,600	1,414,900	257,700	1,339,900	(75,000)	-5.3%	1,339,000
Financial Reporting & Accounting	3,039,800	3,511,800	998,400	3,382,000	(129,800)	-3.7%	3,410,000
Grand Total	\$ 13,468,700	\$ 14,483,400	\$ 4,717,100	\$ 15,643,800	\$ 1,160,400	8.0%	\$ 15,664,500

Financial Services (Administrative Services)

The Financial Services budget increase in FY 2021 from the FY 2020 level is a result of

- Personnel
 - ✓ Procurement Director – Addition of 3 FTE: (1) Management Professional, (2) Professional Administrative Analysts to meet growing demands
- Utilities
 - ✓ Logistics & Materials - McKinstry Warehouse: New connection for Electric (previously shared); Gas now billed separately
- Contractual Services
 - ✓ Public Finance - Service Charges Consultant
 - ✓ Data Analytics & Internal Audit - Continuation of Construction Audit Services; Expansion on Internal Audit Program
- Shared Services
 - ✓ Treasury - Lower bank fees based on historical review



GLWA
Great Lakes Water Authority





Financial Services Audit Committee Communication

Date: January 27, 2020

To: Great Lakes Water Authority Audit Committee

From: Kim Garland, CPA, Reporting & Compliance Manager

Re: Capital Funding Sources and Uses

Background: Attached are a series of schedules summarizing the net position and cash balances for the Improvement & Extension (I&E) and Construction Funds for both the Water System and Sewer System.

Analysis: The purpose of these schedules is to show the year-over-year activity within these funds that resulted in the June 30, 2019 fiscal yearend balances.

Except for required reserves, the cash balances directly offset long-term capital financing needs as shown in the ten-year financial plan. Annual contributions built into the revenue requirement also support a healthy debt service coverage.

The schedules present two key elements of each fund - net position and cash balance. The main difference between *net position* and *cash balance* for all four funds is outstanding accounts payable balances at yearend. The net position for each fund can be easily referenced in the GLWA Comprehensive Annual Financial Report (CAFR) Combining Schedules.

Proposed Action: None

**Great Lakes Water Authority
Fund Cash Balance Summary**

	<u>Water</u>	<u>Sewer</u>
Improvement & Extension Fund (I&E)	\$ 264,713,314	\$ 96,701,199
Construction Bond Fund	98,276,636	92,243,116
June 30, 2019 Cash Balance	<u><u>\$362,989,950</u></u>	<u><u>\$188,944,315</u></u>

Great Lakes Water Authority
Water Improvement & Extension Fund

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Total</u>
Sources					
Opening Transfer, January 1, 2016	\$ 14,137,219	\$ -	\$ -	\$ -	\$ 14,137,219
Transfers from Revenue Financed Capital	53,286,696	110,100,000	46,739,700	47,695,000	257,821,396
Investment Earnings, timing ¹	-	(207,919)	-	2,314,180	2,106,261
Total Sources	<u>67,423,915</u>	<u>109,892,081</u>	<u>46,739,700</u>	<u>50,009,180</u>	<u>274,064,876</u>
Uses					
Contractual Services ²	-	-	-	2,107,743	2,107,743
Supplies & Other Expenses ²	-	147,884	-	-	147,884
Capital Outlay ³	589,681	858,305	1,984,317	5,849,231	9,281,534
Total Uses	<u>589,681</u>	<u>1,006,189</u>	<u>1,984,317</u>	<u>7,956,974</u>	<u>11,537,161</u>
Increase (Decrease) in Reserve	\$66,834,234	\$108,885,892	\$ 44,755,383	\$ 42,052,206	<u>\$262,527,715</u>
Net Position, beginning of year	-	66,834,234	175,720,126	220,475,509	
Net Position, end of year⁴	<u>\$66,834,234</u>	<u>\$175,720,126</u>	<u>\$220,475,509</u>	<u>\$262,527,715</u>	
Cash Balance⁴	<u>\$67,248,299</u>	<u>\$175,901,463</u>	<u>\$220,818,636</u>	<u>\$264,713,314</u>	

¹Investment earnings are transferred to the receiving fund pursuant to the Master Bond Ordinances. These balances represent market value, timing differences.

²These expenses relate to other system improvements that do not meet capitalization thresholds.

³Reflects assets with a useful life of less than 20 years expensed in accordance with accounting policy.

⁴Due to the nature of activity in this fund, the majority of the variance between Net Position and Cash Balance is outstanding accounts payable at yearend.

Source: GLWA Comprehensive Annual Financial Report, Combining Schedules

**Great Lakes Water Authority
Sewer Improvement & Extension Fund**

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Total</u>
Sources					
Opening Transfer, January 1, 2016	\$ 8,184,395	\$ -	\$ -	\$ -	\$ 8,184,395
Transfers from Revenue Financed Capital	105,249,627	-	22,698,100	33,019,297	160,967,024
Transfers from Insurance Proceeds, Sale of Property	-	-	8,136,115	2,771,520	10,907,635
Investment Earnings, timing ¹	-	(191,099)	-	633,168	442,069
Total Sources	<u>113,434,022</u>	<u>(191,099)</u>	<u>30,834,215</u>	<u>36,423,985</u>	<u>180,501,123</u>
Uses					
Contractual Services ²	-	-	-	21,000	21,000
DWSD Shortfall ³	-	49,600,000	-	-	49,600,000
Capital Outlay ⁴	1,694,729	19,110,580	4,740,820	10,889,201	36,435,330
Total Uses	<u>1,694,729</u>	<u>68,710,580</u>	<u>4,740,820</u>	<u>10,910,201</u>	<u>86,056,330</u>
Increase (Decrease) in Reserve	\$111,739,293	\$(68,901,679)	\$26,093,395	\$25,513,784	<u>\$94,444,793</u>
Net Position, beginning of year	-	111,739,293	42,837,614	68,931,009	
Net Position, end of year⁵	<u>\$111,739,293</u>	<u>\$ 42,837,614</u>	<u>\$68,931,009</u>	<u>\$94,444,793</u>	
Cash Balance⁵	<u>\$113,498,670</u>	<u>\$ 43,351,603</u>	<u>\$62,452,793</u>	<u>\$96,701,199</u>	

¹Investment earnings are transferred to the receiving fund pursuant to the Master Bond Ordinances. These balances represent market value, timing differences.

²These expenses relate to other system improvements that do not meet capitalization thresholds.

³Fiscal Year 2016 Transfers from Revenue Financed Capital were reversed in part to cover the DWSD Shortfall.

⁴Reflects assets with a useful life of less than 20 years expensed in accordance with accounting policy.

⁵Due to the nature of activity in this fund, the majority of the variance between Net Position and Cash Balance is outstanding accounts payable at yearend.

Source: GLWA Comprehensive Annual Financial Report, Combining Schedules

**Great Lakes Water Authority
Water Construction Fund**

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Total</u>
Sources					
Opening Transfer, January 1, 2016	\$ 602,067	\$ -	\$ -	\$ -	\$ 602,067
Revenue Bond Proceeds & SRF Loan Draws	-	226,216,380	3,003,518	429,256	229,649,154
Proceeds from Sale of Property	-	-	-	328,101	328,101
Investment Earnings	(128,860)	484,020	1,640,133	2,940,719	4,936,012
Total Sources	<u>473,207</u>	<u>226,700,400</u>	<u>4,643,651</u>	<u>3,698,076</u>	<u>235,515,334</u>
Uses					
Debt Issuance Cost Amortization	-	330,517	-	-	330,517
Capital Outlay	22,954,234	30,913,862	36,886,429	60,620,899	151,375,424
Total Uses	<u>22,954,234</u>	<u>31,244,379</u>	<u>36,886,429</u>	<u>60,620,899</u>	<u>151,705,941</u>
Increase (Decrease) in Construction Fund	<u>\$(22,481,027)</u>	<u>\$195,456,021</u>	<u>\$(32,242,778)</u>	<u>\$(56,922,823)</u>	<u>\$83,809,393</u>
Net Position, beginning of year	-	(22,481,027)	172,974,994	140,732,216	
Net Position, end of year¹	<u>\$(22,481,027)</u>	<u>\$172,974,994</u>	<u>\$140,732,216</u>	<u>\$ 83,809,393</u>	
Cash Balance¹	<u>\$ -</u>	<u>\$186,707,213</u>	<u>\$148,488,802</u>	<u>\$ 98,276,636</u>	

¹ Due to the nature of activity in this fund, the majority of the variance between Net Position and Cash Balance is outstanding accounts payable at yearend.

Source: GLWA Comprehensive Annual Financial Report, Combining Schedules

**Great Lakes Water Authority
Sewer Construction Fund**

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Total</u>
Sources					
Opening Transfer, January 1, 2016	\$ 161,006,645	\$ -	\$ -	\$ -	\$161,006,645
Revenue Bond Proceeds, SAW & SRF Loan Draws	-	22,216,294	34,750,504	44,414,588	101,381,386
Capital contributions from debt forgiveness	2,000,000	-	-	-	2,000,000
Investment Earnings	503,295	825,647	1,243,673	2,171,131	4,743,746
Total Sources	<u>163,509,940</u>	<u>23,041,941</u>	<u>35,994,177</u>	<u>46,585,719</u>	<u>269,131,777</u>
Uses					
Capital Outlay	16,484,282	34,177,562	69,377,853	79,431,454	199,471,151
Total Uses	<u>16,484,282</u>	<u>34,177,562</u>	<u>69,377,853</u>	<u>79,431,454</u>	<u>199,471,151</u>
Increase (Decrease) in Construction Fund	\$ 147,025,658	\$ (11,135,621)	\$ (33,383,676)	\$ (32,845,735)	<u>\$69,660,626</u>
Net Position, beginning of year	-	147,025,658	135,890,037	102,506,361	
Net Position, end of year¹	<u>\$147,025,658</u>	<u>\$135,890,037</u>	<u>\$102,506,361</u>	<u>\$ 69,660,626</u>	
Cash Balance¹	<u>\$164,326,618</u>	<u>\$150,930,509</u>	<u>\$107,678,630</u>	<u>\$ 92,243,116</u>	

¹ Due to the nature of activity in this fund, the majority of the variance between Net Position and Cash Balance is outstanding accounts payable at yearend.

Source: GLWA Comprehensive Annual Financial Report, Combining Schedules



Financial Services Audit Committee Communication

Date: January 17, 2020

To: Great Lakes Water Authority Audit Committee

From: Jon Wheatley, Public Finance Manager

Re: Resolution Regarding Approval of Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds an Amount Not to Exceed \$35,000,000 (Ordinance 2020-02)

Background: On May 8, 2019, the Great Lakes Water Authority (“GLWA”) Board of Directors approved the “Resolution of the Great Lakes Water Authority Authorizing Publication of Notice of Intent to Issue Water Supply System Revenue Bonds in a principal amount not to exceed \$160,000,000” (the “Notice of Intent”). This will be the third series of water bonds from that Notice of Intent and the combined total will be in an amount not to exceed \$35,000,000.

The approval of the Series Ordinance presented today is the next formal step required by the GLWA Board of Directors in the bond issuance process. The Series Ordinance authorizes the issuance of the Bonds by GLWA, sets forth the guidelines for the Drinking Water Revolving Fund (DWRf) Bonds, designates the Bonds as 2020 SRF-1 Junior Lien Bonds, and authorizes the Chief Executive Officer or the Chief Financial Officer to execute the final terms of the Bonds, paying issuance costs and signing of the Purchase Contract and Sale Order, within the parameters set forth in the Series Ordinance.

Analysis: This series of bonds authorized by this ordinance will be sold through the state of Michigan’s DWRf program and will be used to finance improvements to the Detroit Water and Sewerage Department (DWSD) local water system. The DWSD project will continue DWSD’s program to improve and replace water mains throughout the City. The improvements will include water mains along Grand River Avenue and the replacement of existing lead service piping. Per the Ordinance, this series of bonds will be designated *2020 SRF-1 Junior Lien Bonds*, with a loan amount not to exceed \$35,000,000.

The *2020 SRF-1 Junior Lien Bonds* will also be sold to the Michigan Finance Authority in a separate series. The current program interest rate for the DWRf is 2.00% and is typically payable over a 20-year term however, DWSD qualifies for disadvantaged community status which allows for a 30-year term. Based on the not to exceed amount for this series of \$35.0 million, DWSD could save an estimated \$16.4 million in interest costs and avoided issuance costs, based on a similar open market revenue bond with a 30-year term and 4.50% interest rate, over the life of the 30-year bond issue.

GLWA is the loan applicant on the DWRf loans issued on behalf of DWSD, and DWSD will be the DWRf loan recipient as determined by Michigan Department of Environment, Great Lakes, and

Energy (EGLE). All project costs financed by GLWA, on behalf of DWSD, through the DWRP program and resulting principal and interest payments on the bonds will be directly allocable to the DWSD local system.

Budget Impact: The debt service payments on the DWSD local project are anticipated to start in October 2020 with minimal amounts of interest due as a result of the projected draw down schedules. Interest expense on the DWSD loan was included in the FY 2021 Budget.

Proposed Action: The GLWA Audit Committee recommends that the Great Lakes Water Authority Board approve the resolution for the Approval of Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds an Amount Not to Exceed \$35,000,000 as presented, at its Regular Meeting on February 12, 2020.

GREAT LAKES WATER AUTHORITY
ORDINANCE NO. 2020-02

**SERIES ORDINANCE AUTHORIZING ISSUANCE AND SALE OF
WATER SUPPLY SYSTEM REVENUE BONDS IN
AN AGGREGATE AMOUNT NOT TO EXCEED \$35,000,0000**

WHEREAS, pursuant to Resolution No. 2015-10-02 adopted by the Board of Directors of the Great Lakes Water Authority (the “Authority”) on October 7, 2015, the Authority Board approved and adopted Master Bond Ordinance No. 2015-01 (as subsequently amended through the date hereof, the “Ordinance”), which authorizes the issuance by the Authority of Water Supply System Revenue Bonds; and

WHEREAS, the Ordinance authorizes the issuance of such Water Supply System Revenue Bonds in one or more Series pursuant to a Series Ordinance authorizing the issuance and sale of such Series; and

WHEREAS, the Authority Board has determined that it is necessary to authorize at this time one or more Series of SRF Junior Lien Bonds (the “2020 SRF-1 Junior Lien Bonds”) to provide moneys to pay the costs of the hereinafter described repairs, extensions, enlargements and improvements to the Local Water System identified in the Detroit Capital Improvement Program (the “2020 SRF-1 Project”).

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE GREAT LAKES WATER AUTHORITY AS FOLLOWS:

Section 1. Authority for this Series Ordinance. This Series Ordinance (the “2020 SRF-1 Series Ordinance”) is adopted pursuant to Section 1102(1) of the Ordinance.

Section 2. Definitions. Except as otherwise provided in this 2020 SRF-1 Series Ordinance, all terms which are defined in Section 101 of the Ordinance shall have the same meanings, respectively, in this 2020 SRF-1 Series Ordinance as such terms are given in the Ordinance. In addition, the following terms shall have the following meanings unless the context shall clearly indicate some other meaning:

(a) “2020 SRF-1 Junior Lien Bonds” means the Bonds authorized by Section 5 of this 2020 SRF-1 Series Ordinance for the purpose of paying and/or reimbursing costs of the 2020 SRF-1 Project.

(b) “2020 SRF-1 Project” means improvements to the Local Water System, including but not limited to water main replacement and the replacement of existing lead service piping at various locations in the City, including but not limited to the following areas: Schoolcraft Road between Asbury Park and Greenfield and between Greenfield and Grand River; Five Points between Seven Mile and McNichols; West Chicago between the City boundary to the west and Brammel; West Outer Drive between Joy Road and Warren Avenue; Warren Avenue between Heyden and Evergreen and between Evergreen and Southfield Road; Chandler Park Drive between Three Mile and Cadieux; Kelly between Glenwood and Eastwood; East Jefferson Avenue between

Chrysler Drive and Orleans Street, Mount Elliot Street and Beaufait Street, Crane Street and Pennsylvania Street, and Corey Drive and Dickerson; Greenfield Road between West Chicago and Warren; Greenview between Warren and Paul; West Parkway between Plymouth and Tireman; and the Northbound Southfield Freeway Service Drive between Seven Mile and Pembroke.

(c) “Authorized Denomination” means any denomination as determined by an Authorized Officer in the Sale Order.

(d) “Authorized Officer” means either the Chief Executive Officer or the Chief Financial Officer.

(e) “City Authorized Officer” means any officer of DWSD-R designated in a resolution adopted by the Board of Water Commissioners of DWSD-R as authorized to take actions on behalf of the City as described in this 2020 SRF-1 Series Ordinance.

(f) “Construction Fund, Series 2020 SRF-1” means a subaccount of the Construction Fund established in accordance with Section 11 of this 2020 SRF-1 Series Ordinance relating to the construction of the 2020 SRF-1 Project to be paid with the proceeds of the 2020 SRF-1 Junior Lien Bonds.

(g) “Interest Payment Date” means except as otherwise set forth in the Sale Order each April 1 and October 1.

(h) “Maturity Date” means such dates of maturity of the 2020 SRF-1 Junior Lien Bonds as determined in the Sale Order.

(i) “MFA” means the Michigan Finance Authority.

(j) “Person” means any natural person, association, corporation, trust, partnership, joint venture, joint-stock company, municipal corporation, public body or other entity, however organized.

(k) “Project Costs” means the costs of acquiring, constructing, equipping, installing and financing the 2020 SRF-1 Project, including Issuance Costs relating to the 2020 SRF-1 Junior Lien Bonds.

(l) “Purchase Contract” means the Purchase Contract between the MFA and the Authority with respect to the purchase by the MFA and the sale by the Authority of a Series of the 2020 SRF-1 Junior Lien Bonds.

(m) “Regular Record Date” means except as otherwise set forth in the Sale Order the fifteenth day of the calendar month immediately preceding an Interest Payment Date.

(n) “Sale Order” means any one or more Sale Orders of an Authorized Officer authorizing acts consistent with the Ordinance and this 2020 SRF-1 Series Ordinance necessary and appropriate to complete the sale, execution and delivery of the 2020 SRF-1 Junior Lien Bonds and to complete the other transactions contemplated herein.

(o) “Supplemental Agreement” means the Supplemental Agreement among the City, the MFA and the State of Michigan acting through the Department of Environment, Great Lakes, and Energy, and approved and agreed to by the Authority, with respect to a Series of the 2020 SRF-1 Junior Lien Bonds.

(p) “Taxable 2020 SRF-1 Junior Lien Bonds” means any 2020 SRF-1 Junior Lien Bonds other than Tax-Exempt 2020 SRF-1 Junior Lien Bonds.

(q) “Tax-Exempt 2020 SRF-1 Junior Lien Bonds” means any 2020 SRF-1 Junior Lien Bonds that are Tax-Exempt Bonds.

Section 3. Approval of 2020 SRF-1 Project. It is hereby determined to be necessary for the public health, benefit and welfare of the area served by the Local Water System to acquire, construct and undertake the 2020 SRF-1 Project, and the 2020 SRF-1 Project is hereby approved and accepted.

Section 4. Estimated Cost and Period of Usefulness of 2020 SRF-1 Project. The Project Costs are estimated by the Authority Board to not exceed \$32,635,000 and the Project Costs are hereby approved and confirmed. The period of usefulness of the 2020 SRF-1 Project is estimated to be not less than 40 years.

Section 5. Authorization of 2020 SRF-1 Junior Lien Bonds.

(a) Authorization of Borrowing. The Authority may borrow an amount not in excess of \$35,000,000, as is finally determined in the Sale Order, and issue the 2020 SRF-1 Junior Lien Bonds in one or more Series, all to evidence such borrowing pursuant to Act 233, Act 94 and the Ordinance, as 2020 SRF-1 Junior Lien Bonds, all as finally determined in the Sale Order. The amount of the 2020 SRF-1 Junior Lien Bonds authorized in this Section 5(a) shall include the amount of the net original issue premium, if any.

(b) Purpose of 2020 SRF-1 Junior Lien Bonds. The 2020 SRF-1 Junior Lien Bonds shall be issued as Additional Bonds for the purpose of paying and/or reimbursing Project Costs.

Priority of Lien. The 2020 SRF-1 Junior Lien Bonds shall be issued as SRF Junior Lien Bonds.

(c) Insufficient Proceeds. To the extent that proceeds of the SRF-1 Junior Lien Bonds are insufficient to pay Project Costs, the insufficiency shall be paid from the proceeds of future Additional Bonds, if any, and/or moneys of the Local Water System on hand and legally available therefor, as determined by the Board of Water Commissioners of DWSD-R and, in the case of any Additional Bonds, with the concurrence of the Authority Board.

(d) Taxable and Tax-Exempt 2020 SRF-1 Junior Lien Bonds. The 2020 SRF-1 Junior Lien Bonds may be issued as Taxable 2020 SRF-1 Junior Lien Bonds or Tax-Exempt 2020 SRF-1 Junior Lien Bonds, or as separate Series of both, as set forth in the Sale Order.

(e) Source of Payment and Security. The 2020 SRF-1 Junior Lien Bonds shall be payable and secured as provided in Section 8.

(f) Applicability of Ordinance. Except as otherwise provided in this 2020 SRF-1 Series Ordinance or in the Sale Order, all of the provisions of the Ordinance shall apply to the 2020 SRF-1 Junior Lien Bonds as if set forth in full in this 2020 SRF-1 Series Ordinance, the purpose of this 2020 SRF-1 Series Ordinance being to supplement the Ordinance to authorize the issuance of 2020 SRF-1 Junior Lien Bonds for the purposes set forth herein.

Section 6. 2020 SRF-1 Junior Lien Bond Details.

(a) Designation.

- (1) The 2020 SRF-1 Junior Lien Bonds shall bear the designations Water Supply System Revenue Bonds, Series 2020-SRF-1 and shall include such other designations, including, without limitation, designations for multiple subseries, as determined by an Authorized Officer as shall be set forth in the Sale Order and not inconsistent with the Ordinance or this 2020 SRF-1 Series Ordinance.
- (2) If the 2020 SRF-1 Junior Lien Bonds are not issued in 2020, an Authorized Officer is authorized in her discretion to re-designate the year and Series designation of such Series of 2020 SRF-1 Junior Lien Bonds and the various funds and accounts established hereunder to correspond with the year of issuance of such Series of 2020 SRF-1 Junior Lien Bonds. Furthermore, an Authorized Officer is authorized to establish designations within the various funds and accounts established hereunder if necessary in order to differentiate such funds and accounts from other similarly named funds and accounts related to other Bonds.

(b) Numbering. The 2020 SRF-1 Junior Lien Bonds shall be numbered in such manner as shall be determined in the Sale Order.

(c) Principal. The 2020 SRF-1 Junior Lien Bonds shall be issued in the form of Serial Bonds or Term Bonds, or any combination of Serial Bonds and Term Bonds, in any Authorized Denomination, and the principal thereof shall mature on October 1, or such other date as set forth in the Sale Order, in such years and amounts, and shall be or not be subject to redemption prior to maturity, all as shall be determined in the Sale Order subject to the following limitations:

- (1) No 2020 SRF-1 Junior Lien Bonds shall mature later than 40 years after the date of issuance thereof.
- (2) The 2020 SRF-1 Junior Lien Bonds shall only be issued with annual principal and interest installments permitted by the Ordinance, including Section 207 thereof.

(d) Interest. 2020 SRF-1 Junior Lien Bonds or portions thereof shall bear interest at a rate or rates as set forth in the Sale Order not in excess of 2.50% per annum. Interest on 2020 SRF-1 Junior Lien Bonds shall be payable on each Interest Payment Date.

(e) Payment of Principal and Interest. The principal of, premium, if any, and interest on the 2020 SRF-1 Junior Lien Bonds shall be payable in lawful money of the United States. Except as otherwise provided in the Sale Order, so long as the 2020 SRF-1 Junior Lien Bonds are owned by the MFA, the 2020 SRF-1 Junior Lien Bonds are payable as to principal, redemption premium, if any, and interest at The Bank of New York Mellon Trust Company, N.A., or at such other place as shall be designated in writing to the Authority by the MFA (the MFA's Depository"), and the Authority agrees that it will deposit with the MFA's Depository payments of the principal of, premium, if any, and interest on the 2020 SRF-1 Junior Lien Bonds in immediately available funds by 12:00 noon at least five Business Days prior to the date on which any such payment is due, whether by maturity, redemption or otherwise. If the 2020 SRF-1 Junior Lien Bonds are not registered in the name of the MFA, the principal of and premium, if any, on the 2020 SRF-1 Junior Lien Bonds are payable upon the surrender thereof at the corporate trust office of the Trustee and the interest is payable by check or draft drawn on the Trustee and mailed to the registered owners as of the immediately preceding Regular Record Date at their address shown on the registration books of the Authority maintained by the Trustee.

(f) Dating. The 2020 SRF-1 Junior Lien Bonds shall be dated such date as determined in the Sale Order.

(g) Reserve Requirement. There shall be no Reserve Requirement with respect to the 2020 SRF-1 Junior Lien Bonds.

(h) Exchange. The registered owner of any 2020 SRF-1 Junior Lien Bond may exchange such 2020 SRF-1 Junior Lien Bond for a new 2020 SRF-1 Junior Lien Bond or Bonds of the same interest rate, maturity and Priority of Lien in an equal aggregate principal amount in one or more of the Authorized Denominations by surrendering such 2020 SRF-1 Junior Lien Bond to be exchanged at the designated office of the Trustee together with an assignment duly executed by the registered owner thereof or his attorney or legal representative in such form as shall be satisfactory to the Trustee. As provided in Section 206 of the Ordinance, the Trustee shall be responsible for the registration, transfer and exchange of 2020 SRF-1 Junior Lien Bonds and shall indicate its acceptance of such duties by a document filed with an Authorized Officer concurrently with the delivery of the 2020 SRF-1 Junior Lien Bonds.

(i) Execution and Delivery of 2020 SRF-1 Junior Lien Bonds. The 2020 SRF-1 Junior Lien Bonds shall be executed in the name of the Authority by manual or facsimile signature of the Chief Executive Officer of the Authority and countersigned by the manual or facsimile signature of the Secretary of the Authority Board, and shall have the Authority's seal or facsimile thereof affixed or printed thereon. The Chief Financial Officer is authorized to deliver the 2020 SRF-1 Junior Lien Bonds to the MFA upon receiving the purchase price therefor in lawful money of the United States.

(j) Form of 2020 SRF-1 Junior Lien Bonds. The 2020 SRF-1 Junior Lien Bonds shall be in substantially the following form, subject to such changes, additions or deletions as determined by the Chief Executive Officer within the parameters of this 2020 SRF-1 Series Ordinance:

R-__

**UNITED STATES OF AMERICA
STATE OF MICHIGAN
COUNTIES OF MACOMB, OAKLAND AND WAYNE
GREAT LAKES WATER AUTHORITY
WATER SUPPLY SYSTEM REVENUE BOND,
SERIES 2020-SRF-1**

REGISTERED OWNER: Michigan Finance Authority

PRINCIPAL AMOUNT: \$ _____

INTEREST RATE: _____%

ORIGINAL ISSUE DATE:

The Great Lakes Water Authority, Counties of Macomb, Oakland and Wayne, State of Michigan (the “Issuer”), upon authorization from the Board of Directors of the Issuer (the “Board”), has issued this Bond. The Issuer, for value received, promises to pay, in lawful money of the United States of America, but only from the Pledged Assets (as defined below), to the Registered Owner named above, or registered assigns, the Principal Amount stated above, or so much thereof as shall have been advanced to the Issuer and not prepaid or reduced pursuant to a Purchase Contract between the Issuer and the Michigan Finance Authority (the “MFA”), a Supplemental Agreement by and among the City of Detroit, the MFA and State of Michigan acting through the Department of Environment, Great Lakes, and Energy and approved and agreed to by the Issuer, and the Order of Approval issued by the Department of Environment, Great Lakes, and Energy. The Principal Amount shall be payable on the dates and in the principal installments set forth in Schedule A attached hereto.

In the event less than the Principal Amount of this Bond is disbursed by the MFA, any portion of the Principal Amount is prepaid as provided herein, or any serial principal payment becomes due before the Issuer has received proceeds from corresponding purchased principal installments of at least a like amount, then the MFA may prepare a new serial principal installment repayment schedule which shall be presented to the Issuer and be effective upon receipt as provided in the Purchase Contract.

Interest on this Bond shall accrue from the Original Issue Date set forth above at the Interest Rate set forth above, only on that portion of installments of the Principal Amount which have been disbursed by the MFA, shall be payable on _____, 20__ and semiannually on each April 1 and October 1 thereafter (each an “Interest Payment Date”).

If the MFA is not the registered owner of this Bond, principal of this Bond is payable upon presentation and surrender at the designated office of U.S. Bank National Association, as Trustee under the Ordinance (as defined below) or such other trustee as the Issuer may hereafter designate by notice mailed to the registered owner not less than 60 days prior to any Interest Payment Date (the “Trustee”).

Interest on this Bond is payable to the registered owner of record as of the close of business on the 15th day of the month immediately preceding any Interest Payment Date as shown on the registration books kept by the Trustee by check or draft mailed by the Trustee to the registered owner at the registered address. Interest on this Bond shall be computed on the basis of a 360-day year comprised of twelve 30-day months. During the time funds are being drawn down by the Issuer under this Bond, the MFA will periodically provide the Issuer with a statement showing the amount of principal that has been advanced and the date of each advance, which statement shall constitute prima facie evidence of the reported information; provided, that no failure on the part of the MFA to provide such a statement or to reflect a disbursement or the correct amount of a disbursement shall relieve the Issuer of its obligation to repay the outstanding principal amount actually advanced [(subject to any principal forgiveness as provided for herein)], all accrued interest thereon, and any other amount payable with respect thereto in accordance with the terms of this Bond.

In the event of a default in the payment of principal or interest hereon when due, whether at maturity, by redemption or otherwise, the amount of such default shall bear interest (the "additional interest") at a rate equal to the rate of interest that is two percent above the MFA's cost of providing funds (as determined by the MFA) to make payment on the bonds of the MFA issued to provide funds to purchase this Bond but in no event in excess of the maximum rate of interest permitted by law. The additional interest shall continue to accrue until the MFA has been fully reimbursed for all costs incurred by the MFA (as determined by the MFA) as a consequence of the Issuer's default. Such additional interest shall be payable on the interest payment date following demand of the MFA. In the event that (for reasons other than the default in the payment of any municipal obligation purchased by the MFA) the investment of amounts in the reserve account established by the MFA for the bonds of the MFA issued to provide funds to purchase this bond fails to provide sufficient available funds (together with any other funds that may be made available for such purpose) to pay the interest on outstanding bonds of the MFA issued to fund such account, the Issuer shall and hereby agrees to pay on demand only the Issuer's pro rata share (as determined by the MFA) of such deficiency as additional interest on this Bond.

Notwithstanding any other provision of this Bond, so long as the MFA is the owner of this Bond, (a) this Bond is payable as to principal, premium, if any, and interest at The Bank of New York Mellon Trust Company, N.A., or at such other place as shall be designated in writing to the Issuer by the MFA (the "MFA's Depository"); (b) the Issuer agrees that it will deposit with the MFA's Depository payments of the principal of, premium, if any, and interest on this Bond in immediately available funds by 12:00 noon at least five business days prior to the date on which any such payment is due whether by maturity, redemption or otherwise; in the event that the MFA's Depository has not received the Issuer's deposit by 12:00 noon on the scheduled day, the Issuer shall immediately pay to the MFA as invoiced by the MFA an amount to recover the MFA's administrative costs and lost investment earnings attributable to that late payment; and (c) written notice of any redemption of this Bond shall be given by the Issuer and received by the MFA's Depository at least 40 days prior to the date on which redemption is to be made.

This Bond is one of a series of bonds designated "Water Supply System Revenue Bonds, Series 2020-SRF-__" and is issued pursuant to the provisions of (i) Act 233, Public Acts of Michigan, 1955, as amended ("Act 233"), and Act 94, Public Acts of Michigan, 1933, as amended ("Act 94"), (ii) Master Bond Ordinance No. 2015-01 adopted by the Board on October 7, 2015, as

amended (the “Bond Ordinance”), (iii) the Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds in an Aggregate Amount not to Exceed \$35,000,000, adopted by the Board on _____, 2020 (the “Series Ordinance”), and (iv) a Sale Order of the Chief Executive Officer of the Issuer dated _____, 2020 (the “Sale Order,” and, collectively with the Bond Ordinance and the Series Ordinance, the “Ordinance”). This Bond is issued for the purposes set forth in the Series Ordinance and the Sale Order.

For the prompt payment of the principal of and interest on this Bond, and other bonds issued by the Issuer pursuant to the Bond Ordinance, the Issuer has irrevocably pledged the Pledged Assets (as defined in the Bond Ordinance), which includes the revenues of the Water System (as defined in the Bond Ordinance), after provision is made for reasonable and necessary expenses of operation, maintenance and administration of the Water System (the “Net Revenues”), and a statutory lien on the Net Revenues and Pledged Assets is hereby recognized and acknowledged. Such lien is a third lien, subject to obligations heretofore and hereafter issued or incurred under the Bond Ordinance secured by a first or second lien on the Pledged Assets. This Bond is of equal standing on a parity with all other obligations heretofore and hereafter issued or incurred under the Bond Ordinance and secured by a third lien on the Pledged Assets.

For a complete statement of the revenues from which and the conditions under which this Bond is payable, a statement of the conditions under which Additional Bonds (as defined in the Bond Ordinance) of senior or equal standing and Additional Bonds of junior standing may hereafter be issued and the general covenants and provisions pursuant to which this Bond is issued, reference is made to the Bond Ordinance.

This Bond is subject to redemption prior to maturity at the option of the Issuer and with the prior written consent of and upon such terms as may be required by the MFA. That portion of this Bond called for redemption shall not bear interest after the date fixed for redemption, provided funds are on hand with the Trustee to redeem the same.

THIS BOND IS ISSUED UNDER ACT 233 AND ACT 94. IT IS A SELF-LIQUIDATING BOND AND IS NOT A GENERAL OBLIGATION OF THE ISSUER AND DOES NOT CONSTITUTE AN INDEBTEDNESS OF THE ISSUER WITHIN ANY CONSTITUTIONAL OR STATUTORY LIMITATION, BUT IS PAYABLE, BOTH AS TO PRINCIPAL AND INTEREST SOLELY FROM THE PLEDGED ASSETS OF THE WATER SYSTEM. THE PAYMENT OF THE PRINCIPAL OF AND INTEREST ON THIS BOND ARE SECURED BY A STATUTORY LIEN ON THE PLEDGED ASSETS AS DESCRIBED HEREIN.

The Issuer has covenanted and agreed, and hereby covenants and agrees, to fix and maintain, or cause to be fixed and maintained, at all times while any bonds payable from the Pledged Assets of the Water System shall be outstanding, such rates for service furnished by the Water System as shall be sufficient to provide for payment of the interest upon and the principal of this Bond and all other Bonds (as defined in the Bond Ordinance) assumed or issued and to be issued under the Bond Ordinance as and when the same shall become due and payable, to create and maintain a bond redemption fund therefor, including a bond reserve for Bonds other than this Bond, to provide for the payment of expenses of administration and operation and such expenses for maintenance of the Water System as are necessary to preserve the same in good repair and

working order, and to provide for such other expenditures and funds for the Water System, all as are required by the Bond Ordinance.

This Bond is transferable only upon the books of the Issuer kept for that purpose at the office of the Trustee by the registered owner hereof in person, or by his attorney duly authorized in writing, upon the surrender of this Bond together with a written instrument of transfer satisfactory to the Trustee duly executed by the registered owner or his attorney duly authorized in writing, and thereupon a new registered bond or bonds of the same type, in the same aggregate principal amount and of the same maturity shall be issued to the transferee in exchange therefor as provided in the Ordinance and upon the payment of the charges, if any, therein prescribed.

It is hereby certified and recited that all acts, conditions and things required by law precedent to and in the issuance of this Bond have been done and performed by regular and due time and form as required by law.

This Bond is not valid or obligatory for any purpose until the Trustee's Certificate of Authentication hereon has been executed by the Trustee.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the Great Lakes Water Authority, Counties of Macomb, Oakland and Wayne, State of Michigan, has caused this Bond to be signed in its name by the facsimile signatures of its Chief Executive Officer and its Secretary of the Board, and its corporate seal or a facsimile thereof to be printed, impressed or otherwise reproduced hereon, all as of the Original Issue Date.

GREAT LAKES WATER AUTHORITY

By: _____
Chief Executive Officer

Countersigned:

By: _____
Secretary, Board of Directors

[Seal]

CERTIFICATE OF AUTHENTICATION

This Bond is authenticated as the bond designated by the Issuer as “Water Supply System Revenue Bond, Series 2020-SRF-1”.

U.S. Bank National Association,
Trustee

By: _____

Date of Authentication: _____, 2020

ASSIGNMENT

For value received, the undersigned sells, assigns and transfers unto _____ this Bond and all rights hereunder and hereby irrevocably appoints _____ attorney to transfer this Bond on the books kept for registration thereof with full power of substitution in the premises.

