



# Sewage Disposal Fund

*Fiscal Year Ended June 30, 2017*



We are  
***One water.***

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

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**INDEPENDENT AUDITORS' REPORT**

May 10, 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, 2017, 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, 2017, 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, 2017, 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.

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the schedules for the pension plan, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the required supplementary information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *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 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 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 May 10, 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.

*Rehmann Lobson LLC*

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Statement of Net Position

June 30, 2017

### Assets

#### Current assets:

Cash and cash equivalents	\$ 203,748,704
Restricted cash and cash equivalents	72,213,813
Investments	1,430,608
Restricted investments	31,371,834
Receivables:	
Billed	52,234,778
Unbilled	24,279,170
Other	3,157,050
Allowance for doubtful accounts	(30,410,232)
Due from other governments	29,461,328
Contractual obligation receivable	11,262,300
Prepaid items and other assets	1,089,521
Inventories	8,509,454
Total current assets	<u>408,348,328</u>

#### Noncurrent assets:

Restricted cash and cash equivalents	128,378,837
Restricted investments	81,177,748
Contractual obligation receivable	346,828,300
Prepaid lease	13,750,000
Assets not subject to depreciation	278,286,118
Capital assets being depreciated, net	2,591,023,442
Prepaid insurance on debt	18,581,897
Total noncurrent assets	<u>3,458,026,342</u>

Total assets	<u>3,866,374,670</u>
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#### Deferred outflows of resources

Deferred loss on refunding	198,351,942
Deferred pension amounts	<u>38,462,972</u>

Total deferred outflows of resources	<u>236,814,914</u>
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# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Statement of Net Position

June 30, 2017

### Liabilities

#### Current liabilities:

Accounts and contracts payable	\$ 27,546,558
Other accrued liabilities	898,800
Due to other governments	35,848,573
Interest payable	41,011,198
Current portion of:	
Long-term debt	65,920,307
Lease payable	5,644,435
Obligation payable	359,448
Accrued compensated absences	679,260
Claims and judgments	3,852,062
Total current liabilities	<u>181,760,641</u>

#### Noncurrent liabilities:

Other noncurrent liabilities	5,983,201
Long-term debt	3,236,016,730
Long-term lease payable	521,037,424
Obligation payable	38,835,597
Claims and judgments	187,500
Net pension liability	124,506,503
Total noncurrent liabilities	<u>3,926,566,955</u>

Total liabilities	<u>4,108,327,596</u>
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### Deferred inflows of resources

Deferred amounts for swap terminations	214,393
Deferred gain on refunding	49,257,784
Deferred pension amounts	<u>11,750,654</u>

Total deferred inflows of resources	<u>61,222,831</u>
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### Net position

Net investment in capital assets	393,956,399
Restricted for debt service	107,931,677
Restricted for capital acquisition	150,930,508
Restricted for payment assistance program	3,117,744
Unrestricted (deficit)	<u>(722,297,171)</u>

Total net position (deficit)	<u>\$ (66,360,843)</u>
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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, 2017

Operating revenues	
Wholesale customer charges	\$ 263,311,745
Industrial waste charges	14,381,106
Pollutant surcharges	5,206,294
Local system charges	187,304,100
Bad debt recovery	35,065,030
Other revenues	538,807
	<hr/>
Total operating revenues	505,807,082
	<hr/>
Operating expenses	
Operating before depreciation:	
Personnel	47,894,911
Contractual services	55,878,440
Utilities	27,191,866
Chemicals	9,424,428
Supplies and other expenses	12,180,128
Capital program allocation	(1,150,316)
Shared services allocation	(101,191)
Total operating before depreciation	151,318,266
	<hr/>
Depreciation	185,628,465
	<hr/>
Total operating expenses	336,946,731
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Operating income	168,860,351
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Nonoperating revenues (expenses)	
Earnings on investments	2,209,872
Interest on obligations receivable	17,062,678
Interest expense, net of capitalized interest	(159,157,152)
Amortization of debt related items and costs of issuance	(17,340,200)
Other	(6,203,206)
Loss on disposal of capital assets	(42,926)
	<hr/>
Total nonoperating expenses	(163,470,934)
	<hr/>
Income before contributions and special item	5,389,417
	<hr/>
Capital contributions	320,707
	<hr/>
Special item - memorandum of understanding with DWSD	(61,478,682)
	<hr/>
Change in net position	(55,768,558)
	<hr/>
Net position (deficit), beginning of year	(10,592,285)
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Net position (deficit), end of year	\$ (66,360,843)
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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, 2017

Cash flows from operating activities	
Cash received from customers	\$ 469,715,953
Cash payments to suppliers for goods and services	(88,808,269)
Cash payments for employee services	(85,935,607)
Cash received from interfund services provided	65,971
Cash received for DWSD budget stabilization	2,680,092
Cash received (net) for DWSD nonoperating pension	522,683
Cash payments (net) from miscellaneous nonoperating expense	(6,203,206)
Principal payments received on obligation receivable	4,288,922
Interest received on obligation receivable	17,062,678
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Net cash provided by operating activities	313,389,217
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Cash flows from capital and related financing activities	
Proceeds from fire remediation	5,000,000
Proceeds from issuance of long-term refunding debt	482,467,729
Proceeds from state revolving fund loans	22,216,294
Payment to bond refunding escrow agent	(505,629,823)
Payments for bond issuance costs	(2,520,484)
Principal payments on bonds	(89,045,000)
Principal payments on lease	(5,414,293)
Interest payments	(164,865,242)
Purchase of capital assets	(55,206,526)
	<hr/>
Net cash used in capital and related financing activities	(312,997,345)
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Cash flows from investing activities	
Investment purchases	\$ (290,767,815)
Investment maturities	300,005,179
Interest received	1,967,971
	<hr/>
Net cash provided by investing activities	11,205,335
	<hr/>
Net change in cash and cash equivalents	11,597,207
	<hr/>
Cash and cash equivalents, beginning of year	392,744,147
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Cash and cash equivalents, end of year	\$ 404,341,354
	<hr/>
Statement of net position classification of cash	
Cash and cash equivalents	\$ 203,748,704
Restricted cash and cash equivalents	72,213,813
Noncurrent restricted cash and cash equivalents	128,378,837
	<hr/>
	\$ 404,341,354
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## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Statement of Cash Flows

For the Year Ended June 30, 2017

#### Reconciliation of operating income to net

#### cash provided by operating activities:

Operating income	\$ 168,860,351
Adjustments to reconcile operating income to net cash provided by operating activities:	
Depreciation	185,628,465
Miscellaneous nonoperating expense	(6,203,206)
Interest income on contractual obligation receivable	17,062,678
Interest expense on obligation payable	(1,614,602)
Adjustment of special item	(61,478,682)
Changes in:	
Receivables:	
Billed	(4,187,844)
Unbilled	(1,241,779)
Other (excludes capital item)	84,591,939
Allowance for doubtful accounts	(68,558,398)
Due from other governments	36,740,815
Contractual obligation receivable	13,241,150
Due from other funds	65,971
Prepaid lease	(13,750,000)
Other assets (excludes investing item)	(587,000)
Inventories	1,474,609
Accounts payable (excludes capital items)	(6,781,318)
Other accrued liabilities (excludes capital items)	318,512
Due to other governments (excludes non-capital financing)	11,623,560
Other noncurrent liabilities	70,508
Obligation payable	(342,331)
Accrued compensated absences	224,630
Accrued workers' compensation	(4,781,103)
Claims and judgments	(22,144,038)
Net pension liability and deferred items	(14,843,670)

#### Net cash provided by operating activities

\$ 313,389,217

concluded

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

## 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 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 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 988 square miles located in three Michigan counties and an estimated population of nearly 2.9 million or approximately 28% of Michigan's population. Suburban customers comprise approximately 75% of the population served by the System; retail sewer customers comprise the remainder.

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. Below is a summary of the more significant accounting policies followed in the preparation of the Fund's financial statements.

#### Authority Governance

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

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

# 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, which are organized as an enterprise 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 Equity*

#### *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 Cash and Cash Equivalents*

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

#### *Unbilled Revenue*

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### *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.

### *Prepaid Items and Other Assets*

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

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

### *Prepaid Lease*

As described in Note 7, the 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 described in Note 12, based on a Memorandum of Understanding (MOU) Term Sheet with DWSD, dated April 2018, this will be applied at the end of the 40 year term and, hence it is classified as noncurrent.

### *Capital Assets*

Capital assets are recorded at historical cost, together with interest capitalized during construction. All acquisitions of land and land improvements are capitalized regardless of cost.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend assets' lives are not capitalized.

Major outlays for capital assets and improvements are capitalized as projects are constructed. Interest incurred during the construction phase of capital assets of business-type activities is included as part of the capitalized value of the assets constructed.

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

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

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.

### *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 10.

### *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 6.

### *Lease Payable*

The effective date of the lease by the City to the Authority for the leased sewer facility was January 1, 2016. See Note 7 for the detail of the lease.

### *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 is approximately \$679,000 for the Fund on June 30, 2017.

The Authority also has an accrued compensated absence liability assumed on January 1, 2016 relating to the accumulated unpaid vacation and sick leave balances for those employees who retired from the City or resigned from the City and accepted employment with the Authority on January 1, 2016. The June 30, 2017 balance of the accrued compensated absences for the liability assumed on January 1, 2016 is approximately \$2,990,000. This liability is recorded in the Water Fund as the disbursements for payment will be processed from 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 deferred amounts 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 and so will not be recognized as an inflow of resources (or revenues) until that time. 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 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*

Revenues and expenses are classified 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 \$3,165,055 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; accordingly operating expenses for personnel and contractual services have been reported net of the charges for shared services to DWSD.

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

#### *Taxes*

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

#### *Interest Income*

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

#### *Interest Expense*

Interest expense in the statement of revenues, expenses and changes in fund net position includes amounts related to the accretion of capital appreciation bonds. Interest expense is reported net of capitalized interest.

#### *Capital Contributions*

Contributed capital represents the acquisition value of sewer lines received from a wholesale customer.

#### *Central Services and Administrative Services*

Various common costs incurred by the Authority are allocated proratably between the water and sewer funds. The allocations are based on management's best estimate and may change from year to year depending on the activities incurred by each fund and the information available. The following table shows the allocation of these common costs for the year ended June 30, 2017:

Common Costs	Water % Allocation	Water Allocation	Sewer % Allocation	Sewer Allocation	Total Common Costs
Centralized services	52.4%	\$ 35,379,657	47.6%	\$ 32,171,959	\$ 67,551,616
Administrative services	30.3%	7,241,024	69.7%	16,656,631	23,897,655

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

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### *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.

