Financial Services
Audit Committee Communication

Date: April 20, 2018

To: Great Lakes Water Authority Audit Committee

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

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

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

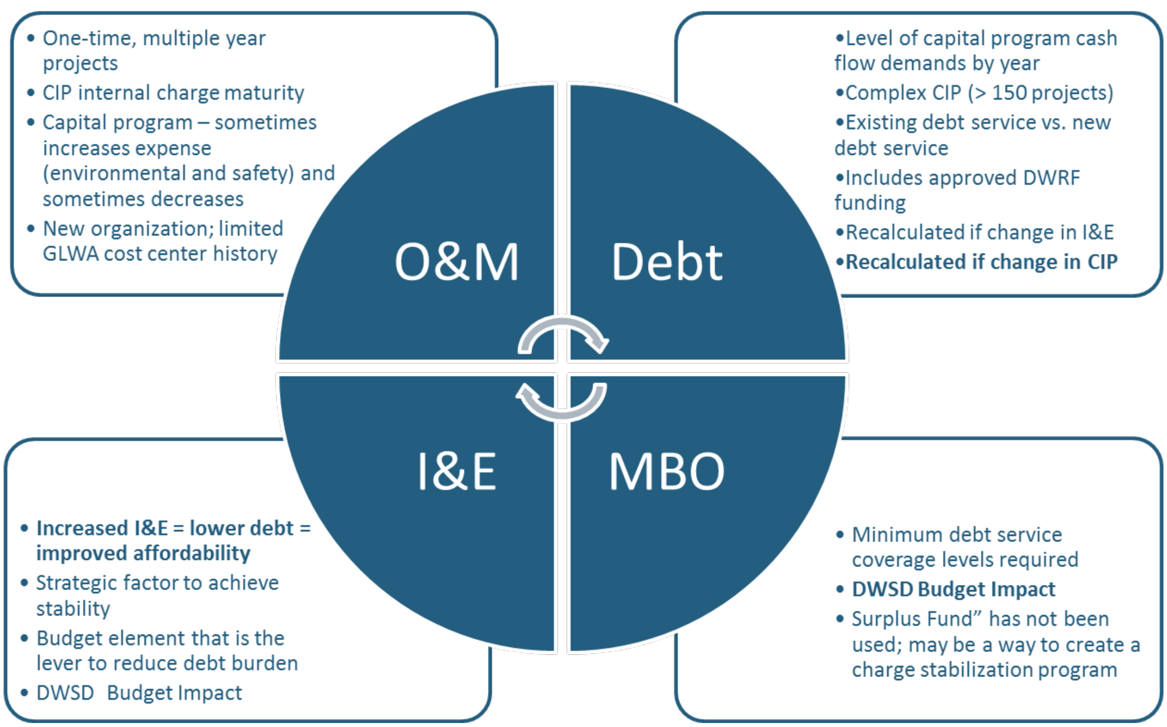
1. Implementation of the recently approved Memorandum of Understanding (MOU) term sheet related to Leases with the City of Detroit Water & Sewerage Department
2. Revisions and finalization of the FY 2017 Audited financial report and single audit report by the extension date of April 30, 2018 as approved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

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

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

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

Revenue Requirement Categories and Key Considerations[1]



[1] CIP = Capital Improvement Program
DWRF = Drinking Water Revolving Fund
DWSD = Detroit Water & Sewerage Department
I&E = Improvement & Extension Fund
MBO = Master Bond Ordinance

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

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

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

Fitch Ratings, September 30, 2016

> "STRONG RATE-ADJUSTMENT HISTORY: The governing bodies have instituted virtually annual rate hikes in support of financial and capital needs. Continued annual adjustments are included in the forecast and will be needed to meet rising debt service obligations and sustain financial performance."
>
> "SYSTEM LEVERAGE REMAINS HIGH:"
> "Fitch expects leverage for both systems to remain high for the foreseeable future. GLWA's system long-term debt per capita totaled a high $1,272 for sewer and moderately high $667 for water for fiscal 2015."
>
> "The consolidated GLWA regional and DWSD local 2017-2021 capital improvement plans (CIPs) total $979 million for water and $779 million for sewer. While GLWA's CIPs for the regional water and sewer systems total just $752 million and $657 million, respectively, GLWA revenues fund the DWSD CIPs through the lease payments and debt issued for the local projects so the consolidated CIPs are factored into Fitch's analysis. Funding for the consolidated CIPs is expected to be provided from around 50% debt financing and 50% pay-go." [Note: combined analysis of DWSD and GLWA CIP and debt.]