Dated: _____
Signature _____

NOTICE: The signature to this assignment must correspond with the name as it appears on the face of this Bond in every particular.

Schedule A

The principal amounts and maturity dates applicable to the Bond to which this Schedule A is attached are as follows:

Date

Amount

Based on the schedule provided above unless revised as provided in this paragraph, repayment of the Principal Amount shall be made according to such schedule until the full Principal Amount disbursed to the Issuer is repaid; provided, however, that the Issuer shall have no obligation to repay any serial principal installment for which the Issuer did not receive a disbursement of Principal Amount by the date such serial principal installment is due. In the event the Order of Approval issued by the Department of Environment, Great Lakes, and Energy (the "Order") approves a principal amount of assistance less than the amount of the Bond, the MFA shall only disburse principal up to the amount stated in the Order. In the event (1) that the payment schedule described above provides for payment of a total principal amount greater than the amount of assistance approved by the Order, (2) that less than the principal amount of assistance approved by the Order is disbursed to the Issuer by the MFA or (3) of prepayment [or principal forgiveness] of the Bond, the MFA shall prepare a new payment schedule that shall be effective upon receipt by the Issuer.

END OF BOND FORM

Section 7. Concerning the Securities Depository.

(a) As used herein:

“Beneficial Owner” means any Person who indirectly owns 2020 SRF-1 Junior Lien Bonds pursuant to the indirect ownership system maintained by a securities depository (the “Securities Depository”) and its Participants, commonly known as the “Book-Entry Only System.”

“Participant” means any Person whose ownership of 2020 SRF-1 Junior Lien Bonds is shown on books of the Securities Depository.

(b) The 2020 SRF-1 Junior Lien Bonds will initially be registered in the name of the MFA, or such other purchasers as designated in the Sale Order. In the event 2020 SRF-1 Junior Lien Bonds are later to be registered in the name of a Securities Depository or its nominee, neither the Authority nor the Trustee shall have any responsibility or obligation to any Participant or to any Beneficial Owner with respect to any matter, including the following:

- (1) the accuracy of the records of the Securities Depository, its nominee or any Participant with respect to any ownership interest in 2020 SRF-1 Junior Lien Bonds,
- (2) the delivery to any Participant, Beneficial Owner or any other Person other than the Securities Depository of any notice with respect to: any 2020 SRF-1 Junior Lien Bonds, including any notice of redemption, or
- (3) the payment to any Participant, Beneficial Owner or any other Person, other than the Securities Depository of any amount with respect to the principal (and premium, if any) of or interest on any 2020 SRF-1 Junior Lien Bonds.

(c) The Trustee shall pay all principal (and premium, if any) of and interest on the 2020 SRF-1 Junior Lien Bonds only to or upon the order of the MFA, or the Securities Depository, as applicable, and all such payments shall be valid and effective fully to satisfy and discharge the Authority’s obligations with respect to the principal (and premium, if any) of, and interest on such 2020 SRF-1 Junior Lien Bonds to the extent of the sum or sums so paid.

(d) If 2020 SRF-1 Junior Lien Bonds become registered in the name of the Securities Depository and (1) the Authority receives a written notice from the Securities Depository to the effect the Securities Depository is unable or unwilling to discharge its responsibilities or (2) the Authority determines that it is in the best interests of the Beneficial Owners of 2020 SRF-1 Junior Lien Bonds that they be able to obtain 2020 SRF-1 Junior Lien Bonds in certificated form, then, in either event, the Authority shall notify the Trustee and, in the case of clause, (2), the Securities Depository.

(e) Upon discontinuance of the use of the Book-Entry Only System maintained by the Securities Depository, if any, pursuant to subsection (d), above and upon receipt of notice from the Securities Depository containing sufficient information, the Authority shall execute and the Trustee shall authenticate and deliver 2020 SRF-1 Junior Lien Bonds in certificated form to

Beneficial Owners in exchange for the beneficial interests of such Beneficial Owners in corresponding principal amounts and in any Authorized Denominations.

(f) Notwithstanding any other provision of this 2020 SRF-1 Series Ordinance to the contrary, so long as any 2020 SRF-1 Junior Lien Bond is registered in the name of the Securities Depository or its nominee:

- (1) all payments with respect to the principal, premium, if any, and interest on such 2020 SRF-1 Junior Lien Bond and all notices of redemption, tender and otherwise with respect to such 2020 SRF-1 Junior Lien Bond shall be made and given, respectively, to the Securities Depository as provided in the letter of representations from the Authority to the Securities Depository with respect to such 2020 SRF-1 Junior Lien Bonds or any master letter of representations from the Authority to the Securities Depository;
- (2) if less than all of the 2020 SRF-1 Junior Lien Bonds of the same type of any maturity are to be redeemed, then the particular 2020 SRF-1 Junior Lien Bonds or portions of 2020 SRF-1 Junior Lien Bonds of such type and maturity to be redeemed shall be selected by the Securities Depository in any such manner as the Securities Depository may determine;
- (3) all payments with respect to principal of the 2020 SRF-1 Junior Lien Bonds and premium, if any and interest on the 2020 SRF-1 Junior Lien Bonds shall be made in such manner as shall be prescribed by the Securities Depository; and
- (4) if a 2020 SRF-1 Junior Lien Bond is redeemed or tendered in part, then all amounts payable in respect of such redemption or tender shall be paid without presentation and surrender of such 2020 SRF-1 Junior Lien Bond pursuant to the procedures of the Securities Depository.

Section 8. Payment of 2020 SRF-1 Junior Lien Bonds; Confirmation of Statutory Lien.

(a) The 2020 SRF-1 Junior Lien Bonds and the interest thereon shall be payable solely from the Pledged Assets.

(b) To secure payment of the 2020 SRF-1 Junior Lien Bonds, the statutory lien upon the whole of the Pledged Assets established by Act 94 and the pledge created in Section 501 of the Ordinance is hereby confirmed in favor of the 2020 SRF-1 Junior Lien Bonds as follows: Such lien in favor of the 2020 SRF-1 Junior Lien Bonds shall be a statutory third lien on the Pledged Assets of equal standing and Priority of Lien with all issued, to be issued and outstanding SRF Junior Lien Bonds.

Section 9. Funds and Accounts; Flow of Funds. Except as otherwise provided in this 2020 SRF-1 Series Ordinance, all of the provisions relative to funds and accounts, their maintenance, the flow of funds and other details relative thereto, shall remain as specifically set forth in the Ordinance.

Section 10. Disposition of Proceeds.

(a) Disposition of Accrued Interest and Capitalized Interest. From the proceeds of the sale of the 2020 SRF-1 Junior Lien Bonds there shall be immediately deposited in the SRF Junior Lien Debt Service Account, an amount equal to any accrued interest received on the delivery of the 2020 SRF-1 Junior Lien Bonds and any capitalized interest on the 2020 SRF-1 Junior Lien Bonds, and the Authority may take credit for the amount so deposited against the amount required to be deposited in the SRF Junior Lien Debt Service Account for payment of the next maturing interest payment on the 2020 SRF-1 Junior Lien Bonds.

(b) Construction Fund. The balance of the proceeds of the 2020 SRF-1 Junior Lien Bonds shall be deposited in the Construction Fund and used to pay Project Costs as provided in Section 11.

Section 11. Construction Fund.

(a) A subaccount of the Detroit Local Construction Account of the Construction Fund established by the Ordinance shall be established for the 2020 SRF-1 Junior Lien Bonds and designated the "Construction Fund, Series 2020 SRF-1," and shall be established and maintained as a separate depository account with a Custodian as designated by a City Authorized Officer.

(b) Moneys in the Construction Fund, Series 2020 SRF-1 shall be applied solely to payment of Project Costs (or to the reimbursement of Project Costs paid by the Authority or the City from other funds prior to the issuance of the 2020 SRF-1 Junior Lien Bonds).

(1) Payments or reimbursements for Project Costs for construction, either on account or otherwise, shall not be made unless the registered engineer in charge of such work shall file with a City Authorized Officer a signed statement to the effect that the work has been completed in accordance with the plans and specifications therefor, that it was done in accordance with the contract therefor, that such work is satisfactory and that such work has not been previously paid for.

(2) Payment or reimbursement for Project Costs consisting of Issuance Costs and engineering, legal and financial costs shall be made upon submission of appropriate documentation to a City Authorized Officer.

Section 12. Tax Covenant.

(a) The Authority hereby covenants and represents with the registered owners of the Tax-Exempt 2020 SRF-1 Junior Lien Bonds, that so long as any of the Tax-Exempt 2020 SRF-1 Junior Lien Bonds remain outstanding and unpaid as to either principal or interest, the Authority shall, to the extent permitted by law, take all actions within its control or cause the City to take all actions within its control to maintain, and will refrain from taking any action and cause the City from taking any actions within its control which would impair, the exclusion of the interest on the Tax-Exempt 2020 SRF-1 Junior Lien Bonds from gross income for federal income tax purposes under the Code.

(b) The actions referred to in subsection (a), above include, but are not limited to actions relating to any required rebate of arbitrage earnings and the expenditure and investment of proceeds of Tax-Exempt 2020 SRF-1 Junior Lien Bonds and moneys deemed to be proceeds of Tax-Exempt 2020 SRF-1 Junior Lien Bonds, and to prevent Tax-Exempt 2020 SRF-1 Junior Lien Bonds from being or becoming “private activity bonds” as that term is used in the Code.

Section 13. Sale of 2020 SRF-1 Junior Lien Bonds; Purchase Contract; Expiration of Referendum Period.

(a) The 2020 SRF-1 Junior Lien Bonds shall be sold by negotiated sale to the MFA pursuant to a Purchase Contract in customary form with such changes thereto as an Authorized Officer shall determine are in the best interests of the Authority, within the parameters established by this 2020 SRF-1 Series Ordinance. Such determination shall be conclusively established by the Authorized Officer’s execution of the Purchase Contract to the MFA.

(b) The Authority Board hereby determines that the sale of the 2020 SRF-1 Junior Lien Bonds by negotiated sale as described in subsection (a) is in the best interests of the Authority and will allow the 2020 SRF-1 Junior Lien Bonds to receive a subsidized interest rate through participation in the MFA’s Drinking Water Revolving Fund Program.

(c) An Authorized Officer is authorized to accept, on behalf of the Authority, an offer from the MFA to purchase the 2020 SRF-1 Junior Lien Bonds subject to the following limitations:

- (1) The interest rate with respect to any Series of the 2020 SRF-1 Junior Lien Bonds shall not exceed 2.50%.
- (2) The aggregate purchaser’s discount at which any Series of the 2020 SRF-1 Junior Lien Bonds shall be sold to the MFA shall not exceed 2.00%.

(d) An Authorized Officer shall confirm in the Sale Order that there was no petition meeting the requirements of Section 33 of Act 94 that was filed with the Secretary of the Authority Board within 45 days of the date of publication of the notice of intent to issue bonds with respect to the 2020 SRF-1 Junior Lien Bonds as required by Section 33 of Act 94.

Section 14. Delegation of Authority to and Authorization of Actions of Authorized Officers.

(a) An Authorized Officer shall make all determinations herein provided to be made in the Sale Order and shall make all such determinations in consultation with DWSD-R in accordance with the best interests of the Authority within the parameters of this 2020 SRF-1 Series Ordinance.

(b) In addition to determinations authorized elsewhere in this 2020 SRF-1 Series Ordinance, an Authorized Officer shall determine the aggregate principal amount of 2020 SRF-1 Junior Lien Bonds to be issued, but not in excess of the aggregate principal amount authorized by this 2020 SRF-1 Series Ordinance, on the basis of her evaluation of the maximum amount of 2020 SRF-1 Junior Lien Bonds which can be sold, given anticipated interest rates and the revenue coverage requirements with respect to the 2020 SRF-1 Junior Lien Bonds and for any other reasons the Authorized Officer deems appropriate.

- (1) Such determination shall also include the redemption provisions for the 2020 SRF-1 Junior Lien Bonds.
- (2) An Authorized Officer shall also determine and establish, in accordance with this 2020 SRF-1 Series Ordinance, the maturities of each Series of the 2020 SRF-1 Junior Lien Bonds, whether such maturities shall be serial or term maturities and the Mandatory Redemption Requirements for any term maturities.

(c) An Authorized Officer is authorized, if necessary, to file applications and to pay the related fees, if any, to the Michigan Department of Treasury at her discretion under Act 34 for one or more orders of approval to issue all or a portion of the 2020 SRF-1 Junior Lien Bonds, and such waivers or other Treasury approvals as necessary to implement the sale, delivery and security for the 2020 SRF-1 Junior Lien Bonds as authorized herein, and as required by the Michigan Department of Treasury or Act 34.

(d) An Authorized Officer shall determine in the Sale Order that the requirements set forth in Section 207 of the Ordinance with respect to the issuance of the 2020 SRF-1 Junior Lien Bonds as Additional Bonds have been satisfied.

(e) An Authorized Officer is hereby authorized and directed to do and perform any and all other acts and things with respect to the 2020 SRF-1 Junior Lien Bonds which are necessary or appropriate to carry into effect, consistent with the Ordinance and this 2020 SRF-1 Series Ordinance, the authorizations therein and herein contained including without limitation the securing of ratings by bond rating agencies, and the incurring of reasonable fees costs and expenses incidental to the foregoing, for and on behalf of the Authority.

Section 15. Advancement of Project Costs. At the direction of an Authorized Officer, the Authority may advance certain Project Costs from the Authority's funds prior to the issuance of the 2020 SRF-1 Junior Lien Bonds to the extent that such costs are expenditures appropriate for reimbursement under applicable law, including the Code in the case of Tax-Exempt 2020 SRF-1 Junior Lien Bonds.

Section 16. Ratification. All determinations and decisions of an Authorized Officer heretofore taken with respect to the issuance and sale of the 2020 SRF-1 Junior Lien Bonds as permitted or required by the Ordinance or law are hereby ratified, confirmed and approved.

Section 17. Additional Authorization. The Chief Executive Officer, the Chief Financial Officer, the Chief Administrative and Compliance Officer and the General Counsel of the Authority, any such officials acting in an interim or acting capacity to such officers, their deputies and staff, or any of them, are hereby authorized to execute and deliver such certificates, Supplemental Agreements, other agreements, documents, instruments, opinions and other papers as may be deemed necessary or appropriate to complete the sale, execution and delivery of the 2020 SRF-1 Junior Lien Bonds and otherwise give effect to the transactions contemplated by this 2020 SRF-1 Series Ordinance, as determined by such officials executing and delivering the foregoing items.

Section 18. 2020 SRF-1 Series Ordinance a Contract. The provisions of this 2020 SRF-1 Series Ordinance shall constitute a contract between the Authority and each registered owner of an outstanding 2020 SRF-1 Junior Lien Bond.

Section 19. Professional Services.

(a) Dickinson Wright PLLC is hereby appointed as Bond Counsel for the 2020 SRF-1 Junior Lien Bonds, notwithstanding the periodic representation by Dickinson Wright PLLC in unrelated matters of other parties and potential parties to the issuance of the 2020 SRF-1 Junior Lien Bonds.

(b) PFM Financial Advisors LLC is hereby appointed as Financial Advisor for the 2020 SRF-1 Junior Lien Bonds, notwithstanding the periodic representation by PFM Financial Advisors LLC in unrelated matters of other parties and potential parties to the issuance of the 2020 SRF-1 Junior Lien Bonds.

(c) The fees and expenses of Dickinson Wright PLLC and PFM Financial Advisors LLC shall be payable as an Issuance Cost from the proceeds of the 2020 SRF-1 Junior Lien Bonds or other available funds.

(d) An Authorized Officer is authorized to engage financial and other consultants as she deems necessary or appropriate in connection with the sale, issuance and delivery of the 2020 SRF-1 Junior Lien Bonds and to pay the fees and expenses thereof from the proceeds of the 2020 SRF-1 Junior Lien Bonds or other available funds.

Section 20. Severability; Headings; and Conflict. If any section, paragraph, clause or provision of this 2020 SRF-1 Series Ordinance shall be held invalid, the invalidity of such section, paragraph, clause or provision shall not affect any of the other provisions of this 2020 SRF-1 Series Ordinance. The section and paragraph headings in this 2020 SRF-1 Series Ordinance are furnished for convenience of reference only and shall not be considered to be part of this 2020 SRF-1 Series Ordinance.

Section 21. Publication and Recordation. This 2020 SRF-1 Series Ordinance shall be published in full in the Detroit Legal News, a newspaper of general circulation within the geographic boundaries of the Authority qualified under State law to publish legal notices, promptly after its adoption, and shall be maintained in the official records of the Authority and such recording authenticated by the signatures of the Chairperson and Secretary of the Authority Board.

Section 22. Repeal. All ordinances, resolutions, indentures or orders, or parts thereof, in conflict with the provisions of this 2020 SRF-1 Series Ordinance are, to the extent of such conflict, repealed.

Section 23. Effective Date. This 2020 SRF-1 Series Ordinance shall be effective upon adoption.

Adopted and signed on the ____ day of _____, 2020.

GREAT LAKES WATER AUTHORITY

Signed _____
Chairperson

Signed _____
Secretary

BLOOMFIELD 63818-19 2736977v2

Great Lakes Water Authority

Resolution 2020-

**RE: Approval of Series Ordinance Authorizing Issuance and Sale of Water Supply System
Revenue Bonds in an Amount not to Exceed \$35,000,000
Ordinance 2020-02**

By Board Member: _____

Whereas There has been presented to the Board of Directors of the Great Lakes Water Authority (the “Authority”) an ordinance entitled “Series Ordinance Authorizing the Issuance and Sale of Water Supply System Revenue Bonds in an Amount not to Exceed \$35,000,000” (the “2020 SRF-1 Series Ordinance”), which ordinance is a Series Ordinance as defined and described in Master Bond Ordinance No. 2015-01 adopted by the Board of Directors on October 7, 2015, as amended on December 9, 2015, January 27, 2016 and August 10, 2016.

Whereas The Articles of Incorporation of the Authority provide that at least 5 of the 6 members of the Authority Board must vote to approve the 2020 SRF-1 Series Ordinance.

Now, Therefore Be It:

Resolved That the 2020 SRF-1 Series Ordinance, in the form presented to this meeting, is approved and adopted, and the Chairperson and the Secretary are authorized to authenticate the 2020 SRF-1 Series Ordinance in the form approved; **And Be it Further**

Resolved That an affirmative vote of at least 5 members of the Authority Board is necessary for the passage of this Resolution.

Adopted by the Great Lakes Water Authority Board on: _____, 2020



Financial Services Audit Committee Communication

Date: January 17, 2020

To: Great Lakes Water Authority Audit Committee

From: Jon Wheatley, Public Finance Manager

Re: Resolution Regarding Approval of Series Ordinance Authorizing Issuance and Sale of Sewage Disposal System Revenue Bonds an Amount Not to Exceed \$35,000,000 (Ordinance 2020-01)

Background: On March 8, 2017, the Great Lakes Water Authority (“GLWA”) Board of Directors approved Resolution 2017-185, “Resolution of the Great Lakes Water Authority Authorizing Publication of Notice of Intent to Issue Sewage Disposal System Revenue Bonds in a principal amount not to exceed \$275,000,000” (the “Notice of Intent”). This is the fourth series of sewer bonds from that Notice of Intent in the amount not to exceed \$35,000,000.

The approval of the Series Ordinance presented today is the next formal step required by the GLWA Board of Directors in the bond issuance process. The Series Ordinance authorizes the issuance of the Bonds by GLWA, sets forth the guidelines for the State Revolving Fund (SRF) Bonds, designates the Bonds as 2020 SRF-1 Junior Lien Bonds, and authorizes the Chief Executive Officer or the Chief Financial Officer to execute the final terms of the Bonds, paying issuance costs and signing of the Purchase Contract and Sale Order, within the parameters set forth in the Series Ordinance.

Analysis: This series of bonds authorized by this ordinance will be sold through the state of Michigan’s SRF program and will be used to finance improvements to the GLWA’s regional system. The project funded will include the second phase of improvements to the Detroit River Interceptor (DRI). The first phase of the project (\$17,510,000) was also funded with an SRF bond issue. Per the Ordinance, this series of bonds will be designated *2020 SRF-1 Junior Lien Bonds*, with a loan amount not to exceed \$35,000,000.

The 2020 SRF-1 Junior Lien Bonds will be sold to the Michigan Finance Authority in a separate series. The current program interest rate is 2.00% and is typically payable over a 20-year term. Based on the project amount of \$35.0 million, GLWA could save an estimated \$22.7 million in interest costs and avoided issuance costs, based on a similar open market revenue bond with a 30-year term and 4.50% interest rate, over the life of the 30-year bond issue. This will afford savings to both GLWA and its members.

Budget Impact: The debt service payments on the DRI project are anticipated to start in October 2020 with minimal amounts of interest due as a result of the projected draw down schedules. Interest expense on this loan was included in the FY 2021 Budget.

Proposed Action: The GLWA Audit Committee recommends that the Great Lakes Water Authority Board approve the resolution for the Approval of Series Ordinance Authorizing Issuance and Sale of Sewage Disposal System Revenue Bonds, an Amount Not to Exceed \$35,000,000 as presented, at its Regular Meeting on February 12, 2020.

GREAT LAKES WATER AUTHORITY
ORDINANCE NO. 2020-01

**SERIES ORDINANCE AUTHORIZING ISSUANCE AND SALE OF
SEWAGE DISPOSAL SYSTEM REVENUE BONDS IN
AN AGGREGATE AMOUNT NOT TO EXCEED \$35,000,0000**

WHEREAS, pursuant to Resolution No. 2015-10-03 adopted by the Board of Directors of the Great Lakes Water Authority (the “Authority”) on October 7, 2015, the Authority Board approved and adopted Master Bond Ordinance No. 2015-02 (as subsequently amended through the date hereof, the “Ordinance”), which authorizes the issuance by the Authority of Sewage Disposal System Revenue Bonds; and

WHEREAS, the Ordinance authorizes the issuance of such Sewage Disposal System Revenue Bonds in one or more Series pursuant to a Series Ordinance authorizing the issuance and sale of such Series; and

WHEREAS, the Authority Board has determined that it is necessary to authorize at this time one or more Series of SRF Junior Lien Bonds (the “2020 SRF-1 Junior Lien Bonds”) to provide moneys to pay the costs of the hereinafter described repairs, extensions, enlargements and improvements to the Regional Sewer System identified in the Capital Improvement Program (the “2020 SRF-1 Project”).

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE GREAT LAKES WATER AUTHORITY AS FOLLOWS:

Section 1. Authority for this Series Ordinance. This Series Ordinance (the “2020 SRF-1 Series Ordinance”) is adopted pursuant to Section 1102(1) of the Ordinance.

Section 2. Definitions. Except as otherwise provided in this 2020 SRF-1 Series Ordinance, all terms which are defined in Section 101 of the Ordinance shall have the same meanings, respectively, in this 2020 SRF-1 Series Ordinance as such terms are given in the Ordinance. In addition, the following terms shall have the following meanings unless the context shall clearly indicate some other meaning:

(a) “2020 SRF-1 Junior Lien Bonds” means the Bonds authorized by Section 5 of this 2020 SRF-1 Series Ordinance for the purpose of paying and/or reimbursing costs of the 2020 SRF-1 Project.

(b) “2020 SRF-1 Project” means improvements to the Regional Sewer System, including but not limited to improvements to the North Interceptor East Arm and Detroit River Interceptor Crossover Tunnel.

(c) “Authorized Denomination” means any denomination as determined by an Authorized Officer in the Sale Order.

(d) “Authorized Officer” means either the Chief Executive Officer or the Chief Financial Officer.

(e) “Construction Fund, Series 2020 SRF-1” means a subaccount of the Construction Fund established in accordance with Section 11 of this 2020 SRF-1 Series Ordinance relating to the construction of the 2020 SRF-1 Project to be paid with the proceeds of the 2020 SRF-1 Junior Lien Bonds.

(f) “Interest Payment Date” means except as otherwise set forth in the Sale Order each April 1 and October 1.

(g) “Maturity Date” means such dates of maturity of the 2020 SRF-1 Junior Lien Bonds as determined in the Sale Order.

(h) “MFA” means the Michigan Finance Authority.

(i) “Person” means any natural person, association, corporation, trust, partnership, joint venture, joint-stock company, municipal corporation, public body or other entity, however organized.

(j) “Project Costs” means the costs of acquiring, constructing, equipping, installing and financing the 2020 SRF-1 Project, including Issuance Costs relating to the 2020 SRF-1 Junior Lien Bonds.

(k) “Purchase Contract” means the Purchase Contract between the MFA and the Authority with respect to the purchase by the MFA and the sale by the Authority of a Series of the 2020 SRF-1 Junior Lien Bonds.

(l) “Regular Record Date” means except as otherwise set forth in the Sale Order the fifteenth day of the calendar month immediately preceding an Interest Payment Date.

(m) “Sale Order” means any one or more Sale Orders of an Authorized Officer authorizing acts consistent with the Ordinance and this 2020 SRF-1 Series Ordinance necessary and appropriate to complete the sale, execution and delivery of the 2020 SRF-1 Junior Lien Bonds and to complete the other transactions contemplated herein.

(n) “Supplemental Agreement” means the Supplemental Agreement among the Authority, the MFA and the State of Michigan acting through the Department of Environment, Great Lakes, and Energy, with respect to a Series of the 2020 SRF-1 Junior Lien Bonds.

(o) “Taxable 2020 SRF-1 Junior Lien Bonds” means any 2020 SRF-1 Junior Lien Bonds other than Tax-Exempt 2020 SRF-1 Junior Lien Bonds.

(p) “Tax-Exempt 2020 SRF-1 Junior Lien Bonds” means any 2020 SRF-1 Junior Lien Bonds that are Tax-Exempt Bonds.

Section 3. Approval of 2020 SRF-1 Project. It is hereby determined to be necessary for the public health, benefit and welfare of the area served by the Regional Sewer System to

acquire, construct and undertake the 2020 SRF-1 Project, and the 2020 SRF-1 Project is hereby approved and accepted.

Section 4. Estimated Cost and Period of Usefulness of 2020 SRF-1 Project. The Project Costs are estimated by the Authority Board to not exceed \$31,000,000 and the Project Costs are hereby approved and confirmed. The period of usefulness of the 2020 SRF-1 Project is estimated to be not less than 40 years.

Section 5. Authorization of 2020 SRF-1 Junior Lien Bonds.

(a) Authorization of Borrowing. The Authority may borrow an amount not in excess of \$35,000,000, as is finally determined in the Sale Order, and issue the 2020 SRF-1 Junior Lien Bonds in one or more Series, all to evidence such borrowing pursuant to Act 233, Act 94 and the Ordinance, as 2020 SRF-1 Junior Lien Bonds, all as finally determined in the Sale Order. The amount of the 2020 SRF-1 Junior Lien Bonds authorized in this Section 5(a) shall include the amount of the net original issue premium, if any.

(b) Purpose of 2020 SRF-1 Junior Lien Bonds. The 2020 SRF-1 Junior Lien Bonds shall be issued as Additional Bonds for the purpose of paying and/or reimbursing Project Costs.

(c) Priority of Lien. The 2020 SRF-1 Junior Lien Bonds shall be issued as SRF Junior Lien Bonds.

(d) Insufficient Proceeds. To the extent that proceeds of SRF-1 Junior Lien Bonds are insufficient to pay Project Costs, the insufficiency shall be paid from the proceeds of future Additional Bonds, if any, and/or moneys of the Regional Water System on hand and legally available therefor, as determined by the Authority Board.

(e) Taxable and Tax-Exempt 2020 SRF-1 Junior Lien Bonds. The 2020 SRF-1 Junior Lien Bonds may be issued as Taxable 2020 SRF-1 Junior Lien Bonds or Tax-Exempt 2020 SRF-1 Junior Lien Bonds, or as separate Series of both, as set forth in the Sale Order.

(f) Source of Payment and Security. The 2020 SRF-1 Junior Lien Bonds shall be payable and secured as provided in Section 8.

(g) Applicability of Ordinance. Except as otherwise provided in this 2020 SRF-1 Series Ordinance or in the Sale Order, all of the provisions of the Ordinance shall apply to the 2020 SRF-1 Junior Lien Bonds as if set forth in full in this 2020 SRF-1 Series Ordinance, the purpose of this 2020 SRF-1 Series Ordinance being to supplement the Ordinance to authorize the issuance of 2020 SRF-1 Junior Lien Bonds for the purposes set forth herein.

Section 6. 2020 SRF-1 Junior Lien Bond Details.

(a) Designation.

(1) The 2020 SRF-1 Junior Lien Bonds shall bear the designations Sewage Disposal System Revenue Bonds, Series 2020-SRF-1 and shall include such other designations, including, without limitation, designations for multiple

subseries, as determined by an Authorized Officer as shall be set forth in the Sale Order and not inconsistent with the Ordinance or this 2020 SRF-1 Series Ordinance.

- (2) If the 2020 SRF-1 Junior Lien Bonds are not issued in 2020, an Authorized Officer is authorized in her discretion to re-designate the year and Series designation of such Series of 2020 SRF-1 Junior Lien Bonds and the various funds and accounts established hereunder to correspond with the year of issuance of such Series of 2020 SRF-1 Junior Lien Bonds. Furthermore, an Authorized Officer is authorized to establish designations within the various funds and accounts established hereunder if necessary in order to differentiate such funds and accounts from other similarly named funds and accounts related to other Bonds.

(b) Numbering. The 2020 SRF-1 Junior Lien Bonds shall be numbered in such manner as shall be determined in the Sale Order.

(c) Principal. The 2020 SRF-1 Junior Lien Bonds shall be issued in the form of Serial Bonds or Term Bonds, or any combination of Serial Bonds and Term Bonds, in any Authorized Denomination, and the principal thereof shall mature on October 1, or such other date as set forth in the Sale Order, in such years and amounts, and shall be or not be subject to redemption prior to maturity, all as shall be determined in the Sale Order subject to the following limitations:

- (1) No 2020 SRF-1 Junior Lien Bonds shall mature later than 40 years after the date of issuance thereof.
- (2) The 2020 SRF-1 Junior Lien Bonds shall only be issued with annual principal and interest installments permitted by the Ordinance, including Section 207 thereof.

(d) Interest. 2020 SRF-1 Junior Lien Bonds or portions thereof shall bear interest at a rate or rates as set forth in the Sale Order not in excess of 2.50% per annum. Interest on 2020 SRF-1 Junior Lien Bonds shall be payable on each Interest Payment Date.

(e) Payment of Principal and Interest. The principal of, premium, if any, and interest on the 2020 SRF-1 Junior Lien Bonds shall be payable in lawful money of the United States. Except as otherwise provided in the Sale Order, so long as the 2020 SRF-1 Junior Lien Bonds are owned by the MFA, the 2020 SRF-1 Junior Lien Bonds are payable as to principal, redemption premium, if any, and interest at The Bank of New York Mellon Trust Company, N.A., or at such other place as shall be designated in writing to the Authority by the MFA (the MFA's Depository"), and the Authority agrees that it will deposit with the MFA's Depository payments of the principal of, premium, if any, and interest on the 2020 SRF-1 Junior Lien Bonds in immediately available funds by 12:00 noon at least five Business Days prior to the date on which any such payment is due, whether by maturity, redemption or otherwise. If the 2020 SRF-1 Junior Lien Bonds are not registered in the name of the MFA, the principal of and premium, if any, on the 2020 SRF-1 Junior Lien Bonds are payable upon the surrender thereof at the corporate trust office of the Trustee and the interest is payable by check or draft drawn on the Trustee and mailed to the registered owners

as of the immediately preceding Regular Record Date at their address shown on the registration books of the Authority maintained by the Trustee.

(f) Dating. The 2020 SRF-1 Junior Lien Bonds shall be dated such date as determined in the Sale Order.

(g) Reserve Requirement. There shall be no Reserve Requirement with respect to the 2020 SRF-1 Junior Lien Bonds.

(h) Exchange. The registered owner of any 2020 SRF-1 Junior Lien Bond may exchange such 2020 SRF-1 Junior Lien Bond for a new 2020 SRF-1 Junior Lien Bond or Bonds of the same interest rate, maturity and Priority of Lien in an equal aggregate principal amount in one or more of the Authorized Denominations by surrendering such 2020 SRF-1 Junior Lien Bond to be exchanged at the designated office of the Trustee together with an assignment duly executed by the registered owner thereof or his attorney or legal representative in such form as shall be satisfactory to the Trustee. As provided in Section 206 of the Ordinance, the Trustee shall be responsible for the registration, transfer and exchange of 2020 SRF-1 Junior Lien Bonds and shall indicate its acceptance of such duties by a document filed with an Authorized Officer concurrently with the delivery of the 2020 SRF-1 Junior Lien Bonds.

(i) Execution and Delivery of 2020 SRF-1 Junior Lien Bonds. The 2020 SRF-1 Junior Lien Bonds shall be executed in the name of the Authority by manual or facsimile signature of the Chief Executive Officer of the Authority and countersigned by the manual or facsimile signature of the Secretary of the Authority Board, and shall have the Authority's seal or facsimile thereof affixed or printed thereon. The Chief Financial Officer is authorized to deliver the 2020 SRF-1 Junior Lien Bonds to the MFA upon receiving the purchase price therefor in lawful money of the United States.

(j) Form of 2020 SRF-1 Junior Lien Bonds. The 2020 SRF-1 Junior Lien Bonds shall be in substantially the following form, subject to such changes, additions or deletions as determined by the Chief Executive Officer within the parameters of this 2020 SRF-1 Series Ordinance:

R-__

**UNITED STATES OF AMERICA
STATE OF MICHIGAN
COUNTIES OF MACOMB, OAKLAND AND WAYNE
GREAT LAKES WATER AUTHORITY
SEWAGE DISPOSAL SYSTEM REVENUE BOND,
SERIES 2020-SRF-1**

REGISTERED OWNER: Michigan Finance Authority

PRINCIPAL AMOUNT: \$ _____

INTEREST RATE: _____%

ORIGINAL ISSUE DATE:

The Great Lakes Water Authority, Counties of Macomb, Oakland and Wayne, State of Michigan (the “Issuer”), upon authorization from the Board of Directors of the Issuer (the “Board”), has issued this Bond. The Issuer, for value received, promises to pay, in lawful money of the United States of America, but only from the Pledged Assets (as defined below), to the Registered Owner named above, or registered assigns, the Principal Amount stated above, or so much thereof as shall have been advanced to the Issuer and not prepaid or reduced pursuant to a Purchase Contract between the Issuer and the Michigan Finance Authority (the “MFA”), a Supplemental Agreement by and among the Authority, the MFA and State of Michigan acting through the Department of Environment, Great Lakes, and Energy, and the Order of Approval issued by the Department of Environment, Great Lakes, and Energy. The Principal Amount shall be payable on the dates and in the principal installments set forth in Schedule A attached hereto.

In the event less than the Principal Amount of this Bond is disbursed by the MFA, any portion of the Principal Amount is prepaid as provided herein, or any serial principal payment becomes due before the Issuer has received proceeds from corresponding purchased principal installments of at least a like amount, then the MFA may prepare a new serial principal installment repayment schedule which shall be presented to the Issuer and be effective upon receipt as provided in the Purchase Contract.

Interest on this Bond shall accrue from the Original Issue Date set forth above at the Interest Rate set forth above, only on that portion of installments of the Principal Amount which have been disbursed by the MFA, shall be payable on _____, 20__ and semiannually on each April 1 and October 1 thereafter (each an “Interest Payment Date”).

If the MFA is not the registered owner of this Bond, principal of this Bond is payable upon presentation and surrender at the designated office of U.S. Bank National Association, as Trustee under the Ordinance (as defined below) or such other trustee as the Issuer may hereafter designate by notice mailed to the registered owner not less than 60 days prior to any Interest Payment Date (the “Trustee”).

Interest on this Bond is payable to the registered owner of record as of the close of business on the 15th day of the month immediately preceding any Interest Payment Date as shown on the registration books kept by the Trustee by check or draft mailed by the Trustee to the registered owner at the registered address. Interest on this Bond shall be computed on the basis of a 360-day year comprised of twelve 30-day months. During the time funds are being drawn down by the Issuer under this Bond, the MFA will periodically provide the Issuer with a statement showing the amount of principal that has been advanced and the date of each advance, which statement shall constitute prima facie evidence of the reported information; provided, that no failure on the part of the MFA to provide such a statement or to reflect a disbursement or the correct amount of a disbursement shall relieve the Issuer of its obligation to repay the outstanding principal amount actually advanced [(subject to any principal forgiveness as provided for herein)], all accrued interest thereon, and any other amount payable with respect thereto in accordance with the terms of this Bond.

In the event of a default in the payment of principal or interest hereon when due, whether at maturity, by redemption or otherwise, the amount of such default shall bear interest (the "additional interest") at a rate equal to the rate of interest that is two percent above the MFA's cost of providing funds (as determined by the MFA) to make payment on the bonds of the MFA issued to provide funds to purchase this Bond but in no event in excess of the maximum rate of interest permitted by law. The additional interest shall continue to accrue until the MFA has been fully reimbursed for all costs incurred by the MFA (as determined by the MFA) as a consequence of the Issuer's default. Such additional interest shall be payable on the interest payment date following demand of the MFA. In the event that (for reasons other than the default in the payment of any municipal obligation purchased by the MFA) the investment of amounts in the reserve account established by the MFA for the bonds of the MFA issued to provide funds to purchase this bond fails to provide sufficient available funds (together with any other funds that may be made available for such purpose) to pay the interest on outstanding bonds of the MFA issued to fund such account, the Issuer shall and hereby agrees to pay on demand only the Issuer's pro rata share (as determined by the MFA) of such deficiency as additional interest on this Bond.