## 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. A budget to actual schedule for revenues and expenses is presented in the other supplementary information section of this report. This schedule is not required by GAAP or subject to audit procedures. It is presented strictly for internal use only.

### *Budget Process*

GLWA is required 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 water and sewer systems for each fiscal year; f) the amounts needed to make the required deposits to the regional Extraordinary Repair and Replacement Reserve Fund and the regional Improvement and Extension Fund as defined in the Master Bond Ordinance; and g) the amount necessary to satisfy the coverage ratios required by the rate covenant in the Master Bond Ordinance.

As provided in the leases, through the fiscal year ending June 30, 2025, the 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 water and 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, 2017 are reported in the basic financial statements as follows:

#### Statement of Net Position

Cash and cash equivalents	\$ 203,748,704
Restricted cash and cash equivalents	72,213,813
Investments	1,430,608
Restricted investments	31,371,834
Noncurrent restricted cash and cash equivalents	128,378,837
Noncurrent restricted investments	<u>81,177,748</u>

Total	<u><u>\$ 518,321,544</u></u>
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#### Cash Deposits and Investments

Bank deposits -	
Checking/savings accounts	\$ 8,078,374
Investments in securities	113,980,189
Money market accounts	<u>396,262,981</u>

Total	<u><u>\$ 518,321,544</u></u>
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Restricted cash of the Fund primarily consists of amounts held in reserve for construction retainage and for future debt service payments.

*Custodial Credit Risk - Deposits and Money Market Accounts.* Deposits and money market accounts are exposed to custodial credit risk if they are not covered by depository insurance. At year-end, the carrying amount of the Fund's deposits and money market accounts was \$404,341,355. The bank balance of the sewage disposal fund deposits and money markets was \$379,931,554 of which \$379,593,521 was uninsured and uncollateralized.

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

*Custodial Credit Risk - Investments.* Following is a summary of the Fund's investments as of June 30, 2017:

U.S. treasury notes	\$ 65,805,779
U.S. government agencies	<u>48,174,410</u>
Total	<u><u>\$ 113,980,189</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.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

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

As of June 30, 2017, all of the Fund's investments in securities of U.S. agencies were rated AA+ by Standard & Poor's and Aaa by Moody's. U.S. treasury securities are explicitly guaranteed by the U.S. government and not considered to have credit risk. The 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, 2017, 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	64.75%
U.S. government agencies	Federal National Mortgage Association	10.36%
U.S. government agencies	Federal Farm Credit Banks	24.89%

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

As of June 30, 2017, the Fund's fixed income investments had the following maturities:

	< 1 year	1 - 5 years	6 - 10 years	Total
U.S. treasury notes	\$ 36,244,899	\$ 29,560,880	\$ -	\$ 65,805,779
U.S. government agencies	48,174,410	-	-	48,174,410
Totals	<u>\$ 84,419,309</u>	<u>\$ 29,560,880</u>	<u>\$ -</u>	<u>\$ 113,980,189</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, 2017:

	Level 1	Level 2	Level 3	Total
Investments by fair value level:				
U.S. treasury notes	\$ 65,805,779	\$ -	\$ -	\$ 65,805,779
U.S. government agencies	-	48,174,410	-	48,174,410
Totals	<u>\$ 65,805,779</u>	<u>\$ 48,174,410</u>	<u>\$ -</u>	<u>\$ 113,980,189</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 Board guidance, a detailed and sequential flow of funds concept is followed along with a set of procedures that establishes various physically segregated accounts through which monies flow and are maintained at certain levels in satisfaction of all borrowing and other legal requirements.

The following schedules provide, in the order of the flow of funds per the Master Bond Ordinance, the distribution of cash and investments between restricted and unrestricted assets based on the source of the monies as of June 30, 2017:

	Funded from Revenue		Funded from Debt Issuance	
	Unrestricted	Restricted	Restricted	Total
Operations and maintenance	\$ 99,335,780	\$ -	\$ -	\$ 99,335,780
Senior lien debt service	-	46,822,343	-	46,822,343
Senior lien bond reserve	-	-	142,860,146	142,860,146
Second & Junior lien debt service	-	37,576,233	-	37,576,233
Second & Junior lien debt reserve	-	-	70,106,077	70,106,077
Pension obligation	-	4,167,903	-	4,167,903
Water Residential Assistance Program (WRAP)	-	3,600,945	-	3,600,945
Budget stabilization	-	5,500,000	-	5,500,000
Extraordinary repair and replacement	44,000,000	-	-	44,000,000
Improvement and extension - Regional	61,843,532	-	-	61,843,532
Subtotal - reserves defined by ordinance	205,179,312	97,667,424	212,966,223	515,812,959
Less: funded by surety (non-cash)	-	-	(148,421,923)	(148,421,923)
Total - reserves defined by ordinance (net of surety coverage)	205,179,312	97,667,424	64,544,300	367,391,036
Unspent construction bond proceeds	-	-	150,930,508	150,930,508
Total cash, cash equivalents and investments	\$ 205,179,312	\$ 97,667,424	\$ 215,474,808	\$ 518,321,544

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	\$ 203,748,704	\$ 72,213,813	\$ 128,378,837	\$ 404,341,354
Investments	1,430,608	31,371,834	81,177,748	113,980,190
Totals	\$ 205,179,312	\$ 103,585,647	\$ 209,556,585	\$ 518,321,544

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

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### 5. CAPITAL ASSETS

Capital assets activity for the year ended June 30, 2017 was as follows:

	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
Nondepreciable capital assets:					
Land	\$ 28,733,333	\$ -	\$ -	\$ -	\$ 28,733,333
Easements	96,211,323	-	-	-	96,211,323
Construction in progress	170,931,602	57,328,097	-	(74,918,237)	153,341,462
Total nondepreciable assets	295,876,258	57,328,097	-	(74,918,237)	278,286,118
Depreciated capital assets:					
Site improvements	36,280,397	12,981	(14,467)	-	36,278,911
Buildings and structures	1,059,318,822	19,050	-	18,135,132	1,077,473,004
Infrastructure	596,856,313	320,707	-	-	597,177,020
Machinery and equipment	1,091,711,217	920,875	(26,105)	56,783,105	1,149,389,092
Vehicles	1,426,261	611,843	(12,140)	-	2,025,964
Total depreciable assets	2,785,593,010	1,885,456	(52,712)	74,918,237	2,862,343,991
Less accumulated depreciation:					
Site improvements	(3,398,076)	(6,796,224)	1,276	-	(10,193,024)
Buildings and structures	(26,554,348)	(53,289,123)	-	-	(79,843,471)
Infrastructure	(6,903,182)	(13,808,034)	-	-	(20,711,216)
Machinery and equipment	(48,575,116)	(111,151,221)	3,953	-	(159,722,384)
Vehicles	(271,143)	(583,863)	4,552	-	(850,454)
Total accumulated depreciation	(85,701,865)	(185,628,465)	9,781	-	(271,320,549)
Total capital assets being depreciated, net	2,699,891,145	(183,743,009)	(42,931)	74,918,237	2,591,023,442
Total capital assets	\$ 2,995,767,403	\$ (126,414,912)	\$ (42,931)	\$ -	\$2,869,309,560

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

#### 6. LONG-TERM DEBT

Changes in long-term debt and accrued compensated absences for the year ended June 30, 2017 were as follows:

	Beginning Balance	Increase	Decrease	Refunding	Ending Balance	Amount due within one year
Revenue bonds	\$2,739,665,000	\$ 421,295,000	\$ (44,310,000)	\$ (480,140,000)	\$ 2,636,510,000	\$ 11,430,000
Capital appreciation bonds	24,165,000	-	(1,350,000)	-	22,815,000	5,565,000
Discount on capital appreciation bonds	(4,496,962)	-	1,183,699	-	(3,313,263)	(1,047,305)
State revolving loans	506,435,742	22,216,294	(43,385,000)	-	485,267,036	44,340,000
Deferred amounts for:						
Unamortized premiums	308,918,380	-	(97,287,469)	61,172,729	272,803,640	17,944,003
Unamortized discounts	(126,493,781)	-	14,348,405	-	(112,145,376)	(12,311,391)
Total debt, net	3,448,193,379	443,511,294	(170,800,365)	(418,967,271)	3,301,937,037	65,920,307
Compensated absences	454,630	1,325,402	(1,100,772)	-	679,260	679,260
<b>Totals</b>	<b>\$3,448,648,009</b>	<b>\$ 444,836,696</b>	<b>\$ (171,901,137)</b>	<b>\$ (418,967,271)</b>	<b>\$ 3,302,616,297</b>	<b>\$ 66,599,567</b>

As of June 30, 2017, 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
2018	\$ 61,335,000	\$ 110,240,488	\$ 171,575,488
2019	97,210,000	133,554,997	230,764,997
2020	107,670,000	129,866,991	237,536,991
2021	112,280,000	125,861,663	238,141,663
2022	110,582,370	121,782,125	232,364,495
2023-2027	603,930,293	535,302,905	1,139,233,198
2028-2032	739,471,085	396,865,059	1,136,336,144
2033-2037	823,313,288	231,254,093	1,054,567,381
2038-2042	394,230,000	61,911,756	456,141,756
2043-2045	94,570,000	7,236,250	101,806,250
	<u>\$3,144,592,036</u>	<u>\$1,853,876,326</u>	<u>\$ 4,998,468,362</u>

For bonds issued through the Michigan Finance Authority (MFA) in 2014 and 2015, the Authority is required to make payment on these obligations to the MFA depository account five business days prior to the actual due date of the bond principal and interest payments. Therefore, the payments for principal and interest due on July 1, 2017 are not included in the debt service requirements amounts above as they were paid on June 26, 2017.



# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### Revenue Bonds Payable

Net revenues of the Fund are pledged to repayment of bonds; following are the revenue bonds payable at June 30, 2017:

Issue	Bond Date	Original Issue Amount	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance	Callable
Series 1998-A	12/14/06	\$ 18,540,000	5.50%	7/1/17	\$ 2,265,000	
Series 1998-A	12/14/06	49,075,000	5.25%	7/01/18-23	18,485,000	c
Series 1998-B	12/14/06	18,750,000	5.50%	7/1/17	3,390,000	
Series 1998-B	12/14/06	48,770,000	5.25%	7/01/18-23	18,260,000	c
Series 1999-A **	12/01/99	33,510,118	—	7/01/17-21	19,501,737	
Series 2001-B	9/15/01	110,550,000	5.50%	7/01/23-29	78,895,000	
Series 2001-C-1	6/17/09	6,360,000	5.25%	7/01/17-19	1,095,000	
Series 2001-C-1	6/17/09	148,510,000	6.50-7.00%	7/01/20-27	40,705,000	c
Series 2001-C-2	5/08/08	3,275,000	4.00%	7/01/17-18	705,000	
Series 2001-C-2	5/08/08	119,630,000	4.00-5.25%	7/01/19-29	107,045,000	c
Series 2003-A	5/15/03	213,395,000	5.50%	7/01/17-18	3,150,000	
Series 2003-B	6/17/09	150,000,000	7.50%	7/1/33	100,000	c
Series 2004-A	2/12/04	101,435,000	5.25%	7/01/19-24	35,010,000	
Series 2005-A	3/17/05	237,805,000	4.50%	7/1/35	100,000	c
Series 2005-A	3/17/05	31,785,000	5.00%	7/01/34-35	31,785,000	c
Series 2005-B	3/17/05	40,215,000	5.50%	7/01/21-22	17,115,000	
Series 2005-C	4/05/05	41,095,000	5.00%	7/1/25	100,000	c
Series 2006-B	8/10/06	183,150,000	5.00%	7/1/36	100,000	c
Series 2006-B	8/10/06	55,000,000	5.00%	7/01/34-36	55,000,000	c
Series 2006-D	12/14/06	370,000,000	Variable (*)	7/01/26-32	239,475,000	c
Series 2012-A	6/26/12	95,445,000	5.00%	7/01/17-22	64,545,000	
Series 2012-A	6/26/12	564,335,000	5.00 - 5.50	7/01/23-39	462,810,000	c
Series 2014-A (C-1)	9/04/14	20,000	5.00%	7/01/19-22	20,000	
Series 2014-A (C-1)	9/04/14	123,200,000	5.00%	7/01/23-44	123,200,000	c
Series 2014-B (C-2)	9/04/14	20,000	5.00%	7/01/19-22	20,000	
Series 2014-B (C-2)	9/04/14	27,450,000	5.00%	7/01/23-44	27,450,000	c
Series 2014-C (C-3)	9/04/14	142,600,000	5.00%	7/01/21-24	142,600,000	
Series 2014-C (C-3)	9/04/14	303,570,000	5.00%	7/01/25-33	303,570,000	c
Series 2014-D (C-5)	9/04/14	95,165,000	5.00%	7/01/18-20	69,595,000	
Series 2014-E (C-6)	9/04/14	88,900,000	5.00%	7/01/32-33	88,900,000	c
Series 2014-F (C-7)	9/04/14	32,650,000	5.00%	7/01/19-24	32,650,000	
Series 2014-F (C-7)	9/04/14	44,065,000	5.00%	7/01/25-36	44,065,000	c
Series 2014-G (C-8)	9/04/14	23,240,000	5.00%	7/01/17-18	5,850,000	
Series 2015 (C-1)	12/15/15	197,160,000	5.00%	7/01/26-35	197,160,000	c
Series 2016-B	10/27/16	14,445,000	5.00%	7/01/24-26	14,445,000	
Series 2016-B	10/27/16	111,660,000	5.00%	7/01/27-34	111,660,000	c
Series 2016-C	10/27/16	295,190,000	4.00-5.00%	7/01/27-36	295,190,000	c
Total revenue and capital appreciation bonds payable					<u>\$ 2,656,011,737</u>	

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

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

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

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

## 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, 2017 includes revenues reported by the Great Lakes Water Authority and the City of Detroit Water and Sewerage Department as this revenue is pledged for payment of the bonds and loans of the Great Lakes Water Authority.

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

See table below for pledged revenue requirements as of June 30, 2017:

Remaining principal and interest requirement	\$4,998,468,362
Principal and interest funding requirement for the year ending June 30, 2017 (Computed consistent with rate Covenant basis for rate determination purposes. Not applicable for purposes of additional bond	\$ 234,554,814
Pledged revenue for the year ending June 30, 2017	\$ 354,290,815
Pledged revenue collected as a percentage of funding requirement	151.0%
Approximate amount in restricted cash and investments related to various bond indentures at June 30, 2017	\$ 150,900,000

## 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, 2017:

Issue	Bond Date	Amount Issued	Range of Interest Rates	Maturity Dates	Outstanding Ending Balance
Series 1997-B-SRF	9/30/97	\$ 5,430,174	2.250%	10/01/17-18	\$ 650,000
Series 1999-SRF-1	6/24/99	21,475,000	2.50%	4/01/18-20	3,930,000
Series 1999-SRF-2	9/30/99	46,000,000	2.50%	10/01/17-22	16,280,000
Series 1999-SRF-3	9/30/99	31,030,000	2.50%	10/01/17-20	7,505,000
Series 1999-SRF-4	9/30/99	40,655,000	2.50%	10/01/17-20	9,830,000
Series 2000-SRF-1	3/30/00	44,197,995	2.50%	10/01/17-22	13,947,995
Series 2000-SRF-2	9/28/00	64,401,066	2.50%	10/01/17-22	22,691,066
Series 2001-SRF-1	6/28/01	82,200,000	2.50%	10/01/17-24	37,865,000
Series 2001-SRF-2	12/20/01	59,850,000	2.50%	10/01/17-24	27,575,000
Series 2002 SRF-1	6/27/02	18,985,000	2.50%	4/01/18-23	6,710,000
Series 2002-SRF-2	6/27/02	1,545,369	2.50%	4/01/18-23	545,369
Series 2002-SRF-3	12/19/02	31,549,466	2.50%	10/01/17-24	13,399,466
Series 2003-SRF-1	6/26/03	48,520,000	2.50%	10/01/17-25	24,845,000
Series 2003-SRF-2	9/25/03	25,055,370	2.50%	4/01/18-25	11,460,370
Series 2004 SRF-1	6/24/04	2,910,000	2.125%	10/01/17-24	1,310,000
Series 2004 SRF-2	6/24/04	18,353,459	2.125%	4/01/18-25	8,258,459
Series 2004 SRF-3	6/24/04	12,722,575	2.125%	4/01/18-25	5,707,575
Series 2007 SRF-1	9/20/07	167,540,598	1.625%	10/01/17-29	114,950,598
Series 2009 SRF-1	4/17/09	13,970,062	2.50%	4/01/18-30	9,545,062
Series 2010 SRF-1	1/22/10	4,214,763	2.50%	4/01/18-31	3,115,763
Series 2012 SRF-1	8/30/12	14,950,000	2.50%	10/01/17-34	13,765,000
Series 2015 SRF-1	3/20/15	79,500,000	2.50%	4/01/18-36	76,390,000
Series 2015 SRF-2	3/20/15	33,030,000	2.50%	10/01/17-35	24,814,000
Series 2015 SRF-3	12/11/15	19,485,000	2.50%	10/01/17-35	14,399,288
Series 2016 SRF-1	9/16/16	19,305,000	2.50%	4/01/19-38	2,602,370
Series 2016 SRF-2	9/16/16	51,310,000	2.50%	4/01/20-39	8,384,993
Series 2016 SAW	5/25/16	10,000,000	2.50%	10/01/19-38	4,789,662
Total state revolving loans payable					<u>\$ 485,267,036</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 October 2016, the Authority issued \$126,105,000 in Series 2016B senior lien revenue refunding bonds and \$295,190,000 in Series 2016C second lien revenue refunding bonds. The net proceeds were used to purchase securities that were placed in an irrevocable trust with an escrow agent to refund \$134,745,000 of Series 2001E revenue bonds, \$25,550,000 of Series 2003B revenue bonds, \$123,185,000 of Series 2006A revenue bonds, \$174,565,000 of Series 2006B revenue bonds, \$9,740,000 of Series 2006C revenue bonds and \$12,355,000 of Series 2012A revenue bonds. As a result, the bonds are considered to be defeased and the liability for these bonds has been removed from the financial statements. The refunding bonds resulted in a savings of \$123,710,549 over the next 20 years and an economic gain of \$71,155,202.

#### Issuance of State Revolving Loans

The Fund received loans from the State of Michigan Revolving Loan Fund totaling \$22,216,294 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, 2017, \$114,539,687 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-.

#### *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 the DWSD and GLWA dated June 12, 2015 and the Master Bond Ordinance dated October 7, 2015, as amended, the Detroit retail class continues to pay its common-to-all share of debt service revenue requirements and its allocated share of debt service revenue requirements associated with improvements to the local water and sewer systems. Payments on the debt service incurred by GLWA on the outstanding revenue bonds assumed as of December 31, 2015 are to be allocated using an agreed-upon percentage of total debt service associated with bond-financed local improvements over the life of such bonds, though the bonds themselves continue to be secured by the net revenue of GLWA, and the revenues of the Detroit retail class. A Memorandum of Understanding (MOU) Term Sheet was entered into with DWSD dated April 2018 with an agreed upon allocation and amortization schedule. The June 30, 2017 balance has been adjusted to the revised allocation. The total obligation receivable at June 30, 2017, is \$358,090,600 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.

