

*In the opinion of Bond Counsel, subject to compliance with certain covenants, under existing law and except as described under "TAX MATTERS" herein, interest on the Series 2018 Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended. The Series 2018 Bonds and the interest thereon are exempt from taxation by the State of Michigan or by any taxing authority within the State of Michigan, except estate taxes and taxes on gains realized from the sale, payment or other disposition of the Series 2018 Bonds. See "TAX MATTERS."*



**\$155,595,000**  
**GREAT LAKES WATER AUTHORITY**  
**Water Supply System Revenue Refunding Second Lien Bonds**  
**Series 2018A**

**Dated: Date of Delivery**

**Due as shown on inside cover page**

The Water Supply System Revenue Refunding Bonds set forth above (the "Series 2018 Bonds") will be issued by the Great Lakes Water Authority (the "Authority" or "GLWA") pursuant to the Bond Ordinance (as defined herein) of the Authority to (i) refund certain Refunded Bonds (as defined herein), and (ii) pay certain costs of issuance of the Series 2018 Bonds. The Series 2018 Bonds are payable from the Pledged Assets (as defined herein) pledged as security therefor under the Bond Ordinance. See "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS."

The Authority operates the regional water supply and sewage disposal systems previously operated by the City of Detroit (the "City"). The Authority assumed all of the outstanding debt of the City relating to the regional and local water supply and sewage disposal systems and acquired all of the revenues of those systems as of January 1, 2016. See "THE GREAT LAKES WATER AUTHORITY."

The Series 2018 Bonds will be issued in fully registered form in denominations of \$5,000 or any integral multiple thereof and will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York, which will act as securities depository for the Series 2018 Bonds. Bondholders will not receive certificates representing their ownership interest in the Series 2018 Bonds purchased. See "THE SERIES 2018 BONDS - Book-Entry-Only System."

The Series 2018 Bonds will bear interest at the rates and mature on the dates as set forth on the inside cover hereof. Interest on the Series 2018 Bonds will accrue from the date of delivery thereof and will be payable January 1 and July 1, commencing July 1, 2019.

The Series 2018 Bonds are not subject to optional redemption prior to maturity. See "THE SERIES 2018 BONDS - Optional Redemption."

The Trustee for the Series 2018 Bonds is U.S. Bank National Association.

**The Series 2018 Bonds are issued under Act 233 and Act 94 (each as defined herein). The Series 2018 Bonds are not a general obligation of the Authority and do not constitute indebtedness of the Authority within any constitutional or statutory limitation, but are payable, both as to principal and interest solely from the Pledged Assets of the Water System (as defined herein). The payment of the principal of and interest on the Series 2018 Bonds is secured by a statutory lien on the Pledged Assets as described herein.**

The Series 2018 Bonds are offered when, as and if issued by the Authority and received by the Underwriters, subject to prior sale, withdrawal or modification of the offer without notice, and subject to approval of legality by Bond Counsel to the Authority, Dickinson Wright PLLC, Detroit, Michigan. Certain legal matters will be passed upon by Kutak Rock LLP, Washington, D.C., counsel to the Underwriters. It is expected that the Series 2018 Bonds in book-entry form will be available for delivery against payment therefor through the facilities of The Depository Trust Company ("DTC") on or about October 3, 2018.

This cover page contains certain information for quick reference only. It is not a summary of this issue. Investors must read the entire Official Statement to obtain information essential to the making of an informed investment decision.

**Citigroup**

**Wells Fargo Securities**

**Goldman, Sachs & Co. LLC**

**J.P. Morgan**

**Morgan Stanley**

**Siebert Cisneros Shank & Co., L.L.C.**

**Ramirez & Co., Inc.**

**\$155,595,000**  
**Water Supply System Revenue Refunding Second Lien Bonds**  
**Series 2018A**

<b><u>Maturity</u></b> <b><u>(July 1)</u></b>	<b><u>Principal</u></b> <b><u>Amount</u></b>	<b><u>Interest Rate</u></b>	<b><u>Yield</u></b>	<b><u>CUSIP<sup>†</sup></u></b>
2019	\$8,170,000	5.00%	1.910%	39081JBK3
2020	12,180,000	5.00%	2.040%	39081JBL1
2021	12,785,000	5.00%	2.170%	39081JBM9
2022	13,420,000	5.00%	2.290%	39081JBN7
2023	12,965,000	5.00%	2.400%	39081JBP2
2024	13,925,000	5.00%	2.540%	39081JBQ0
2025	14,030,000	5.00%	2.660%	39081JBR8
2026	15,755,000	5.00%	2.800%	39081JBS6
2027	15,690,000	5.00%	2.890%	39081JBT4
2028	18,165,000	5.00%	2.960%	39081JBU1
2029	18,510,000	5.00%	3.050%	39081JBV9

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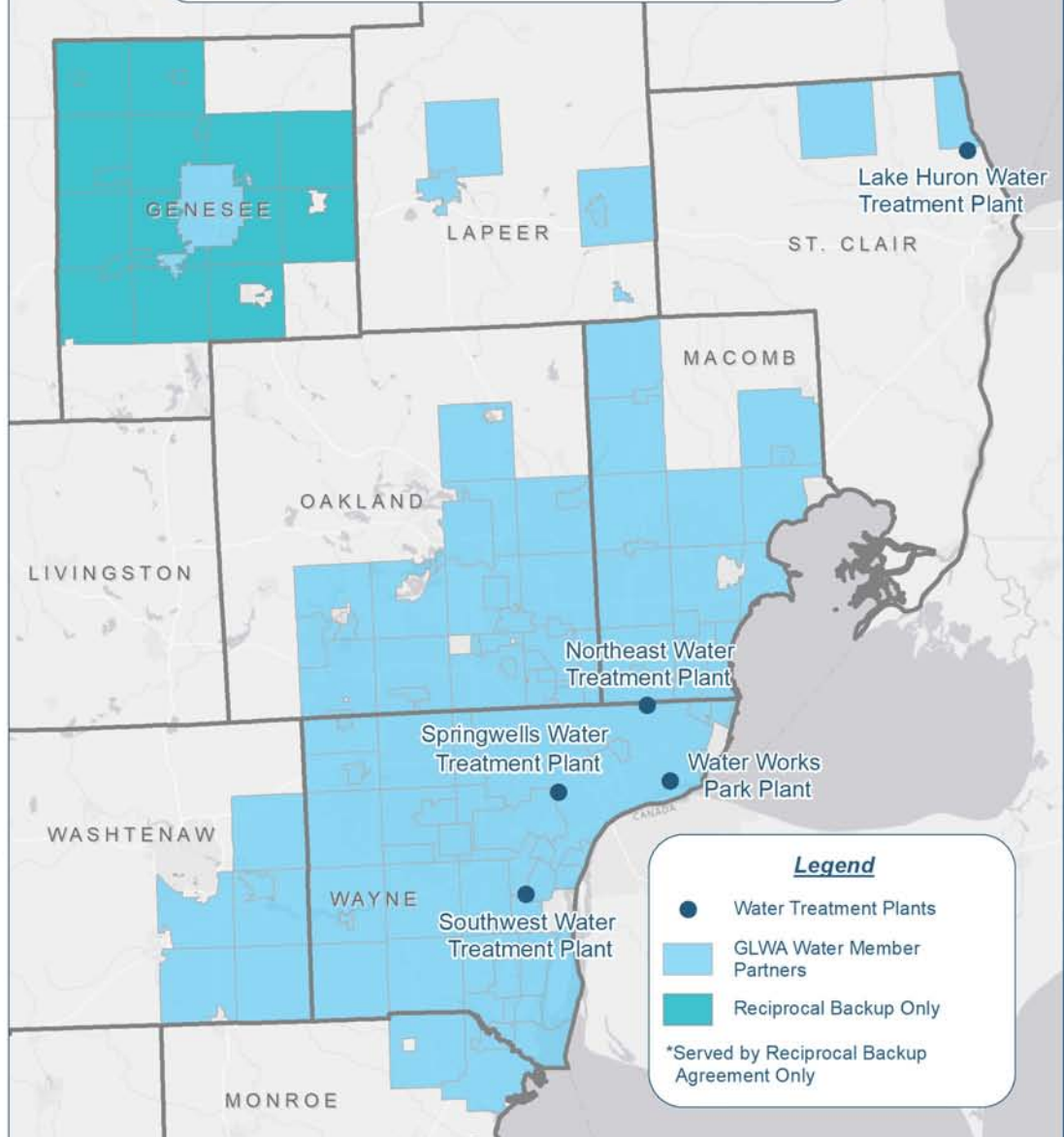
<sup>†</sup> Registered trademark of American Bankers Association. CUSIP data herein is provided by Standard and Poor's CUSIP Service Bureau, a division of the McGraw Hill Companies, Inc. This data is not intended to create a database and does not serve in any way as a substitute for the CUSIP service. CUSIP numbers are provided for reference only. Neither the Authority, the Trustee nor the Underwriters take any responsibility for the accuracy of such numbers.



**GLWA**  
Great Lakes Water Authority

## Water System

Allen Park  
Almont  
Ash Township  
Auburn Hills  
Augusta Township  
Belleville  
Berkley  
Berlin Township  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Township  
Bloomfield Hills  
Brownstown Township  
Bruce Township  
Burtchville Township  
Burton\*  
Canton Township  
Center Line  
Chesterfield Township  
Clawson  
Clayton Township\*  
Clinton Township  
Clio\*  
Commerce Township  
Davison Township\*  
Dearborn  
Dearborn Heights  
Detroit  
Eastpointe  
Ecorse  
Farmington  
Farmington Hills  
Ferndale  
Flat Rock  
Flint  
Flint Township\*  
Flushing \*  
Flushing Township\*  
Fraser  
Gaines Township\*  
Garden City  
Genesee Township\*  
Gibraltar  
Grand Blanc Township\*  
Greenwood Township  
Grosse Ile Township  
Grosse Pointe Park  
Grosse Pointe Shores  
Grosse Pointe Woods  
Hamtramck  
Harper Woods  
Harrison Township  
Hazel Park  
Highland Park  
Huntington Woods  
Huron Township  
Imlay Township  
Imlay City  
Inkster  
Keego Harbor  
Lapeer  
Lathrup Village  
Lenox Township  
Lincoln Park  
Livonia  
Macomb Township  
Madison Heights  
Mayfield Township  
Melvindale



Montrose*	Pittsfield Township	Rockwood	Sterling Heights	Walled Lake
Montrose Township*	Pleasant Ridge	Romeo	Sumpter Township	Warren
Mt Morris*	Plymouth	Romulus	Superior Township	Washington Township
Mt Morris Township*	Plymouth Township	Roseville	Swartz Creek*	Wayne
Mundy Township*	Pontiac	Royal Oak	Sylvan Lake	West Bloomfield Township
New Haven	Redford Township	Royal Oak Township	Taylor	Westland
Northville	Richfield Township*	Shelby Township	Trenton	Wixom
Northville Township	River Rouge	South Rockwood	Troy	Woodhaven
Novi	Riverview	Southfield	Utica	York Township
Oak Park	Rochester	Southgate	Van Buren Township	Ypsilanti
Orion Township	Rochester Hills	St Clair Shores	Vienna Township*	Ypsilanti Township



0 3.75 7.5 15 22.5 30 Miles

Sources: Great Lakes Water Authority  
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IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVERALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICES OF THE SERIES 2018 BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

THE UNDERWRITERS MAY OFFER AND SELL THE SERIES 2018 BONDS TO CERTAIN DEALERS AND DEALER BANKS ACTING AS AGENT AT PRICES LOWER THAN THE PUBLIC OFFERING PRICES STATED ON THE COVER OF THIS OFFICIAL STATEMENT. SUCH PUBLIC OFFERING PRICES MAY BE CHANGED FROM TIME TO TIME BY THE UNDERWRITERS.

No dealer, broker, salesperson or other person has been authorized by the Authority or the Underwriters to make any representation other than as contained in this Official Statement and, if given or made, such other information or representation must not be relied upon as having been authorized by the Authority or the Underwriters. The information set forth in this Official Statement has been obtained from the Authority, the Detroit Water and Sewerage Department (the "Department" or "DWSD"), The Depository Trust Company ("DTC"), and other sources that are deemed to be reliable, but as to information from sources other than themselves, is not to be construed as a representation by the Authority, DWSD, DTC, or the Underwriters respectively. Certain historical information in this Official Statement has been derived from information on the operations of DWSD prior to the start-up of the Authority. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their responsibilities to investors under the federal securities laws as applied to the facts and circumstances of the transaction, but the Underwriters do not guarantee the accuracy or completeness of such information. The information and expressions of opinion herein are subject to change without notice, and neither the delivery of this Official Statement nor the sale of the Series 2018 Bonds shall under any circumstances create any implication that there has been no change in the affairs of the Authority, DWSD or DTC since the date of this Official Statement. None of the information contained in this Official Statement has been supplied or verified by the Trustee, and the Trustee make no representations, warranties or guarantee as to the accuracy or completeness of any information in this Official Statement.

This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the Series 2018 Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. This Official Statement is not to be construed as a contract or agreement between the Authority and the purchasers or holders of any of the Series 2018 Bonds.

**IN MAKING AN INVESTMENT DECISION INVESTORS MUST RELY ON THEIR OWN EXAMINATION OF THE AUTHORITY AND THE TERMS OF THE OFFERING, INCLUDING THE MERITS AND RISKS INVOLVED. THESE SECURITIES HAVE NOT BEEN RECOMMENDED BY ANY FEDERAL OR STATE SECURITIES COMMISSION OR REGULATORY AUTHORITY. FURTHERMORE, THE FOREGOING AUTHORITIES HAVE NOT CONFIRMED THE ACCURACY OR DETERMINED THE ADEQUACY OF THIS OFFICIAL STATEMENT. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.**

Certain statements contained in this Official Statement, including in the Appendices hereto, reflect not historical facts but forecasts and "forward-looking statements." Such forward-looking statements can be identified, in some cases, by the terminology used, such as "may," "will," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "illustrate," "example," and "continue," or the singular, plural, negative or other derivations of these or other

comparable terms. Purchasers and holders of any of the Series 2018 Bonds should not place undue reliance on forward-looking statements. All forward-looking statements included in this Official Statement are based on information available to the Authority on the date hereof, and the Authority does not assume any obligation to update any such forward-looking statements. Actual results could differ materially from those discussed in such forward-looking statements.

The forward-looking statements included herein are necessarily based on various assumptions and estimates and are inherently subject to various risks and uncertainties, including, but not limited to, the risks and uncertainties described herein and risks and uncertainties relating to the possible invalidity of the underlying assumptions and estimates and possible changes or developments in geopolitical, military, social, economic, business, industry, market, legal or regulatory circumstances, and conditions or actions taken or omitted to be taken by third parties, including customers, suppliers, and business partners, and legislative, judicial, and other governmental authorities and officials. Any of such assumptions could be inaccurate, and the Authority cannot predict or assess the emergence and impact of new factors. Accordingly, actual results may vary from the projections, forecasts and estimates contained in this Official Statement and such variations may be material, which could affect the Authority's ability to fulfill some or all of its obligations under the Series 2018 Bonds.

No party that has provided information for this Official Statement has any obligation to update or otherwise revise any projections, forecasts and estimates, including any revisions to reflect changes in conditions or circumstances arising after the date of this Official Statement, or to reflect the occurrence of unanticipated events.

All projections, forecasts, assumptions, expressions of opinions, estimates, and other forward-looking statements are expressly qualified in their entirety by the foregoing and the other cautionary statements set forth in this Official Statement.

## SUMMARY DESCRIPTION

*Selected information is presented in this Summary Description for the convenience of the reader. To make an informed investment decision regarding the Series 2018 Bonds, a prospective investor should read this entire Official Statement.*

**Issuer:** 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, and Wayne (the “Counties”) 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 (as defined herein) 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, continues 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. See “THE GREAT LAKES WATER AUTHORITY.”

**Service Area and Customer Relationships:** The Authority’s Water System (as defined herein) is one of the largest in the United States, both in terms of water supply and population served. The Water System currently serves an area of 1,760 square miles located in three Michigan counties and an estimated population of nearly 3.8 million or approximately 38% of Michigan’s population. Suburban customers comprise approximately 82% of the population served by the Authority, and the Retail Water Customers (as defined herein) comprise the remainder served by the Authority. See “SERVICE AREA AND CUSTOMERS.”

**Wholesale Charges and Retail Rates:** 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 Customers. As 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 System. Under certain conditions, the Authority may terminate the City’s appointment. See “SERVICE AREA AND CUSTOMERS – Service Charges to Customers” and “DWSD and Retail Customers” and APPENDIX VII - SUMMARY OF THE WATER AND SEWER SERVICES AGREEMENT.

**Purpose of the Series 2018 Bonds:** The Series 2018 Bonds are being issued to refund for debt service savings certain Bonds assumed by the Authority from the City pursuant to the Lease. See “THE SERIES 2018 BONDS - Plan of Financing.”

**Redemption of the Series 2018 Bonds:** The Series 2018 Bonds are not subject to optional redemption prior to maturity. See “THE SERIES 2018 BONDS – Optional Redemption.”

**Pledged Security and Statutory Lien:** The Series 2018 Bonds are payable from the Pledged Assets (as defined herein), which include the Net Revenues of the Water System. The Authority has irrevocably pledged the Net Revenues (as defined herein) of the Water System for payment of the Series 2018 Bonds. The payment of the principal of and interest on the Series 2018 Bonds are secured by a statutory lien on the Pledged Assets. The Series 2018 Bonds are not a general obligation of the Authority. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS.”

**Reserve Accounts and Reserve Requirements:** The Reserve Requirement for Senior Lien Bonds currently is the lesser of (i) the Maximum Annual Debt Service (as defined herein) on all Senior Lien Bonds or (ii) the maximum amount permitted by the Internal Revenue Code of 1986, as amended (the “Code”). The Reserve Requirement for Second Lien Bonds currently is the lesser of (i) the Maximum Annual Debt Service on all Second Lien Bonds or (ii) the maximum amount permitted by the Code. Pursuant to an amendment to the Bond Ordinance that would become effective if and when approved by the holders of a majority in principal amount of Bonds of each affected priority of lien, if the Authority attains Senior Lien ratings of “Aa3” or “AA-” or higher from at least two of Moody’s, S&P, and Fitch, respectively, the Authority may, but is not required to, reduce or eliminate the Reserve Requirements for Senior Lien Bonds or the Second Lien Bonds, as the case may be. By purchasing the Series 2018 Bonds, the original and all subsequent purchasers of the Series 2018 Bonds shall be deemed to have consented to such amendment. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS – Reserve Fund Amendment.”

**Parity Lien and Additional Bonds:** The Series 2018 Bonds are of equal standing on parity with all other Bonds assumed, issued or to be incurred under the Bond Ordinance and secured by a second lien on the Pledged Assets. The Authority may issue additional bonds on parity with the Series 2018 Bonds and other Bonds upon satisfaction of certain tests, including a coverage test requiring that either Projected Net Revenues or Historical Net Revenues, as determined by GLWA, divided by Maximum Annual Debt Service for such priority of lien and any higher priority of lien equals or exceeds the Required Coverage of 120% for Senior Lien Bonds, 110% for Second Lien Bonds and 100% for SRF Junior Lien Bonds and Pension Junior Lien Bonds. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS – Issuance of Additional Bonds” and APPENDIX VI - SUMMARY OF THE BOND ORDINANCE.

**Rate Covenant:** The Authority covenants to fix charges to produce amounts required under the Bond Ordinance, including amounts required to meet the Required Coverage of 120% for Senior Lien Bonds, 110% for Second Lien Bonds and 100% for SRF Junior Lien Bonds and Pension Junior Lien Bonds. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS – Rate Covenant” and APPENDIX VI - SUMMARY OF THE BOND ORDINANCE.

**Historical and Projected Debt Service Coverage:** The table below shows the historical (Fiscal Years 2013 to 2018) and projected (Fiscal Years 2019 to 2023) coverage of debt service, presented on a rate covenant basis.

<u>Historical Debt Service Coverage <sup>(1)</sup></u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Senior Lien Bonds	1.61	1.51	1.71	2.11	2.13	2.04
Senior and Second Lien Bonds	1.23	1.17	1.30	1.59	1.65	1.53
All Bonds, Including SRF Junior Lien	1.22	1.16	1.29	1.58	1.64	1.50
<u>Projected Debt Service Coverage</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	
Senior Lien Bonds	2.03	2.04	2.09	2.17	2.19	
Senior and Second Lien Bonds	1.46	1.47	1.51	1.61	1.63	
All Bonds, Including SRF Junior Lien	1.44	1.44	1.41	1.50	1.53	

<sup>(1)</sup> Fiscal Years 2013-2017 are based on audited financial results. Fiscal Year 2018 is a preliminary estimate.

See “AUTHORITY FINANCIAL OPERATIONS - Summary of Historical Revenues and Expenses,” “Fiscal Year 2018 Estimate,” “Projected Financial Plan for Fiscal Years 2019 through 2023” and APPENDIX I – FEASIBILITY CONSULTANT’S REPORT.



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## **INTRODUCTION**

The following introductory statement is subject in all respects to the more complete information set forth in this Official Statement. The descriptions and summaries of various documents hereinafter set forth do not purport to be comprehensive or definitive and are qualified in their entirety by reference to each document. Capitalized terms used in this Official Statement that are not otherwise defined herein have the meanings set forth in APPENDIX IV – DEFINITIONS.

This Official Statement, including the cover pages and the Appendices hereto, is provided to furnish information in connection with the offering by the Great Lakes Water Authority (the “Authority” or “GLWA”) of its \$155,595,000 Water Supply System Revenue Refunding Second Lien Bonds, Series 2018A (the “Series 2018 Bonds”).

### **Great Lakes Water Authority**

The Authority operates the Regional Water System and the Regional Sewer System (each as defined herein) for Southeast Michigan. The governance structure of the Authority gives suburban water and sewer customers a substantial collaborative role in the direction of one of largest water and wastewater utilities in the nation, while also providing the Local Water System and the Local Sewer System (each as defined herein) of the City of Detroit (the “City”) the benefits of the Authority’s regional strengths. While the Authority manages and controls all regional water and wastewater wholesale services, the City and the suburban customers retain control of local water and sewer services within their respective borders. The City also acts as agent of the Authority with respect to setting, billing, collecting and enforcing local retail charges in the City. The Authority is a legally independent, regional authority created pursuant to State law, governed by its Board of Directors and primarily overseen, as to environmental matters, by the Michigan Department of Environmental Quality (“MDEQ”), as are all water and sewer service providers in the state, and the federal Environmental Protection Agency (“EPA”). See “THE GREAT LAKES WATER AUTHORITY.”

### **Purpose**

The proceeds of the sale of the Series 2018 Bonds will be used (i) to refund certain Bonds identified in Schedule I attached hereto (the “Refunded Bonds”) and (ii) to pay certain costs of issuance. See “THE SERIES 2018 BONDS – Sources and Uses of Funds for the Series 2018 Bonds.”

### **Authorization**

The Series 2018 Bonds have been authorized and are being issued pursuant to the provisions of (i) Act 233 and Act 94, Public Acts of Michigan, 1933, as amended (“Act 94”), (ii) Master Bond Ordinance No. 2015-01 adopted by the GLWA Board (as defined herein) on October 7, 2015, as amended (the “Bond Ordinance”), (iii) the Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Refunding Bonds in a Principal Amount not to Exceed \$225,000,000, adopted by the GLWA Board on August 8, 2018 (the “2018 Series Ordinance”), and (iv) a Sale Order of the Chief Executive Officer of the Authority dated September 18, 2018 (the “2018 Sale Order,” and, collectively with the Bond Ordinance and the 2018 Series Ordinance, the “Ordinance”).

### **Security and Sources of Payment for the Series 2018 Bonds**

The Authority has irrevocably pledged the revenues of the Water System, after provision is made for reasonable and necessary expenses of operation, maintenance and administration of the Water System (the “Net Revenues”), and the Pledged Assets (as defined herein, which includes the Net Revenues) for payment of the Series 2018 Bonds. Payment of the Series 2018 Bonds is also secured by a statutory lien

on the Pledged Assets. The Series 2018 Bonds are of equal standing on parity with all other Bonds (as defined herein) assumed, issued or incurred under the Bond Ordinance and secured by a second lien on the Pledged Assets. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS.”

The Series 2018 Bonds are issued under Act 233 and Act 94. The Series 2018 Bonds are not a general obligation of the Authority and do not constitute indebtedness of the Authority within any constitutional or statutory limitation, but are payable, both as to principal and interest solely from the Pledged Assets of the Water System. The payment of the principal of and interest on the Series 2018 Bonds is secured by a statutory lien on the Pledged Assets as described herein.