Moody's Investors Service, September 30, 2016

> "Factors that Could Lead to an Upgrade
> » Sustained improvement in service area economic conditions, which may be indicated by more rapid labor market expansion and population growth

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

Factors that Could Lead to a Downgrade
» Renewed economic stress that pressures consumption and revenue trends
» Weakened liquidity and debt service coverage ratios
» Growth in leverage of the water utility's net revenue"

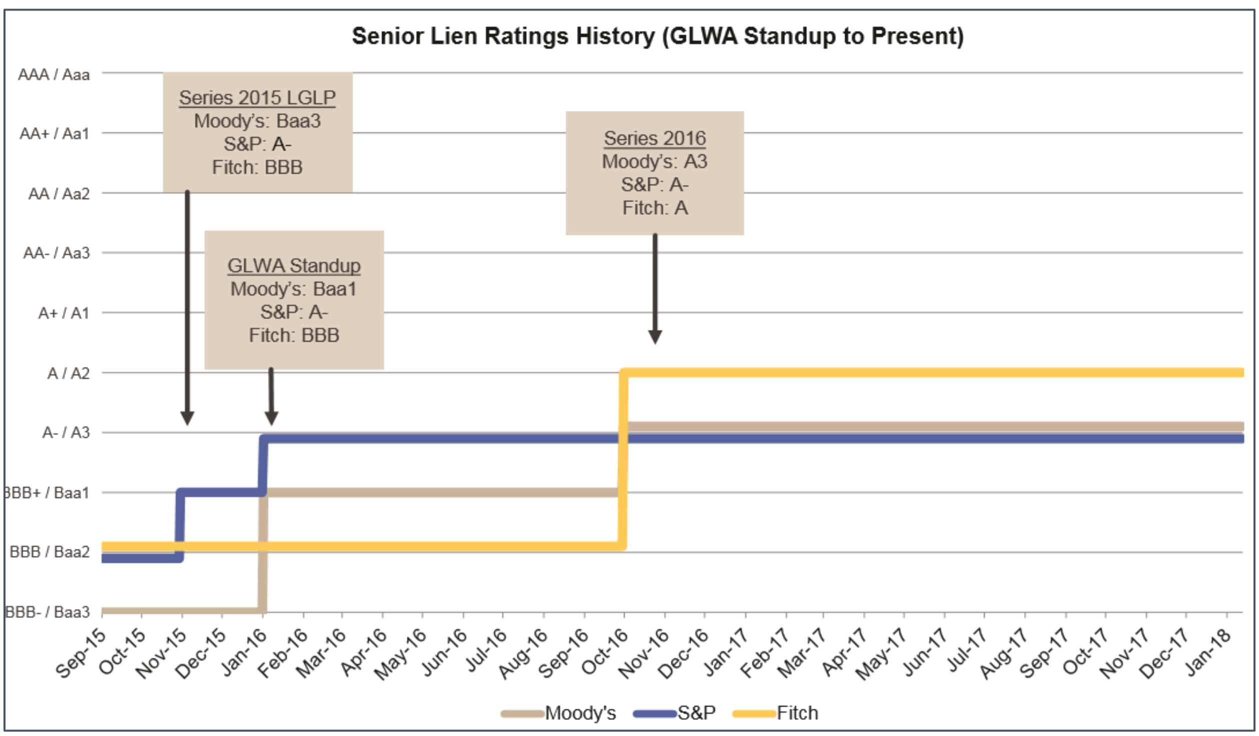
S&P, September 30, 2016

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

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

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

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



Source: PFM Financial Advisers, PLLC

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

Moody's[2]