The following is a schedule of the obligation payable for the Financial Recovery Bonds at June 30, 2017:

Bond Issue	Original Issue Amount	Range of Interest Rates	Maturity Date	Outstanding Ending Balance
Series 2014-B	\$ 44,233,463	4.00% and variable	4/1/2044	\$ 34,990,438
Series 2014-C	6,382,990	5.00%	12/10/2026	4,204,607
Total				<u>\$ 39,195,045</u>

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

As of June 30, 2017, debt service requirements of the Financial Recovery Bonds were as follows:

Year Ended June 30,	Principal	Interest	Total
2018	\$ 359,448	\$ 1,609,848	\$ 1,969,296
2019	377,420	1,591,876	1,969,296
2020	396,291	1,573,005	1,969,296
2021	416,106	1,553,190	1,969,296
2022	436,911	1,532,384	1,969,295
2023-2027	7,466,997	7,094,919	14,561,916
2028-2032	8,747,610	5,248,565	13,996,175
2033-2037	8,747,610	4,443,786	13,191,396
2038-2042	8,747,609	2,624,283	11,371,892
2043-2044	3,499,043	314,914	3,813,957
	<u>\$ 39,195,045</u>	<u>\$ 27,586,770</u>	<u>\$ 66,781,815</u>

#### *Interest expense*

The following represents the amounts recorded as interest expense for the year ended June 30, 2017:

Bonded debt	\$ 141,080,363
Obligation payable	1,614,602
Lease payable	22,066,892
Less: amounts capitalized	<u>(5,604,705)</u>
	<u>\$ 159,157,152</u>

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

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

On January 1, 2016, the Great Lakes Water Authority effectuated lease agreements with the City of Detroit, Michigan for the regional water system and regional sewer system for a term of 40 years, to be extended automatically to coincide with the final maturity of any bonds issued to finance improvements to the regional or local sewer systems. The agreements collectively provide for an annual lease payment of \$50 million. Currently, \$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, 2017 were as follows:

Beginning Balance	Increase	Decrease	Ending Balance	Amount Due Within One Year *
\$ 532,096,152	\$ -	\$ (5,414,293)	\$ 526,681,859	\$ 5,644,435

\* The current portion of the long-term lease payable represents the 12 monthly payments required from July 1, 2017 through June 30, 2018. Future revenues are intended to cover these payments.

Principal and interest portions of the lease payable for the year ended June 30, 2017 were as follows:

Gross future payments	\$1,058,750,000
Less: interest	<u>(532,068,141)</u>
Total principal remaining	<u>\$ 526,681,859</u>

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

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

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

## 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 in any of the past two fiscal years.

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

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

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

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

*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:

	2017	2016
Unpaid claims, beginning of year	\$ 933,567	\$ -
Incurred claims (including change in IBNR provisions)	8,986,780	4,565,983
Claims payments	<u>(8,894,169)</u>	<u>(3,632,416)</u>
Unpaid claims, end of year	<u>\$ 1,026,178</u>	<u>\$ 933,567</u>

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

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

	2017	2016
Unpaid claims, beginning of year	\$ 351,231	\$ -
Incurred claims	238,483	533,897
Claims payments	<u>(339,714)</u>	<u>(182,666)</u>
Unpaid claims, end of year	<u>\$ 250,000</u>	<u>\$ 351,231</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.

### 9. 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 \$3,986,841 million for the year ended June 30, 2017. At June 30, 2017, there were 893 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 the City of Detroit Water and Sewerage Department on or around January 1, 2016 and were not vested in the City of Detroit General Retirement System (GRS). Eligible employees are required to roll over to the Authority's Section 457 Deferred Compensation Plan their refunded employee mandatory contribution from GRS. The amount of the make-up benefit will be determined by an actuary based on the present value of the lost GRS benefit. Employees are 100% vested after one year of service.

The Authority has also adopted a Section 457 Deferred Compensation Plan which employees can make pre-tax contributions which are immediately 100% vested. At June 30, 2017, there were 729 plan members.

#### *Retirement Health Savings Plan*

The Authority also provides a Retirement Health Savings Program for full-time employees. Employees are required to contribute \$10 per pay period and the Authority contributes \$80 per pay period. Employees are 100% vested after three years of service (cliff vesting). Employees who transferred to the Authority on or around January 1, 2016 from DWSD retain their years of service for vesting purposes. Employer contributions were \$1,661,440 and employee contributions were \$207,670 for the year ended June 30, 2017. At June 30, 2017, there were 975 plan members.

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

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

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

The System issues publicly available financial reports that include financial statements and the required supplementary information. The reports can be obtained from City of Detroit Retirement Systems, One Detroit Center, 500 Woodward 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 report.

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

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

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

Component II - Employer contributions to the GRS were determined by the provisions of the POA. Included within contributions in Component II are amounts sourced from the one-time sale of City-owned artwork with proceeds from the Foundation for Detroit's Future in the amount of \$32,886,827 along with \$4,005,830 from unlimited tax general obligation bonds and \$67,900,000 of contributions from the City and related entities, of which \$45,400,000 of contributions were from GLWA and DWSD. Employer contributions were also made into the income stabilization fund in the amount of \$1,689,857 from the bond proceeds.

The POA obligates DWSD to pay \$2,500,000 per year towards administrative costs and annual plan contributions of \$42,900,000 per year in total for both water and sewer employees, until 2023. Pursuant to the leases, the Authority is obligated to pay its allocable share of such liability. The portion allocated to the Authority is \$31,916,200 for fiscal year 2017. Subsequent to 2023, DWSD and the Authority will be responsible for paying their allocable share of any additional amounts that are actuarially determined to be payable.

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

***DWSD Employee Contributions.*** Contribution requirements of plan members are established and may be amended by the board of trustees in accordance with the City Charter, union contracts, and plan provisions. For the year ended June 30, 2017, there were minimal employee contributions into Component II, only related to military service credit, as the plan was frozen as of June 30, 2014; contributions into Component I began thereafter.

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

*Net Pension Liability.* The net pension liability was measured as of June 30, 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date.

*Actuarial Assumptions.* The total pension liability in the June 30, 2016 actuarial valuation was determined using the following actuarial assumptions.

Inflation	NA
Salary increases	NA
Investment rate of return	7.23%, net of investment expense and including inflation

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

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each asset class. These real ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. For each asset class that is included in the pension plan's target asset allocation as of June 30, 2016, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return	Expected Money-Weighted Rate of Return
Global equity	43.0%	6.22%	2.67%
Fixed income	12.0%	2.95%	0.35%
Private equity	8.0%	7.35%	0.59%
Cash	1.0%	0.98%	0.01%
Real estate	10.0%	3.92%	0.39%
Global asset allocation/risk parity/real assets	21.0%	5.02%	1.05%
Hedge funds	5.0%	4.41%	0.22%
	<u>100.0%</u>		5.28%
Inflation			<u>1.95%</u>
Investment rate of return			<u>7.23%</u>

*Discount Rate.* The discount rate used to measure the total pension liability was 7.23%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that Authority contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

## GREAT LAKES WATER AUTHORITY 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	\$ 352,052,192		
Plan fiduciary net position	<u>(227,545,689)</u>		
Fund's net pension liability	<u>\$ 124,506,503</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, 2016	<u>\$ 362,762,305</u>	<u>\$ 253,553,946</u>	<u>\$ 109,208,359</u>
Changes for the year:			
Interest	25,906,278	-	25,906,278
Differences between expected and actual experience	(3,248,690)	-	(3,248,690)
Changes in assumptions	11,308,613	-	11,308,613
Employer contributions	-	19,347,900	(19,347,900)
Net investment loss	-	(841,679)	841,679
Benefit payments, including refunds of employee contributions	(44,676,314)	(44,676,314)	-
Other changes	-	161,836	(161,836)
Net changes	<u>(10,710,113)</u>	<u>(26,008,257)</u>	<u>15,298,144</u>
Balances at June 30, 2017	<u>\$ 352,052,192</u>	<u>\$ 227,545,689</u>	<u>\$ 124,506,503</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 7.23%, as well as what the Fund's net pension liability would be if it were calculated using a discount rate that is 1% lower (6.23%) or 1% higher (8.23%) than the current rate:

<b>1% Decrease (6.23%)</b>	<b>Current Discount Rate (7.23%)</b>	<b>1% Increase (8.23%)</b>
<u>\$ 157,808,168</u>	<u>\$ 124,506,503</u>	<u>\$ 96,187,732</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 of Resources and Deferred Inflows of Resources Related to Pensions.* For the year ended June 30, 2017, the Fund recognized pension expense of \$4,504,230. At June 30, 2017, the Fund reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows (Inflows) of Resources
Net difference between projected and actual earnings on pension plan investments	\$ 19,115,072	\$ 11,750,654	\$ 7,364,418
Employer contributions to the plan subsequent to the measurement date	19,347,900	-	19,347,900
Totals	<u>\$ 38,462,972</u>	<u>\$ 11,750,654</u>	<u>\$ 26,712,318</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 fiscal 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

Year Ended June 30,	Amounts
2018	\$ (782,272)
2019	(782,272)
2020	5,093,054
2021	<u>3,835,908</u>
Total	<u>\$ 7,364,418</u>

*Payable to the pension plan.* At June 30, 2017, the Fund did not have any outstanding contributions payable to the pension plan for the year then ended.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

## Notes to Financial Statements

### 11. 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 \$752.7 million through fiscal year 2022. The Program is being financed primarily from revenue bond proceeds in addition to customer charges revenue. The latter is accounted for in the Improvement & Extension Fund as defined in the MBO. As of June 30, 2017, the Fund has unspent bond proceeds of \$150.9 million in addition to Improvement & Extension funds of \$61.8 million available for use in funding these commitments.

The total amount of construction contract commitments outstanding at June 30, 2017 was approximately \$139.0 million.

#### *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, 2017.

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 an NPDES permit that is in effect through October 1, 2017.

The Authority is also a defendant in numerous alleged claims, lawsuits, billing disputes, and other stated and pending demands applicable to the Fund. The Authority's Legal Department has estimated a reserve of \$4,039,562 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. 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 Fund's financial position or results of operations.

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Notes to Financial Statements

#### 12. SPECIAL ITEM

On April 3, 2018, the Board of Directors for the Great Lakes Water Authority approved a Memorandum of Understanding (MOU) Term Sheet. On April 4, 2018, the Board of Water Commissioners for the DWSD approved the same Term Sheet. The Term Sheet was not intended to impose any legal obligation on the parties. A final MOU that will make the provisions of the Term Sheet binding on GLWA and DWSD is expected to be completed and approved by both Boards by July 1, 2018. The Leases and the Water and Sewer Services Agreement ("WSSA") between the City and GLWA and the MBO, govern the relationship between DWSD and GLWA, which began on January 1, 2016 (the "Effective Date"). The intent of the MOU is to (a) provide clarification of specific sections of the Leases, WSSA and MBO; (b) make adjustments contemplated by the Leases and the WSSA; and (c) address the liquidation of specific liabilities. The transactions associated with this MOU Term Sheet resulted in a special item on the statement of activities for the year ended June 30, 2017, comprised of the following for the Fund:

Consideration for assumption of pre-bifurcation liabilities	\$ (51,675,100)
Reduction of claims and judgements for pre-bifurcation retail cases	11,417,600
Sewer lookback adjustment	(1,333,900)
Recognize prepayment on leases	13,750,000
Change in obligation receivable for DWSD share of debt	(8,952,228)
Transfer of retail receivables and related amounts	(9,510,854)
Allocation of sewage disposal fund capital funds to DWSD	<u>(15,174,200)</u>
Total special item	<u>\$ (61,478,682)</u>

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## REQUIRED SUPPLEMENTARY INFORMATION



## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Required Supplementary Information

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

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

\*As described in Notes 1 and 10 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. 2016 reflects only the portion allocated to GLWA.