Notwithstanding any other provision of this Bond, so long as the MFA is the owner of this Bond, (a) this Bond is payable as to principal, premium, if any, and interest at The Bank of New York Mellon Trust Company, N.A., or at such other place as shall be designated in writing to the Issuer by the MFA (the "MFA's Depository"); (b) the Issuer agrees that it will deposit with the MFA's Depository payments of the principal of, premium, if any, and interest on this Bond in immediately available funds by 12:00 noon at least five business days prior to the date on which any such payment is due whether by maturity, redemption or otherwise; in the event that the MFA's Depository has not received the Issuer's deposit by 12:00 noon on the scheduled day, the Issuer shall immediately pay to the MFA as invoiced by the MFA an amount to recover the MFA's administrative costs and lost investment earnings attributable to that late payment; and (c) written notice of any redemption of this Bond shall be given by the Issuer and received by the MFA's Depository at least 40 days prior to the date on which redemption is to be made.

This Bond is one of a series of bonds designated "Sewage Disposal System Revenue Bonds, Series 2020-SRF-__" and is issued pursuant to the provisions of (i) Act 233, Public Acts of Michigan, 1955, as amended ("Act 233"), and Act 94, Public Acts of Michigan, 1933, as amended ("Act 94"), (ii) Master Bond Ordinance No. 2015-02 adopted by the Board on October 7,

2015, as amended (the “Bond Ordinance”), (iii) the Series Ordinance Authorizing Issuance and Sale of Sewage Disposal System Revenue Bonds in an Aggregate Amount not to Exceed \$35,000,000, adopted by the Board on _____, 2020 (the “Series Ordinance”), and (iv) a Sale Order of the Chief Executive Officer of the Issuer dated _____, 2020 (the “Sale Order,” and, collectively with the Bond Ordinance and the Series Ordinance, the “Ordinance”). This Bond is issued for the purposes set forth in the Series Ordinance and the Sale Order.

For the prompt payment of the principal of and interest on this Bond, and other bonds issued by the Issuer pursuant to the Bond Ordinance, the Issuer has irrevocably pledged the Pledged Assets (as defined in the Bond Ordinance), which includes the revenues of the Sewer System (as defined in the Bond Ordinance), after provision is made for reasonable and necessary expenses of operation, maintenance and administration of the Sewer System (the “Net Revenues”), and a statutory lien on the Net Revenues and Pledged Assets is hereby recognized and acknowledged. Such lien is a third lien, subject to obligations heretofore and hereafter issued or incurred under the Bond Ordinance secured by a first or second lien on the Pledged Assets. This Bond is of equal standing on a parity with all other obligations heretofore and hereafter issued or incurred under the Bond Ordinance and secured by a third lien on the Pledged Assets.

For a complete statement of the revenues from which and the conditions under which this Bond is payable, a statement of the conditions under which Additional Bonds (as defined in the Bond Ordinance) of senior or equal standing and Additional Bonds of junior standing may hereafter be issued and the general covenants and provisions pursuant to which this Bond is issued, reference is made to the Bond Ordinance.

This Bond is subject to redemption prior to maturity at the option of the Issuer and with the prior written consent of and upon such terms as may be required by the MFA. That portion of this Bond called for redemption shall not bear interest after the date fixed for redemption, provided funds are on hand with the Trustee to redeem the same.

THIS BOND IS ISSUED UNDER ACT 233 AND ACT 94. IT IS A SELF-LIQUIDATING BOND AND IS NOT A GENERAL OBLIGATION OF THE ISSUER AND DOES NOT CONSTITUTE AN INDEBTEDNESS OF THE ISSUER WITHIN ANY CONSTITUTIONAL OR STATUTORY LIMITATION, BUT IS PAYABLE, BOTH AS TO PRINCIPAL AND INTEREST SOLELY FROM THE PLEDGED ASSETS OF THE SEWER SYSTEM. THE PAYMENT OF THE PRINCIPAL OF AND INTEREST ON THIS BOND ARE SECURED BY A STATUTORY LIEN ON THE PLEDGED ASSETS AS DESCRIBED HEREIN.

The Issuer has covenanted and agreed, and hereby covenants and agrees, to fix and maintain, or cause to be fixed and maintained, at all times while any bonds payable from the Pledged Assets of the Sewer System shall be outstanding, such rates for service furnished by the Sewer System as shall be sufficient to provide for payment of the interest upon and the principal of this Bond and all other Bonds (as defined in the Bond Ordinance) assumed or issued and to be issued under the Bond Ordinance as and when the same shall become due and payable, to create and maintain a bond redemption fund therefor, including a bond reserve for Bonds other than this Bond, to provide for the payment of expenses of administration and operation and such expenses for maintenance of the Sewer System as are necessary to preserve the same in good repair and

working order, and to provide for such other expenditures and funds for the Sewer System, all as are required by the Bond Ordinance.

This Bond is transferable only upon the books of the Issuer kept for that purpose at the office of the Trustee by the registered owner hereof in person, or by his attorney duly authorized in writing, upon the surrender of this Bond together with a written instrument of transfer satisfactory to the Trustee duly executed by the registered owner or his attorney duly authorized in writing, and thereupon a new registered bond or bonds of the same type, in the same aggregate principal amount and of the same maturity shall be issued to the transferee in exchange therefor as provided in the Ordinance and upon the payment of the charges, if any, therein prescribed.

It is hereby certified and recited that all acts, conditions and things required by law precedent to and in the issuance of this Bond have been done and performed by regular and due time and form as required by law.

This Bond is not valid or obligatory for any purpose until the Trustee's Certificate of Authentication hereon has been executed by the Trustee.

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IN WITNESS WHEREOF, the Great Lakes Water Authority, Counties of Macomb, Oakland and Wayne, State of Michigan, has caused this Bond to be signed in its name by the facsimile signatures of its Chief Executive Officer and its Secretary of the Board and its corporate seal or a facsimile thereof to be printed, impressed or otherwise reproduced hereon, all as of the Original Issue Date.

GREAT LAKES WATER AUTHORITY

By: _____
Chief Executive Officer

Countersigned:

By: _____
Secretary, Board of Directors

[Seal]

CERTIFICATE OF AUTHENTICATION

This Bond is authenticated as the bond designated by the Issuer as “Sewage Disposal System Revenue Bond, Series 2020-SRF-1”.

U.S. Bank National Association,
Trustee

By: _____

Date of Authentication: _____, 2020

ASSIGNMENT

For value received, the undersigned sells, assigns and transfers unto _____ this Bond and all rights hereunder and hereby irrevocably appoints _____ attorney to transfer this Bond on the books kept for registration thereof with full power of substitution in the premises.

Dated: _____
Signature _____

NOTICE: The signature to this assignment must correspond with the name as it appears on the face of this Bond in every particular.

Schedule A

The principal amounts and maturity dates applicable to the Bond to which this Schedule A is attached are as follows:

<u>Date</u>	<u>Amount</u>
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Based on the schedule provided above unless revised as provided in this paragraph, repayment of the Principal Amount shall be made according to such schedule until the full Principal Amount disbursed to the Issuer is repaid; provided, however, that the Issuer shall have no obligation to repay any serial principal installment for which the Issuer did not receive a disbursement of Principal Amount by the date such serial principal installment is due. In the event the Order of Approval issued by the Department of Environment, Great Lakes, and Energy (the "Order") approves a principal amount of assistance less than the amount of the Bond, the MFA shall only disburse principal up to the amount stated in the Order. In the event (1) that the payment schedule described above provides for payment of a total principal amount greater than the amount of assistance approved by the Order, (2) that less than the principal amount of assistance approved by the Order is disbursed to the Issuer by the MFA or (3) of prepayment [or principal forgiveness] of the Bond, the MFA shall prepare a new payment schedule that shall be effective upon receipt by the Issuer.

END OF BOND FORM

Section 7. Concerning the Securities Depository.

(a) As used herein:

“Beneficial Owner” means any Person who indirectly owns 2020 SRF-1 Junior Lien Bonds pursuant to the indirect ownership system maintained by a securities depository (the “Securities Depository”) and its Participants, commonly known as the “Book-Entry Only System.”

“Participant” means any Person whose ownership of 2020 SRF-1 Junior Lien Bonds is shown on books of the Securities Depository.

(b) The 2020 SRF-1 Junior Lien Bonds will initially be registered in the name of the MFA, or such other purchasers as designated in the Sale Order. In the event 2020 SRF-1 Junior Lien Bonds are later to be registered in the name of a Securities Depository or its nominee, neither the Authority nor the Trustee shall have any responsibility or obligation to any Participant or to any Beneficial Owner with respect to any matter, including the following:

- (1) the accuracy of the records of the Securities Depository, its nominee or any Participant with respect to any ownership interest in 2020 SRF-1 Junior Lien Bonds,
- (2) the delivery to any Participant, Beneficial Owner or any other Person other than the Securities Depository of any notice with respect to: any 2020 SRF-1 Junior Lien Bonds, including any notice of redemption, or
- (3) the payment to any Participant, Beneficial Owner or any other Person, other than the Securities Depository of any amount with respect to the principal (and premium, if any) of or interest on any 2020 SRF-1 Junior Lien Bonds.

(c) The Trustee shall pay all principal (and premium, if any) of and interest on the 2020 SRF-1 Junior Lien Bonds only to or upon the order of the MFA, or the Securities Depository, as applicable, and all such payments shall be valid and effective fully to satisfy and discharge the Authority’s obligations with respect to the principal (and premium, if any) of, and interest on such 2020 SRF-1 Junior Lien Bonds to the extent of the sum or sums so paid.

(d) If 2020 SRF-1 Junior Lien Bonds become registered in the name of the Securities Depository and (1) the Authority receives a written notice from the Securities Depository to the effect the Securities Depository is unable or unwilling to discharge its responsibilities or (2) the Authority determines that it is in the best interests of the Beneficial Owners of 2020 SRF-1 Junior Lien Bonds that they be able to obtain 2020 SRF-1 Junior Lien Bonds in certificated form, then, in either event, the Authority shall notify the Trustee and, in the case of clause, (2), the Securities Depository.

(e) Upon discontinuance of the use of the Book-Entry Only System maintained by the Securities Depository, if any, pursuant to subsection (d), above and upon receipt of notice from the Securities Depository containing sufficient information, the Authority shall execute and the Trustee shall authenticate and deliver 2020 SRF-1 Junior Lien Bonds in certificated form to

Beneficial Owners in exchange for the beneficial interests of such Beneficial Owners in corresponding principal amounts and in any Authorized Denominations.

(f) Notwithstanding any other provision of this 2020 SRF-1 Series Ordinance to the contrary, so long as any 2020 SRF-1 Junior Lien Bond is registered in the name of the Securities Depository or its nominee:

- (1) all payments with respect to the principal, premium, if any, and interest on such 2020 SRF-1 Junior Lien Bond and all notices of redemption, tender and otherwise with respect to such 2020 SRF-1 Junior Lien Bond shall be made and given, respectively, to the Securities Depository as provided in the letter of representations from the Authority to the Securities Depository with respect to such 2020 SRF-1 Junior Lien Bonds or any master letter of representations from the Authority to the Securities Depository;
- (2) if less than all of the 2020 SRF-1 Junior Lien Bonds of the same type of any maturity are to be redeemed, then the particular 2020 SRF-1 Junior Lien Bonds or portions of 2020 SRF-1 Junior Lien Bonds of such type and maturity to be redeemed shall be selected by the Securities Depository in any such manner as the Securities Depository may determine;
- (3) all payments with respect to principal of the 2020 SRF-1 Junior Lien Bonds and premium, if any and interest on the 2020 SRF-1 Junior Lien Bonds shall be made in such manner as shall be prescribed by the Securities Depository; and
- (4) if a 2020 SRF-1 Junior Lien Bond is redeemed or tendered in part, then all amounts payable in respect of such redemption or tender shall be paid without presentation and surrender of such 2020 SRF-1 Junior Lien Bond pursuant to the procedures of the Securities Depository.

Section 8. Payment of 2020 SRF-1 Junior Lien Bonds; Confirmation of Statutory Lien.

(a) The 2020 SRF-1 Junior Lien Bonds and the interest thereon shall be payable solely from the Pledged Assets.

(b) To secure payment of the 2020 SRF-1 Junior Lien Bonds, the statutory lien upon the whole of the Pledged Assets established by Act 94 and the pledge created in Section 501 of the Ordinance is hereby confirmed in favor of the 2020 SRF-1 Junior Lien Bonds as follows: Such lien in favor of the 2020 SRF-1 Junior Lien Bonds shall be a statutory third lien on the Pledged Assets of equal standing and Priority of Lien with all issued, to be issued and outstanding SRF Junior Lien Bonds.

Section 9. Funds and Accounts; Flow of Funds. Except as otherwise provided in this 2020 SRF-1 Series Ordinance, all of the provisions relative to funds and accounts, their maintenance, the flow of funds and other details relative thereto, shall remain as specifically set forth in the Ordinance.

Section 10. Disposition of Proceeds.

(a) Disposition of Accrued Interest and Capitalized Interest. From the proceeds of the sale of the 2020 SRF-1 Junior Lien Bonds there shall be immediately deposited in the SRF Junior Lien Debt Service Account, an amount equal to any accrued interest received on the delivery of the 2020 SRF-1 Junior Lien Bonds and any capitalized interest on the 2020 SRF-1 Junior Lien Bonds, and the Authority may take credit for the amount so deposited against the amount required to be deposited in the SRF Junior Lien Debt Service Account for payment of the next maturing interest payment on the 2020 SRF-1 Junior Lien Bonds.

(b) Construction Fund. The balance of the proceeds of the 2020 SRF-1 Junior Lien Bonds shall be deposited in the Construction Fund and used to pay Project Costs as provided in Section 11.

Section 11. Construction Fund.

(a) A subaccount of the Authority Regional Construction Account of the Construction Fund established by the Ordinance shall be established for the 2020 SRF-1 Junior Lien Bonds and designated the "Construction Fund, Series 2020 SRF-1," and shall be established and maintained as a separate depository account with a Custodian as designated by the Chief Financial Officer.

(b) Moneys in the Construction Fund, Series 2020 SRF-1 shall be applied solely to payment of Project Costs (or to the reimbursement of Project Costs paid by the Authority from other funds prior to the issuance of the 2020 SRF-1 Junior Lien Bonds).

(1) Payments or reimbursements for Project Costs for construction, either on account or otherwise, shall not be made unless the registered engineer in charge of such work shall file with an Authorized Officer a signed statement to the effect that the work has been completed in accordance with the plans and specifications therefor, that it was done in accordance with the contract therefor, that such work is satisfactory and that such work has not been previously paid for.

(2) Payment or reimbursement for Project Costs consisting of Issuance Costs and engineering, legal and financial costs shall be made upon submission of appropriate documentation to an Authorized Officer.

Section 12. Tax Covenant.

(a) The Authority hereby covenants and represents with the registered owners of the Tax-Exempt 2020 SRF-1 Junior Lien Bonds, that so long as any of the Tax-Exempt 2020 SRF-1 Junior Lien Bonds remain outstanding and unpaid as to either principal or interest, the Authority shall, to the extent permitted by law, take all actions within its control to maintain, and will refrain from taking any action which would impair, the exclusion of the interest on the Tax-Exempt 2020 SRF-1 Junior Lien Bonds from gross income for federal income tax purposes under the Code.

(b) The actions referred to in subsection (a), above include, but are not limited to actions relating to any required rebate of arbitrage earnings and the expenditure and investment of

proceeds of Tax-Exempt 2020 SRF-1 Junior Lien Bonds and moneys deemed to be proceeds of Tax-Exempt 2020 SRF-1 Junior Lien Bonds, and to prevent Tax-Exempt 2020 SRF-1 Junior Lien Bonds from being or becoming “private activity bonds” as that term is used in the Code.

Section 13. Sale of 2020 SRF-1 Junior Lien Bonds; Purchase Contract; Expiration of Referendum Period.

(a) The 2020 SRF-1 Junior Lien Bonds shall be sold by negotiated sale to the MFA pursuant to a Purchase Contract in customary form with such changes thereto as an Authorized Officer shall determine are in the best interests of the Authority, within the parameters established by this 2020 SRF-1 Series Ordinance. Such determination shall be conclusively established by the Authorized Officer’s execution of the Purchase Contract to the MFA.

(b) The Authority Board hereby determines that the sale of the 2020 SRF-1 Junior Lien Bonds by negotiated sale as described in subsection (a) is in the best interests of the Authority and will allow the 2020 SRF-1 Junior Lien Bonds to receive a subsidized interest rate through participation in the MFA’s State Revolving Fund Program.

(c) An Authorized Officer is authorized to accept, on behalf of the Authority, an offer from the MFA to purchase the 2020 SRF-1 Junior Lien Bonds subject to the following limitations:

- (1) The interest rate with respect to any Series of the 2020 SRF-1 Junior Lien Bonds shall not exceed 2.50%.
- (2) The aggregate purchaser’s discount at which any Series of the 2020 SRF-1 Junior Lien Bonds shall be sold to the MFA shall not exceed 2.00%.

(d) An Authorized Officer shall confirm in the Sale Order that there was no petition meeting the requirements of Section 33 of Act 94 that was filed with the Secretary of the Authority Board within 45 days of the date of publication of the notice of intent to issue bonds with respect to the 2020 SRF-1 Junior Lien Bonds as required by Section 33 of Act 94.

Section 14. Delegation of Authority to and Authorization of Actions of Authorized Officers.

(a) An Authorized Officer shall make all determinations herein provided to be made in the Sale Order and shall make all such determinations in accordance with the best interests of the Authority within the parameters of this 2020 SRF-1 Series Ordinance.

(b) In addition to determinations authorized elsewhere in this 2020 SRF-1 Series Ordinance, an Authorized Officer shall determine the aggregate principal amount of 2020 SRF-1 Junior Lien Bonds to be issued, but not in excess of the aggregate principal amount authorized by this 2020 SRF-1 Series Ordinance, on the basis of her evaluation of the maximum amount of 2020 SRF-1 Junior Lien Bonds which can be sold, given anticipated interest rates and the revenue coverage requirements with respect to the 2020 SRF-1 Junior Lien Bonds and for any other reasons the Authorized Officer deems appropriate.

- (1) Such determination shall also include the redemption provisions for the 2020 SRF-1 Junior Lien Bonds.
- (2) An Authorized Officer shall also determine and establish, in accordance with this 2020 SRF-1 Series Ordinance, the maturities of each Series of the 2020 SRF-1 Junior Lien Bonds, whether such maturities shall be serial or term maturities and the Mandatory Redemption Requirements for any term maturities.

(c) An Authorized Officer is authorized, if necessary, to file applications and to pay the related fees, if any, to the Michigan Department of Treasury at her discretion under Act 34 for one or more orders of approval to issue all or a portion of the 2020 SRF-1 Junior Lien Bonds, and such waivers or other Treasury approvals as necessary to implement the sale, delivery and security for the 2020 SRF-1 Junior Lien Bonds as authorized herein, and as required by the Michigan Department of Treasury or Act 34.

(d) An Authorized Officer shall determine in the Sale Order that the requirements set forth in Section 207 of the Ordinance with respect to the issuance of the 2020 SRF-1 Junior Lien Bonds as Additional Bonds have been satisfied.

(e) An Authorized Officer is hereby authorized and directed to do and perform any and all other acts and things with respect to the 2020 SRF-1 Junior Lien Bonds which are necessary or appropriate to carry into effect, consistent with the Ordinance and this 2020 SRF-1 Series Ordinance, the authorizations therein and herein contained including without limitation the securing of ratings by bond rating agencies, and the incurring of reasonable fees costs and expenses incidental to the foregoing, for and on behalf of the Authority.

Section 15. Advancement of Project Costs. At the direction of an Authorized Officer, the Authority may advance certain Project Costs from the Authority's funds prior to the issuance of the 2020 SRF-1 Junior Lien Bonds to the extent that such costs are expenditures appropriate for reimbursement under applicable law, including the Code in the case of Tax-Exempt 2020 SRF-1 Junior Lien Bonds.

Section 16. Ratification. All determinations and decisions of an Authorized Officer heretofore taken with respect to the issuance and sale of the 2020 SRF-1 Junior Lien Bonds as permitted or required by the Ordinance or law are hereby ratified, confirmed and approved.

Section 17. Additional Authorization. The Chief Executive Officer, the Chief Financial Officer, the Chief Administrative and Compliance Officer and the General Counsel of the Authority, any such officials acting in an interim or acting capacity to such officers, their deputies and staff, or any of them, are hereby authorized to execute and deliver such certificates, Supplemental Agreements, other agreements, documents, instruments, opinions and other papers as may be deemed necessary or appropriate to complete the sale, execution and delivery of the 2020 SRF-1 Junior Lien Bonds and otherwise give effect to the transactions contemplated by this 2020 SRF-1 Series Ordinance, as determined by such officials executing and delivering the foregoing items.

Section 18. 2020 SRF-1 Series Ordinance a Contract. The provisions of this 2020 SRF-1 Series Ordinance shall constitute a contract between the Authority and each registered owner of an outstanding 2020 SRF-1 Junior Lien Bond.

Section 19. Professional Services.

(a) Dickinson Wright PLLC is hereby appointed as Bond Counsel for the 2020 SRF-1 Junior Lien Bonds, notwithstanding the periodic representation by Dickinson Wright PLLC in unrelated matters of other parties and potential parties to the issuance of the 2020 SRF-1 Junior Lien Bonds.

(b) PFM Financial Advisors LLC is hereby appointed as Financial Advisor for the 2020 SRF-1 Junior Lien Bonds, notwithstanding the periodic representation by PFM Financial Advisors LLC in unrelated matters of other parties and potential parties to the issuance of the 2020 SRF-1 Junior Lien Bonds.

(c) The fees and expenses of Dickinson Wright PLLC and PFM Financial Advisors LLC shall be payable as an Issuance Cost from the proceeds of the 2020 SRF-1 Junior Lien Bonds or other available funds.

(d) An Authorized Officer is authorized to engage financial and other consultants as she deems necessary or appropriate in connection with the sale, issuance and delivery of the 2020 SRF-1 Junior Lien Bonds and to pay the fees and expenses thereof from the proceeds of the 2020 SRF-1 Junior Lien Bonds or other available funds.

Section 20. Severability; Headings; and Conflict. If any section, paragraph, clause or provision of this 2020 SRF-1 Series Ordinance shall be held invalid, the invalidity of such section, paragraph, clause or provision shall not affect any of the other provisions of this 2020 SRF-1 Series Ordinance. The section and paragraph headings in this 2020 SRF-1 Series Ordinance are furnished for convenience of reference only and shall not be considered to be part of this 2020 SRF-1 Series Ordinance.

Section 21. Publication and Recordation. This 2020 SRF-1 Series Ordinance shall be published in full in the Detroit Legal News, a newspaper of general circulation within the geographic boundaries of the Authority qualified under State law to publish legal notices, promptly after its adoption, and shall be maintained in the official records of the Authority and such recording authenticated by the signatures of the Chairperson and Secretary of the Authority Board.

Section 22. Repeal. All ordinances, resolutions, indentures or orders, or parts thereof, in conflict with the provisions of this 2020 SRF-1 Series Ordinance are, to the extent of such conflict, repealed.

Section 23. Effective Date. This 2020 SRF-1 Series Ordinance shall be effective upon adoption.

Adopted and signed on the ____ day of _____, 2020.

GREAT LAKES WATER AUTHORITY

Signed _____
Chairperson

Signed _____
Secretary

BLOOMFIELD 63818-18 2755394v1

Great Lakes Water Authority

Resolution 2020-

**RE: Approval of Series Ordinance Authorizing Issuance and Sale of Sewage Disposal
System Revenue Bonds in an Amount not to Exceed \$35,000,000
Ordinance 2020-01**

By Board Member: _____

Whereas There has been presented to the Board of Directors of the Great Lakes Water Authority (the “Authority”) an ordinance entitled “Series Ordinance Authorizing the Issuance and Sale of Sewage Disposal System Revenue Bonds in an Amount not to Exceed \$35,000,000” (the “2020 SRF-1 Series Ordinance”), which ordinance is a Series Ordinance as defined and described in Master Bond Ordinance No. 2015-02 adopted by the Board of Directors on October 7, 2015, as amended on December 9, 2015, January 27, 2016 and August 10, 2016.

Whereas The Articles of Incorporation of the Authority provide that at least 5 of the 6 members of the Authority Board must vote to approve the 2020 SRF-1 Series Ordinance.

Now, Therefore Be It:

Resolved That the 2020 SRF-1 Series Ordinance, in the form presented to this meeting, is approved and adopted, and the Chairperson and the Secretary are authorized to authenticate the 2020 SRF-1 Series Ordinance in the form approved; **And Be it Further**

Resolved That an affirmative vote of at least 5 members of the Authority Board is necessary for the passage of this Resolution.

Adopted by the Great Lakes Water Authority Board on: _____, 2020

The Quarterly WRAP Report includes the following:

1. Community Participation
2. Approved Program Changes
3. Current Year Budget Allocations
4. Current & Historical Activity
5. Reallocation Activity

The Water Residential Assistance Program (“WRAP”) provides sustainable funding for qualifying low-income residents served by the Great Lakes Water Authority’s (“GLWA”) customers. The program is funded by GLWA at an amount equal to 0.5 percent of budgeted revenues with the budgeted FY 2020 funding level of \$4.9 million combined for water and sewer services.

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

The WRAP began assisting residents in the GLWA service area on March 1, 2016 and to date has committed over \$13 million in assistance and conservation funds to qualified WRAP participants. WRAP has the potential to serve over 100 communities within the GLWA service area, but to assist qualified households, each community must opt into the program and sign a Memorandum of Agreement (MOA) with Wayne Metro.

Community Participation

A community participating in WRAP must receive water and/or sewer service from GLWA. Eligible communities must formally opt into the program by signing a memorandum of agreement with Wayne Metro. To date, 76 communities have opted into WRAP. A list of current participating communities is presented in **Table 1 - WRAP Participating Communities**.

Table 1 - WRAP Participating Communities

This table shows the level of participation that each community has chosen. Option 1 includes bill assistance, arrearage assistance and conservation. Option 2 includes bill assistance and conservation and Option 3 includes conservation only.

Member Partner	Option #1	Option #2	Option #3	In Progress	No Response	Not Opted In
Wayne County						
Allen Park	X					
Belleville						X
Brownstown Township	X					
Canton Township	X					
Dearborn	X					
Dearborn Heights	X					
Detroit	X					
Ecorse	X					
Flat Rock	X					
Garden City	X					
Gibraltar		X				
Grosse Ile						X
Grosse Pointe						X
Grosse Pointe Farms						X
Grosse Pointe Park						X
Grosse Pointe Shores	X					
Grosse Pointe Woods					X	
Hamtramck	X					
Harper Woods		X				
Huron Township						X
Inkster		X				
Lincoln Park		X				
Livonia	X					
Melvindale	X					
Northville	X					
Northville Township					X	
Plymouth		X				
Plymouth Township						X
Redford Township	X					
River Rouge	X					
Riverview						X
Rockwood						X
Romulus		X				
Southgate	X					
Sumpter Township						X
Taylor		X				
Trenton	X					
Van Buren Township	X					
Wayne	X					
Westland	X					
Woodhaven		X				
Oakland County						
Auburn Hills					X	
Berkley	X					
Beverly Hills	X					
Bingham Farms	X					
Birmingham	X					
Bloomfield Hills	X					
Bloomfield Township						X
Clawson	X					
Commerce Township	X					
Farmington	X					
Farmington Hills	X					
Ferndale	X					
Hazel Park		X				
Huntington Woods	X					
Keego Harbor	X					
Lake Orion					X	
Lathrup Village	X					
Madison Heights	X					
Novi						X
Oak Park		X				
Orchard Lake	X					
Orion Township	X					
Oxford	X					
Pleasant Ridge	X					
Pontiac	X					
Rochester Hills						X
Royal Oak	X					
Royal Oak Township	X					
Southfield	X					
Sylvan Lake						X
Troy					X	
Walled Lake				X		
Waterford Township				X		
West Bloomfield Twp.						
Wixom						
Macomb County						
Centerline	X					
Chesterfield Township	X					
Clinton Township		X				
Eastpointe	X					
Fraser	X					
Harrison Township					X	
Lenox Township					X	
Macomb Township	X					
New Haven	X					
Roseville						X
Shelby Township	X					
St. Clair Shores	X					
Sterling Heights	X					
Utica	X					
Warren	X					
Washington Township		X				
Washtenaw County						
Augusta Township	X					
Pittsfield Township	X					
Superior Township	X					
Ypsilanti	X					
Ypsilanti Township	X					
Lapeer County						
Almont		X				
Imlay City						X
Lapeer	X					
Genesee County						
Flint	X					
St. Clair County						
Burtchville Twp.						X
Monroe County						
Ash Township	X					
Berlin Township					X	
South Rockwood					X	

Approved Program Changes

As a first-of-its-kind assistance program in the state of Michigan, changes to WRAP may be required as the program matures. Following is a summary of program changes made to WRAP since 2016, as approved by the GLWA Board of Directors.

November 30, 2016:

Allow customer communities to opt into program features that best meet the needs of their community. This is captured in the three options below:

Option 1

- Assistance up to \$300 per year in the form of \$25 monthly bill credits. (Applicable if client continues to pay all current monthly/quarterly charges).
- Up to \$700 in arrearage assistance to be paid 50% (up to \$350) after six months in the program, and 50% (up to \$350) after one year. Enrollees are eligible for a second-year arrearage assistance totaling \$700.
- One-time home water audit for households above 120% of average usage.
- Home repairs up to \$1,000 per household to fix minor plumbing issues leading to high usage (finding and fixing leaks, upgrading water using fixtures) and/or minor lead replacement assistance.

Option 2

- Assistance up to \$300 per year in the form of \$25 monthly bill credits. (Applicable if client continues to pay all current monthly/quarterly charges).
- One-time home water audit for households above 120% of average usage.
- Home repairs up to \$1,000 per household to fix minor plumbing issues leading to high usage (finding and fixing leaks, upgrading water using fixtures) and/or minor lead replacement assistance.

Option 3

- One-time home water audit for households above 120% of average usage.
- Home repairs up to \$1,000 per household to fix minor plumbing issues leading to high usage (finding and fixing leaks, upgrading water using fixtures) and/or minor lead replacement assistance.

August 22, 2018:

Removal of the 120% usage requirement for the lead fixture replacement for in-home faucets that pre-date the lead-free plumbing code change.

January 23, 2019:

Extend the 2-year time limitation to provide monthly bill assistance to senior citizens and disabled citizens.

Current Budget and Allocations

Consistent with the previous fiscal years funding allocation for WRAP, the FY 2020 budgeted allocation is based on the proportionality of the revenues derived from each county and the City of Detroit, based on the approved FY 2020 water and sewer service charges and budget.

Table 2 - FY 2020 WRAP Budget and Allocations

This table shows the allocation of the FY 2020 budgeted WRAP funds, which is reflective of the approved FY 2020 budget of \$4.9 million.

Community	Budgeted Direct Assistance	Budgeted Conservation Assistance	Budgeted Administration Costs	Total Budgeted Revenue	Allocation
WAYNE COUNTY					
CITY OF DETROIT	\$1,405,874	\$351,469	\$210,900	\$1,968,243	40.43%
SUBURBAN	685,847	171,462	102,900	960,209	19.72%
TOTAL WAYNE COUNTY	\$2,091,722	\$522,930	\$313,800	\$2,928,452	62.86%
OAKLAND COUNTY	825,138	206,285	82,600	1,114,023	22.88%
MACOMB COUNTY	533,093	133,273	53,320	719,687	14.78%
GENESEE COUNTY	17,528	4,382	1,753	23,663	0.49%
WASHTENAW COUNTY	39,556	9,889	3,960	53,405	1.10%
LAPEER COUNTY	12,225	3,056	1,223	16,504	0.34%
MONROE COUNTY	6,262	1,565	627	8,454	0.17%
ST. CLAIR COUNTY	2,897	724	290	3,912	0.08%
TOTAL	\$3,528,422	\$882,105	\$457,573	\$4,868,100	100.00%

Current & Historical Activity

Monies are transferred from GLWA to Wayne Metro as needed to fund the program and support the WRAP Assistance and Conservation efforts. Wayne Metro maintains records of this activity which are reviewed and monitored by GLWA. Following are summaries of this activity FY 2020 and prior fiscal years.

Table 3 – WRAP Activity for FY 2020

This table summarizes the budgeted assistance and conservation funds for the City of Detroit and the participating counties within the GLWA service area for FY 2020 as well as the program activity through October 31, 2019.

County/City	FY20 Funds Committed through 10.31.19					
	Budgeted Direct Assistance	Committed Direct Assistance	Balance Remaining	Budgeted Conservation	Committed Conservation	Balance Remaining
Wayne County						
City of Detroit	1,405,874	542,134	863,740	351,469	168,126	183,343
Out Wayne	685,847	119,660	566,187	171,462	600	170,862
Total Wayne County	2,091,721	661,794	1,429,927	522,931	168,726	354,205
Oakland County	825,138	99,947	725,191	206,285	-	206,285
Macomb County	533,093	90,691	442,402	133,273	658	132,615
Genesee County	-	-	-	-	-	-
City of Flint	17,528	17,528	-	4,382	-	4,382
Washtenaw County	39,556	3,383	36,173	9,889	475	9,414
Lapeer County	12,225	-	12,225	3,056	-	3,056
Monroe County	6,262	-	6,262	1,565	-	1,565
St. Clair County	2,897	-	2,897	724	-	724
Total	3,528,420	873,343	2,655,077	882,105	169,859	712,246

Table 4 – WRAP Activity March 2, 2016 through October 31, 2019

This table shows the WRAP cashflow of budgeted and committed funds in total and for each of the participating counties and the City of Detroit as of October 31, 2019. From March 1, 2016 to October 31, 2019, \$21.3 million (including FY 2020 allocations) was budgeted for WRAP bill assistance and conservation assistance and \$14.2 million was utilized by WRAP participants during that time. As of October 31, 2019, the suburban counties still had uncommitted funds (combined assistance and conservation) of over \$4.9 million. The City of Detroit had uncommitted funds of \$1.8 million and the City of Flint had uncommitted funds of \$335,935.

