



# Sewage Disposal Fund

*Fiscal Year Ended June 30, 2018*

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



**GLWA**  
*Great Lakes Water Authority*

*Prepared by Great Lakes Water Authority Financial Services*

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# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

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## INDEPENDENT AUDITORS' REPORT

December 14, 2018

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

### Report on the Financial Statements

We have audited the accompanying financial statements of the Sewage Disposal Fund (the "Fund") of the *Great Lakes Water Authority* (the "Authority") as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Fund's basic financial statements as listed in the table of contents.

#### *Management's Responsibility for the Financial Statements*

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

#### *Independent Auditors' Responsibility*

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

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

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

### *Opinion*

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Sewage Disposal Fund of the Great Lakes Water Authority as of June 30, 2018, and the changes in financial position and cash flows thereof for the year then ended in conformity with accounting principles generally accepted in the United States of America.

### *Reporting Entity*

As discussed in Note 1, the financial statements present only the Sewage Disposal Fund and do not purport to, and do not, present fairly the financial position of the Great Lakes Water Authority as of June 30, 2018, and the changes in its financial position and its cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

### *Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Fund's basic financial statements. The pension plan information, combining and individual fund schedules, and statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The pension plan information, combining and individual fund schedules, and statistical section are the responsibility of management and have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

### *Other Reporting Required by Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued, under separate cover, our report dated December 14, 2018 on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.

A handwritten signature in black ink that reads "Lehmann Lobman LLC". The signature is written in a cursive, flowing style.

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# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Statement of Net Position

June 30, 2018

With Comparative Amounts at June 30, 2017

	2018	2017
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 199,056,556	\$ 203,748,704
Restricted cash and cash equivalents	54,832,050	72,213,813
Investments	9,506,712	1,430,608
Restricted investments	31,790,386	31,371,834
Receivables:		
Billed	50,439,450	52,234,778
Unbilled	25,200,108	24,279,170
Other	3,723,036	3,157,050
Allowance for doubtful accounts	(32,863,001)	(30,410,232)
Due from other governments	24,339,106	29,461,328
Due from water fund	3,447,927	-
Contractual obligation receivable, current portion	11,253,800	11,262,300
Loan receivable - DWSD	9,367,355	-
Prepaid items and other assets	1,683,659	1,089,521
Inventories	8,471,626	8,509,454
Total current assets	<u>400,248,770</u>	<u>408,348,328</u>
Noncurrent assets:		
Restricted cash and cash equivalents	30,001,353	128,378,837
Restricted investments	143,261,763	81,177,748
Contractual obligation receivable	335,574,500	346,828,300
Loan receivable - DWSD	19,932,645	-
Prepaid lease	13,750,000	13,750,000
Assets not subject to depreciation	271,362,100	278,286,118
Capital assets being depreciated, net	2,485,098,172	2,591,023,442
Prepaid insurance on debt	16,931,255	18,581,897
Total noncurrent assets	<u>3,315,911,788</u>	<u>3,458,026,342</u>
Total assets	<u>3,716,160,558</u>	<u>3,866,374,670</u>
Deferred outflows of resources		
Deferred charge on refunding	186,544,140	198,351,942
Deferred pension amounts	33,369,917	38,462,972
Total deferred outflows of resources	<u>219,914,057</u>	<u>236,814,914</u>

continued...

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Statement of Net Position

June 30, 2018

With Comparative Amounts at June 30, 2017

	2018	2017
<b>Liabilities</b>		
Current liabilities:		
Accounts and contracts payable	\$ 34,077,602	\$ 27,546,558
Other accrued liabilities	-	898,800
Due to other governments	47,539	35,848,573
Due to water fund	330,293	-
Interest payable	41,108,994	41,011,198
Current portion of:		
Long-term debt	61,186,207	65,920,307
Lease payable	5,884,359	5,644,435
Obligation payable	377,419	359,448
Accrued compensated absences	717,086	679,260
Claims and judgments	334,392	3,852,062
Total current liabilities	<u>144,063,891</u>	<u>181,760,641</u>
Noncurrent liabilities:		
Long-term debt	3,168,566,028	3,236,016,730
Long-term lease payable	515,153,064	521,037,424
Obligation payable	38,458,178	38,835,597
Claims and judgments	7,500,000	187,500
Other noncurrent liabilities	6,003,540	5,983,201
Net pension liability	114,810,555	124,506,503
Total noncurrent liabilities	<u>3,850,491,365</u>	<u>3,926,566,955</u>
Total liabilities	<u>3,994,555,256</u>	<u>4,108,327,596</u>
Deferred inflows of resources		
Deferred amounts for swap terminations	189,808	214,393
Deferred gain on refunding	46,654,836	49,257,784
Deferred pension amounts	<u>12,994,118</u>	<u>11,750,654</u>
Total deferred inflows of resources	<u>59,838,762</u>	<u>61,222,831</u>
Net position		
Net investment in capital assets	289,946,091	393,956,399
Restricted for debt service	101,996,536	107,931,677
Restricted for capital acquisition	102,506,361	150,930,508
Restricted for payment assistance program	3,308,896	3,117,744
Unrestricted deficit	<u>(616,077,287)</u>	<u>(722,297,171)</u>
Total net position	<u>\$ (118,319,403)</u>	<u>\$ (66,360,843)</u>

concluded.

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Statement of Revenues, Expenses and Changes in Fund Net Position

For the Year Ended June 30, 2018

With Comparative Amounts for the Year Ended June 30, 2017

	2018	2017
Operating revenues		
Wholesale customer charges	\$ 268,978,831	\$ 263,311,745
Industrial waste charges	14,334,979	14,381,106
Pollutant surcharges	6,908,404	5,206,294
Local system charges	178,969,200	187,304,100
Bad debt recovery	-	35,065,030
Other revenues	4,391,145	538,807
	<hr/>	<hr/>
Total operating revenues	473,582,559	505,807,082
Operating expenses		
Operating expenses before depreciation:		
Personnel	53,680,162	47,894,911
Contractual services	64,082,761	55,878,440
Utilities	26,823,299	27,191,866
Chemicals	8,073,045	9,424,428
Supplies and other expenses	24,982,773	12,180,128
Capital program allocation	(969,671)	(1,150,316)
Shared services allocation	(292,965)	(101,191)
Total operating expenses before depreciation	<hr/>	<hr/>
	176,379,404	151,318,266
Depreciation	<hr/>	<hr/>
	187,250,583	185,628,465
Total operating expenses	<hr/>	<hr/>
	363,629,987	336,946,731
Operating income	<hr/>	<hr/>
	109,952,572	168,860,351
Nonoperating revenues (expenses)		
Earnings on investments	5,266,255	2,209,872
Interest on obligations receivable	15,505,300	17,062,678
Interest expense	(161,052,102)	(159,157,152)
Costs of issuance and amortization of debt related items	(5,153,300)	(17,340,200)
Legacy pension expense	(15,988,471)	(4,504,230)
WRAP (Water Residential Assistance Program)	(2,248,980)	(1,243,006)
Other	(709,537)	(455,970)
Gain (loss) on disposal of capital assets	2,469,703	(42,926)
	<hr/>	<hr/>
Total nonoperating expenses	(161,911,132)	(163,470,934)
Income (loss) before contributions and special item	<hr/>	<hr/>
	(51,958,560)	5,389,417
Capital contributions	-	320,707
Special item - memorandum of understanding with DWSD	<hr/>	<hr/>
	-	(61,478,682)
Change in net position	<hr/>	<hr/>
	(51,958,560)	(55,768,558)
Net position (deficit), beginning of year	<hr/>	<hr/>
	(66,360,843)	(10,592,285)
Net position (deficit), end of year	<hr/>	<hr/>
	\$ (118,319,403)	\$ (66,360,843)

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Statement of Cash Flows

For the Year Ended June 30, 2018

With Comparative Amounts for the Year Ended June 30, 2017

	2018	2017
Cash flows from operating activities		
Cash received from customers	\$ 469,355,447	\$ 442,192,805
Cash payments to suppliers for goods and services	(120,179,052)	(86,191,651)
Cash payments for employee services	(52,672,665)	(70,409,689)
Cash received (paid) for interfund services	(3,117,634)	65,971
Cash received for DWSD budget stabilization	-	(91,800)
Cash payments to other governments for:		
MOU and bifurcation liabilities	(30,924,662)	-
B&C obligation payable	(6,832,237)	-
Cash payments for WRAP	(2,248,980)	(1,243,006)
Cash payments for GLWA share pension agreement	(20,475,400)	(20,475,400)
Cash received for DWSD nonoperating pension	3,370,621	3,062,248
Cash paid for DWSD nonoperating pension	(4,095,900)	(2,546,600)
Cash received for DWSD WRAP	369,000	354,800
Cash payments for DWSD WRAP	(348,661)	(192,492)
Cash received (paid) for DWSD budgetary excess (shortfall)	(18,480,620)	27,523,149
Nonoperating cash received (paid)	(867)	(10,718)
Cash payments from fire remediation for operations	3,685,867	-
Principal payments received on obligation receivable	11,262,300	4,288,922
Interest received on obligation receivable	15,505,300	17,062,678
Net cash provided by operating activities	<u>244,171,857</u>	<u>313,389,217</u>
Cash flows from capital and related financing activities		
Proceeds from fire remediation	200,533	5,000,000
Proceeds from long-term refunding debt	-	482,467,729
Payment to bond refunding escrow agent	-	(505,629,823)
Proceeds from state revolving fund loans	34,750,504	22,216,294
(Payments) returns of bond issuance costs	45,000	(2,520,484)
Principal payments on bonds	(102,350,000)	(89,045,000)
Principal payments on lease	(5,644,435)	(5,414,293)
Interest payments	(158,310,595)	(164,865,242)
Purchase of capital assets	(67,808,804)	(55,206,526)
Net cash used in capital and related financing activities	<u>(299,117,797)</u>	<u>(312,997,345)</u>

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## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Statement of Cash Flows

For the Year Ended June 30, 2018

With Comparative Amounts for the Year Ended June 30, 2017

	2018	2017
Cash flows from investing activities		
Investment purchases	\$ (453,549,077)	\$ (290,767,815)
Investment maturities	383,480,724	300,005,179
Interest received	4,562,898	1,967,971
	<u>(65,505,455)</u>	<u>11,205,335</u>
Net cash provided by (used in) investing activities	(65,505,455)	11,205,335
Net change in cash and cash equivalents	(120,451,395)	11,597,207
Cash and cash equivalents, beginning of year	404,341,354	392,744,147
Cash and cash equivalents, end of year	<u>\$ 283,889,959</u>	<u>\$ 404,341,354</u>
Statement of net position classification of cash		
Cash and cash equivalents	\$ 199,056,556	\$ 203,748,704
Restricted cash and cash equivalents	54,832,050	72,213,813
Noncurrent restricted cash and cash equivalents	30,001,353	128,378,837
	<u>\$ 283,889,959</u>	<u>\$ 404,341,354</u>

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# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Statement of Cash Flows

For the Year Ended June 30, 2018

With Comparative Amounts for the Year Ended June 30, 2017

	2018	2017
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	\$ 109,952,572	\$ 168,860,351
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	187,250,583	185,628,465
Miscellaneous nonoperating income (expense)	(867)	(10,718)
Legacy pension expense and administrative fee	(16,697,141)	(4,949,482)
WRAP (Water Residential Assistance Program)	(2,248,980)	(1,243,006)
Interest income on contractual obligation receivable	15,505,300	17,062,678
Interest expense on obligation payable	(1,596,417)	(1,614,602)
Special item	-	(61,478,682)
Changes in:		
Receivables:		
Billed	1,795,328	(4,187,844)
Unbilled	(920,938)	(1,241,779)
Other (excludes capital item)	1,709,309	84,591,939
Allowance for doubtful accounts	2,452,769	(68,558,398)
Due from other governments	(24,177,778)	36,740,815
Due from other funds	11,262,300	65,971
Contractual obligation receivable	(3,447,927)	13,241,150
Prepaid items and other assets (excludes investing item)	(401,099)	(587,000)
Inventories	37,828	1,474,609
Prepaid lease	-	(13,750,000)
Accounts and contracts payable (excludes capital items)	(67,562)	(6,781,318)
Other accrued liabilities (excludes capital items)	(898,800)	318,512
Due to other governments (excludes non-capital financing)	(35,801,034)	11,623,560
Due to other funds	330,293	-
Obligation payable including accrued interest	(359,448)	(342,331)
Accrued compensated absences	37,826	224,630
Accrued workers' compensation	-	(4,781,103)
Claims and judgments	3,794,830	(22,144,038)
Other noncurrent liabilities	20,339	70,508
Net pension liability and deferred items	(3,359,429)	(14,843,670)
Net cash provided by operating activities	<u>\$ 244,171,857</u>	<u>\$ 313,389,217</u>

concluded.

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

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## NOTES TO FINANCIAL STATEMENTS

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

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

The Sewage Disposal Fund (the "Fund"), an enterprise fund of the Authority, separately accounts for the portion of the Sewage Disposal System (the "System") that it operates. The System is one of the largest in the United States, both in terms of treatment capacity and population served. It currently serves an area of 944 square miles located in three Michigan counties and an estimated population of nearly 2.8 million or approximately 28% of Michigan's population. Suburban customers comprise approximately 77% of the population served by the System; retail sewer customers comprise the remainder served by the Authority.

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

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

#### Reporting Entity

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

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### *Basis of Accounting*

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

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

### *Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position*

#### *Cash Deposits and Investments*

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

Investments are stated at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments, and are discounted at prevailing interest rates for similar instruments. Investments that do not have established market values are reported at estimated fair value. Cash deposits are reported at carrying amounts, which reasonably approximates fair value.

State statutes authorize deposits in the accounts of federally insured banks, credit unions and savings and loan associations and investments in obligations of the U.S. Treasury, certain commercial paper, repurchase agreements, bankers' acceptances and mutual funds composed of otherwise legal investments. The Authority also maintains and adheres to a formal investment policy in accordance with Michigan Public Act 20 of 1943 *Investment Surplus Funds of Political Subdivisions*.

#### *Restricted Assets*

Restricted assets are those assets set aside as required by the Authority's Master Bond Ordinance ("MBO"). See Note 4 for further details.

#### *Unbilled Revenue*

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

#### *Contractual Obligation Receivable*

Pursuant to the Water and Sewer Services Agreement between the City and Authority, the City is responsible for paying the portion of debt service on the bonds assumed by the Authority that were issued to finance the cost of improvements to the Detroit local facilities. Hence, the "receivable" recorded by the Fund on the "contractual obligation" of the City to the Authority. Any new debt issued on behalf of DWSD is also included in the contractual obligation receivable.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### *Prepaid Items and Other Assets*

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in the financial statements.

### *Inventories*

Inventories consist of operating, maintenance and repair parts for sewage assets and are valued at the lower of cost or market, with cost being determined on an average cost method. Inventory is recorded as expense when consumed rather than when purchased. The water fund does not report inventory because the amounts are insignificant and for efficiency are recorded in the sewage disposal fund. Any inventory usage by the water fund is charged through an interfund payable to the sewage disposal fund.

### *Prepaid Lease*

As described in Note 12, the Fund has recorded a prepaid lease for cash paid to DWSD on the date GLWA began operations equivalent to six months of lease payments. As noted in the 2018 Memorandum of Understanding (MOU), dated June 2018, this will be applied at the end of the 40 year term and, hence, it is classified as a noncurrent asset.

### *Capital Assets*

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

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

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

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### *Deferred Outflows of Resources*

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to future periods and so will not be recognized as an outflow of resources (or expense) until then. The Fund reports deferred outflows of resources for two items: deferred charges on refunding and pension amounts. Deferred charges on refunding results from the difference in the carrying value of refunded debt and its reacquisition price; these amounts are deferred and amortized over the shorter of the life of the refunded or refunding debt. Deferred outflows of resources from pension amounts relate to the net pension liability. A portion of these costs represent contributions to the plan subsequent to the plan measurement date. More detailed information on pension amounts can be found in Note 15.