### **Trustee**

U.S. Bank National Association will serve as the Trustee (the “Trustee”) for the Series 2018 Bonds, and in such capacity will act as bond register and paying agent for the Series 2018 Bonds.

### **Availability of Documents**

The descriptions and summaries of various Authority documents set forth in this Official Statement do not purport to be conclusive or definitive and reference is made to each such document for the complete details of all terms and conditions thereof. A summary of certain provisions of the Lease (as defined herein), the Bond Ordinance, the Water and Sewer Services Agreement (as defined herein), the Shared Services Agreement (as defined herein) and the 2018 MOU (as defined herein) as described herein are set forth in Appendices V, VI, VII, VIII and IX, respectively, attached hereto. All references herein to the Series 2018 Bonds and the Bond Ordinance, the 2018 Series Ordinance, the Lease, the Water and Sewer Services Agreement, the Shared Services Agreement and the 2018 MOU are qualified in their entirety by such documents, copies of which are available on GLWA’s website at [www.glwater.org](http://www.glwater.org) or from the Underwriters prior to the execution and delivery of the Series 2018 Bonds and thereafter may be examined or obtained at the expense of the person requesting the same at the corporate trust office of the Trustee.

## **THE GREAT LAKES WATER AUTHORITY**

GLWA was incorporated by the City and the Counties of Macomb, Oakland and Wayne (the “Counties”) on November 26, 2014 pursuant to Act 233, Public Acts of Michigan, 1955, as amended (“Act 233”). At the time of GLWA’s incorporation, the City, through its Detroit Water and Sewerage Department (“DWSD” or the “Department”), was providing water supply services within and outside of the City through a water supply system (the “Water System”) and drainage and sewage disposal services within and outside of the City through a sewage disposal system (the “Sewer System”). On June 12, 2015, the City and GLWA executed a Regional Water System Lease (the “Lease” or the “Water Lease”), a Regional Sewage Disposal System Lease (the “Sewer Lease” and together with the Water Lease, the “Leases”) and a Water and Sewer Services Agreement (the “Water and Sewer Services Agreement”), and as of December 1, 2015, the City and GLWA executed a Shared Services Agreement (the “Shared Services Agreement”). The foregoing agreements became effective on January 1, 2016 (the “Effective Date”), at which time GLWA, pursuant to the Lease, became responsible for the debt obligations of the City relating to the Water System, including the payment of all DWSD Water Bonds (as defined herein), through the substitution of GLWA for the City as the sole obligor on the DWSD Water Bonds, the assignment to GLWA of all of the revenues of the Water System, and the assumption by GLWA of the DWSD Water Bonds. See APPENDIX V – SUMMARY OF THE LEASE, APPENDIX VII – SUMMARY OF THE WATER AND SEWER SERVICES AGREEMENT, and APPENDIX VIII – SUMMARY OF THE SHARED SERVICES AGREEMENT.

Pursuant to the Lease, GLWA acquired, and the City absolutely and irrevocably assigned, transferred and conveyed to GLWA, (i) all of the City's right, title and interest in and to the Revenues (as defined herein), including the Retail Revenues (as defined herein), in existence on the Effective Date, and (ii) all of the City's right, title and interest in and to the Revenues, including Retail Revenues, derived from operation of the Water System on and after the Effective Date and through the end of the term of the Lease. Part of the consideration for the Lease is a lease payment to the City of \$22,500,000 per year, to be funded from a portion of the common-to-all revenue requirements for the Regional Water System. See APPENDIX V – SUMMARY OF THE LEASE.

GLWA operates the portion of the Water System (the "Regional Water System") that provides service to the wholesale customers thereof and the Retail Water Customers (as defined herein) up to the point of connection to the Local Water System (as defined herein) and the portion of the Sewer System (the "Regional Sewer System" and, together with the Regional Water System, the "Regional Systems") that provides service to the wholesale customers thereof and to the Retail Sewer Customers (as defined herein) up to the point of connection to the Local Sewer System (as defined herein), all pursuant to (i) the Water Lease, (ii) the Sewer Lease, and (iii) the Water and Sewer Services Agreement.

GLWA operates as the largest regional water authority in the State of Michigan. GLWA serves classes of customers including communities and districts that are served under wholesale source contracts and the Retail Water Customers served under the Water and Sewer Services Agreement. GLWA has adopted an unwavering commitment to its customers and the region, known as "One Water," and a mission statement of customer collaboration and engagement: *"Through regional collaboration, GLWA strives to be the provider of choice dedicated to efficiently delivering the nation's best water and sewer service in partnership with our customers."* See "SERVICE AREA AND CUSTOMERS - Collaboration and Customer Outreach."

In open partnership with its customers, GLWA is focused on innovation in its business practices, with a commitment to providing the highest quality services to current and future generations. In order to further affordability for water and sewer services, GLWA launched the first program of its kind in the State of Michigan, known as the Water Residential Assistance Program or "WRAP," to provide an ongoing funding source for assistance to qualified households throughout GLWA's service area. See "SERVICE AREA AND CUSTOMERS - Water Residential Assistance Program."

GLWA's senior management team has operated the Water System and the Sewer System since 2012 and is continuing to optimize the organization through innovative job designs, lean business practices and the greater use of technology. These organizational optimization initiatives have improved operations and financial results of the Water System and the Sewer System. In 2018, GLWA further enhanced its management team's capacity in the areas of asset management, energy efficiency, planning and research and innovation. GLWA continues to focus on its role in the economic success and the public health and safety of the region it serves.

### **Powers of the Authority**

GLWA is a public body corporate organized pursuant to the provisions of Act 233. In addition to this statutory authority, the governance for the Authority is found in its Articles of Incorporation, By-Laws, policies, and ordinances including but not limited to its bond ordinances. The Authority has both express powers and implied powers necessary to carry out its powers, duties, and responsibilities. The Authority's express powers include the following:

- The Authority is empowered through its Board of Directors (the "GLWA Board") to provide wholesale water supply and sewage disposal service to the service area. The six-member

GLWA Board has the authority to execute contracts, set policy for the Authority, set service charges and set the revenue requirement for the Retail Customers.

- The GLWA Board is required to appoint an Audit Committee to “review the reports related to the financial condition, operations, performance and management of the Authority” on a regular basis. Certain actions by the GLWA Board require the affirmative vote of at least five members of the GLWA Board, including, but not limited to, setting rates and charges for water supply and sewage disposal services, annual operating budgets, capital improvement programs, issuance of debt and any modification of the Lease.
- The Authority must establish biennial budgets, with the first year serving as formal authorization (including an approved schedule of service charges to support the budget) and the second year serving as an initial estimate of revenues and revenue requirements.
- The Authority has the ability to enter into water supply and sewage disposal contracts and may establish and fix a schedule of rates, fees, and other charges for its services.

### **Governance and Board Members**

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

In order to more efficiently oversee the Authority’s operations, the GLWA Board has adopted a committee structure. Four committees have been established: (i) Audit, (ii) Capital Improvement Planning, (iii) Operations and Resources and (iv) Legal.

The GLWA Board currently consists of:

*Freman Hendrix, GLWA Board Chairman; GLWA Board Representative for the City of Detroit.* Mr. Hendrix has extensive experience in municipal government, finance and real estate, having served as Deputy Mayor and Chief of Staff for former Detroit Mayor Dennis Archer. During his tenure with the City, Mr. Hendrix led strategic policy development and planning and assisted the City in achieving its first balanced budget in decades, as well as an unprecedented and continuous upgrading of the City’s national bond rating. He is also a member of the Southeastern Michigan Regional Transit Authority Board of Directors, a member of the Wayne County Board of Ethics, and a partner in Brush Park Development LLC (a joint venture with Rock Ventures), that is developing 8.5 acres in Detroit’s Brush Park neighborhood. Mr. Hendrix is also a long-time community activist who co-founded the Rosedale-Grandmont Little League Baseball Program.

*Brian Baker, GLWA Vice Chairman; GLWA Board Representative for Macomb County.* Mr. Baker is the Chief Deputy for the Macomb County Public Works Commissioner, Candice Miller, where he oversees a staff of 60 storm water and waste water professionals. He formerly served as the Finance and Budget Director for the City of Sterling Heights for more than 30 years. In that capacity, he directed the City of Sterling Heights’ financing, procurement and debt management initiatives, and worked extensively on water and sewer rate setting process, which has resulted in the City of Sterling Heights



achieving efficiencies and lowering costs, as well as on pension administration. In addition, Mr. Baker has worked regionally serving in numerous capacities, including on a municipal revenue task force established by the Governor's Office to address ongoing problems. He has also worked closely with the Southeastern Michigan Council of Governments in similar capacities. Mr. Baker earned a Master of Business Administration from Wayne State University, and a Bachelor of Arts in Economics and Political Science from the University of Michigan.

*Abe Munfakh, P.E., GLWA Secretary; GLWA Board Representative for Wayne County.* Mr. Munfakh has more than 30 years of experience in civil engineering, with experience in water supply and distribution projects; wastewater system projects, including sewer construction, pumping and treatment; and road, street, and bridge design and reconstruction. He has also overseen implementation of multiple infrastructure projects across Southeast Michigan, including water treatment plant expansions, water and sewer system expansions, sewer replacement design, and more. Mr. Munfakh is a registered professional engineer in the states of Michigan, Louisiana, and Indiana, and currently serves as the Founder and CEO of Munfakh & Associates, LLC in Plymouth, Michigan. Mr. Munfakh serves as Chairman for the Arab American and Chaldean Council, in addition to serving as a trustee of the foundation board of Henry Ford College. He formerly served on the Plymouth Township Planning Commission and the Plymouth Township Board of Trustees, as well as the Michigan Board of Professional Engineers. In addition, Mr. Munfakh previously served as President, Chairman of the Board and Principal-in-Charge at Ayers, Lewis Norris & May Inc., in Ann Arbor, Michigan. Mr. Munfakh is a graduate of Louisiana State University with a Bachelor of Science in Civil Engineering and has completed graduate work in Civil Engineering at the University of Michigan.

*Gary A. Brown, GLWA Board Representative for the City of Detroit.* Mr. Brown was appointed the Director of DWSD in October 2015. He is leading the Department toward a customer-focused, fiscally responsible operation. Previously, Mr. Brown served as the City's Group Executive for Operations and Chief Operating Officer under Mayor Mike Duggan, charged with ensuring continued improvement of city services. He was initially hired to the City's Executive Office as Chief Compliance Officer by Former Emergency Manager Kevyn Orr, after spending nearly four years as president Pro Tem of the City Council. Mr. Brown is also a former Deputy Chief of the Detroit Police Department, where he served for 26 years beginning as a patrol officer, rising through the ranks to become Commander of the 1st, 3rd, 9th and 11th Precincts, as well as the Gang Squad, Narcotics and Internal Affairs Divisions.

*Robert J. Daddow, CPA, GLWA Board Representative for Oakland County.* Mr. Daddow currently serves as Deputy County Executive of Oakland County. Mr. Daddow was Oakland County's Director of Management and Budget from January 1993 until his appointment as Deputy County Executive in 2000. In both roles, he helped further Oakland County's multi-year budgeting, transform Oakland County's retiree benefits from defined benefit to defined contribution, finance the paying-off of Oakland County's retiree obligations, and maintain Oakland County's AAA bond rating since 1998. Mr. Daddow served as Co-Chair of the Legislative Commission on Statutory Mandates concluding with a report issued in December 2009. He is member of the board of the Southeastern Michigan Regional Transit Authority and previously served as Vice-Chairman of the Michigan Municipal Services Authority. In March 2018, Mr. Daddow was appointed by Michigan Governor Rick Snyder to the 21<sup>st</sup> Century Infrastructure Commission, which was created to identify long-term strategies to help ensure Michigan's infrastructure remains safe and efficient now and into the future.

*Craig Hupy, GLWA Board Representative for the State of Michigan.* Mr. Hupy is the Public Services Area Administrator for the City of Ann Arbor. In this capacity, Mr. Hupy oversees several major departments including water and sewer operations, solid waste, project management, systems planning and coordinates long-term asset planning and construction across interdependent operations. He is administering the planning of the replacement of Plant #1 at the Water Treatment Facilities including

upgrades to the treatment process and envisioning accommodations for future treatment requirements. Prior to being appointed to his position in 2011, Mr. Hupy held various leadership roles with the City of Ann Arbor, including Manager of both the Field Operations and Systems Planning Units. Through his work with Ann Arbor, Mr. Hupy has also gained significant experience in utility rate design. Mr. Hupy is a registered professional engineer, and holds multiple certifications through the Department of Environmental Quality. He earned a bachelor's degree in civil engineering from Michigan Technological University.

## **Management Team**

The GLWA management team is committed to building upon the history of improved performance of the Water System and the Sewer System that began in 2012. GLWA key personnel and their qualifications are:

*Sue F. McCormick, Chief Executive Officer.* Ms. McCormick was named the Chief Executive Officer (“CEO”) of GLWA on October 19, 2015. Ms. McCormick led the successful stand up of GLWA, which began operations on January 1, 2016. Under her leadership, GLWA experienced a number of important firsts in its foundational year, including two sets of upgrades to its bond ratings from all three bond ratings agencies, the execution of a money saving \$1.3 billion inaugural bond sale, which will achieve more than \$309 million in savings over the life of the refinanced bonds, the creation of a leadership training academy and structured development opportunities for all team members, and the establishment of a biennial budget for GLWA. GLWA also launched WRAP, which provides qualifying households with help in paying current and past-due water bills and water conservation efforts. In 2017, Ms. McCormick was honored by the Detroit Metropolitan Chapter of the American Society for Public Administration with its Outstanding Public Service Award.

Prior to her appointment with GLWA, Ms. McCormick served as Director of DWSD, guiding it through major initiatives that resulted in cost savings, regulatory compliance and improved financial performance. Before joining DWSD in 2012, she served as Public Services Administrator for the City of Ann Arbor, Michigan, where for 11 years she managed the City of Ann Arbor’s entire physical infrastructure, including roads, solid waste, parks, fleet and facilities, and the water and sewer system. She first joined Ann Arbor city government as Water Utilities Director in January 2001, after 22 years with the Lansing Board of Water and Light where during her tenure, she rose steadily through the ranks serving in a variety of roles, including Environmental Chemist, Environmental Laboratory Manager, Manager of Water and Steam Planning, Water Technical Support Manager and Business Development Manager.

A native of Michigan’s Upper Peninsula, Ms. McCormick earned a bachelor’s degree from Lyman Briggs College at Michigan State University. She is active in the 58,000-member American Water Works Association (“AWWA”), where she has served as an AWWA-Michigan Director and as an association Vice President, and on the Water Quality Board of the International Joint Commission. Ms. McCormick is currently serving on the Board of Directors for the Association of Metropolitan Water Agencies (“AMWA”), as well as for the National Association of Clean Water Agencies (“NACWA”).

*Nicolette N. Bateson, CPA, Chief Financial Officer/Treasurer.* Ms. Bateson is the Chief Financial Officer (“CFO”) and Treasurer for GLWA. Ms. Bateson’s service follows her tenure as the first CFO for DWSD which began in February 2013. In that role she led the Financial Services Area through a significant transformation effort engaging cross-functional teams to achieve sustainable change. The result was a professionalized department with an unprecedented demonstration of transparency to all stakeholders. This pivotal effort supported intensive, collaborative discussions that were essential to

forming the Authority. In 2017, she was recognized as the Eastern Michigan University's Master of Public Administration Program Public Administrator of the Year.

Ms. Bateson possesses extensive financial and public administration experience. As a visiting specialist for the State and Local Government Program with Michigan State University Extension, Ms. Bateson worked with state and local officials to address the needs of cities in fiscal stress. Her research, educational programs, and writings related to public-sector financial challenges are often cited. In her roles as Assistant City Manager and Finance Director in local government, she was responsible for strategic planning, financial turnaround, information technology, labor relations, employee benefit design, project management and deploying multi-year budgeting and long-range capital planning. Ms. Bateson's professional career began with a national accounting firm serving clients in the construction, manufacturing, and nonprofit sector.

Ms. Bateson earned a Bachelor of Business Administration in professional accountancy from the University of Michigan-Dearborn and a Master of Public Administration in Public Administration from Eastern Michigan University.

*William M. Wolfson, Chief Administrative and Compliance Officer.* Mr. Wolfson is the Chief Administrative and Compliance Officer for GLWA. In this role, Mr. Wolfson supports GLWA's Organizational Development, Information Technology, General Counsel, Special Projects, and Enterprise Risk Management Teams. With more than 30 years of local government experience, he also provides leadership support to the entire utility in the absence of its CEO. Prior to assuming his current position, Mr. Wolfson served as Chief Administrative and Compliance Officer and General Counsel for both GLWA and DWSD. Mr. Wolfson joined the DWSD as the utility's first General Counsel in June, 2012 and added the position of Chief Operating and Compliance Officer in August, 2013. Mr. Wolfson previously served as a member of the City of Detroit's Law Department working as the legal liaison to the Detroit City Council, as well as to several key regional initiatives such as the casino and stadium development projects. Upon leaving the City of Detroit, Mr. Wolfson moved to Wayne County's Department of Corporation Counsel and was appointed Deputy Corporation Counsel by County Executive Edward McNamara. The succeeding County Executive, Robert Ficano, appointed Mr. Wolfson to the position of Assistant Deputy County Executive/Director of Legal Affairs. In that position, Mr. Wolfson was responsible for the day-to-day operations of county government and its 4,500 employees. Mr. Wolfson retired from his Wayne County position in July 2009; he then went into private practice and contracted to serve as Wayne County's Interim Corporation Counsel. Mr. Wolfson is a graduate of the University of Michigan and the University of Minnesota Law School.

*Randal M. Brown, General Counsel.* Mr. Brown became General Counsel for GLWA in August 2017. Mr. Brown brings extensive municipal law experience to his role as General Counsel. Prior to joining GLWA, Mr. Brown served in Wayne County's Corporation Counsel Department, where he was appointed by Wayne County Executive Warren C. Evans first as the Chief-Assistant Corporation Counsel for the Real Estate, Tax and Public Services Team, and then as the Deputy Corporation Counsel. As the Deputy Corporation Counsel, Mr. Brown represented all of Wayne County's elected officials, employees and departments. During his tenure, Mr. Brown worked on several key initiatives, including Executive Evans' county reorganization plan, the disposition of Wayne County's excess real property assets, and the negotiation of contract renewals at significant cost savings without compromising service delivery to County residents. Mr. Brown began his legal career at Plunkett Cooney, where he represented Fortune 500 companies, as well as a cross-section of municipalities in state and federal courts. He is a graduate of the University of Delaware and Howard University School of Law. He currently serves as a member of the Wolverine Bar Association and Foundation's Board of Directors.

*Suzanne R. Coffey, Chief Planning Officer/Interim Chief Operating Officer-Wastewater.* Ms. Coffey became the Chief Planning Officer for GLWA on January 1, 2016, a position she held at DWSD since August 24, 2015. In her capacity as Chief Planning Officer, Ms. Coffey champions GLWA's efforts to bolster the Authority's energy and asset management capacities as well as leading long-term planning efforts such as the Wastewater Master Plan. She is currently filling an interim role as Chief Operating Officer for the Wastewater Operating Services Area. Ms. Coffey became very familiar with GLWA through her role as Manager in Oakland County's Water Resources Commissioner's office where she worked for 12 years, and she was an integral part of the DWSD-GLWA transition efforts. Ms. Coffey is a licensed Professional Engineer in the State of Michigan. She graduated Cum Laude from Lawrence Technological University with a Bachelor of Science in Civil Engineering and was named Young Engineer of the Year by the Northern Chapter of the Michigan Society of Professional Engineers.

*Cheryl Porter, Chief Operating Officer.* Ms. Porter became Chief Operating Officer of GLWA on January 1, 2016. Prior to that, Ms. Porter was the Chief Operating Officer of DWSD and Water Production and Operations Manager of DWSD. She holds an F-1 Water Filtration Treatment Plant Operator license with the State of Michigan. Ms. Porter began her career with DWSD in 1996 as a Junior Chemist and has advanced over the years. She earned a Bachelor of Science from the University of Michigan, a Master of Business Administration with a concentration in Human Resources Management from Madonna University and a Juris Doctor from the University of Detroit.

*Navid Mehram, P.E., Chief Operating Officer for Wastewater Operations.* Mr. Mehram will become Chief Operating Officer for Wastewater Operations of GLWA on October 1, 2018. He is a licensed Professional Engineer in the State of Michigan, who brings a wealth of wastewater operations experience. Previously, he was Chief Engineer for the Oakland County Water Resource Commissioner's Office, where he provided leadership to water resource recovery facilities, sewage pump stations, community well systems and retention basins. Mr. Mehram also brings experience as a wastewater operations consultant. He earned his Bachelor of Science degree in Civil Engineering from Wayne State University.

*Terri Tabor Conerway, Chief Organizational Development Officer.* Ms. Conerway became the Chief Organizational Development Officer on January 1, 2016. Ms. Conerway brings approximately three decades of comprehensive human resources, training and development experience to her position with GLWA. Previously, Ms. Conerway was the Organizational Development Director of DWSD, a position she held since December 2013. Prior to this, Ms. Conerway served as Human Resources Director for the Detroit Public Library, and held numerous managerial positions since beginning her career with the City of Detroit in 1972. Ms. Conerway holds a Bachelor of Science in Psychology from Wayne State University, and has completed post-degree work in Educational Psychology at the University of Michigan. Ms. Conerway is certified as a facilitator for Influencer training at Franklin Covey's 7 Habits of Highly Effective People.

*W. Barnett Jones, Chief Security and Integrity Officer.* Chief Jones was appointed GLWA's Chief Security and Integrity Officer on January 1, 2016 after serving with DWSD in that capacity since 2012. His extensive experience in law enforcement and security spans over a 40-year career. Chief Jones is responsible for GLWA's entire security posture, which includes the physical security infrastructure and safety of employees, facilities and assets. In addition, Chief Jones has been pivotal in developing and implementing entity-wide integrity policies and procedures. Prior to his arrival at GLWA, Chief Jones served as Chief of Police, Police Administrator, Fire Chief, Captain, Lieutenant, Sergeant and Deputy Sheriff with large local units of government in Michigan including the supervision of both police and fire personnel. Chief Jones has a Masters in Liberal Studies from Eastern Michigan University and a Bachelor in General Studies from the University of Michigan-Dearborn. Additionally, Chief Jones is a graduate of

the FBI National Academy and a graduate of the Secret Service Dignitary Protection training, as well as a certified firefighter.

*Michelle A. Zdrodowski, Chief Public Affairs Officer.* Ms. Zdrodowski became Chief Public Affairs Officer for GLWA on July 6, 2016. In her capacity as Chief Public Affairs Officer, she guides the organization's efforts to build and maintain its relationships with internal and external stakeholder communities. Ms. Zdrodowski brings 30 years of strategic communications and community engagement experience to GLWA. Immediately prior to joining the GLWA team, she served as Chief Communications Officer for Detroit Public Schools during a period of unprecedented challenge and change. Her previous public sector communications experience also includes her tenure as Deputy Press Secretary to former Detroit Mayor Dennis Archer. Ms. Zdrodowski also spent more than a decade leading the nonprofit/government practice group for a Detroit-based public relations agency. Ms. Zdrodowski holds a Bachelor of Arts in Communications from Michigan State University. She is a member of the Public Affairs Council for AWWA, and is the chair of the Communications Council for the Michigan Section of the AWWA.

*Jeffrey E. Small, Chief Information Officer.* Mr. Small became Chief Information Officer for GLWA on August 15, 2016. In his capacity as Chief Information Officer, Mr. Small directs and coordinates technology strategy implementation for the organization. Mr. Small brings 30 years of information technology and business process experience to GLWA. Immediately prior to joining the GLWA team, he served for four years as Deputy Chief Information Officer at Wayne County, Michigan. Prior to his work at Wayne County, Mr. Small held IT leadership roles at several multi-national companies in a cross-section of industries, including retail, sourcing, brand-management and consumer products. Mr. Small holds a Bachelor of Arts in Political Science from The George Washington University and a Masters in Computer Information Systems from Baker College.