Table 4

TOTAL Activity March 1, 2016 to October 31, 2019

Row	Sources (Net Revenues)	Detroit	Out-Wayne County	Oakland County	Macomb County	Washtenaw County	St. Clair County	Lapeer County	Monroe County	Genesee County	City of Flint	Total
1	FY 2016 Assistance Budget Allocation	\$ 1,238,736	\$ 748,629	\$ 740,155	\$ 379,764	\$ 35,419	\$ 3,051	\$ 10,080	\$ 5,093	\$ 63,842	\$ -	\$ 3,224,769
2	Bill and Arrears Assistance	288,022	174,066	172,096	88,300	8,235	709	2,344	1,184	14,500	-	749,457
3	Home Audit and Repairs	\$ 1,526,759	\$ 922,695	\$ 912,250	\$ 468,064	\$ 43,654	\$ 3,760	\$ 12,424	\$ 6,277	\$ 78,342	\$ -	\$ 3,974,226
4	Total FY 2016 Assistance Budget Allocation											
5	FY 2017 Assistance Budget Allocation	\$ 1,278,103	\$ 806,833	\$ 774,825	\$ 400,804	\$ 37,998	\$ 2,431	\$ 10,059	\$ 5,561	\$ -	\$ -	\$ 3,316,615
6	Bill and Arrears Assistance	297,856	188,029	180,570	93,406	8,855	578	2,344	1,296	-	-	772,934
7	Home Audit and Repairs	\$ 1,575,960	\$ 994,862	\$ 955,395	\$ 494,209	\$ 46,853	\$ 3,009	\$ 12,403	\$ 6,858	\$ -	\$ -	\$ 4,089,549
8	Total FY 2017 Assistance Budget Allocation											
9	FY 2018 Assistance Budget Allocation	\$ 1,303,229	\$ 848,677	\$ 827,662	\$ 429,388	\$ 40,961	\$ 2,604	\$ 9,970	\$ 5,908	\$ 28,679	\$ -	\$ 3,497,078
10	Bill and Arrears Assistance	303,712	197,780	192,883	100,067	9,546	607	2,323	1,377	6,684	-	814,979
11	Home Audit and Repairs	\$ 1,606,941	\$ 1,046,457	\$ 1,020,545	\$ 529,455	\$ 50,507	\$ 3,211	\$ 12,294	\$ 7,285	\$ 35,363	\$ -	\$ 4,312,057
12	Total FY 2018 Assistance Budget Allocation											
13	FY 2019 Assistance Budget Allocation	\$ 1,405,432	\$ 818,952	\$ 866,319	\$ 452,008	\$ 39,783	\$ 2,862	\$ 11,131	\$ 6,392	\$ -	\$ 17,202	\$ 3,620,075
14	Bill and Arrears Assistance	327,530	190,853	201,892	105,337	9,271	667	2,594	1,490	4,009	843,643	
15	Home Audit and Repairs	\$ 1,732,962	\$ 1,009,805	\$ 1,068,211	\$ 557,340	\$ 49,054	\$ 3,529	\$ 13,725	\$ 7,882	\$ -	\$ 21,211	\$ 4,463,718
16	Total FY 2019 Assistance Budget Allocation											
17	FY 2020 Assistance Budget Allocation	\$ 1,405,874	\$ 685,847	\$ 825,138	\$ 533,093	\$ 39,556	\$ 2,897	\$ 12,225	\$ 6,262	\$ -	\$ -	\$ 3,528,422
18	Bill and Arrears Assistance	351,469	171,462	206,285	133,273	9,889	724	3,056	1,565	-	-	882,105
19	Home Audit and Repairs	\$ 1,757,343	\$ 857,309	\$ 1,031,423	\$ 666,367	\$ 49,445	\$ 3,622	\$ 15,281	\$ 7,827	\$ -	\$ 21,910	\$ 4,410,527
20	Total FY 2020 Assistance Budget Allocation											
21	FY 2016-2020 Assistance Available	\$ 8,199,964	\$ 4,831,128	\$ 4,987,824	\$ 2,715,435	\$ 239,313	\$ 17,130	\$ 66,127	\$ 36,129	\$ 113,705	\$ 43,121	\$ 21,250,077
22	Reallocation of Uncommitted Funds											
23	Reallocation of Uncommitted Funds from FY 2016 (1)	\$ 1,664,833	\$ (718,353)	\$ (591,163)	\$ (355,316)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
24	Bill and Arrears Assistance Reallocated to Detroit	-	-	-	-	-	-	-	-	-	-	-
25	Uncommitted FY 2016 Conservation Funds	-	-	-	-	-	-	-	-	-	-	-
26	Bill and Arrears Assistance Reallocated to Flint	-	-	-	-	(35,419)	(3,051)	(10,080)	(5,093)	(63,842)	-	(117,485)
27	Total Reallocation of Uncommitted Funds from FY 2016	\$ 1,664,833	\$ (718,353)	\$ (591,163)	\$ (355,316)	\$ (35,419)	\$ (3,051)	\$ (10,080)	\$ (5,093)	\$ (63,842)	\$ -	\$ -
28	Reallocation of Uncommitted Funds from FY 2017 (2)	\$ 549,784	\$ (486,355)	\$ (268,078)	\$ (262,634)	\$ (28,401)	\$ (2,431)	\$ (10,059)	\$ (5,561)	\$ -	\$ -	\$ (206,200)
29	FY 2017 Reallocation of Assistance Funds	4,233,379	761,140	1,082,452	372,502	20,046	2,046	6,005	(907)	-	-	118,100
30	FY 2017 Reallocation of Conservation Funds	(71,911)	(62,120)	(6,248)	(6,248)	(405)	(405)	(1,641)	(907)	-	-	206,200
31	Total Reallocation of Uncommitted Funds from FY 2017	\$ 786,981	\$ (558,266)	\$ (330,198)	\$ (268,882)	\$ (34,267)	\$ (2,836)	\$ (11,700)	\$ (6,468)	\$ -	\$ -	\$ -
32	Proposed Reallocation of Uncommitted Funds from FY 2018 (3)	\$ 438,750	\$ (298,775)	\$ (313,077)	\$ (241,763)	\$ (28,966)	\$ (2,604)	\$ (9,970)	\$ (5,908)	\$ (28,679)	\$ 236,250	\$ (254,732)
33	FY 2018 Reallocation of Assistance Funds	355,650	(96,982)	(116,197)	(59,108)	(9,145)	(607)	(2,323)	(1,377)	(6,684)	191,505	254,732
34	FY 2018 Reallocation of Conservation Funds	794,400	(395,757)	(425,264)	(300,871)	(38,111)	(3,211)	(12,293)	(7,285)	(35,363)	42,755	-
35	Total Proposed Reallocation of Uncommitted Funds from FY 2018	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
36	Proposed Reallocation of Uncommitted Funds from FY 2019	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
37	FY 2019 Reallocation of Assistance Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
38	FY 2019 Reallocation of Conservation Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
39	Total Proposed Reallocation of Uncommitted Funds from FY 2019	\$ 3,246,213	\$ (1,672,376)	\$ (1,350,625)	\$ (925,069)	\$ (107,797)	\$ (9,097)	\$ (34,073)	\$ (18,846)	\$ (99,205)	\$ 970,875	\$ -
40	NET FY 2016-2020 Assistance Available	\$ 11,446,177	\$ 3,158,753	\$ 3,637,199	\$ 1,790,366	\$ 131,716	\$ 8,033	\$ 32,054	\$ 17,283	\$ 14,500	\$ 1,013,996	\$ 21,250,077
41	Uses 3/01/2016 to 10/31/2019											
42	Home Audits and Repair Paid to Date	1,622,444	260,359	221,319	160,434	3,542	-	-	-	-	122,109	2,390,207
43	Bill Assistance and Arrears Paid to Date	761,140	1,082,452	372,502	372,502	20,046	-	-	-	-	342,374	6,811,894
44	Total Uses 3/01/2016 to 10/31/2019	\$ 5,855,823	\$ 1,021,499	\$ 1,303,771	\$ 532,936	\$ 23,589	\$ -	\$ -	\$ -	\$ -	\$ 464,483	\$ 9,203,102
45	Less: Committed Funds 3/01/2016 to 10/31/2019											
46	Future Bill Assistance	\$ 1,550,179	\$ 156,557	\$ 7,953	\$ 24,635	\$ 10,002	\$ -	\$ -	\$ -	\$ -	\$ 48,258	\$ 1,797,585
47	Future Arrears Assistance	2,198,692	520,302	226,920	75,731	10,037	-	-	-	-	165,320	3,197,002
48	Total Committed Funds 3/01/2016 to 10/31/2019	\$ 3,748,872	\$ 676,859	\$ 234,873	\$ 100,366	\$ 20,039	\$ -	\$ -	\$ -	\$ -	\$ 213,578	\$ 4,994,587
49	Total Expenditures/Committed Funds	\$ 9,604,695	\$ 1,698,358	\$ 1,538,644	\$ 633,302	\$ 43,628	\$ -	\$ -	\$ -	\$ -	\$ 678,061	\$ 14,196,689
50	Uncommitted Funds as of 10/31/2019 (line 39 - line 48)	\$ 1,841,482	\$ 1,460,394	\$ 2,098,555	\$ 1,157,064	\$ 88,089	\$ 8,033	\$ 32,054	\$ 17,283	\$ 14,500	\$ 335,935	\$ 7,055,389
51	Summary of Uncommitted Funds 10/31/2019											
52	Uncommitted Conservation	\$ 538,993	\$ 492,939	\$ 554,089	\$ 294,593	\$ 27,243	\$ 2,273	\$ 8,698	\$ 4,629	\$ 14,500	\$ 195,887	\$ 2,133,843
53	Uncommitted Assistance	1,302,490	967,456	1,544,466	862,471	60,845	5,759	23,356	12,654	-	140,048	4,919,545
54	Total Uncommitted Funds as of 10/31/2019	\$ 1,841,482	\$ 1,460,394	\$ 2,098,555	\$ 1,157,064	\$ 88,089	\$ 8,033	\$ 32,054	\$ 17,283	\$ 14,500	\$ 335,935	\$ 7,055,389

(1) Based on April 26, 2017 Board of Directors action
(2) Based on August 22, 2018 Board of Directors action
(3) Based on June 26, 2019 Board of Directors action

Previous Reallocation of Uncommitted Funds

After the completion of each fiscal year, Wayne Metro recommends to the GLWA Board of Directors the reallocation of uncommitted assistance and conservation funds to those member partners that have fully committed their annual budgeted funds due to the increased need within their community.

Table 5 – Total WRAP Reallocation of Uncommitted Funds

This table summarizes the Board authorized reallocation of uncommitted FY 2016 to FY 2018 WRAP funds to the City of Detroit and the City of Flint. To date, \$3,246,213 has been reallocated to Detroit and \$970,875 to the City of Flint from the other counties within GLWA.

Reallocated Funds	Detroit	Flint	Total
FY 2016	\$1,664,833	\$117,485	\$1,782,318
FY 2017	786,981	425,635	1,212,616
FY 2018	794,400	427,755	1,222,155
Total Reallocation	\$3,246,214	\$970,875	\$4,217,089



Financial Services Audit Committee Communication

Date: January 17, 2020

To: Great Lakes Water Authority Audit Committee

From: Jon Wheatley, Public Finance Manager

Re: Water Residential Assistance Program Reallocation Request for Uncommitted FY 2019 Funds

Background: After the completion of each fiscal year, Wayne Metro recommends to the GLWA Board of Directors the reallocation of uncommitted assistance and conservation funds to those member partners that have fully committed its annual budgeted funds, due to the increased need within their community. Included in this memo is the recommended reallocation for the uncommitted FY 2019.

Analysis: On October 18, 2019, the quarterly Water Residential Assistance Program (“WRAP”) report was presented to the GLWA Audit Committee. Included in that report was the budgeted WRAP assistance and conservation allocations to the City of Detroit and the counties served by GLWA for FY 2019 and the FY 2019 committed assistance and conservation funds. Based on the FY 2019 activity in **Table 1** below, there was a total of \$2,013,916 in uncommitted WRAP funds.

Table 1 – WRAP Activity for FY 2019

County/City	FY 2019 WRAP Spending						
	Direct Assistance			Conservation			Total
	Allocated Direct Assistance	Committed Direct Assistance	Uncommitted Direct Assistance	Allocated Conservation	Committed Conservation	Uncommitted Conservation	Total Uncommitted
Wayne County							
City of Detroit	1,405,432	1,405,432	-	327,530	327,530	-	-
Out Wayne	818,952	416,340	402,612	190,853	72,719	118,134	520,746
Total Wayne County	2,224,384	1,821,772	402,612	518,383	400,249	118,134	520,746
Oakland County	866,319	46,996	819,323	201,892	41,438	160,454	979,777
Macomb County	452,003	43,129	408,874	105,337	57,531	47,806	456,680
Genesee County	-	-	-	-	-	-	-
City of Flint	17,202	17,202	-	4,009	4,009	-	-
Washtenaw County	39,783	10,397	29,386	9,271	7,080	2,191	31,578
Lapeer County	11,131	-	11,131	2,594	-	2,594	13,725
Monroe County	6,392	-	6,392	1,490	-	1,490	7,882
St. Clair County	2,862	-	2,862	667	-	667	3,529
Total	3,620,076	1,939,496	1,680,580	843,643	510,307	333,336	2,013,916

Table 2 shows the WRAP cashflow of budgeted and committed funds in total and for each of the participating counties and the City of Detroit as of June 30, 2019. From March 1, 2016 to June 30, 2019, \$16.8 million was budgeted for WRAP bill assistance and conservation assistance and \$13.1 million was utilized by WRAP participants during that time. As of June 30, 2019, the suburban counties still had uncommitted funds (combined assistance and conservation) of over \$2.5 million. The City of Detroit had uncommitted funds of \$794,400 million and the City of Flint had uncommitted funds of \$427,756 due to the reallocation of the uncommitted FY 2018 suburban assistance funds.

Table 2 - Total WRAP Activity March 2, 2016 to June 30, 2019

Table 2

TOTAL Activity March 1, 2016 to June 30, 2019

Row		Detroit	Out-Wayne	Oakland	Macomb	Washtenaw	St. Clair	Lapeer	Monroe	Genesee	City of Flint	Total
	Sources (Net Revenues)											
	FY 2016 Assistance Budget Allocation											
1	Bill and Arreage Assistance	\$ 1,238,736	\$ 748,629	\$ 740,155	\$ 379,764	\$ 35,419	\$ 3,051	\$ 10,080	\$ 5,093	\$ 63,842	\$ -	\$ 3,224,769
2	Home Audit and Repairs	288,022	174,066	172,096	88,300	8,235	709	2,344	1,184	14,500	-	749,457
3	Total FY 2016 Assistance Budget Allocation	\$ 1,526,759	\$ 922,695	\$ 912,251	\$ 468,064	\$ 43,654	\$ 3,760	\$ 12,424	\$ 6,277	\$ 78,342	\$ -	\$ 3,974,226
	FY 2017 Assistance Budget Allocation											
4	Bill and Arreage Assistance	\$ 1,278,103	\$ 806,833	\$ 774,825	\$ 400,804	\$ 37,998	\$ 2,431	\$ 10,059	\$ 5,561	\$ -	\$ -	\$ 3,316,615
5	Home Audit and Repairs	297,856	188,029	180,570	93,406	8,955	578	2,344	1,296	-	-	772,934
6	Total FY 2017 Assistance Budget Allocation	\$ 1,575,960	\$ 994,862	\$ 955,395	\$ 494,209	\$ 46,953	\$ 3,009	\$ 12,403	\$ 6,858	\$ -	\$ -	\$ 4,089,549
	FY 2018 Assistance Budget Allocation											
8	Bill and Arreage Assistance	\$ 1,303,229	\$ 848,677	\$ 827,662	\$ 429,388	\$ 40,961	\$ 2,604	\$ 9,970	\$ 5,908	\$ 28,679	\$ -	\$ 3,497,078
9	Home Audit and Repairs	303,712	197,780	192,883	100,067	9,546	607	2,323	1,377	6,684	-	814,979
10	Total FY 2018 Assistance Budget Allocation	\$ 1,606,941	\$ 1,046,457	\$ 1,020,545	\$ 529,455	\$ 50,507	\$ 3,211	\$ 12,294	\$ 7,285	\$ 35,363	\$ -	\$ 4,312,057
	FY 2019 Assistance Budget Allocation											
12	Bill and Arreage Assistance	\$ 1,405,432	\$ 818,952	\$ 866,319	\$ 452,003	\$ 39,783	\$ 2,862	\$ 11,131	\$ 6,392	\$ -	\$ 17,202	\$ 3,620,075
13	Home Audit and Repairs	327,530	190,853	201,892	105,337	9,771	667	2,594	1,490	-	\$ 4,009	\$ 843,643
14	Total FY 2019 Assistance Budget Allocation	\$ 1,732,962	\$ 1,009,805	\$ 1,068,211	\$ 557,340	\$ 49,554	\$ 3,529	\$ 13,725	\$ 7,882	\$ -	\$ 21,211	\$ 4,463,718
15	NET FY 2016-2019 Assistance Available	\$ 6,442,621	\$ 3,973,819	\$ 3,956,402	\$ 2,049,068	\$ 190,069	\$ 13,509	\$ 50,846	\$ 28,301	\$ 113,705	\$ 21,211	\$ 16,839,550
16	Reallocation of Uncommitted Funds											
17	Reallocation of Uncommitted Funds from FY 2016 (1)											
18	Bill and Arreage Assistance Reallocated to Detroit	\$ 1,664,833	\$ (718,353)	\$ (591,163)	\$ (355,316)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Uncommitted FY 2016 Conservation Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	Bill and Arreage Assistance Reallocated to Flint	\$ -	\$ -	\$ -	\$ -	\$ (35,419)	\$ (3,051)	\$ (10,080)	\$ (5,093)	\$ (63,842)	\$ -	\$ 117,485
21	Total Reallocation of Uncommitted Funds from FY 2016	\$ 1,664,833	\$ (718,353)	\$ (591,163)	\$ (355,316)	\$ (35,419)	\$ (3,051)	\$ (10,080)	\$ (5,093)	\$ (63,842)	\$ -	\$ 117,485
22	Reallocation of Uncommitted Funds from FY 2017 (2)											
23	FY 2017 Reallocation of Assistance Funds	\$ 549,784	\$ (486,355)	\$ (268,078)	\$ (241,763)	\$ (28,401)	\$ (2,431)	\$ (10,059)	\$ (5,561)	\$ -	\$ -	\$ (206,200)
24	FY 2017 Reallocation of Conservation Funds	237,197	(71,911)	(62,120)	(6,248)	(9,735)	(405)	(1,641)	(907)	-	-	206,200
25	Total Reallocation of Uncommitted Funds from FY 2017	\$ 786,981	\$ (558,266)	\$ (330,198)	\$ (268,011)	\$ (38,136)	\$ (2,836)	\$ (11,700)	\$ (6,468)	\$ -	\$ -	\$ 425,635
26	Reallocation of Uncommitted Funds from FY 2018 (3)											
27	FY 2018 Reallocation of Assistance Funds	\$ 438,750	\$ (298,775)	\$ (313,067)	\$ (241,763)	\$ (28,966)	\$ (2,604)	\$ (9,970)	\$ (5,908)	\$ (28,679)	\$ 236,250	\$ (254,732)
28	FY 2018 Reallocation of Conservation Funds	355,650	(96,982)	(116,197)	(59,108)	(9,145)	(607)	(2,323)	(1,377)	(6,684)	191,505	254,732
29	Total Reallocation of Uncommitted Funds from FY 2018 (3)	\$ 794,400	\$ (395,757)	\$ (429,264)	\$ (300,871)	\$ (38,111)	\$ (3,211)	\$ (12,293)	\$ (7,285)	\$ (35,363)	\$ 427,755	\$ -
30	Total Reallocation of Uncommitted Funds	\$ 3,246,213	\$ (1,672,375)	\$ (1,350,625)	\$ (925,069)	\$ (107,797)	\$ (9,097)	\$ (34,073)	\$ (18,846)	\$ (99,205)	\$ 970,875	\$ -
31	NET FY 2016-2019 Assistance Available	\$ 9,688,834	\$ 2,301,444	\$ 2,605,777	\$ 1,123,999	\$ 82,272	\$ 4,411	\$ 16,772	\$ 9,455	\$ 14,500	\$ 992,086	\$ 16,839,550
32	Uses 3/01/2016 to 6/30/2019											
33	Home Audits and Repair Paid to Date	1,454,318	259,759	221,369	159,776	3,067	-	-	-	-	122,109	2,220,398
34	Bill Assistance and Arreages Paid to Date	4,247,810	698,962	970,804	311,922	19,735	-	-	-	-	153,083	6,402,318
35	Total Uses 3/01/2016 to 6/30/2019	\$ 5,702,128	\$ 958,721	\$ 1,192,173	\$ 471,698	\$ 22,803	\$ -	\$ -	\$ -	\$ -	\$ 275,192	\$ 8,622,716
36	Less: Committed Funds 3/01/2016 to 6/30/2019											
37	Future Bill Assistance	\$ 1,176,727	\$ 134,477	\$ 36,696	\$ 40,212	\$ 3,006	\$ -	\$ -	\$ -	\$ -	\$ 106,399	\$ 1,497,516
38	Future Arreage Assistance	2,015,579	484,900	209,878	70,043	14,136	-	-	-	-	182,740	2,977,276
39	Total Committed Funds 3/01/2016 to 6/30/2019	\$ 3,192,306	\$ 619,377	\$ 246,574	\$ 110,255	\$ 17,142	\$ -	\$ -	\$ -	\$ -	\$ 289,138	\$ 4,474,792
40	Total Expenditures/Committed Funds	\$ 8,894,435	\$ 1,578,098	\$ 1,438,747	\$ 581,953	\$ 39,945	\$ -	\$ -	\$ -	\$ -	\$ 564,331	\$ 13,097,508
41	Uncommitted Funds as of 6/30/2019 (line 31 - line 40)	\$ 794,400	\$ 723,345	\$ 1,167,029	\$ 542,046	\$ 42,327	\$ 4,411	\$ 16,772	\$ 9,455	\$ 14,500	\$ 427,756	\$ 3,742,042
42	Summary of Uncommitted Funds 6/30/2019											
43	Uncommitted Conservation	\$ 355,650	\$ 322,077	\$ 347,754	\$ 161,978	\$ 17,829	\$ 1,549	\$ 5,641	\$ 3,063	\$ 14,500	\$ 191,505	\$ 1,421,547
44	Uncommitted Assistance	438,750	401,268	819,275	380,068	24,498	2,862	11,131	6,392	-	236,251	2,320,495
45	Total Uncommitted Funds as of 6/30/2019	\$ 794,400	\$ 723,345	\$ 1,167,029	\$ 542,046	\$ 42,327	\$ 4,411	\$ 16,772	\$ 9,455	\$ 14,500	\$ 427,756	\$ 3,742,042

(1) Based on April 26, 2017 Board of Directors action
(2) Based on August 22, 2018 Board of Directors action
(3) Based on June 26, 2019 Board of Directors action

The GLWA Board has previously authorized the reallocation of uncommitted FY 2016 to FY 2018 WRAP funds to the City of Detroit and the City of Flint. To date, \$3,246,213 has been reallocated to Detroit and \$970,875 to the City of Flint from the other counties within GLWA. As shown in **Table 3**.

Table 3 – Total WRAP Reallocation of Uncommitted Funds FY 2016-2018

Reallocated Funds	Detroit	Flint	Total
FY 2016	\$1,664,833	\$117,485	\$1,782,318
FY 2017	786,981	425,635	1,212,616
FY 2018	794,400	427,755	1,222,155
Total Reallocation	\$3,246,214	\$970,875	\$4,217,089

Wayne Metro Reallocation Recommendations

Based on the demonstrated usage of the WRAP funds since March 1, 2016 and the usage through the end of FY 2019, Wayne Metro is recommending reallocation of currently uncommitted FY 2019 suburban WRAP funds. Attached is Wayne Metro’s letter (including referenced documents) dated January 10, 2020 which outlines their recommendations. Below is a summary of the recommendations:

1. Reallocation of Uncommitted FY 2019 Assistance Funds: WRAP utilization in FY 2019 for suburban Counties had uncommitted assistance dollars of \$1,680,580. Wayne Metro is recommending the \$1,680,580 be reallocated to Detroit in the Amount of \$690,100, to Flint in the Amount of \$371,562, to Community Outreach to increase program participation in suburban communities in the Amount of \$359,761 with the remaining \$259,157 transferred to conservation funding
2. Reallocation of Uncommitted FY 2019 Conservation Funds: In addition to the uncommitted assistance funds, \$333,336 remain from the suburban Counties’ allocation of the conservation funds from FY 2019. Wayne Metro is recommending combining the \$259,157 of repurposed FY 2019 assistance funds (noted above) and the \$333,336 of unspent FY 2019 suburban Counties’ conservation funds for a total of \$592,493. From the \$592,493, Wayne Metro is recommending the transfer of \$492,493 to the City of Detroit and \$100,000 to the City of Flint as shown in **Table 4**.

Table 4 – Proposed WRAP Reallocation

County/City	Uncommitted	PROPOSED FY 2019 Reallocation			
	Total Uncommitted	Direct Assistance	Conservation	Outreach	Total Reallocation
Wayne County					
City of Detroit	-	690,100	492,493	-	1,182,593
Out Wayne	520,746	-	-	60,961	60,961
Total Wayne County	520,746	690,100	492,493	60,961	1,243,554
Oakland County	979,777	-	-	172,328	172,328
Macomb County	456,680	-	-	98,642	98,642
Genesee County	-	-	-	-	-
City of Flint	-	371,562	100,000	21,749	493,311
Washtenaw County	31,578	-	-	3,947	3,947
Lapeer County	13,725	-	-	1,220	1,220
Monroe County	7,882	-	-	625	625
St. Clair County	3,529	-	-	289	289
Total	2,013,916	1,061,662	592,493	359,761	2,013,916

Budget Impact: None

Proposed Action: The GLWA Audit Committee recommends that the Great Lakes Water Authority Board approve the Wayne Metro recommendation to 1) approve the reallocation of the uncommitted FY 2019 assistance funds of \$1,680,580; \$690,100 to Detroit and \$371,562 to Flint for direct assistance, \$359,761 to Community Outreach to increase program participation in suburban communities and with the remaining \$259,157 transferred to conservation funding 2) approve the reallocation of the uncommitted FY 2019 conservation funds in the amount of \$333,336 together with the \$259,157 transferred funds from FY 2019 uncommitted assistance funds together totaling \$592,493 be reallocated to Detroit in the amount of \$492,493 and to Flint in the amount of \$100,000.



Wayne Metropolitan
Community Action Agency
Established 1911



LHSA
A Community Action Agency



January 10, 2020

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

RE: Water Residential Assistance Program Reallocation of Uncommitted FY18-19 Funds

Dear GLWA Board of Directors and Sue McCormick,

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

Together we have enrolled more than 19,000 GLWA resident customers into WRAP assisting in the prevention of thousands of water service shut offs. With 76 of the eligible GLWA communities now offering WRAP services to residents and three (3) additional in process, the reach and impact of WRAP continues to grow. **Even with an increase in community participation, an unspent balance of \$1,680,580 in uncommitted funds remain in Direct Assistance and \$333,336 in Conservation.**

The greatest need for WRAP services is from Detroit and Flint customers. 71 percent of all WRAP enrollments are Detroit and Flint residents. All available GLWA Detroit WRAP funding has been committed to service first year enrollments, second year re enrollments, home repairs, and conservation measures.

We respectfully request that GLWA Board of Directors:

1. **Approve a WRAP funding reallocation as follows:**
 - a. **Direct Assistance (\$1,680,580)**
 - i. **City of Detroit New Enrollments: \$690,100**
 - ii. **Genesee County (Flint) New Enrollments: \$ 371,562**
 - iii. **Outreach – Oakland, Macomb & Others: \$359,761**
 - iv. **Conservation: \$259,157**
 - b. **Conservation- (Including Reallocated Direct Assistance) (\$592,493):**
 - i. **City of Detroit: Conservation: \$ 492,493**
 - ii. **Genesee county (Flint): Conservation: \$100,000**

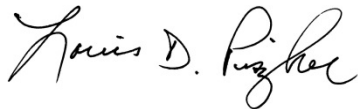
In advocating for this reallocation, it is worth noting:

- All allocated GLWA funding and additional funding raised for Detroit has been committed.
- All allocated GLWA funding for Flint has been committed and \$17,000 are allocated for FY 19-20.
- This request is consistent with the reallocation request made by the CAA Alliance in 2018.
- An additional \$4,138,000 has been raised and committed for WRAP Detroit - Wayne Metro contributing \$1M in Federal dollars and DWSD an additional \$3M for Departmental sources.
- \$3.2M has been leveraged to expand and advance WRAP services through technology, facilities, and increased staffing.
- \$400,000 of discretionary funding has been raised through events, grants, and donations to provide one-time assistance to individuals and communities ineligible for WRAP.

Please find attached:

1. A funding allocation request table

Sincerely,



Louis D. Piszker, CEO
Wayne Metro CAA



*WRAP Program Update &
Request for Reallocation*
January 17, 2020



Mission & Vision

WRAP's mission is to administer the distribution of WRAP funding to eligible, low-income households in the GLWA service areas with a vision to create a **transformative** water utility assistance program focusing on the **core values of self-sustainability, social responsibility and affordability.**



Enrollments & Participation

As of October 31, 2019

- **19,000 enrolled, 12,000+ are Detroiters**
- **74% community participation rate achieved**
 - 76 of 103 eligible municipalities are opted in.
 - ✓ 10 opted out
 - ✓ 3 Pending
- **\$ 18.7 M total funding committed**
 - \$14.2M GLWA Funding
 - \$4.5M Supplemental Funding



Program Updates



WRAP Program Design Updates

Direct Assistance

- 300 Seniors and/or disabled households received extended bill credit assistance.
- Total arrearages have been reduced by an average of 50% for program participants at the first month of enrollment.



WRAP Program Design Updates

Program Supplies

- **1800+** households received
 - ✓ LiveSmart workshops & Conservation Supplies

Outreach

- Community Engagement and Outreach team(s)
 - ✓ 310 events throughout the GLWA service area
- Promotional Materials dispersed
 - ✓ DHHS Offices & Municipalities
- Monthly strategy meetings with CAA partners



WRAP Program Updates

Access to Services

- Soft launch
 - ✓ November 2019
- Full implementation
 - ✓ February 2020

Coming Soon...
WRAP APP

NEW Online Application

- 10 min to apply and upload docs
- 30 min approval process



Winning WRAP Team



Ms. Taneka Hicks



Temeko Manica
Direct Service Specialist

FY 2019 Reallocation Request



Previously Reallocated Funds

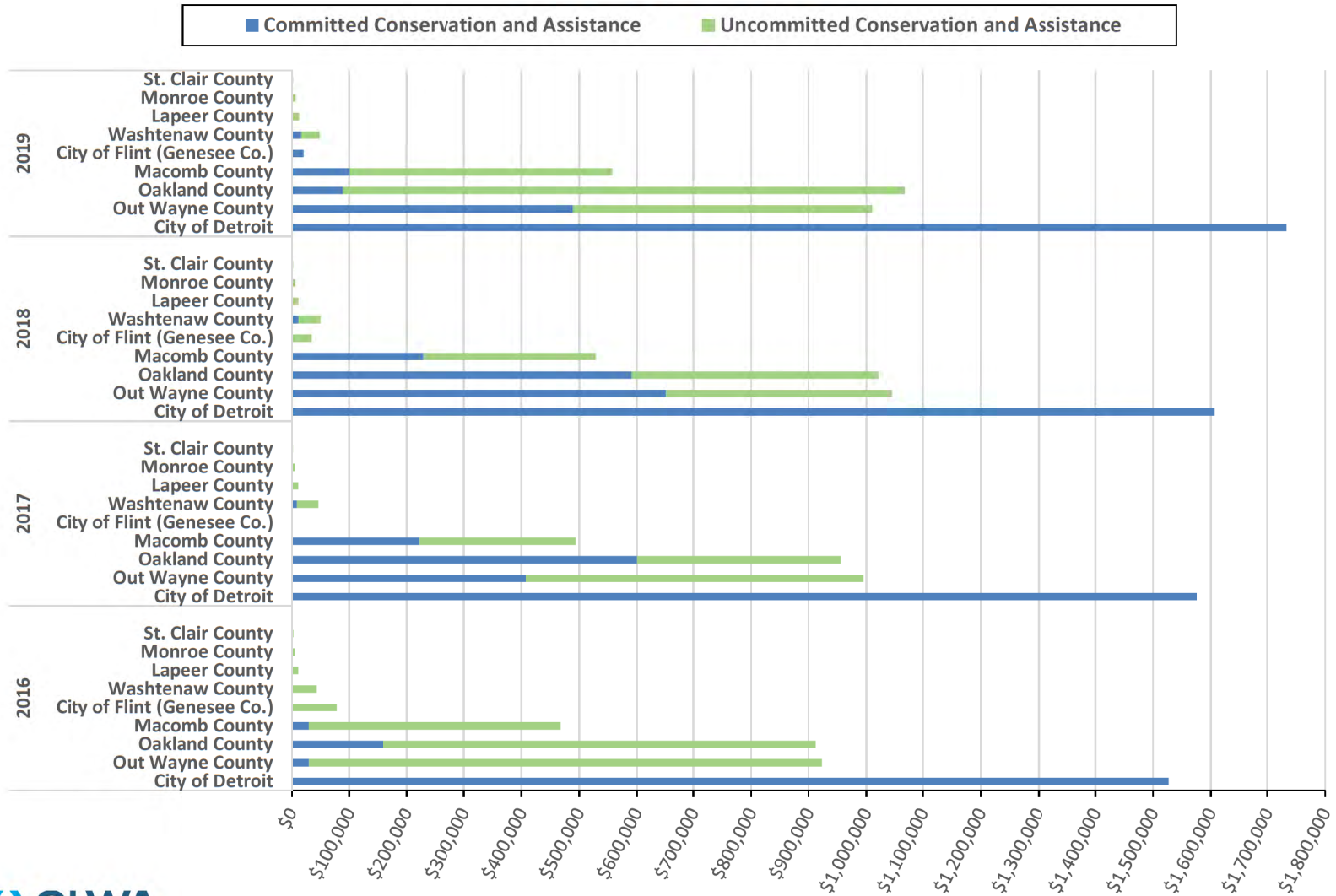
FY 2016 to FY 2018

Reallocated Funds	Detroit	Flint	Total
FY 2016	\$1,664,833	\$117,485	\$1,782,318
FY 2017	786,981	425,635	1,212,616
FY 2018	794,400	427,755	1,222,155
Total Reallocation	\$3,246,214	\$970,875	\$4,217,089



Commitment Trends

FY 2016 to FY 2019



FY 2019 WRAP Commitments

July 1, 2018 to June 30, 2019

County/City	July 1, 2018 - June 30, 2019				
	Allocated Assistance and Conservation	Committed Assistance and Conservation	Reallocated Assistance and Conservation	Committed Reallocated Assistance and	Remaining Balance
Wayne County					
City of Detroit	1,732,962	1,732,962	-	-	-
Out Wayne	1,009,805	489,059	-	-	520,746
Total Wayne County	2,742,767	2,222,021	-	-	520,746
Oakland County	1,068,211	88,434	-	-	979,777
Macomb County	557,340	100,660	-	-	456,680
Genesee County	-	-	-	-	-
City of Flint	21,211	21,211	-	-	-
Washtenaw County	49,054	17,477	-	-	31,577
Lapeer County	13,725	-	-	-	13,725
Monroe County	7,882	-	-	-	7,882
St. Clair County	3,529	-	-	-	3,529
Total	4,463,719	2,449,803	-	-	2,013,916

Reallocation Request

Approve a WRAP funding reallocation of uncommitted FY 2019 Funds to assist GLWA residential customers with the greatest need, lowest income, and highest utility burden.

Direct Assistance	-	\$1,061,662
Conservation	-	\$ 592,493
Out-Reach	-	\$ 359,761

TOTAL: \$2,013,916



FY 2019 WRAP Reallocation Request

County/City	PROPOSED FY19 Reallocation			
	Direct Assistance	Conservation	Outreach	Total Reallocation
Wayne County				
City of Detroit	690,100	492,493		1,182,593
Out Wayne	-	-	60,961	60,961
Total Wayne County	690,100	492,493	60,961	1,243,554
Oakland County	-	-	172,328	172,328
Macomb County	-	-	98,642	98,642
Genesee County	-	-	-	-
City of Flint	371,562	100,000	21,749	493,311
Washtenaw County	-	-	3,947	3,947
Lapeer County	-	-	1,220	1,220
Monroe County	-	-	625	625
St. Clair County	-	-	289	289
Total	1,061,662	592,493	359,761	2,013,916



FY 2020 WRAP Commitments

As of October 31, 2019

County/City	FY20 Funds Committed through 10.31.19					
	Budgeted Direct Assistance	Committed Direct Assistance	Balance Remaining	Budgeted Conservation	Committed Conservation	Balance Remaining
Wayne County						
City of Detroit	1,405,874	542,134	863,740	351,469	168,126	183,343
Out Wayne	685,847	119,660	566,187	171,462	600	170,862
Total Wayne County	2,091,721	661,794	1,429,927	522,931	168,726	354,205
Oakland County	825,138	99,947	725,191	206,285	-	206,285
Macomb County	533,093	90,691	442,402	133,273	658	132,615
Genesee County	-	-	-	-	-	-
City of Flint	17,528	17,528	-	4,382	-	4,382
Washtenaw County	39,556	3,383	36,173	9,889	475	9,414
Lapeer County	12,225	-	12,225	3,056	-	3,056
Monroe County	6,262	-	6,262	1,565	-	1,565
St. Clair County	2,897	-	2,897	724	-	724
Total	3,528,420	873,343	2,655,077	882,105	169,859	712,246

Questions?