### *Long-term Obligations*

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

### *Obligation Payable*

Under the terms of the lease agreements with the City, the Fund is required to pay a portion of the City's B notes and C notes allocated to the regional water and sewer systems. See "Obligation Payable-City of Detroit 2014 Financial Recovery Bonds" in Note 10.

### *Leases Payable*

The effective date of the leases by the City to the Authority for the leased water and sewer facilities was January 1, 2016. See Note 12 for the details of the leases.

### *Compensated Absences*

The Authority has a paid time off (PTO) policy which has an annual accrual period ending September 30 each year. Employees are allowed to carry over a maximum bank of 80 hours to the next accrual period. Balances greater than 80 hours up to a maximum of 160 hours shall be converted to the retiree health saving program at 50% of the value of the PTO time. Hours in excess of 160 hours are forfeited if unused by September 30 of each accrual period. The accrued compensated absences for PTO accrual are approximately \$717,000 for the Fund on June 30, 2018.

The Authority also has an accrued compensated absence liability assumed on January 1, 2016 relating to the accumulated unpaid vacation and sick leave balances for those employees who retired from the City or resigned from the City and accepted employment with the Authority on January 1, 2016. The June 30, 2018 balance of the accrued compensated absences for the liability assumed on January 1, 2016 is approximately \$2,644,000 of which \$469,000 is current. This liability is recorded in the Water Fund as the disbursements for payment will be processed from there with reimbursement from the Fund. The accrued compensated absences includes the employers' share of Social Security and Medicare taxes.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### *Bond Premiums, Discounts, and Deferred Amounts on Refunding*

Bond premiums, discounts, and gains or losses on refunding are deferred and amortized over the life of the bonds. Bond premiums and discounts are amortized using the effective interest method, and deferred amounts on refunding are amortized using the straight-line method. Bonds payable are reported net of the applicable bond premium and discounts. Deferred amounts on refunding are reported as deferred outflows and deferred inflows of resources.

### *Deferred Inflows of Resources*

In addition to liabilities, the statement of net position includes a separate section for deferred inflows of resources. This separate financial statement element represents an acquisition of net position that applies to future periods. At that time, the activity will be recognized as an inflow of resources (or revenues). The Fund has included the deferred amounts on swap terminations, deferred gain on refunding and pension inflows in this reporting category. The deferred amounts on swap terminations were assumed as part of the lease agreements with the City. The amounts will be fully amortized for both funds by fiscal 2036. Deferred gain on refunding results from the difference in the carrying value of refunded debt and its reacquisition price; these amounts are deferred and amortized over the shorter of the life of the refunded or refunding debt. Deferred pension inflows result when there is a change in total pension liability due to benefit changes, differences between expected and actual experience, changes in actuarial assumptions, or differences between expected and actual investment returns. The amount for the changes in actuarial assumptions is deferred and amortized over the estimated remaining service life. The amount for the difference between actual and projected assumptions in investment earnings is deferred and amortized over five years.

### *Net Position*

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

*Net Investment in Capital Assets* - consists of capital assets, net of accumulated depreciation, and related debt.

*Restricted* - consists of amounts that are legally restricted by outside parties or by law through constitutional provisions or enabling legislation.

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

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

### *Classification of Revenues and Expenses*

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

Operating revenues are those revenues generated from providing services in connection with the Fund's principal ongoing operations. The principal operating revenues of the Fund are wholesale charges for providing wastewater treatment. The local system charges are the wholesale charges to the City of Detroit under the Water and Sewer Services Agreement. Wholesale customer charges are shown net of bad debt expense of \$2,452,769 for the Fund.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

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

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

### *Taxes*

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

### *Interest Income on Obligations Receivable*

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

### *Centralized Services and Administrative Services*

Various common costs incurred by the Authority are allocated between the water and sewer funds. The allocations are based on an annual cost allocation analysis and may change from year to year based upon that analysis. The following table shows the allocation of these common costs for the year ended June 30, 2018:

Common Costs	Water % Allocation	Water Allocation	Sewer % Allocation	Sewer Allocation	Total Common Costs
Centralized services	43.4%	\$ 35,404,225	56.6%	\$ 46,200,320	\$ 81,604,545
Administrative services	42.9%	11,527,546	57.1%	15,332,770	26,860,316

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

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

### *Use of Estimates*

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

### *Reclassifications*

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### 2. BUDGETARY INFORMATION

The financial activity of the Fund is presented in an enterprise fund, which is not required under State statutes to adopt an appropriated budget. Budget to actual schedules for revenues and expenses are presented in the other supplementary information section of this report. These schedules are not required by GAAP or subject to audit procedures. It is presented strictly for informational purposes.

#### *Budget Process*

GLWA is required by its Articles of Incorporation to adopt a two-year budget for the regional sewer system. The budgeted expenses shall equal the sum of the revenue requirement, including the following for the regional sewer system: a) operation and maintenance expenses; b) amounts necessary to pay the principal of and interest on all bonds and to restore any reserves therefor established in the Master Bond Ordinance; c) the lease payment, which shall be a common-to-all charge; d) GLWA portions of the net pension liability and the B&C obligation payable; e) the amount necessary to be deposited to the Water Residential Assistance Program (WRAP) Fund, which shall be a common-to-all charge equal to 0.5% of the base budgeted operating revenues for the regional sewer systems for each fiscal year; f) the amounts needed to make the required deposits to the regional Extraordinary Repair and Replacement Reserve Fund and the regional Improvement and Extension Fund as defined in the Master Bond Ordinance; and g) the amount necessary to satisfy the coverage ratios required by the rate covenant in the Master Bond Ordinance.

As provided in the leases, through the fiscal year ending June 30, 2025, the sewer system is assumed to experience annual increases in the regional revenue requirement of not more than 4%. This limitation shall not be applicable, however, if the regional revenue requirement must increase beyond the 4% assumption in order to satisfy the rate covenant or to pay the cost of improvements to the leased sewer facilities that are required to be made by applicable laws.

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

#### *Schedule of Charges Process*

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

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### 3. CASH DEPOSITS AND INVESTMENTS

The deposits and investments of the Fund at June 30, 2018 are reported in the basic financial statements as follows:

#### Statement of Net Position

Cash and cash equivalents	\$ 199,056,556
Restricted cash and cash equivalents	54,832,050
Investments	9,506,712
Restricted investments	31,790,386
Noncurrent restricted cash and cash equivalents	30,001,353
Noncurrent restricted investments	<u>143,261,763</u>

Total	<u><u>\$ 468,448,820</u></u>
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#### Cash Deposits and Investments

Bank deposits - checking and savings accounts	\$ 30,172,238
Money market accounts	253,717,721
Investments in securities	<u>184,558,861</u>

Total	<u><u>\$ 468,448,820</u></u>
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*Custodial Credit Risk - Deposits and Money Market Accounts.* Deposits and money market accounts are exposed to custodial credit risk if they are not covered by depository insurance. At year-end, the carrying amount of the Fund's deposits and money market accounts was \$283,889,959. The bank balance of the Fund's deposits and money markets was \$283,050,764 of which \$260,963,021 was uninsured and uncollateralized.

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

*Custodial Credit Risk - Investments.* Following is a summary of the Fund's investments as of June 30, 2018:

U.S. treasury notes	\$ 129,268,053
U.S. government agencies	35,659,724
Commercial paper	<u>19,631,084</u>
Total	<u><u>\$ 184,558,861</u></u>

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

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

As of June 30, 2018, all of the Fund's investments in securities of U.S. agencies were rated AA+ by Standard & Poor's and Aaa by Moody's. The Fund's commercial paper was rated A1 by Standard & Poors and P1 by Moody's. U.S treasury securities are explicitly guaranteed by the U.S. government and not considered to have credit risk. The Fund's money market accounts were not rated.

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

At June 30, 2018, the Fund had greater than 5% of its total investment portfolio concentrated as follows:

Investment Type	Issuer	% of Portfolio
U.S. government agencies	Federal Home Loan Bank	5.6%
U.S. government agencies	Federal National Mortgage Association	8.1%
U.S. government agencies	Federal Home Loan Mortgage Company	5.6%

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

As of June 30, 2018, the Fund's fixed income investments had the following maturities:

	< 1 year	1 - 5 years	Total
U.S. treasury notes	\$ 98,858,779	\$ 30,409,274	\$ 129,268,053
U.S. government agencies	20,691,497	14,968,227	35,659,724
Commercial paper	19,631,084	-	19,631,084
Totals	<u>\$ 139,181,360</u>	<u>\$ 45,377,501</u>	<u>\$ 184,558,861</u>

*Fair Value Measurements* - The Fund categorizes investments measured at fair value within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the assets. Level 1 inputs are quoted at prices in active markets for identical assets; Level 2 inputs are observable for the asset or liability, such as interest rates and yield curves observable at commonly quoted intervals; and Level 3 inputs are unobservable in the market and are the least reliable. The Fund had the following fair value measurements as of June 30, 2018:

	Level 1	Level 2	Total
Investments by fair value level:			
U.S. treasury notes	\$ 129,268,053	\$ -	\$ 129,268,053
U.S. government agencies	-	35,659,724	35,659,724
Commercial paper	-	19,631,084	19,631,084
Totals	<u>\$ 129,268,053</u>	<u>\$ 55,290,808</u>	<u>\$ 184,558,861</u>

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### 4. RESTRICTED ASSETS

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

The following schedules provide, in the order of the flow of funds per the Master Bond Ordinance, the assignment of sewage disposal fund cash and investments between restricted and unrestricted assets based on the source of the monies as of June 30, 2018.

	Funded from Revenue		Funded from Debt Issuance	
	Unrestricted	Restricted	Restricted	Total
Receiving fund	\$ 24,905,202	\$ -	\$ -	\$ 24,905,202
Operations and maintenance	77,177,762	8,024,414	-	85,202,176
Senior lien debt service	-	37,718,807	-	37,718,807
Senior lien bond reserve	-	-	143,404,305	143,404,305
Second and junior lien debt service	-	40,590,259	-	40,590,259
Second and junior lien debt reserve	-	-	71,643,990	71,643,990
Pension obligation	-	288,956	-	288,956
Water residential assistance program (WRAP)	-	3,812,436	-	3,812,436
Budget stabilization	-	5,000,000	-	5,000,000
Extraordinary repair and replacement	44,027,511	-	-	44,027,511
Improvement and extension - regional	62,452,793	-	-	62,452,793
Subtotal - reserves defined by ordinance	208,563,268	95,434,872	215,048,295	519,046,435
Less: funded by surety (non-cash)	-	-	(150,251,830)	(150,251,830)
Total - reserves defined by ordinance (net of surety coverage)	208,563,268	95,434,872	64,796,465	368,794,605
Unspent construction bond proceeds	-	-	99,654,215	99,654,215
Total cash, cash equivalents and investments	<u>\$ 208,563,268</u>	<u>\$ 95,434,872</u>	<u>\$ 164,450,680</u>	<u>\$ 468,448,820</u>

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

Restricted assets from schedule above:	
From revenue	\$ 95,434,872
From debt issuance	164,450,680
Amounts payable to liabilities	(52,073,759)
Restricted net position	<u>\$ 207,811,793</u>
Restricted net position for:	
Debt service	\$ 101,996,536
Capital acquisition	102,506,361
Payment assistance program	3,308,896
	<u>\$ 207,811,793</u>

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

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

	Unrestricted	Restricted Current	Restricted Noncurrent	Total
Cash and cash equivalents	\$ 199,056,556	\$ 54,832,050	\$ 30,001,353	\$ 283,889,959
Investments	9,506,712	31,790,386	143,261,763	184,558,861
Totals	<u>\$ 208,563,268</u>	<u>\$ 86,622,436</u>	<u>\$ 173,263,116</u>	<u>\$ 468,448,820</u>

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

### 5. DUE FROM OTHER GOVERNMENTS

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

Budgetary shortfall advance	\$ 18,468,427
Wayne County 2017 tax settlement	<u>5,870,679</u>
	<u>\$ 24,339,106</u>

### 6. LOAN RECEIVABLE - DWSD

Under the terms of the WSSA, dated June 12, 2015, and the 2018 MOU, dated June 27, 2018, if DWSD experiences a cumulative negative variance of more than two percent (2%) of the total budget for either local system (a "budget shortfall") from its budget adopted, DWSD, as the agent of GLWA, shall, within thirty (30) days thereafter, schedule a meeting of the Reconciliation Committee to discuss a remedy for the shortfall.

In accordance with the 2018 MOU, dated June 27, 2018, budget shortfalls not cured by the end of the fiscal year following the year in which they arise shall be repaid in full, in installments, over a period not to exceed the next three fiscal years, plus a surcharge calculated as provided below, as part of the revenue requirement payable by DWSD. The surcharge factor on the portion of the budget shortfall for the sewage disposal fund which remains unpaid of \$29,300,000 at June 30, 2018 shall be based on the three-year U.S. treasury note rate of 2.63%, plus 150 basis points for a total of 4.13%.

The balance of the loan receivable to be paid by DWSD is as follows:

Year Ended June 30,	Principal	Interest	Total
2019	\$ 9,367,355	\$ 1,032,800	\$ 10,400,155
2020	9,761,148	639,000	10,400,148
2021	<u>10,171,497</u>	<u>228,700</u>	<u>10,400,197</u>
	<u>\$ 29,300,000</u>	<u>\$ 1,900,500</u>	<u>\$ 31,200,500</u>

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### 7. INTERFUND RECEIVABLES AND PAYABLES

Interfund balances result from the time lag between the dates interfund goods and services are provided or reimbursable expenditures occur and the payment between funds are made.

### 8. CAPITAL ASSETS

Capital assets activity for the year ended June 30, 2018 was as follows:

	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
Nondepreciable capital assets:					
Land	\$ 28,733,333	\$ -	\$ -	\$ 251,300	\$ 28,984,633
Easements	96,211,323	-	-	-	96,211,323
Construction in progress	153,341,462	71,000,089	-	(78,175,407)	146,166,144
Total nondepreciable assets	278,286,118	71,000,089	-	(77,924,107)	271,362,100
Depreciated capital assets:					
Site improvements	36,278,911	-	-	2,305,901	38,584,812
Buildings and structures	1,077,473,004	248,710	-	55,639,989	1,133,361,703
Infrastructure	597,177,020	-	-	-	597,177,020
Machinery and equipment	1,149,389,092	2,676,212	(15,611)	18,732,247	1,170,781,940
Vehicles	2,025,964	364,562	(61,610)	-	2,328,916
Leasehold improvements	-	117,851	-	1,245,970	1,363,821
Total depreciable assets	2,862,343,991	3,407,335	(77,221)	77,924,107	2,943,598,212
Less accumulated depreciation:					
Site improvements	(10,193,024)	(6,796,166)	-	-	(16,989,190)
Buildings and structures	(79,843,471)	(53,485,133)	-	-	(133,328,604)
Infrastructure	(20,711,216)	(13,810,373)	-	-	(34,521,589)
Machinery and equipment	(159,722,384)	(112,681,684)	9,482	-	(272,394,586)
Vehicles	(850,454)	(469,621)	61,610	-	(1,258,465)
Leasehold improvements	-	(7,606)	-	-	(7,606)
Total accumulated depreciation	(271,320,549)	(187,250,583)	71,092	-	(458,500,040)
Total capital assets being depreciated, net	2,591,023,442	(183,843,248)	(6,129)	77,924,107	2,485,098,172
Total capital assets	\$ 2,869,309,560	\$ (112,843,159)	\$ (6,129)	\$ -	\$2,756,460,272

Capital assets were evaluated during the year to determine if any asset impairments exist, defined as a significant, unexpected decline in the service utility of a capital asset. The Fund did not have any significant impairments for the year.