Scoring on Moody's Municipal Utility Methodology

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

Fitch Ratings

GLWA Relative to Fitch Rating Category Medians

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

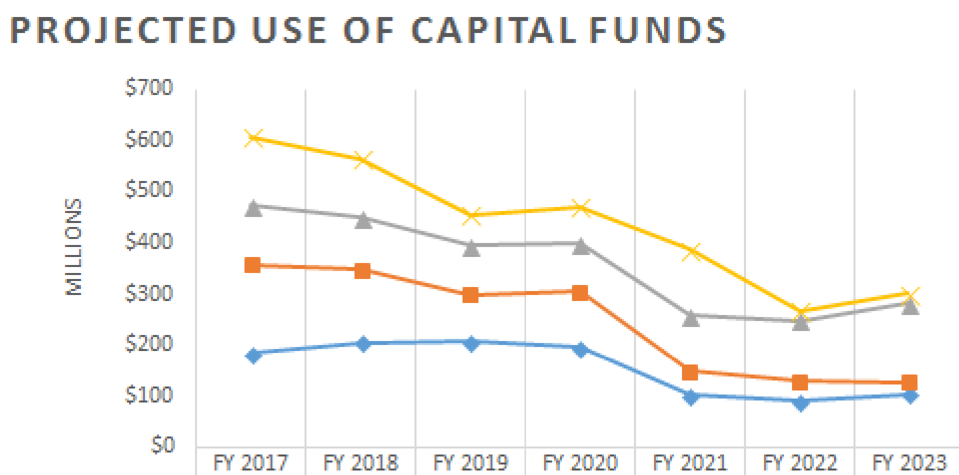
Source: Fitch Ratings, "2018 Water & Sewer Medians," December 6, 2017. GLWA data from GLWA draft financial statements and PFM records. GLWA data unaudited, as of FY17 unless otherwise noted.
Notes:
1. *US Census Bureau as of 2016. MHI represents Detroit-Windsor-Dearborn, MI MSA.*
2. *% CIP Debt Financed calculated based on Feasibility Consultant report prepared by The Foster Group as of October 14, 2016 and included in Series 2016 Official Statements. May differ from current GLWA projections.*

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

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

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

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



	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Sewer Construction Bond Fund	$136	$115	$61	$72	$130	$20	$19
Sewer Improvement & Extension	$115	$102	$96	$94	$108	$119	$154
Water Construction Bond Fund	$173	$143	$91	$110	$47	$41	$23
Water Improvement & Extension Fund	$184	$205	$208	$195	$102	$89	$104

PRELIMINARY PROJECTED YEAR END BALANCE

Part 3: Overarching Goal: Sustainability

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

Proposed Long-term Financial Plan Objectives to Achieve Financial Sustainability

1. **Risk Management:** Ensuring that there is sufficient liquidity to seek opportunities as well as address unforeseen and/or uncontrollable events.

2. **Affordability:** Appropriate level of fixed long-term commitments, controlled variable annual costs, and balancing the two to achieve intergenerational equity.

3. **Stability:** Anticipating annual budget variances and ensuring that charges are stable and predictable (i.e. prevents "rate shock").

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

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

Policy	Criteria	Example Measures
Risk Management		
Investment Policy[3] (Current policy and criteria)	Safety Liquidity Diversification Return	Credit Risk Days Cash Available Concentration of Maturities Treasury benchmarks
Debt Management Policy[4] (Current policy and criteria)	Refunding Savings	Refunding with no less than 2.5% present value savings
Debt Management Policy - New Criteria	Pay-as-you-go vs. long-term debt mix	**Proposed:** X% of five-year rolling average CIP and capital outlay funded by pay-as-you-go (i.e. I&E funding)
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[3] Board adopted policy, as amended on September 14, 2016, at http://www.glwater.org/wp-content/uploads/2016/01/Investment-Policy-Approved-by-GLWA-Board-9.14.16-FINAL.pdf