GLWA

Great Lakes Water Authority



Monthly Financial Report Binder

October 2019

**Presented to the
Great Lakes Water Authority
Audit Committee on January 17, 2020**

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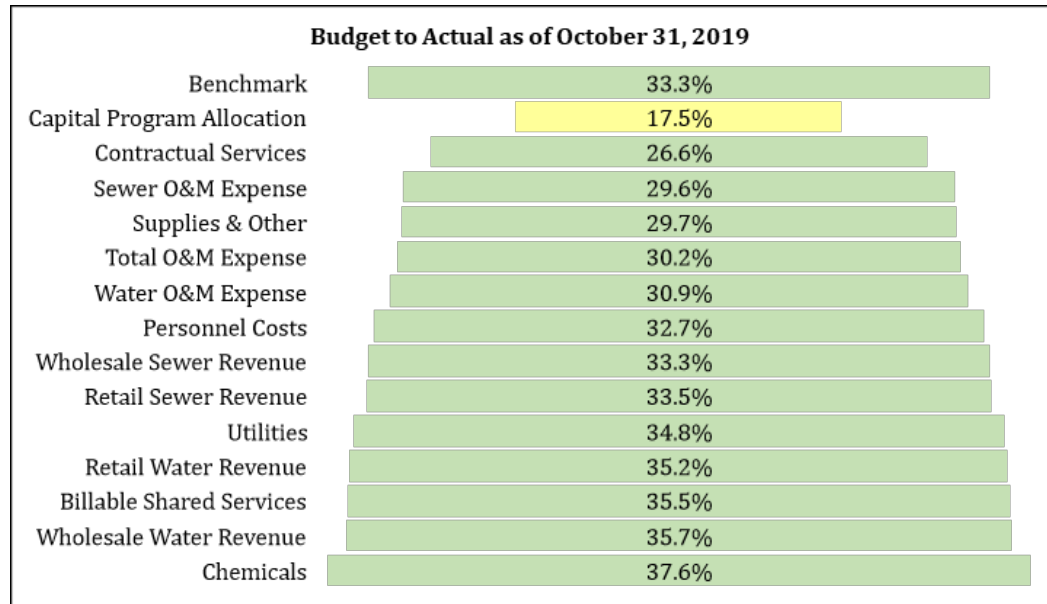
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 Highland Park Life-to-Date Billings & Collections B-1

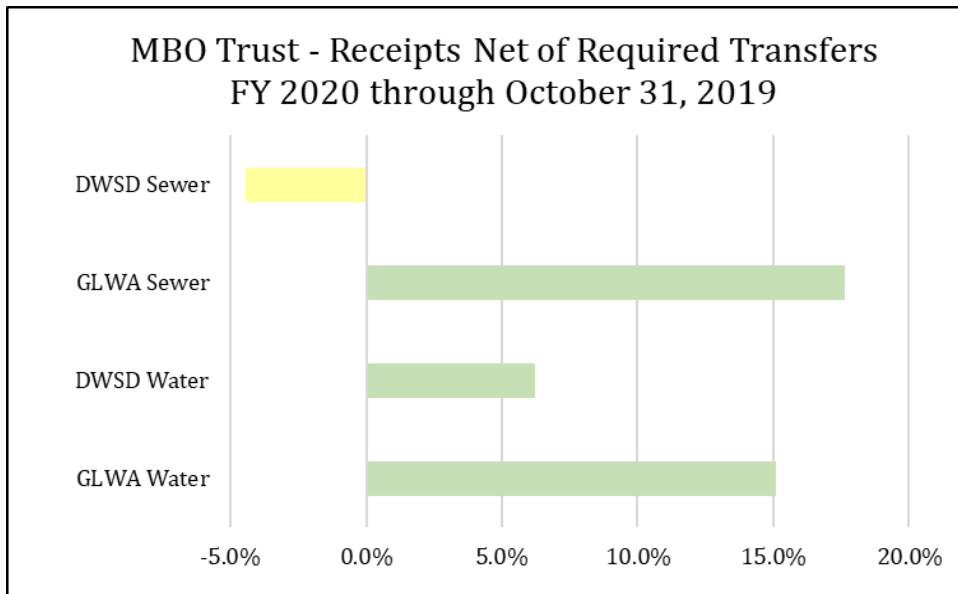
Revenue and Expense Budget to Actual¹ – Pro-rata Benchmark of 33.3%

Current period financial results indicate most revenue and expense reporting categories fall within the 7.5% of the pro-rata budget to actual benchmark.



The Capital Program Allocation expense variation is currently under review by the Budget team.

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 cash flows also report positive net cash receipts through October. DWSD Sewer reported positive cash flows of \$2.2 million reducing the cumulative FY 2020 DWSD Sewer shortfall to \$4.1 million. Looking ahead, DWSD proactively addressed the FY 2020 Sewer shortfall in December 2019 with an Operations & Maintenance transfer back to the Sewer Receiving Fund of \$2.6 million and budgeted, monthly Operations & Maintenance transfer reductions of \$1 million.

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 October 2019, the pro-rata benchmark is 33.3% (4 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 under the pro-rata benchmark for FY 2020 at 30.9%. The *sewer* system O&M expenses, at 29.6%, 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 30.7%; while the *sewer* system is at 31.8%. 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 October 31, 2018, of \$2.6 million (FY 2019 ended with a small surplus). 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 \$2.2 million and the DWSD *sewer* system has a budgetary shortfall of \$4.1 million through October 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 10/31/2018	Percent Year-to- Date	FY 2020 BOARD ADOPTED BUDGET	FY 2020 AMENDED BUDGET	FY 2020 THRU 10/31/2019	Percent Year-to- Date
Water System							
Revenues							
Wholesale Customer Charges	\$ 307,383	\$ 113,914	37.1%	\$ 309,285	\$ 309,285	\$ 110,973	35.9%
Retail Services Agreement	20,181	6,775	33.6%	21,296	21,296	7,099	33.3%
Investment Earnings	9,425	2,952	31.3%	9,084	9,084	1,584	17.4%
Other Revenues	-	17	0.0%	-	-	-	0.0%
Total Revenues	\$ 336,989	\$ 123,658	36.7%	\$ 339,664	\$ 339,664	\$ 119,656	35.2%
Revenue Requirements							
Operations & Maintenance Expense	\$ 121,563	\$ 46,460	38.2%	\$ 131,491	\$ 131,491	\$ 40,680	30.9%
O&M Legacy Pension	6,048	2,016	33.3%	6,048	6,048	2,016	33.3%
Debt Service	131,242	44,493	33.9%	137,558	137,558	42,259	30.7%
Accelerated Legacy Pension	6,268	2,089	33.3%	6,268	6,268	2,089	33.3%
Extraordinary Repair & Replacement							
Deposit	-	-	0.0%	-	-	-	0.0%
Lease Payment	22,500	7,500	33.3%	22,500	22,500	7,500	33.3%
Operating Reserve Deposit	-	-	0.0%	3,976	3,976	1,325	0.0%
Water Residential Assistance Program	1,673	558	33.3%	1,698	1,698	566	33.3%
Improvement & Extension Fund							
Transfer Pending	47,695	15,898	33.3%	30,126	30,126	10,042	33.3%
Total Revenue Requirements	\$ 336,989	\$ 119,014	35.3%	\$ 339,664	\$ 339,664	\$ 106,478	31.3%
Net Difference		\$ 4,644				\$ 13,178	
<i>Recap of Net Positive Variance</i>							
Revenue Variance		\$ 11,328				\$ 6,434	
Revenue Requirement Variance		(6,685)				6,743	
Overall Variance		\$ 4,644				\$ 13,178	

Table 1B – Sewer Revenue Requirement Budget (year-over-year) – (\$000)

	FY 2019 AMENDED BUDGET	FY 2019 THRU 10/31/2018	Percent Year-to- Date	FY 2020 BOARD ADOPTED BUDGET	FY 2020 AMENDED BUDGET	FY 2020 THRU 10/31/2019	Percent Year-to- Date
Sewer System							
Revenues							
Wholesale Customer Charges	\$ 271,296	\$ 91,651	33.8%	\$ 272,324	\$ 272,324	\$ 91,530	33.6%
Retail Services Agreement	181,159	61,003	33.7%	185,807	185,807	61,936	33.3%
Industrial Waste Control Charges	15,001	3,112	20.7%	13,744	13,744	2,795	20.3%
Pollutant Surcharges	-	2,067	0.0%	-	-	2,140	0.0%
Investment Earnings	6,879	3,035	44.1%	8,731	8,731	2,584	29.6%
Other Revenues	-	176	0.0%	-	-	178	0.0%
Total Revenues	\$ 474,335	\$ 161,044	34.0%	\$ 480,605	\$ 480,605	\$ 161,163	33.5%
Revenue Requirements							
Operations & Maintenance Expense	\$ 191,079	\$ 50,265	26.3%	\$ 187,057	\$ 187,057	\$ 55,449	29.6%
O&M Legacy Pension	10,824	3,608	33.3%	10,824	10,824	3,608	33.3%
Debt Service	208,389	68,938	33.1%	215,739	215,739	68,669	31.8%
Accelerated Legacy Pension	11,621	3,874	33.3%	11,621	11,621	3,874	33.3%
Extraordinary Repair & Replacement							
Deposit	-	-	0.0%	-	-	-	0.0%
Lease Payment	27,500	9,167	33.3%	27,500	27,500	9,167	33.3%
Operating Reserve Deposit	-	-	0.0%	-	-	-	0.0%
Water Residential Assistance Program	2,374	791	33.3%	2,403	2,403	801	33.3%
DWSD Budget Shortfall Pending	-	(2,628)	0.0%	-	-	4,105	0.0%
Improvement & Extension Fund							
Transfer Pending	22,548	7,516	33.3%	25,462	25,462	8,487	33.3%
Total Revenue Requirements	\$ 474,335	\$ 141,530	29.8%	\$ 480,605	\$ 480,605	\$ 154,159	32.1%
Net Difference		\$ 19,514				\$ 7,003	
<i>Recap of Net Positive Variance</i>							
Revenue Variance		\$ 2,932				\$ 961	
Revenue Requirement Variance		16,582				6,042	
Overall Variance		\$ 19,514				\$ 7,003	

Operations & Maintenance Budget – Major Budget Categories

The year-over-year benchmark ratio as of October 31, 2019, is 33.3% (four 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. 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. 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.

Table 2 – Operations & Maintenance Budget – Major Budget Categories – (\$000)

Major Budget Categories	FY 2019 AMENDED BUDGET	FY 2019 ACTIVITY THRU 10/31/2018	Percent Year-to-Date	FY 2020 BOARD ADOPTED BUDGET	FY 2020 AMENDED BUDGET	FY 2020 ACTIVITY THRU 10/31/2019	Percent Year-to-Date
Water	\$ 66,596	\$ 23,481	35.3%	\$ 66,021	\$ 66,021	\$ 21,297	32.3%
Sewer	118,319	37,141	31.4%	115,985	115,985	34,882	30.1%
Centralized	99,045	28,991	29.3%	106,914	106,914	30,840	28.8%
Administrative	28,683	8,216	28.6%	29,628	29,628	9,301	31.4%
Employee Benefits	-	(1,104)	0.0%	-	-	(191)	0.0%
Total O&M Budget	\$ 312,642	\$ 96,725	30.9%	\$ 318,548	\$ 318,548	\$ 96,129	30.2%

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 30.2% which is reasonably within the pro-rata benchmark of 33.3%. This positive variance equates to a dollar amount of \$10.1 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 32.7% through October 2019.

Utilities: The overall category is higher than the benchmark; coming in at 34.8% through October 2019. This variance is not unexpected as usage varies throughout the year. Electric is higher than the benchmark; coming in at 38.7%. 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. Both gas and water service are lower than the benchmark; coming in at 19.8% (gas) and 23.4% (water service). 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 37.6% through October 2019. While variances in this category are not unexpected as usage varies throughout the year, the variance for October 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 29.7% through October 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 26.6% through October 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 17.5% through October 2019. A review of this category is being conducted.

Shared Services: This category is slightly higher than the benchmark; coming in at 35.5% through October 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	FY 2019 AMENDED BUDGET	FY 2019 ACTIVITY THRU 10/31/2018	Percent Year-to-Date at 10/31/2018	FY 2019 ACTIVITY THRU 6/30/2019	Percent Year-to- Date at 6/30/2019	FY 2020 AMENDED BUDGET	FY 2020	FY 2020	Percent Year-to- Date	PRORATED
							PRORATED AMENDED BUDGET (4 MONTHS)	ACTIVITY THRU 10/31/2019		BUDGET LESS FY 2020 ACTIVITY
Entity-wide										
Salaries & Wages	\$ 63,631	\$ 19,696	31.0%	\$ 59,922	32.9%	\$ 68,301	\$ 22,767	\$ 21,588	31.6%	\$ 1,179
Workforce Development	751	240	32.0%	794	30.3%	1,014	338	295	29.1%	43
Overtime	7,612	2,471	32.5%	7,554	32.7%	6,140	2,047	2,502	40.7%	(455)
Employee Benefits	23,656	8,391	35.5%	21,998	38.1%	23,005	7,668	8,481	36.9%	(813)
Transition Services	8,572	3,103	36.2%	8,322	37.3%	6,630	2,210	1,682	25.4%	528
Employee Benefits Fund	-	(1,104)	0.0%	-	0.0%	-	-	(191)	0.0%	191
<i>Personnel Costs</i>	<u>104,221</u>	<u>32,797</u>	31.5%	<u>98,589</u>	33.3%	<u>105,091</u>	<u>35,030</u>	<u>34,357</u>	32.7%	<u>673</u>
Electric	39,019	14,316	36.7%	39,103	36.6%	38,386	12,795	14,845	38.7%	(2,049)
Gas	6,631	1,722	26.0%	6,568	26.2%	6,444	2,148	1,275	19.8%	873
Sewage Service	2,491	668	26.8%	2,094	31.9%	1,847	616	631	34.2%	(15)
Water Service	3,648	1,492	40.9%	3,631	41.1%	4,658	1,553	1,091	23.4%	461
<i>Utilities</i>	<u>51,789</u>	<u>18,199</u>	35.1%	<u>51,396</u>	35.4%	<u>51,334</u>	<u>17,111</u>	<u>17,842</u>	34.8%	<u>(731)</u>
Chemicals	13,385	4,675	34.9%	13,276	35.2%	13,899	4,633	5,222	37.6%	(589)
Supplies & Other	36,226	8,547	23.6%	37,121	23.0%	36,392	12,131	10,824	29.7%	1,307
Contractual Services	100,856	35,524	35.2%	101,873	34.9%	115,307	38,436	30,614	26.6%	7,822
Capital Program Allocation	(3,356)	(550)	16.4%	(3,381)	16.3%	(5,414)	(1,805)	(946)	17.5%	(859)
Shared Services	(9,005)	(2,466)	27.4%	(7,139)	34.5%	(5,025)	(1,675)	(1,784)	35.5%	109
Unallocated Reserve	18,524	-	0.0%	-	0.0%	6,965	2,322	-	0.0%	2,322
Total Expenses	<u>\$ 312,642</u>	<u>\$ 96,725</u>	30.9%	<u>\$ 291,734</u>	33.2%	<u>\$ 318,548</u>	<u>\$ 106,183</u>	<u>\$ 96,129</u>	30.2%	<u>\$ 10,054</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 based on final audited figures.

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 October 31, 2019
(\$000)

	Water	Sewage Disposal	Total Business- type Activities	Comparative June 30, 2019
Assets				
Cash (a)	\$ 156,637	\$ 198,035	\$ 354,672	\$ 571,015
Investments (a)	393,058	294,126	687,185	460,078
Accounts Receivable	92,155	78,340	170,495	208,914
Due from (to) Other Funds (b)	(809)	809	-	2,890
Other Assets (c)	594,014	450,824	1,044,838	1,046,518
Cash Held FBO DWSD Advance (d)	-	3,483	3,483	
Capital Assets, net of Depreciation	1,345,664	2,305,535	3,651,199	3,747,784
Construction Work in Process (e)	485,945	337,261	823,206	786,405
Total assets	3,066,664	3,668,412	6,735,077	6,823,603
Deferred Outflows (f)	92,493	176,375	268,867	273,596
Liabilities				
Liabilities - Short-Term (g)	135,296	171,940	307,236	321,270
Due to (from) Other Funds (b)	-	-	-	2,890
Other Liabilities (h)	2,799	6,347	9,145	9,097
Cash Held FBO DWSD (d)	4,360	-	4,360	2,807
Liabilities - Long-Term (i)	3,031,671	3,739,147	6,770,819	6,853,419
Total liabilities	3,174,126	3,917,434	7,091,560	7,189,483
Deferred Inflows (f)	59,047	47,114	106,161	108,541
Total net position (j)	\$ (74,016)	\$ (119,760)	\$ (193,776)	\$ (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 October 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 October 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 October 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 (to) Other Funds* and *Due to (from) 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 October 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 Four Months ended October 31, 2019
(\$000)**

	Water	Percent of Revenue	Sewage Disposal	Percent of Revenue	Total Business- type Activities	Comparative June 30, 2019
Revenue						
Wholesale customer charges	\$ 113,191	94.1%	\$ 91,530	57.7%	\$ 204,721	\$ 584,172
Local system charges	7,099	5.9%	61,936	39.1%	69,034	201,341
Industrial waste charges	-	0.0%	2,795	1.8%	2,795	9,106
Pollutant surcharges	-	0.0%	2,140	1.3%	2,140	5,933
Other revenues		0.0%	178	0.1%	178	528
Total Revenues	\$ 120,290	100%	\$ 158,579	100%	\$ 278,868	\$ 801,079
Operating expenses						
Operations and Maintenance	40,819	33.9%	55,987	35.3%	96,806	293,863
Depreciation	45,330	37.7%	53,694	33.9%	99,024	309,115
Total operating expenses	86,148	71.6%	109,682	69.2%	195,830	602,978
Operating income	34,141	28.4%	48,897	30.8%	83,038	198,101
Total Nonoperating (revenue) expense	31,275	26.0%	44,715	28.2%	75,990	220,170
Increase/(Decrease) in Net Position	2,866	2.4%	4,182	2.6%	7,048	(22,070)
Net position (deficit), beginning of year	(76,882)		(123,943)		(200,825)	(178,755)
Net position (deficit), end of year	\$ (74,016)		\$ (119,760)		\$ (193,776)	\$ (200,825)

Totals may be off due to rounding

Water Fund

- ✓ The increase in Water Fund Net Position is \$2.8 million.
- ✓ Wholesale water customer charges of \$113.1 million account for 94.1% of Water System revenues.
- ✓ Operating expenses of \$86.1 million represent 71.6% of total operating revenue. Depreciation is the largest operating expense at \$45.3 million or 52.6% of operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$34.1 million or 28.4% of operating revenue.
- ✓ The largest category within nonoperating activities is bonded debt interest expense of \$29.7 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 \$4.1 million.
- ✓ Wholesale customer charges of \$91.5 million account for 57.7% 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 \$61.9 million account for 39.1% of total operating revenues. These are also billed at one-twelfth of the annual revenue requirement.
- ✓ Operating expenses of \$109.7 million represent 69.2% of total operating revenue. Depreciation is the largest operating expense at \$53.7 million or 49.0% of total operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$48.9 million or 30.8% of operating revenue.
- ✓ The largest category within nonoperating activities is bonded debt interest expense of \$38.8 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 October 2019 Financial Report Binder. Explanatory notes follow this schedule.

**Table 3 – Supplemental Schedule of Operations & Maintenance Expenses
- All Funds Combined
For the Four Months ended October 31, 2019
(\$000)**

	Water	Percent of Total	Sewage Disposal	Percent of Total	Total Business- type Activities	Percent of Total
Operating expenses						
Personnel						
Salaries & Wages	8,210	20.1%	15,356	27.4%	23,565	24.3%
Overtime	1,526	3.7%	976	1.7%	2,501	2.6%
Benefits	5,187	12.7%	3,104	5.5%	8,290	8.6%
Total Personnel	\$ 14,922	36.6%	\$ 19,435	34.7%	\$ 34,357	35.5%
Utilities						
Electric	9,897	24.2%	4,947	8.8%	14,845	15.3%
Gas	80	0.2%	1,196	2.1%	1,275	1.3%
Sewage	100	0.2%	531	0.9%	631	0.7%
Water		0.0%	1,090	1.9%	1,091	1.1%
Total Utilities	\$ 10,077	24.7%	\$ 7,765	13.9%	\$ 17,842	18.4%
Chemicals	2,014	4.9%	3,207	5.7%	5,222	5.4%
Supplies and other	3,790	9.3%	7,034	12.6%	10,824	11.2%
Contractual services	12,275	30.1%	19,016	34.0%	31,292	32.3%
Capital Adjustment	-	0.0%	-	0.0%	-	0.0%
Capital program allocation	(587)	-1.4%	(359)	-0.6%	(946)	-1.0%
Shared services allocation	(1,673)	-4.1%	(111)	-0.2%	(1,784)	-1.8%
Operations and Maintenance Expenses	\$ 40,819	100.0%	\$ 55,987	100.0%	\$ 96,806	100.0%

Totals may be off due to rounding.

- ✓ Core expenses for water and sewage disposal systems are utilities (18.4% of total O&M expenses) and chemicals (5.4%).
- ✓ Personnel costs (35.5% 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 (32.3%) includes:
 - Sewage Disposal System costs for the operation and maintenance of the biosolids dryer facility (approximately \$5.0 million); and
 - Centralized and administrative contractual costs allocated to both systems for information technology, building maintenance, field, planning and other services.

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 Four Months ended October 31, 2019
(\$000)**

	Water	Sewage Disposal	Total Business-type Activities	Comparative June 30, 2019
Nonoperating (Revenue)/Expense				
Interest income contractual obligation	\$ (7,449)	\$ (6,064)	\$ (13,514)	\$ (40,673)
Interest income DWSD Shortfall	-	(505)	(505)	(1,104)
Investment earnings	(2,139)	(2,628)	(4,768)	(26,518)
Other nonoperating revenue	(7)	(4)	(12)	(420)
Interest expense				-
Bonded debt	37,168	44,853	82,021	250,966
Lease obligation	5,844	7,143	12,988	39,264
Other obligations	1,622	524	2,146	6,368
Total interest expense	44,634	52,520	97,154	296,597
Other non-capital expense	-	-	-	-
Memoram of Understanding	-	-	-	6,527
Capital Contribution	-	-	-	-
Amortization, issuance costs, debt	(5,368)	618	(4,751)	(3,995)
Amortization, raw water rights	1,189	-	1,189	3,567
(Gain) loss on disposal of capital assets	(1)	204	203	(81)
Loss on impairment of capital assets	-	-	-	1,025
Water Residential Assistance Program	418	575	993	2,024
Legacy pension expense	-	-	-	(16,778)
Total Nonoperating (Revenue)/Expense	\$ 31,275	\$ 44,715	\$ 75,990	\$ 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:

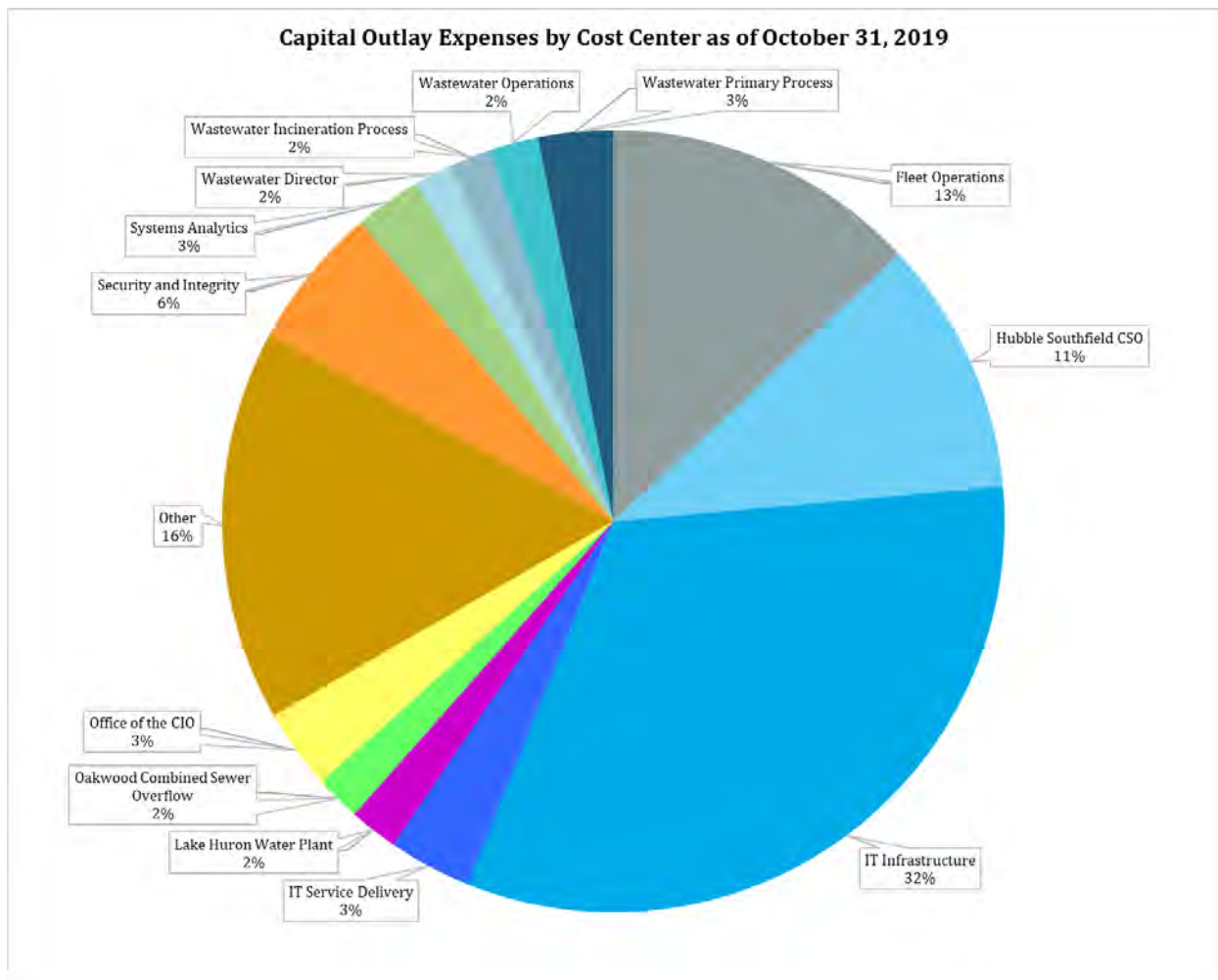
- ✓ Legacy Pension expense is reflected as income due to changes in actuarial assumptions and rates from the June 30, 2018 City of Detroit General Retirement System Component II audited financial statement.
- ✓ Sewer Other Non-operating expense includes the 2018 MOU Item 8a from June 27, 2018 for a final 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 October 31, 2019, total capital outlay spend is \$5.1 million. Following this chart is a sample list of projects and purchases from the total spend of \$5.1 million:



Note: Due to rounding totals may not equal 100%.

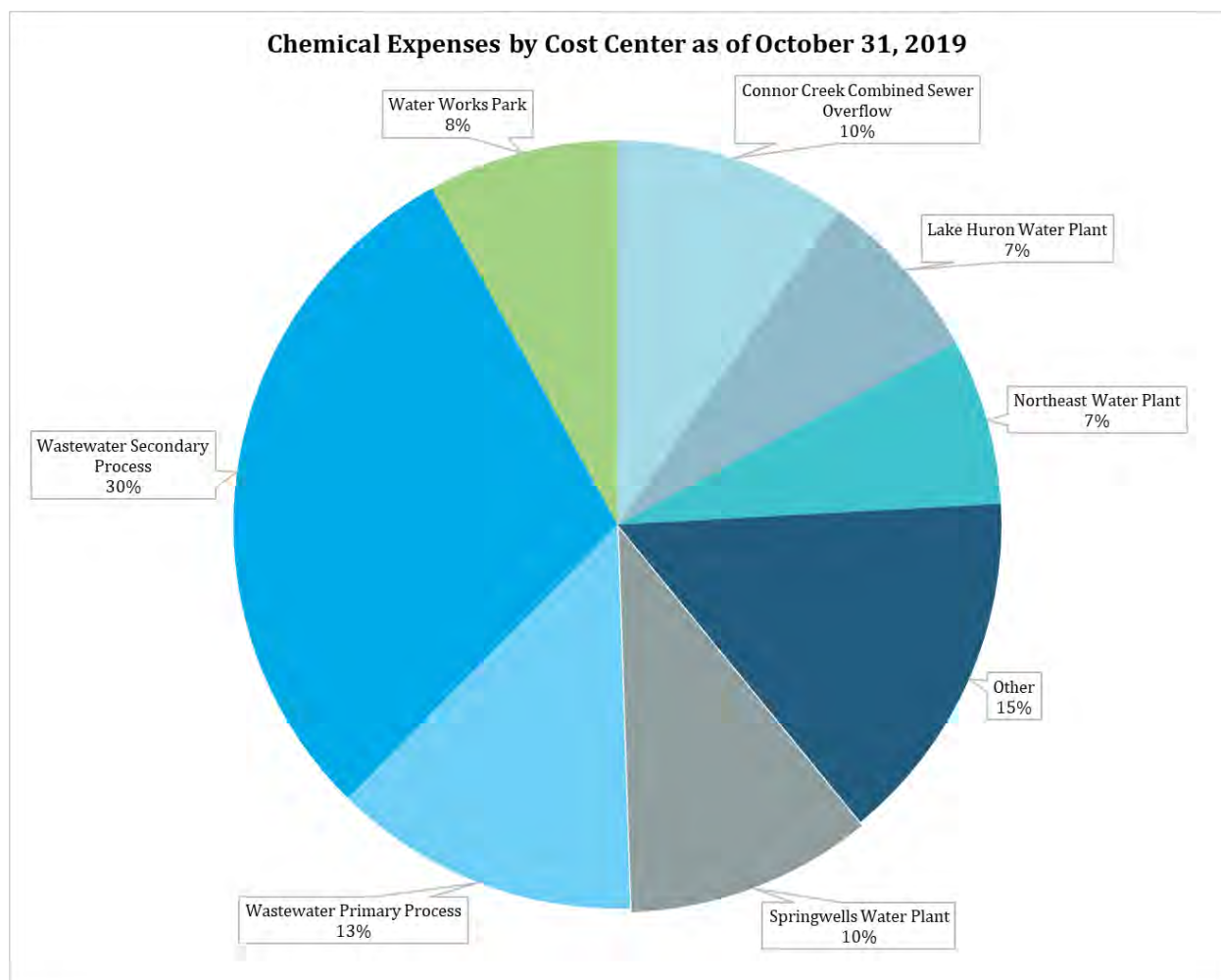
Water Operations: Trucks (225k); Skid steer loader (\$44k) under ‘other’ for the Southwest Water Plant and Seepex Cavity Pump (\$36k) at Lake Huron Water Plant.

Wastewater Operations: Accusonic flow meters (\$540k); Transformer C structure at Water Resource Recovery Facility (\$99k); chemical feed pump (\$96k); Flygt pump (\$78k); water heater for Scum building (\$76k); HVAC controls upgrade (\$52k); Boilers (\$50k); Rotork Actuators (\$49k) and loaders (\$44k)

Centralized & Administrative Facilities: Low voltage wiring services (\$1.3m); trucks and vehicles (\$444k); security infrastructure improvements (\$303k); IT software (\$227k); IT & 17th floor renovation and furniture (\$153k); Transmitters (\$72k); Sewer meter support (\$66k); 2nd Floor furniture at CSF (\$49k); IT Premium hardware support (\$50k); IT computers (\$40k); ‘Other’ category expenses include: Furniture for Water Quality team (\$36k); bathroom renovation (\$65k) for the Logistics and Materials team and IT monitors, computers, etc. (\$59k).

Chart 2 – Chemical Spend – Water and Sewer System Combined

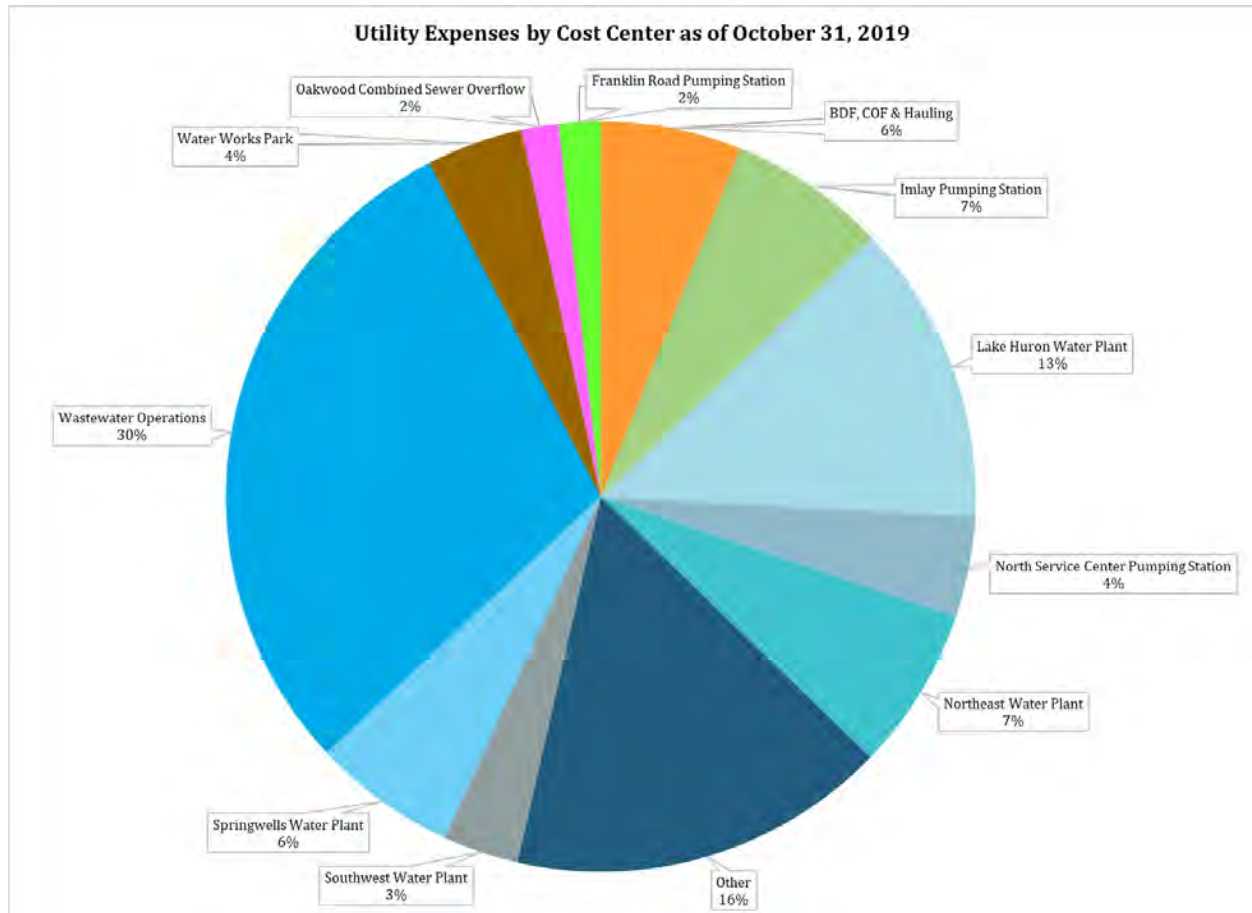
Chemical spend is \$5.2 million through October 31, 2019. The allocation is shown in the chart below and remains consistent with prior periods.



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 \$17.8 million through October 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 September 2019.

Chart 1 - Bank Reconciliation Completion Status

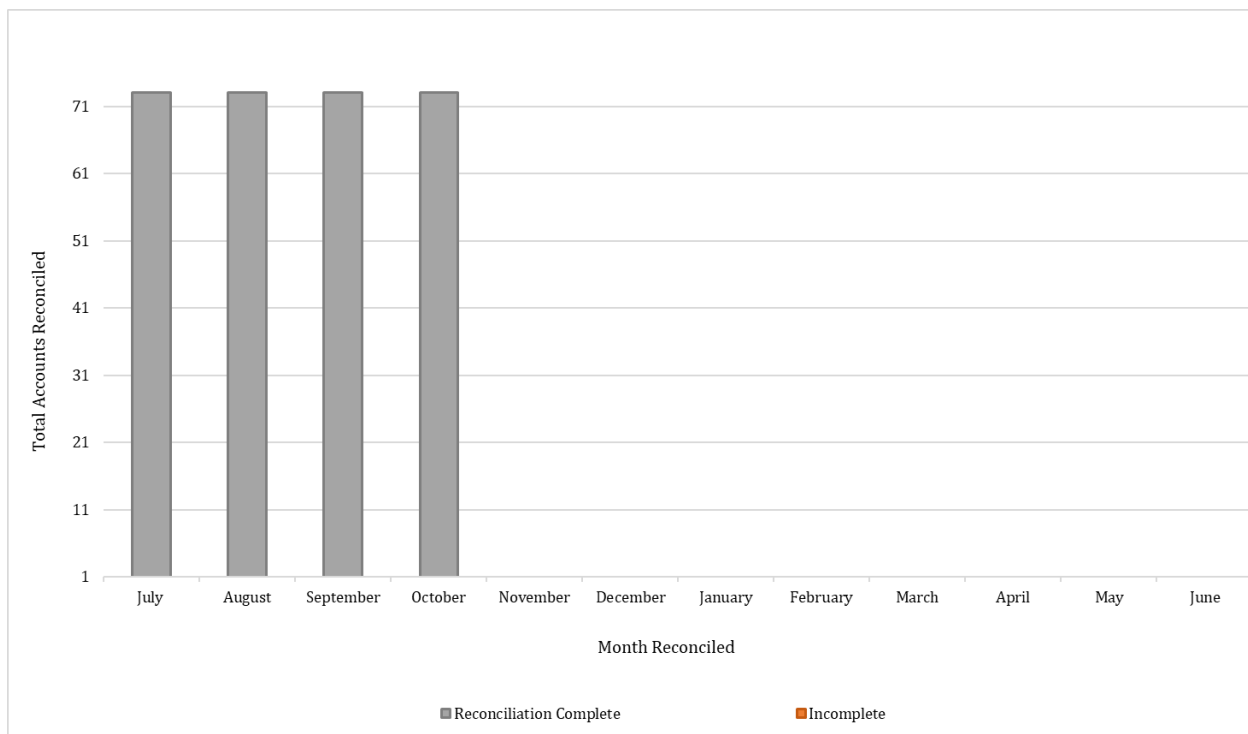


Table 1 - Fiscal Year 2020 GL Cash Account Rollforward

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 October 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 Four Months Ended October 31, 2019**

	Water	Sewer	Total
Net Revenue Requirement Budget Variance (a)	\$ 13,178	\$ 7,003	\$ 20,181
Budgetary categories adjustments to financial reporting basis			
Pension delayed accounting election adjustments			
Current year pension transfers/payments recorded as deferral (c)	3,814	6,825	10,639
Prior year pension contribution accounted for in current year (d)	-	-	-
Administrative prepaid adjustment (e)	-	-	-
Debt service (f)	12,540	29,880	42,420
Accelerated pension B&C notes obligation portion (g)	59	132	191
Lease payment (h)	1,656	2,024	3,680
WRAP (i)	148	226	374
DWSD short term allocation (j)	-	4,105	4,105
Improvement & Extension Fund (j)	11,229	7,948	19,177
Nonbudgeted financial reporting categories adjustments			
Depreciation (k)	(45,330)	(53,694)	(99,024)
Amortization (k)	4,179	(618)	3,561
Other nonoperating income (k)	7	5	12
Other nonoperating expense (k)	-	-	-
Gain(loss) on disposal of capital assets (k)	1	(204)	(203)
Raw water rights (l)	829	-	829
Investment earnings construction fund (m)	556	550	1,106
Net Position Increase/(Decrease) per Financial Statements (b)	\$ 2,866	\$ 4,182	\$ 7,048

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 \$539 thousand in Sewer Improvement and Extension Fund expenses relating to repairs paid for through the Sewer Improvement and Extension Fund. The Water Improvement and Extension Fund also reflects \$138

thousand in Water Improvement and Extension expenses relating to repairs paid for through the Water Improvement and Extension Fund. These are consolidated expenses for financial reporting purposes but are 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.