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

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

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Required Supplementary Information

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

#### Schedule of Contributions

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

\*As described in Notes 1 and 10 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. 2016 reflects only the portion allocated to GLWA.

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

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

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## COMBINING AND INDIVIDUAL FUND SCHEDULES

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

**Combining Schedule of Net Position**  
 June 30, 2017

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 160,397,101	\$ 43,351,603	\$ -	\$ 203,748,704
Restricted cash and cash equivalents	57,194,643	-	15,019,170	72,213,813
Investments	1,430,608	-	-	1,430,608
Restricted investments	31,371,834	-	-	31,371,834
Receivables:				
Billed	52,234,778	-	-	52,234,778
Unbilled	24,279,170	-	-	24,279,170
Other	3,157,050	-	-	3,157,050
Allowance for doubtful accounts	(30,410,232)	-	-	(30,410,232)
Due from other governments	29,461,328	-	-	29,461,328
Contractual obligation receivable	11,262,300	-	-	11,262,300
Prepaid items and other assets	1,063,284	-	26,237	1,089,521
Inventories	8,509,454	-	-	8,509,454
Total current assets	349,951,318	43,351,603	15,045,407	408,348,328
Noncurrent assets:				
Restricted cash and cash equivalents	9,449,348	-	118,929,489	128,378,837
Restricted investments	64,195,898	-	16,981,850	81,177,748
Contractual obligation receivable	346,828,300	-	-	346,828,300
Prepaid lease	13,750,000	-	-	13,750,000
Assets not subject to depreciation	278,286,118	-	-	278,286,118
Capital assets being depreciated, net	2,591,023,442	-	-	2,591,023,442
Prepaid insurance on debt	18,581,897	-	-	18,581,897
Total noncurrent assets	3,322,115,003	-	135,911,339	3,458,026,342
Total assets	3,672,066,321	43,351,603	150,956,746	3,866,374,670
Deferred outflows of resources				
Deferred loss on refunding	198,351,942	-	-	198,351,942
Deferred pension amounts	38,462,972	-	-	38,462,972
Total deferred outflows of resources	236,814,914	-	-	236,814,914

continued...

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

**Combining Schedule of Net Position**  
 June 30, 2017

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
<b>Liabilities</b>				
Current liabilities:				
Accounts and contracts payable	\$ 12,013,399	\$ 513,989	\$ 15,019,170	\$ 27,546,558
Other accrued liabilities	898,800	-	-	898,800
Due to other governments	35,801,034	-	47,539	35,848,573
Interest payable	41,011,198	-	-	41,011,198
Current portion of:				
Long-term debt	65,920,307	-	-	65,920,307
Lease payable	5,644,435	-	-	5,644,435
Obligation payable	359,448	-	-	359,448
Accrued compensated absences	679,260	-	-	679,260
Claims and judgments	3,852,062	-	-	3,852,062
Total current liabilities	166,179,943	513,989	15,066,709	181,760,641
Noncurrent liabilities:				
Other noncurrent liabilities	5,983,201	-	-	5,983,201
Long-term debt	3,236,016,730	-	-	3,236,016,730
Long-term lease payable	521,037,424	-	-	521,037,424
Obligation payable	38,835,597	-	-	38,835,597
Claims and judgments	187,500	-	-	187,500
Net pension liability	124,506,503	-	-	124,506,503
Total noncurrent liabilities	3,926,566,955	-	-	3,926,566,955
Total liabilities	4,092,746,898	513,989	15,066,709	4,108,327,596
Deferred inflows of resources				
Deferred amounts for swap terminations	214,393	-	-	214,393
Deferred gain on refunding	49,257,784	-	-	49,257,784
Deferred pension amounts	11,750,654	-	-	11,750,654
Total deferred inflows of resources	61,222,831	-	-	61,222,831
Net position				
Net investment in capital assets	393,956,399	-	-	393,956,399
Restricted for debt service	107,931,677	-	-	107,931,677
Restricted for capital acquisition	15,040,471	-	135,890,037	150,930,508
Restricted for payment assistance program	3,117,744	-	-	3,117,744
Unrestricted (deficit)	(765,134,785)	42,837,614	-	(722,297,171)
Total net position	\$ (245,088,494)	\$ 42,837,614	\$ 135,890,037	\$ (66,360,843)

concluded

# 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, 2017

	Sewer Operations	Sewer Improvement and Extension	Sewer Construction Projects	Total
Operating revenues				
Wholesale customer charges	\$ 263,311,745	\$ -	\$ -	\$ 263,311,745
Industrial waste charges	14,381,106	-	-	14,381,106
Pollutant surcharges	5,206,294	-	-	5,206,294
Local system charges	187,304,100	-	-	187,304,100
Bad debt recovery	35,065,030	-	-	35,065,030
Other revenues	538,807	-	-	538,807
Total operating revenues	505,807,082	-	-	505,807,082
Operating expenses				
Operating before depreciation:				
Personnel	47,894,911	-	-	47,894,911
Contractual services	55,878,440	-	-	55,878,440
Utilities - Gas	5,497,215	-	-	5,497,215
Utilities - Electric	14,570,263	-	-	14,570,263
Utilities - Sewage	1,656,052	-	-	1,656,052
Utilities - Water	5,468,336	-	-	5,468,336
Chemicals	9,424,428	-	-	9,424,428
Supplies and other expenses	12,180,128	-	-	12,180,128
Capital program allocation	(1,150,316)	-	-	(1,150,316)
Shared services allocation	(101,191)	-	-	(101,191)
Total operating before depreciation	151,318,266	-	-	151,318,266
Depreciation	185,628,465	-	-	185,628,465
Total operating expenses	336,946,731	-	-	336,946,731
Operating income	168,860,351	-	-	168,860,351
Nonoperating revenues (expenses)				
Earnings on investments	1,356,821	27,404	825,647	2,209,872
Interest on obligations receivable	17,062,678	-	-	17,062,678
Interest expense, net of capitalized interest	(159,157,152)	-	-	(159,157,152)
Amortization of debt related items	(17,340,200)	-	-	(17,340,200)
Other	(6,203,206)	-	-	(6,203,206)
Capital outlay	58,892,845	(19,110,580)	(39,782,265)	-
Loss on disposal of capital assets	(42,926)	-	-	(42,926)
Total nonoperating revenues (expenses)	(105,431,140)	(19,083,176)	(38,956,618)	(163,470,934)
Income (loss) before contributions, special item and transfers	63,429,211	(19,083,176)	(38,956,618)	5,389,417
Capital contributions	320,707	-	-	320,707
Special item - memorandum of understanding with DWSD	(61,478,682)	-	-	(61,478,682)
Transfer in	-	(49,600,000)	27,820,997	(21,779,003)
Transfer out	21,997,506	(218,503)	-	21,779,003
Change in net position	24,268,742	(68,901,679)	(11,135,621)	(55,768,558)
Net position (deficit), beginning of year	(269,357,236)	111,739,293	147,025,658	(10,592,285)
Net position (deficit), end of year	\$ (245,088,494)	\$ 42,837,614	\$ 135,890,037	\$ (66,360,843)

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

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## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Schedule of Operations and Maintenance Expense for Sewer Operations

Cost Type Category - Budget and Actual  
For the Year Ended June 30, 2017

	Original Budget	Amended Budget	Administrative and Centralized Services Reclassification
Operating expenses			
Personnel	\$ 33,777,300	\$ 33,777,300	\$ 17,975,100
Contractual services	28,778,700	28,778,700	35,828,400
Utilities	31,660,100	31,660,100	143,300
Chemicals	14,345,700	14,345,700	-
Supplies and other expenses	9,694,800	9,694,800	-
Shared services reimbursement	-	-	-
Capital program allocation	(3,061,400)	(3,061,400)	-
Unallocated reserve	6,716,900	6,716,900	-
Centralized services allocation	34,980,600	34,980,600	(34,980,600)
Administrative services allocation	18,966,200	18,966,200	(18,966,200)
Total operating expenses	<u>\$ 175,858,900</u>	<u>\$ 175,858,900</u>	<u>\$ -</u>

continued...

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

UNAUDITED

Final Amended Budget	Actual	Amount Over (Under) Budget	Percent Over (Under) Budget
\$ 51,752,400	\$ 47,894,911	\$ (3,857,489)	-7.5%
64,607,100	55,878,440	(8,728,660)	-13.5%
31,803,400	27,191,866	(4,611,534)	-14.5%
14,345,700	9,424,428	(4,921,272)	-34.3%
9,694,800	12,180,128	2,485,328	25.6%
-	(101,191)	(101,191)	0.0%
(3,061,400)	(1,150,316)	1,911,084	-62.4%
6,716,900	-	(6,716,900)	-100.0%
-	-	-	0.0%
-	-	-	0.0%
<u>\$ 175,858,900</u>	<u>\$ 151,318,266</u>	<u>\$ (24,540,634)</u>	-14.0%

concluded

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

## Schedule of Revenue Requirement

Budget to Actual

For the Year Ended June 30, 2017

	Original Budget	Amended Budget	Actual	Over (Under) Budget
Sewage disposal fund				
Revenue:				
Revenue Requirement from Charges	\$ 467,594,400	\$ 467,594,400	\$ 470,203,245	\$ 2,608,845
Bad Debt Expense Recovery	-	-	35,065,030	35,065,030
Other Revenue	4,115,800	4,115,800	538,807	(3,576,993)
	<u>\$ 471,710,200</u>	<u>\$ 471,710,200</u>	<u>\$ 505,807,082</u>	<u>\$ 34,096,882</u>
Revenue requirements*				
Operations & maintenance expense	\$ 175,858,900	\$ 175,858,900	\$ 175,858,800	\$ (100)
Operations & maintenance legacy pension allocation	10,838,400	10,838,400	10,824,000	(14,400)
Debt service allocation	222,418,500	222,418,500	211,556,875	(10,861,625)
Accelerated legacy pension allocation	11,096,500	11,096,500	11,604,538	508,038
Water residential assistance program	2,299,800	2,299,800	2,299,600	(200)
Lease payment to local system improvement & extension fund	27,500,000	27,500,000	27,500,000	-
Regional system improvement & extension fund**	21,698,100	21,698,100	21,698,100	-
Total revenue requirements	<u>\$ 471,710,200</u>	<u>\$ 471,710,200</u>	<u>\$ 461,341,913</u>	<u>\$ (10,368,287)</u>

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

\*\*Amount determined to be available after all of MBO requirements are met.