### 9. DUE TO OTHER GOVERNMENTS

Due to other governments, which consists entirely of amounts due to the City of Detroit for 2018 MOU inspection fees, was \$47,539.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

#### 10. LONG-TERM DEBT

Changes in long-term debt and accrued compensated absences for the year ended June 30, 2018 were as follows:

	Beginning Balance	Increase	Decrease	Ending Balance	Amount due within one year
Revenue bonds	\$2,636,510,000	\$ -	\$ (52,445,000)	\$ 2,584,065,000	\$ 7,555,000
Capital appreciation bonds	22,815,000	-	(5,565,000)	17,250,000	2,470,000
State revolving loans	485,267,036	34,750,504	(44,340,000)	475,677,540	45,915,000
Total installment debt	3,144,592,036	34,750,504	(102,350,000)	3,076,992,540	55,940,000
Discount on capital appreciation bonds	(3,313,263)	-	1,047,305	(2,265,958)	(863,930)
Deferred amounts for:					
Unamortized premiums	272,803,640	-	(17,944,003)	254,859,637	17,199,177
Unamortized discounts	(112,145,376)	-	12,311,392	(99,833,984)	(11,089,040)
Total debt, net	3,301,937,037	34,750,504	(106,935,306)	3,229,752,235	61,186,207
Compensated absences	679,260	488,748	(450,922)	717,086	717,086
<b>Totals</b>	<b>\$3,302,616,297</b>	<b>\$ 35,239,252</b>	<b>\$ (107,386,228)</b>	<b>\$ 3,230,469,321</b>	<b>\$ 61,903,293</b>

As of June 30, 2018, aggregate debt service requirements of the Fund's debt (fixed and variable-rate) instruments were as follows. These amounts assume that current interest rates on variable-rate bonds will remain the same for their respective terms. As these rates vary, interest payments on variable-rate bonds will vary.

Year Ended June 30,	Principal	Interest	Total
2019	\$ 55,940,000	\$ 110,187,959	\$ 166,127,959
2020	108,155,000	132,399,241	240,554,241
2021	113,580,000	128,371,601	241,951,601
2022	112,450,000	124,259,188	236,709,188
2023	122,879,430	119,734,928	242,614,358
2024-2028	643,823,758	519,019,867	1,162,843,625
2029-2033	746,374,048	370,842,380	1,117,216,428
2034-2038	791,455,304	192,377,557	983,832,861
2039-2043	317,830,000	43,526,669	361,356,669
2044-2045	64,505,000	3,259,375	67,764,375
	<u>\$3,076,992,540</u>	<u>\$1,743,978,765</u>	<u>\$ 4,820,971,305</u>

For bonds issued through the Michigan Finance Authority (MFA) in 2014 and 2015, the Authority is required to make payment on these obligations to the MFA depository account five business days prior to the actual due date of the bond principal and interest payments. Therefore, the payments for principal and interest due on July 1, 2018 are not included in the debt service requirements amounts above as they were paid on June 25, 2018.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

#### Revenue and Capital Appreciation Bonds Payable

Net revenues of the Fund are pledged to repayment of bonds; following are the revenue bonds payable at June 30, 2018:

Issue	Bond Date	Original Issue Amount	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Series 1998A	12/14/06	\$ 49,075,000	5.50%	7/01/18-23	\$ 18,485,000	c
Series 1998B	12/14/06	48,770,000	5.25%	7/01/20-23	18,260,000	c
Series 1999A **	12/01/99	33,510,118	—	7/01/18-21	14,984,042	
Series 2001B	9/15/01	110,550,000	5.50%	7/01/23-29	78,895,000	
Series 2001C-1	6/17/09	6,360,000	5.25%	7/01/18-19	810,000	
Series 2001C-1	6/17/09	148,510,000	6.50-7.00%	7/01/20-27	40,705,000	c
Series 2001C-2	5/08/08	3,275,000	4.00%	7/01/18	380,000	
Series 2001C-2	5/08/08	119,630,000	4.00-5.25%	7/01/19-29	107,045,000	c
Series 2003A	5/15/03	213,395,000	5.50%	7/01/18	415,000	
Series 2003B	6/17/09	150,000,000	7.50%	7/1/33	100,000	c
Series 2004A	2/12/04	101,435,000	5.25%	7/01/19-24	35,010,000	
Series 2005A	3/17/05	237,805,000	4.50%	7/1/35	100,000	c
Series 2005A	3/17/05	31,785,000	5.00%	7/01/34-35	31,785,000	c
Series 2005B	3/17/05	40,215,000	5.50%	7/01/21-22	17,115,000	
Series 2005C	4/05/05	41,095,000	5.00%	7/1/25	100,000	c
Series 2006B	8/10/06	183,150,000	5.00%	7/1/36	100,000	c
Series 2006B	8/10/06	55,000,000	5.00%	7/01/34-36	55,000,000	c
Series 2006D	12/14/06	370,000,000	Variable (*)	7/01/26-32	239,475,000	c
Series 2012A	6/26/12	95,445,000	5.00%	7/01/18-22	62,115,000	
Series 2012A	6/26/12	564,335,000	5.00-5.50 %	7/01/23-39	462,810,000	c
Series 2014C-1	9/04/14	20,000	5.00%	7/01/19-22	20,000	
Series 2014C-1	9/04/14	123,200,000	5.00%	7/01/23-44	123,200,000	c
Series 2014C-2	9/04/14	20,000	5.00%	7/01/19-22	20,000	
Series 2014C-2	9/04/14	27,450,000	5.00%	7/01/23-44	27,450,000	c
Series 2014C-3	9/04/14	142,600,000	5.00%	7/01/21-24	142,600,000	
Series 2014C-3	9/04/14	303,570,000	5.00%	7/01/25-33	303,570,000	c
Series 2014C-5	9/04/14	95,165,000	5.00%	7/01/18-20	34,430,000	
Series 2014C-6	9/04/14	88,900,000	5.00%	7/01/32-33	88,900,000	c
Series 2014C-7	9/04/14	32,650,000	5.00%	7/01/19-24	32,650,000	
Series 2014C-7	9/04/14	44,065,000	5.00%	7/01/25-36	44,065,000	c
Series 2015C	12/15/15	197,160,000	5.00%	7/01/26-35	197,160,000	c
Series 2016B	10/27/16	14,445,000	5.00%	7/01/24-26	14,445,000	
Series 2016B	10/27/16	111,660,000	5.00%	7/01/27-34	111,660,000	c
Series 2016C	10/27/16	295,190,000	4.00-5.00%	7/01/27-36	295,190,000	c
Total revenue and capital appreciation bonds payable					<u>\$ 2,599,049,042</u>	

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

\* Interest rates are reset periodically at the stated current market interest rate.

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

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

#### *Revenue Bonds - Pledges of Future Revenue*

The Authority has pledged assets to secure the repayment of the revenue bonds and State of Michigan revolving fund loans. The Sewer System bonds and loans are paid solely from the net revenues of the Sewer System. Net revenues are defined in the Great Lakes Water Authority Sewer Master Bond Ordinance as all revenues except those transferred to the Operation and Maintenance fund. These revenues are further defined to include the revenues from the Retail Customers who are serviced under the Water and Sewer Services Agreement with the City of Detroit which are reported in the financial statements of the City of Detroit Water and Sewerage Department. The pledged revenues calculation for the fiscal year ending June 30, 2018 includes revenues reported by the Great Lakes Water Authority and the City of Detroit Water and Sewerage Department as this revenue is pledged for payment of the bonds and loans of the Great Lakes Water Authority.

The general purpose of the Sewer System debt is to provide funding for various wastewater treatment and collection activities, capital improvements, refund certain sewage disposal revenue bonds, pay termination amounts for interest rate swap agreements and fund reserve requirements. The term of pledge commitment for the Sewage Disposal Fund is through 2045.

See table below for pledged revenue requirements as of June 30, 2018:

Remaining principal and interest requirement	\$4,820,971,304
Principal and interest funding requirement for the year ending June 30, 2018 (Computed consistent with rate Covenant basis for rate determination purposes. Not applicable for purposes of additional bond test.)	\$ 232,491,813
Pledged revenue for the year ending June 30, 2018	\$ 299,055,461
Pledged revenue collected as a percentage of funding requirement	124.1%
Amount in restricted cash and investments related to various bond indentures at June 30, 2018	\$ 99,654,215

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

#### State Revolving Loans Payable

Net revenues of the Fund are pledged to repayment of bonds. The following is a schedule of the state revolving loans payable at June 30, 2018:

Issue	Bond Date	Amount Issued	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance
Series 1997B SRF	9/30/97	\$ 5,430,174	2.25%	10/01/18	\$ 330,000
Series 1999 SRF-1	6/24/99	21,475,000	2.50%	4/01/19-20	2,650,000
Series 1999 SRF-2	9/30/99	46,000,000	2.50%	10/01/18-22	13,735,000
Series 1999 SRF-3	9/30/99	31,030,000	2.50%	10/01/18-20	5,700,000
Series 1999 SRF-4	9/30/99	40,655,000	2.50%	10/01/18-20	7,465,000
Series 2000 SRF-1	3/30/00	44,197,995	2.50%	10/01/18-22	11,947,995
Series 2000 SRF-2	9/28/00	64,401,066	2.50%	10/01/18-22	19,141,066
Series 2001 SRF-1	6/28/01	82,200,000	2.50%	10/01/18-24	33,535,000
Series 2001-SRF-2	12/20/01	59,850,000	2.50%	10/01/18-24	24,420,000
Series 2002 SRF-1	6/27/02	18,985,000	2.50%	4/01/19-23	5,660,000
Series 2002 SRF-2	6/27/02	1,545,369	2.50%	4/01/19-23	460,369
Series 2002 SRF-3	12/19/02	31,549,466	2.50%	10/01/18-24	11,864,466
Series-2003 SRF-1	6/26/03	48,520,000	2.50%	10/01/18-25	22,350,000
Series 2003 SRF-2	9/25/03	25,055,370	2.50%	4/01/19-25	10,150,370
Series-2004 SRF-1	6/24/04	2,910,000	2.125%	10/01/18-24	1,160,000
Series 2004 SRF-2	6/24/04	18,353,459	2.125%	4/01/19-25	7,298,459
Series 2004 SRF-3	6/24/04	12,722,575	2.125%	4/01/19-25	5,042,575
Series 2007 SRF-1	9/20/07	167,540,598	1.625%	10/01/18-29	106,940,598
Series 2009 SRF-1	4/17/09	13,970,062	2.50%	4/01/19-30	8,910,062
Series 2010 SRF-1	1/22/10	4,214,763	2.50%	4/01/19-31	2,925,763
Series 2012 SRF-1	8/30/12	14,950,000	2.50%	10/01/18-34	13,150,000
Series 2015A SRF	3/20/15	79,500,000	2.50%	4/01/19-36	73,200,000
Series 2015B SRF	3/20/15	27,175,304	2.50%	10/01/18-35	24,565,304
Series 2015D SRF	12/11/15	19,485,000	2.50%	10/01/18-35	13,781,478
Series 2016 SRF-1	9/16/16	19,305,000	2.50%	4/01/19-38	9,051,147
Series 2016 SRF-2	9/16/16	51,310,000	2.50%	4/01/20-39	19,153,758
Series 2016 SAW-1	5/25/16	10,000,000	2.50%	10/01/19-38	10,000,000
Series 2017 SRF-1	6/23/17	38,450,000	2.50%	10/01/19-38	11,089,130
Total state revolving loans payable					<u>\$ 475,677,540</u>

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

#### Refunded Debt

In prior years, the Fund defeased certain bonds by placing the proceeds of new bonds in irrevocable trusts for the purpose of generating resources for all future debt service payments on the refunded debt. As a result, the refunded bonds are considered to be defeased and the trust fund assets and related liabilities have been removed from the statement of net position. At June 30, 2018, the balance of the bonds considered to be defeased are \$25,550,000 for Series 2003B revenue bonds, \$134,745,000 for Series 2001E revenue bonds and \$123,185,000 for Series 2006A revenue bonds.

#### Issuance of State Revolving Loans

The Fund received loans from the State of Michigan Revolving Loan Fund totaling \$34,750,504 during the year and were used to pay costs of acquiring, constructing extensions, and making certain repairs and improvements to the System. At June 30, 2018, \$73,934,487 was authorized and unissued.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

#### *Debt Ratings*

As of September 30, 2016, Standard & Poor's Ratings Services ratings on the senior and second lien debt was A-/BBB+; Moody's rating was A3/Baa1 and Fitch's rating was A/A-. See note 17 for rating agency upgrades received in September 2018.

#### *Contractual Obligation Receivable - Debt Allocation for DWSD Retail Operations*

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

Per the Water and Sewer Services Agreement between DWSD and GLWA dated June 12, 2015 and the Master Bond Ordinance dated October 7, 2015, as amended, the Detroit retail class continues to pay its common-to-all share of debt service revenue requirements and its allocated share of debt service revenue requirements associated with improvements to the local water and sewer systems. Payments on the debt service incurred by GLWA on the outstanding revenue bonds assumed as of December 31, 2015 are to be allocated using an agreed-upon percentage of total debt service associated with bond-financed local improvements over the life of such bonds, though the bonds themselves continue to be secured by the net revenue of GLWA, and the revenues of the Detroit retail class. The Memorandum of Understanding (MOU) dated June 27, 2018 defines an agreed upon allocation and amortization schedule. The total obligation receivable at June 30, 2018 is \$346,828,300 for the Fund.

#### *Obligation Payable - City of Detroit 2014 Financial Recovery Bonds*

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

The Financial Recovery Bonds, Series 2014-C bear interest at 5.0 percent per annum. The bonds mature on December 10, 2026. The 2014-C bonds were issued as part of the Syncora Settlement and FGIC/POC Settlement in the bankruptcy plan. GLWA has a contractual obligation to pay a portion of the bonds based on an agreed upon allocation percentage.

In 2018, the governing body of the City of Detroit authorized the use of general funds for the full redemption of the General Obligation Bonds, 2014 Series C, including the amount allocated to the Authority. The 2014 Series C debt was fully redeemed on April 13, 2018. The Authority will repay the City of Detroit General Fund under the terms of the original debt payment schedule for the General Obligation Bonds, 2014 Series C, including interest of 5 percent per year, with principal and interest due on June 30 each year, and a final payment in fiscal year 2027.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

The following is a schedule of the obligation payable for the Financial Recovery Bonds at June 30, 2018:

Bond Issue	Original Issue Amount	Range of Interest Rates	Maturity Date	Outstanding Ending Balance
Series 2014-B	\$ 44,233,463	4.00% and variable	4/1/44	\$ 34,990,439
Series 2014-C	6,382,990	5.00%	12/10/26	<u>3,845,158</u>
Total				<u>\$ 38,835,597</u>

As of June 30, 2018, debt service requirements of the Financial Recovery Bonds were as follows:

Year Ended June 30,	Principal	Interest	Total
2019	\$ 377,419	\$ 1,591,876	\$ 1,969,295
2020	396,291	1,573,005	1,969,296
2021	416,106	1,553,190	1,969,296
2022	436,911	1,532,385	1,969,296
2023	458,757	1,510,539	1,969,296
2024-2028	8,757,762	6,774,054	15,531,816
2029-2033	8,747,610	4,898,661	13,646,271
2034-2038	8,747,610	4,338,814	13,086,424
2039-2043	8,747,609	2,099,426	10,847,035
2044	<u>1,749,522</u>	<u>104,972</u>	<u>1,854,494</u>
	<u>\$ 38,835,597</u>	<u>\$ 25,976,922</u>	<u>\$ 64,812,519</u>

#### Interest expense

The following represents the amounts recorded as interest expense for the year ended June 30, 2018:

Bonded debt	\$ 137,619,732
Obligation payable	1,596,417
Lease payable	<u>21,835,953</u>
	<u>\$ 161,052,102</u>

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### 11. NET INVESTMENT IN CAPITAL ASSETS

The composition of net investment in capital assets as of June 30, 2018, was as follows:

Capital assets and contractual obligation receivable:	
Capital assets not being depreciated	\$ 271,362,100
Capital assets being depreciated, net	2,485,098,172
Obligation receivable	346,828,300
	<u>3,103,288,572</u>
Related debt:	
Revenue bonds	2,584,065,000
Less: current debt that was used for swaps	(276,710,258)
Capital appreciation bonds	17,250,000
State revolving loans	475,677,540
Discount on capital appreciation bonds	(2,265,958)
Bond premium	254,859,637
Bond discount	(99,833,984)
Deferred charge on refunding	(186,544,140)
Deferred gain on refunding	46,654,836
Deferred amounts for swap terminations	189,808
	<u>2,813,342,481</u>
Net investment in capital assets	<u>\$ 289,946,091</u>