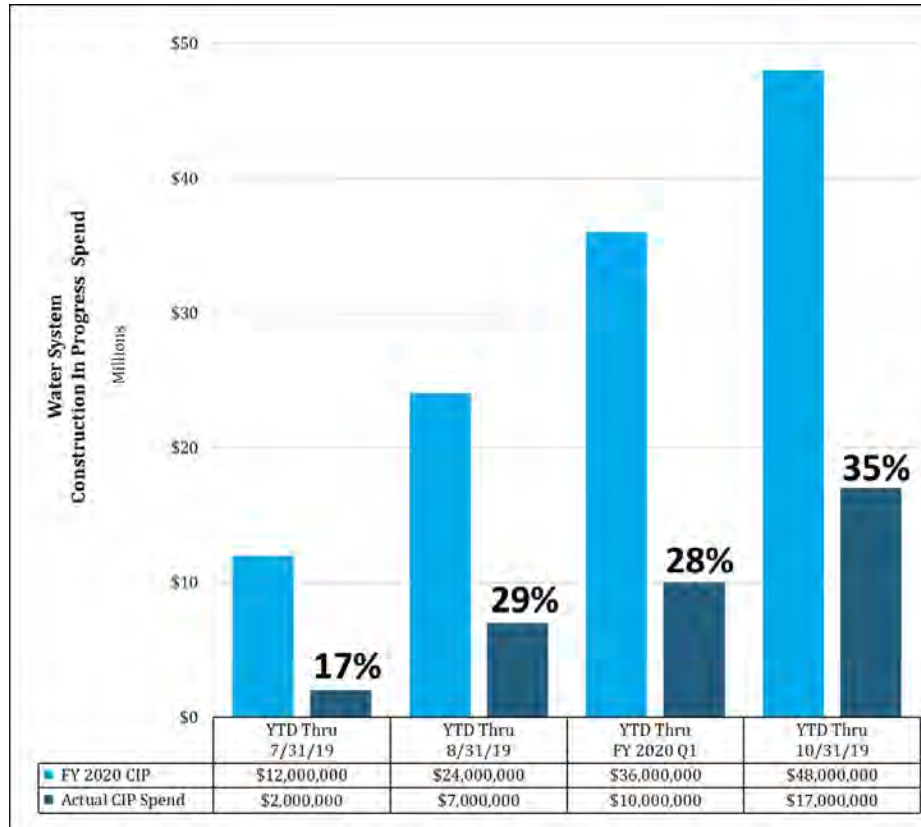
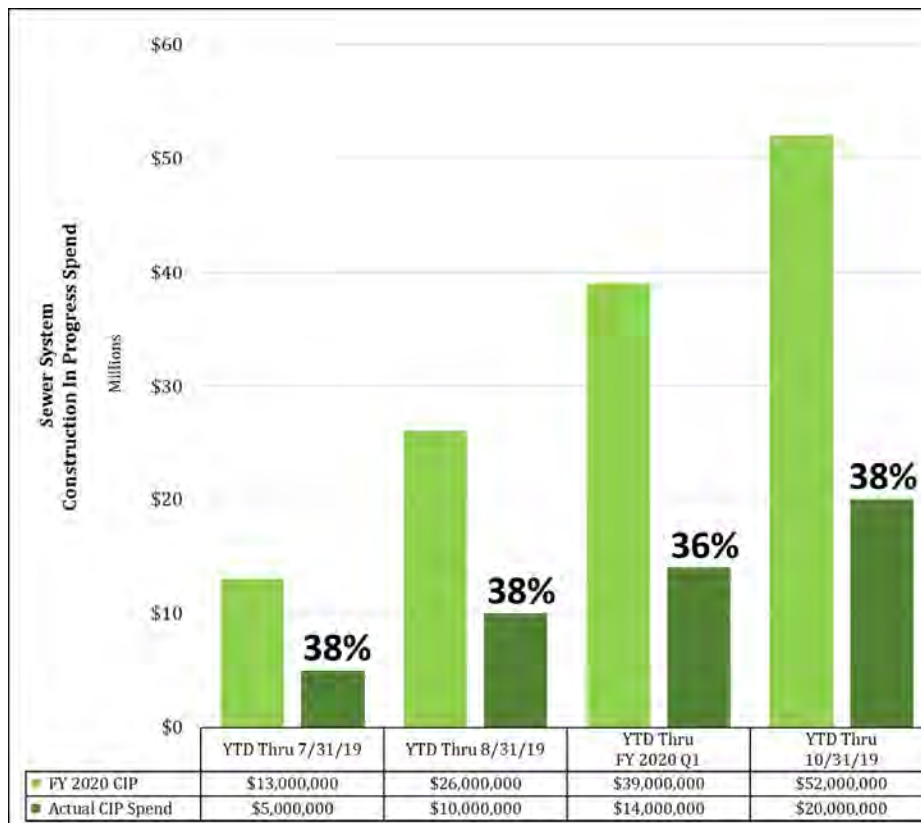
This report presents quarterly and monthly CWIP spending trends against a prorated spending plan. The prorated spending plan is calculated by dividing the total fiscal year 2020 board-approved CIP plan by twelve equal months. It should be noted that these interim reports are prepared on a modified cash basis. Known expenses, where material in nature, have been accrued.

Chart 1 – Water System Construction in Work in Progress Spend

As of October 2019, the Water system incurred over \$17 million of construction costs to date. While this is only 35% of the fiscal year 2020 prorated spending plan through October, future months are anticipated to increase closer to plan.

Chart 2 – Sewer System Construction in Work in Progress Spend

As of October 2019, the Sewer system incurred over \$20 million of construction costs to date. While this is only 38% of the fiscal year 2020 prorated spending plan through October, 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 October 1, 2019. MBO transfers for water totaling \$50.1 million have been transferred to GLWA accounts.

Table 2 - GLWA FY 2020 Sewer MBO Transfers reflects the required transfers for FY 2020 completed through October 1, 2019. MBO transfers for sewer totaling \$71.8 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							
	<u>Operations & Maintenance</u>	<u>Pension Sub Account</u>	<u>Pension Obligation</u>	<u>WRAP</u>	<u>Budget Stabilization (For Benefit of DWSB)</u>	<u>Extraordinary Repair & Replacement (ER&R)</u>	<u>Total Water</u>
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
September 2019	10,957,542	504,000	891,308	165,067	-	-	12,517,917
October 2019	10,957,542	504,000	891,308	165,067	-	-	12,517,917
Total FY 2020	\$43,830,168	\$2,016,000	\$3,565,232	\$660,268	\$0	\$0	\$50,071,668

Table 2 – GLWA FY 2020 Sewer MBO Transfers

SEWER							
	<u>Operations & Maintenance</u>	<u>Pension Sub Account</u>	<u>Pension Obligation</u>	<u>WRAP</u>	<u>Budget Stabilization (For Benefit of DWSB)</u>	<u>Extraordinary Repair & Replacement (ER&R)</u>	<u>Total Sewer</u>
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
September 2019	15,588,100	902,000	1,223,959	240,608	-	-	17,954,667
October 2019	15,588,100	902,000	1,223,959	240,608	-	-	17,954,667
Total FY 2020	\$62,352,400	\$3,608,000	\$4,895,836	\$962,432	\$0	\$0	\$71,818,668

Table 3 – GLWA MBO Transfer History

GLWA MBO Transfer History							
WATER							
	<u>Operations & Maintenance</u>	<u>Pension Sub Account</u>	<u>Pension Obligation</u>	<u>WRAP</u>	<u>Budget Stabilization (For Benefit of DWSB)</u>	<u>Extraordinary Repair & Replacement (ER&R)</u>	<u>Total Water</u>
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 (4 month)	43,830,168	2,016,000	3,565,232	660,268	-	-	50,071,668
Life to Date	\$469,886,976	\$26,186,300	\$45,551,024	\$8,941,168	\$2,686,900	\$606,000	\$553,858,368
SEWER							
	<u>Operations & Maintenance</u>	<u>Pension Sub Account</u>	<u>Pension Obligation</u>	<u>WRAP</u>	<u>Budget Stabilization (For Benefit of DWSB)</u>	<u>Extraordinary Repair & Replacement (ER&R)</u>	<u>Total Sewer</u>
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 (4 month)	62,352,400	3,608,000	4,895,836	962,432	-	-	71,818,668
Life to Date	\$721,235,592	\$46,932,800	\$62,323,428	\$11,772,028	\$8,246,100	\$779,600	\$851,289,548

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 October 1, 2019. MBO transfers for Water totaling \$19.3 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 October 1, 2019. MBO transfers for Sewer totaling \$31.6 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. DWSD has also requested that for December 2019 - June 2020, \$1 million be withheld each month from the Operations & Maintenance transfer to address FY 2020 projected shortfall in retail revenue collections.

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
September 2019	\$ 2,888,533	\$ 356,000	\$ 1,579,333	4,823,866
October 2019	\$ 2,888,533	\$ 356,000	\$ 1,579,333	4,823,866
Total FY 2020	\$ 11,554,132	\$ 1,424,000	\$ 6,317,332	\$ 19,295,464

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
September 2019	\$ 5,778,625	\$ 238,000	\$ 1,872,275	7,888,900
October 2019	\$ 5,778,625	\$ 238,000	\$ 1,872,275	7,888,900
Total FY 2020	\$ 23,114,500	\$ 952,000	\$ 7,489,100	\$ 31,555,600

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 (4 month)				
MBO/Lease Requirement	11,554,132	1,424,000	7,500,000	20,478,132
Offset to Debt Service	-	-	(1,182,668)	(1,182,668)
Net MBO Transfer	11,554,132	1,424,000	6,317,332	19,295,464
Life-to-Date				
MBO/Lease Requirement	141,880,136	18,493,100	97,500,000	257,873,236
Offset to Debt Service	-	-	(9,356,768)	(9,356,768)
Total Water	\$ 141,880,136	\$ 18,493,100	\$ 88,143,232	\$ 248,516,468
SEWER				
	Operations & Maintenance	Operations & Maintenance Pension	Lease Payment (I&E Fund)	Total Sewer
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 (4 month)				
MBO/Lease Requirement	23,114,500	952,000	9,166,667	33,233,167
Offset to Debt Service	-	-	(1,677,567)	(1,677,567)
Total MBO Transfer	23,114,500	952,000	7,489,100	31,555,600
Life-to-Date				
MBO/Lease Requirement	201,710,312	12,387,800	119,166,667	333,264,779
Offset to Debt Service	-	-	(35,250,731)	(35,250,731)
Total Sewer	\$ 201,710,312	\$ 12,387,800	\$ 83,915,936	\$ 298,014,048

* **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:

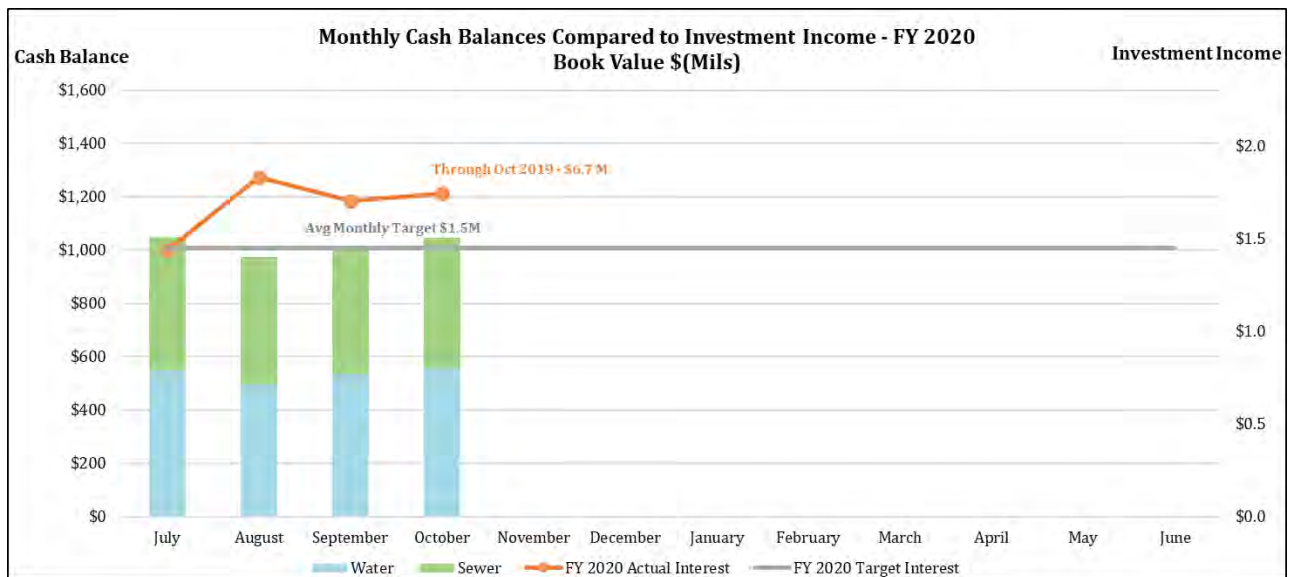
1. Monthly Cash Balances Compared to Investment Income
2. Cash Balance Detail

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 October 2019 of \$6.7 million is 39% 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 October 2019



\$(Mils)	July	August	September	October	November	December	January	February	March	April	May	June
Water	\$549	\$494	\$536	\$555								
Sewer	\$501	\$479	\$464	\$489								
Total	\$1,050	\$973	\$1,000	\$1,044								
Investment Income	\$1.4	\$1.8	\$1.7	\$1.7								

All amounts are unaudited unless otherwise noted.

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

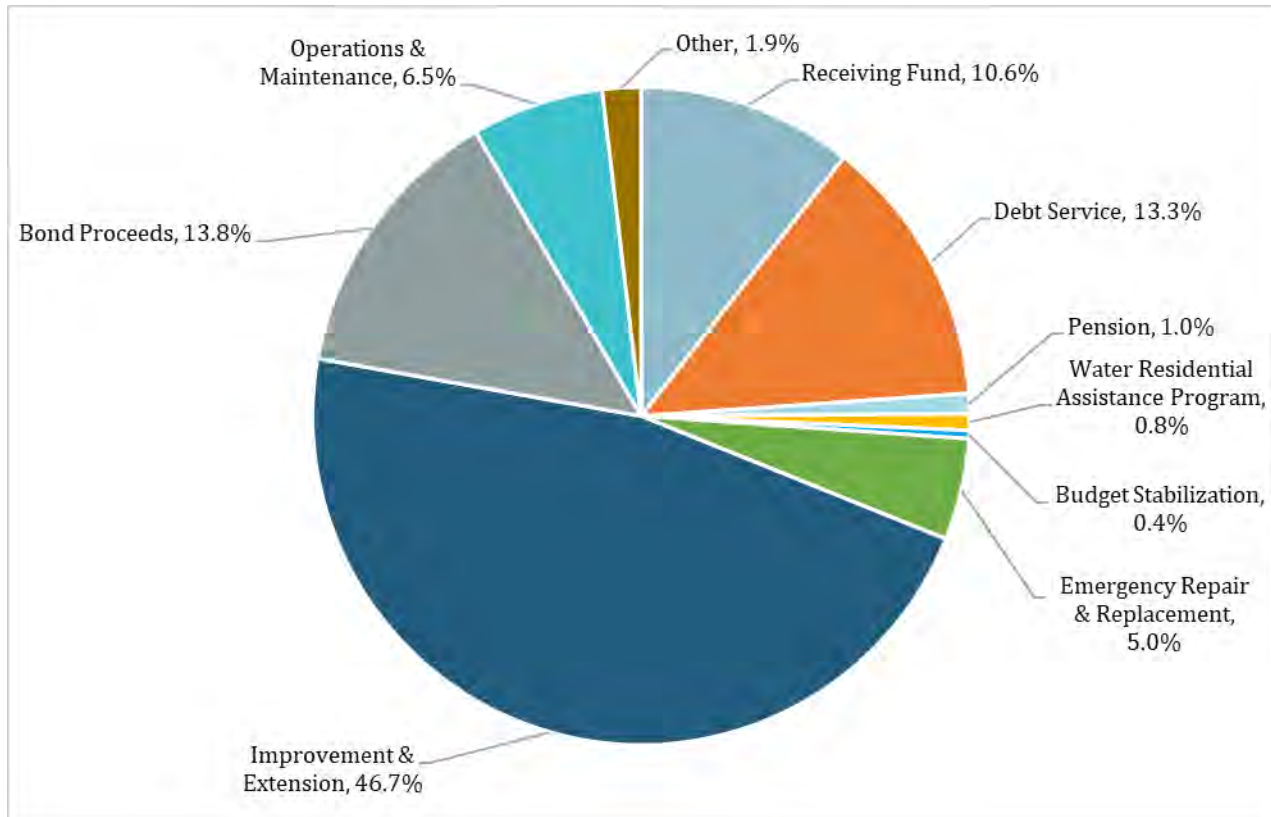
Funds Held Outside Trust:

- 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 October 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 October 31, 2019 is \$555 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 October 31, 2019

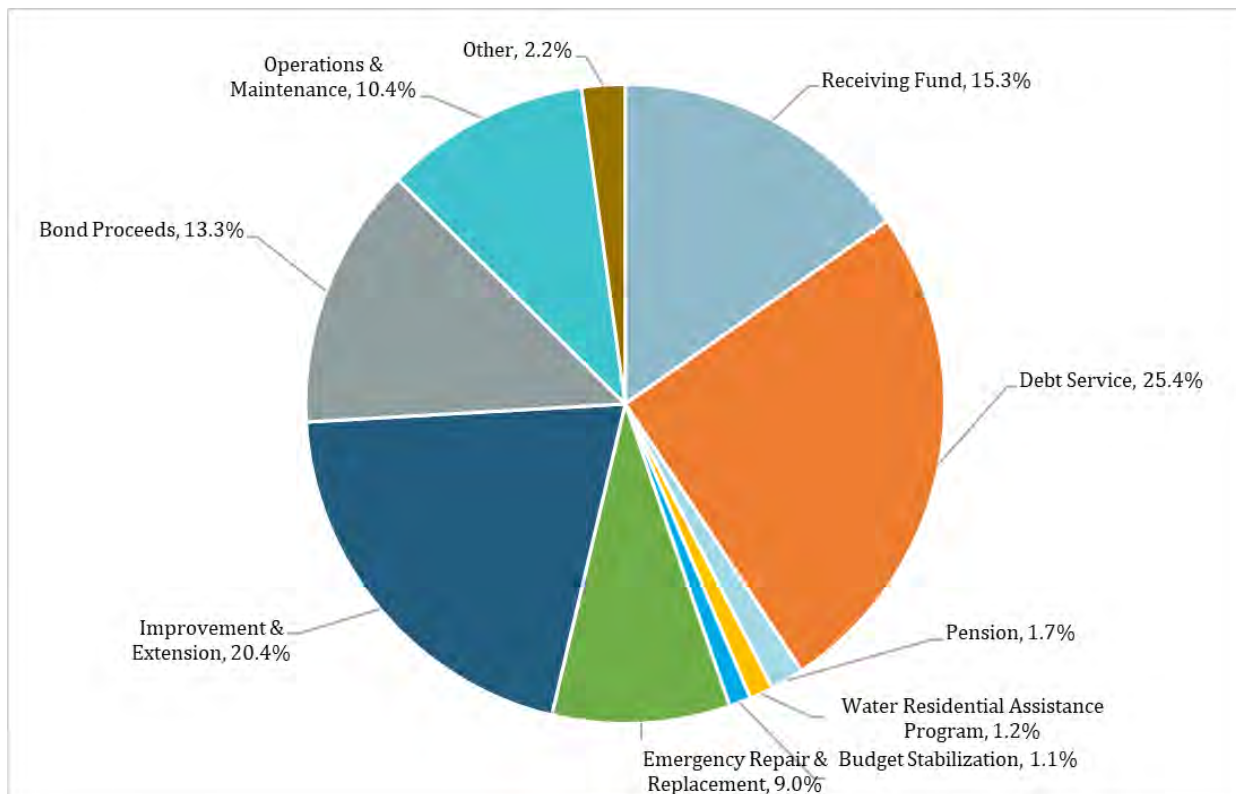


Note: Due to rounding totals may not equal 100%.

Chart 3 – Cash Balances - Sewer Funds as of October 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 October 31, 2019 is \$489 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 October 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 October 31, 2019, the DWSD usage was at 92.50% of the budget and billed revenue was at 98.44% 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	228,961	8,767,202	38.29	(17,885)	(392,790)
October	228,814	8,288,490	36.22	217,031	8,535,614	39.33	(11,783)	247,124
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	972,535	36,477,223	37.51	(78,806)	(579,145)
<i>Subtotals ytd</i>	<i>1,051,341</i>	<i>37,056,368</i>	<i>35.25</i>	<i>972,535</i>	<i>36,477,223</i>	<i>37.51</i>	<i>(78,806)</i>	<i>(579,145)</i>
<i>Achievement of Budget</i>				<i>92.50%</i>	<i>98.44%</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 2 – DWSD Retail Water Collections

Water				
Month	Current Year	Prior Year	Variance	Ratio
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%
September	8,610,801	9,766,449	(1,155,648)	-11.83%
October	9,619,977	9,015,400	604,577	6.71%
Rolling, 12-Month Total	99,471,810	100,563,830		
Rolling, 12-Month Average	8,289,318	8,380,319		

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 October 31, 2019, the DWSD usage was at 95.14% of the budget and billed revenue was at 97.74% 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	215,119	26,334,145	(40,408)	(454,297)
October	227,141	26,444,548	238,202	25,414,427	11,061	(1,030,121)
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	945,120	107,605,564	(48,270)	(2,490,116)
<i>Subtotals ytd</i>	<i>993,390</i>	<i>110,095,680</i>	<i>945,120</i>	<i>107,605,564</i>	<i>(48,270)</i>	<i>(2,490,116)</i>
<i>Achievement of Budget/Goal</i>			<i>95.14%</i>	<i>97.74%</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
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%
September	21,972,754	23,727,505	(1,754,751)	-7.40%
October	26,321,010	23,938,933	2,382,077	9.95%
Rolling 12-Month Total	260,821,080	250,536,593		
Rolling, 12-Month Average	21,735,090	20,878,049		

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 October 31, 2019 with comparative totals from October 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	286,824	\$ 322.84	\$ 13,129,691	\$ 7,413,286	\$ 17,475,577	\$ 54,579,445	\$ 92,597,999
			14.2%	8.0%	18.9%	58.9%	100.0%
Commercial	28,331	1,398.73	8,739,068	3,254,824	7,253,899	20,379,558	39,627,348
			22.1%	8.2%	18.3%	51.4%	100.0%
Industrial	4,801	3,611.96	4,074,076	1,396,202	2,322,825	9,547,939	17,341,042
			23.5%	8.1%	13.4%	55.1%	100.0%
Tax Exempt Entities	8,121	1,791.39	2,046,250	1,229,208	2,097,495	9,174,946	14,547,899
			14.1%	8.4%	14.4%	63.1%	100.0%
Government Entities	3,025	2,032.35	1,183,797	302,572	1,152,780	3,508,709	6,147,859
			19.3%	4.9%	18.8%	57.1%	100.0%
Subtotal - Active Accounts	331,102	\$ 514.23	\$ 29,172,882	\$ 13,596,092	\$ 30,302,577	\$ 97,190,596	\$ 170,262,147
			17.1%	8.0%	17.8%	57.1%	100.0%
Inactive Accounts	270,770	84.12	234,695	(1,241,588)	1,318,715	22,464,719	22,776,541
			1.0%	(5.5%)	5.8%	98.6%	100.0%
Total	601,872	\$ 320.73	\$ 29,407,578	\$ 12,354,504	\$ 31,621,292	\$ 119,655,315	\$ 193,038,688
<i>% of Total A/R</i>			15.2%	6.4%	16.4%	62.0%	100.0%
Water Fund	217,466	176.16	\$ 7,036,000	\$ 1,368,000	\$ 5,711,000	\$ 24,195,000	\$ 38,309,000
Sewer Fund	270,047	572.97	\$ 22,372,000	\$ 10,987,000	\$ 25,910,000	\$ 95,461,000	\$ 154,729,000
Total October 31, 2019	601,872	320.73	\$ 29,408,000	\$ 12,355,000	\$ 31,621,000	\$ 119,655,000	\$ 193,039,000
Water Fund- Allowance							\$ (26,993,000)
Sewer Fund- Allowance							\$ (93,482,000)
Total October 31, 2019 Bad Debt Allowance							\$ (120,475,000)
Comparative Totals from October 31, 2018	583,418	302.33	\$ 29,197,000	\$ 15,122,000	\$ 29,389,000	\$ 102,679,000	\$ 176,387,000

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 October 31, 2019, the billed usage was at 93.43% of budget and billed revenue at 97.08% 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 Revenue	Volume	Revenue	Unit Revenue	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	1,257,111	27,278,750	21.70	(111,385)	(991,650)
October	1,066,653	25,351,200	23.77	1,026,086	25,007,145	24.37	(40,567)	(344,055)
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	5,383,254	113,144,071	21.02	(378,620)	(3,405,029)
<i>Subtotals ytd</i>	<i>5,761,874</i>	<i>116,549,100</i>	<i>20.23</i>	<i>5,383,254</i>	<i>113,144,071</i>	<i>21.02</i>	<i>(378,620)</i>	<i>(3,405,029)</i>
<i>Achievement of Budget</i>				<i>93.43%</i>	<i>97.08%</i>			

(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
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%
September	28,336,152	26,037,313	2,298,839	8.83%
October	25,786,774	27,827,722	(2,040,948)	-7.33%
Rolling 12-Month Total	307,125,671	308,919,855		
Rolling, 12-Month Average	25,593,806	25,743,321		

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 October 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 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	22,882,500	N/A	-
October	N/A	22,882,500	N/A	22,882,500	N/A	-
November	N/A	22,882,500	N/A	N/A	N/A	
December	N/A	22,882,500	N/A	N/A	N/A	
January	N/A	22,882,500	N/A	N/A	N/A	
February	N/A	22,882,500	N/A	N/A	N/A	
March	N/A	22,882,500	N/A	N/A	N/A	
April	N/A	22,882,500	N/A	N/A	N/A	
May	N/A	22,882,500	N/A	N/A	N/A	
June	N/A	22,882,500	N/A	N/A	N/A	
Total		274,590,000		91,530,000		-
<i>Subtotals ytd</i>		<i>91,530,000</i>		<i>91,530,000</i>		-
<i>Achievement of Budget</i>				<i>100.00%</i>		

(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
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%
September	18,833,257	22,672,400	(3,839,143)	-16.93%
October	29,833,760	16,105,200	13,728,560	85.24%
Rolling 12-Month Total	292,401,983	269,503,806		
Rolling, 12-Month Average	24,366,832	22,458,651		

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 October 31, 2019, Highland Park had a delinquent balance of \$42.2 million, including \$32.7 million for wastewater treatment services, \$1.7 million for industrial waste control services, and \$7.8 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 October 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
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
September 2019 Billing	108,007	472,500	4,014	584,521
September 2019 Payments	-	(656,657)	-	(656,657)
September 30, 2019 Balance	7,670,392	32,229,087	1,687,403	41,586,882
October 2019 Billing	107,422	472,500	3,933	583,855
October 2019 Payments	-	-	-	-
October 31, 2019 Balance	7,777,814	32,701,587	1,691,336	42,170,737

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 October 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.

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 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	\$ 44,264,635.41	\$ 36,702,251.06	\$ 106,637.76	\$ 104,701.53	\$ 7,351,045.06
Sewer	\$ 36,610,726.23	\$ 4,381,399.50	\$ 472,740.00	\$ 472,500.00	\$ 31,284,086.73
IWC	\$ 3,377,344.36	\$ 525,901.76	\$ 38,854.79	\$ -	\$ 2,812,587.81
Pollutant Surcharge	\$ 977,016.91	\$ 912,744.38	\$ 13,531.87	\$ 2,932.26	\$ 47,808.40
Total	\$ 85,229,722.91	\$ 42,522,296.70	\$ 631,764.42	\$ 580,133.79	\$ 41,495,528.00
	100.00%	49.89%	0.74%	0.68%	48.69%

Table 7 - Wholesale Accounts Receivable Aging Report, Net of Highland Park

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 36,486,821.58	\$ 36,486,821.58	\$ -	\$ -	\$ -
Sewer	\$ 3,909,139.50	\$ 3,908,899.50	\$ 240.00	\$ -	\$ -
IWC	\$ 1,686,008.70	\$ 517,955.38	\$ 34,829.21	\$ -	\$ 1,133,224.11
Pollutant Surcharge	\$ 977,016.91	\$ 912,744.38	\$ 13,531.87	\$ 2,932.26	\$ 47,808.40
Total	\$ 43,058,986.69	\$ 41,826,420.84	\$ 48,601.08	\$ 2,932.26	\$ 1,181,032.51
	100.00%	97.14%	0.11%	0.01%	2.74%

Table 8 - Wholesale Accounts Receivable Aging Report, Net of Highland Park and WTUA
Note: percentages vary from 100% due to rounding.

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 36,486,821.58	\$ 36,486,821.58	\$ -	\$ -	\$ -
Sewer	\$ 3,909,139.50	\$ 3,908,899.50	\$ 240.00	\$ -	\$ -
IWC	\$ 448,635.75	\$ 448,797.20	\$ 250.12	\$ -	\$ (411.57)
Pollutant Surcharge	\$ 977,016.91	\$ 912,744.38	\$ 13,531.87	\$ 2,932.26	\$ 47,808.40
Total	\$ 41,821,613.74	\$ 41,757,262.66	\$ 14,021.99	\$ 2,932.26	\$ 47,396.83
	100.00%	99.85%	0.03%	0.01%	0.11%

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 four months of activity to date.

Water fund activity exceeded required MBO disbursements by 18% through October 31, 2019 with a historical ratio of cash receipts exceeding MBO disbursements by 16% since January 1, 2016.

Sewer fund cash receipts exceeded disbursements by 21% through October 31, 2019 with a historical ratio of cash receipts exceeding MBO disbursements by 6% since January 1, 2016. This ratio is expected to return to its average level consistent with prior years over the next several periods.

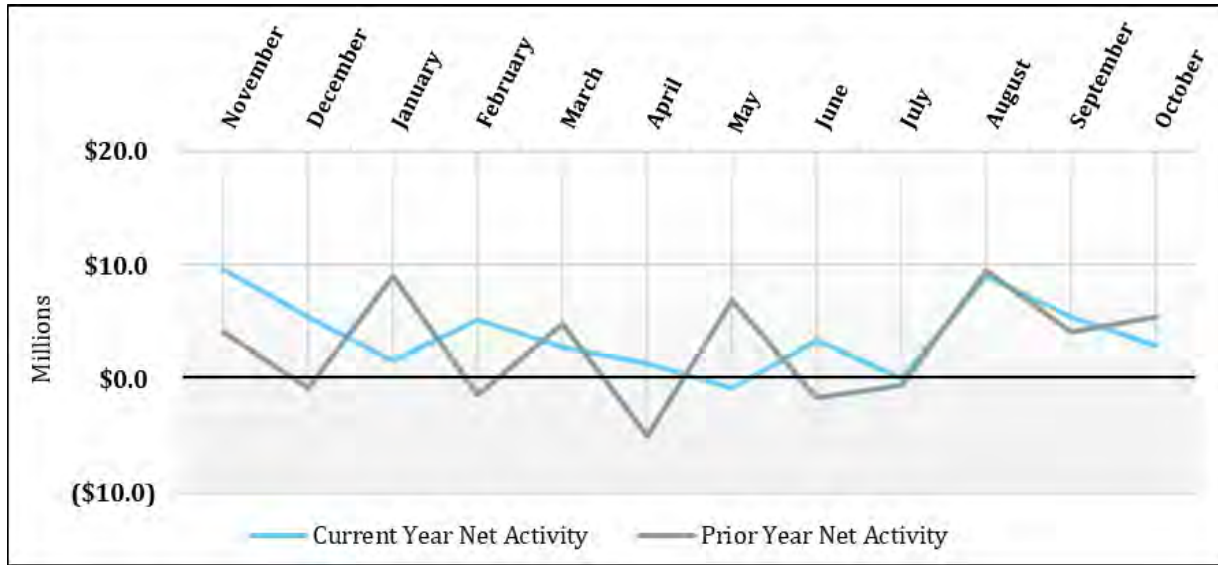
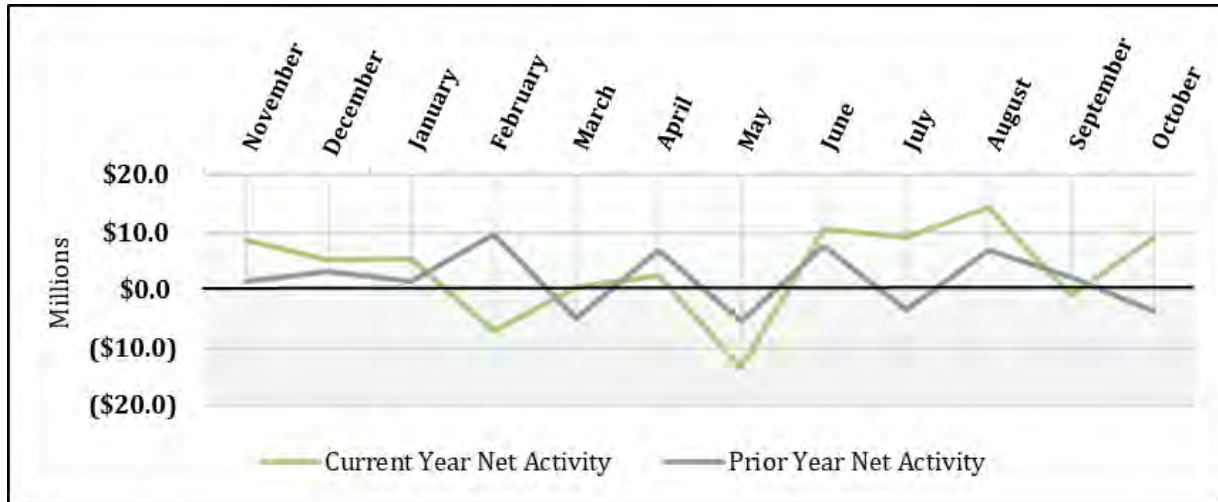
Chart 1 – GLWA 12-Month Net Receipts – Water outlines monthly cash receipt trends across two points of reference for the regional water system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

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	\$ 115,735,746	\$1,293,412,601
2 MOU Adjustments	-	-	-	-	-	-
3 Adjusted Receipts	149,688,711	352,941,909	338,452,001	336,594,234	115,735,746	1,293,412,601
4 Disbursements	(146,256,185)	(288,777,985)	(297,064,810)	(289,230,481)	(98,260,878)	(1,119,590,339)
5 Receipts Net of Required Transfers	3,432,526	64,163,924	41,387,191	47,363,753	17,474,868	173,822,262
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)	\$ 17,474,868	\$ 100,387,562
8 <i>Ratio of Receipts to Required Disbursements (Line 3/Line 4)</i>	102%	122%	114%	116%	118%	116%
Sewer						
9 Receipts	\$ 232,377,715	\$ 469,788,882	\$ 476,269,761	\$ 467,743,744	\$ 180,233,697	\$1,826,413,799
10 MOU Adjustments	-	-	-	-	-	-
11 Adjusted Receipts	232,377,715	469,788,882	476,269,761	467,743,744	180,233,697	1,826,413,799
12 Disbursements	(219,538,325)	(441,443,340)	(458,903,335)	(453,406,636)	(148,470,689)	(1,721,762,325)
13 Receipts Net of Required Transfers	12,839,390	28,345,542	17,366,426	14,337,108	31,763,008	104,651,474
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	5,775,339	15,142,694
17 Net Receipts	\$ 11,553,924	\$ 331,008	\$ (29,444,708)	\$ 1,156,763	\$ 37,538,347	\$ 21,135,334
18 <i>Ratio of Receipts to Required Disbursements (Line 11/Line 12)</i>	106%	106%	104%	103%	121%	106%
Combined						
19 Receipts	\$ 382,066,426	\$ 822,730,791	\$ 814,721,762	\$ 804,337,978	\$ 295,969,443	\$3,119,826,400
20 MOU Adjustments	-	-	-	-	-	-
21 Adjusted Receipts	382,066,426	822,730,791	814,721,762	804,337,978	295,969,443	3,119,826,400
22 Disbursements	(365,794,510)	(730,221,325)	(755,968,145)	(742,637,117)	(246,731,567)	(2,841,352,664)
23 Receipts Net of Required Transfers	16,271,916	92,509,466	58,753,617	61,700,861	49,237,876	278,473,736
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	5,775,339	15,142,694
27 Net Receipts	\$ 14,986,450	\$ 64,494,932	\$ (13,797,217)	\$ 825,516	\$ 55,013,215	\$ 121,522,896
28 <i>Ratio of Receipts to Required Disbursements (Line 21/Line 22)</i>	104%	113%	108%	108%	120%	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 four months of activity to date.