*Jonathan Wheatley, Public Finance Manager.* Mr. Wheatley became Public Finance Manager for GLWA on January 1, 2016, a position he previously held at DWSD since January 2015. In addition, Mr. Wheatley is the project manager for the implementation of the WRAP program. At the time he joined DWSD, he brought over 16 years of experience in municipal securities and corporate finance. Mr. Wheatley's experience encompassed extensive advisory work with various cities, townships, counties, schools and hospitals in endeavoring to determine their capital financing requirements and included the preparation of proposals, the restructuring of securities and identifying cash flow requirements. Mr. Wheatley has also performed comprehensive utility system rate studies to ensure that local systems remain self-supporting. He is a graduate of the University of Detroit Mercy with a Bachelor of Science in Business Administration.

## **Organizational Optimization**

The Authority's modern organizational structure is the outcome of a significant optimization effort which started before the Effective Date of the Authority. In December 2012, five distinct employee teams began evaluating over 50 business processes by focusing on three key organizational design elements: people, processes and technology. In March 2013, the employee teams reported their findings, which supported an optimized organizational design through job redesign, increased use of technology and the introduction of efficiencies to reduce operating expenses.

The Organizational Development Group and members of the organizational design team created 57 new job classification descriptions replacing the prior, narrowly defined 257 job classifications. See "Employees" below. From December 2013 through October 2015, efforts focused on posting and filling positions in the new job classifications. On January 1, 2016, the Authority hired approximately 700 former DWSD employees and began recruiting additional employees for the new organization.

A new operating area, Planning Services, was established whose mission includes several key initiatives to achieve long-term sustainability. This includes a strategic asset management plan, a new work and asset management system and a new capital planning process. These programs will provide streamlined and consistent processes to manage and analyze asset data to support asset management initiatives at GLWA. These programs will be standardized for use across all asset types to ensure consistency of how assets are managed throughout GLWA and to allow for comparison of assets across business units to improve level of service while reducing capital, maintenance and operations costs. It is anticipated that these programs will result in meaningful and actionable deliverables that will drive GLWA's asset management.

In 2017, the AMWA recognized GLWA with its Gold Award for Exceptional Utility Performance. The award recognizes large public drinking water systems that exhibit outstanding achievement in implementing the nationally recognized attributes of Effective Utility Management ("EUM"), and lead the nation in efforts toward sustainability through innovative management practices, executive leadership and employee engagement. GLWA was one of only three Gold Award recipients in the country. This was GLWA's first submission in just its second year of operation.

In addition to the AMWA Gold Award, in 2018 GLWA's optimization efforts have been recognized by several other organizations. The Lake Huron Water Treatment Plant was recognized for Best Pilot Demonstration in the Water Utility Energy Challenge, co-sponsored by AWWA and Wayne State University, to reduce energy related pollution emissions in the Great Lakes Basin. GLWA's IT Team won GovTech's Special Districts 2018 award for Technology Innovation – Operations, for its Wet Weather Map that displays real-time data on its interceptors and rain gauges. GLWA's CFO, Nicolette Bateson, was honored by Crain's Detroit Business as an outstanding woman in Finance. GLWA's CEO, Sue McCormick received the Southeastern Michigan Council of Governments Regional Ambassador Award for dedicated Leadership and Service to the region.

GLWA has been deemed a Utility of the Future Today by the Water Resources Utility of the Future Today Joint Recognition Program. This program is jointly sponsored by the Water Environment Federation, the Water Research Foundation, NACWA, Water Reuse, and the US EPA. GLWA was recognized for (1) an organizational culture that supports utility of the future implementation through the use of EUM, and (2) a commitment to the principles of a Utility of the Future via the operation of its Biosolids Dryer Facility.

## **Employees**

As of June 30, 2018, the Authority had approximately 974 employees, including persons with professional qualifications in the fields of water and wastewater operations, construction, engineering, capital planning, environmental science, facility and systems security, accounting, finance, law and management. Of that amount, approximately 625 employees were organized in collective bargaining units. The Authority believes that its relationships with its employees and their representatives are generally good.

As of June 30, 2018, GLWA had six CBAs. The unions and the number of full-time equivalent ("FTE") employee members as of such date are:

<b>Union</b>	<b>FTE's</b>	<b>CBA</b>
		<b>Expiration Date</b>
American Federation of State County and Municipal Employees, Local 2920	432	June 30, 2018*
Association of Professional Construction Inspectors	13	June 30, 2020
Greater Detroit Building and Construction Trades Council	60	June 30, 2020
Senior Water Systems Chemist Association	69	June 30, 2020
Association of Municipal Engineers	45	June 30, 2021
Senior Accountants, Analysts & Appraisers Association	6	June 30, 2021

\*Negotiations are in progress; CBA is extended day-to-day as provided for in the CBA.

## **Retirement and Other Employee Benefits**

GLWA offers a modernized employee benefit program which provides the flexibility to attract and retain a multi-generational workforce and ensures that GLWA will have no unfunded liabilities.

GLWA offers its employees a defined contribution retirement plan with an optional, participatory deferred compensation plan which are administered by an independent third party. GLWA contributes an amount equal to 6% of base wages for eligible employees to the defined contribution retirement plan. Employees may make voluntary pre-tax contributions to the deferred compensation plan up to the annual limits set by the Internal Revenue Service (the “IRS”). GLWA matches an employee’s voluntary contribution on a dollar-for-dollar basis up to 3% of base wages. Both the 6% employer contribution and the 3% employer matching contribution are subject to a three year cliff vesting schedule. If an employee is in a new Apprenticeship classification, the vesting period is a seven year cliff schedule. The longer vesting period is a reflection of the four year Apprenticeship learning portion and the three actual years of regular employment.

Full-time employees of GLWA are also eligible to participate in group medical, prescription drug, dental, and vision plans offered by GLWA. Under these plans, covered employees contribute 20% of the premium costs of these benefits through employee payroll deductions based upon the plan and coverage tier selected by the employee. GLWA provides employer-paid group life insurance and disability insurance to full-time employees as well as a flexible spending account.

GLWA offers a defined contribution retiree health care savings program. GLWA contributes eighty dollars (\$80) per pay period for active full-time employees. Those employees contribute ten dollars (\$10) dollars per pay period on a pre-tax basis. GLWA’s contributions are subject to a three year cliff vesting schedule. Vested account balances are available to pay for post-employment health care expenses for participants and their beneficiaries on a tax-free basis. The plan does not require GLWA to pay any additional amounts in connection with retiree healthcare.

Consistent with the terms of the Lease, as of January 1, 2016, GLWA assumed responsibility for a pro-rata share of DWSD’s liability for the City’s General Retirement System (“GRS”) pension plan that was frozen and terminated in 2014. For a discussion of the potential “tail” liability of GLWA after June 30, 2023 for those legacy costs, see “AUTHORITY FINANCIAL OPERATIONS—Legacy Retirement System Obligations of the Authority.”

## THE SERIES 2018 BONDS

### General

The Series 2018 Bonds are being issued by the Authority and will mature on the dates and in the principal amounts set forth on the inside cover page of this Official Statement. The Series 2018 Bonds will bear interest from their date of delivery until maturity, payable semiannually on January 1 and July 1 of each year commencing July 1, 2019 at the respective interest rates set forth on the inside cover of this Official Statement. The Series 2018 Bonds will be issued as fully registered bonds in denominations of \$5,000 and integral multiples thereof.

### Optional Redemption

The Series 2018 Bonds are not subject to optional redemption prior to maturity.

### Sources and Uses of Funds for the Series 2018 Bonds

#### Sources:

Par Amount	\$155,595,000
Original Issue Premium	19,731,395
Amounts Available in Bond Debt Service Funds	5,589,193
Amounts Released from Bond Reserve Accounts	<u>1,602,152</u>
<b>Total Sources</b>	<b>\$182,517,740</b>

#### Uses:

Deposit to Escrow Fund/Redemption Account	\$181,333,455
Costs of Issuance	<u>1,184,285</u>
<b>Total Uses</b>	<b>\$182,517,740</b>

### Plan of Financing

A portion of the proceeds of the Series 2018 Bonds will be applied to the refunding and redemption of the Refunded Bonds, deposited into an escrow fund (the "Escrow Fund") and held as cash. The Escrow Fund will be held by the corporate trust office of U.S. Bank National Association, Detroit, Michigan, as escrow trustee (the "Escrow Trustee") and will be used to pay when due the principal of and interest on the Refunded Bonds when due or called for redemption. The Escrow Fund will be held by the Escrow Trustee pursuant to an escrow agreement (the "Escrow Agreement"), which irrevocably directs the Escrow Trustee to make the payment of principal of and interest on the Refunded Bonds. The Escrow Fund will be such that the cash will be sufficient, without reinvestment, except as provided in the Escrow Agreement, to pay the principal of and interest on the Refunded Bonds as they become due or are called for redemption, as set forth in the Escrow Agreement.

The accuracy of the mathematical computations regarding the adequacy of the cash to be held in the Escrow Fund and used to pay the principal of and interest on the Refunded Bonds when due or at call for redemption will be verified by Robert Thomas, CPA LLC based upon information supplied by the Underwriters.



## Replacement Bonds

In the event that the book-entry-only system is discontinued, the Trustee will authenticate and make available for delivery replacement Series 2018 Bonds in the form of fully registered bond certificates. In addition, the following provisions would apply: (i) principal of and redemption premium, if any, on the Series 2018 Bonds will be payable in lawful money of the United States of America at the corporate trust office of the Trustee or such other office as may be designated by the Authority; (ii) interest on the Series 2018 Bonds will be payable by check or draft mailed to the registered owners thereof or, upon five days written notice to the Trustee given by a Registered Owner of a Series 2018 Bonds in an aggregate principal amount of at least \$100,000, by wire transfer of funds to a bank account in the United States designated by such Registered Owner; and (iii) interest on the Series 2018 Bonds will be payable by check or draft to the Registered Owners whose names appear on the registration books of the Trustee as of the close of business on the fifteenth day of the calendar month immediately preceding the applicable interest payment date, all as provided more particularly in the Bond Ordinance (“Registered Owners”).

## Book-Entry Only System

The Depository Trust Company, New York, New York (“DTC”) will act as securities depository for the Series 2018 Bonds. The Series 2018 Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee). One fully-registered bond will be issued for the Series 2018 Bonds of each series and maturity in aggregate principal amount of such maturity and will be deposited with DTC. A description of the DTC procedures is set forth in APPENDIX XII.

## SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS

Pursuant to the provisions of Act 94, all DWSD Water Bonds assumed by GLWA under the Bond Ordinance and all Additional Bonds issued and to be issued by GLWA under the Bond Ordinance, including the Series 2018 Bonds (the DWSD Water Bonds and all such Additional Bonds, together with Reimbursement Obligations and Junior Lien Reimbursement Obligations, the “Bonds”), are payable solely from the Pledged Assets, which include the Net Revenues of the Water System and amounts available in certain funds and accounts established in accordance with the Bond Ordinance. **The Bonds are secured by a statutory lien on the Pledged Assets pursuant to Act 94 and the Bond Ordinance. The Series 2018 Bonds are payable solely from the revenue pledged as security for the Series 2018 Bonds in the Bond Ordinance, including the funds and accounts established under the Bond Ordinance for the benefit of the Series 2018 Bonds. The Bonds are self-liquidating revenue bonds and are not general obligations of GLWA and do not constitute an indebtedness of GLWA within any constitutional or statutory limitation, but are payable solely from the Pledged Assets.**

The Bond Ordinance amends, restates and incorporates certain material provisions of Ordinance No. 01-05 and the related Trust Indenture of the City relating to the DWSD Water Bonds for the efficient administration of the Regional Water System, the assumption of the DWSD Water Bonds, and the issuance of Additional Bonds to finance additional costs of extensions, additions and improvements to the Regional Water System and the Local Water System, which may be secured by parity or subordinate lien interests in the Net Revenues with the DWSD Water Bonds and with the Additional Bonds issued and to be issued by GLWA. For a summary of the Bond Ordinance, see APPENDIX VI – SUMMARY OF THE BOND ORDINANCE.

## Pledged Assets

“Pledged Assets” under the Bond Ordinance currently consist of:

- Net Revenues;
- The funds and accounts established by or pursuant to the Bond Ordinance except for the Operation and Maintenance Fund, the Construction Fund and the Rebate Fund and any account thereof; and
- Investments of amounts or any income or gain realized therefrom credited to any fund, account or subaccount that is a Pledged Asset.

“*Revenues*” are defined in the Bond Ordinance as the revenues, including the Retail Revenues, of GLWA from the Water System (construed in accordance with Act 94) and include (a) amounts received from a Swap Provider under a Swap Agreement, including amounts payable upon termination thereof, (b) income earned and gains realized from the investment of amounts in the various funds, accounts and subaccounts established by the Bond Ordinance (other than the Construction Fund for any Fiscal Year in which earnings on the Construction Fund are not credited to the Receiving Fund) and (c) all moneys collected directly or indirectly by GLWA or by the City, as agent of GLWA, under the Water and Sewer Services Agreement, and deposited or to be deposited into the Receiving Fund pursuant to the Bond Ordinance. The Authority currently has no Swap Agreements outstanding.

“*Net Revenues*” are defined in the Bond Ordinance as all Revenues except for those transferred to the Operation and Maintenance Fund.

Under the Bond Ordinance, the Pledged Assets for the Bonds consisting of the trust estate (the “Trust Estate”) are pledged to the Trustee for the payment of the Bonds (including the DWSD Water Bonds) in accordance with the terms and provisions of Act 94 and the Bond Ordinance and any Series Ordinance relating to a Series of Bonds. This pledge was valid and binding from and after the Effective Date, and the Pledged Assets were immediately subject to the lien of such pledge without any physical delivery thereof, recordation of the Bond Ordinance or further act, and the lien of such pledge was and is valid and binding as against all parties having claims of any kind in tort, contract or otherwise against GLWA, regardless of whether such parties have notice thereof.

### **Flow of Funds**

Under the Bond Ordinance, in accordance with the requirements of Act 94 and the Lease, GLWA has established certain funds and accounts for the Water System to be held in trust by the Trustee. The Bond Ordinance permits the establishment of additional funds for additional priorities of GLWA Bonds.

In accordance with the terms of Act 94 and the Bond Ordinance, all Revenues of the Water System shall be deposited with the Trustee and, with the exception of Revenues transferred to the GLWA Regional Operation and Maintenance Account or the Detroit Local Operation and Maintenance Account of the Operation and Maintenance Fund as directed by GLWA as provided in the Bond Ordinance, held in trust pursuant to the terms of the Bond Ordinance. The Lease and the Bond Ordinance provide that, subject to the issuance of Bonds permitted by the Bond Ordinance to satisfy all or a portion of the Pension Obligation, pursuant to the provisions of paragraph 24 of the Bankruptcy Order, the contribution to the Prior GRS pension plan set forth in the Plan of Adjustment to be paid by DWSD and GLWA shall be payable as follows: (i) the portion of that contribution equal to \$24 million annually, plus the share of the annual “defined contribution” (as such term is used in the Bankruptcy Order) payments to be allocated between the Sewer System and the Water System, will be paid by the Trustee as Operation and Maintenance Expenses under priority “First” below, and (ii) the difference between the annual GRS pension plan contribution provided for in the Plan of Adjustment and \$24 million will be paid by the

Trustee out of the Pension Obligation Payment Fund under priority “Fifth” below. See “AUTHORITY FINANCIAL OPERATIONS – Legacy Retirement System Obligations of the Authority.”

As of the first day of each month (or, in the case of the transfer to the respective Reserve Account, following the annual July 1 valuation of investments in such Bond Reserve Account, pursuant to the Bond Ordinance), amounts credited to the Receiving Fund, including any Lease Payment (which is to be applied to the Fund(s) and Account(s) designated by the City pursuant to the Lease) shall be transferred seriatim into the following funds and accounts but only within the respective limitations and only if the maximum amount within such limitation has been credited to the preceding fund or account:

First: to the Authority Regional Operation and Maintenance Account and the Detroit Local Operation and Maintenance Account of the Operation and Maintenance Fund, 1/12 of the then current Fiscal Year’s Operation and Maintenance Expenses of the Regional Water System and the Local Water System, respectively, as determined by GLWA and certified to the Trustee by an Authorized Officer as sufficient to provide for the payment of the next month’s expenses of administration and operation of the Regional Water System and the Local Water System, respectively, and such current expenses for the maintenance thereof as may be necessary to preserve the same in good repair and working order;

Second: to the Senior Lien Bond Debt Service Account, an amount that, when added to all other amounts then on deposit therein, shall equal the Debt Service Installment Requirement for Senior Lien Bonds as of the first day of such month;

Third: following the annual July 1 valuation of investments in the Senior Lien Bond Reserve Account pursuant to the Bond Ordinance, to the Senior Lien Bond Reserve Account, an amount, if any, that when added to all other amounts then on deposit therein shall equal the Reserve Requirement for Senior Lien Bonds;

Fourth: to the Bond Interest and Redemption Fund established for each Priority of Lien of Junior Lien Bonds, beginning with the Second Lien Bonds and continuing in descending order of priority to, and including, each Priority of Lien of Junior Lien Bonds, as follows:

*First:* to the Debt Service Account established for such Priority of Lien, an amount that, when added to amounts then on deposit in such account, shall equal the Debt Service Installment Requirement for Junior Lien Bonds of such Priority of Lien as of the first day of such month; and

*Second:* following the annual July 1 valuation of investments in the Reserve Accounts pursuant to the Bond Ordinance, to the Reserve Account, if any, established for such Priority of Lien, an amount that, when added to amounts then on deposit in such account, shall equal the Reserve Requirement for such Priority of Lien of Junior Lien Bonds;

Fifth: except as provided in the Bond Ordinance with respect to the initial deposit to the Pension Obligation Payment Fund, to the extent Pension Junior Lien Bonds are not issued, to the Pension Obligation Payment Fund an amount that equals 1/12 of the Required Annual GRS Payment and 1/12 of the BC Note Obligation at the written direction of an Authorized Officer to the Trustee;

Sixth: except as provided in the Bond Ordinance with respect to the initial deposit to the WRAP Fund, to the WRAP Fund, 1/12 of the amount to be deposited therein for the current Fiscal Year as directed in writing by an Authorized Officer to the Trustee;

Seventh: except as otherwise provided in the Bond Ordinance with respect to the initial deposit to the Budget Stabilization Fund, for each of the Fiscal Years 2016, 2017 and 2018, to the Budget Stabilization Fund, an amount equal to 1/12 of one-third of the amount necessary to assure that the Budget Stabilization Requirement will be on deposit in the Budget Stabilization Fund within three full Fiscal Years at the written direction of an Authorized Officer to the Trustee and for subsequent Fiscal Years thereafter 1/12 of an amount that when added to amounts then on deposit in the Budget Stabilization Fund shall equal the Budget Stabilization Requirement, at the written direction of an Authorized Officer to the Trustee;

Eighth: to the Extraordinary Repair and Replacement Reserve Fund, the amount of the Extraordinary Repair and Replacement Minimum Requirement to the extent that the balance thereof is less than the Extraordinary Repair and Replacement Maximum Requirement; and

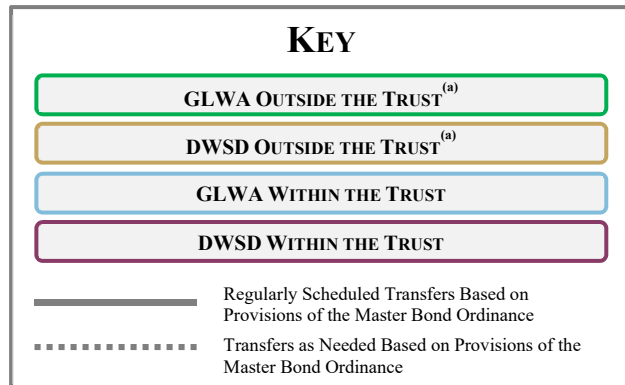
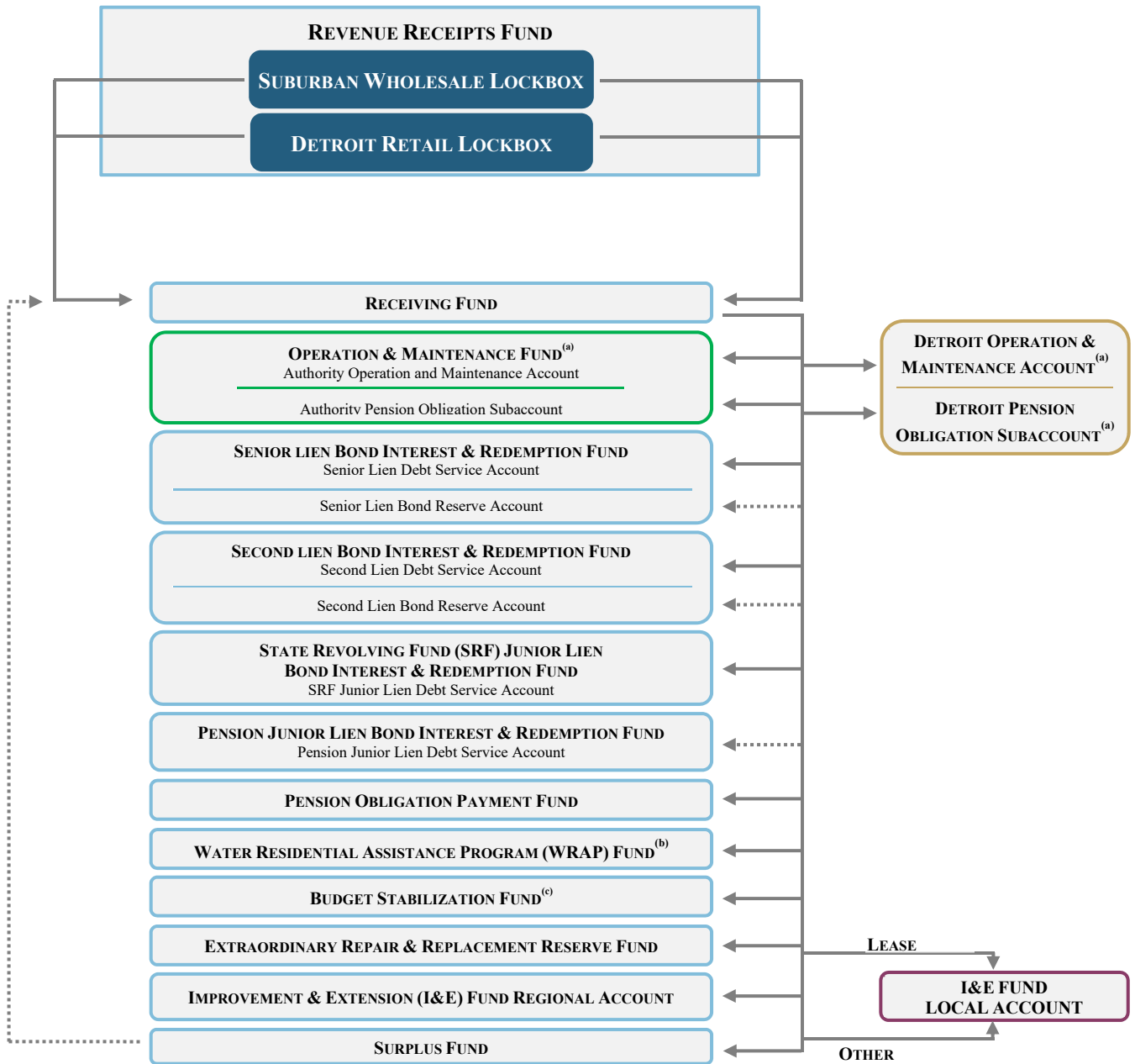
Ninth: at the written direction of an Authorized Officer to the Trustee, to the Authority Improvement and Extension Account and the Detroit Local Improvement and Extension Account of the Improvement and Extension Fund, such amounts as GLWA may deem advisable for the Regional Water System and Local Water System; provided that no amount shall be deposited in either such account for so long as a withdrawal from the Extraordinary Repair and Replacement Reserve Fund remains unpaid.

In any month, funds on deposit in the Receiving Fund in excess of the requirements set forth above may, upon the direction of GLWA, be transferred to the Improvement and Extension Fund (provided that no amount shall be deposited to the Improvement and Extension Fund or credited thereto for so long as a withdrawal from the Extraordinary Repair and Replacement Reserve Fund remains unpaid).

Any amounts remaining in the Receiving Fund as of the last day of each Fiscal Year shall be applied against future years' Revenue deposit obligations under the Bond Ordinance, unless directed by GLWA within thirty (30) days of completion of the Fiscal Year's audited financial statements to be deposited in the Surplus Fund. See summary flow of funds diagram below.

*[Remainder of page intentionally left blank]*

## Summary of the Flow of Funds



<sup>(a)</sup> Except for these funds, all other funds are held in Trust by the Trustee.

<sup>(b)</sup> Disbursing fund for WRAP.