### 12. LONG-TERM LEASE PAYABLE AND RELATED PREPAID

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

Amounts reported as a liability at year-end represent the net present value of all future lease payments. Changes in the long-term lease payable for the year ended June 30, 2018 were as follows:

Beginning Balance	Increase	Decrease	Ending Balance	Amount Due Within One Year *
\$ 526,681,859	\$ -	\$ (5,644,436)	\$ 521,037,423	\$ 5,884,359

\* The current portion of the long-term lease payable represents the 12 monthly payments required from July 1, 2018 through June 30, 2019. Future revenues are intended to cover these payments.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

As of June 30, 2018, aggregate requirements of the Fund's lease were as follows:

Year Ended June 30,	Principal	Interest	Total
2019	\$ 5,884,359	\$ 21,615,641	\$ 27,500,000
2020	6,134,481	21,365,519	27,500,000
2021	6,395,235	21,104,765	27,500,000
2022	6,667,073	20,832,927	27,500,000
2023	6,950,466	20,549,534	27,500,000
2024-2028	39,443,211	98,056,789	137,500,000
2029-2033	48,569,730	88,930,270	137,500,000
2034-2038	59,807,979	77,692,021	137,500,000
2039-2043	73,646,575	63,853,425	137,500,000
2044-2048	90,687,199	46,812,801	137,500,000
2049-2053	111,670,746	25,829,254	137,500,000
2054-2057	65,180,369	3,569,631	68,750,000
	<u>\$ 521,037,423</u>	<u>\$ 510,212,577</u>	<u>\$1,031,250,000</u>

The assets acquired through the lease noted above are summarized as follows:

	Cost	Accumulated Depreciation	Ending Book Value
Land	\$ 28,733,333	\$ -	\$ 28,733,333
Easements	96,211,323	-	96,211,323
Site improvements	36,265,930	16,989,529	19,276,401
Buildings and structures	1,058,604,451	133,918,374	924,686,077
Infrastructure	596,856,313	34,515,910	562,340,403
Machinery and equipment	1,090,752,050	261,514,220	829,237,830
Vehicles	1,352,511	1,105,940	246,571
	<u>\$2,908,775,911</u>	<u>\$ 448,043,973</u>	<u>\$2,460,731,938</u>

As part of the 2018 Memorandum of Understanding (MOU) with DWSD dated June 2018, the MBO requirement for six months of lease payments made to DWSD on January 1, 2016 will be treated as prepaid lease payments. The initial term of the leases began on the effective date and ends on December 31, 2055. GLWA's last monthly payment shall be June 1, 2055 and GLWA's \$25 million lease pre-payment on January 1, 2016 shall be applied to the period of July 1, 2055 through December 31, 2055. The Fund's share of the \$25 million prepaid is \$13,750,000.

### 13. RISK MANAGEMENT / SELF-INSURANCE PROGRAMS

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

The Authority purchases a variety of insurance policies including: public official's and employment practices liability insurance, property insurance, pollution legal liability insurance and casualty insurance for workers' compensation, general liability, and automobile liability. The Authority purchases excess liability insurance for its casualty program which provides per occurrence and aggregate protection for up to \$8 million. The Authority's retention is \$1,250,000 for workers' compensation and \$250,000 for general liability and automobile. The Authority also has coverage under a pollution legal liability policy with limits of \$50 million, a property insurance policy with limits of \$750 million and a public officials policy with limits of \$25 million.

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

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

Under most circumstances, the Authority's maximum loss retention per occurrence was as follows:

Type of Risk	Maximum Retention Per Occurrence
Workers' compensation	\$1,250,000 per occurrence
General and automobile liability	\$250,000 per occurrence
Motor vehicle physical damage	Authority assumes all risk
Property damage	\$1,000,000 per occurrence
Public officials	\$250,000 per occurrence
Pollution legal liability	\$500,000 per occurrence

The Authority estimates the liability for medical and worker's compensation claims that have been incurred through the end of the fiscal year, including claims that have been reported as well as those that have not yet been reported, which includes estimates of both future payments of losses and related claim adjustments expense. The liability is based on individual claims and management's evaluation of experience with respect to the probable number and nature of claims. Any adjustments resulting from settlement of losses will be reflected in earnings at the time the adjustments are determined.

**Medical insurance.** The Authority provides medical benefits to a significant number of employees through a self-insured health plan that is administered by third party administrators. The Authority purchased stop loss insurance for its self-insured health plan with terms of \$300,000 per contract to reduce risk exposure for the group. The self-insured program is administered by a third-party administrator who provides claims review and processing services as well as illustrated premium rates, which are anticipated, over time, to approximate the actual cost of benefits.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

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

	2018	2017
Unpaid claims, beginning of year	\$ 1,026,178	\$ 933,567
Incurred claims (including change in IBNR provisions)	8,598,908	8,986,780
Claims payments	(8,581,019)	(8,894,169)
Unpaid claims, end of year	<u>\$ 1,044,067</u>	<u>\$ 1,026,178</u>

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

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

	2018	2017
Unpaid claims, beginning of year	\$ 250,000	\$ 351,231
Incurred claims (including change in IBNR provisions)	254,899	238,483
Claims payments	(201,660)	(339,714)
Unpaid claims, end of year	<u>\$ 303,239</u>	<u>\$ 250,000</u>

The claims liabilities shown above represent the totals for the Authority which are allocated to the funds based on the salary ratio between the Water and Sewage Disposal funds.

### 14. DEFINED CONTRIBUTION PENSION PLAN

The amounts below represent total costs for the Authority which are allocated to the funds based on the salary ratio between the Water and Sewage Disposal funds.

#### *Defined Contribution Plans*

The Great Lakes Water Authority Defined Contribution Retirement Plan is a 401(a) governmental money purchase plan administered by ICMA Retirement Corporation (the "Administrator") to provide benefits at retirement to all full-time employees of the Authority. The Authority contributes 6.0% of earnings to the plan. The Authority will make an additional contribution to the 401(a) plan to match employee pre-tax contributions under the Great Lakes Water Authority 457 Plan up to 3% of compensation. Employees are 100% vested after three years of service (cliff vesting). Employees who transferred to the Authority on or around January 1, 2016 from DWSD retain their years of service for vesting purposes. Employer contributions totaled \$4,278,051 million for the year ended June 30, 2018. At June 30, 2018, there were 1,025 plan members.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

The Great Lakes Water Authority Defined Contribution Plan Make-Up Benefit Plan is a 401(a) governmental money purchase plan administered by ICMA Retirement Corporation (the "Administrator") to provide benefits at retirement to all employees who terminated employment with DWSD on or around January 1, 2016 and were not vested in the City of Detroit General Retirement System (GRS). Eligible employees are required to roll over to the Authority's Section 457 Deferred Compensation Plan their refunded employee mandatory contribution from GRS. The amount of the make-up benefit determined by an actuary based on the present value of the lost GRS benefit was \$791,113 as of June 30, 2018. No contributions were made or required during the current year. Employees are 100% vested after one year of service.

The Authority has also adopted a Section 457 Deferred Compensation Plan which employees can make pre-tax contributions which are immediately 100% vested. At June 30, 2018, there were 830 plan members.

#### *Retirement Health Savings Plan*

The Authority also provides a Retirement Health Savings Program for full-time employees. Employees are required to contribute \$10 per pay period and the Authority contributes \$80 per pay period. Employees are 100% vested after three years of service (cliff vesting). Employees who transferred to the Authority on or around January 1, 2016 from DWSD retain their years of service for vesting purposes. Employer contributions were \$1,878,206 and employee contributions were \$236,262 for the year ended June 30, 2018. At June 30, 2018, there were 1,175 plan members.

### 15. NET PENSION LIABILITY (SPECIAL FUNDING SITUATION)

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

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

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

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

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

*Employer Contributions.* Following are the employer contributions, including the Authority's nonemployer contribution, for the respective components:

Employer contributions to the GRS were determined by the provisions of the POA. The 2016 employer contributions in Component II were sourced from the one-time sale of City-owned artwork with proceeds from the Foundation for Detroit's Future in the amount of \$32,886,827 along with \$4,005,830 from unlimited tax general obligation bonds and \$67,900,000 of contributions from the City and related entities, of which \$45,400,000 of contributions were from GLWA and DWSD. Employer contributions were also made into the income stabilization fund in the amount of \$1,689,857 from the bond proceeds. The 2017 employer contributions were sourced from the Foundation for Detroit's Future in the amount of \$375,000, \$22,588,402 from unlimited tax general obligation bonds received and receivable in 2017 and \$68,275,000 of contributions from the City, City-related entities and the Authority. Employer contributions were also made into the Income Stabilization Fund in the amount of \$9,539,874 from the unlimited tax general obligation bond refunding proceeds. In 2018 employer contributions were sourced from the Foundation for Detroit's Future in the amount of \$375,000, and approximately \$67.9 million of contributions from the City, City-related entities and the Authority. Employer contributions were also made into the Income Stabilization Fund for \$88,494 from the unlimited tax general obligation stub bond proceeds.

The POA obligates DWSD to pay \$2,500,000 per year towards administrative costs and annual plan contributions of \$42,900,000 per year in total for both water and sewer employees, until 2023. Pursuant to the leases, the Authority is obligated to pay its allocable share of such liability. The portion allocated to the Authority is \$31,916,200 for fiscal year 2018. Subsequent to 2023, DWSD and the Authority will be responsible for paying their allocable share of any additional amounts that are actuarially determined to be payable.

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

*DWSD Employee Contributions.* Contribution requirements of plan members are established and may be amended by the GRS Board of Trustees in accordance with the City Charter, union contracts, and plan provisions. For the year ended June 30, 2018, there were minimal employee contributions into Component II, only related to military service credit, as the plan was frozen as of June 30, 2014; contributions into Component I began thereafter.

*Net Pension Liability.* The net pension liability was measured as of June 30, 2017, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

**Actuarial Assumptions.** The total pension liability in the June 30, 2017 actuarial valuation was determined using the following actuarial assumptions.

Inflation	not applicable
Salary increases	not applicable
Investment rate of return	6.91%, net of investment expense and including inflation

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

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each asset class. These real ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. For each asset class that is included in the pension plan's target asset allocation as of June 30, 2017, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return	Expected Money-Weighted Rate of Return
Global equity	43.0%	5.33%	2.29%
Global fixed income	16.0%	3.07%	0.49%
Private equity	8.0%	7.23%	0.58%
Cash	1.0%	0.29%	0.00%
Real estate	10.0%	3.46%	0.35%
Global asset allocation/risk parity/real assets	17.0%	4.06%	0.69%
Hedge funds	5.0%	4.17%	0.21%
	<u>100.0%</u>		<u>4.61%</u>
Inflation			<u>2.30%</u>
Investment rate of return			<u>6.91%</u>

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

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

Total pension liability	\$ 354,791,535		
Plan fiduciary net position	<u>(239,980,980)</u>		
Fund's net pension liability	<u>\$ 114,810,555</u>		
	<b>Total Pension Liability (a)</b>	<b>Plan Fiduciary Net Position (b)</b>	<b>Net Pension Liability (a) - (b)</b>
Balances at June 30, 2017	<u>\$ 352,052,192</u>	<u>\$ 227,545,688</u>	<u>\$ 124,506,504</u>
Changes for the year:			
Interest	24,268,718	-	24,268,718
Differences between expected and actual experience	1,519,917	-	1,519,917
Changes in assumptions	9,721,266	-	9,721,266
Employer contributions	-	19,347,900	(19,347,900)
Net investment income	-	24,899,462	(24,899,462)
Benefit payments, including refunds of employee contributions	(32,770,558)	(32,770,558)	-
Other changes	-	958,488	(958,488)
Net changes	<u>2,739,343</u>	<u>12,435,292</u>	<u>(9,695,949)</u>
Balances at June 30, 2018	<u>\$ 354,791,535</u>	<u>\$ 239,980,980</u>	<u>\$ 114,810,555</u>

*Sensitivity of the Net Pension Liability to Changes in the Discount Rate.* The following presents the net pension liability of the Fund, calculated using the discount rate of 6.91%, as well as what the Fund's net pension liability would be if it were calculated using a discount rate that is 1% lower (5.91%) or 1% higher (7.91%) than the current rate:

<b>1% Decrease (5.91%)</b>	<b>Current Discount Rate (6.91%)</b>	<b>1% Increase (7.91%)</b>
<u>\$ 147,455,969</u>	<u>\$ 114,810,555</u>	<u>\$ 87,078,442</u>

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

*Pension Expense and Deferred Outflows and Inflows of Resources Related to Pensions.* For the year ended June 30, 2018, the Fund recognized pension expense of \$15,988,471. At June 30, 2018, the Fund reported deferred outflows and inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows (Inflows) of Resources
Net difference between projected and actual earnings on pension plan investments	\$ 14,022,017	\$ 12,994,118	\$ 1,027,899
Employer contributions to the plan subsequent to the measurement date	19,347,900	-	19,347,900
Totals	<u>\$ 33,369,917</u>	<u>\$ 12,994,118</u>	<u>\$ 20,375,799</u>

The amount reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction in the net pension liability in for the year ending June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

Year Ended June 30,	Amounts
2019	\$ (2,561,970)
2020	3,313,356
2021	2,056,211
2022	<u>(1,779,698)</u>
Total	<u>\$ 1,027,899</u>

*Payable to the Pension Plan.* At June 30, 2018, the Fund did not have any outstanding contributions payable to the pension plan for the year then ended.

### 16. COMMITMENTS AND CONTINGENCIES

#### *Capital Improvement Program*

The Fund is engaged in a variety of projects that are part of its five-year capital improvement program (the "Program"). The total cost of this Program is anticipated to be approximately \$633.2 million for the Fund through fiscal year 2023. The Program is being financed primarily from revenue bond proceeds in addition to customer charges revenue. The latter is accounted for in the Improvement and Extension Fund as defined in the MBO. As of June 30, 2018, the Fund has unspent bond proceeds of \$100.0 million and Improvement and Extension funds of \$62.5 million available for use in addition to state revolving loan resources of \$73,934,487 in funding these commitments.

The total amount of construction contract commitments outstanding at June 30, 2018 was approximately \$134.0 million.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### *Contingencies*

The Fund is subject to various government environmental laws and regulations. GASB Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*, established accounting and financial reporting standards for pollution (including contamination) remediation obligations, which are obligations to address the current or potential detrimental effects of existing pollution by participating in pollution remedial activities such as site assessments and cleanups. The standard excludes pollution prevention or control obligations with respect to current operations, and future pollution remediation activities that are required upon retirement of an asset, such as landfill closure and post-closure care. Authority management determined that there were no estimated pollution remediation obligations to be recorded at June 30, 2018.

The Fund's operations are subject to regulation pursuant to the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 and the Water Quality Act of 1987 (collectively, the Clean Water Act). Included in the regulatory framework established by the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES) permit program, which requires operation of wastewater system facilities according to discharge limitations and other requirements as set forth in permits issued to each facility. The Environmental Protection Agency (EPA) has authorized the Michigan Department of Environmental Quality (MDEQ) to implement and enforce the federal NPDES permit program. The Fund operates pursuant to the NPDES Permit. The Authority's current NPDES permit expired on October 1, 2018; however, it remains in effect until the MDEQ issues a new NPDES permit. GLWA expects the MDEQ to issue a new NPDES permit between March-May 2019.

The Authority is a defendant in numerous alleged claims, lawsuits, billing disputes, and other stated and pending demands. The Authority's Legal Department has estimated a reserve of \$7,834,392 for the Fund, which is included in the accompanying financial statements, for the potential outcome of such claims or the amount of potential damages in the event of an unfavorable outcome for each of the above contingencies. The Authority's management believes that any differences in reserved amounts and final settlement, after consideration of claims covered by insurance, resulting from such litigation will not materially impact the Authority's financial position or results of operations.