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

UNAUDITED

## Schedule of Days Cash - Liquidity

June 30, 2017

	2017	2016*
Cash and investments - Unrestricted	\$ 205,179,312	\$ 188,063,375
<i>Operating expense</i>		
Operating expense	\$ 336,946,731	\$ 170,401,050
Less: depreciation	(185,628,465)	(86,021,029)
<i>Net operating expense</i>	\$ 151,318,266	\$ 84,380,021
<i>Operating expense per day (365 days)</i>	\$ 414,571	\$ 466,188
<i>Days cash</i>		
Number of days cash	495	403

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

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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 and 2	Financial trends information is intended to show how the Fund's financial position has changed over time.	54
Revenue Capacity Schedule 3	Revenue capacity information is intended to show the factors affecting the Fund's ability to generate its own-source revenue.	56
Debt Capacity Information Schedules 4 through 7	Debt capacity information is intended to show the Fund's debt burden and its ability to issue additional debt.	57
Demographic/Economic Schedules 8 through 11	Demographic and economic information is intended to show the socioeconomic environment within which the Fund operates.	65
Operating Information Schedule 12 through 13	Operating information is intended to show contextual information about operations and resources to provide understanding and assessing the Fund's economic condition.	70



# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 1

UNAUDITED

## Net Position by Component (accrual basis of accounting)

	2017	2016*
Net investment in capital assets	\$ 393,956,399	\$ 451,547,037
Restricted for debt service	107,931,677	108,742,193
Restricted for capital acquisition	150,930,508	164,326,618
Restricted for payment assistance program	3,117,744	-
Unrestricted (deficit)	<u>(722,297,171)</u>	<u>(735,208,133)</u>
Total net position	<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

## Changes in Net Position (accrual basis of accounting)

	2017	2016*
Operating revenues		
Wholesale customer charges	\$ 263,311,745	\$ 121,106,353
Industrial waste charges	14,381,106	6,910,192
Pollutant surcharges	5,206,294	2,423,910
Local system charges	187,304,100	95,826,900
Bad debt recovery	35,065,030	-
Other revenues	538,807	4,197,614
Total operating revenues	505,807,082	230,464,969
Operating expenses		
Personnel	47,894,911	13,289,741
Contractual services	55,878,440	13,875,756
Utilities	27,191,866	12,668,942
Chemicals	9,424,428	4,006,941
Supplies and other expenses	12,180,128	16,462,711
Capital program allocation	(1,150,316)	-
Shared services allocation	(101,191)	-
Centralized services	-	16,733,431
Administrative services	-	7,342,499
Depreciation	185,628,465	86,021,029
Total operating expenses	336,946,731	170,401,050
Operating income	168,860,351	60,063,919
Nonoperating revenues (expenses)		
Earnings on investments	2,209,872	1,089,367
Interest on obligations receivable	17,062,678	8,831,250
Interest expense, net of capitalized interest	(159,157,152)	(82,489,347)
Amortization of debt related items and costs of issuance	(17,340,200)	(363,167)
Other	(6,203,206)	-
Gain (loss) on disposal of capital assets	(42,926)	275,693
Total nonoperating expenses	(163,470,934)	(72,656,204)
Income (loss) before contributions and special item	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	(55,768,558)	(10,592,285)
Net position (deficit), beginning of year	(10,592,285)	-
Net position (deficit), end of year	\$ (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 3  
UNAUDITED

## Operating Revenues and Charge Increases

Last Two Years\*

	2017	2016
Operating Revenues:		
Wholesale customer charges	\$ 263,311,745	\$ 121,106,353
Local system charges	187,304,100	95,826,900
Industrial waste and surcharges	19,587,400	9,334,102
Bad debt recovery	35,065,030	-
Other revenues	538,807	4,197,614
Total operating revenues	<u>\$ 505,807,082</u>	<u>\$ 230,464,969</u>
System charge increase	4.0%	4.0%
Number of wholesale customers [1]	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.

Source: Charge Increases Sewer Official Statement 2016 Series

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 4

UNAUDITED

## Debt by Lien

as of June 30, 2017

	Original Principal Amount [1]	Outstanding as of June 30, 2017	Total Future Debt [2]
<b>Sewage Disposal System Revenue Bonds</b>			
<b>Senior Lien Bonds (revenue and SRF)</b>			
Sewage Disposal System Revenue Bonds (Senior), Series 1997-B-SRF	\$ 5,430,174	\$ 650,000	\$ 650,000
Sewage Disposal System Revenue Refunding Bonds, Series 1998A	67,615,000	20,750,000	20,750,000
Sewage Disposal System Revenue Refunding Bonds, Series 1998B	67,520,000	21,650,000	21,650,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF1	21,475,000	3,930,000	3,930,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF2	46,000,000	16,280,000	16,280,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF3	31,030,000	7,505,000	7,505,000
Sewage Disposal System Revenue Bonds (Senior), Series 1999-SRF4	40,655,000	9,830,000	9,830,000
Sewage Disposal System Revenue Bonds, Series 1999A	33,510,118	22,815,000	22,815,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C1	154,870,000	41,800,000	41,800,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2001C2	122,905,000	107,750,000	107,750,000
Sewage Disposal System Senior Lien Revenue & Revenue Refunding Bonds, Series 2003A	599,380,000	3,150,000	3,150,000
Sewage Disposal System Senior Lien Revenue Bonds, Series 2003B	150,000,000	100,000	100,000
Sewage Disposal System Senior Lien Revenue Refunding Bonds, Series 2004A	101,435,000	35,010,000	35,010,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2006D	370,000,000	239,475,000	239,475,000
Sewage Disposal System Revenue & Revenue Refunding Senior Lien Bonds, Series 2012A	659,780,000	527,355,000	527,355,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014A	123,220,000	123,220,000	123,220,000
Sewage Disposal System Revenue Senior Lien Bonds, Series 2014B	27,470,000	27,470,000	27,470,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014C	446,170,000	446,170,000	446,170,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014D	95,165,000	69,595,000	69,595,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2014E	143,880,000	88,900,000	88,900,000
Sewage Disposal System Revenue Refunding Senior Lien Bonds, Series 2016B	126,105,000	126,105,000	126,105,000
	<b>3,433,615,292</b>	<b>1,939,510,000</b>	<b>1,939,510,000</b>
<b>Second Lien Bonds</b>			
Sewage Disposal System Second Lien Revenue Bonds, Series 2001B	110,550,000	78,895,000	78,895,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2005A	273,355,000	31,885,000	31,885,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005B	40,215,000	17,115,000	17,115,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2005C	63,160,000	100,000	100,000
Sewage Disposal System Revenue Second Lien Bonds, Series 2006B	250,000,000	55,100,000	55,100,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2014F	76,715,000	76,715,000	76,715,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2014G	23,240,000	5,850,000	5,850,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2015C	197,660,000	197,160,000	197,160,000
Sewage Disposal System Revenue Refunding Second Lien Bonds, Series 2016C	295,190,000	295,190,000	295,190,000
	<b>1,330,085,000</b>	<b>758,010,000</b>	<b>758,010,000</b>

continued...

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 4

UNAUDITED

## Debt by Lien

as of June 30, 2017

	Original Principal Amount [1]	Outstanding as of June 30, 2017	Total Future Debt [2]
Sewage Disposal System Revenue Bonds (concluded)			
Junior Lien Bonds (SRF)			
Sewage Disposal System Revenue Bonds, Series 2000-SRF1	\$ 44,197,995	\$ 13,947,995	\$ 13,947,995
Sewage Disposal System Revenue Bonds, Series 2000-SRF2	64,401,066	22,691,066	22,691,066
Sewage Disposal System Revenue Bonds, Series 2001-SRF1	82,200,000	37,865,000	37,865,000
Sewage Disposal System Revenue Bonds, Series 2001-SRF2	59,850,000	27,575,000	27,575,000
Sewage Disposal System Revenue Bonds, Series 2002-SRF1	18,985,000	6,710,000	6,710,000
Sewage Disposal System Revenue Bonds, Series 2002-SRF2	1,545,369	545,369	545,369
Sewage Disposal System Revenue Bonds, Series 2002-SRF3	31,549,466	13,399,466	13,399,466
Sewage Disposal System Revenue Bonds, Series 2003-SRF1	48,520,000	24,845,000	24,845,000
Sewage Disposal System Revenue Bonds, Series 2003-SRF2	25,055,370	11,460,370	11,460,370
Sewage Disposal System Revenue Bonds, Series 2004-SRF1	2,910,000	1,310,000	1,310,000
Sewage Disposal System Revenue Bonds, Series 2004-SRF2	18,353,459	8,258,459	8,258,459
Sewage Disposal System Revenue Bonds, Series 2004-SRF3	12,722,575	5,707,575	5,707,575
Sewage Disposal System Revenue Bonds, Series 2007-SRF1	167,540,598	114,950,598	114,950,598
Sewage Disposal System Revenue Bonds, Series 2009-SRF1	13,970,062	9,545,062	9,545,062
Sewage Disposal System Revenue Bonds, Series 2010-SRF1	4,214,763	3,115,763	3,115,763
Sewage Disposal System Revenue Bonds, Series 2012-SRF1	14,950,000	13,765,000	13,765,000
Sewage Disposal System Revenue Bonds, Series 2015A-SRF	79,500,000	76,390,000	76,390,000
Sewage Disposal System Revenue Bonds, Series 2015B-SRF	33,030,000	24,814,000	31,740,000
Sewage Disposal System Revenue Bonds, Series 2015D-SRF	19,485,000	14,399,288	18,725,000
Sewage Disposal System Revenue Bonds, Series 2016-SAW	10,000,000	2,602,370	10,000,000
Sewage Disposal System Revenue Bonds, Series 2016-SRF1	19,305,000	8,384,993	19,305,000
Sewage Disposal System Revenue Bonds, Series 2016-SRF2	51,310,000	4,789,662	51,310,000
Sewage Disposal System Revenue Bonds, Series 2017-SRF1	38,450,000	-	38,450,000
	<u>862,045,723</u>	<u>447,072,036</u>	<u>561,611,723</u>
Total sewage disposal system revenue bonds	<u>\$ 5,625,746,015</u>	<u>\$ 3,144,592,036</u>	<u>\$ 3,259,131,723</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, 2017 from state revolving funds. Final amounts will be determined after project close-out.