<sup>(c)</sup> For the Detroit Local Systems per Section 515 of the Master Bond Ordinance

## **Priority of Lien**

The Bonds are secured under the Bond Ordinance in accordance with their relative Priority of Lien by a statutory lien on the Pledged Assets (each of such relative priorities hereinafter referred to as a “Priority of Lien”), as described below.

- Senior Lien Water Supply System Revenue Bonds (the “Senior Lien Bonds”) are secured by a first lien on the Pledged Assets and rank first in the order of payment from Net Revenues.
- Second Lien Water Supply System Revenue Bonds (the “Second Lien Bonds”) are secured by a lien on the Pledged Assets second only to the Senior Lien Bonds and rank second in order of payment from Net Revenues; and
- Other Junior Lien Water Supply System Revenue Bonds (the “SRF Junior Lien Bonds”) have a lien subordinate to the lien of all Senior Lien Bonds and Second Lien Bonds and rank last in order of payment from Net Revenues.

## **Rate Covenant**

Under the Bond Ordinance, the Authority covenants that the rates shall be fixed and revised from time to time as may be expected to be necessary to produce the greater of:

- The amounts required: (1) to provide for the payment of the Operation and Maintenance Expenses of the Water System; and (2) to provide for the payment of all Debt Service Installment Requirements coming due during the Fiscal Year of calculation; and (3) to provide for the creation and maintenance of reserves therefor as required by the Bond Ordinance; and (4) to provide for the payment of the Lease Payment; and (5) to provide for the deposit to the WRAP Fund; and (6) to repay any withdrawals from the Extraordinary Repair and Replacement Fund; and (7) to provide for such other expenditures and funds for the Water System as the Bond Ordinance may require;
- Amounts so that the Rate Covenant Debt Service Coverage shall not be less than the Required Coverage; and
- Amounts required by Act 94.

The “Rate Covenant Debt Service Coverage” means, for purposes of the rate covenant in the Bond Ordinance and for each Priority of Lien, a number equal to Projected Net Revenues for the Fiscal Year of calculation divided by the aggregate Debt Service Installment Requirements on Bonds for such Fiscal Year, net of funds on hand representing capitalized interest, all for such Priority of Lien and any higher Priority of Lien.

Under Act 94, rates must be fixed and revised as necessary to comply with the Bond Ordinance. The Authority has covenanted at all times to fix and maintain charges for services furnished by the Water System as shall be sufficient to provide for the foregoing. Act 94 also provides that the Water System charges are not subject to supervision or regulation by any State bureau, board, commission or like agency or instrumentality of the State.

The coverage requirements for determining the Required Coverage under the Bond Ordinance are the following percentages:

<b>Priority of Lien of Bonds</b>	<b>Percentage</b>
Senior Lien Bonds	120%
Second Lien Bonds	110%
SRF Junior Lien Bonds and Pension Junior Lien Bonds	100%

The Authority's management team has targeted debt service coverage at levels higher than the Required Coverage for all lien priorities under the Bond Ordinance as described above. While these informal targets have not been formally established as policy positions, the long-term financial sustainability and stability objectives of the Authority include increasing debt service coverage. Notwithstanding the covenant to impose rates, fees and charges contained in the Bond Ordinance, under Michigan law, rates established by GLWA must be reasonable and nondiscriminatory and are subject to review by the courts in that regard. In establishing its service charges, the actions of GLWA are presumed by the courts to be reasonable, but the rates must not be arbitrary, discriminatory or excessive. Consequently, the rates established by GLWA pursuant to the Bond Ordinance could be subject to challenges alleging that such charges are arbitrary, discriminatory or excessive.

The ability to pay debt service on the Series 2018 Bonds depends on the ability to generate Net Revenues that meet the levels required by the Bond Ordinance. Although the Bond Ordinance contains a covenant to impose rates, fees and charges and GLWA expects that sufficient Net Revenues will be generated through the imposition and collection of such rates, fees and charges and other Net Revenues described herein, there is no assurance that Net Revenues will be generated in the amounts required by the Bond Ordinance. The Bond Ordinance covenants do not constitute a guarantee that sufficient Net Revenues will be available to pay debt service on the Series 2018 Bonds.

### **Issuance of Additional Bonds**

Under the Bond Ordinance, prior to or concurrently with the issuance of Additional Bonds of any Priority of Lien, GLWA shall calculate a number equal to Projected Net Revenues in the then current or the next succeeding Fiscal Year, or Historical Net Revenues, all as determined by GLWA, divided by Maximum Annual Debt Service for such Priority of Lien and any higher Priority of Lien (the "Additional Bonds Debt Service Coverage"). GLWA may elect to determine Additional Bonds Debt Service Coverage on the basis of Projected Net Revenues or Historical Net Revenues. GLWA is authorized to issue Additional Bonds on parity with the Series 2018 Bonds for the purposes set forth in the Bond Ordinance if, but only if, GLWA certifies that the Additional Bonds Debt Service Coverage for each Priority of Lien (regardless of the Priority of Lien of the Additional Bonds) is not less than the Required Coverage. The determination in a Series Ordinance that the Additional Bonds Debt Service Coverage for each Priority of Lien is not less than the Required Coverage shall be conclusive.

Alternatively, GLWA may issue Additional Bonds of any Priority of Lien for refunding outstanding Bonds if the aggregate Debt Service Installment Requirements in the current Fiscal Year and each Fiscal Year until maturity on the Additional Bonds and all outstanding unrefunded Bonds of equal and higher Priority of Lien after giving effect to the refunding, is less than the aggregate Debt Service Installment Requirements in the current Fiscal Year and each Fiscal Year thereafter until maturity on all Bonds of equal and higher Priority of Lien without giving effect to the refunding. See APPENDIX VI - SUMMARY OF THE BOND ORDINANCE.

### **Reserve Accounts and Reserve Requirements**

Pursuant to the Bond Ordinance, there has been established a Senior Lien Bond Reserve Account and a Second Lien Bond Reserve Account. Such Bond Reserve Accounts are held by the Trustee under

and pursuant to the Bond Ordinance. SRF Junior Lien Bonds are not secured by any Reserve Account. Amounts in a Bond Reserve Account shall be used solely for the payment of the principal (and premium, if any) of and interest on Bonds of the same Priority of Lien for which such Bond Reserve Account was established, as to which there would otherwise be a default.

The Reserve Requirement for Senior Lien Bonds covered by the Senior Lien Bond Reserve Account is the lesser of (i) Maximum Annual Debt Service requirements for each Series of Senior Lien Bonds then outstanding or (ii) the maximum amount permitted by the Code. “Maximum Annual Debt Service” means, with respect to any given Priority of Lien, the maximum aggregate Debt Service Installment Requirements in any future Fiscal Year on outstanding Bonds of such Priority of Lien and any Additional Bonds then being issued. The Reserve Requirement for Second Lien Bonds covered by the Second Lien Bond Reserve Account is the lesser of (i) the Maximum Annual Debt Service on all Second Lien Bonds or (ii) the maximum amount permitted by the Code. The Bond Ordinance also permits Bond Reserve Accounts to be established on a series-specific basis pursuant to a Series Ordinance. If a Reserve Account is established for any other Priority of Lien of Junior Lien Bonds, the Reserve Requirement for such other Junior Lien Bonds shall be the amount set forth in a Series Ordinance establishing such Reserve Account, and if no amount is set forth, shall be zero.

Concurrently with the issuance of a Series of Bonds of a Priority of Lien for which a Bond Reserve Account has been or is being established, the Bond Ordinance requires there be credited to such Bond Reserve Account the amount that, when added to the amount on deposit in such account or credited thereto, equals the Reserve Requirement for the Bonds then to be issued and all Bonds of the same Priority of Lien then outstanding. As of the date of this Official Statement and reflecting the issuance of the Series 2018 Bonds, the Senior Lien Bond Reserve Account and Second Lien Bond Reserve Account balances were sufficient to meet or exceed the Reserve Requirement for the outstanding Senior Lien Bonds and Second Lien Bonds, respectively. Pursuant to the Bond Ordinance, any Reserve Requirement with respect to Variable Rate Bonds is calculated at a fixed annual rate equal to the weighted average of the actual rates on such Variable Rate Bonds for each day during the 365 consecutive days (or any lesser period such Variable Rate Bonds are outstanding) ending on the last day of the month next preceding the date of calculation.

The Bond Ordinance permits the use of a letter of credit, surety bond or insurance policy (a “Reserve Account Credit Facility”) to fund any Bond Reserve Account if the provider has a credit rating at the time of issuance of such Series of Bonds not less than the credit rating of such Series of Bonds. There is no Bond Ordinance requirement that the rating of a Reserve Account Credit Facility which has been properly credited to a Reserve Account be maintained.



The following table summarizes (i) the Reserve Requirement and the amount in the Second Lien Bond Reserve Account upon the issuance of the Series 2018 Bonds and (ii) the Reserve Requirement and the amount in the Senior Lien Bond Reserve Account as of July 1, 2018, the last valuation date pursuant to the Bond Ordinance.

	<b>Senior Lien</b>	<b>Second Lien</b>
Reserve Requirement	\$120,693,058	\$50,758,903
Funding Amounts		
Cash and Investments	14,446,966	4,993,258
Credit Facilities*	107,847,788	45,815,645
Total	\$122,294,754	\$50,808,903

As of the date of this Official Statement, the Senior Lien Bond Reserve Account is funded with Cash and Investments and Reserve Account Credit Facilities in the form of the following surety or insurance policies:

(a) Financial Guaranty Insurance Company (“FGIC”) surety policy unconditionally guaranteeing the payment of principal of and interest on any Senior Lien Bonds up to a maximum aggregate available amount of \$16,729,163 and with a termination date of July 1, 2029.

(b) FGIC surety policy unconditionally guaranteeing the payment of principal of and interest on any Senior Lien Bonds up to a maximum aggregate available amount of \$15,954,125 and with a termination date of July 1, 2033.

(c) National Public Finance Guarantee Corporation (“National”), as reinsurer of and administrative agent for MBIA Insurance Corporation (“MBIA”), surety policy unconditionally guaranteeing the payment of principal of and interest on any Senior Lien Bonds up to an original maximum aggregate available amount of \$24,970,000 and with a termination date equal to the earlier of July 1, 2034 or the date on which the Series 2003(A) Bonds are no longer outstanding.<sup>††</sup>

(d) FGIC surety policy unconditionally guaranteeing the payment of principal of and interest on any Senior Lien Bonds up to a maximum aggregate available amount of \$4,000,000 and with a termination date of July 1, 2035.

(e) Assured Guaranty Municipal Corp., formerly known as Financial Security Assurance Inc. (“AGM”) surety policy unconditionally guaranteeing the payment of principal of and interest on any Senior Lien Bonds up to a maximum aggregate available amount of \$3,000,000 and with a termination date equal to the earlier of July 1, 2034 and the date on which the Series 2006(A) and Series 2006(D) Bonds are no longer outstanding.

(f) National, as reinsurer of and administrative agent for MBIA, surety policy unconditionally guaranteeing the payment of principal of and interest on any Senior Lien Bonds up to a maximum aggregate available amount of \$29,000,000 and with a termination date equal to the earlier of July 1, 2027 or the date on which all payments required on Senior Lien Bonds have been made.

\* For series-specific policies, represents the lesser of (a) the maximum amount of the policy or (b) the amount of the Reserve Requirement specifically allocated to the specific series of Bonds covered by such policy.

†† At the time of issuance of the Series 2003(A) Senior Lien Bonds and the Series 2003(B) Second Lien Bonds, each of these surety policies was issued as a series-specific surety policy but each was later replaced with a parity surety policy.

(g) AGM surety policy unconditionally guaranteeing the payment of principal and interest on the Senior Lien Bonds, Series 2014A, up to a maximum aggregate available amount of \$17,022,153 and with a termination date of the earlier of July 1, 2037 or the date such bonds are no longer outstanding.

As of the date of this Official Statement, the Second Lien Bond Reserve Account is funded with Cash and Investments and Reserve Account Credit Facilities in the form of the following surety or insurance policies:

(a) FGIC surety policy unconditionally guaranteeing the payment of principal of and interest on any Second Lien Bonds up to a maximum aggregate available amount of \$6,815,645 and with a termination date of July 1, 2033.

(b) National, as reinsurer of and administrative agent for MBIA, surety policy unconditionally guaranteeing the payment of principal of and interest on any Second Lien Bonds up to an original maximum aggregate available amount of \$29,000,000 and with a termination date equal to the earlier of July 1, 2032 or the date on which the Series 2003(B) Bonds are no longer outstanding.<sup>††</sup>

(c) AGM surety policy unconditionally guaranteeing the payment of principal of and interest on any Second Lien Bonds up to a maximum aggregate available amount of \$10,000,000 and with a termination date equal to the earlier of July 1, 2036 and the date on which the Series 2006(B) Bonds and Series 2006(C) Bonds are no longer outstanding.

As noted, certain of the Reserve Account requirements currently are funded through surety or insurance policies issued by MBIA, FGIC and AGM. Certain obligations of FGIC, including the surety policies listed above, have been novated to National, pursuant to the Novation Agreement between FGIC and National dated as of September 14, 2012. As a result, such obligations are now directly insured by National.

Although the Bond Ordinance requires that any Reserve Account Credit Facility be rated at the time of issuance of a Series of Bonds not less than the credit rating of such Series of Bonds at the time of its acquisition, there is no requirement that such rating be maintained. Accordingly, except for Reserve Amount Credit Facilities that relate to a specific Series of Bonds, all Reserve Account Credit Facilities are valued at their full face value for purposes of determining satisfaction of the applicable Reserve Requirement, regardless of the provider's rating. If the Reserve Account Credit Facility were determined to have no value, as for example, if a court made such a determination in connection with the dissolution of the provider, then GLWA would be required to replenish the applicable Reserve Account with cash or through a replacement Reserve Account Credit Facility, as described herein under "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS—Flow of Funds."

### **Reserve Fund Amendment**

The Authority has authorized an amendment (the "Reserve Fund Amendment") to the Bond Ordinance which gives the Authority the option, but not the obligation, to reduce or eliminate the Reserve Requirement for the Senior Lien Bonds or the Second Lien Bonds, as the case may be, if the Authority obtains ratings of "Aa3" or "AA-" or higher on the Senior Lien Bonds from at least two of Moody's, S&P, and Fitch and confirmation that neither of such ratings will be reduced solely as a result of the change in the Reserve Requirement for such Bonds. Pursuant to the Bond Ordinance, the Reserve Fund Amendment becomes effective with respect to the Senior Lien Bonds and the Second Lien Bonds,

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<sup>††</sup> At time of issuance of the Series 2003(A) Senior Lien Bonds and the Series 2003(B) Second Lien Bonds, each of these surety policies was issued as a series-specific surety policy but each was later replaced with a parity surety policy.

respectively, at such time as the holders of a majority in principal amount of the Outstanding Bonds of each affected Priority of Lien shall have consented, or shall be deemed to have consented, to the Reserve Fund Amendment. See APPENDIX VI – SUMMARY OF BOND ORDINANCE.

**By purchasing the Series 2018 Bonds, the original and all subsequent purchasers of the Series 2018 Bonds shall be deemed to have consented to such Reserve Fund Amendment. Upon the issuance of the Series 2018 Bonds, the holders of approximately 32.9% and 84.0%, respectively, of the outstanding principal amounts of the Senior Lien Bonds and the Second Lien Bonds have consented to the Reserve Fund Amendment. As a result, the Reserve Fund Amendment has received the requisite approvals of the holders of the Second Lien Bonds and is therefore effective with respect to the Second Lien Bonds; however, the conditions set forth in the Reserve Fund Amendment pursuant to which the Authority would have the option of reducing or eliminating the Reserve Requirement for the Second Lien Bonds have not yet been fully satisfied.**

### **Remedies**

Upon the happening and continuance of any Event of Default under the Bond Ordinance, the Trustee may, or upon the request of the Holders of not less than 20% in principal amount of the Outstanding Bonds shall, proceed in its own name, to protect and enforce its rights and the rights of the Bondholders, by suit, action, or other proceedings, and to protect and enforce the statutory lien on the Net Revenues and enforce and compel the performance of all duties of the officials of the Authority as set forth in the Bond Ordinance. See APPENDIX VI – SUMMARY OF THE BOND ORDINANCE.

The remedies available under the Bond Ordinance upon the occurrence of an Event of Default are in many respects dependent upon judicial actions, which are often subject to substantial discretion and delay. Additionally, under State constitutional and statutory law and judicial decisions concerning remedies, certain of these remedies may be limited, or may not be readily available or enforceable. The enforceability of remedies or rights with respect to the Series 2018 Bonds and the Bond Ordinance also is limited by State and federal bankruptcy, reorganization, insolvency, sovereign immunity, moratorium and other similar laws regarding creditors' rights or remedies currently in effect and may be limited by such laws hereafter enacted.

## OUTSTANDING AUTHORITY INDEBTEDNESS

The following table sets forth information with respect to outstanding Water Supply System Revenue Bonds upon the issuance of the Series 2018 Bonds.

Water Supply System Revenue Bonds	Original Principal Amount	Outstanding as of October 3, 2018
<b>Senior Lien Bonds</b>		
Water Supply System Revenue Senior Lien Bonds, Series 2003A	\$ 234,805,000	\$ 100,000
Water Supply System Revenue Senior Lien Bonds, Series 2005B	\$ 194,900,000	\$ 100,000
Water Supply System Revenue Senior Lien Bonds, Series 2006A	\$ 280,000,000	\$ 100,000
Water Supply System Revenue Senior Lien Bonds, Series 2011A	\$ 379,590,000	\$ 293,970,000
Water Supply System Revenue Senior Lien Bonds, Series 2011B	\$ 17,195,000	\$ 3,950,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2011C	\$ 103,890,000	\$ 75,145,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014A	\$ 206,540,000	\$ 189,875,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014B	\$ 188,455,000	\$ 188,455,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014C	\$ 62,700,000	\$ 23,290,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014D	\$ 307,645,000	\$ 209,360,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014E	\$ 9,270,000	\$ 9,270,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2015A	\$ 89,430,000	\$ 88,925,000
Water Supply System Revenue Senior Lien Bonds, Series 2016A	\$ 88,000,000	\$ 88,000,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2016C	\$ 443,930,000	\$ 443,930,000
	<b>\$ 2,606,350,000</b>	<b>\$ 1,614,470,000</b>
<b>Second Lien Bonds</b>		
Water Supply System Revenue Second Lien Bonds, Series 2003B	\$ 172,945,000	\$ 100,000
Water Supply System Revenue Second Lien Bonds, Series 2006B	\$ 120,000,000	\$ 200,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2014F	\$ 65,425,000	\$ 65,425,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2015B	\$ 37,235,000	\$ 37,235,000
Water Supply System Revenue Second Lien Bonds, Series 2016B	\$ 163,830,000	\$ 163,830,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2016D	\$ 222,045,000	\$ 222,045,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2018A	\$ 155,595,000	\$ 155,595,000
	<b>\$ 937,075,000</b>	<b>\$ 644,430,000</b>
<b>SRF Junior Lien Bonds</b>		
Water Supply System Revenue Bonds, Series 2005-SRF-1	\$ 13,805,164	\$ 6,025,164
Water Supply System Revenue Bonds, Series 2005-SRF-2	\$ 8,891,730	\$ 3,791,730
Water Supply System Revenue Bonds, Series 2006-SRF	\$ 5,180,926	\$ 2,240,926
Water Supply System Revenue Bonds, Series 2008-SRF	\$ 2,590,941	\$ 1,030,941
Water Supply System Revenue Bonds, Series 2016A-SRF (1)	\$ 9,605,000	\$ 9,605,000
Water Supply System Revenue Bonds, Series 2016B-SRF (1)	\$ 4,180,000	\$ 4,180,000
Water Supply System Revenue Bonds, Series 2017-SRF (1)	\$ 6,675,000	\$ 6,675,000
	<b>\$ 50,928,761</b>	<b>\$ 33,548,761</b>
<b>Total Water Supply System Revenue Bonds</b>	<b>\$ 3,594,353,761</b>	<b>\$ 2,292,448,761</b>

(1) Outstanding amount shown for loans that have not been fully disbursed is based on full authorized amount minus principal repaid.

SOURCE: The Authority

## DEBT SERVICE REQUIREMENTS<sup>1</sup>

The following table sets forth the annual principal and interest requirements for the outstanding Senior Lien Bonds, Second Lien Bonds, SRF Junior Lien Bonds and the Series 2018 Bonds.

Fiscal Year Ended June 30	Outstanding Senior Lien Debt Service	Second Lien Bonds							Outstanding SRF Junior Lien Debt Service <sup>(2)</sup>	Total System Debt Service
		Outstanding Second Lien Debt Service	Less: Refunded Debt Service	Second Lien Bonds, Series 2018			Total Second Lien Debt Service			
				Principal	Interest	Total				
2019 <sup>(3)</sup>	\$ 119,230,820	\$ 49,020,375	\$ (16,767,581)	\$ 8,170,000	\$ 5,791,592	\$ 13,961,592	\$ 46,214,385	\$ 2,710,624	\$ 168,155,830	
2020	123,909,875	50,660,550	(22,362,450)	12,180,000	7,371,250	19,551,250	47,849,350	2,749,315	174,508,540	
2021	126,616,375	52,085,038	(22,351,438)	12,785,000	6,762,250	19,547,250	49,280,850	2,751,087	178,648,312	
2022	127,412,375	47,492,900	(22,352,300)	13,420,000	6,123,000	19,543,000	44,683,600	2,756,815	174,852,790	
2023	131,184,075	47,848,225	(21,221,875)	12,965,000	5,452,000	18,417,000	45,043,350	2,751,388	178,978,813	
2024	131,186,425	47,920,150	(21,537,550)	13,925,000	4,803,750	18,728,750	45,111,350	2,753,798	179,051,573	
2025	131,180,950	47,913,950	(20,947,100)	14,030,000	4,107,500	18,137,500	45,104,350	2,747,569	179,032,869	
2026	131,187,488	47,916,675	(21,968,825)	15,755,000	3,406,000	19,161,000	45,108,850	2,740,006	179,036,344	
2027	131,185,188	47,917,850	(21,114,000)	15,690,000	2,618,250	18,308,250	45,112,100	1,506,708	177,803,995	
2028	131,178,638	47,917,213	(22,804,113)	18,165,000	1,833,750	19,998,750	45,111,850	1,098,635	177,389,123	
2029	131,188,438	47,913,613	(22,243,263)	18,510,000	925,500	19,435,500	45,105,850	1,005,647	177,299,935	
2030	131,180,338	47,916,850	-	-	-	-	47,916,850	977,281	180,074,469	
2031	131,190,888	47,916,350	-	-	-	-	47,916,350	979,469	180,086,706	
2032	131,179,338	47,915,100	-	-	-	-	47,915,100	976,219	180,070,656	
2033	120,511,388	58,585,450	-	-	-	-	58,585,450	978,906	180,075,744	
2034	124,439,188	54,662,250	-	-	-	-	54,662,250	977,375	180,078,812	
2035	131,181,500	15,389,500	-	-	-	-	15,389,500	976,719	147,547,719	
2036	34,518,925	132,724,000	-	-	-	-	132,724,000	978,156	168,221,081	
2037	73,291,175	8,192,500	-	-	-	-	8,192,500	975,375	82,459,050	
2038	77,585,338	8,192,250	-	-	-	-	8,192,250	977,219	86,754,806	
2039	77,587,300	8,192,000	-	-	-	-	8,192,000	979,812	86,759,112	
2040	77,591,475	8,191,750	-	-	-	-	8,191,750	979,375	86,762,600	
2041	76,299,250	8,191,500	-	-	-	-	8,191,500	975,969	85,466,719	
2042	20,299,750	37,816,250	-	-	-	-	37,816,250	978,406	59,094,406	
2043	20,304,500	37,814,750	-	-	-	-	37,814,750	975,281	59,094,531	
2044	20,299,250	37,819,250	-	-	-	-	37,819,250	977,969	59,096,469	
2045	20,302,500	37,815,750	-	-	-	-	37,815,750	977,563	59,095,813	
2046	20,301,750	37,815,750	-	-	-	-	37,815,750	975,375	59,092,875	
2047	-	-	-	-	-	-	-	977,688	977,688	
2048	-	-	-	-	-	-	-	818,125	818,125	
2049	-	-	-	-	-	-	-	80,719	80,719	
	\$ 2,703,524,495	\$ 1,169,757,788	\$ (235,670,494)	\$ 155,595,000	\$ 49,194,842	\$ 204,789,842	\$ 1,138,877,135	\$ 44,064,592	\$ 3,886,466,222	

(1) Debt Service Installment Requirements calculated as defined in the Master Bond Ordinance. July 1 payments are included in the prior fiscal year.