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

## 17. SUBSEQUENT EVENTS

### *Reconciliation Committee and DWSD Budget Shortfall*

On June 27, 2018, the Board of Directors for the Authority and the Board of Water Commissioners for the DWSD approved a Memorandum of Understanding (MOU). The Leases and the Water and Sewer Services Agreement ("WSSA") between the City and GLWA and the MBO, govern the relationship between DWSD and GLWA, which began on January 1, 2016 (the "Effective Date"). The purpose of the MOU is to (a) provide clarification of specific sections of the Leases, WSSA and MBO; (b) make adjustments contemplated by the Leases and the WSSA; and (c) address the liquidation of specific liabilities. Most financial provisions of the MOU were recorded by GLWA in the June 30, 2017 year-end financial statements based on an executed term sheet that preceded the final MOU in April 2018. Because DWSD's financial statements were already issued, the financial impact of the MOU will be reflected in the DWSD financial statements for the year ending June 30, 2018.

Item 9 of the executed MOU outlines requirements for the Reconciliation Committee—originally defined by the WSSA—to meet quarterly to "expand the level of communication between the two entities related to financial, operational, legal, capital planning, and other matters and opportunities for improved management and coordination of both entities and foster a positive partnership in the water services sector." Item 12 further describes a specific function of the Reconciliation Committee to address any "cumulative negative variance of more than two percent (2%) of the total budget for either Local System."

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

As of June 30, 2018, GLWA reports a negative balance of \$47,768,427 for the DWSD sewer fund which exceeds the two percent variance threshold. The budget shortfall not cured by the end of the fiscal year following the year in which they arise shall be repaid in full, in installments over a period not to exceed three fiscal years. A surcharge based on the three-year U.S treasury note rate plus 150 basis points. The negative balance of \$27,514,000 from the prior year is recorded as a loan receivable (note 6). The Reconciliation Committee has met and discussed this variance as required. As of November 7, 2018, DWSD (as operator of the Local System) has discussed options to cure this shortfall with its Board of Water Commissioners and at a Reconciliation Committee meeting on October 19, 2018. A written agreement is presently under discussion to document the plan to cure.

#### *Bond Refunding and New Money Bond Transaction*

On October 3, 2018, the Authority issued a bond refunding and new money sewage system transaction. The Authority issued \$257,465,000 of Sewage Disposal System Revenue Bonds (\$81,595,000 in new money and \$175,870,000 in refunding bonds). The net present value savings from the refunding transaction was \$34.52 million for the Fund.

#### *Rating Agency Upgrades*

In September 2018, S&P Global Ratings upgraded the Authority's senior lien sewer system rating up by two notches to A+, and its second lien sewer system was increased by two notches to A. Both the senior and second sewer liens were assigned a positive outlook. Moody's Investors Service upgraded the Authority's sewer system senior lien ratings one notch to A2, and its second lien ratings one notch to A3. All were assigned a stable outlook. Fitch affirmed the Authority's ratings for its sewer system senior lien bonds at an A, and its second lien bonds at an A-, both with positive outlooks.

The Authority has increased its use of the State of Michigan's state revolving fund (SRF) loans as a lower cost of borrowing resource. Given the Authority's level of participation in the program, the Authority was asked by the State to seek a rating for the corresponding debt category (i.e. junior lien bonds). In November 2018, S&P Global Ratings assigned an A rating to the Authority's junior lien sewer system SRF bonds.

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## SUPPLEMENTARY INFORMATION

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Supplementary Information

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

	Fiscal Year Based on Measurement Date		
	2017*	2016*	2015**
Share of total pension liability			
Interest	\$ 24,268,718	\$ 25,906,278	\$ 32,970,738
Differences between expected and actual experience	1,519,917	(3,248,690)	(274,022)
Changes in assumptions	9,721,266	11,308,613	(12,695,976)
Benefit changes	-	-	(97,749,668)
Benefit payments, including refunds of employee contributions	(32,770,558)	(44,676,314)	(34,831,342)
Net change	2,739,343	(10,710,113)	(112,580,270)
Share of total pension liability, beginning of year	352,052,192	362,762,305	475,342,575
Share of total pension liability, end of year	354,791,535	352,052,192	362,762,305
Share of plan fiduciary net position			
Employer contributions	19,347,900	19,347,900	19,342,889
Employee contributions	-	-	84,010
Net investment income (loss)	24,899,462	(841,679)	11,085,930
Benefit payments, including refunds of employee contributions	(32,770,558)	(44,676,314)	(34,831,342)
Administrative expense	-	-	(13,661)
Other changes	958,488	161,836	17,808,122
Net change	12,435,292	(26,008,257)	13,475,948
Share of plan fiduciary net position, beginning of year	227,545,688	253,553,946	240,077,998
Share of plan fiduciary net position, end of year	239,980,980	227,545,689	253,553,946
Share of net pension liability	\$ 114,810,555	\$ 124,506,503	\$ 109,208,359
Nonemployer contributing entity share of collective net pension liability	12.2%	12.5%	13.2%
Plan fiduciary net position as a percentage of total pension liability	67.6%	64.6%	69.9%

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

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

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Supplementary Information

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

	Fiscal Year Based on Measurement Date	
	2017*	2016*
Contractually required contribution**	\$ 19,347,900	\$ 19,347,900
Actual contribution	19,347,900	19,347,900
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>

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

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

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

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## COMBINING AND INDIVIDUAL FUND SCHEDULES

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

## Combining Schedule of Net Position June 30, 2018

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 136,603,763	\$ 62,452,793	\$ -	\$ 199,056,556
Restricted cash and cash equivalents	46,807,635	-	8,024,415	54,832,050
Investments	9,506,712	-	-	9,506,712
Restricted investments	31,790,386	-	-	31,790,386
Receivables:				
Billed	50,439,450	-	-	50,439,450
Unbilled	25,200,108	-	-	25,200,108
Other	3,723,036	-	-	3,723,036
Allowance for doubtful accounts	(32,863,001)	-	-	(32,863,001)
Due from other governments	24,339,106	-	-	24,339,106
Due from water fund	2,091,163	-	1,356,764	3,447,927
Due from other sewage disposal funds	-	7,322,016	14,907,438	22,229,454
Contractual obligation receivable, current portion	11,253,800	-	-	11,253,800
Loan receivable - DWSD	9,367,355	-	-	9,367,355
Prepaid items and other assets	1,466,758	-	216,901	1,683,659
Inventories	8,471,626	-	-	8,471,626
Total current assets	328,197,897	69,774,809	24,505,518	422,478,224
Noncurrent assets:				
Restricted cash and cash equivalents	12,151,366	-	17,849,987	30,001,353
Restricted investments	61,457,535	-	81,804,228	143,261,763
Contractual obligation receivable	335,574,500	-	-	335,574,500
Loan receivable - DWSD	19,932,645	-	-	19,932,645
Prepaid lease	13,750,000	-	-	13,750,000
Assets not subject to depreciation	271,362,100	-	-	271,362,100
Capital assets being depreciated, net	2,485,098,172	-	-	2,485,098,172
Prepaid insurance on debt	16,931,255	-	-	16,931,255
Total noncurrent assets	3,216,257,573	-	99,654,215	3,315,911,788
Total assets	3,544,455,470	69,774,809	124,159,733	3,738,390,012
Deferred outflows of resources				
Deferred charge on refunding	186,544,140	-	-	186,544,140
Deferred pension amounts	33,369,917	-	-	33,369,917
Total deferred outflows of resources	219,914,057	-	-	219,914,057

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GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

**Combining Schedule of Net Position**  
June 30, 2018

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
<b>Liabilities</b>				
Current liabilities:				
Accounts and contracts payable	\$ 11,945,835	\$ 525,934	\$ 21,605,833	\$ 34,077,602
Due to other governments	-	-	47,539	47,539
Due to water fund	12,427	317,866	-	330,293
Due to other sewage disposal funds	22,229,454	-	-	22,229,454
Interest payable	41,108,994	-	-	41,108,994
Current portion of:				
Long-term debt	61,186,207	-	-	61,186,207
Lease payable	5,884,359	-	-	5,884,359
Obligation payable	377,419	-	-	377,419
Accrued compensated absences	717,086	-	-	717,086
Claims and judgments	334,392	-	-	334,392
Total current liabilities	143,796,173	843,800	21,653,372	166,293,345
Noncurrent liabilities:				
Long-term debt	3,168,566,028	-	-	3,168,566,028
Long-term lease payable	515,153,064	-	-	515,153,064
Obligation payable	38,458,178	-	-	38,458,178
Claims and judgments	7,500,000	-	-	7,500,000
Other noncurrent liabilities	6,003,540	-	-	6,003,540
Net pension liability	114,810,555	-	-	114,810,555
Total noncurrent liabilities	3,850,491,365	-	-	3,850,491,365
Total liabilities	3,994,287,538	843,800	21,653,372	4,016,784,710
Deferred inflows of resources				
Deferred amounts for swap terminations	189,808	-	-	189,808
Deferred gain on refunding	46,654,836	-	-	46,654,836
Deferred pension amounts	12,994,118	-	-	12,994,118
Total deferred inflows of resources	59,838,762	-	-	59,838,762
Net position				
Net investment in capital assets	289,946,091	-	-	289,946,091
Restricted for debt service	101,996,536	-	-	101,996,536
Restricted for capital acquisition	-	-	102,506,361	102,506,361
Restricted for payment assistance program	3,308,896	-	-	3,308,896
Unrestricted (deficit)	(685,008,296)	68,931,009	-	(616,077,287)
Total net position	\$ (289,756,773)	\$ 68,931,009	\$ 102,506,361	\$ (118,319,403)

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GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

**Combining Schedule of Revenues, Expenses and Changes in Fund Net Position**  
For the Year Ended June 30, 2018

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
Operating revenues				
Wholesale customer charges	\$ 268,978,831	\$ -	\$ -	\$ 268,978,831
Industrial waste charges	14,334,979	-	-	14,334,979
Pollutant surcharges	6,908,404	-	-	6,908,404
Local system charges	178,969,200	-	-	178,969,200
Other revenues	4,391,145	-	-	4,391,145
Total operating revenues	473,582,559	-	-	473,582,559
Operating expenses				
Operating expenses before depreciation:				
Personnel	53,680,162	-	-	53,680,162
Contractual services	64,082,761	-	-	64,082,761
Utilities - gas	5,674,141	-	-	5,674,141
Utilities - electric	15,395,993	-	-	15,395,993
Utilities - sewage	1,262,253	-	-	1,262,253
Utilities - water	4,490,912	-	-	4,490,912
Chemicals	8,073,045	-	-	8,073,045
Supplies and other expenses	24,982,773	-	-	24,982,773
Capital program allocation	(969,671)	-	-	(969,671)
Shared services allocation	(292,965)	-	-	(292,965)
Total operating expenses before depreciation	176,379,404	-	-	176,379,404
Depreciation	187,250,583	-	-	187,250,583
Total operating expenses	363,629,987	-	-	363,629,987
Operating income	109,952,572	-	-	109,952,572
Nonoperating revenues (expenses)				
Earnings on investments	3,805,035	217,547	1,243,673	5,266,255
Interest on obligations receivable	15,505,300	-	-	15,505,300
Interest expense	(161,052,102)	-	-	(161,052,102)
Costs of issuance and amortization of debt related items	(5,153,300)	-	-	(5,153,300)
Legacy pension expense	(15,988,471)	-	-	(15,988,471)
WRAP (Water Residential Assistance Program)	(2,248,980)	-	-	(2,248,980)
Other	(709,537)	-	-	(709,537)
Capital outlay	74,118,673	(4,740,820)	(69,377,853)	-
Gain on disposal of capital assets	2,469,703	-	-	2,469,703
Total nonoperating revenues (expenses)	(89,253,679)	(4,523,273)	(68,134,180)	(161,911,132)
Income (loss) before transfers	20,698,893	(4,523,273)	(68,134,180)	(51,958,560)
Transfer in	-	30,834,215	34,750,504	65,584,719
Transfer out	(65,367,172)	(217,547)	-	(65,584,719)
Change in net position	(44,668,279)	26,093,395	(33,383,676)	(51,958,560)
Net position (deficit), beginning of year	(245,088,494)	42,837,614	135,890,037	(66,360,843)
Net position (deficit), end of year	\$ (289,756,773)	\$ 68,931,009	\$ 102,506,361	\$ (118,319,403)

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Schedule of Operations and Maintenance Expense

Cost Type Category - Budget and Actual  
For the Year Ended June 30, 2018

	Original Budget	Amended Budget	Administrative and Centralized Services Reclassification and Capital Outlay Elimination
Operating expenses			
Personnel	\$ 34,633,400	\$ 37,302,000	\$ 18,337,300
Contractual services	30,452,700	35,679,900	36,077,800
Utilities	27,309,400	27,275,400	91,400
Chemicals	11,468,300	8,142,300	-
Supplies and other expenses	14,346,800	20,315,400	7,175,200
Capital program allocation	(1,034,000)	(890,800)	-
Shared services allocation	(6,400)	(292,600)	-
Centralized services allocation	56,455,500	43,247,500	(43,247,500)
Administrative services allocation	16,305,000	18,434,200	(18,434,200)
Capital outlay	728,700	704,600	(704,600)
Unallocated reserve	420,000	1,161,500	-
Total operating expenses	<u>\$ 191,079,400</u>	<u>\$ 191,079,400</u>	<u>\$ (704,600)</u>

Note: Centralized and administrative services allocations have been applied to the expense categories above for presentation of the amended budget and actual amounts. Capital outlay is an expense for budget purposes but is capitalized for accrual-based actual purposes. The balance in the reclassification represents reconciliation between budget and accrual basis.

UNAUDITED



Final Amended Budget	Actual	Amount Variance Actual-Budget	Percent Over (Under) Budget
\$ 55,639,300	\$ 53,680,162	\$ (1,959,138)	-3.52%
71,757,700	64,082,761	(7,674,939)	-10.70%
27,366,800	26,823,299	(543,501)	-1.99%
8,142,300	8,073,045	(69,255)	-0.85%
27,490,600	24,982,773	(2,507,827)	-9.12%
(890,800)	(969,671)	(78,871)	8.85%
(292,600)	(292,965)	(365)	0.12%
-	-	-	0.00%
-	-	-	0.00%
-	-	-	0.00%
1,161,500	-	(1,161,500)	-100.00%
<u>\$ 190,374,800</u>	<u>\$ 176,379,404</u>	<u>\$ (13,995,396)</u>	-7.35%

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

## Schedule of Revenue Requirement

Budget to Actual - Consolidated Sewer System

For the Year Ended June 30, 2018

The schedule presents a consolidated calculation of revenue requirements for both the GLWA regional sewer system and the DWSD local sewer system based upon budgets adopted by both entities. The revenue requirement components are presented in a manner consistent with the Master Bond Ordinance flow of funds. Individual schedules for both entities (the GLWA Regional Sewer System and the DWSD Local Sewer System) follow. Amounts shaded in grey indicate local system components.

	2018 Budget	2018 Actual [2]	Variance
<b>Revenues</b>			
Regional system:			
Regional system wholesale revenues - suburban wholesale	\$ 267,033,800	\$ 268,978,831	\$ 1,945,031
Regional system wholesale revenues - Detroit customers	178,969,200	178,969,200	-
Industrial waste control charges	14,457,700	14,334,979	(122,721)
Industrial surcharges	5,099,000	6,908,404	1,809,404
Total regional system revenues	465,559,700	469,191,414	3,631,714
DWSD local system revenues - Detroit customers	77,922,900	81,612,282	3,689,382
Miscellaneous revenue (local system)	5,000,000	5,089,230	89,230
Other operating revenue	-	4,391,145	4,391,145
Total operating revenue	548,482,600	560,284,071	11,801,471
Nonoperating revenue (regional system)	2,751,000	4,022,582	1,271,582
Total revenues	\$ 551,233,600	\$ 564,306,653	\$ 13,073,053
<b>Revenue requirements [1]</b>			
Operations and maintenance:			
Regional system wholesale expenses	\$ 191,079,400	\$ 191,079,400	\$ -
Local system expenses	60,402,000	60,517,992	115,992
GRS pension allocable to regional system	10,824,000	10,809,600	(14,400)
GRS pension allocable to local system	2,856,000	2,844,200	(11,800)
Total operations and maintenance	265,161,400	265,251,192	89,792
Net revenues as defined by the MBO	286,072,200	299,055,461	12,983,261
Nonoperating activities:			
Debt service allocable to regional system	207,615,500	202,965,506	(4,649,994)
Debt service allocable to local system	27,392,500	26,767,599	(624,901)
GRS accelerated pension from regional system	11,620,700	12,118,599	497,899
GRS accelerated pension from local system	3,066,800	3,197,100	130,300
WRAP contribution from regional system	2,391,800	2,391,800	-
WRAP contribution from local system	369,000	369,000	-
ER&R fund contribution from regional system [3]	813,600	813,600	-
Contribution to operating reserves	1,733,000	1,733,000	-
Total nonoperating activities	255,002,900	250,356,204	(4,646,696)
Amount available for revenue financed capital	31,069,300	48,699,257	17,629,957

continued...