[4] Board policy, adopted on December 9, 2015, at http://www.glwater.org/wp-content/uploads/2016/01/012716-FINAL_Debt_Management_Policy_GLWA_December-4pw.pdf

Policy	Criteria	Example Measures
Debt Management Policy - Revised Criteria	Debt Service Coverage Minimum	**Current:** **Minimum (Rate Covenant)** Senior Lien: 120% Second Lien: 110% SRF Junior Lien and Pension Junior Lien: 100% **Proposed:**[5] Senior Lien: 2.0x Second Lien: 1.75x SRF Junior Lien and Pension Junior Lien: 1.60x All-in: 1.60x
Cash Management Policy (New)	Days Cash	**Proposed:** Construction Bond Fund: No less than six months projected cash flow Operations and Maintenance Fund: No less than 120 days Improvement & Extension Fund: Budgeted increase (annual revenue requirement) is not expended prior to July 1 of the subsequent year
Affordability		
Debt Management Policy - New Criteria	Debt service as a Percent of Revenue Requirement	**Proposed:** Debt service as no more than TBD% of five-year rolling financial plan
Debt Management Policy - New Criteria	Long-term Debt Per Capita (Regional and Local System)	**Proposed:** Long-term Debt Per Capita is at a “Moderate” level
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[5] Based upon analysis presented by The Foster Group at the February 23, 2018 Audit Committee, “GLWA Interim Budget to Actual Report – Preliminary FY 2018 Debt Service Calculations”.

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

Part 5: Testing the Policies and Criteria

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

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

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

Proposed GLWA Revenue Requirement Policy Matrix

<table>
<tr><th rowspan="6">Revenue Requirement</th><th colspan="2">Category</th><th>Near-term
Planning Parameters
(Current Five-Year Plan)</th><th>Long-term
Planning Parameters
(FY 2024+)</th></tr>
<tr><td colspan="2">O&M</td><td>By default, total revenue requirement less debt and capital funding parameters define the O&M parameters</td><td>Sufficiently managed to achieve the capital and revenue requirement parameters</td></tr>
<tr><td colspan="2">Debt Service and Debt Service Coverage Target</td><td>Debt Service no more than 45% of total revenue requirement

Senior Lien: 2.00x
Second Lien: 1.40x
SRF Junior Lien and Pension Junior Lien: 1.0x
All-in: 1.30x</td><td>Debt Service no more than 35% of total revenue requirement

Senior Lien: 2.0x
Second Lien: 1.75x
SRF Junior Lien and Pension Junior Lien: 1.60x
All-in: 1.60x

Debt per Capita at a Moderate Level</td></tr>
<tr><td rowspan="2">Debt Service Coverage</td><td>MBO Commitments</td><td rowspan="2">MBO items are fixed amounts/formulas

Minimum I&E at TBD% of rolling five-year capital program</td><td rowspan="2">MBO commitments decrease (i.e. GRS pension)

Minimum I&E at TBD% of rolling five-year capital program</td></tr>
<tr><td>I&E Contribution</td></tr>
<tr><td colspan="2">Total</td><td>No more than prior year plus 4% per through FY 2025[7]</td><td>No more than prior year plus 4% per policy</td></tr>
</table>

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

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

Part 6 – Additional Chart for Analysis

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

1. **<u>Illustrative</u>** key financial inputs.
2. Moody's Water Utility Scorecard

Next Steps

Next steps include the following.

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

Proposed Action: Receive and file report.