(2) Outstanding SRF Junior Lien Bonds schedule assumes loans are currently fully drawn. In cases where SRF loans are not yet fully drawn, debt service will be lower.

(3) FY 2019 payments represent full fiscal year. FY 2019 Refunded Debt Service figures are adjusted for contributions from the debt service account related to the Refunded Bonds.

Source: The Authority

## SERVICE AREA AND CUSTOMERS

The Authority currently provides wholesale water services in a service area encompassing 1,760 square miles and serves all or a portion of eight Michigan counties in southeast Michigan, including Oakland, Macomb, Wayne, Lapeer, Genesee, Washtenaw, St. Clair and Monroe Counties. The service area includes communities located in and around the Detroit-Warren-Dearborn Metropolitan Statistical Area (the “Detroit MSA”). See APPENDIX III – DETROIT MSA. Approximately 3.8 million people, or approximately 38% of the total population of the State of Michigan, live in the Authority’s water service area. Suburban customers comprise approximately 82% of the population served by the Authority, and the Retail Water Customers comprise the remainder served by the Authority. Under certain circumstances, subject to the Authority’s system optimization guidelines, the Authority’s water service area may be expanded to include additional communities. The Authority’s customer classes include communities and districts served via wholesale service contracts and the City of Detroit retail customer class served via the terms of the Water and Sewer Services Agreement.

### Wholesale Customers

The customers of the Regional Water System include 127 communities served through 87 wholesale water service contracts with municipal and other public entity customers, a Reciprocal Backup Water Service Contract with the Genesee County Drain Commissioner (“GCDC”) and the Water and Sewer Services Agreement. Model contracts are in effect for 80 of the 87 current wholesale customers. Since the January 1, 2016, the cities of Gibraltar, Inkster, Riverview, Lapeer, Imlay City, Flint and Mayfield Township have entered into model contracts with GLWA. Of the remaining 7 wholesale customers not under model contracts, 6 are served under the former contract structure, and 1 is served under an emergency service contract. The 80 customers under model contracts comprise over 94% of total budgeted billed revenues from the wholesale customers.

The City is not a “wholesale” customer. The Detroit retail customer class is collectively the Authority’s largest customer. DWSD owns and operates the Local Water System and serves as agent for the Authority for setting retail rates, billing, collecting and enforcing the collection of amounts due from the Detroit retail customer class. That relationship is further defined by the Water and Sewer Services Agreement, consistent with the provisions of the Lease and related agreements. The Authority may revoke or terminate its appointment of the City as agent for the Authority if the City fails to perform its duties, obligations or administrative functions in accordance with the Water and Sewer Services Agreement. See APPENDIX V – SUMMARY OF THE LEASE and APPENDIX VII – SUMMARY OF THE WATER AND SEWER SERVICES AGREEMENT.

The model water service contracts generally provide for (i) delivery of water by the Authority to the wholesale customer at designated metered points at specified rates of flow and pressure and (ii) payment by the wholesale customer for all water supplied at reasonable charges established by the Authority. The Authority is responsible for meeting all water quality requirements at the designated metered points. The wholesale customer is solely responsible for distributing water from the points of delivery to its retail customers, for local billing, collection and rate setting.

The model contracts have a 30-year initial term and automatically renew for an additional 10-year term unless a party to the contract provides written prior notice of intent to terminate at least 5 years prior to the end of the then-current contract term. In the event of an early termination, the model contract provides that wholesale customers are liable to GLWA for the payment of any costs incurred by GLWA related to the provision of services to the customer, unless the termination is for cause, in which case GLWA has cure rights. The model contract provides that GLWA has no responsibility for distributing, operating, repairing, replacing or maintaining any portion of the customer’s retail system.

The model contracts also provide that the Water Technical Advisory Committee (the “TAC”), established to facilitate a cooperative working relationship between GLWA and its customers, will remain in place for the contract term. In addition, the model contracts include other provisions required for the orderly operation of an integrated water supply and distribution system such as the following: (i) restrictions on redistribution outside the limits of the particular municipality or other public entity without the consent of GLWA; (ii) measurement of water furnished by meters; (iii) the metered flow of water as the basis for billing; (iv) prohibition against combining GLWA supplied water with water from any other source without prior written approval of GLWA to ensure a uniform water quality; (v) GLWA standards for construction of distribution mains and GLWA approval of construction plans therefor to ensure a uniform standard throughout the area; (vi) GLWA notification of rate changes; (vii) payment and late payment terms; (viii) delineation of maintenance responsibilities; (ix) specific water pressure commitments by the Authority; and (x) maximum day, peak hour and annual volume commitments by the wholesale customer.

Billed revenues to all suburban wholesale customers represented approximately 75% of the Revenues under the Bond Ordinance for Fiscal Year 2018. The following table provides information about the ten largest wholesale customers in Fiscal Year 2018. For unaudited Fiscal Year 2018, these ten customers provided approximately 46% of the billed revenues from all suburban wholesale customers and approximately 35% of the Revenues under the Bond Ordinance for Fiscal Year 2018.

#### **Ten Largest Customers in Fiscal Year 2018**

	Total Billed Flow Mcf (b) FY 2018	Total Billed Revenue FY 2018
North Oakland County Water Authority	935,635	\$23,365,866
Southeast Oakland County Water Authority	1,320,868	\$23,118,160
Sterling Heights	580,053	\$15,571,146
Troy	488,350	\$13,842,135
Livonia	355,916	\$13,334,615
Shelby Township	495,748	\$13,669,376
Canton Township	397,617	\$13,554,398
Flint (a)	546,673	\$11,760,061
Macomb Township	345,639	\$11,167,739
Ypsilanti Community Utilities Authority	515,186	\$11,038,134

(a) Represents billed revenues prior to the credit to Flint for its proportional share of KWA debt service in the amount of approximately \$3.8 million for seven months of FY 2018.

(b) “Mcf” equals thousand cubic feet.

There are significant barriers to leaving the Water System, including (i) the geology of the area not supporting a substantial water supply by subsurface wells, (ii) a natural supply of raw water coupled with the existing capital facilities of the Water System, and (iii) longstanding municipal relationships extending contractually for many years. Except as noted below, the Authority has no material competition in the Southeastern Michigan region.

In May 2014, the City of Flint (“Flint”) began operating its own water treatment plant utilizing the Flint River as its raw water source and immediately experienced water quality issues. On October 16, 2015, Flint started to receive water from the Water System on a short-term, emergency basis. The Authority, along with the State of Michigan, Flint, Karegnondi Water Authority (“KWA”) and GCDC, began to develop a regional plan to provide Flint with long-term wholesale water service through the Authority and to provide reciprocal back-up services to the Authority and to GCDC.

On January 16, 2018, MDEQ, GCDC, the Authority, and KWA entered into a Master Agreement (the “Master Agreement”) and related agreements, effective as of December 1, 2017, for the purpose of establishing regional collaboration with respect to the provision of long-term water delivery to Flint and system improvements for the parties (collectively, the “Regional Collaboration”). The Master Agreement and the Regional Collaboration do not amend the Master Bond Ordinance and do not obligate GLWA for any KWA debt. The Regional Collaboration is expected to affect the business relationships among the parties to the Master Agreement, including but not limited to the following:

- GLWA will provide Flint with treated drinking water under a 30-year water supply model contract.
- GLWA will (a) provide Flint with a credit under the water contract for its proportional share of KWA debt service paid by Flint to KWA and (b) receive Flint’s rights to the raw water from KWA. The net revenues received from Flint by GLWA constitute “Revenues” under the Master Bond Ordinance.
- GLWA and GCDC will provide back-up service to each other for Flint, for customers of GCDC, and for GLWA member communities west of the GLWA Inlay City Pump Station, all under a 30-year contract. This redundancy is intended to provide security to customers should a system emergency or issue arise.
- Flint will remit payments to KWA, GLWA and GCDC through U.S. Bank National Association pursuant to the terms of an evergreen baseline and all receipts trust, intended to provide a single coordinated system for payment processing.

As of December 2017, GCDC ceased being a wholesale customer of GLWA but remains a reciprocal backup customer through the 30-year term of the Reciprocal Backup Water Service Contract. The projections included in this Official Statement assume no revenues from GCDC.

The following table for historical water sales and reported total water production presents water volume in thousands of cubic feet (“Mcf”) for suburban wholesale customers, for the Retail Water Customers, and for the Regional Water System as a whole, together with total water production and non-revenue water volume. As is common for all large water systems, the Regional Water System experiences a differential between the quantity of water produced by the treatment plants during the Fiscal Year and the quantity of water billed to customers over the same period, and the difference is referred to as “non-revenue water.” Non-revenue water results from a variety of factors such as the range of accuracy of production and retail meters, losses due to leaks or major breaks in the transmission and distribution systems, unmetered water that is used for fire protection, and the accuracy of estimates for unmetered use. The Authority believes that improvements in the accuracy of the reported production figures may reduce the level of non-revenue water. Production at some of the water plants is not metered, but rather is estimated based on pump curves. These data continue to be reviewed, and the Authority has initiated efforts to measure production figures and refine production estimating techniques.



## Historical Water Sales and Reported Water Production

		Fiscal Year Ending June 30,					
		<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
		<i>Mcf</i>	<i>Mcf</i>	<i>Mcf</i>	<i>Mcf</i>	<i>Mcf</i>	<i>Mcf</i>
<b>Water Sales Volumes</b>							<i>preliminary</i>
<u>Suburban Wholesale Customers</u>							
<u>Master Metered Customers (a)</u>							
1	Customers outside Genesee County	13,796,800	12,811,200	12,332,600	13,002,800	12,920,300	12,840,000
2	Flint (b)	1,189,800	1,178,700	0	432,200	594,800	547,200
3	GCDC (b)	0	142,900	517,100	542,300	544,100	250,600
4	Subtotal Master Metered	14,986,600	14,132,800	12,849,700	13,977,300	14,059,200	13,637,800
5	Dearborn (c)	701,300	645,700	613,900	628,800	645,100	628,300
6	Highland Park (c)	0	0	109,900	109,900	109,900	110,000
7	Total Wholesale Customers	15,687,900	14,778,500	13,573,500	14,716,000	14,814,200	14,376,100
8	Detroit Retail Customer Class (c)	<u>3,660,300</u>	<u>3,410,600</u>	<u>3,173,700</u>	<u>3,057,100</u>	<u>2,912,000</u>	<u>2,895,100</u>
9	Total System	19,348,200	18,189,100	16,747,200	17,773,100	17,726,200	17,271,200
10	Total Water Production (d)	26,832,800	26,088,800	23,238,000	23,580,700	23,915,600	23,228,600
11	Non-Revenue Water	7,484,600	7,899,700	6,490,800	5,807,600	6,189,400	5,957,400
12	Non-Revenue % of Production	27.9%	30.3%	27.9%	24.6%	25.9%	25.6%

(a) Reflects wholesale water sales as measured by master meters.

(b) Flint / Genesee County were a combined Customer through April 2014.

(c) Reflects retail meter sales - excludes any estimated distribution non revenue water.

(d) Water Production is estimated via pump curves and related measures.

The mitigation of non-revenue water is a goal of the Authority. The Water Master Plan (defined herein) proposed a 20-year capital improvement program for (1) plant production metering; (2) non-revenue water reduction, including ongoing water audits and other operational initiatives, a district metered area approach to leak detection and management, and distribution system inspection, rehabilitation and replacement; (3) wholesale metering for the cities of Dearborn, Highland Park and Detroit; and (4) completion of automatic meter reading in Detroit.

Reports of non-revenue water in future years will reflect estimates of unaccounted for water within the DWSD Local Water System and within Dearborn and Highland Park. These estimates will be included in the basis for allocating revenue requirements to these customers and will not technically be “non-revenue” water. Accordingly, the non-revenue water in the above table is effectively overstated.

### Service Charges to Customers

The Authority’s wholesale water service charges and the Authority’s allocated annual revenue requirement to Retail Water Customers under the Water and Sewer Services Agreement are reviewed and adjusted annually. The model contracts with wholesale customers typically provide, and the Water and Sewer Services Agreement provides, that rates be reasonable in relation to the costs incurred. The Authority’s staff and outside consultants review and make recommendations on charges for water service. Prior to Fiscal Year 2016, the Water System’s charges were determined by the “utility basis” method, which is recommended by the American Water Works Association for municipally-owned utilities providing services to metropolitan areas and which the Water System was required to use under Michigan law. Under this method, the revenue requirement is comprised of three elements of cost: operation and maintenance expenses, depreciation expense and a return on the rate base. In formulating charges, distinctions were made between Retail Water Customers and the various wholesale municipal customers based on the differences in the cost of serving each class of customer.

The structure for service charges adopted for Fiscal Year 2016 was developed during negotiation of the Lease. Fiscal Year 2016 represented the first year that formally froze the return on rate base at

\$20.7 million credited to Retail Water Customers that the City received in Fiscal Year 2015. The \$20.7 million annual credit is now a part of the parties' contractual agreement over the 40-year term of the Lease and not directly representative of any application of the utility basis nor differential rates of return.

The schedule of charges for each of the wholesale customers consists of a fixed monthly charge and a commodity charge applied to monthly metered water sales. While the overall methodology used to determine charges for each customer is uniform, the service charge schedule for each customer is unique, reflecting the specific volumes, peak demands, and other demographic information in their individual contracts. Starting with the Fiscal Year 2016 wholesale water charges, a modification was made to the portion of the overall revenue requirement collected from each of the charge elements. These charges were designed to recover 60% of the revenue requirement via fixed monthly charges (increased from approximately 40%), with the other 40% generated by commodity charges (down from approximately 60%). The Fiscal Year 2016 charges also reflected a more conservative approach to estimating water sales volumes for each customer. Instead of basing estimated water sales on the long-term planning amounts contained within the customer contracts, estimated water sales volumes for Fiscal Year 2016 were calculated based on the 24-month average for each customer community ending September 2014. These modifications were made to further improve the alignment between cost of service allocation and cost recovery and to stabilize billings to customers and revenues. Starting in Fiscal Year 2018, the 24-month average sales volume method was updated to a 36-month average sales volume for each customer ending September 2016. The averaging method was further refined to consider the peak month volumes, from April to September, and the base month volumes in a separate manner. To recognize the continued decrease in volume, the 36-month average of the base month volume was decreased by five percent for each customer. The 36-month peak month volume for each customer was not adjusted. This method was continued with the Fiscal Year 2019 charges.

The actual reported billings to wholesale customers during the past three fiscal years indicate that the service charge structural reforms have been successful. In the three fiscal years prior to implementation of the reforms, billed revenues to suburban wholesale customers fell short of budgeted levels by a combined total of over \$50 million. Subsequent to the reforms, water service charges have produced revenues exceeding budgeted amounts. For Fiscal Year 2016, billed revenues were 100.8% and billed volumes were 101.2% compared to budget. For Fiscal Year 2017 billed revenues were 101.9% and billed volumes were at 102.3% compared to budget. The preliminary figures for Fiscal Year 2018 indicate that billed revenues were 101.1% and billed volumes were at 101.7% compared to budget. The positive revenue variances compared to budget were approximately \$2.4 million in Fiscal Year 2016, \$5.9 million in Fiscal Year 2017, and \$3.2 million for Fiscal Year 2018.

The modified approach to service charge development noted above was continued for the Fiscal Years 2017, 2018 and 2019 wholesale service charges and the Authority's allocated revenue requirement to Retail Water Customers under the Water and Sewer Services Agreement. The Fiscal 2019 service charges were set at levels expected to generate 1.7% more revenue than the previous year's wholesale service charges. The 1.7% revenue adjustment for Fiscal Year 2019 represents a 1.0% increase in the overall budget and an additional amount to address other factors which affect wholesale customer cost allocations, including the transition of GCDC from a full-service customer to a reciprocal backup customer. The 1.7% figure is an average for the wholesale customer class at large. The impact of the Fiscal Year 2019 charges on individual customers is subject to additional factors, including changes in contract demands, cost allocation results, and changes in sales volumes.

See "AUTHORITY FINANCIAL OPERATIONS—Projected Financial Plan for Fiscal Years 2019 through 2023" and "4% Revenue Requirement Parameter."

## **DWSD and Retail Customers**

The Department is established under the City Charter and is governed by a seven-member BOWC, which meets monthly. Pursuant to the Leases and the Water and Sewer Services Agreement, the Department is responsible for (i) operating and maintaining its own local water and sewer system infrastructure within the City under the direction of the BOWC and (ii) acting as the billing and collection agent for the Authority.

Pursuant to the Leases, the Authority (i) has the exclusive right to establish rates for water and sewer service it provides to customers of the Systems including Retail Customers, (ii) may delegate its rights to establish rates for those services to one or more agents, as it deems necessary or convenient, and (iii) directly or through an agent, has the exclusive right to charge, bill to and collect from such customers amounts for such services, including the retail rates and charges. Under the Water and Sewer Services Agreement, the Authority delegated to the City its rights to set and collect rates with respect to services provided by the Authority to Retail Customers of the City. The Authority may terminate its appointment of the City as agent for the Authority if the City fails to perform its duties, obligations or administrative functions in accordance with the Water and Sewer Services Agreement.

The seven members of the BOWC are appointed by and serve at the pleasure of the Mayor of the City. The Charter of the City (i) prohibits any member of the BOWC from being a City official or employee, or a principal or employee of a contractor of the City, (ii) requires that a member of the BOWC be a citizen of the United States and a resident of the State of Michigan, and (iii) requires no fewer than four members be residents of the City. The members of the BOWC serve four-year terms which are staggered so that not more than two members' terms expire each year.

DWSD is a retail water and sewer utility serving more than 225,000 Detroit residential and commercial customers. DWSD's water network consists of more than 2,700 miles of distribution mains and nearly 3,000 miles of sewer collection piping. The Department provides local water distribution services to Retail Water Customers and local sewer services to Retail Sewer Customers. Retail service includes all water and sewer service customers, including residential, commercial, and industrial. The Department also provides water supply services and sewer services to certain retail customers outside the City on a very limited basis. Pursuant to the City Charter, the Water and Sewer Services Agreement and an Order dated December 15, 2015 Order (the "December 15, 2015 Order") of the Federal District Court in proceedings related to non-compliance with the Clean Water Act, the BOWC approves Department retail rate schedules for these customers. These customers are billed on a monthly basis and water, sewerage and drainage charges are included on the same bill. The Department also bills various governmental agencies, including the City, for service. Rate changes, once established, generally become effective the following July 1, however, certain drainage charges are being phased in over several years, commencing October 1, 2016. For information regarding current billing and collection activities of the Department, see "SERVICE AREA AND CUSTOMERS - Collections and Delinquencies – *Retail Customers*." The Department acts as the agent of the Authority for purposes of billing, collecting and enforcing payment of bills. The Department also establishes retail rates to produce revenues sufficient to pay the Authority revenue requirement and the costs of operating, maintaining and improving the Local Water System and the Local Sewer System.

## **Collaboration and Customer Outreach**

GLWA's vision is to be the service provider of choice in the region. The Authority collaborates with its customers through the One Water Partnership Agreement. This agreement outlines the mutual commitments to working together for the greater good of the region, detailing the responsibilities of all parties and a commitment to a multi-jurisdictional, multi-agency approach to infrastructure renewal and

investment. GLWA's collaborative relationship with its customers is foundational to its operations wherein GLWA works with its customers as member-partners.

### **Collections and Delinquencies**

#### *Wholesale Customers*

Wholesale customers are billed monthly. The late payment charge is 1.5% per month for each month that a bill remains unpaid. Payment of charges to the Authority is not contractually dependent upon collections by the wholesale customers from their respective retail customers. Wholesale customers are responsible for their own retail billing systems. In the event of a wholesale customer delinquency, the Authority has options available to it under the relevant contractual agreement, including the right to early termination costs and to obtain a judgment against the wholesale customer. Except as noted below, delinquencies are limited and often cured in one subsequent billing cycle.

As of June 30, 2018, the City of Highland Park was the only wholesale customer with a material past due balance of approximately \$5.91 million. Collection efforts for that account have resulted in legal action as described under "ENVIRONMENTAL MATTERS AND LITIGATION – GLWA Litigation."

#### *Retail Customers*

As of July 31, 2018, active retail customer accounts receivable for water and sewer service combined were approximately \$151.6 million, representing \$10.4 million from customers on active payment plans and \$141.2 million for regular active customers. Of that amount, \$110.9 million was 60 days past due, representing \$8.4 million for customers on active payment plans and \$102.5 million for regular active customers. Total 60 day and greater past due accounts were 48.9% of the approximately 300,000 total active retail customer accounts, or 44.4% after factoring out those customers on active payment plans.

The Department operates a computerized billing system which accounts for a total of approximately 576,000 retail customer accounts, of which approximately 300,000 are active accounts. Inactive accounts remain in the billing system while the Department pursues collection. Retail customer account categories include residential, commercial, and industrial. Based on the approved Fiscal Year 2019 retail rates, the typical monthly bill is approximately \$75 for combined water and sewer service charges based on 600 cubic feet of water consumed per month and a 5/8" meter. All Retail Customers are billed monthly and are allowed 21 days to pay, after which a one-time 5% late payment charge is applied.

In accordance with State law, the December 15, 2015 Order and the Water and Sewer Services Agreement, the City, as the agent of the Authority or the Authority if such agency is terminated, has a right to discontinue the supply of water to any premises for non-payment of water or sewer bills when due. It is the Department's policy that Retail Customers may have their service interrupted for non-payment if the account is more than thirty days in arrears. Residential customers are notified of payment plan options and financial assistance programs if they demonstrate that their account is delinquent due to financial hardship. Residential customers may be subject to constitutional safeguards regarding due process, including notice and hearing requirements in the event of discontinuation of services.

The Department's collection efforts in the past, including shut-off for non-payment, had not kept pace with an increasing level of delinquency since 2007, resulting in a significant number of accounts with past due balances. As of July 31, 2018, the average active residential account delinquency, which includes water and sewer charges, was \$330, based on approximately 115,000 of 240,000 accounts with past due balances of 60 days or more. As of the same date, active commercial accounts, the next largest retail customer category, represented approximately 9,800 of 17,000 accounts with a past due balance of

60 days or more with an average past due amount of \$900, which includes water and sewer charges. The Department started a commercial customer personal contact program in 2015, which has improved collections. However, for accounts that continue in non-payment status, shut-offs will continue.

The shut-off program activity has historically been reduced from December through March of each year. The shut-off program has generated active engagement with customers whose service is preserved by participation in a payment plan program, as well as payment assistance programs for those who meet certain eligibility criteria. In 2014, the City announced a ten-point plan to encourage Retail Customers to enroll in payment plans and apply to expanded payment assistance programs from new non-profit organization partnerships. Additional funding commitments for the payment assistance programs have been provided by external sources, including the WRAP program, which began in Fiscal Year 2016. The City also expanded customer service hours. The Department has been able to improve collection efforts with increased contacts with delinquent customers before shut-offs occur and earlier intervention with customers on payment plans when they become delinquent. Since May 16, 2018, the number of customers scheduled for shut-off of service declined from 4,000 to 3,300, and the number of payment plans increased from 10,700 to 14,000.

DWSD's low-income customers also may seek assistance from the Authority's WRAP Fund, established by GLWA under the Bond Ordinance to assist eligible residential customers across the entire Authority service area. See "SERVICE AREA AND CUSTOMERS - Water Residential Assistance Program." An additional barrier to active customer engagement has been the absence of customer names associated with residential retail accounts. Presently, most residential retail customer accounts are addressed to "Resident," limiting the availability of other traditional collection efforts. The Department has recently initiated a program to transfer the focus from a parcel-based billing system to an individual-based billing system to leverage current technology and improve collection efforts.

In the event that an account remains delinquent for more than six months, the Municipal Water Lien Act, MCL 123.161 et seq., provides that the charges for water and sewage service furnished to premises may become a lien on such premises when the service is provided, and the lien may be placed on the property tax roll. The lien may then be enforced in the same manner as the collection of property taxes and enforcement of a lien for property taxes (assuming proper statutory notice to the party responsible for the payment of the charges). The Department historically has transmitted delinquent accounts to the City Treasurer who places the delinquent amount on the winter tax bill. If the delinquent amounts are not collected by the City Treasurer by March 1 each year, the City transfers unpaid real property tax bills to Wayne County for collection in accordance with State law. The City receives payment for such taxes from Wayne County's delinquent tax revolving fund as of March 1 each year, which is funded by the issuance of Delinquent Taxes Anticipation Notes. If the delinquent real property taxes remain uncollected after three years, the County charges the respective amount of such taxes back to the City.