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

## Schedule of Revenue Requirement

Budget to Actual - Consolidated Sewer System  
For the Year Ended June 30, 2018

	2018 Budget	2018 Actual	Variance
Reserve for revenue financed capital from net revenues			
Lease payment	\$ 27,500,000	\$ 27,500,000	\$ -
Lease payment directed to debt service	(11,163,400)	(9,166,667)	1,996,733
Amount available for revenue financing capital and operating reserves regional system [3]	14,732,700	28,193,636	13,460,936
Local system revenue requirement variance	-	2,172,288	2,172,288
Total reserve for revenue financed capital	<u>31,069,300</u>	<u>48,699,257</u>	<u>17,629,957</u>
Total revenue requirements	<u>\$ 551,233,600</u>	<u>\$ 564,306,653</u>	<u>\$ 13,073,053</u>

concluded.

- [1] Item is not considered an expense for accounting purposes but is for revenue requirement basis in establishing customer charges. Actual amounts are based on cash transfers made to the MBO bank accounts that must be funded by revenue.
- [2] At the time of the issuance of the GLWA, DWSD's audited financial report had not been released. The local system amounts above reflect DWSD's management representation of preliminary financial results for the year ended June 30, 2018.
- [3] Transfers are typically made in the subsequent year following the final analysis of year end results.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

## Schedule of Revenue Requirement

Budget to Actual - GLWA Regional Sewer System  
For the Year Ended June 30, 2018

This schedule presents a calculation of revenue requirements for the GLWA regional sewer system based upon the budget adopted by the GLWA Board of Directors. The revenue requirement components are presented in a manner consistent with the Master Bond Ordinance flow of funds. The Consolidated Sewer System Schedule of Revenue Requirements combines this schedule and the DWSD Local Sewer System Schedule of Revenue Requirements.

	2018 Budget	2018 Actual	Variance
<b>Revenues</b>			
Regional system:			
Regional system wholesale revenues - suburban wholesale	\$ 267,033,800	\$ 268,978,831	\$ 1,945,031
Regional system wholesale revenues - Detroit customers	178,969,200	178,969,200	-
Industrial waste control charges - suburban customers	14,457,700	14,334,979	(122,721)
Industrial surcharges	5,099,000	6,908,404	1,809,404
Total regional system revenues	465,559,700	469,191,414	3,631,714
Other operating revenue	-	4,391,145	4,391,145
Total operating revenue	465,559,700	473,582,559	8,022,859
Nonoperating revenue (regional system)	2,751,000	4,022,582	1,271,582
Total revenues	\$ 468,310,700	\$ 477,605,141	\$ 9,294,441
<b>Revenue requirements</b>			
Operations and maintenance:			
Regional system wholesale expenses	\$ 191,079,400	\$ 191,079,400	\$ -
GRS pension allocable to regional system	10,824,000	10,809,600	(14,400)
Total operations and maintenance	201,903,400	201,889,000	(14,400)
Net revenues after operations and maintenance	266,407,300	275,716,141	9,308,841
Nonoperating activities:			
Debt service allocable to regional system	207,615,500	202,965,506	(4,649,994)
GRS accelerated pension from regional system	11,620,700	12,118,599	497,899
WRAP contribution from regional system	2,391,800	2,391,800	-
ER&R fund contribution from regional system [2]	813,600	813,600	-
Contribution to operating reserves	1,733,000	1,733,000	-
Total nonoperating activities	224,174,600	220,022,505	(4,152,095)
Amount available for revenue financed capital	42,232,700	55,693,636	13,460,936
Reserve for revenue financed capital from net revenues			
Lease payment to local system I&E account [1]	\$ 27,500,000	\$ 27,500,000	\$ -
Net revenues available for revenue financing capital and operating reserves regional system [2]	14,732,700	28,193,636	13,460,936
Reserve for revenue financed capital	42,232,700	55,693,636	13,460,936
Total revenue requirements	\$ 468,310,700	\$ 477,605,141	\$ 9,294,441

[1] These items are disbursements for establishing revenue requirements for customer charges and are not representative of full accrual basis accounting. Actual amounts are cash transfers in accordance with the MBO.

[2] Transfers are typically made in the subsequent year following the final analysis of year end results.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

## Schedule of Revenue Requirement

Budget to Actual - DWSD Local Sewer System  
For the Year Ended June 30, 2018

This schedule presents a calculation of revenue requirements for the DWSD local sewer system based upon the budget adopted by the DWSD Board of Water Commissioners. The revenue requirement components are presented in a manner consistent with the Master Bond Ordinance flow of funds. The Consolidated Sewer System Schedule of Revenue Requirements combines this schedule and the GLWA regional Sewer System Schedule of Revenue Requirements. Amounts shaded in grey indicate local system components.

	2018 Budget [1]	2018 Actual [2]	Variance
Revenues			
Operating revenue:			
DWSD local system revenues - Detroit customers [3]	\$ 77,922,900	\$ 81,612,282	\$ 3,689,382
Miscellaneous revenue (local system)	5,000,000	5,089,230	89,230
Total revenues	<u>\$ 82,922,900</u>	<u>\$ 86,701,512</u>	<u>\$ 3,778,612</u>
Revenue requirements [4]			
Operations and maintenance:			
Local system expenses	\$ 60,402,000	\$ 60,517,992	\$ 115,992
GRS pension allocable to local system	2,856,000	2,844,200	(11,800)
Total operations and maintenance	<u>63,258,000</u>	<u>63,362,192</u>	<u>104,192</u>
Net revenues as defined by the MBO	<u>19,664,900</u>	<u>23,339,320</u>	<u>3,674,420</u>
Nonoperating activities:			
Debt service allocable to local system	27,392,500	26,767,599	(624,901)
GRS accelerated pension from local system	3,066,800	3,197,100	130,300
WRAP contribution from local system	369,000	369,000	-
Lease payment directed to debt service [5]	(11,163,400)	(9,166,667)	1,996,733
Revenue requirement variance	-	2,172,288	2,172,288
Total nonoperating activities	<u>19,664,900</u>	<u>23,339,320</u>	<u>3,674,420</u>
Total Revenue Requirements (Local System)	<u>\$ 82,922,900</u>	<u>\$ 86,701,512</u>	<u>\$ 3,778,612</u>

[1] Reflects budget presented in the Series 2018 Bond Official Statement. Adjustments are attributable to reallocation of certain non-operating revenue requirements.

[2] At the time of the issuance of the GLWA CAFR, DWSD's audited June 30, 2018 financial report had not been released. The amounts above reflect DWSD's management representation of preliminary financial results for the year ended June 30, 2018.

[3] Net of bad debt expense.

[4] Item is not considered an expense for accounting purposes but is for revenue requirement basis in establishing customer charges. Actual amounts are based on cash transfers made to the MBO bank accounts that must be funded by revenue.

[5] Lease Payment Allocation:

Total Lease Payment	\$ 27,500,000	\$ 27,500,000	\$ -
Amount Directed to Debt Service	(11,163,400)	(9,166,667)	1,996,733
Balance to be Deposited to Local System I&E Account for Revenue Financed Capital	16,336,600	18,333,333	1,996,733

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

## Schedule of Days Cash - Liquidity

June 30, 2018

	2018	2017	2016*
<i>Cash and investments -</i>			
Unrestricted	<u>\$ 208,563,268</u>	<u>\$ 205,179,312</u>	<u>\$ 188,063,375</u>
<i>Operating expense</i>			
Operating expense	\$ 363,629,987	\$ 336,946,731	\$ 170,401,050
Less: depreciation	<u>(187,250,583)</u>	<u>(185,628,465)</u>	<u>(86,021,029)</u>
<i>Net operating expense</i>	<u>\$ 176,379,404</u>	<u>\$ 151,318,266</u>	<u>\$ 84,380,021</u>
<i>Operating expense per day (365 days)</i>	<u>\$ 483,231</u>	<u>\$ 414,571</u>	<u>\$ 466,188</u>
<i>Days cash</i>			
Number of days cash	<u>432</u>	<u>495</u>	<u>403</u>

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

### Schedule of Interfund Receivables and Payables

For the Year Ended June 30, 2018

Interfund balances result from the time lag between the dates interfund goods and services provided or reimbursable expenditures occur and the payment between funds are made. Interfund balances for the year ended June 30, 2018 consisted of the following:

	Operating	I&E	Construction	Total
Due from water fund	\$ 2,091,163	\$ -	\$ 1,356,764	\$ 3,447,927
Due to water fund	-	317,866	12,427	330,293

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## STATISTICAL SECTION

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# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Statistical Section Table of Contents

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

The statistical section information is presented in the following categories:

		<u>Page</u>
Financial Trends Schedules 1 through 3	Financial trends information is intended to show how the Fund's financial position has changed over time.	63
Revenue Capacity Schedule 4	Revenue capacity information is intended to show the factors affecting the Fund's ability to generate its own-source revenue.	67
Debt Capacity Information Schedules 5 through 9	Debt capacity information is intended to show the Fund's debt burden and its ability to issue additional debt.	69
Demographic/Economic Schedules 10 through 14	Demographic and economic information is intended to show the socioeconomic environment within which the Fund operates.	77
Operating Information Schedule 15 through 18	Operating information is intended to show contextual information about operations and resources to provide understanding and assessing the Fund's economic condition.	83

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# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 1  
UNAUDITED

## Net Position by Component

	2018	2017	2016*
Net investment in capital assets	\$ 289,946,091	\$ 393,956,399	\$ 451,547,037
Restricted for debt service	101,996,536	107,931,677	108,742,193
Restricted for capital acquisition	102,506,361	150,930,508	164,326,618
Restricted for payment assistance program	3,308,896	3,117,744	-
Unrestricted (deficit)	<u>(616,077,287)</u>	<u>(722,297,171)</u>	<u>(735,208,133)</u>
	<u>\$ (118,319,403)</u>	<u>\$ (66,360,843)</u>	<u>\$ (10,592,285)</u>

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

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 2  
UNAUDITED

## Comparative Schedule of Net Position

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

continued...

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 2  
UNAUDITED

## Comparative Schedule of Net Position

	2018	2017	2016
<b>Liabilities</b>			
Current liabilities:			
Accounts and contracts payable	\$ 34,077,602	\$ 27,546,558	\$ 36,152,087
Other accrued liabilities	-	898,800	674,458
Due to other governments	47,539	35,848,573	24,225,013
Due to water fund	330,293	-	-
Interest payable	41,108,994	41,011,198	43,912,888
Current portion of:			
Long-term debt	61,186,207	65,920,307	60,902,189
Leases payable	5,884,359	5,644,435	5,414,293
Obligation payable	377,419	359,448	342,331
Accrued compensated absences	717,086	679,260	454,630
Accrued workers' compensation	-	-	390,165
Claims and judgments	334,392	3,852,062	269,250
Total current liabilities	<u>144,063,891</u>	<u>181,760,641</u>	<u>172,737,304</u>
Noncurrent liabilities:			
Long-term debt	3,168,566,028	3,236,016,730	3,387,291,190
Long-term leases payable	515,153,064	521,037,424	526,681,859
Obligation payable	38,458,178	38,835,597	39,195,045
Accrued workers' compensation	-	-	4,390,938
Claims and judgments	7,500,000	187,500	25,914,350
Other noncurrent liabilities	6,003,540	5,983,201	5,912,693
Net pension liability	114,810,555	124,506,503	109,208,359
Total noncurrent liabilities	<u>3,850,491,365</u>	<u>3,926,566,955</u>	<u>4,098,594,434</u>
Total liabilities	<u>3,994,555,256</u>	<u>4,108,327,596</u>	<u>4,271,331,738</u>
Deferred inflows of resources			
Deferred amounts for swap terminations	189,808	214,393	238,978
Deferred gain on refunding	46,654,836	49,257,784	-
Deferred pension amounts	12,994,118	11,750,654	27,805,977
Total deferred inflows of resources	<u>59,838,762</u>	<u>61,222,831</u>	<u>28,044,955</u>
Net position			
Net investment in capital assets	289,946,091	393,956,399	451,547,037
Restricted for debt service	101,996,536	107,931,677	108,742,193
Restricted for capital acquisition	102,506,361	150,930,508	164,326,618
Restricted for payment assistance program	3,308,896	3,117,744	-
Unrestricted deficit	<u>(616,077,287)</u>	<u>(722,297,171)</u>	<u>(735,208,133)</u>
Total net position	<u>\$ (118,319,403)</u>	<u>\$ (66,360,843)</u>	<u>\$ (10,592,285)</u>

concluded.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 3

UNAUDITED

## Changes in Net Position

	2018	2017	2016*
Operating revenues			
Wholesale customer charges	\$ 268,978,831	\$ 263,311,745	\$ 121,106,353
Industrial waste charges	14,334,979	14,381,106	6,910,192
Pollutant surcharges	6,908,404	5,206,294	2,423,910
Local system charges	178,969,200	187,304,100	95,826,900
Bad debt recovery	-	35,065,030	-
Other revenues	4,391,145	538,807	4,197,614
Total operating revenues	473,582,559	505,807,082	230,464,969
Operating expenses			
Personnel	53,680,162	47,894,911	13,289,741
Contractual services	64,082,761	55,878,440	13,875,756
Utilities	26,823,299	27,191,866	12,668,942
Chemicals	8,073,045	9,424,428	4,006,941
Supplies and other expenses	24,982,773	12,180,128	16,462,711
Capital program allocation	(969,671)	(1,150,316)	-
Shared services allocation	(292,965)	(101,191)	-
Centralized services	-	-	16,733,431
Administrative services	-	-	7,342,499
Depreciation	187,250,583	185,628,465	86,021,029
Total operating expenses	363,629,987	336,946,731	170,401,050
Operating income	109,952,572	168,860,351	60,063,919
Nonoperating revenues (expenses)			
Earnings on investments	5,266,255	2,209,872	1,089,367
Interest on obligations receivable	15,505,300	17,062,678	8,831,250
Interest expense	(161,052,102)	(159,157,152)	(82,489,347)
Costs of issuance and amortization of debt related items	(5,153,300)	(17,340,200)	(363,167)
Legacy pension expense	(15,988,471)	(4,504,230)	-
WRAP (Water Residential Assistance Program)	(2,248,980)	(1,243,006)	-
Other	(709,537)	(455,970)	-
Gain (loss) on disposal of capital assets	2,469,703	(42,926)	275,693
Total nonoperating expenses	(161,911,132)	(163,470,934)	(72,656,204)
Income (loss) before contributions and special item	(51,958,560)	5,389,417	(12,592,285)
Capital contributions	-	320,707	2,000,000
Special item - memorandum of understanding with DWSD	-	(61,478,682)	-
Change in net position	(51,958,560)	(55,768,558)	(10,592,285)
Net position (deficit), beginning of year	(66,360,843)	(10,592,285)	-
Net position (deficit), end of year	\$ (118,319,403)	\$ (66,360,843)	\$ (10,592,285)

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

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 4

UNAUDITED

## Operating Revenues and Charge Increases

Last Three Years\*

	2018	2017	2016 [3]
Operating revenues:			
Wholesale customer charges	\$ 268,978,831	\$ 263,311,745	\$ 121,106,353
Industrial waste and surcharges	21,243,383	19,587,400	9,334,102
Local system charges	178,969,200	187,304,100	95,826,900
Bad debt recovery	-	35,065,030	-
Other revenues	4,391,145	538,807	4,197,614
Total operating revenues	<u>\$ 473,582,559</u>	<u>\$ 505,807,082</u>	<u>\$ 230,464,969</u>
Change in budgeted revenue requirement	0.3%	4.0%	4.0%
Average annual charge increase all customers	-0.6%	8.3%	1.5%
Average annual charge increase wholesale customers	1.9%	4.9%	-1.1%
Detroit retail rate increase [2]	1.7%	3.5%	8.6%
Number of wholesale customers [1]	18	18	21

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

[1] Does not include the City of Detroit.