Amounts are Illustrative Only

Great Lakes Water Authority
Summary of Key Financial Plan Matters - Consideration of Policy Matters
DISCUSSION DRAFT - FY 2019 & FY 2020 Biennial Budget and Five Year Plan (FY 2019 thru FY 2023)
(Note: 4.15.2018 - revisions to this budget analysis from January 2018 presently being updated for MOU)

Line		Water FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
1	**Revenue Requirement Elements**						
2	**O&M**	$ 121,562,000	$ 125,311,800	$ 148,145,500	$ 151,587,200	$ 155,712,200	$ 150,153,200
3	***O&M Percent Change***		*3%*	*18%*	*2%*	*3%*	*-4%*
4	**Debt Service**	135,464,400	133,210,100	144,682,200	153,813,000	154,872,200	168,844,800
5	***Debt Service % Change***		*-2%*	*9%*	*6%*	*1%*	*9%*
6	**MBO Commitments**	*38,271,100*	38,134,300	38,061,900	38,173,500	37,939,500	32,589,500
7	***MBO Percent Change***		*0%*	*0%*	*0%*	*-1%*	*-14%*
8	**I&E**	32,821,200	38,024,900	17,178,700	18,417,300	27,946,700	39,941,900
9	***I&E Percent Change***		*16%*	*-55%*	*7%*	*52%*	*43%*
10	**Total**	**$ 328,118,700**	**$ 334,681,100**	**$ 348,068,300**	**$ 361,991,000**	**$ 376,470,600**	**$ 391,529,400**
11	***Percent Variance***		*2.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*
12	***Dollar Variance Overall Budget***		*$ 6,562,400*	*$ 13,387,200*	*$ 13,922,700*	*$ 14,479,600*	*$ 15,058,800*
13	***Dollar Variance - New Debt Service Over Five Year Plan***		*$ -*	*$ 5,000,000*	*$ 10,000,000*	*$ 14,850,000*	*$ 24,700,000*
14							
15	**Elements as a Percent**						
16	**O&M**	37.0%	37.4%	42.6%	41.9%	41.4%	38.4%
17	**Debt Service**	41.3%	39.8%	41.6%	42.5%	41.1%	43.1%
18	**MBO Commitments**	11.7%	11.4%	10.9%	10.5%	10.1%	8.3%
19	**I&E**	10.0%	11.4%	4.9%	5.1%	7.4%	10.2%
20	**Total**	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
21							
22	**Annual Capital Expenses Funded by I&E and/or Bonds**						
23	Construction Bond Expenses		66,038,000	137,583,000	155,734,000	178,300,000	175,174,000
24	Capital Outlay Expenses		22,133,400	18,763,000	18,705,300	9,363,300	7,400,800
25	***Total Annual Capital Expense***		***88,171,400***	***156,346,000***	***174,439,300***	***187,663,300***	***182,574,800***
26	***Five Year Average Capital Expense***		***157,839,000***	***157,839,000***	***157,839,000***	***157,839,000***	***157,839,000***
27							
28	**Debt**						
29	***New Debt Issuance***		-	145,000,000	-	140,000,000	145,000,000
30	***Five Year Average Debt New Debt Issuance***		***86,000,000***	***86,000,000***	***86,000,000***	***86,000,000***	***86,000,000***
31							
32	**Ending Cash Available for the Subsequent Year Capital Program**						
33	***Construction Bond Fund***		91,149,000	110,237,000	47,476,000	40,708,000	23,041,000
34	***I&E Fund***		207,514,600	194,721,300	101,868,300	88,821,700	103,655,800
35	***Fiscal Year End Balance***		***298,663,600***	***304,958,300***	***149,344,300***	***129,529,700***	***126,696,800***
36							
37	**Annual I&E Contribution to Fund Five-Year Average Capital Plan**		***24.1%***	***10.9%***	***11.7%***	***17.7%***	***25.3%***
38	***Five Year Average Overall***						***18%***
	Simplified Debt Service Coverage*		***1.57***	***1.38***	***1.37***	***1.43***	***1.43***

****Local System Lowers DSC by TBD***

Amounts are Illustrative Only

Great Lakes Water Authority

Summary of Key Financial Plan Matters - Consideration of Policy Matters

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

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

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

****Local System Lowers DSC by TBD***

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

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

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

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

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

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