Prior to the Effective Date, the City, acting through the BOWC, and the Authority each adopted ordinances that authorize the Authority to take all such actions necessary to charge and collect rates and charges for water and sewer services as described in the Leases. Such rates and charges may be a lien on the premises for which the services have been provided. Amounts delinquent for six (6) months or more may be certified annually to the City's Board of Assessors to be entered upon the next tax roll against the premises to which the services have been rendered. Such lien may be enforced by the City on behalf of the Authority or by the Authority directly in the manner prescribed in the City Charter or by other applicable law for the enforcement of tax liens.

## **Water Residential Assistance Program**

The Water Residential Assistance Program or “WRAP” is the first program of its kind in Michigan and one of only a few models of sustainable assistance plans in the country, providing assistance to qualifying low-income customers in the GLWA’s service area. For Fiscal Year 2019 the funding level is budgeted at \$4.9 million combined for water and sewer services. Since its start on March 1, 2016, WRAP has committed over \$5.8 million for monthly bill payment and arrearage assistance to over 9,200 participants. Additionally, WRAP has provided over \$1.5 million for in-home water audits, conservation measures and minor plumbing repairs.

The WRAP is available to all qualified residents who receive water and/or sewer service from GLWA and who live in a municipality that has opted into WRAP. Eligible residential customers with a past due bill and/or who are in active shut off can receive assistance with paying down arrears and receive \$25 toward monthly bill payment assistance annually up to \$1,000. High volume water users can receive a one-time home audit and home water conservation services up to \$1,000. Maximum annual assistance per household is \$2,000. To participate in WRAP, an applicant must have household gross incomes at or below 150% of the federal poverty income thresholds. Clients with water usage at or above 120% of the average residential usage are eligible to participate in a water audit and install water conservation measures. WRAP participants are also encouraged to participate in both financial coaching and water conservation workshops as well as other support services.

## **AUTHORITY FINANCIAL OPERATIONS**

### **Financial Statements**

The financial statements of the GLWA Water Fund for the Fiscal Year ended June 30, 2017 have been audited by Rehmann Robson LLC and are included in Appendix II of this Official Statement.

### **Summary of Historical Revenues and Expenses**

The following table shows historical revenue and expenses of the Water System for each of the five Fiscal Years ended June 30, 2013 through June 30, 2017. Although Fiscal Year 2018 has been completed, audited financial data are not yet available for Fiscal Year 2018. Estimated results for Fiscal Year 2018 are discussed further below. See “Fiscal Year 2018 Estimate.” Net Revenues for Fiscal Years ended June 30, 2013 through June 30, 2015 are derived from audited financial statements of the DWSD Water Fund for those fiscal years. The financial performance for Fiscal Year 2016 is complicated, as it is reflected in three separate audited financial statements: (1) DWSD from July 1, 2015 through December 31, 2015; (2) the Authority from January 1, 2016 through June 30, 2016; and (3) DWSD from January 1, 2016 through June 30, 2016. Net Revenues for this period are derived from a combination of those documents, and are consistent with those indicated in the statistical section of the audited financial statements of the GLWA Water Fund for the Fiscal Year ended June 30, 2016. Net Revenues for the Fiscal Year ended June 30, 2017 are derived from the audited financial statements of both GLWA and DWSD, and are set forth in the statistical section of the audited financial statements of the GLWA Water Fund for the Fiscal Year ended June 30, 2017.

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## Summary of Historical Water System Revenues and Expenses For Fiscal Years 2013-2017

		Fiscal Year Ending June 30,				
		<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
		<i>DWSD</i>	<i>DWSD</i>	<i>DWSD</i>	<i>DWSD/GLWA</i>	<i>GLWA</i>
		\$	\$	\$	\$	\$
<b>Operating Revenues</b>						
1	Wholesale Service Revenue (a)	275,185,240	272,458,933	264,930,716	319,682,064	331,115,131
2	Retail Service Revenue (a)	75,653,762	72,420,199	93,221,432	99,090,571	98,746,194
3	Bad Debt Recovery				0	5,107,125
4	Subtotal Service Revenue	350,839,002	344,879,132	358,152,148	418,772,635	434,968,450
5	Miscellaneous Revenue	4,688,757	4,490,228	6,125,903	6,597,597	5,775,341
6	Non-Operating Revenue (b)	5,563,781	7,921,702	1,826,278	1,080,083	1,348,898
7	Total Revenue	361,091,540	357,291,062	366,104,329	426,450,315	442,092,689
8	Operation and Maintenance Expenses (c)	151,204,340	145,268,245	136,029,813	156,332,919	155,775,600
9	Net Revenues	209,887,200	212,022,817	230,074,516	270,117,396	286,317,089
<b>Debt Service Requirements</b>						
10	Senior Lien Bonds	130,181,500	140,248,600	134,820,900	128,178,000	134,234,700
11	Senior and Second Lien Bonds	170,616,600	180,698,600	177,135,100	169,356,800	173,224,700
12	All Bonds, Including SRF Junior Lien	172,458,800	182,464,900	178,923,900	171,138,600	175,010,000
13	Net Revenues After Debt Service	37,428,400	29,557,917	51,150,616	98,978,796	111,307,089
14	Pension Obligation Certificates	5,796,300	2,826,869	NA	NA	NA
15	Transfers to Pension Obligation Payment Fund	NA	NA	9,780,400	10,682,800	10,682,762
16	Professional Service Fees - Detroit Bankruptcy	NA	NA	12,326,900	NA	NA
17	Transfers to WRAP Fund	NA	NA	NA	1,983,300	2,077,200
18	Lease Payment to Local I&E Account	NA	NA	NA	20,173,100	22,500,000
19	Net Available for Other Purposes	31,632,100	26,731,048	29,043,316	66,139,596	76,047,127
<b>Debt Service Coverage (d)</b>						
20	Senior Lien Bonds	1.61	1.51	1.71	2.11	2.13
21	Senior and Second Lien Bonds	1.23	1.17	1.30	1.59	1.65
22	All Bonds, Including SRF Junior Lien	1.22	1.16	1.29	1.58	1.64

(a) Net of bad debt expense

(b) Excludes non-cash items such as changes in derivative values and capital contributions.

(c) Adjusted to only reflect elements that impact net revenues as defined by the Ordinance. See below.

### Operation and Maintenance Expense

23	As Reported on Financial Statements	187,188,958	174,262,356	127,757,970	82,169,319	NA
24	less: Net OPEB obligation	(17,248,909)	(1,313,688)	NA	0	NA
25	less: Nonrecurring capital asset adjustments	(18,735,709)	(27,680,423)	(13,746,417)	(14,409,000)	NA
26	plus: Prior period pension adjustment	NA	NA	11,718,260	0	NA
27	Cash Transfers to GLWA O&M Fund				55,828,200	111,879,600
28	Cash Transfers to DWSD O&M Fund				22,444,800	33,596,400
29	Subtotal O&M for "normal" cash operations	151,204,340	145,268,245	125,729,813	146,033,319	145,476,000
30	Deposit to Pension Obligation O&M Fund	NA	NA	10,300,000	10,299,600	10,299,600
31	Total O&M for <b>Net Revenues</b>	151,204,340	145,268,245	136,029,813	156,332,919	155,775,600

(d) Computed consistent with Rate Covenant basis for rate determination purposes. Not applicable for purposes of Additional Bonds Test calculations.

SOURCE: DWSD / GLWA

## Fiscal Year 2013-2017 Operations

The following information summarizes the financial operations of the Water System in Fiscal Years 2013 through 2017. This information is presented in "budget basis" format representing the revenues and revenue requirements set forth in the Master Bond Ordinance.

## *Revenues*

As indicated in the above table, Water System revenues from service charges, net of bad debt expense, have increased approximately \$84 million, or 24%, since Fiscal Year 2013. This increase is principally related to increases in wholesale water service charges and retail water rates to Retail Customers, as total water sales volumes actually declined during this period. The reported revenue levels in Fiscal Years 2013 through 2015 were significantly lower than budgeted levels. In Fiscal Year 2016 structural changes to the water service charge methodology were implemented. The fixed monthly charge portion of the service charge schedule was increased from 40% to 60%, mitigating the potential impact of sales volume variances on revenues. In addition, projected sales volumes for all customers were determined via a uniform forecasting model, rather than on projections established independently by each individual customer. As a result, revenues from the wholesale customer class exceeded budgeted levels for both Fiscal Year 2016 and Fiscal Year 2017. See “SERVICE AREA AND CUSTOMERS – Wholesale Customers” and APPENDIX I – FEASIBILITY CONSULTANT’S REPORT – “Service Charge Methodology and Existing Service Charges.”

Total revenues are also impacted by varying levels of bad debt expense throughout the period. During Fiscal Year 2017 a recovery of amounts reflected as bad debt expense in prior years occurred, creating a positive variance. The wholesale service revenues are impacted by varying levels of bad debt expense related to the Highland Park delinquency. Miscellaneous and non-operating revenues have been relatively stable during the same period. The presentation in the preceding table is intended to reflect cash elements only and does not reflect any non-cash Non-Operating Revenues (Expenses) elements.

## *Operation and Maintenance Expenses*

Consistent with the definitions in the Bond Ordinance, the operation and maintenance expenses shown in the table are intended to represent actual annual transfers to the Operation and Maintenance Fund to fund the costs of operating the Water System. For Fiscal Year 2017, this amount is simply the actual cash transfers to the various O&M accounts during the year, ***irrespective of actual expenses from that account and irrespective of operating and maintenance expenses reported on an accrual basis.*** This is the same approach that will be applied in future years. However, the transition during this historical period requires making certain adjustments to the operation and maintenance expense reported in the audited financial statements for prior years, as illustrated in footnote (c). The adjustments include:

- Deducting expenses associated with accruing liabilities for Other Post-Employment Benefits (“OPEB”), which reflect future cash outlays;
- Deducting write-offs of amounts for capital assets that were originally capitalized in prior years, which reflect prior cash outlays;
- For Fiscal Year 2015, adding estimated expenses related to the current pension obligations paid in Fiscal Year 2015 but accrued as a restated net position adjustment for the beginning Fiscal Year 2015 position;
- For Fiscal Years 2015 through 2017, adding the operating portion of the pension obligation payments. These amounts are obligations of the Operation and Maintenance Fund, but are not reflected as operation and maintenance expense in the audited financial statements.
- For Fiscal Year 2016, combining the prior method of interpreting accrual basis operating expenses and the current method of evaluating actual cash transfers for the bifurcated fiscal year.



The operation and maintenance expenses have been very steady. The reported figure for Fiscal Year 2017 is approximately \$4.5 million (3%) higher in than that reported for Fiscal Year 2013. This apparent increase is impacted by the manner in which the amounts are reported. For instance, the audited GLWA Regional System accrual basis operation and maintenance expenses for Fiscal Year 2017 were approximately \$101.7 million, or over \$10 million lower than cash transferred to the GLWA O&M Account, as shown on Line 28. This variance effectively results in available cash on hand in the GLWA O&M Account as of June 30, 2017. Had the prior approach for reflecting operation and maintenance expense in this table been followed for Fiscal Year 2017, the reported figure would actually have been lower than that reported for Fiscal Year 2013. This stability in operating expenses primarily reflects the impacts of the DWSD/GLWA optimization program implemented during this period.

A portion of the annual variation in operation and maintenance expenses is associated with the allocation of costs for functions that provide service to both the water and sewer systems. These costs are assigned to the Water System and Sewer System based on detailed labor distribution systems and overall management policy, and will naturally fluctuate based on where maintenance and related activities are focused.

The relative stability in operation and maintenance expenses, coupled with the material growth in revenue, have resulted in significant increases in reported Net Revenues during this period.

#### *Debt Service Requirements*

Debt service requirements during this period have been stable. Total debt service for Fiscal Year 2017 was approximately \$2.5 million higher than the comparable amount for Fiscal Year 2013, despite issuance of over \$250 million of new money Revenue Bonds in 2016. This is primarily due to refinancing savings resulting from transactions during the period.

#### *Other Bond Ordinance Requirements*

Lines 14 through 18 of the above table present revenue requirements identified in the Bond Ordinance that are subordinate to debt service. These elements are most meaningful starting in Fiscal Year 2015, which was the first year that the legacy pension obligation requirements were experienced, and starting in Fiscal Year 2016, which was the first year that the Lease Payment and other specific requirements in the Authority's foundational documents was experienced. The Lease Payment amounts shown on Line 19 reflect the amounts transferred to the Local System Improvement and Extension Account. For Fiscal Year 2016 Detroit opted to apply a portion of the annual \$22.5 million Lease Payment to fund its allocated share of debt service, rather than transfer the entire amount to the Local System Improvement and Extension Account.

Line 19 of the table indicates amounts "available for other purposes" which are effectively available to transfer to the Regional System Improvement and Extension Account or to be maintained in the Regional System Operation and Maintenance Account as working capital. As a result of the significant increase in Net Revenues and the relative stability in debt service requirements, these reported amounts have grown significantly during this period, despite the addition of the Lease Payment and the legacy pension obligation requirements.

#### *Debt Service Coverage*

The significant increase in Net Revenues and relative stability in debt service requirements have produced steady improvement in reported debt service coverage ratios during this period. The most

significant improvement is reflected in the Senior Lien and Senior and Second Lien coverage ratios, reflecting the fact that the entirety of the debt service growth is at the SRF Junior Lien level.

### *Liquidity*

Water System cash balances have increased in recent years due to improving financial performance. The following table details unrestricted cash and equivalents, annual operation and maintenance expense, and resulting days cash for Fiscal Year 2013 through Fiscal Year 2018.

#### **Water System Days Cash**

Fiscal Year	Cash & Equivalents <sup>(a)(b)</sup>	Operation & Maintenance Expenses <sup>(b)</sup>	Days Cash <sup>(d)</sup>
2013	47.7	151.2	115
2014	112.9	145.3	284
2015	99.1	125.7	288
2016	169.7	101.3	611
2017	269.4	101.7	966
2018 <sup>(c)</sup>	315.2	117.0	983

(a) Based on audited financial statements of DWSD for Fiscal Years 2013-2015 and audited financial statements of GLWA for Fiscal Years 2016-2017

(b) \$ millions

(c) Based on unaudited numbers

(d) Days Cash = Cash & Equivalents / (O&M / 365)

### **Fiscal Year 2018 Estimate**

The Authority has developed a forecast of estimated results for Fiscal Year 2018, which concluded on June 30, 2018 (the “Fiscal Year 2018 Estimate”). The forecast is based on a detailed review of actual reported preliminary subsidiary information reported by various management systems regarding revenues, expenses, and cash receipts and disbursements during the entire Fiscal Year. It also reflects estimated activity that will be reflected as the process of closing the books on Fiscal Year 2018 performance proceeds in the coming months, derived from review of preliminary data.

The Fiscal Year 2018 Estimate follows the “modified cash” basis, consistent with the manner in which the historical revenues and expenses are presented. See “—Summary of Historical Revenues and Expenses” above. The Authority has analyzed actual cash receipts and disbursements in developing the Fiscal Year 2018 Estimate.

## Water System - Fiscal Year 2018 Estimate

	<u>Revenue</u>	<u>Budget</u>	<u>Estimate</u>	<u>Variance</u>	<u>% Variance</u>
	<u>Total Suburban Wholesale Customers (a)</u>				
1	All Customers outside Genesee County	303,469,200	306,807,400	3,338,200	1.1%
2	Flint	4,035,100	9,131,500	5,096,400	126.3%
3	Genesee County DC	3,770,600	5,329,500	1,558,900	41.3%
4	Suburban Wholesale Customers	311,274,900	321,268,400	9,993,500	3.2%
5	less: Estimated Bad Debt Expense	(1,266,000)	(1,265,800)	200	0.0%
6	Effective Suburban Wholesale Revenue	310,008,900	320,002,600	9,993,700	3.2%
7	DWSD Customers - Wholesale Charges	15,130,600	15,130,600	0	0.0%
8	Water Revenue from Wholesale Customer Charges	325,139,500	335,133,200	9,993,700	3.1%
9	DWSD Customers - Local System Revenues	73,860,600	81,318,500	7,457,900	10.1%
10	Miscellaneous Revenue (Local System)	4,750,000	4,750,000	0	0.0%
11	Total Operating Revenue	403,750,100	421,201,700	17,451,600	4.3%
12	Non Operating Revenue	2,968,900	5,860,000	2,891,100	97.4%
13	<b>Total Revenues</b>	<b>406,719,000</b>	<b>427,061,700</b>	<b>20,342,700</b>	<b>5.0%</b>
	<b>Revenue Requirements</b>				
14	Regional System Operating Expenses (a)	121,562,600	121,562,600	0	0.0%
15	Local System Operating Expenses (b)	35,059,700	35,059,700	0	0.0%
16	GRS Pension Allocable to Regional System	6,037,100	6,048,000	10,900	0.2%
17	GRS Pension Allocable to Local System	4,272,000	4,272,000	0	0.0%
18	Total O&M Expenses - Regional System	166,931,400	166,942,300	10,900	0.0%
19	<i>Net Revenues</i>	<i>239,787,600</i>	<i>260,119,400</i>	<i>20,331,800</i>	<i>8.5%</i>
	<u>Debt Service Requirements</u>				
20	Senior Lien Bonds	127,687,500	127,687,400	(100)	0.0%
21	Senior and Second Lien Bonds	170,540,400	170,540,200	(200)	0.0%
22	All Bonds, Including SRF Junior Lien	172,951,100	172,905,400	(45,700)	0.0%
23	Net Revenues After Debt Service	66,836,500	87,214,000	20,377,500	30.5%
24	Transfers to Pension Obligation Payment Fund	10,695,700	10,695,700	0	0.0%
25	Transfers to WRAP Fund	2,102,900	2,106,300	3,400	0.2%
26	Transfers to ER&R Fund	1,761,600	0	(1,761,600)	-100.0%
27	Lease Payment to Local I&E Account (c)	19,131,400	20,625,000	1,493,600	7.8%
28	Net Available for Other Purposes	33,144,900	53,787,000	20,642,100	62.3%
	<u>Debt Service Coverage (d)</u>				
29	Senior Lien Bonds	1.88	2.04	0.16	8.5%
30	Senior and Second Lien Bonds	1.41	1.53	0.12	8.5%
31	All Bonds, Including SRF Junior Lien	1.39	1.50	0.12	8.5%
	<i>(c) Lease Payment Allocation</i>				
32	Total Lease Payment	22,500,000	22,500,000	0	0.0%
33	less: Amount Directed to Debt Service	3,368,600	1,875,000	(1,493,600)	-44.3%
34	Balance to Local I&E Account	19,131,400	20,625,000	1,493,600	7.8%
	<i>(a) O&amp;M Expense - Regional System</i>				
35	Deposits to Regional System O&M Account - Cash	121,562,600	121,562,600	0	0.0%
36	O&M Expenses - Accrual Basis	121,562,600	117,000,000	(4,562,600)	-3.8%
37	Variance	0	(4,562,600)	(4,562,600)	
	<i>(b) O&amp;M Expense - Local System</i>				
38	Deposits to Local System O&M Account - Cash	35,059,700	35,059,700	0	0.0%
39	O&M Expenses - Accrual Basis	35,059,700	NA	NA	NA
40	Variance	0	NA	NA	NA

*(d) Computed consistent with Rate Covenant basis for rate determination purposes. Not applicable for purposes of*

*Additional Bonds Test calculations.*

*NA - Not Available at this time.*

The Fiscal Year 2018 service charge schedule for suburban wholesale customers continued to reflect the structural charge reforms instituted in Fiscal Year 2016 and continued to produce stabilized revenues from Customers. In addition, revenues from Flint and Genesee County exceeded budgeted expectations due to moderate delays in the transition to the modified contract statuses for both of those Customers. As a result, the estimated billed revenues for the suburban wholesale customer class exceed budgeted amounts by almost \$10 million, or approximately 3.2%. Estimated revenues from Retail Water Customers are based on actual collections reported during the year and are expected to be approximately \$7.5 million above projected levels. In total, Fiscal Year 2018 revenues are estimated to exceed budgeted levels by over \$20 million.

The Fiscal Year 2018 actual operation and maintenance expense estimate reflects actual cash transfers to the various O&M Accounts, which were made precisely at budgeted levels. Possible variances of actual accrual basis operating expenses are noted in footnotes (a) and (b) of the table. The positive revenue variance results in a corresponding positive Net Revenue variance, as shown on Line 19.

Actual debt service is estimated to be slightly lower than budgeted amounts for SRF Junior Lien Bonds due to lower than anticipated draws on DWRP loans. As a result, estimated debt service coverage ratios are expected to reflect the same relative positive variance as the net revenue variances. The fixed non-operating expenses shown in the table reflect requirements established by the Lease and the Bond Ordinance and include a deposit to the Pension Obligation Payment Fund (which includes the non-operating portion of the pension obligation requirement and amounts related to the B and C Note payments), deposits to the WRAP Fund and the Extraordinary Repair and Replacement Reserve Fund, and the Lease Payment transfer to the Local System Improvement and Extension Account of the Improvement and Extension Fund. As part of the 2018 MOU (as herein defined), the Extraordinary Repair and Replacement Reserve Fund was fully funded with existing cash and investment balances, and no further revenues for such purpose were required in Fiscal Year 2018. The Lease Payment amounts shown on Line 27 reflect the amounts transferred to the Local System Improvement and Extension Account. For Fiscal Year 2018 one month of the annual \$22.5 million Lease Payment was not transferred to the Local System Improvement and Extension Account, but rather directed to fund allocated debt service.

Line 28 of the table indicates amounts “available for other purposes” which are effectively available to transfer to the Regional System Improvement and Extension Account or to be maintained in the Regional System Operation and Maintenance Account as working capital. As a result of the positive revenue variance, the actual amounts reported on this line item are above budgeted levels. This estimated positive variance is augmented by potential budgetary operating expense savings noted on Line 37, which effectively results in additional working capital.

### **Fiscal Year 2019 and 2020 Biennial Budget**

The GLWA Board adopted the Great Lakes Water Authority Fiscal Year 2019 and 2020 Biennial Budget on June 20, 2018. The biennial budget establishes a formal authorization for Fiscal Year 2019, including an approved schedule of service charges to support the budget, and an initial estimate for Fiscal Year 2020. The budget includes several depictions of the overall financial plans, including a schedule that reflects “Sources of Revenues and Use of Revenue Requirements – Flow of Funds Basis per Bond Ordinance.” That consolidated schedule includes elements related to the wholesale service requirements of the Authority, as well as the retail service requirements of DWSD, and recognizes that all receipts from both organizations flow through the Bond Ordinance flow of funds.

The approved Fiscal Year 2019 consolidated budget contains expenses or revenue requirements totaling \$408.9 million. The budget was approved at the same time as water service charges designed to

produce total revenues in the same amount were approved. See APPENDIX I – FEASIBILITY CONSULTANT’S REPORT – “Service Charge Methodology and Existing Service Charges.”

The budget contains detailed exhibits regarding the financial plan for the Water System for Fiscal Year 2019 and the initial estimate for Fiscal Year 2020. The budget can be viewed in its entirety at <https://www.glwater.org/financials/>.

### **Projected Financial Plan for Fiscal Years 2019 through 2023**

The projected revenues of the Water System shown in the table titled “Summary of Projected Revenues and Additional Revenue Requirements For Fiscal Years 2019-2023” below are included and are described in the Feasibility Report (the “Feasibility Report”) prepared by The Foster Group, LLC (the “Feasibility Consultant”). See APPENDIX I —FEASIBILITY CONSULTANT’S REPORT.

The projections set forth in the following table are intended as “forward-looking statements.” The Authority cautions that these projections may and often do differ materially from actual results. Some of the factors that could cause actual results to differ materially from those projected are the Authority’s ability to execute the CIP as scheduled and within budget, regional climate and weather conditions, and adverse legislative, regulatory or legal decisions (including environmental laws and regulations) affecting the Authority’s ability to manage the Water System. See “THE MASTER PLAN AND THE CAPITAL IMPROVEMENT PLAN.”

As noted in the Feasibility Report, the projections summarized in the following table follow a “modified cash” approach of evaluating revenues and revenue requirements. In past years, at times significant variances between “modified cash” representations and actual cash flows for certain periods could occur, depending on seasonal patterns of billed revenues and cash receipts.