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

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

Source: Charge increases Great Lakes Water Authority minutes 6/7/17

Source: Charge increases Detroit retail rate Board of Water Commissioners minutes 6/21/17

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

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# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 5  
UNAUDITED

## Ratios of Outstanding Debt by Type

	2018	2017	2016*
Revenue bonds [1]	\$ 2,739,090,653	\$ 2,797,168,264	\$ 2,922,089,599
Capital appreciation bonds [1]	14,984,042	19,501,737	19,668,138
State revolving loans	475,677,540	485,267,036	506,435,742
Total	<u>\$ 3,229,752,235</u>	<u>\$ 3,301,937,037</u>	<u>\$ 3,448,193,479</u>
Total taxable value **	n/a	n/a	n/a
Total population served[2] -	2,800,000	2,800,000	2,800,000
Total debt per capita -	\$ 1,153	\$ 1,179	\$ 1,231
Per capital income [3]	\$ 51,493	\$ 50,863	\$ 48,692
Total debt as a percentage of income -	2.24%	2.32%	2.53%

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

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

[3] Source: FRED Economic Data, St. Louis Fed

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

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

Source: Great Lakes Water Authority Financial Services Area

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 6

UNAUDITED

## Debt by Lien

as of June 30, 2018

	Original Principal Amount [1]	Outstanding as of June 30, 2018	Total Future Debt [2]
<b>Senior Lien Bonds (revenue and SRF)</b>			
Sewage Disposal System Revenue Bonds (Senior), Series 1997B SRF	\$ 5,430,174	\$ 330,000	\$ 330,000
Sewage Disposal System Revenue Refunding Bonds, Series 1998A	67,615,000	18,485,000	18,485,000
Sewage Disposal System Revenue Refunding Bonds, Series 1998B	67,520,000	18,260,000	18,260,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-1	21,475,000	2,650,000	2,650,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-2	46,000,000	13,735,000	13,735,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-3	31,030,000	5,700,000	5,700,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999 SRF-4	40,655,000	7,465,000	7,465,000
Sewage Disposal System Revenue Bonds, Series 1999A	33,510,118	17,250,000	17,250,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C-1	154,870,000	41,515,000	41,515,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C-2	122,905,000	107,425,000	107,425,000
Sewage Disposal System Senior Lien Revenue & Revenue Refunding Bonds, Series 2003A	599,380,000	415,000	415,000
Sewage Disposal System Senior Lien Revenue Bonds, Series 2003B	150,000,000	100,000	100,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2004A	101,435,000	35,010,000	35,010,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2006D	370,000,000	239,475,000	239,475,000
Sewage Disposal System Revenue & Revenue Refunding Senior Lien Bonds, Series 2012A	659,780,000	524,925,000	524,925,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014C-1	123,220,000	123,220,000	123,220,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014C-2	27,470,000	27,470,000	27,470,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-3	446,170,000	446,170,000	446,170,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-5	95,165,000	34,430,000	34,430,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C-6	143,880,000	88,900,000	88,900,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2016B	126,105,000	126,105,000	126,105,000
	<u>3,433,615,292</u>	<u>1,879,035,000</u>	<u>1,879,035,000</u>
<b>Second Lien Bonds</b>			
Sewage Disposal System Second Lien Revenue Bonds, Series 2001B	110,550,000	78,895,000	78,895,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2005A	273,355,000	31,885,000	31,885,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005B	40,215,000	17,115,000	17,115,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005C	63,160,000	100,000	100,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2006B	250,000,000	55,100,000	55,100,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2014C-7	76,715,000	76,715,000	76,715,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2015C	197,660,000	197,160,000	197,160,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2016C	295,190,000	295,190,000	295,190,000
	<u>1,306,845,000</u>	<u>752,160,000</u>	<u>752,160,000</u>

continued...

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 6

UNAUDITED

## Debt by Lien

as of June 30, 2018

	Original Principal Amount [1]	Outstanding as of June 30, 2018	Total Future Debt [2]
Junior Lien Bonds (SRF)			
Sewage Disposal System Revenue Bonds, Series 2000 SRF-1	\$ 44,197,995	\$ 11,947,995	\$ 11,947,995
Sewage Disposal System Revenue Bonds, Series 2000 SRF-2	64,401,066	19,141,066	19,141,066
Sewage Disposal System Revenue Bonds, Series 2001 SRF-1	82,200,000	33,535,000	33,535,000
Sewage Disposal System Revenue Bonds, Series 2001 SRF-2	59,850,000	24,420,000	24,420,000
Sewage Disposal System Revenue Bonds, Series 2002 SRF-1	18,985,000	5,660,000	5,660,000
Sewage Disposal System Revenue Bonds, Series 2002 SRF-2	1,545,369	460,369	460,369
Sewage Disposal System Revenue Bonds, Series 2002 SRF-3	31,549,466	11,864,466	11,864,466
Sewage Disposal System Revenue Bonds, Series 2003 SRF-1	48,520,000	22,350,000	22,350,000
Sewage Disposal System Revenue Bonds, Series 2003 SRF-2	25,055,370	10,150,370	10,150,370
Sewage Disposal System Revenue Bonds, Series 2004 SRF-1	2,910,000	1,160,000	1,160,000
Sewage Disposal System Revenue Bonds, Series 2004 SRF-2	18,353,459	7,298,459	7,298,459
Sewage Disposal System Revenue Bonds, Series 2004 SRF-3	12,722,575	5,042,575	5,042,575
Sewage Disposal System Revenue Bonds, Series 2007 SRF-1	167,540,598	106,940,598	106,940,598
Sewage Disposal System Revenue Bonds, Series 2009 SRF-1	13,970,062	8,910,062	8,910,062
Sewage Disposal System Revenue Bonds, Series 2010 SRF-1	4,214,763	2,925,763	2,925,763
Sewage Disposal System Revenue Bonds, Series 2012 SRF-1	14,950,000	13,150,000	13,150,000
Sewage Disposal System Revenue Bonds, Series 2015A SRF	79,500,000	73,200,000	73,200,000
Sewage Disposal System Revenue Bonds, Series 2015B SRF	27,175,304	24,565,304	24,565,304
Sewage Disposal System Revenue Bonds, Series 2015D SRF	19,485,000	13,781,478	17,945,000
Sewage Disposal System Revenue Bonds, Series 2016 SAW-1	10,000,000	10,000,000	10,000,000
Sewage Disposal System Revenue Bonds, Series 2016 SRF-1	19,305,000	9,051,147	19,305,000
Sewage Disposal System Revenue Bonds, Series 2016 SRF-2	51,310,000	19,153,758	51,310,000
Sewage Disposal System Revenue Bonds, Series 2017 SRF-1	38,450,000	11,089,130	38,450,000
	<u>856,191,027</u>	<u>445,797,540</u>	<u>519,732,027</u>
Total sewage disposal system revenue bonds	<u>\$ 5,596,651,319</u>	<u>\$ 3,076,992,540</u>	<u>\$ 3,150,927,027</u>

concluded.

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

[2] Includes the full purchase contract amounts not drawn by June 30, 2018 from state revolving funds. Final amounts will be determined after project close-out.

Source: Great Lakes Water Authority Financial Services Area

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Schedule of Debt Service Requirements

as of June 30, 2018

Fiscal Year Ending [1]	Senior Lien Bonds (in \$1,000s)			Second Lien Bonds (in \$1,000s)		
	Principal	Interest	Total Debt Service	Principal	Interest	Total Debt Service
2019 [2]	\$ 18,550	\$ 69,373	\$ 87,923	\$ -	\$ 31,001	\$ 31,001
2020	60,620	85,743	146,363	6,075	37,696	43,771
2021	61,935	83,052	144,987	8,335	37,335	45,670
2022	50,395	80,625	131,020	17,515	36,663	54,178
2023	65,440	77,919	143,359	11,905	35,885	47,790
2024	74,955	74,397	149,352	3,215	35,485	38,700
2025	75,790	70,505	146,295	16,035	34,971	51,006
2026	74,635	66,540	141,175	16,995	34,087	51,082
2027	92,895	62,373	155,268	21,040	33,075	54,115
2028	97,065	58,266	155,331	25,795	31,840	57,635
2029	100,895	54,028	154,923	26,640	30,462	57,102
2030	105,475	49,485	154,960	19,860	29,230	49,090
2031	109,890	45,094	154,984	32,550	27,883	60,433
2032	113,795	40,939	154,734	34,175	26,215	60,390
2033	117,875	36,295	154,170	21,910	24,813	46,723
2034	123,245	30,594	153,839	25,915	23,641	49,556
2035	43,920	26,411	70,331	118,345	20,155	138,500
2036	1,450	25,273	26,723	168,680	13,075	181,755
2037	1,410	25,198	26,608	177,175	4,429	181,604
2038	107,095	22,370	129,465	-	-	-
2039	112,675	16,641	129,316	-	-	-
2040	118,550	10,614	129,164	-	-	-
2041	27,275	6,842	34,117	-	-	-
2042	28,635	5,444	34,079	-	-	-
2043	30,065	3,977	34,042	-	-	-
2044	31,570	2,436	34,006	-	-	-
2045	32,935	823	33,758	-	-	-
Total	<u>\$ 1,879,035</u>	<u>\$ 1,131,257</u>	<u>\$ 3,010,292</u>	<u>\$ 752,160</u>	<u>\$ 547,942</u>	<u>\$ 1,300,102</u>

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

[2] For bonds issued through the Michigan Finance Authority (MFA) in 2014 and 2015, the Authority is required to make payment on these obligations to the MFA depository accounts five business days prior to the due date of the bond principal and interest payments. Therefore, the payments for the principal and interest due on July 1, 2018, are not included in the debt service requirement amounts above as they were paid June 25, 2018.

Source: Great Lakes Water Authority Financial Services Area

Junior Lien Bonds (in \$1,000s)			Total (in \$1,000s)		
Principal	Interest	Total Debt Service	Total Debt Service as of June 30, 2018	Additional Future Junior Lien Debt Service on Undrawn SRF Loans	Total Future Debt Service including undrawn SRF Loans
\$ 37,390	\$ 9,815	\$ 47,205	\$ 166,129	\$ 1,874	\$ 168,003
41,460	8,961	50,421	240,555	1,848	242,403
43,310	7,985	51,295	241,952	1,848	243,800
44,540	6,971	51,511	236,709	1,848	238,557
45,534	5,932	51,466	242,615	1,848	244,463
38,430	4,953	43,383	231,435	1,848	233,283
39,306	4,070	43,376	240,677	1,848	242,525
25,515	3,306	28,821	221,078	1,849	222,927
21,434	2,802	24,236	233,619	3,350	236,969
20,719	2,349	23,068	236,034	4,498	240,532
19,126	1,911	21,037	233,062	6,528	239,590
18,921	1,514	20,435	224,485	7,123	231,608
8,581	1,204	9,785	225,202	7,124	232,326
8,525	988	9,513	224,637	7,122	231,759
8,157	781	8,938	209,831	7,702	217,533
7,795	583	8,378	211,773	8,267	220,040
7,995	387	8,382	217,213	8,264	225,477
7,225	198	7,423	215,901	8,262	224,163
595	38	633	208,845	7,021	215,866
610	23	633	130,098	7,026	137,124
630	8	638	129,954	5,781	135,735
-	-	-	129,164	-	129,164
-	-	-	34,117	-	34,117
-	-	-	34,079	-	34,079
-	-	-	34,042	-	34,042
-	-	-	34,006	-	34,006
-	-	-	33,758	-	33,758
<u>\$ 445,798</u>	<u>\$ 64,779</u>	<u>\$ 510,577</u>	<u>\$ 4,820,971</u>	<u>\$ 102,879</u>	<u>\$ 4,923,850</u>

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 8

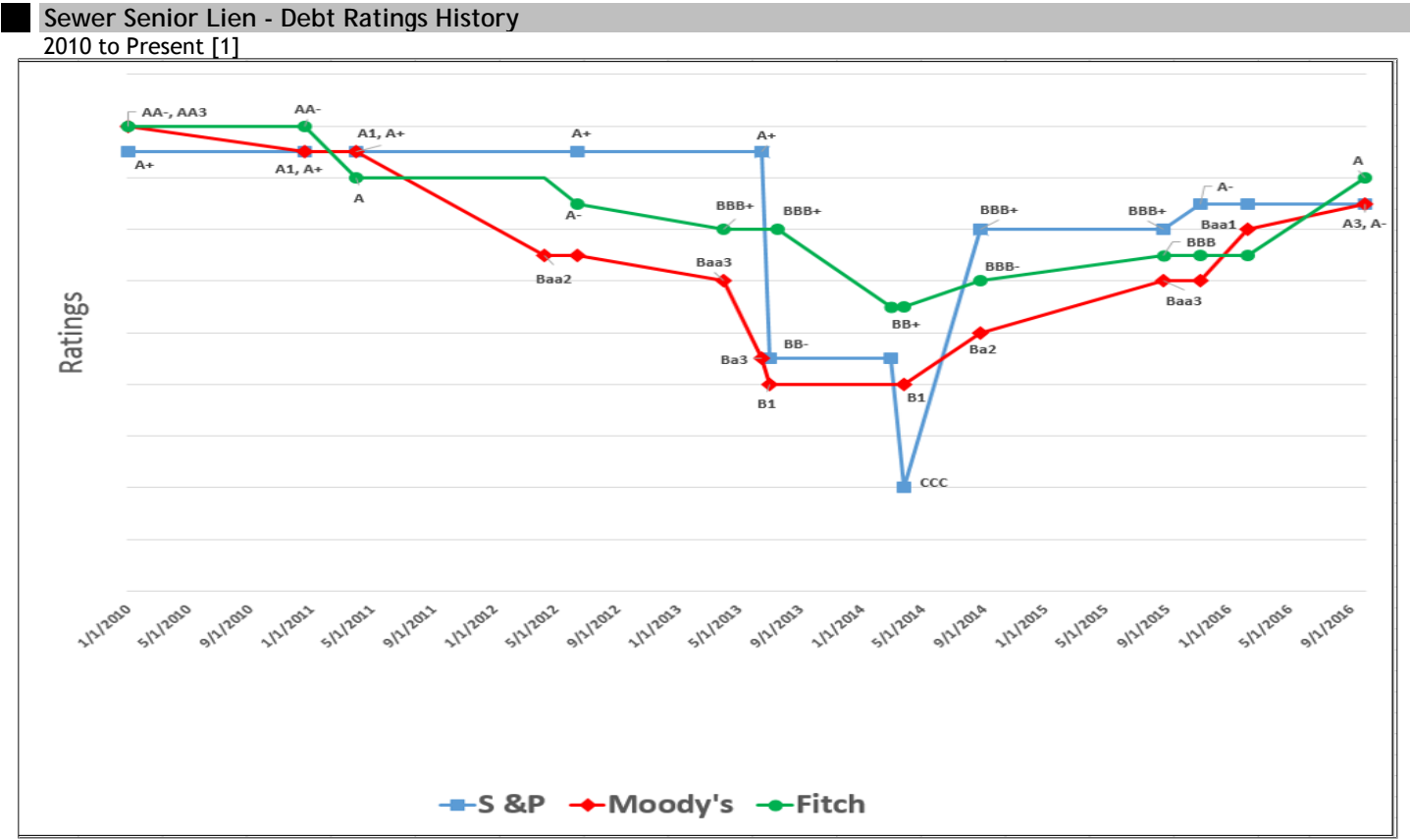
UNAUDITED

## Current Debt Ratings

as of June 30, 2018

Debt Type	Rating Agency		
	Standard & Poor's	Moody's	Fitch
Sewage disposal system revenue			
Senior lien	A-	A3	A
Second lien	BBB+	Baa1	A-
Junior lien	N/A	N/A	N/A

Source: Great Lakes Water Authority Financial Services Area



[1] September 30, 2016 ratings remain unchanged as of June 30, 2018.  
See Subsequent Event Refunding footnote for additional information on upgraded debt ratings after June 30, 2018.  
Source: Great Lakes Water Authority Financial Services Area

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# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 10

UNAUDITED

## Service Area Demographics

Last Ten Years

Year	Total Population (1)	Unemployment (2)	Per Capita Income (3)	Total Debt Service (5)	Debt Per Capita	Debt Service as a Percentage of Income
2018	2,800,000	3.7%	\$ 51,493 (4)	\$ 232,491,813	\$ 83.03	0.16%
2017	2,800,000	4.4%	50,863	234,554,814	83.77	0.16%
2016	* 2,800,000	5.3%	48,692	228,570,571	81.63	0.17%
2015	* 2,807,000	5.9%	46,894	232,612,800	82.87	0.18%
2014	* 2,807,000	8.2%	44,718	229,611,100	81.80	0.18%
2013	* 2,807,000	9.7%	42,555	225,222,900	80.24	0.19%
2012	* 2,807,000	10.1%	42,168	203,092,300	72.35	0.17%
2011	* 2,807,000	11.4%	40,607	209,063,900	74.48	0.18%
2010	* 2,807,000	13.9%	37,837	200,985,100	71.60	0.19%
2009	* 2,998,200	15.1%	36,874	195,544,837	65.22	0.18%

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

(2) Source: Bureau of Labor Statistics Detroit-Warren-Dearborn MSA Annual Average (For 2018 the September rate was used). The Detroit-Warren-Dearborn Metropolitan Statistical Area (MSA) is comprised of six counties: Wayne, Oakland, Macomb, Livingston, Lapeer and St. Clair. This represents the majority of the service area customers.