Water fund cash receipts exceeded required MBO disbursements by 7% through October 31, 2019 with a historical ratio of 3% since January 1, 2016.

Sewer fund cash receipts fell short of required MBO disbursements by 4% through October 31, 2019 with a historic shortfall of 6% since January 1, 2016. DWSD has recognized this issue and proactively implemented plans in December 2019 to resolve the current shortfall. On December 3, DWSD transferred \$2.6 million from Sewer Operations & Maintenance back to the Sewer Receiving Fund. In addition, beginning December 1, DWSD has formally requested to reduce budgeted, monthly Sewer Operations & Maintenance transfers by \$1 million. These two changes should resolve the current Sewer shortfall to close FY 2020 with positive net receipts.

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.

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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	\$ 35,007,103	\$ 358,761,455
2 MOU Adjustments	18,446,100	-	-	-	-	18,446,100
3 Adjusted Receipts	44,647,981	96,451,105	101,233,147	99,868,219	35,007,103	377,207,555
4 Disbursements	(47,809,552)	(93,066,144)	(93,049,457)	(97,694,600)	(32,834,164)	(364,453,917)
5 Receipts Net of Required Transfers	(3,161,571)	3,384,961	8,183,690	2,173,619	2,172,939	12,753,638
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)	\$ 2,172,939	\$ 4,346,558
8 <i>Ratio of Receipts to Required Disbursements (Line 3/Line 4)</i>	93%	104%	109%	102%	107%	103%
Sewer						
9 Receipts	\$ 65,256,734	\$ 233,723,367	\$ 242,104,791	\$ 265,339,797	\$ 92,425,435	\$ 898,850,124
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	92,425,435	961,132,424
12 Disbursements	(122,297,300)	(261,963,973)	(266,217,825)	(271,018,306)	(96,530,566)	(1,018,027,970)
13 Receipts Net of Required Transfers	(1,285,466)	(28,240,606)	(24,113,034)	848,691	(4,105,131)	(56,895,546)
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	\$ (4,105,131)	\$ (3,482,512)
17 <i>Ratio of Receipts to Required Disbursements (Line 11/Line 12)</i>	99%	89%	91%	100%	96%	94%
Combined						
18 Receipts	\$ 91,458,615	\$ 330,174,472	\$ 343,337,938	\$ 365,208,016	\$ 127,432,538	\$1,257,611,579
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	127,432,538	1,338,339,979
21 Disbursements	(170,106,852)	(355,030,117)	(359,267,282)	(368,712,906)	(129,364,730)	(1,382,481,887)
22 Receipts Net of Required Transfers	(4,447,037)	(24,855,645)	(15,929,344)	3,022,310	(1,932,192)	(44,141,908)
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)	\$ (1,932,192)	\$ 864,046
26 <i>Ratio of Receipts to Required Disbursements (Line 20/Line 21)</i>	97%	93%	96%	101%	99%	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>	<u>FY 2017 Shortfall</u>
<u>(29,526,072)</u>	<u>Subtotal</u>
238,264	June IWC not due until July
<u>(29,287,808)</u>	<u>FY 2017 Shortfall-to-Date</u>

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
9/6/2019	Loan Receivable Payment (for the month of September)	803,661	17,529,911
10/2/2019	Loan Receivable Payment (for the month of October)	806,424	16,723,487
		12,576,513	16,723,487

Table 4 – FY 2017 DWSD Loan Receivable Payments - Sewer

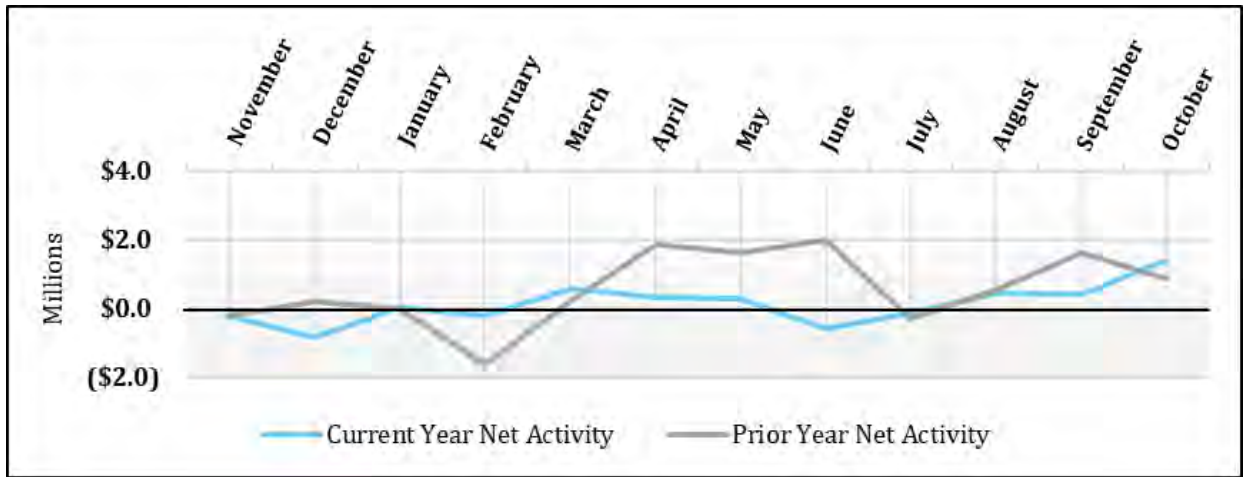
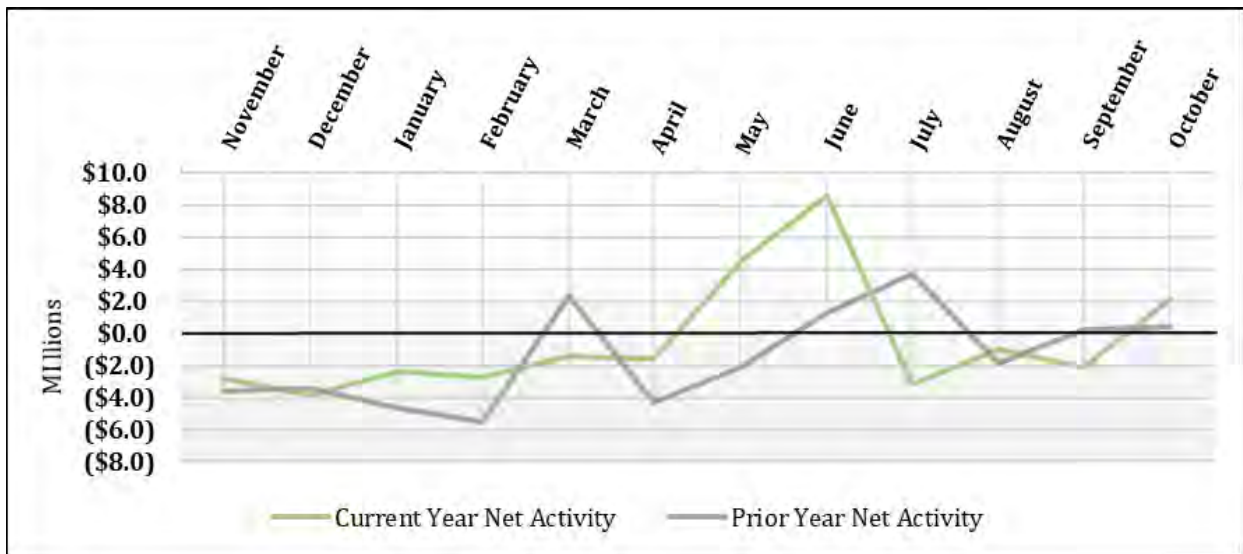
Date	Transaction	Principal	Interest	Total Paid
2/8/2019	Loan Receivable Payment (for the months of Jul - Dec)	4,635,462	564,636	5,200,098
2/22/2019	Loan Receivable Payment (for the months of Jan - Mar)	2,353,768	246,280	2,600,049
4/15/2019	Loan Receivable Payment (for the month of Apr)	789,990	76,693	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
9/6/2019	Loan Receivable Payment (for the month of September)	803,661	63,022	866,683
10/2/2019	Loan Receivable Payment (for the month of October)	806,424	60,259	866,683
		12,576,513	1,290,414	13,866,927

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
9/6/2019	Loan Receivable Payment (for the month of September)	642,400	22,190,970
10/2/2019	Loan Receivable Payment (for the month of October)	644,118	21,546,852
		2,566,182	21,546,852

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
9/6/2019	Loan Receivable Payment (for the month of September)	642,400	61,060	703,460
10/2/2019	Loan Receivable Payment (for the month of October)	644,118	59,342	703,460
		2,566,182	247,658	2,813,840

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 four months of activity to date.

Water fund cash receipts exceeded required MBO disbursements by 15% through October 31, 2019 with a historical ratio of cash receipts exceeding MBO disbursements by 13% since January 1, 2016.

Sewer fund cash receipts exceeded required MBO disbursements by 11% through October 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	\$ 150,742,849	\$1,652,174,056
2 MOU Adjustments	18,446,100	-	-	-	-	18,446,100
3 Adjusted Receipts	194,336,692	449,393,014	439,685,148	436,462,453	150,742,849	1,670,620,156
4 Disbursements	(194,065,737)	(381,844,129)	(390,114,267)	(386,925,081)	(131,095,042)	(1,484,044,256)
5 Receipts Net of Required Transfers	270,955	67,548,885	49,570,881	49,537,372	19,647,807	186,575,900
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)	\$ 19,647,807	\$ 104,734,120
8 <i>Ratio of Receipts to Required Disbursements (Line 3/Line 4)</i>	100%	118%	113%	113%	115%	113%
Sewer						
9 Receipts	\$ 297,634,449	\$ 703,512,249	\$ 718,374,552	\$ 733,083,541	\$ 272,659,132	\$2,725,263,923
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	272,659,132	2,787,546,223
12 Disbursements	(341,835,625)	(703,407,313)	(725,121,160)	(724,424,942)	(245,001,255)	(2,739,790,295)
13 Receipts Net of Required Transfers	11,553,924	104,936	(6,746,608)	15,185,799	27,657,877	47,755,928
14 I&E Transfer	-	-	(22,698,100)	(22,547,700)	-	(45,245,800)
15 Shortfall Advance	-	-	-	-	-	-
16 Shortfall Repayment (principal)	-	-	-	9,367,355	5,775,339	15,142,694
17 Net Receipts	\$ 11,553,924	\$ 104,936	\$ (29,444,708)	\$ (7,361,901)	\$ 33,433,216	\$ 17,652,823
18 <i>Ratio of Receipts to Required Disbursements (Line 11/Line 12)</i>	103%	100%	99%	102%	111%	102%
Combined						
19 Receipts	\$ 473,525,041	\$1,152,905,263	\$1,158,059,700	\$1,169,545,994	\$ 423,401,981	\$4,377,437,979
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	423,401,981	4,458,166,379
22 Disbursements	(535,901,362)	(1,085,251,442)	(1,115,235,427)	(1,111,350,023)	(376,096,297)	(4,223,834,551)
23 Receipts Net of Required Transfers	11,824,879	67,653,821	42,824,273	64,723,171	47,305,684	234,331,828
24 I&E Transfer	-	-	(48,437,800)	(78,649,780)	-	(127,087,580)
25 Shortfall Advance	-	-	-	-	-	-
26 Shortfall Repayment	-	-	-	9,367,355	5,775,339	15,142,694
27 Net Receipts	\$ 11,824,879	\$ 67,653,821	\$ (5,613,527)	\$ (4,559,254)	\$ 53,081,023	\$ 122,386,943
28 <i>Ratio of Receipts to Required Disbursements (Line 21/Line 22)</i>	102%	106%	104%	106%	113%	106%

APPENDIX

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$209,553.79	\$209,553.79	\$0.00	\$0.00	\$0.00
ASH TOWNSHIP	\$68,768.60	\$68,768.60	\$0.00	\$0.00	\$0.00
BELLEVILLE	\$28,658.98	\$28,658.98	\$0.00	\$0.00	\$0.00
BERLIN TOWNSHIP	\$60,531.02	\$60,531.02	\$0.00	\$0.00	\$0.00
BROWNSTOWN TOWNSHIP	\$304,660.59	\$304,660.59	\$0.00	\$0.00	\$0.00
BRUCE TOWNSHIP	\$29,294.23	\$29,294.23	\$0.00	\$0.00	\$0.00
BURTCHVILLE TOWNSHIP	\$28,064.78	\$28,064.78	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$1,970,630.84	\$1,970,630.84	\$0.00	\$0.00	\$0.00
CENTER LINE	\$39,811.26	\$39,811.26	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$368,473.82	\$368,473.82	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$653,459.31	\$653,459.31	\$0.00	\$0.00	\$0.00
COMMERCE TOWNSHIP	\$307,729.54	\$307,729.54	\$0.00	\$0.00	\$0.00
DEARBORN	\$1,152,983.45	\$1,152,983.45	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$307,245.12	\$307,245.12	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$261,658.90	\$261,658.90	\$0.00	\$0.00	\$0.00
ECORSE	\$119,812.39	\$119,812.39	\$0.00	\$0.00	\$0.00
FARMINGTON	\$86,669.61	\$86,669.61	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$803,943.06	\$803,943.06	\$0.00	\$0.00	\$0.00
FERNDALE	\$173,402.93	\$173,402.93	\$0.00	\$0.00	\$0.00
FLAT ROCK	\$109,806.74	\$109,806.74	\$0.00	\$0.00	\$0.00
FLINT	\$282,109.14	\$282,109.14	\$0.00	\$0.00	\$0.00
FRASER	\$101,218.64	\$101,218.64	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$125,599.57	\$125,599.57	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
GIBRALTAR	\$27,940.85	\$27,940.85	\$0.00	\$0.00	\$0.00
GREENWOOD TOWNSHIP	\$98,585.10	\$98,585.10	\$0.00	\$0.00	\$0.00
GROSSE ILE TOWNSHIP	\$90,878.93	\$90,878.93	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$140,280.20	\$140,280.20	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$65,300.24	\$65,300.24	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$130,657.97	\$130,657.97	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$67,608.58	\$67,608.58	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$63,318.99	\$63,318.99	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$ (18,896.50)	\$ (18,896.50)	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$61,811.89	\$61,811.89	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$7,777,813.83	\$215,429.48	\$106,637.76	\$104,701.53	\$7,351,045.06
HURON TOWNSHIP	\$123,073.98	\$123,073.98	\$0.00	\$0.00	\$0.00
IMLAY CITY	\$138,995.49	\$138,995.49	\$0.00	\$0.00	\$0.00
IMLAY TOWNSHIP	\$1,190.25	\$1,190.25	\$0.00	\$0.00	\$0.00
INKSTER	\$100,993.09	\$100,993.09	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$25,633.00	\$25,633.00	\$0.00	\$0.00	\$0.00
LAPEER	\$130,332.22	\$130,332.22	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$46,767.19	\$46,767.19	\$0.00	\$0.00	\$0.00
LINCOLN PARK	\$187,770.26	\$187,770.26	\$0.00	\$0.00	\$0.00
LIVONIA	\$1,014,699.94	\$1,014,699.94	\$0.00	\$0.00	\$0.00
MACOMB TWP	\$1,033,718.94	\$1,033,718.94	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$159,559.08	\$159,559.08	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MAYFIELD TOWNSHIP	\$3,634.37	\$3,634.37	\$0.00	\$0.00	\$0.00
MELVINDALE	\$109,180.71	\$109,180.71	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$30,816.44	\$30,816.44	\$0.00	\$0.00	\$0.00
NOCWA	\$4,189,743.03	\$4,189,743.03	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$81,143.24	\$81,143.24	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$503,348.73	\$503,348.73	\$0.00	\$0.00	\$0.00
NOVI	\$1,812,025.20	\$1,812,025.20	\$0.00	\$0.00	\$0.00
OAK PARK	\$117,580.87	\$117,580.87	\$0.00	\$0.00	\$0.00
OAKLAND CO DR COM	\$7,861.26	\$7,861.26	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$95,074.34	\$95,074.34	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$397,610.09	\$397,610.09	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$264,235.70	\$264,235.70	\$0.00	\$0.00	\$0.00
RIVER ROUGE	\$61,337.74	\$61,337.74	\$0.00	\$0.00	\$0.00
RIVERVIEW	\$75,514.90	\$75,514.90	\$0.00	\$0.00	\$0.00
ROCKWOOD	\$23,542.71	\$23,542.71	\$0.00	\$0.00	\$0.00
ROMEO	\$49,243.21	\$49,243.21	\$0.00	\$0.00	\$0.00
ROMULUS	\$359,298.64	\$359,298.64	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$222,426.17	\$222,426.17	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$16,817.58	\$16,817.58	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$1,258,136.10	\$1,258,136.10	\$0.00	\$0.00	\$0.00
SOCWA	\$4,345,676.51	\$4,345,676.51	\$0.00	\$0.00	\$0.00
SOUTH ROCKWOOD	\$9,341.82	\$9,341.82	\$0.00	\$0.00	\$0.00
SOUTHGATE	\$193,957.32	\$193,957.32	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ST. CLAIR SHORES	\$262,743.15	\$262,743.15	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$2,864,398.13	\$2,864,398.13	\$0.00	\$0.00	\$0.00
SUMPTER TOWNSHIP	\$55,378.23	\$55,378.23	\$0.00	\$0.00	\$0.00
SYLVAN LAKE	\$19,444.99	\$19,444.99	\$0.00	\$0.00	\$0.00
TAYLOR	\$823,072.71	\$823,072.71	\$0.00	\$0.00	\$0.00
TRENTON	\$140,118.13	\$140,118.13	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$1,192,867.15	\$1,192,867.15	\$0.00	\$0.00	\$0.00
UTICA	\$101,225.76	\$101,225.76	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$323,329.44	\$323,329.44	\$0.00	\$0.00	\$0.00
VILLAGE OF ALMONT	\$19,772.36	\$19,772.36	\$0.00	\$0.00	\$0.00
WALLED LAKE	\$66,363.20	\$66,363.20	\$0.00	\$0.00	\$0.00
WARREN	\$880,542.01	\$880,542.01	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$211,813.51	\$211,813.51	\$0.00	\$0.00	\$0.00
WAYNE	\$333,687.11	\$333,687.11	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$1,915,474.84	\$1,915,474.84	\$0.00	\$0.00	\$0.00
WESTLAND	\$509,204.70	\$509,204.70	\$0.00	\$0.00	\$0.00
WIXOM	\$219,380.57	\$219,380.57	\$0.00	\$0.00	\$0.00
WOODHAVEN	\$143,345.99	\$143,345.99	\$0.00	\$0.00	\$0.00
YCUA	\$892,806.92	\$892,806.92	\$0.00	\$0.00	\$0.00
TOTAL WATER ACCOUNTS	\$44,264,635.41	\$36,702,251.06	\$106,637.76	\$104,701.53	\$7,351,045.06

GLWA Aged Accounts Receivable- SEWER ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CENTER LINE	\$86,099.50	\$86,099.50	\$0.00	\$0.00	\$0.00
DEARBORN	\$1,625,200.00	\$1,625,200.00	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$32,701,586.73	\$472,500.00	\$472,500.00	\$472,500.00	\$31,284,086.73
MELVINDALE	\$127,800.00	\$127,800.00	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROUGE VALLEY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WAYNE COUNTY N.E.	\$2,070,040.00	\$2,069,800.00	\$240.00	\$0.00	\$0.00
WAYNE COUNTY-AREA #3	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL SEWER ACCOUNTS	\$36,610,726.23	\$4,381,399.50	\$472,740.00	\$472,500.00	\$31,284,086.73

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 10/31/19

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)	\$18,552.82	\$18,552.82	\$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)	\$2,333.89	\$2,333.89	\$0.00	\$0.00	\$0.00
BIRMINGHAM (SEOC)	\$10,636.86	\$10,636.86	\$0.00	\$0.00	\$0.00
BLOOMFIELD HILLS	\$1,570.01	\$1,570.01	\$0.00	\$0.00	\$0.00
BLOOMFIELD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$648,584.10	\$36,253.88	\$18,126.94	\$0.00	\$594,203.28
CENTER LINE	\$3,501.68	\$3,501.68	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$11,584.95	\$11,584.95	\$0.00	\$0.00	\$0.00
CITY OF FARMINGTON (E-F)	\$190.97	\$190.97	\$0.00	\$0.00	\$0.00
CITY OF FERNDALE	\$8,466.90	\$8,466.90	\$0.00	\$0.00	\$0.00
CITY OF ROCHESTER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CLARKSTON	\$263.64	\$263.64	\$0.00	\$0.00	\$0.00
CLAWSON	\$ (411.57)	\$0.00	\$0.00	\$0.00	\$ (411.57)
CLINTON TOWNSHIP	\$24,336.00	\$24,336.00	\$0.00	\$0.00	\$0.00
DEARBORN	\$35,146.93	\$35,146.93	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$0.00	\$0.00	\$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 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
FARMINGTON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$23,703.94	\$23,496.07	\$207.87	\$0.00	\$0.00
FRASER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$1,985.75	\$1,985.75	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$302.51	\$302.51	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$3,968.12	\$3,968.12	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$1,884.35	\$1,884.35	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$3,009.89	\$3,009.89	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$20.14	\$20.14	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$1,691,335.66	\$7,946.38	\$4,025.58	\$0.00	\$1,679,363.70
HUNTINGTON WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
INDEPENDENCE	\$4,701.58	\$4,701.58	\$0.00	\$0.00	\$0.00
INKSTER	\$5,286.32	\$5,286.32	\$0.00	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MACOMB TWP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$17,677.40	\$17,677.40	\$0.00	\$0.00	\$0.00
MELVINDALE	\$3,450.98	\$3,450.98	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$2,087.15	\$2,063.49	\$23.66	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$155,621.31	\$8,696.74	\$4,348.37	\$0.00	\$142,576.20
NOVI	\$16,563.69	\$16,563.69	\$0.00	\$0.00	\$0.00
OAK PARK	\$6,477.77	\$6,477.77	\$0.00	\$0.00	\$0.00
OAKLAND TOWNSHIP	\$447.85	\$429.26	\$18.59	\$0.00	\$0.00
ORCHARD LAKE VILLAGE	\$381.94	\$381.94	\$0.00	\$0.00	\$0.00
ORION TOWNSHIP (C-O)	\$5,247.45	\$5,247.45	\$0.00	\$0.00	\$0.00
OXFORD TOWNSHIP	\$1,019.07	\$1,019.07	\$0.00	\$0.00	\$0.00
OXFORD VILLAGE	\$1,196.52	\$1,196.52	\$0.00	\$0.00	\$0.00
PLEASANT RIDGE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$433,167.54	\$24,207.56	\$12,103.78	\$0.00	\$396,856.20
REDFORD TOWNSHIP	\$10,284.59	\$10,284.59	\$0.00	\$0.00	\$0.00
ROCHESTER HILLS	\$17,454.32	\$17,454.32	\$0.00	\$0.00	\$0.00
ROMULUS	\$880.49	\$880.49	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$14,076.01	\$14,076.01	\$0.00	\$0.00	\$0.00
ROYAL OAK	\$13,063.70	\$13,063.70	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$1,774.50	\$1,774.50	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$11,894.22	\$11,894.22	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 10/31/19

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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$29,860.61	\$29,860.61	\$0.00	\$0.00	\$0.00
TROY (E-F)	\$365.04	\$365.04	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$35,402.12	\$35,402.12	\$0.00	\$0.00	\$0.00
UTICA	\$2,862.86	\$2,862.86	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$1,593.67	\$1,593.67	\$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	\$11,855.35	\$11,855.35	\$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	\$21,711.43	\$21,711.43	\$0.00	\$0.00	\$0.00
TOTAL IWC ACCOUNTS	\$3,377,344.36	\$525,901.76	\$38,854.79	\$0.00	\$2,812,587.81

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
3M COMPANY	\$5,196.69	\$5,196.69	\$0.00	\$0.00	\$0.00
A & R PACKING CO., LLC	\$5,558.03	\$5,558.03	\$0.00	\$0.00	\$0.00
AACTRON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ACADEMY PACKING CO.	\$307.24	\$307.24	\$0.00	\$0.00	\$0.00
ACME RUSTPROOF	\$ (4.13)	\$0.00	\$0.00	\$ (4.13)	\$0.00
AEVITAS SPECIALITY SERVICES	\$36,873.45	\$25,554.52	\$11,318.93	\$0.00	\$0.00
ALEXANDER & HORNING	\$6,536.21	\$6,536.21	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNING	\$21,777.78	\$21,777.78	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNING	\$1,024.16	\$1,024.16	\$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	\$484.43	\$484.43	\$0.00	\$0.00	\$0.00
AMERICAN WASTE TECH INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AMERITI MFG. CO.	\$13,382.94	\$13,382.94	\$0.00	\$0.00	\$0.00
ATWATER IN THE PARK	\$59.33	\$59.33	\$0.00	\$0.00	\$0.00
AUTOMOTIVE FINISH	\$7.36	\$7.36	\$0.00	\$0.00	\$0.00
AXLE BREWING COMPANY, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
B. NEKTAR MEADERY	\$0.66	\$0.66	\$0.00	\$0.00	\$0.00
BAFFIN BREWING COMPANY	\$470.45	\$121.80	\$10.90	\$108.95	\$228.80
BARON INDUSTRIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BARTZ BAKERY	\$85.25	\$85.25	\$0.00	\$0.00	\$0.00
BASTONE BREWERY	\$37.51	\$37.51	\$0.00	\$0.00	\$0.00
BATCH BREWING COMPANY	\$211.18	\$211.18	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
BAYS MICHIGAN CORPORATION	\$3.22	\$3.22	\$0.00	\$0.00	\$0.00
BEIRUT BAKERY, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BETTER MADE SNACK FOOD	\$16,402.99	\$16,402.99	\$0.00	\$0.00	\$0.00
BLACK LOTUS BREWING CO.	\$61.25	\$61.25	\$0.00	\$0.00	\$0.00
BOZEK'S MARKET	\$79.68	\$79.68	\$0.00	\$0.00	\$0.00
BREW DETROIT	\$8,264.60	\$8,264.60	\$0.00	\$0.00	\$0.00
BROADWAY MKT CORNED BEEF	\$ (20.62)	\$0.00	\$0.00	\$0.00	\$ (20.62)
BROOKS BREWING, LLC.	\$108.06	\$108.06	\$0.00	\$0.00	\$0.00
BROWN IRON BREWHOUSE	\$59.87	\$59.87	\$0.00	\$0.00	\$0.00
CADILLAC STRAITS BREWING CO.	\$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	\$3.00	\$0.00	\$1.38	\$0.00	\$1.62
CF BURGER CREAMERY	\$21,642.55	\$21,642.55	\$0.00	\$0.00	\$0.00
CHILANGO'S BAKERY	\$2,475.76	\$74.00	\$24.13	\$22.15	\$2,355.48
CINTAS CORP. - MACOMB TWP.	\$44,045.56	\$44,045.56	\$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.	\$5.88	\$5.88	\$0.00	\$0.00	\$0.00
CLASSIC CONTAINER CORP.	\$11.42	\$11.42	\$0.00	\$0.00	\$0.00
COCA-COLA REFRESHMENTS USA,	\$877.05	\$877.05	\$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 10/31/19

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.	\$3,962.40	\$3,962.40	\$0.00	\$0.00	\$0.00
CROSS CHEMICAL COMPANY, INC.	\$ (754.50)	\$0.00	\$0.00	\$0.00	\$ (754.50)
DARLING INGREDIENTS, INC.	\$12,195.50	\$12,195.50	\$0.00	\$0.00	\$0.00
DAVE'S SAUSAGE FACTORY 2	\$379.93	\$379.93	\$0.00	\$0.00	\$0.00
DEARBORN BREWING	\$40.81	\$40.81	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE	\$7,757.25	\$7,757.25	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE CO., INC.	\$9,399.78	\$9,399.78	\$0.00	\$0.00	\$0.00
DETROIT BEER	\$128.40	\$128.40	\$0.00	\$0.00	\$0.00
DETROIT LINEN SERVICE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT RIVERTOWN BREWERY CC	\$2,766.89	\$2,766.89	\$0.00	\$0.00	\$0.00
DETROIT SAUSAGES CO INC	\$14.23	\$14.23	\$0.00	\$0.00	\$0.00
DETRONIC INDUSTRIES, INC.	\$165.61	\$165.61	\$0.00	\$0.00	\$0.00
DIFCO LABORATORIES, INC.	\$25,931.96	\$25,931.96	\$0.00	\$0.00	\$0.00
DIVERSIFIED CHEM TECH. INC.	\$148.73	\$148.73	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$1,696.39	\$1,696.39	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$709.62	\$709.62	\$0.00	\$0.00	\$0.00
DOWNEY BREWING COMPANY	\$34.13	\$34.13	\$0.00	\$0.00	\$0.00
E.W. GROBBEL'S SONS, INC.	\$4,285.94	\$4,285.94	\$0.00	\$0.00	\$0.00
EASTERN MARKET BREWING COMPF	\$180.65	\$180.65	\$0.00	\$0.00	\$0.00
ENVIROSOLIDS, L.L.C.	\$27,444.06	\$27,444.06	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
EQ DETROIT, INC.	\$2,218.71	\$2,218.71	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$9,483.81	\$9,483.81	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ETON ST BREWERY- GRIFFIN CLF	\$3,626.28	\$3,626.28	\$0.00	\$0.00	\$0.00
EXTRUDE HONE CORPORATION	\$63.16	\$63.16	\$0.00	\$0.00	\$0.00
EXTRUDEHODE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON BREWING COMPANY	\$20.25	\$20.25	\$0.00	\$0.00	\$0.00
FAYGO BEVERAGES, INC.	\$10,343.08	\$10,343.08	\$0.00	\$0.00	\$0.00
FORD NEW MODEL PROGRAM	\$700.27	\$700.27	\$0.00	\$0.00	\$0.00
FOUNDERS BREWING COMPANY	\$61.11	\$61.11	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$244.14	\$244.14	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
G2O ENERGY, LLC	\$2,704.73	\$2,704.73	\$0.00	\$0.00	\$0.00
GENERAL LINEN SUPPLY CO.	\$13,819.27	\$13,819.27	\$0.00	\$0.00	\$0.00
GLOBAL TITANIUM, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$100.13	\$100.13	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$53.43	\$53.43	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$185.02	\$90.90	\$0.00	\$94.12	\$0.00
GREAT BARABOO BREWING CO.	\$110.25	\$110.25	\$0.00	\$0.00	\$0.00
HACIENDA MEXICAN FOODS	\$3,608.96	\$1,372.59	\$706.15	\$708.35	\$821.87
HENKEL CORPORATION	\$603.45	\$0.00	\$364.60	\$0.00	\$238.85

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
HOME STYLE FOOD INC.	\$5,791.83	\$5,791.83	\$0.00	\$0.00	\$0.00
HOMEGROWN BREWING COMPANY	\$69.13	\$69.13	\$0.00	\$0.00	\$0.00
HOODS CLEANERS	\$211.33	\$0.00	\$0.00	\$0.00	\$211.33
HOUGHTON INTERNATIONAL INC.	\$157.92	\$157.92	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$141.30	\$141.30	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$2,003.07	\$2,003.07	\$0.00	\$0.00	\$0.00
HUNTINGTON CLEANERS	\$551.33	\$551.33	\$0.00	\$0.00	\$0.00
IDP, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
INDUSTRIAL METAL COATING	\$506.88	\$506.88	\$0.00	\$0.00	\$0.00
ISLAMIC SLAUGHTER HOUSE	\$834.67	\$834.67	\$0.00	\$0.00	\$0.00
ITALIAN BUTTER BREAD STICKS	\$8.17	\$8.17	\$0.00	\$0.00	\$0.00
J & G FOOD PRODUCTS, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
JAMEX BREWING CO.	\$42.35	\$42.35	\$0.00	\$0.00	\$0.00
KAR NUT PRODUCTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
KOWALSKI SAUSAGES, CO.	\$1,447.66	\$1,447.66	\$0.00	\$0.00	\$0.00
KUHNHENN BREWING	\$14.62	\$14.62	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$956.72	\$956.72	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$ (26.44)	\$0.00	\$0.00	\$0.00	\$ (26.44)
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	\$48.13	\$48.13	\$0.00	\$0.00	\$0.00
MACDERMID, INC.	\$2,040.28	\$2,040.28	\$0.00	\$0.00	\$0.00
MCCLURE'S PICKLES	\$14,509.02	\$14,509.02	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 10/31/19

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	\$170.75	\$170.75	\$0.00	\$0.00	\$0.00
METROPOLITAN BAKERY	\$688.44	\$688.44	\$0.00	\$0.00	\$0.00
MIBA HYDRAMECHANICA CORP.	\$108.68	\$108.68	\$0.00	\$0.00	\$0.00
MICHIGAN DAIRY	\$109,064.90	\$109,064.90	\$0.00	\$0.00	\$0.00
MICHIGAN PROD. MACHINING	\$4,048.79	\$4,048.79	\$0.00	\$0.00	\$0.00
MICHIGAN SOY PRODUCTS CO.	\$635.72	\$635.72	\$0.00	\$0.00	\$0.00
MIDWEST WIRE PRODUCTS, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MILANO BAKERY	\$1,374.37	\$1,374.37	\$0.00	\$0.00	\$0.00
MILTON CHILI CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MINNIE MARIE BAKERS, INC	\$3,297.29	\$3,297.29	\$0.00	\$0.00	\$0.00
MISTER UNIFORM & MAT RENTALS	\$136.43	\$4.53	\$3.13	\$3.08	\$125.69
MOTOR CITY BREWING WORKS	\$1,135.06	\$178.07	\$175.22	\$0.00	\$781.77
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	\$31.66	\$31.66	\$0.00	\$0.00	\$0.00
OAKWOOD BAKERY	\$149.68	\$149.68	\$0.00	\$0.00	\$0.00
PARKER'S HILLTOP BREWER & SE	\$95.29	\$95.29	\$0.00	\$0.00	\$0.00
PELLERITO FOODS INC.	\$2,685.65	\$2,685.65	\$0.00	\$0.00	\$0.00
PEPSI COLA, INC.	\$85,252.88	\$85,252.88	\$0.00	\$0.00	\$0.00
PERSONAL UNIFORM SERVICE, IN	\$50.25	\$50.25	\$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 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
PINE TREE ACRES, INC.	\$19,015.42	\$19,015.42	\$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.	\$270.35	\$270.35	\$0.00	\$0.00	\$0.00
QUALA SERVICES, LLC	\$1,134.75	\$1,134.75	\$0.00	\$0.00	\$0.00
RAY'S ICE CREAM CO.	\$85.31	\$85.31	\$0.00	\$0.00	\$0.00
RED SPOT PAINT #409139	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
RIVER ROUGE BREWING COMPANY	\$781.67	\$781.67	\$0.00	\$0.00	\$0.00
ROAK BREWING CO. LLC	\$757.25	\$757.25	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS BEER COMPANY	\$301.65	\$301.65	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS PROD BREWERY	\$2,674.65	\$1,543.04	\$0.00	\$1,131.61	\$0.00
RTT	\$27,772.36	\$0.00	\$756.08	\$768.90	\$26,247.38
SEAFARE FOODS, INC.	\$59.56	\$59.56	\$0.00	\$0.00	\$0.00
SHERWOOD BREWING COMPANY	\$934.47	\$100.35	\$98.74	\$0.00	\$735.38
SMITH-WATKINS, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SPRAYTEK, INC.	\$11.74	\$11.74	\$0.00	\$0.00	\$0.00
SWEETHEART BAKERY, INC.	\$1,711.38	\$164.11	\$72.61	\$78.57	\$1,396.09
THE CROWN GROUP-LIVONIA PLAN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
THE ROYAL OAK BREWERY	\$(1,031.09)	\$0.00	\$0.00	\$0.00	\$(1,031.09)
TOM LAUNDRY CLEANERS	\$8.86	\$8.86	\$0.00	\$0.00	\$0.00
TRAFFIC JAM & SNUG	\$41.66	\$21.00	\$0.00	\$20.66	\$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 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
TURRI'S ITALIAN FOODS	\$231,110.97	\$231,110.97	\$0.00	\$0.00	\$0.00
U-METCO, INC.	\$1,547.98	\$1,547.98	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$62,516.04	\$62,516.04	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$2,227.40	\$2,227.40	\$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.	\$297.56	\$297.56	\$0.00	\$0.00	\$0.00
UNITED MEAT & DELI	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
URBANREST BREWING COMPANY	\$76.20	\$76.20	\$0.00	\$0.00	\$0.00
US ECOLOGY MICHIGAN	\$380.91	\$380.91	\$0.00	\$0.00	\$0.00
US ECOLOGY ROMULUS, INC.	\$4,407.44	\$4,407.44	\$0.00	\$0.00	\$0.00
USHER OIL SERVICES	\$4,694.34	\$4,694.34	\$0.00	\$0.00	\$0.00
VALICOR ENVIROMENTAL SERVICE	\$999.85	\$999.85	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS	\$11,866.73	\$11,866.73	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS, INC.	\$4,347.92	\$4,347.92	\$0.00	\$0.00	\$0.00
VERNOR FOOD PRODUCTS	\$ (36.26)	\$0.00	\$0.00	\$0.00	\$ (36.26)
WIGLEY'S MEAT PROCESS	\$683.02	\$683.02	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$905.00	\$905.00	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$176.45	\$176.45	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO	\$7,691.38	\$7,691.38	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO.	\$3,264.26	\$3,264.26	\$0.00	\$0.00	\$0.00
WOODWARD AVENUE BREWERS	\$85.18	\$85.18	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 10/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
TOTAL POLLUTANT SURCHARGE ACCOUNTS	\$977,016.91	\$912,744.38	\$13,531.87	\$2,932.26	\$47,808.40

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 (4 Months)	426,769	1,885,400	16,093	2,328,262
FY 2020 Payments (4 Months)	<u>-</u>	<u>(656,657)</u>	<u>-</u>	<u>(656,657)</u>
				-
Balance as of October 31, 2019	<u>\$ 7,777,814</u>	<u>\$ 32,701,587</u>	<u>\$ 1,691,336</u>	<u>\$ 42,170,737</u>

The Quarterly Debt Summary Report includes the following:

1. Key Takeaways
2. Look Ahead – Five Year Capital Financing Plan
3. Existing Debt
4. Debt Service Coverage
5. Potential Refinancing Opportunities

Pursuant to leases that became effective on January 1, 2016, the Great Lakes Water Authority (GLWA) assumed possession and control of the regional assets of both the water supply and sewage disposal systems owned by the City of Detroit (City), which were previously operated by the Detroit Water and Sewerage Department (DWSD). GLWA assumed certain liabilities including State Revolving Fund loans and 100% of the revenue bond debt issued by DWSD prior to January 1, 2016.