## Summary of Projected Revenues and Revenue Requirements For Fiscal Years 2019-2023

	Fiscal Year Ending June 30,				
	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
	\$	\$	\$	\$	\$
Operating Revenue Under Existing Charges (a)	402,877,200	404,109,400	404,109,400	404,109,400	404,109,400
<u>Projected Revenue from Revenue Adjustments (b)</u>					
FY 2020: 3.3%		13,433,400	13,433,400	13,433,400	13,433,400
FY 2021: 3.7%			15,306,100	15,306,100	15,306,100
FY 2022: 3.6%				15,782,100	15,782,100
FY 2023: 3.9%					17,351,900
Total Projected Revenue from Water Charges	402,877,200	417,542,800	432,848,900	448,631,000	465,982,900
Miscellaneous Operating Revenue	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000
Projected Non-Operating Revenue	<u>3,836,500</u>	<u>3,715,600</u>	<u>3,441,400</u>	<u>3,077,800</u>	<u>2,537,000</u>
Total Projected Revenue	408,913,700	423,458,400	438,490,300	453,908,800	470,719,900
Operation and Maintenance Expense (c)	167,366,900	170,440,500	173,604,900	176,831,900	180,123,900
Projected Net Revenues	241,546,800	253,017,900	264,885,400	277,076,900	290,596,000
Senior Lien Debt Service	119,230,800	123,909,900	126,616,400	127,786,400	132,734,500
Second Lien Debt Service	46,214,400	47,849,400	49,280,900	44,683,600	45,043,400
DWRF Junior Lien Debt Service	<u>2,710,600</u>	<u>4,318,600</u>	<u>12,084,700</u>	<u>12,090,400</u>	<u>12,085,000</u>
Total Debt Service (d)	168,155,800	176,077,900	187,982,000	184,560,400	189,862,900
Projected Senior Lien Debt Service Coverage	2.03	2.04	2.09	2.17	2.19
Projected Second Lien Debt Service Coverage	1.46	1.47	1.51	1.61	1.63
Projected Total Debt Service Coverage	1.44	1.44	1.41	1.50	1.53
Balance for Other Purposes	73,391,000	76,940,000	76,903,400	92,516,500	100,733,100
<u>Projected Application of Balance</u>					
Transfer to Pension Obligation Payment Fund	10,695,700	10,695,700	10,695,700	10,695,700	10,695,700
Transfer to WRAP Fund	2,061,000	2,100,500	2,176,700	2,257,800	2,343,900
Transfer to Budget Stabilization Fund	0	0	0	0	0
Transfer to Extra. Repair and Repl. Fund	0	0	0	0	0
Lease Payment - Transfer to Detroit Local I&E	18,694,700	19,152,000	19,145,100	19,139,600	19,139,400
Maintained as Operating Reserves	0	810,400	826,600	843,200	860,000
Available for Capital Improvements	41,939,600	44,181,400	44,059,300	59,580,200	67,694,100

(a) Reflects charges in effect during Fiscal Year 2019.

(b) Projected additional revenue is developed based upon revenue necessary to produce a four percent increase in annual revenue requirements, as indicated in the Lease.

(c) Includes operating portion of Pension Obligation.

(d) Includes debt service on the Series 2018 Bonds. Assumes bond sales in subsequent years at an annual interest rate of 4.25%.

Although the Authority may issue Additional Water System Bonds as Senior Lien or Second Lien Bonds, for purposes of this table future debt is assumed to be issued as Senior Lien Bonds.

SOURCE: THE FOSTER GROUP, LLC.

## **Future Issuance of Additional Bonds**

After the issuance of the Series 2018 Bonds, GLWA expects to issue Additional Bonds in the remaining years of the CIP period to finance additional expenditures identified in the CIP. See “THE MASTER PLAN AND THE CAPITAL IMPROVEMENT PLAN.” GLWA intends to adjust water service charges, as appropriate and consistent with the Bond Ordinance. To the extent such funding is not approved or secured or sufficient funds are not available in the Authority Regional Improvement and Extension Account of the Improvement and Extension Fund, additional debt issuance may be required during this projection period.

## **Debt Management Policy**

The Authority’s Debt Management Policy was adopted by the GLWA Board on December 9, 2015. The goal of the policy is to ensure that financings undertaken by GLWA satisfy clear objective standards which allow it to protect its financial resources in order to meet its long-term capital needs and comply with the provisions of the Bond Ordinance. The policy provides guidance on the types and structures of debt instruments and the methods of sales to be considered. The policy also specifies the selection process of underwriters and other professionals for debt transactions. In addition to addressing the sale of debt, the policy also demonstrates the Authority’s goal to provide debt management activities such as timely continuing disclosure filings and rating agency communications that will help the Authority to maintain and improve its credit ratings to reduce the future cost of capital. A copy of the Debt Management Policy can be found at <https://www.glwater.org/financials/>.

## **Investment Policy**

The Authority’s investment policy was adopted on October 22, 2015 and amended on September 14, 2016. Funds in excess of current Regional Water System requirements are invested by the Authority in accordance with Michigan law. The Authority may invest in direct obligations of the United States, obligations of an agency or instrumentality of the United States, repurchase agreements, mutual funds that invest solely in such government obligations and repurchase agreements, certain grades of commercial paper, bankers acceptances of United States banks, and certificates of deposit, savings accounts or depository receipts of savings and loan associations or member banks of the Federal Deposit Insurance Corporation. This policy was amended recently to add Certificates of Deposit Account Registry Service as an eligible investment.

The investment policy purpose is to endeavor to accumulate a pool of assets sufficient to build capital for future use with the corresponding obligations to support near-term and long-term needs of the Authority. The investment policy attempts to maintain and protect investment principal while striving to maximize total return on the portfolio consistent with risk limitations, pursuant to guidelines set forth in Act 20, Public Acts of Michigan, 1943, as amended. The Authority has not experienced material investment-related losses in any Authority-managed funds. As of June 30, 2018, the Water Fund held cash and investments with a total market value of \$546,538,802, and the longest investment had a maturity date of June 30, 2020.

## **4% Revenue Requirement Parameter**

In accordance with the Lease, commencing with the Fiscal Year beginning July 1, 2016, the Authority is required to adopt a two-year budget for the Regional Water System for the following two Fiscal Years that sets forth budgeted Revenues and expenses for each such Fiscal Year. The budgeted expenses for each Fiscal Year shall equal the sum of the projected expenses and revenue requirements for the Regional Water System for such Fiscal Year (the “Authority Revenue Requirement”). The Authority

Revenue Requirement includes operations and maintenance costs, annual costs of financing capital improvements, debt service, replenishment of debt service reserves, an allotment for revenue-financed capital reserves, Pension Obligation commitments, WRAP funding, and the lease payment to the City for use of the Leased Water Facilities and such additional amounts as may be necessary to satisfy the Rate Covenant.

The Lease provides that the Regional Water System is assumed to experience annual increases in the Authority Revenue Requirement of not more than 4% through the Fiscal Year ending June 30, 2025; provided however, this limitation shall not be applicable if the Authority Revenue Requirement must increase beyond the 4% assumption in order to satisfy the Rate Covenant or to pay the cost of improvements to the Leased Water Facilities that are required to be made by Applicable Laws. The changes in the budgeted Authority Revenue Requirement for the Regional Water System is shown in the table below. See “AUTHORITY FINANCIAL OPERATIONS - Fiscal Year 2019 and 2020 Biennial Budget.”

#### **Changes in the Authority’s Revenue Requirement**

Fiscal Year	Percentage Change
2017	4.0%
2018	-0.9%
2019	1.0%

#### **Lease Payment**

Part of the consideration for the Lease is an allocation of \$22,500,000 per year (the “Lease Payment”), which is funded from a portion of the common-to-all revenue requirements for the Regional Water System. The Lease Payment will be held by GLWA under the Bond Ordinance and will flow through the flow of funds under the Bond Ordinance, together with other funding requirements, after payment of Operations and Maintenance Expenses. The Lease Payment will not be treated as an Operation and Maintenance Expense and shall be applied solely, at the City’s direction and discretion, to the cost of improvements to the Local Water System (payable after debt service and pension liability payments in the flow of funds), the payment of debt service on Bonds associated with such improvements or the City’s share of debt service on Bonds associated with common-to-all improvements.

#### **2018 Memorandum of Understanding**

On June 27, 2018, GLWA entered into a 2018 Memorandum of Understanding with DWSD (the “2018 MOU”) to provide for clarification and adjustments contemplated by of the Leases, the Water and Sewer Services Agreement and the Bond Ordinances for the Sewer System and the Water System and to address the liquidation of certain liabilities set forth in the Leases. Pursuant to the 2018 MOU, if there is a cumulative negative variance of more than two percent (2%) of the total budget for either the Local Water System or the Local Sewer System (a “Budget Shortfall”) from its budget adopted pursuant to the Water and Sewer Services Agreement based on DWSD’s quarterly reports to GLWA, DWSD, as the agent of GLWA, shall convene a meeting of the Reconciliation Committee and develop a plan to cure the Budget Shortfall. If the Budget Shortfall is not cured within the same Fiscal Year, DWSD shall reallocate available funds in the related DWSD Improvement and Extension Account of the Improvement and Extension Fund or reallocate any unencumbered Lease Payment to eligible debt service to satisfy the Budget Shortfall. Budget Shortfalls not cured by the end of the Fiscal Year following the year in which they arise shall be repaid in full, in installments, over a period not to exceed the next three fiscal years, plus a surcharge as set forth in the 2018 MOU, as part of the Revenue Requirement payable by DWSD. See APPENDIX IX-SUMMARY OF THE 2018 MEMORANDUM OF UNDERSTANDING.



## **Legacy Retirement System Obligations of the Authority**

Under the Plan of Adjustment, the GRS defined benefit plan (the “GRS Plan”) was frozen as of July 1, 2014 and closed to new participants; however, the City retained the responsibility to fund amounts necessary to provide adjusted (reduced) pension benefits to employees and retirees who accrued benefits under the GRS Plan. The Plan of Adjustment required DWSD to make annual contributions to the GRS Plan in the amount of \$42.9 million per year, plus \$2.5 million per year in administrative expenses, combined for both the Water System and the Sewer System, for the nine Fiscal Years beginning on July 1, 2014 and ending on June 30, 2023 (collectively, the “DWSD Pension Obligation”) and also required DWSD to pay to the City its allocated share of the BC Note Obligation related to both the Water System and the Sewer System (collectively, the “BC Note Obligation” and together with the DWSD Pension Obligation, the “Pension Obligation”). These annual payment amounts to the GRS were based upon an estimated GRS Plan contribution total of \$408.6 million for the entire nine-year period. Pursuant to the Plan of Adjustment, after the initial nine-year period through June 30, 2023 is completed, DWSD remains responsible for any unfunded accrued actuarial liability (“UAAL”) of the DWSD Pension Obligation. Under the Plan of Adjustment, in calculating the amount of the DWSD Pension Obligation an assumed investment rate of 6.75% and then-available mortality tables were utilized in calculating the potential size of the remaining liability with respect to the DWSD Pension Obligation as of June 30, 2023, then estimated to be very small, if any.

Pursuant to the Leases, the Authority assumed the obligation to pay that portion of the Pension Obligation allocable to the Regional Water System (the “Authority Water Pension Obligation”) and the Regional Sewer System (the “Authority Sewer Pension Obligation” and together with the Authority Water Pension Obligation, the “Authority Pension Obligation”) and the City retained the obligation to pay that portion of the Pension Obligation allocated to the Local Water System and the Local Sewer System. The City, the GRS and the Authority entered into an agreement on December 1, 2015 setting forth the terms for contributions and reporting of the DWSD share of the GRS pension pool. 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 on the basis of 70.3% to the Authority and 29.7% to DWSD effective January 1, 2016.

The Authority allocates the assumed portions of the Pension Obligation on a pro-rata basis between the Regional Water System and Regional Sewer System. The Authority Pension Obligation will be paid by the Authority from charges to users of the Regional Water System and the Regional Sewer System, respectively.

The most recent updated GRS actuarial report, calculated as of June 30, 2017 (the “Actuarial Report”), utilizes an assumed rate of return of 6.75% and updated mortality tables, and sets forth a UAAL for the DWSD Pension Obligation of approximately \$266.9 million. For Fiscal Year 2024, DWSD’s annual contribution is projected to be between \$7.1 million to \$9.1 million in the Actuarial Report, of which the Authority’s share would be between \$5 million to \$6.4 million. The remaining share of the UAAL of the DWSD Pension Obligation allocable to the Authority will be monitored on an annual basis, and Authority management expects to positively plan for the liability.

The June 30, 2017 liability for the BC Note Obligation is approximately \$79 million, with approximately \$56.6 million allocated to the Authority as noted above. Annual payments required from the Authority average \$2.8 million from Fiscal Year 2016 through Fiscal Year 2024, increasing to \$5.37 million in Fiscal Year 2025, and then decreasing yearly to \$2.67 million for the final payment in Fiscal Year 2044. The BC Note Obligation is an obligation of the City for which the Authority makes a payment to the City for its allocable share of certain City of Detroit Financial Recovery Bonds which were issued pursuant to the Plan of Adjustment to satisfy in whole or in part claims relating to the City’s

pension obligation certificates and post-retirement health benefits. This liability is a fixed commitment; and it is not expected to change in the future.

As required by the Leases, the GRS, the City and the Authority entered into an Agreement re GRS Defined Benefit Plan, dated as of December 1, 2015 (the "Pension Agreement"), in which certain disclosures and calculations are required by the GRS auditors and actuaries related to (i) the DWSD Pension Pool (which is defined in the Pension Agreement to mean that portion of the undivided interest in investments and the pension liabilities of the GRS Plan that is allocated to DWSD retirees, deferred retirees and non-vested members in the Plan of Adjustment), (ii) the DWSD-R Pension Pool (defined to mean that portion of the DWSD Pension Pool that is allocated to DWSD after the Effective Date), and (iii) the Authority Pension Pool (defined to mean that portion of the DWSD Pension Pool that is allocated to the Authority after the Effective Date). This will provide for monitoring the remaining allocable share of the Authority of the DWSD Pension Pool on an annual basis so that the Authority can incorporate adjustments into its financial plan. Specifically, the Pension Agreement requires the GRS to provide to the Authority each Fiscal Year each of the following reports on or before March 1 following the end of such Fiscal Year:

(1) A summary annual report that will: (A) commencing with the Fiscal Year ending June 30, 2015, continue to track DWSD retirees, deferred retirees and active and inactive vested and non-vested members, pension benefits paid and pension liabilities accrued separately from other GRS members; and (B) commencing with the Fiscal Year ending June 30, 2016, continue to track DWSD, and then within DWSD to DWSD-R and the Authority, pursuant to written direction from DWSD-R and the Authority, the retirees, deferred retirees and active and inactive vested and non-vested members, pension benefits paid and pension liabilities accrued separately from other GRS members, to enable the Authority to verify the appropriateness of allocations to the Authority.

(2) A Statement of Changes in Fiduciary Net Position by Division to enable the Authority to verify the appropriateness of allocations to the Authority that will: (A) commencing with the Fiscal Year ending June 30, 2015, continue to track and allocate to DWSD an undivided interest in the investments net of investment expenses in the GRS Plan; and, (B) commencing with the Fiscal Year ending June 30, 2016, continue to track and allocate to DWSD, and then within DWSD to DWSD-R and the Authority, an undivided interest in investments net of investment expenses in the GRS Plan. Administrative expenses for purposes of the determination of the Fiduciary Net Position of DWSD, DWSD-R and the Authority shall be allocated as provided in the Pension Agreement.

(3) An actuarial study that sets forth as of (A) the Fiscal Year ending June 30, 2015, the undivided interest in investments in the GRS Plan allocated to the DWSD Pension Pool as set forth in the Statement of Changes in Fiduciary Net Position by Division and the actuarial accrued liability and the UAAL for the DWSD Pension Pool, and (B) each Fiscal Year ending on and after June 30, 2016, the undivided interest in investments in the GRS Plan allocated to the DWSD Pension Pool and within the DWSD Pension Pool, the DWSD-R Pension Pool and the Authority Pension Pool, respectively, as set forth in the Statement of Changes in Fiduciary Net Position by Division and the actuarial accrued liability and the UAAL for the DWSD Pension Pool and within the DWSD Pension Pool, the DWSD-R Pension Pool and the Authority Pension Pool, respectively.

(4) An audit of the Statement of Changes in Fiduciary Net Position by Division expressing an opinion on each divisional column commencing with the Fiscal Year ending June 30, 2015. In lieu of a direct audit opinion on this schedule, the parties may agree to secure an in-relation-to audit opinion on this schedule (in-relation-to the audited financial statement of the GRS) on a regular or occasional basis at any time after the Fiscal Year ending June 30, 2017. To the extent that the actual net asset amounts as reflected in the final audit report differ from the net assets utilized to determine the UAAL for the DWSD

Pension Pool reflected above, the difference shall be adjusted in a future GRS actuarial report and the UAAL provided on June 30, 2014 shall be considered amended accordingly.

In addition to the foregoing reports, the Pension Agreement also requires the GRS to provide the Authority for each Fiscal Year commencing from and after July 1, 2023, on its normal schedule for determining the current Fiscal Year's contributions to the GRS, with a determination of the UAAL for the Authority Pension Pool using the market value of assets for the Authority Pension Pool and whether the Authority Pension Pool is funded at 100%. If the Authority Pension Pool is fully funded at 100% or more, no contributions for the current Fiscal Year will be required of the Authority. If the Authority Pension Pool is less than 100% funded, then the Authority is required to make such level annual contributions to the GRS as necessary to amortize such shortfall over five years (as provided in the Leases or such greater period not to exceed ten years as agreed upon by GRS and the Authority) at an interest rate equal to the then current GRS investment return assumption. Except for the additional required payments described in this paragraph, if any, the Authority shall have no further liability whatsoever to the City or the GRS in connection with any other shortfalls that that may occur with respect to the GRS Plan.

### **FEASIBILITY REPORT AND HISTORICAL FINANCIAL INFORMATION**

In preparing the Feasibility Report, the Feasibility Consultant has relied upon certain assumptions and projections regarding future operating expenses, capital expenditures and debt service on the Series 2018 Bonds, some of which are those of the Authority or DWSD. See APPENDIX I – FEASIBILITY CONSULTANT'S REPORT. The Feasibility Consultant has also made other assumptions, including assumptions regarding water use patterns, charge increases, collection rates and customer responses to charge increases. Projected operating and financial performance of the Water System may not be indicative of future performance; actual results will differ from those included in the Feasibility Report, and such differences may be material. GLWA cannot give any assurance that the events assumed will materialize or that actual results will match those projected, and any such differences may be material. In addition, the future policies, operations and financing decisions of GLWA may not be the same as those assumed in the Feasibility Report. No representation is made or intended, nor should any representation be inferred, with respect to the likely existence of any particular future set of facts or circumstances, and prospective purchasers of the Series 2018 Bonds are cautioned not to place undue reliance upon the Feasibility Report or the revenue forecasts or other projections contained therein.

In addition, certain historical financial information is included in this Official Statement. There can be no assurance that the financial results achieved in the future will be similar to historical results, and the financial information is expressly qualified in its entirety by the disclaimers set forth in such financial information and the disclosure in this Official Statement. Such future results will vary from historical results, and actual variations may be material. Therefore, the historical operating results of the Water System contained in this Official Statement cannot be viewed as a representation that sufficient revenues will be generated in the future to make timely payment of principal of, redemption premium, if any, and interest on the Series 2018 Bonds.

### **THE REGIONAL WATER SYSTEM**

The Regional Water System draws its water from the largest fresh water source in North America, the Great Lakes system, with Lake Huron to the north, the Detroit River to the south and Lake St. Clair to the east. With access to nearly 2 billion gallons of high quality source water and with three separate intakes, the Authority has highly reliable and more than sufficient source water for current and projected demands.

The major components of the Regional Water System include three intake facilities, five treatment plants, an extensive conveyance system consisting of over 803 miles of transmission mains throughout the service area, 19 booster pumping stations and 32 water storage reservoirs (14 at the water treatment plants and 18 at booster stations) located throughout the Regional Water System. Water flow and pressure throughout the Regional Water System are monitored and controlled by a Systems Control Center housed in the Authority's Central Services Facility.

## **Physical Facilities**

### *Intake Facilities*

The Regional Water System's three intake facilities are listed below and, in the opinion of the Authority, are generally in adequate to good working order and repair.

- The Lake Huron intake, located in Lake Huron, approximately 5 miles north of Port Huron and 5 miles into the lake, was placed in operation in 1974. This intake supplies raw water through a tunnel to the Lake Huron water treatment plant.
- The Belle Isle intake, located at the eastern end of Belle Isle where Lake St. Clair flows into the Detroit River, was placed in operation in 1931. This intake supplies raw water to the Water Works Park, Springwells and Northeast water treatment plants.
- The Fighting Island intake and tunnel, located under the Detroit River on the Canadian side just west of the northern end of Fighting Island, was placed in operation in 1964. This intake supplies raw water to the Southwest water treatment plant.

### *Water Treatment Plants*

Raw water from the intake facilities is treated at the Regional Water System's water treatment plants, which includes screening, filtering, bacteria control, and taste and odor control. Each of the five water treatment plants in the Regional Water System was constructed with the capability to treat the water in accordance with federal requirements under the Safe Drinking Water Act. In the opinion of the Authority, based upon physical evaluations conducted by its consultants, no significant improvements to the treatment plants are presently required to meet such requirements. See "ENVIRONMENTAL MATTERS AND LITIGATION — Environmental Matters" below. In addition, each treatment plant is equipped with its own laboratory facilities for the examination of drinking water which are recertified periodically (every three years) by the Michigan Department of Public Health. The treatment plants are more particularly described in the following table. For capital improvements planned for each plant, see "THE MASTER PLAN AND THE CAPITAL IMPROVEMENT PLAN — Capital Improvement Plan and Planning Process" and "The CIP Financing Plan."

## Water Treatment Plants

Plant	Placed in Operation	Rated Capacity (mgd)
Lake Huron	1974	400
Southwest	1964	240
Northeast	1956	300
Springwells <sup>(1)</sup>	1931/1958	540
Water Works Park	2003	240

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<sup>(1)</sup> A major addition was completed in 1958, doubling the capacity of such water treatment plant by adding a new reservoir, sedimentation basin and filtration facility. Filter upgrades at Springwells limit plant capacity to 300 million gallons per day (“mgd”) until construction is complete, which is currently expected to occur or about September 2017.

### *Water Delivery System*

The Authority leases and maintains transmission mains (24 inches to 120 inches in diameter) within the City limits and certain transmission mains throughout the wholesale service area. The Regional Water System connects throughout the wholesale service area with the transmission and distribution mains owned and operated by the wholesale municipal customers and the City of Detroit.

The GLWA transmission system is laid out to provide adequate pressures that are reinforced by use of booster stations and reservoirs as necessary. The transmission system is interconnected (looped) and flow of water can be controlled, particularly in emergency conditions, to flow in either direction by opening or closing valves. Water pressures can be boosted to overcome any losses due to an emergency situation.

### *Monitoring Facilities*

The Water System Control Center located in the Authority’s Central Services Facility controls and monitors the transmission of water throughout the Regional Water System. Operators in the Control Center can remotely control the pump stations at the treatment plants and the 19 booster stations to adjust flow and pressure requirements to meet the changing demands of customers. Recent improvements to the Control Center have been undertaken as part of an instrumentation and computerization project included in the CIP.

## THE MASTER PLAN AND THE CAPITAL IMPROVEMENT PLAN

### **Regional Water System Master Plan**

The Water Master Plan (the “Water Master Plan”) was materially completed in 2015 and accepted by the GLWA Board on August 24, 2016. Customers were engaged in the preparation of the Water Master Plan. This provided broader perspective utilizing the region’s entire infrastructure for public benefit to leverage existing infrastructure before investing in new infrastructure. The Water Master Plan has been utilized to develop the amended Regional Water System CIP.

The Water Master Plan, which covers a period of 20 years, instead of 50 years in prior master plans, recognizes the national trend of declining instead of growing demand. A key focus was to establish a strategic infrastructure and operating plan associated with this reality. The Water Master Plan recommended right-sizing the capacity of the Regional Water System based on the current lower

projections of population and water volumes. The Water Master Plan found that the Authority's combined water treatment plant design capacity was estimated to be over 60% greater than the forecasted 20-year water demands. The total rated capacity of the existing five water treatment plants is 1.7 billion gallons per day. The 2015 Master Plan Update identified likely maximum demands in the range of up to 1.0 billion gallons per day during the 20-year planning period. This provided the rationale to evaluate the possibility of repurposing one or more water treatment plants to strategically align capacity and service requirements and planning for structural de-rating of capacity as warranted at the remaining four water treatment plants. The 2015 Master Plan Update recommended converting the existing Northeast Water Plant into a storage and pumping facility, thereby eliminating the need to invest in improvements that would otherwise be required to maintain rated capacity, and investing in the four remaining water treatment plants.