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

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

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

\*GLWA assumed operations on January 1, 2016. The information in this table from 2009-2015 is based on operations under DWSD. Data for 2016 includes six months of operation under DWSD and six months of operation under GLWA.

Source: Great Lakes Water Authority Financial Services Area

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Ten Largest Wholesale Sewer Customers / Total Billed Revenue Last Ten Years

	2009*	2010*	2011*	2012*
Operating revenues				
Oakland Macomb Interceptor Drainage District	\$ 57,753,543	\$ 52,780,322	\$ 51,216,403	\$ 59,379,605
Wayne County - Rouge Valley	40,843,614	35,175,971	41,807,733	47,309,391
Oakland County-George W Kuhn Drainage District	33,965,834	27,820,025	35,810,320	39,620,971
Evergreen Farmington	26,875,478	22,080,501	24,951,389	28,097,941
NE Wayne County	18,023,991	14,760,986	19,146,923	20,532,777
Dearborn	13,572,269	12,752,026	14,441,467	15,884,591
Highland Park	4,438,562	3,965,206	4,490,709	4,840,249
Hamtramck	2,689,250	4,386,331	3,249,930	3,437,744
Grosse Pointe Farms	1,370,953	1,605,103	1,857,469	1,922,441
Grosse Pointe Park	1,206,275	976,896	1,151,516	1,413,363
Total	<u>\$ 200,739,770</u>	<u>\$ 176,303,366</u>	<u>\$ 198,123,859</u>	<u>\$ 222,439,074</u>
Operating revenues - DWSD	\$ 390,126,398	\$ 365,537,390	\$ 410,719,075	\$ 437,654,891
Operating revenues - GLWA	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total operating revenues	<u>\$ 390,126,398</u>	<u>\$ 365,537,390</u>	<u>\$ 410,719,075</u>	<u>\$ 437,654,891</u>
% of total operating revenues	<u>51.46%</u>	<u>48.23%</u>	<u>48.24%</u>	<u>50.83%</u>

\*GLWA assumed operations on January 1, 2016. The information in this table from 2009-2015 is based on operations under DWSD. Data for 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

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

2013*	2014*	2015*	2016*	2017	2018
\$ 62,302,424	\$ 71,972,397	\$ 74,853,600	\$ 69,206,904	\$ 69,627,600	\$ 72,816,000
44,972,847	51,181,360	50,930,400	51,784,039	55,486,800	55,022,400
38,148,325	41,658,188	42,046,800	42,804,155	45,682,800	45,751,200
27,556,982	29,198,838	29,686,800	30,177,613	32,179,200	33,733,200
19,293,968	20,406,419	22,585,200	22,993,819	24,120,000	24,637,200
15,292,901	16,406,661	18,190,800	18,368,762	19,603,200	19,628,400
5,007,724	6,887,428	5,569,200	5,616,167	5,818,800	5,642,400
3,586,927	3,941,094	4,054,800	3,936,205	4,086,000	3,958,800
2,462,068	2,502,113	2,449,200	2,486,773	2,667,600	2,696,400
1,273,953	1,244,951	1,465,200	1,492,206	1,626,000	1,740,000
<u>\$ 219,898,118</u>	<u>\$ 245,399,451</u>	<u>\$ 251,832,000</u>	<u>\$ 248,866,643</u>	<u>\$ 260,898,000</u>	<u>\$ 265,626,000</u>
\$ 440,863,260	\$ 475,770,844	\$ 505,671,614	\$ 282,415,566	\$ -	\$ -
-	-	-	230,464,969	505,807,082	473,582,559
<u>\$ 440,863,260</u>	<u>\$ 475,770,844</u>	<u>\$ 505,671,614</u>	<u>\$ 512,880,535</u>	<u>\$ 505,807,082</u>	<u>\$ 473,582,559</u>
<u>49.88%</u>	<u>51.58%</u>	<u>49.80%</u>	<u>48.52%</u>	<u>51.58%</u>	<u>56.09%</u>

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 12

UNAUDITED

## Schedule of Wholesale Sewer Monthly Charges\* and Total Revenue Requirement for the Detroit Retail Class

	Total
Oakland Macomb Interceptor District (OMID)	\$ 6,068,000
Rouge Valley	4,585,200
Oakland County - George W. Kuhn (GWK)	3,812,600
Evergreen Farmington	2,811,100
Northeast Wayne County	2,053,100
Dearborn	1,635,700
Highland Park	470,200
Hamtramck	329,900
Grosse Pointe Farms	224,700
Grosse Pointe Park	145,000
Melvindale	122,300
Farmington	94,900
Center Line	82,200
Grosse Pointe	75,800
Allen Park	64,300
Redford Township	21,200
Harper Woods	19,300
Wayne County #3	3,800

Annual Detroit Wholesale Revenue Requirement \$178,969,200 - Effective July 1, 2017

\*Wholesale charges went into effect July 1, 2017

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 13

UNAUDITED

## Industrial Waste Control Charges and Pollutant Surcharges

Effective July 1, 2017

	Charge per Month
Industrial waste control charges	
Meter size - inches:	
5/8	\$ 5.68
3/4	8.52
1	14.20
1 1/2	31.24
2	45.44
3	82.36
4	113.60
6	170.40
8	284.00
10	397.60
12	454.40
14	568.00
16	681.60
18	795.20
20	908.80
24	1,022.40
30	1,136.00
36	1,249.60
48	1,363.20
	Charge Per Pound
Pollutant surcharges	
Biochemical Oxygen Demand (BOD) for concentrations > 275 mg/l	\$ 0.487
Total Suspended Solids (TSS) for concentrations > 350 mg/l	\$ 0.494
Phosphorus (P) for concentrations > 12 mg/l	\$ 7.282
Fats, Oil and Grease (FOG) for concentrations > 100 mg/l	\$ 0.469
Septage Disposal Fee \$ per 500 gallons of disposal	\$ 47.00

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 14

UNAUDITED

## Largest Employers

Current Year and 5 years Ago

Employer	Fixed Monthly Type of Business	Fiscal Year 2018		Fiscal Year 2013	
		Full-time Employees	Rank	Full-time Employees	Rank
Ford Motor Co.	Automobile manufacturer	48,000	1	43,977	1
General Motors Co.	Automobile manufacturer	37,400	2	26,843	4
FCA US LLC/Chrysler Group LLC	Automobile manufacturer	35,399	3	29,006	3
University of Michigan	Public university and health system	34,067	4	29,551	2
Beaumont Health	Health care system	28,012	5	13,134	9
Henry Ford Health System	Health care system	23,724	6	17,831	6
U.S. Government	Federal government	18,817	7	18,600	5
Rock Ventures	Umbrella entity managing a portfolio of companies in investment and real estate	17,819	8	n/a	n/a
Detroit Medical Center	Health care system	n/a	n/a	13,458	8
Trinity Health	Health care system	15,899	9	14,062	7
Ascension Michigan/St. John Providence Health System	Health care system	11,893	10	12,002	10

Source: Crain's Detroit Business, Largest Southeast Michigan Employers - Ranked by full-time employees as of July 2018 and July 2013.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 15

UNAUDITED

## Treated and Billed Wastewater Volumes

Last Ten Years

		Total	Customer Wastewater Volume (mg)			
Fiscal Year		Wastewater Treated (mg)	Wholesale Customers [1]	Local System [2]	Total	
2009	*	\$ 260,800	\$ 123,200	\$ 29,600	\$ 152,800	
2010	*	221,400	100,600	27,100	127,700	
2011	*	253,500	112,700	28,000	140,700	
2012	*	255,500	112,600	24,900	137,500	
2013	*	220,600	99,400	23,100	122,500	
2014	*	233,200	107,200	22,100	129,300	
2015	*	222,700	103,700	20,100	123,800	
2016	*	209,200	96,800	20,600	117,400	
2017		254,400	105,500	19,200	124,700	
2018		235,600	119,400	19,500	138,900	

\*GLWA assumed operations on January 1, 2016. The information in this table from 2009-2015 is based on operations under DWSD. Data from 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

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

[2] Reported water sales to retail customers

Source: Great Lakes Water Authority Financial Services Area and DWSD

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 16  
UNAUDITED

## Pledges of Revenue and Debt Service Coverage as of June 30, 2018

The Authority has pledged specific revenue streams to secure the repayment of the revenue bonds and State of Michigan revolving fund loans. The bonds and loans are paid solely from the net revenues of the Sewer System including the retail revenues from the Retail Customers who are serviced under the Water and Sewer Services Agreement with the City of Detroit. The pledged revenues for the fiscal year ending June 30, 2018 were reported by two entities because of the lease agreement between the City of Detroit and Great Lakes Water Authority which became effective on January 1, 2016. The pledged revenue definition in the Great Lakes Water Authority Master Bond Ordinance includes the retail revenues of the City of Detroit Water and Sewerage Department as this revenue is pledged for payment of the bonded debt owed by the Great Lakes Water Authority. A summary of the pledged revenue and the applicable debt as of June 30, 2018 is as follows:

	Budget [3]	Actual [4]	Variance	% Variance
Term of pledged commitment	Through 2045			
Calculation of Pledged Revenue as defined in Master Bond Ordinance				
GLWA revenue pledged-excludes local charges				
Suburban Wholesale Customers [1]	\$ 267,033,800	\$ 268,978,831	\$ 1,945,031	1%
Industrial waste charges	14,457,700	14,334,979	(122,721)	-1%
Pollutant surcharges	5,099,000	6,908,404	1,809,404	35%
Subtotal - Regional System Suburban Wholesale Customers	286,590,500	290,222,214	3,631,714	1%
Detroit Customers				
Wholesale Service Charge Revenue [1]	178,969,200	178,969,200	-	0%
Local Service Revenues	77,922,900	81,612,282	3,689,382	5%
Total Detroit Customers	256,892,100	260,581,482	3,689,382	1%
Total Service Charge Revenue	543,482,600	550,803,696	7,321,096	1%
Other Operating Revenue-GLWA	-	4,391,145	4,391,145	100%
Other Operating Revenue-DWSD	5,000,000	5,089,230	89,230	2%
Earnings on investments net of construction fund investment earnings	2,751,000	4,022,582	1,271,582	46%
Total Revenue	551,233,600	564,306,653	13,073,053	2%
Cash Transfers				
Operations and Maintenance Fund Regional System	201,903,400	201,889,000	(14,400)	0%
Operations and Maintenance Fund Local System	63,258,000	63,362,192	104,192	0%
Total Cash Transfers to Operations and Maintenance Funds	265,161,400	265,251,192	89,792	0%
Pledged revenue for the year ending June 30, 2018	\$ 286,072,200	\$ 299,055,461	\$ 12,983,261	5%
Principal and interest funding requirement for the year ending June 30, 2018 [2]:				
Senior Lien Bonds	\$ 142,376,800	\$ 141,718,836	\$ (657,964)	0%
Second Lien Bonds	43,990,100	43,990,100	-	0%
Total Senior and Second Lien Bonds	186,366,900	185,708,936	(657,964)	0%
Junior Lien Bonds	48,641,100	46,782,877	(1,858,223)	-4%
Total All Bonds	\$ 235,008,000	\$ 232,491,813	\$ (2,516,187)	-1%
Rate Covenant Debt Service Coverage [2]				
Senior Lien Bonds	2.01	2.11	0.10	5%
Senior and Second Lien Bonds	1.53	1.61	0.08	5%
All Bonds, Including SRF Junior Lien	1.22	1.29	0.07	6%
Approximate amount in restricted cash investments related to various bond indentures at June 30, 2018		\$ 99,654,215		

[1] Total GLWA Regional System Wholesale Revenue

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

[3] The purpose of this information is to show a combined reference of the regional system revenue requirements as approved by the GLWA and the local revenue requirements adopted and amended by DWSD included here for review of budget-to-actual performance in alignment with the Master Bond Ordinance. The DWSD budget reflects the budget presented in the Series 2018 Bond Official Statement. Adjustments are attributable to reallocation of certain non-operating revenue requirements.

[4] At the time of the issuance of the GLWA CAFR, DWSD's audited financial report had not been released. The local system amounts above reflect DWSD's management representation of preliminary financial results for the year ended June 30, 2018.

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 17  
UNAUDITED

## Pledges of Revenue and Debt Service Coverage Last Three Years

	2018 [3]	2017 [4]	2016 [1]
Pledged revenue	<u>\$ 299,055,461</u>	<u>\$ 326,300,994</u>	<u>\$ 326,048,837</u>
Principal and interest funding requirement [2]:			
Senior and second lien bonds			
Senior lien bonds	\$ 141,718,836	\$ 140,854,010	\$ 140,191,016
Second lien bonds	<u>43,990,100</u>	<u>47,918,639</u>	<u>48,944,924</u>
Total senior and second lien bonds	<u>185,708,936</u>	<u>188,772,649</u>	<u>189,135,940</u>
Junior lien bonds	<u>46,782,877</u>	<u>45,782,165</u>	<u>39,434,631</u>
Total all bonds	<u>\$ 232,491,813</u>	<u>\$ 234,554,814</u>	<u>\$ 228,570,571</u>
Rate covenant debt service coverage [2]			
Senior lien bonds	2.11	2.32	2.33
Senior and second lien bonds	1.61	1.73	1.72
All bonds, including SRF junior lien	1.29	1.39	1.43

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

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

[3] At the time of the issuance of the GLWA CAFR, DWSD's audited financial report had not been released. The local system amounts above reflect DWSD's management representation of preliminary financial results for the year ended June 30, 2018.

[4] Pledged revenue was updated for change in what items to include in DWSD revenue. The miscellaneous operating income was removed and the revenue was reduced for bad debt expense reported under operating expenses by DWSD.

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 18  
UNAUDITED

## Additional Summary Statistics Last Three Years\*

	2018	2017	2016
<b>Capital Asset Statistics</b>			
Water Resource Recovery Facility	1	1	1
Major Interceptors	3	3	3
Combined Sewer Overflow Facilities:			
Retention Treatment Basins	5	5	5
Flow-through Type Facilities	3	3	3
Miles of Trunk Sewers and Interceptors	181	181	181
<b>GLWA Employees [1]</b>	968	881	782

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

[1] Amount represents total GLWA employees for both water and wastewater operations.

Source: Great Lakes Water Authority Financial Services Area



**GLWA**

*Great Lakes Water Authority*

**Financial Services**

735 Randolph, Suite 1608  
Detroit, Michigan 48226