The bonds are repaid by the revenues of the water and sewage systems including the DWSD retail system (local system) revenues which are the exclusive property of GLWA in accordance with Section 5.7 of each lease agreement. The DWSD is GLWA's agent for purposes of billing and collection of the retail system revenues for both the water and sewer system, as set forth in a water and sewer services agreement between the City and GLWA. All revenue receipts are deposited into a trust and administered in compliance with the Master Bond Ordinance, applicable to each system (referred to herein collectively as the "MBO").

The leases also provide that GLWA will finance local system improvements of DWSD. GLWA is the obligor of 100% of the debt payable which is recorded in GLWA's books. An "obligation receivable" is recorded by GLWA which represents the amount related to the DWSD retail system improvements. Accordingly, DWSD records an "obligation payable" for a like amount.

GLWA maintains detailed records of all debt issuances and how that debt is allocated between the regional system and local system, as well as between the water and sewer systems. GLWA and DWSD regularly reconcile interrelated accounts between the entities.

The lease agreements, water and sewer services agreement, and MBO noted above are available on GLWA's website at www.glwater.org. The above explanation is a synopsis of key points and is not intended to fully represent the agreements or any sub-sections thereof.

Key Takeaways

- ✓ The purpose of this report is to provide a resource for stakeholders and to support management decisions as capital financing needs evolve.
- ✓ GLWA continues to enhance transparency by including the Debt Summary Report in the Audit Committee Binder quarterly.
- ✓ Currently, GLWA has eight open State Revolving Fund (SRF) loans, four for water and four for sewer.
- ✓ Specific key items of interest include the following along with the balance as of September 30, 2019.

	As of September 30, 2019 (\$ Millions)	
	Water	Sewer
FY 2020 Approved SRF Projects - Table 5	\$32.6	\$13.0
DWSD Obligation Receivable - Table 6	\$473.6	\$414.2
GLWA Outstanding Debt - Table 7	\$2,239.3	\$3,031.1

Look Ahead - Five Year Capital Financing Plan

The following tables summarize the projected Capital Improvement Program (CIP) funding to be provided by proceeds received from the issuance of new revenue bonds and draws on committed SRF loans. *The financing plan is dynamic and changes with the pace of capital spending and alignment with refunding opportunities.* These schedules are based upon the recently approved FY 2020 to FY 2024 Capital Improvement Plan (CIP) for the regional system by the GLWA Board of Directors and for the local system by the DWSD's Board of Water Commissioners. It is important to note the amounts represented in Revenue Bonds reflect the anticipated par amount of the bonds to be issued and not the net proceeds needed to support the capital plan.

Table 1 - GLWA Projected Financing Needs FY 2020 - FY 2024

	Projected Funding Needs for Regional System				
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Water					
Revenue Bonds	\$ -	\$ -	\$ 62,000,000	\$ 56,000,000	\$ 56,000,000
SRF loan draws	5,531,000	18,367,000	24,115,000	29,615,000	29,994,000
Total projected funding Water	\$ 5,531,000	\$ 18,367,000	\$ 86,115,000	\$ 85,615,000	\$ 85,994,000
Sewer					
Revenue Bonds	\$ 84,000,000	\$ 87,000,000	\$ 91,000,000	\$ 69,000,000	\$ 13,000,000
SRF loan draws	29,342,000	8,280,000	1,343,000	-	-
Total projected funding Sewer	\$ 113,342,000	\$ 95,280,000	\$ 92,343,000	\$ 69,000,000	\$ 13,000,000

Table 2 - DWSD Projected Bond Financing Needs FY 2020 – FY 2024

Projected Funding Needs for Local System					
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Water					
Revenue Bonds	\$ 100,000,000		\$ 50,000,000	\$ -	\$ 50,000,000
SRF loan draws	\$ 4,020,000	\$ 12,040,000	\$ -	\$ -	\$ -
Total projected funding Water	\$ 104,020,000	\$ 12,040,000	\$ 50,000,000	\$ -	\$ 50,000,000
Sewer					
Revenue Bonds	\$ -	\$ -	\$ 50,000,000	\$ -	\$ -
SRF loans draws	\$ -	\$ -	\$ -	\$ -	\$ -
Total projected funding Sewer	\$ -	\$ -	\$ 50,000,000	\$ -	\$ -

Note: Information presented is as of September 30, 2019. Financing plans continue to evolve based on the needs of the system.

Existing Debt

Current Debt Ratings: Bond ratings are a key measure of an organization’s financial strength. Ratings are established by independent agencies that conduct detailed reviews of an organization’s operational and financial performance to assist those seeking to invest in an organization through the purchase of bonds. GLWA actively monitors its debt ratings and continually seeks to make operational and financial improvements to improve its bond ratings. Achieving higher ratings will allow GLWA to finance its capital needs at lower interest rates.

Table 3 – Debt Ratings by System provides a summary of the debt ratings assigned in September 2018, in advance of the most recent bond issuances in October 2018, as well as the ratings assigned to the Junior Lien debt in November 2018.

Current Debt Ratings				
	S&P Global Ratings	Moody's Investors Service	Fitch Ratings	
Water Supply System Revenue Bonds				
Senior lien	AA-	A2	A	
Second lien	A+	A3	A-	
Junior lien	A+	N/A	N/A	
Outlook	Stable	Stable	Positive	
Sewage Disposal System Revenue Bonds				
Senior lien	A+	A2	A	
Second lien	A	A3	A-	
Junior lien	A	N/A	N/A	
Outlook	Postive	Stable	Positive	

Debt Allocation: GLWA has nearly \$2.3 billion in water system debt and \$3.1 billion in sewer system debt for a combined total of over \$5.3 billion. Debt within each system is prioritized according to its security interest, or lien category, with senior lien debt having the highest security interest, followed by second lien and finally junior lien.

Chart 1 - Debt Type by Lien - Water provides a breakdown of the total water system debt for both the regional and local systems by lien type.

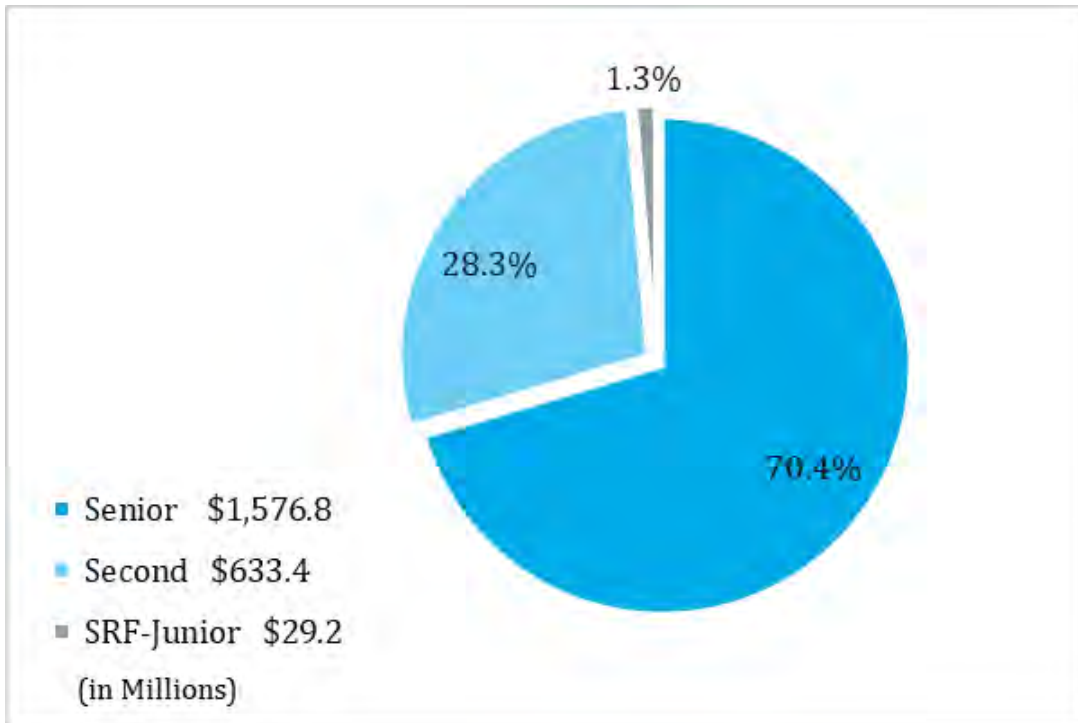


Chart 2 - Debt Type by Lien - Sewer provides a breakdown of the total sewer system debt for both the regional and local systems by lien type.

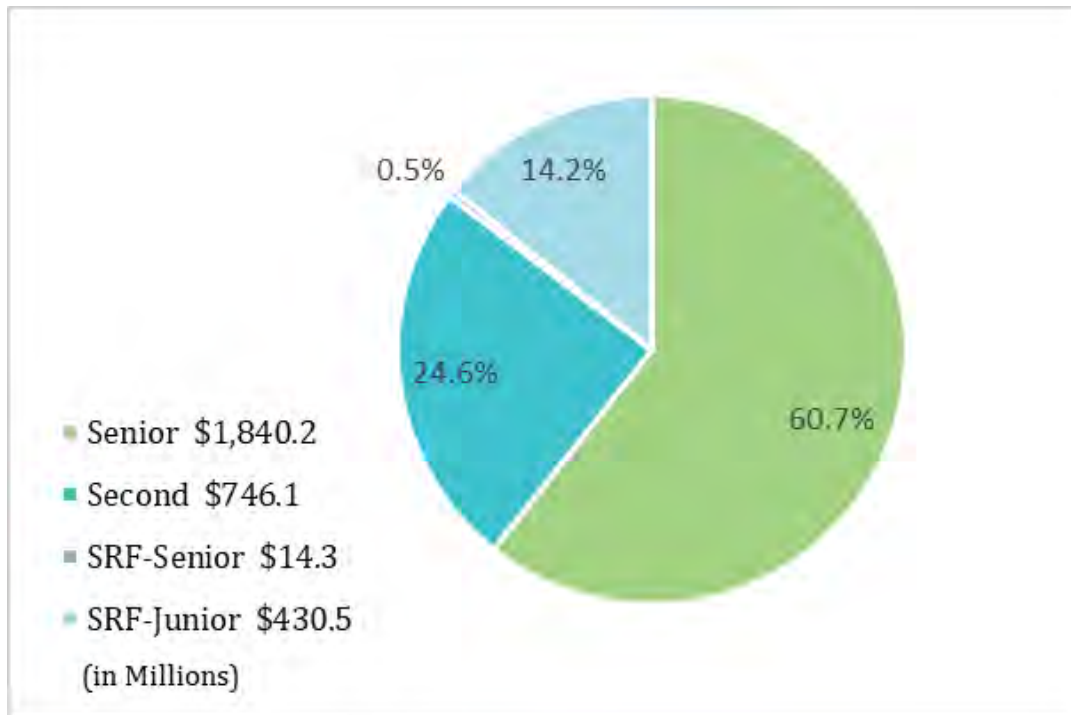


Chart 3 – Annual Debt Service Payments by Lien – Water provides the amortization schedule of combined annual debt service requirements by due dates within the fiscal year based on debt owed as of June 30, 2019.

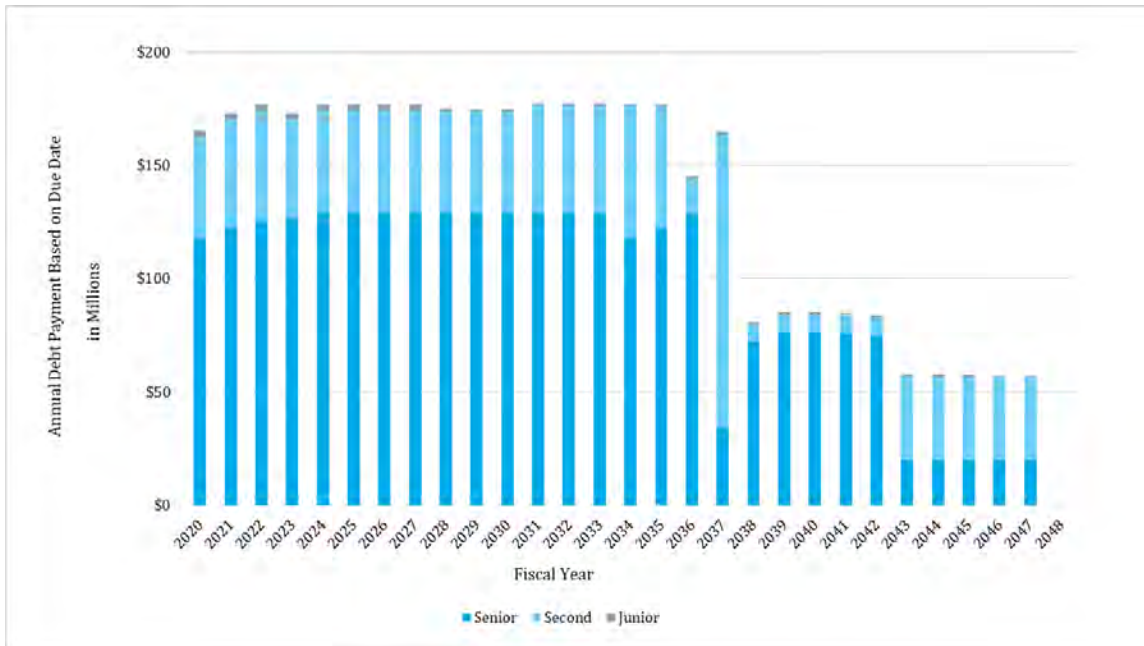
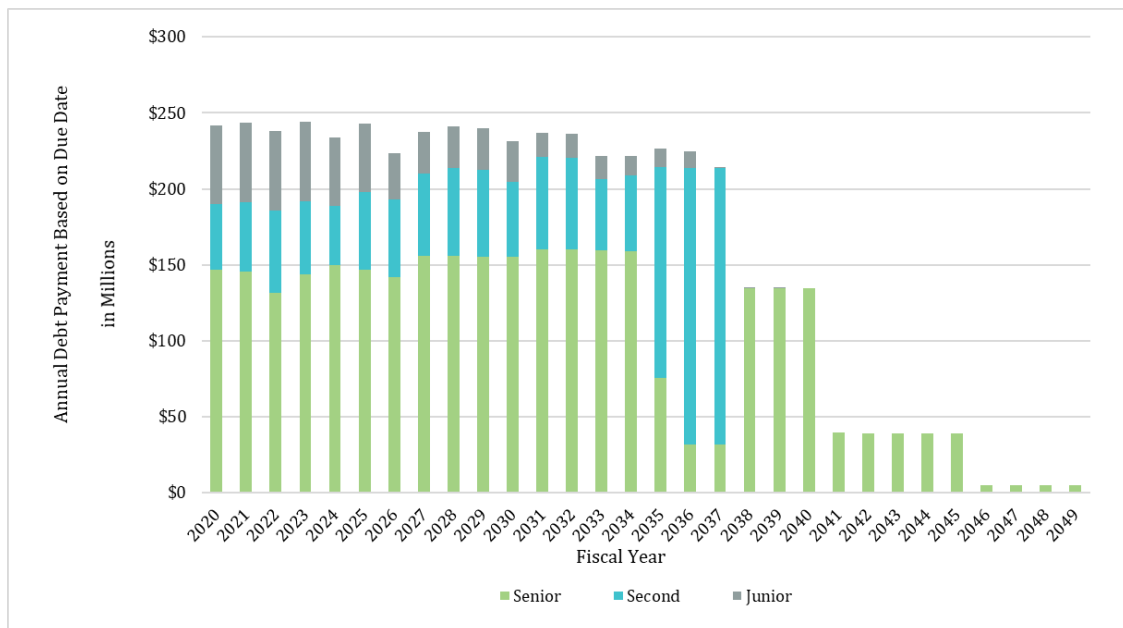


Chart 4 – Annual Debt Service Payments by Lien – Sewer provides the amortization schedule of combined annual debt service requirements by due dates within the fiscal year based on debt owed as of June 30, 2019.



Note: Approximately one-half of the Senior and Second lien bonds are due the first day of the fiscal year and is actually paid by June 30 annually. Charts 3 & 4 accurately reflect the amounts due annually, but this information will differ from the yearend Comprehensive Annual Financial Report which requires a different manner of reporting.

State of Michigan’s State Revolving Fund (SRF) Programs: GLWA participates in the State’s Clean Water Revolving Fund (CWRF) to finance qualified sewage disposal system projects and the State’s Drinking Water Revolving Fund (DWRF) to finance qualified water supply system projects. For the purposes of this report, both water and sewer projects financed through these programs will be referred to as either water or sewer SRF loans.

These loan programs have interest rates that are well below open market interest rates (usually between 2.0% and 2.5%) and are repaid over 20-30 years. Funds are disbursed as construction payments are made. Interest on each loan is based on the amount of funds drawn and not the full loan amount. GLWA must submit project plans to Michigan Department of Environment, Great Lakes, and Energy (“EGLE”, and formerly known as the Michigan Department of Environmental Quality or MDEQ) for each project by the annual submission date (May 1 for DWRF and July 1 for CWRF) in order to be considered for the State’s funding pool for the following fiscal year.

State Revolving Fund Loans: GLWA’s strategy is to maximize its use of SRF loans to finance qualified capital projects. GLWA currently has approximately \$29.2 million in outstanding water SRF loans and \$444.8 million in outstanding sewer SRF loans.

Table 4 - Active SRF Project Summary provides information regarding each loan including the loan award date which is also referred to as the Order of Approval date by the State of Michigan.

State Loan #	Description	Order of Approval	Project Total (\$ Millions)
SRF Water - DWSD Projects			
7414-01	Water Main Replacement (WS-698)	6/1/2017	\$8.7
7447-01	Water Main Replacement (WS-707)	8/9/2019	\$16.5
SRF Water - GLWA Projects			
7445-01	Northeast Transmission Phase 1	8/9/2019	\$30.0
7446-01	Lake Huron Sludge System-Raw Sludge Clarifiers	5/17/2019	\$8.3
		Total Water	\$63.5
SRF Sewer - GLWA Projects			
5635-01	Aeration System Improvements	8/24/2016	\$19.3
5636-01	Rehab Rectangular Primary Clarifiers, Electrical/Mechanical Buildings and Pipe Gallery	8/24/2016	\$51.3
5651-01	RRO Disinfection (Phase II)	3/13/2015	\$38.5
5655-01	Detroit River Interceptor	8/23/2018	\$17.5
		Total Sewer	\$126.6

Chart 5 - Open State Revolving Fund Loans summarizes all current SRF loans held by GLWA (including financings on behalf of DWSD) that are active (reference Table 4 above for project descriptions). It summarizes the original award amount remaining and the amount drawn down as of September 30, 2019 for each loan. At September 30, 2019 the amount of SRF loans authorized and unissued are \$55.4 million for the Water Fund and \$35.2 million for the Sewer Fund.

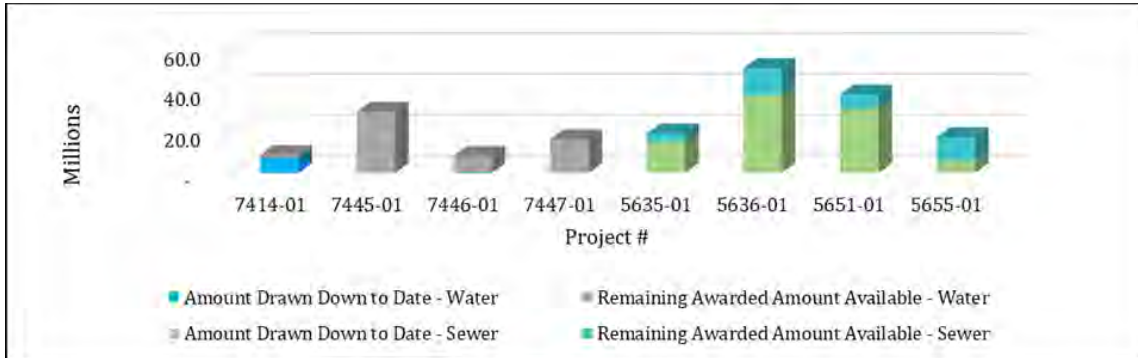


Table 5 - Project Plan Approved by EGLE identifies projects approved by the EGLE but for which applications have not yet been submitted for funding.

Project Owner	Description	Project Total	Anticipated Funding Date
Water SRF			
DWSD	Local System Water Main Replacement- WS-710 and WS-711	32,635,000	3/27/2020
Total Water SRF		\$ 32,635,000	
Sewer SRF			
GLWA	Ferric Chloride System Rehabilitation (PS-2)	\$ 13,000,000	8/28/2020
Total Sewer SRF		\$ 13,000,000	

DWSD Obligation Receivable: GLWA holds an obligation receivable from DWSD as an asset to account for the amount due for financing local system capital projects. DWSD carries a like amount of this as an obligation payable on its statement of net assets.

There are three components to the calculation of the DWSD obligation receivable. These are:

- a) an agreed upon amount for pre-January 1, 2016 (i.e. “pre-bifurcation”) debt as documented in a 2018 Memorandum of Understanding (\$455 million for water system and \$370 million for sewer per agreed-upon amortization schedules),
- b) new revenue bonds issued after January 1, 2016 to specifically fund the DWSD local system capital improvement projects which are payable based on the allocable share of the actual bonds debt service schedule, and
- c) SRF loans issued after January 1, 2016 for specific DWSD capital projects which are payable based on the allocable share of the actual loan payment schedule.

All retail customer revenues are deposited into a trust to fund these financial obligations in accordance with the MBO flow of funds.

Chart 6 - DWSD Obligation Receivable by Type summarizes the total DWSD obligation receivable balance for both Water and Sewer as of September 30, 2019 by pre-bifurcation, revenue bond and SRF component.

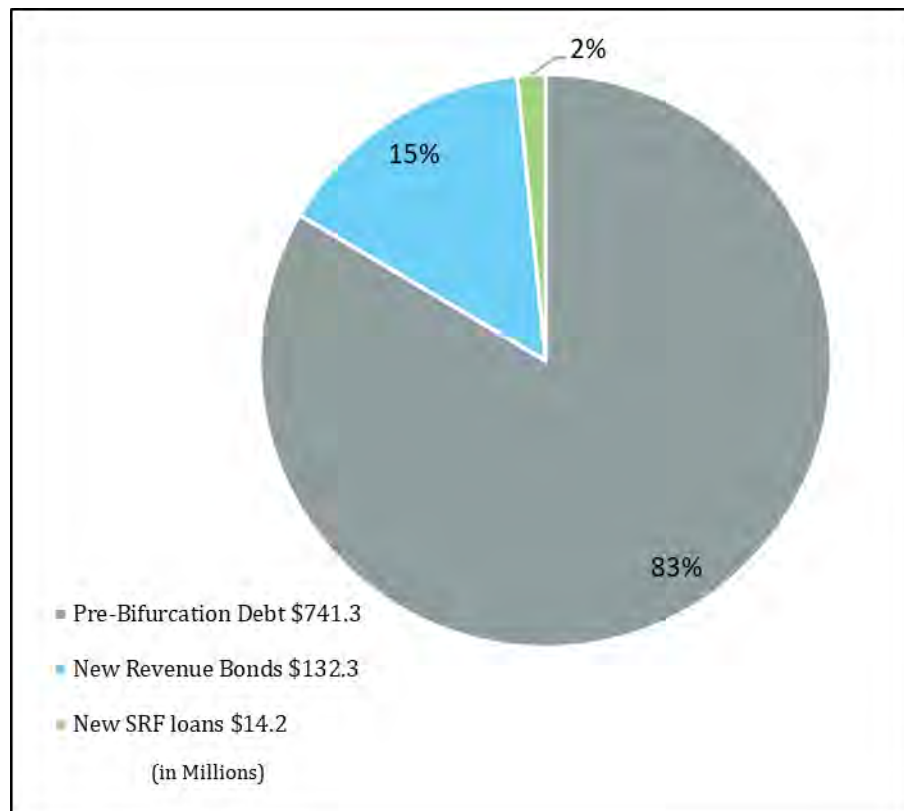


Chart 7 - Obligation Receivable Compared to Total Debt - Water provides context by comparing the Water System Obligation Receivable to the Total Water Debt (excludes unamortized premiums).

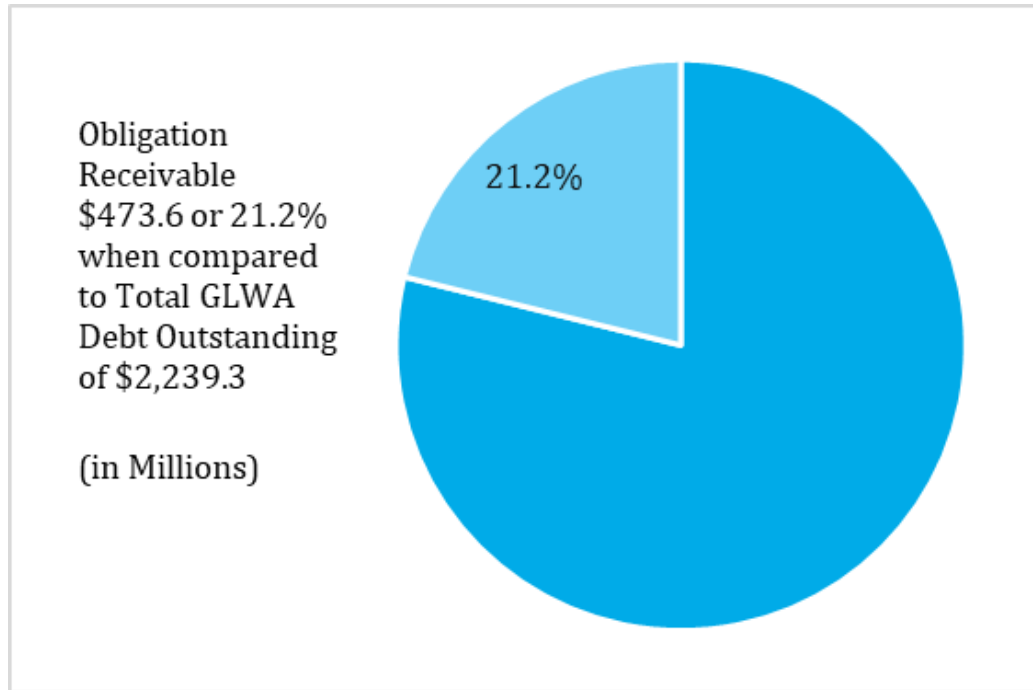


Chart 8 - Obligation Receivable Compared to Total Debt - Sewer provides context by comparing the Sewer System Obligation Receivable to the Total Sewer Debt (excludes unamortized premiums).

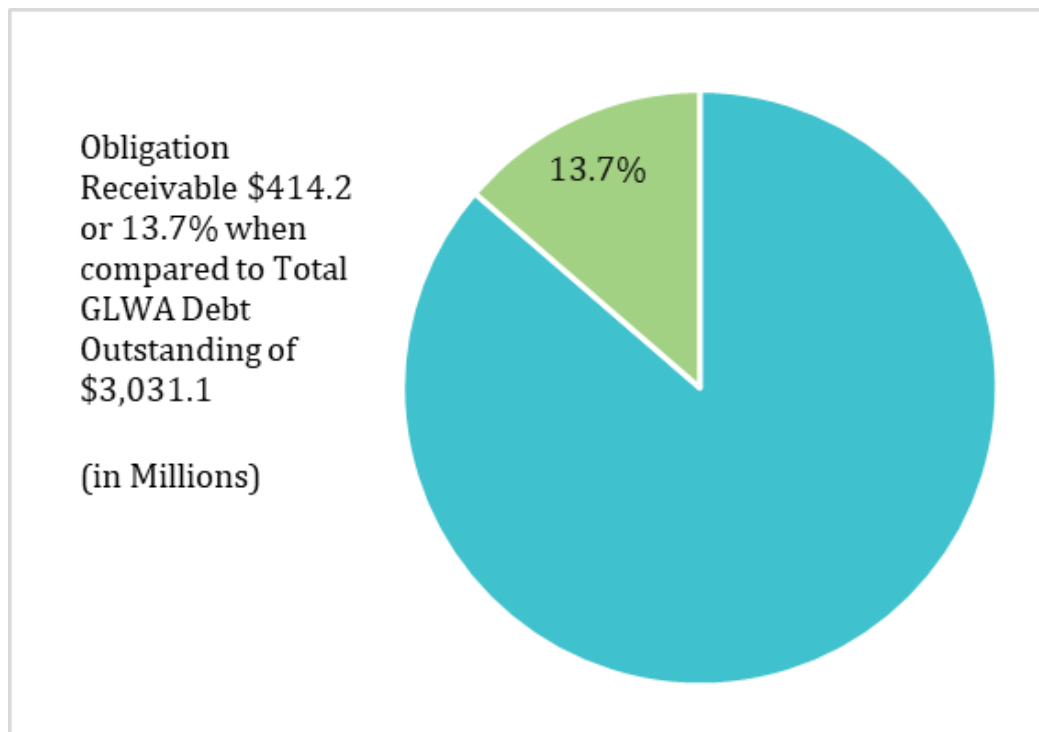


Table 6 - DWSD Obligation Receivable provides obligation receivable detail including fiscal year 2020 beginning balances by debt type and loan issue (for revenue bonds and SRF loans), year-to-date activity and ending balances as of September 30, 2019. Total DWSD debt totals \$903.5 million. This differs slightly from the total in Chart 8 due to the inclusion of unamortized premiums.

(In Thousands)

Debt Type	July 1, 2019		September 30, 2019	
	Beg Balance	Increase	Decrease	End Balance
DWSD Water				
Pre-Bifurcation Debt	\$ 412,141	\$ -	\$ (3,455)	\$ 408,685
Revenue Bond - 2016A	17,725	-	-	17,725
Revenue Bond - 2016B	33,015	-	-	33,015
SRF 7412-01	5,084	-	-	5,084
SRF 7413-01	3,299	-	-	3,299
SRF 7414-01	5,420	388	-	5,808
Total DWSD Obligation	476,683	388	(3,455)	473,616
Unamortized Premiums	6,127	-	(35)	6,092
Subtotal: Water	482,810	388	(3,490)	479,707
DWSD Sewer				
Pre-Bifurcation Debt	335,575	-	(2,935)	332,639
Revenue Bond - 2018A	81,595	-	-	81,595
Total DWSD Obligation	417,170	-	(2,935)	414,234
Unamortized Premiums	9,687	-	(86)	9,601
Subtotal: Sewer	426,857	-	(3,022)	423,835
Total DWSD Debt	\$ 909,667	\$ 388	\$ (6,512)	\$ 903,543

Annual Change in Outstanding Debt: It is the goal of GLWA to ensure the long-term sustainability of the water and sewer systems. One of the best ways to accomplish this is by reducing the debt service payments on existing bonds as well as reducing the amounts of future bond issues by using revenue financed capital.

Table 7 - Long-Term Debt Summary provides a detail of GLWA's fiscal year 2020 beginning balances by debt type and loan issues, year-to-date activity, and ending balances as of September 30, 2019. GLWA debt includes financing for both the regional and local share.

(In Thousands)

Debt Type	July 1, 2019		September 30, 2019	
	Beg Balance	Increase	Decrease	End Balance
Water Fund				
Revenue Bonds	\$ 2,220,320	\$ -	\$ (10,205)	\$ 2,210,115
State Revolving Loans	29,861	974	(1,640)	29,194
Total Installment Debt	2,250,181	974	(11,845)	2,239,309
Unamortized Premiums / Discounts	246,241	-	(4,277)	241,964
Subtotal: Water	2,496,422	974	(16,122)	2,481,273
Sewer Fund				
Revenue Bonds	2,604,390	-	(29,415)	2,574,975
Capital Appreciation bonds	14,780	-	(3,445)	11,335
State Revolving Loans	474,177	7,647	(37,070)	444,754
Total Installment Debt	3,093,347	7,647	(69,930)	3,031,064
Capital Appreciation Bond Discount	(1,402)	-	414	(988)
Unamortized Premiums / Discounts	159,807	-	(1,401)	158,406
Subtotal: Sewer	3,251,752	7,647	(70,917)	3,188,481
Total Combined, Long Term Debt	\$ 5,748,174	\$ 8,620	\$ (87,040)	\$ 5,669,754

Debt Service Coverage

GLWA is committed to ensuring the long-term sustainability of the water and sewer systems and has pledged specific revenue streams to secure the repayment of the revenue bonds and SRF loans associated with them. The MBO establishes minimum debt coverage levels at 1.20 for senior lien bonds, 1.10 for second lien bonds and 1.00 for any junior lien bonds, other than second lien bonds. Debt service coverage ratios are inclusive of all debt held on behalf of both GLWA and DWSD.

Table 8: Debt Service Coverage Ratios provides a summary of the debt service coverage ratios for the water and sewer systems as reported in the Comprehensive Annual Financial Report (CAFR) for 2016, 2017, 2018 and 2019 as well as ratios based on the adopted FY 2020 Budget. Debt service coverage is calculated by dividing the Net Revenues for the fiscal year of calculation by the debt service installment requirements on bonds for such fiscal year all for such priority of lien and any higher priority of lien.

Water Fund	MBO Required Minimum	Actual 2016	Actual 2017	Actual 2018	Actual 2019	Adopted Budget 2020
Senior Lien Bonds	1.20	2.11	2.03	2.03	2.04	1.94
Senior and second lien bonds	1.10	1.59	1.57	1.52	1.47	1.40
All bonds, including SRF junior lien	1.00	1.58	1.56	1.51	1.45	1.38

Sewer Fund	MBO Required Minimum	Actual 2016	Actual 2017	Actual 2018	Adopted Budget 2019	Adopted Budget 2020
Senior Lien Bonds	1.20	2.33	2.32	2.11	2.10	2.11
Senior and second lien bonds	1.10	1.72	1.73	1.61	1.61	1.61
All bonds, including SRF junior lien	1.00	1.43	1.39	1.29	1.28	1.26

Potential Refunding Opportunities

In an effort to reduce the annual water and sewer debt service payments, GLWA monitors its outstanding water and sewer debt portfolios to determine if it has the ability to refund existing bond issues with new, lower interest rate bonds. At least once per year, GLWA's registered municipal advisor, PFM Financial Advisors, LLC (PFM) prepares an analysis of GLWA's bond refunding opportunities based on the current municipal interest rate environment and the existing debt service on GLWA's callable bonds. The latest PFM analysis was presented at the October 18, 2019 Audit Committee meeting. If municipal interest rates continue to be favorable, GLWA intends to issue refunding bonds in FY 2020.