Source: Great Lakes Water Authority Financial Services Area

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## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

### Schedule of Debt Service Requirements

as of June 30, 2017

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
2018 [2]	\$ 25,310	\$ 69,294	\$ 94,604	\$ -	\$ 31,147	\$ 31,147
2019	53,715	86,593	140,308	5,850	37,994	43,844
2020	60,620	84,079	144,699	6,075	37,696	43,771
2021	61,935	81,388	143,323	8,335	37,335	45,670
2022	50,395	78,962	129,357	17,515	36,663	54,178
2023	65,440	76,255	141,695	11,905	35,885	47,790
2024	74,955	72,734	147,689	3,215	35,485	38,700
2025	75,790	68,842	144,632	16,035	34,971	51,006
2026	74,635	64,877	139,512	16,995	34,087	51,082
2027	92,895	60,979	153,874	21,040	33,075	54,115
2028	97,065	57,126	154,191	25,795	31,840	57,635
2029	100,895	53,033	153,928	26,640	30,462	57,102
2030	105,475	48,725	154,200	19,860	29,230	49,090
2031	109,890	44,721	154,611	32,550	27,883	60,433
2032	113,795	40,922	154,717	34,175	26,215	60,390
2033	117,875	36,327	154,202	21,910	24,813	46,723
2034	123,245	30,594	153,839	25,915	23,641	49,556
2035	43,920	26,411	70,331	118,345	20,155	138,500
2036	1,450	25,274	26,724	168,680	13,076	181,756
2037	1,410	25,198	26,608	177,175	4,429	181,604
2038	107,095	22,370	129,465	-	-	-
2039	112,675	16,641	129,316	-	-	-
2040	118,550	10,614	129,164	-	-	-
2041	27,275	6,842	34,117	-	-	-
2042	28,635	5,445	34,080	-	-	-
2043	30,065	3,977	34,042	-	-	-
2044	31,570	2,436	34,006	-	-	-
2045	32,935	823	33,758	-	-	-
Total	<u>\$ 1,939,510</u>	<u>\$ 1,201,482</u>	<u>\$ 3,140,992</u>	<u>\$ 758,010</u>	<u>\$ 586,082</u>	<u>\$ 1,344,092</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, 2017, are not included in the debt service requirement amounts above as they were paid June 26, 2017.

Source: Great Lakes Water Authority Financial Services Area

Schedule 5  
UNAUDITED

Junior Lien Bonds (in \$1,000s)			Total (in \$1,000s)		
Principal	Interest	Total Debt Service	Total Debt Service as of June 30, 2017	Additional Future Junior Lien Debt Service on Undrawn SRF Loans	Total Future Debt Service including undrawn SRF Loans
\$ 36,025	\$ 9,800	\$ 45,825	\$ 171,576	\$ 2,644	\$ 174,220
37,645	8,968	46,613	230,765	2,863	233,628
40,975	8,092	49,067	237,537	3,604	241,141
42,010	7,138	49,148	238,141	4,395	242,536
42,672	6,157	48,829	232,364	4,933	237,297
43,335	5,165	48,500	237,985	5,216	243,201
34,005	4,242	38,247	224,636	7,389	232,025
34,731	3,470	38,201	233,839	7,430	241,269
20,815	2,820	23,635	214,229	7,437	221,666
18,140	2,415	20,555	228,544	7,437	235,981
18,495	2,041	20,536	232,362	7,433	239,795
18,880	1,658	20,538	231,568	7,431	238,999
19,175	1,307	20,482	223,772	7,481	231,253
8,421	957	9,378	224,422	7,938	232,360
8,360	746	9,106	224,213	7,933	232,146
6,968	555	7,523	208,448	9,525	217,973
5,650	399	6,049	209,444	11,001	220,445
5,795	258	6,053	214,884	10,999	225,883
4,975	124	5,099	213,579	10,996	224,575
-	-	-	208,212	7,654	215,866
-	-	-	129,465	7,659	137,124
-	-	-	129,316	6,419	135,735
-	-	-	129,164	-	129,164
-	-	-	34,117	-	34,117
-	-	-	34,080	-	34,080
-	-	-	34,042	-	34,042
-	-	-	34,006	-	34,006
-	-	-	33,758	-	33,758
<u>\$ 447,072</u>	<u>\$ 66,312</u>	<u>\$ 513,384</u>	<u>\$ 4,998,468</u>	<u>\$ 155,817</u>	<u>\$ 5,154,285</u>



# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 6

UNAUDITED

## Current Debt Ratings

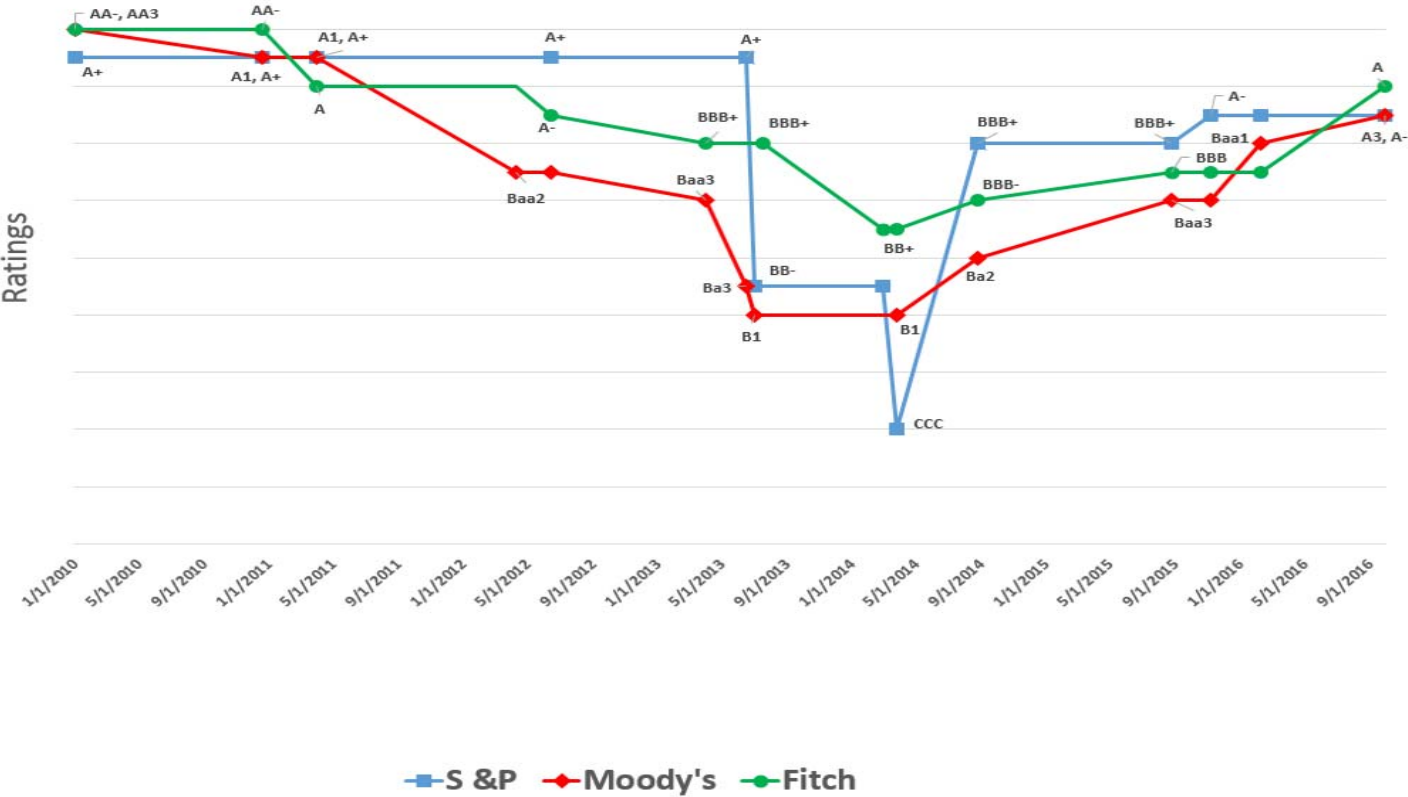
as of June 30, 2017

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

Sewer Lien - Debt Ratings History

2010 to Present [1]



Source: Great Lakes Water Authority Financial Services Area

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# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 8

UNAUDITED

## Service Area Demographics

Last Ten Years

Year	Total Population (1)	Unemployment (2)	Per Capita Income (3)	Total Debt Service (5)	Debt Per Capita	Debt Service as a Percentage of Income
2017	2,800,000	4.4%	\$ 49,612	(4) \$ 234,554,814	\$ 83.77	0.17%
2016 *	2,800,000	5.4%	48,467	(4) 228,570,571	81.63	0.17%
2015 *	2,807,000	5.9%	46,894	232,612,800	82.87	0.18%
2014 *	2,807,000	8.1%	44,718	229,611,100	81.80	0.18%
2013 *	2,807,000	9.7%	42,555	225,222,900	80.24	0.19%
2012 *	2,807,000	10.1%	42,168	203,092,300	72.35	0.17%
2011 *	2,807,000	11.4%	40,607	209,063,900	74.48	0.18%
2010 *	2,807,000	13.9%	37,837	200,985,100	71.60	0.19%
2009 *	2,998,200	15.1%	36,874	195,544,837	65.22	0.18%
2008 *	2,998,200	8.2%	38,998	175,248,600	58.45	0.15%

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

(2) Source: Bureau of Labor Statistics Detroit-Warren-Dearborn MSA Annual Average (For 2017 the September rate was used). The Detroit-Warren-Dearborn Metropolitan Statistical Area (MSA) is comprised of six counties: Wayne, Oakland, Macomb, Livingston, Lapeer and St. Clair. This represents the majority of the service area customers.

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

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

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

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data for 2016 includes six months of operation under DWSD and six months of operation under GLWA.

Source: Great Lakes Water Authority Financial Services Area

## GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

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

	2008 *	2009 *	2010 *	2011 *
Operating revenues				
Oakland Macomb Interceptor Drainage District	\$ 52,832,546	\$ 57,753,543	\$ 52,780,322	\$ 51,216,403
Wayne County - Rouge Valley	35,784,848	40,843,614	35,175,971	41,807,733
Oakland County - George W Kuhn Drainage District	29,822,251	33,965,834	27,820,025	35,810,320
Evergreen Farmington	24,404,725	26,875,478	22,080,501	24,951,389
NE Wayne County	14,838,182	18,023,991	14,760,986	19,146,923
Dearborn	12,853,361	13,572,269	12,752,026	14,441,467
Highland Park	4,363,745	4,438,562	3,965,206	4,490,709
Hamtramck	2,428,484	2,689,250	4,386,331	3,249,930
Grosse Pointe Farms	1,715,608	1,370,953	1,605,103	1,857,469
Grosse Pointe Park	1,198,731	1,206,275	976,896	1,151,516
Total	<u>\$ 180,242,481</u>	<u>\$ 200,739,770</u>	<u>\$ 176,303,366</u>	<u>\$ 198,123,859</u>
Operating revenues - DWSD	\$ 346,908,831	\$ 390,126,398	\$ 365,537,390	\$ 410,719,075
Operating revenues - GLWA	-	-	-	-
Total operating revenues	<u>\$ 346,908,831</u>	<u>\$ 390,126,398</u>	<u>\$ 365,537,390</u>	<u>\$ 410,719,075</u>
% of total operating revenues	<u>51.96%</u>	<u>51.46%</u>	<u>48.23%</u>	<u>48.24%</u>

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data for 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

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

2012 *	2013 *	2014 *	2015 *	2016 *	2017
\$ 59,379,605	\$ 62,302,424	\$ 71,972,397	\$ 74,853,600	\$ 69,206,904	\$ 69,627,600
47,309,391	44,972,847	51,181,360	50,930,400	51,784,039	55,486,800
39,620,971	38,148,325	41,658,188	42,046,800	42,804,155	45,682,800
28,097,941	27,556,982	29,198,838	29,686,800	30,177,613	32,179,200
20,532,777	19,293,968	20,406,419	22,585,200	22,993,819	24,120,000
15,884,591	15,292,901	16,406,661	18,190,800	18,368,762	19,603,200
4,840,249	5,007,724	6,887,428	5,569,200	5,616,167	5,818,800
3,437,744	3,586,927	3,941,094	4,054,800	3,936,205	4,086,000
1,922,441	2,462,068	2,502,113	2,449,200	2,486,773	2,667,600
1,413,363	1,273,953	1,244,951	1,465,200	1,492,206	1,626,000
<u>\$ 222,439,074</u>	<u>\$ 219,898,118</u>	<u>\$ 245,399,451</u>	<u>\$ 251,832,000</u>	<u>\$ 248,866,643</u>	<u>\$ 260,898,000</u>
\$ 437,654,891	\$ 440,863,260	\$ 475,770,844	\$ 505,671,614	\$ 282,415,566	\$ -
-	-	-	-	230,464,969	505,807,802
<u>\$ 437,654,891</u>	<u>\$ 440,863,260</u>	<u>\$ 475,770,844</u>	<u>\$ 505,671,614</u>	<u>\$ 512,880,535</u>	<u>\$ 505,807,802</u>
<u>50.83%</u>	<u>49.88%</u>	<u>51.58%</u>	<u>49.80%</u>	<u>48.52%</u>	<u>51.58%</u>

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 10

UNAUDITED

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

	Total
Oakland Macomb Interceptor District (OMID)	\$ 5,802,300
Rouge Valley	4,623,900
Oakland County - George W. Kuhn (GWK)	3,806,900
Evergreen Farmington	2,681,600
Northeast Wayne County	2,010,000
Dearborn	1,633,600
Grosse Pointe Farms	222,300
Grosse Pointe Park	135,500
Melvindale	115,100
Farmington	92,500
Center Line	77,200
Allen Park	56,000
Highland Park	484,900
Hamtramck	340,500
Grosse Pointe	78,500
Harper Woods	20,000
Redford Township	21,700
Wayne County #3	3,900

Total Revenue Requirement for the Detroit Retail Class \$187,304,100 - Effective July 1, 2016

\*Wholesale charges went into effect July 1, 2016

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 11

UNAUDITED

## Industrial Waste Control Charges & Pollutant Surcharges

Effective July 1, 2016

	Charge \$/Month
Industrial waste control charges	
Meter size - inches:	
5/8	\$ 5.65
3/4	8.48
1	14.13
1 1/2	31.08
2	45.20
3	81.93
4	113.00
6	169.50
8	282.50
10	395.50
12	452.00
14	565.00
16	678.00
18	791.00
20	904.00
24	1,017.00
30	1,130.00
36	1,243.00
48	1,356.00
	Charge Per Pound
Pollutant surcharges	
Biochemical Oxygen Demand (BOD) for concentrations > 275 mg/l	\$ 0.491
Total Suspended Solids (TSS) for concentrations > 350 mg/l	\$ 0.498
Phosphorus (P) for concentrations > 12 mg/l	\$ 7.346
Fats, Oil and Grease (FOG) for concentrations > 100 mg/l	\$ 0.473
Septage Disposal Fee \$ per 500 gallons of disposal	\$ 47.00

Source: Great Lakes Water Authority Financial Services Area



# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FL

Schedule 12

UNAUDITED

## Treated and Billed Wastewater Volumes

Last Ten Years

Fiscal Year	Total	Customer Wastewater Volume (mg)		
	Wastewater Treated (mg)	Wholesale Customers [1]	Local System [2]	Total
2008 *	244,200	114,200	27,800	142,000
2009 *	260,800	123,200	29,600	152,800
2010 *	221,400	100,600	27,100	127,700
2011 *	253,500	112,700	28,000	140,700
2012 *	255,500	112,600	24,900	137,500
2013 *	220,600	99,400	23,100	122,500
2014 *	233,200	107,200	22,100	129,300
2015 *	222,700	103,700	20,100	123,800
2016 *	209,200	96,800	20,600	117,400
2017	254,400	105,500	19,200	124,700

\*GLWA assumed operations on January 1, 2016. The information in this table from 2008-2015 is based on operations under DWSD. Data from 2016 includes six months of operation under DWSD and 6 months of operation under GLWA.

[1] Primarily metered wastewater volumes, but also includes water sales volumes for some customers whose wastewater is not metered. For 2015 through 2017 a fixed charge billing methodology was implemented. Volumes reflect measured and monitored wastewater flow.

[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 13  
UNAUDITED

## Pledges of Revenue and Debt Service Coverage as of June 30, 2017

The Authority has pledged specific revenue streams to secure the repayment of the revenue bonds and State of Michigan revolving fund loans. The bonds and loans are paid solely from the net revenues of the Sewer System including the Retail Revenues from the Retail Customers who are serviced under the Water and Sewer Services Agreement with the City of Detroit. The pledged revenues for the fiscal year ending June 30, 2017 were reported by two entities due to the lease agreement between the City of Detroit and Great Lakes Water Authority which became effective on January 1, 2016. The pledge revenue definition in the Great Lakes Water Authority Master Bond Ordinance includes the retail revenues of the City of Detroit Water and Sewerage Department as this revenue is pledged for payment of the bonded debt owed by Great Lakes Water Authority. A summary of the pledged revenue and the applicable debt as of June 30, 2017 is as follows:

Term of pledged commitment	Thru 2045
Calculation of Pledged Revenue as defined in Master Bond Ordinance	
GLWA revenue pledged-excludes local charges [1]	
Wholesale customer charges	\$ 263,311,745
Industrial waste charges	14,381,106
IWC charges to retail included in DWSD pledged revenue calculation below	(2,846,569)
Pollutant surcharges	5,206,294
Bad debt recovery	35,065,030
Other revenues	538,807
Earnings on investments net of construction fund investment earnings	1,384,225
less cash transfers to GLWA Operations and Maintenance Fund	(186,697,200)
GLWA net revenue for pledged revenue calculation	<u>130,343,438</u>
DWSD revenue pledged	
Customer charges	263,213,728
Penalties and fees	4,617,148
Miscellaneous	514,101
less cash transfers to DWSD Operations and Maintenance Fund	(44,397,600)
DWSD net revenue for pledged revenue calculation	<u>223,947,377</u>
Pledged revenue for the year ending June 30, 2017	<u>\$ 354,290,815</u>
Principal and interest funding requirement for the year ending June 30, 2017 [2]:	
Senior and second lien bonds	
Senior lien bonds	\$ 140,854,010
Second lien bonds	<u>47,918,639</u>
Total senior and second lien bonds	188,772,649
Junior lien bonds	<u>45,782,165</u>
Total all bonds	<u>\$ 234,554,814</u>
Rate covenant debt service coverage [2]	
Senior lien bonds	2.52
Senior and second lien bonds	1.88
All bonds, including SRF junior lien	1.51
Approximate amount in restricted cash and investments related to various bond indentures at June 30, 2017	\$ 150,900,000

[1] Local charges are excluded from the GLWA revenue calculation as they would duplicate the revenues reported in the DWSD revenue calculation.

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

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL FUND

Schedule 13a  
UNAUDITED

## Pledges of Revenue and Debt Service Coverage Last Two Years [1]

	2017	2016 [1]
Sewage disposal fund		
Pledged revenue	\$ 354,290,815	\$ 326,048,837
Principal and interest funding requirement for the year ending June 30, 2017 [2]:		
Senior and second lien bonds		
Senior lien bonds	\$ 140,854,010	\$ 140,191,016
Second lien bonds	47,918,639	48,944,924
Total senior and second lien bonds	188,772,649	189,135,940
Junior lien bonds	45,782,165	39,434,631
Total all bonds	\$ 234,554,814	\$ 228,570,571
Rate covenant debt service coverage [2]		
Senior lien bonds	2.52	2.33
Senior and second lien bonds	1.88	1.72
All bonds, including SRF junior lien	1.51	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.

Source: Great Lakes Water Authority Financial Services Area