The Water Master Plan is designed to provide the system with flexibility to meet multiple growth scenarios and regulatory changes in the future, furthering GLWA's sustainability goals. Realigning water treatment plant capacity with forecasted demands will require additions and modifications to the existing water transmission system. The first five years of the Water Master Plan contain several capital projects related to the additions and modifications to the existing water transmission system, several of which are in the Fiscal Year 2019-23 Regional Water System CIP. The Water Master Plan identified the financial benefit of approximately \$358 million of capital cost avoidance. In August 2016, the Water Master Plan was further updated to decommission and repurpose the Northeast Water Treatment Plant, provide a new transmission system serving the Authority's northeast service area and add enhanced water system redundancy and long term serviceability to a large (96 inch) water main through completion of a repair, relocation and isolation valve installation project for that water main.

### **System Optimization Guidelines**

As noted above, the Regional Water System currently has excess capacity due to changing trends in water consumption that are occurring both nationally and regionally, as well as the fact that the existing system was designed for a larger projected population than it now serves or is projected to serve in the near future. Along with the Authority's implementation of the Water Master Plan recommendations in conjunction with the Regional Water System CIP to right size capacity, the Authority is pursuing the addition of new customers to the Regional Water System. To guide the Authority's management team as it engages in discussions with prospective new customers, the Authority has established system optimization guidelines to ensure a thorough analysis of system and customer impacts is undertaken prior to seeking GLWA Board approval for the addition of new customers to the system. These system optimization guidelines evaluate the prospect of additional customer relationships from a regional perspective and assess the impacts any prospective additions would have on seven key elements: water quality, service reliability, existing customers, the efficient leveraging of existing assets, existing planning documents, the system's financial stability and the region's economic benefits.

### **Capital Improvement Plan and Planning Process**

The Fiscal Year 2019-2023 Water and Wastewater Capital Improvement Plan ("CIP") was approved by the GLWA Board on June 20, 2018. The CIP is dynamic and requires continual review and modification during the course of each year. GLWA has initiated efforts to prepare the Fiscal Year 2020-2024 CIP, and the CIP expenditure schedule shown in the following table reflects the initial planning levels established as part of those update efforts.

**Regional Water System Capital Improvement Plan  
Projected Expenditure Schedule - Fiscal Years 2019 through 2023**

	<i>Fiscal Year Ending June 30,</i>					<i>Total</i>
	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>\$</u>
	\$	\$	\$	\$	\$	\$
<u>Water Production</u>						
Water Works Park	4,354,000	19,030,000	27,203,000	10,965,000	24,000	61,576,000
Springwells	15,484,000	14,586,000	13,032,000	15,821,000	8,734,000	67,657,000
Northeast	831,000	1,313,000	1,710,000	1,517,000	95,000	5,466,000
Southwest	2,211,000	3,727,000	1,065,000	5,000	0	7,008,000
Lake Huron	4,335,000	15,054,000	11,880,000	8,606,000	3,783,000	43,658,000
General Water Treatment	9,042,000	4,372,000	4,315,000	4,165,000	3,396,000	25,290,000
Subtotal Production	36,257,000	58,082,000	59,205,000	41,079,000	16,032,000	210,655,000
<u>Water Delivery</u>						
Water Transmission System	6,573,000	28,961,000	32,671,000	57,256,000	85,564,000	211,025,000
Pumping Station & Reservoirs	2,783,000	5,015,000	11,100,000	20,785,000	23,636,000	63,319,000
Subtotal Delivery	9,356,000	33,976,000	43,771,000	78,041,000	109,200,000	274,344,000
General Purpose	17,697,000	15,489,000	18,733,000	15,688,000	22,139,000	89,746,000
Total Water Direct	63,310,000	107,547,000	121,709,000	134,808,000	147,371,000	574,745,000
Centralized Svcs - Water Portion	2,728,000	2,453,000	1,191,000	992,000	1,429,000	8,793,000
<b>GRAND TOTAL</b>	<b>66,038,000</b>	<b>110,000,000</b>	<b>122,900,000</b>	<b>135,800,000</b>	<b>148,800,000</b>	<b>583,538,000</b>

**The CIP Financing Plan**

The Authority uses an incremental method of capital project funding rather than funding all projects in advance. The Authority's capital financing strategy is designed to align capital project financing sources with program requirements in a framework that balances multiple goals, including to: (i) recover the costs of capital investment over the useful lives of the capital assets; (ii) minimize the impact of the capital programs on water service charges; and (iii) protect and enhance the Authority's financial position.

The amended Regional Water System five-year CIP is estimated to cost \$583.5 million. The Series 2018 Bonds are entirely refunding bonds and are not being issued to provide any capital improvement financing. The Authority expects that the entirety of the Regional Water System five-year CIP will be financed with funds on hand, loans from the State Drinking Water Revolving Fund, and from Water System revenues. As noted in the table, for planning purposes there are projected Additional Bonds in Fiscal Years 2022 and 2023 to generate proceeds to finance expenditures for the DWSD Local Water System. See APPENDIX I – FEASIBILITY CONSULTANT'S REPORT.

## Regional Water System Capital Improvement Plan Projected Funding Sources

	Fiscal Year Ending June 30,					
	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>Total</u>
Existing Improvement and Extension Funds (a)	242,939,700					242,939,700
Existing Construction Funds (a)	140,308,100					140,308,100
Current Revenues	41,939,600	44,181,400	44,059,300	59,580,200	67,694,100	257,454,600
Bond Proceeds (b)	155,595,000	0	0	17,600,000	23,600,000	196,795,000
less: Defeasance Requirements for Refunded Bonds	(181,333,500)					
less: Transfer to DWSD Construction Fund (c)	0	0	0	(16,544,000)	(22,184,000)	(38,728,000)
less: Issuance Expenses (d)	<u>25,738,500</u>	<u>0</u>	<u>0</u>	<u>(1,056,000)</u>	<u>(1,416,000)</u>	<u>23,266,500</u>
Net Bond Proceeds Available to Regional System	0	0	0	0	0	0
State Drinking Water Revolving Fund Loans	10,500,000	20,459,000	29,529,000	46,022,000	30,722,000	137,232,000
less: Transfer to DWSD Construction Fund (e)	<u>(10,500,000)</u>	<u>(4,000,000)</u>	<u>(11,982,000)</u>	<u>0</u>	<u>0</u>	<u>(26,482,000)</u>
Net State DWRP Financing for Authority	0	16,459,000	17,547,000	46,022,000	30,722,000	110,750,000
Investment Income	<u>743,000</u>	<u>462,000</u>	<u>408,000</u>	<u>252,000</u>	<u>500,000</u>	<u>2,365,000</u>
<b>Total Funding Sources (f)</b>	<b><u>425,930,400</u></b>	<b><u>61,102,400</u></b>	<b><u>62,014,300</u></b>	<b><u>105,854,200</u></b>	<b><u>98,916,100</u></b>	<b><u>753,817,400</u></b>

(a) Estimated balance available June 30, 2018. (Applies only to Fiscal Year 2019).

(b) The Series 2018 Bonds (in 2019). Also includes projected additional future bonds annually starting in 2022. Amounts reflect par value.

(c) Assumes that DWSD CIP financing will be required from additional future bonds.

(d) Includes Underwriter's Discount and other issuance expenses. For 2019, includes net effect of a bond premium, release of accrued debt service reserve amounts, and other issuance expenses. In future years, assumes amount required to fund debt service reserve fund.

(e) Reflects DWRP Loans related to capital improvements to the DWSD Local System.

(f) The difference between the total amount available to finance the capital program and the cost of the program represents funds totaling approximately \$94 million available to finance the capital program after 2023.

SOURCE: THE FOSTER GROUP, LLC.

### Limits on Future Borrowing

If the Regional Water System does not generate sufficient Revenues to pay for the cost of capital improvements to the Regional Water System, or if other funds are not available, additional funds may have to be borrowed. In the event Additional Bonds are issued, such Additional Bonds would, in some cases, increase the debt service requirements to be serviced by the Revenues of the Regional Water System. In order for GLWA to issue Additional Bonds, certain conditions must be satisfied as described in greater detail above in "SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS—Issuance of Additional Bonds."

### Local Water System Capital Improvement Plan

DWSD utilizes a five-year Capital Improvement Plan (the "Local CIP" or the "Local Water System CIP") to maintain and improve the reliability of the Local Water System, meet regulatory standards as well as to achieve greater operating and maintenance efficiency. The Local CIP must be approved by a supermajority of at least five members of the Board of Water Commissioners ("BOWC").

Pursuant to the Water and Sewer Services Agreement, no later than February 1 of each year, the City shall develop and provide the Authority with the Local Water System CIP. The Local Water System CIP must include the capital improvements and an estimate of the costs which the City plans to undertake



in the next Fiscal Year, and projected capital improvement projects and estimates for the five years following. At least three months prior to finalizing the Local Water System CIP and any modifications thereto, the City shall provide a copy of the proposed Local Water System CIP to the Authority solely for the purpose of: (A) coordinating the Local Water System CIP and the Regional Water System CIP to maximize economies of scale, minimize service disruptions and to achieve other efficiencies from a coordinated implementation effort, and (B) providing notice to the Authority of any financing requirements of the City for the Detroit Local Water Facilities to be satisfied from Lease Payments and/or the issuance of Additional Bonds or requests for collaboration on grant applications or other funding opportunities. Upon receipt of the adopted Local Water System CIP from the City, the Authority shall ensure that its financial planning and budgeting reflect the foregoing requirements.

The Local Water System CIP provides a framework for ensuring capital plans are consistent with DWSD's overall organizational goals within a set of financial considerations including fiscal capacity, debt service obligations, impact on operating budgets and reserve levels. Actual project proposals are initiated and reviewed within the context of the Local Water System CIP. Deviations from the Local Water System CIP could occur as a result of factors such as actual bids versus cost estimates, unforeseen cost-benefit scenarios and grant opportunities.

The following table details the planned expenditures and the projected funding sources for the Fiscal Year 2019-2023 Local Water System CIP.

*[Remainder of page intentionally left blank]*

## Local Water System Capital Improvement Plan Projected Funding Sources

	Fiscal Year Ending June 30,					Total
	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	
<b>CIP Financing Requirements</b>	<b>41,375,400</b>	<b>41,375,400</b>	<b>41,375,400</b>	<b>41,375,400</b>	<b>41,375,400</b>	<b>206,877,000</b>
<b>Financing Sources</b>						
<u>DWSD Local I&amp;E Account</u>						
Beginning Balance	50,000,000					50,000,000
Lease Payment from GLWA (a)	18,694,700	19,152,000	19,145,100	19,139,600	19,139,400	95,270,800
Transfers from Revenues	0	0	0	0	0	0
Subtotal	68,694,700	19,152,000	19,145,100	19,139,600	19,139,400	145,270,800
<u>Construction Funds (GLWA Revenue Bonds)</u>						
Beginning Balance	25,000,000					25,000,000
DWRF Loan Proceeds	10,500,000	4,000,000	11,982,000	0	0	26,482,000
Proceeds from GLWA Revenue Bonds	0	0	0	16,544,000	22,184,000	38,728,000
Investment Income	199,100	150,100	93,700	0	0	442,900
Subtotal	35,699,100	4,150,100	12,075,700	16,544,000	22,184,000	90,652,900
<b>Total Financing Sources</b>	<b>104,393,800</b>	<b>23,302,100</b>	<b>31,220,800</b>	<b>35,683,600</b>	<b>41,323,400</b>	<b>235,923,700</b>
Annual Balance	63,018,400	(18,073,300)	(10,154,600)	(5,691,800)	(52,000)	29,046,700
Cumulative Balance	63,018,400	44,945,100	34,790,500	29,098,700	29,046,700	
<i>(a) Lease Payment Application</i>						
Total Lease Payment	22,500,000	22,500,000	22,500,000	22,500,000	22,500,000	112,500,000
less: Lease Payment applied to Debt Service	<u>(3,805,300)</u>	<u>(3,348,000)</u>	<u>(3,354,900)</u>	<u>(3,360,400)</u>	<u>(3,360,600)</u>	<u>(17,229,200)</u>
Net amount transferred to Local I&E Account	18,694,700	19,152,000	19,145,100	19,139,600	19,139,400	95,270,800

SOURCE: DWSD / THE FOSTER GROUP, LLC.

The current five-year Local Water System CIP in this table reflects amounts that the Department has indicated are appropriate for the Authority to consider for planning purposes. The five-year program is estimated to cost approximately \$206.9 million. The Department expects that the majority of this amount will be financed with existing balances in the Detroit Construction Fund from certain proceeds of the Bonds issued by the Authority in 2016 (the “Series 2016 Bonds”) and in the Detroit Improvement and Extension Account of the Improvement and Extension Fund, along with annual transfers of Lease Payments to such account. In addition, these projections anticipate that approximately \$38.7 million (net amount) will be financed with proceeds from Additional Bonds to be issued by the Authority on behalf of the Local Water System. The projected financing plan anticipates that a portion of the annual Lease Payment will be applied to debt service in amounts approximating the Department’s allocated debt service on the Series 2016 Bonds.

## ENVIRONMENTAL MATTERS AND LITIGATION

### Environmental Matters

The operation of the Regional Water System is subject to extensive regulation pursuant to the federal Clean Water Act, the Clean Air Act, the Safe Drinking Water Act, the Michigan Natural Resources and Environmental Protection Act, and the administrative rules and regulations that have been promulgated pursuant to these statutes. These programs affect many facets of the Regional Water

System. One such program is the GLWA optimized corrosion control treatment program. In 2015, after experiencing issues related to a lack of corrosion control, Flint reconnected to the Regional Water System to take advantage of the corrosion control treatment program. The corrosion control treatment program impacts all plumbing, whether the plumbing is in a private home, business or school.

GLWA monitors water quality parameters within the GLWA regional water distribution system according to the Safe Drinking Water Act's Lead and Copper Rule. The water quality parameters for lead and copper are monitored at the water treatment plants and within the GLWA water distribution system on a routine basis. Monitoring for these parameters ensures that the corrosion control treatment protective coating remains intact. In addition, GLWA regularly monitors lead and copper levels in residential plumbing once every three years. GLWA is on reduced monitoring due to the optimized corrosion control treatment program. GLWA has been in compliance since corrosion control treatment was installed. GLWA is not responsible for monitoring, operating or maintaining the Local Water System or the retail distribution and storage facilities of its wholesale customers.

In light of the unprecedented water quality issues that have occurred in Flint and across the country, GLWA established an ad hoc Water Quality Workgroup entitled "Water Quality Matters" to bring together technical experts and representatives within its customer communities, sharing leading best practices and developing public education materials. Because GLWA is engaged with the water sector regulatory community and with national associations, the initial focus of the Workgroup was to communicate information from these two forums to GLWA's Customer community. As the circumstances in Flint progressed, the Workgroup's focus turned to developing materials for use and instruction by the local communities which convey technically sound, thorough and consistent messages on the approaches to minimizing lead exposure to the end users. The Workgroup recently developed a presentation suitable for use at local council and board meetings to communicate important information on the role of GLWA as the regional wholesale water provider and the role of the local water service provider on the topic of lead and drinking water.

The Authority is in material compliance with all existing permits relating to the operation of the Regional Water System. Federal, state and local standards and procedures that regulate the environmental impact of the Regional Water System are subject to change. These changes may arise from continuing legislative, regulatory and judicial action regarding such standards and procedures.

### **GLWA Litigation**

GLWA has not been served with any litigation and, to the best of GLWA's knowledge, there is no threatened litigation against GLWA seeking to restrain or enjoin the sale of the Series 2018 Bonds, affecting the security pledged therefor or questioning or affecting the validity of the proceedings or authority under which the Series 2018 Bonds were issued. Neither the creation, organization or existence of GLWA, nor the title of any of the present members or other officers of GLWA to their respective offices, is being contested. GLWA has not been served with any litigation and, to the best of GLWA's knowledge, there is no litigation threatened which in any manner questions the right of the GLWA Board to adopt the Bond Ordinance or the 2018 Series Ordinance or to assume the DWSD Water Bonds.

Except as noted in this section, GLWA has not been served with any litigation which may have a material impact on GLWA's operations or Revenues and, to the best of GLWA's knowledge, there is no threatened litigation against GLWA which may have a material impact on GLWA's operations or Revenues.

*Detroit Water & Sewerage Department v. Highland Park*, WCCC Case No. 14-001974 CK; COA Docket No. 327448; SC Docket No. 154017. DWSD filed this action against the City of Highland Park

for failure to pay for water and sewer services. Responsibility for this litigation was assigned to the GLWA pursuant to the Leases.

The trial court issued a judgment on July 31, 2014 and the City of Detroit levied this judgment on the tax roll for collection. On April 30, 2015, the City of Highland Park appealed the judgment and the trial court entered an order staying enforcement of the judgment until Highland Park's appeal is resolved. The Michigan Court of Appeals and then the Michigan Supreme Court rejected Highland Park's arguments and affirmed the judgment. In December 2017, the trial court entered an amended judgment against Highland Park. However, in January 2018, the trial court issued an order staying the judgment from being placed on the tax rolls and allowing Highland Park to engage in discovery on its counter-complaint. Highland Park's counter-complaint alleges that DWSD cannot charge more than rates set in a 1996 Settlement for water and sewage disposal services and that Highland Park is only obligated to pay 65% of amounts collected by Highland Park for water supply and sewage disposal services within the City of Highland Park.

Since DWSD filed its lawsuit against Highland Park in state court, Highland Park has attempted to attack the judgment in federal court. DWSD and GLWA are named in these actions and have filed dispositive motions which are pending in federal court.

GLWA is committed to continuing to seek enforcement of its judgment and collection of the debt. While the litigation remains pending, GLWA's Board as well as the governing bodies of several of its customers have petitioned Michigan's Governor to intervene and address Highland Park's continuing non-payment issues. In response to this request, GLWA has engaged in discussions with the MDEQ to determine if there is a basis to address the concerns raised by the GLWA Board. GLWA remains interested in resolving this dispute.

### **DWSD Litigation**

The information under this "DWSD Litigation" section has been furnished solely by DWSD. No representation is made by the Authority or the Underwriters as to the completeness or accuracy of such information.

The Department has not been served with any litigation which is expected to have a material impact on the Department's operations or revenues with respect to the Water System and, to the best of the Department's knowledge, there is no threatened litigation against the Department which is expected to have a material impact on the Department's operations or revenues with respect to the Water System.

As noted in "GLWA Litigation" above, DWSD has been named as a defendant in the state and federal actions filed by Highland Park. Pursuant to the Leases, GLWA assumed the accounts receivable owed by Highland Park and the accompanying liability.

## **TAX MATTERS**

### **State Tax Matters**

In the opinion of Dickinson Wright PLLC, Bond Counsel to the Authority, based on its examination of the documents described in its opinion, under existing law, the Series 2018 Bonds and the interest thereon are exempt from taxation by the State of Michigan or by any taxing authority within the State of Michigan, except estate taxes and taxes on gains realized from the sale, payment or other disposition of the Series 2018 Bonds.

## **Federal Tax Matters**

### *General*

In the opinion of Dickinson Wright PLLC, Bond Counsel to the Authority, based on its examination of the documents described in its opinion, under existing law, the interest on the Series 2018 Bonds is excluded from gross income for federal income tax purposes. Interest on the Series 2018 Bonds is not an item of tax preference for purposes of the individual federal alternative minimum tax. For corporations with tax years beginning after December 31, 2017, the corporate alternative minimum tax was repealed by Public Law No. 115-97 (the “Tax Cuts and Jobs Act”) enacted on December 22, 2017, effective for tax years beginning after December 31, 2017. For tax years beginning before January 1, 2018, interest on the Series 2018 Bonds is not an item of tax preference for purposes of the corporate alternative minimum tax in effect prior to enactment of the Tax Cuts and Jobs Act; however, interest on the Series 2018 Bonds held by a corporation (other than an S Corporation, regulated investment company, or real estate investment trust) may be subject to the federal alternative minimum tax for tax years beginning before January 1, 2018 because of its inclusion in the adjusted current earnings of a corporate holder.

The opinion set forth in the first sentence of the paragraph above is subject to the condition that the Authority comply with all requirements of the Code, that must be satisfied subsequent to the issuance of the Series 2018 Bonds in order that interest thereon be (or continue to be) excluded from gross income for federal income tax purposes. Failure to comply with such requirements could cause the interest on the Series 2018 Bonds to be included in gross income retroactive to the date of issuance of the Series 2018 Bonds. The Authority has covenanted to comply with all such requirements to the extent permitted by law. Bond Counsel to the Authority will express no opinion regarding other federal tax consequences arising with respect to the Series 2018 Bonds and the interest thereon.

Prospective purchasers of the Series 2018 Bonds should be aware that (i) interest on the Series 2018 Bonds is included in the effectively connected earnings and profits of certain foreign corporations for purposes of calculating the branch profits tax imposed by Section 884 of the Code, (ii) interest on the Series 2018 Bonds may be subject to a tax on excess net passive income of certain S corporations imposed by Section 1375 of the Code, (iii) interest on the Series 2018 Bonds is included in the calculation of modified adjusted gross income for purposes of determining taxability of social security or railroad retirement benefits, (iv) the receipt of interest on the Series 2018 Bonds by life insurance companies may affect the federal tax liability of such companies, (v) in the case of property and casualty insurance companies, the amount of certain loss deductions otherwise allowed is reduced by a specific percentage of, among other things, interest on the Series 2018 Bonds, (vi) registered owners acquiring the Series 2018 Bonds subsequent to initial issuance will generally be required to treat market discount recognized under Section 1276 of the Code as ordinary taxable income, (vii) the receipt or accrual of interest on the Series 2018 Bonds may cause disallowance of the earned income credit under Section 32 of the Code, (viii) interest on the Series 2018 Bonds is subject to backup withholding under Section 3406 of the Code in the case of registered owners that have not reported a taxpayer identification number and are not otherwise exempt from backup withholding, and (ix) registered owners of the Series 2018 Bonds may not deduct interest on indebtedness incurred or continued to purchase or carry the Series 2018 Bonds, and financial institutions may not deduct that portion of their interest expense allocated to interest on the Series 2018 Bonds.

### *Amortizable Bond Premium*

For federal income tax purposes, the difference between an original registered owner’s cost basis of the Series 2018 Bonds initially sold at a premium as shown on the inside cover page hereof (the

“Original Premium Bonds”) and the amounts payable on the Original Premium Bonds other than stated interest constitutes an amortizable bond premium. The same applies with respect to any Series 2018 Bond, if a registered owner’s cost basis exceeds the amounts payable thereon other than stated interest (collectively with the Original Premium Bonds held by the original registered owners, “Premium Bonds”). Such amortizable bond premium is not deductible from gross income, but is treated for federal income tax purposes as an offset of the amount of stated interest paid on the Premium Bonds, which may affect liability for the branch profits tax imposed by Section 884 of the Code. The amount of amortizable bond premium allocable to each taxable year is generally determined on the basis of the registered owner’s yield to maturity determined by using the registered owner’s basis (for purposes of determining loss on sale or exchange) of such Premium Bonds and compounding at the close of each six-month accrual period. The amount of amortizable bond premium allocable to each taxable year is deducted from the registered owner’s adjusted basis of such Premium Bonds to determine taxable gain upon disposition (including sale, redemption or payment at maturity) of such Premium Bonds.

### **Future Developments**

NO ASSURANCE CAN BE GIVEN THAT ANY FUTURE LEGISLATION OR CLARIFICATIONS OR AMENDMENTS TO THE CODE, IF ENACTED INTO LAW, WILL NOT CONTAIN PROPOSALS WHICH COULD CAUSE THE INTEREST ON THE SERIES 2018 BONDS TO BE SUBJECT DIRECTLY OR INDIRECTLY TO FEDERAL OR STATE OF MICHIGAN INCOME TAXATION, ADVERSELY AFFECT THE MARKET PRICE OR MARKETABILITY OF THE SERIES 2018 BONDS, OR OTHERWISE PREVENT THE REGISTERED OWNERS FROM REALIZING THE FULL CURRENT BENEFIT OF THE STATUS OF THE INTEREST THEREON. FURTHER, NO ASSURANCE CAN BE GIVEN THAT ANY SUCH FUTURE LEGISLATION, OR ANY ACTIONS OF THE INTERNAL REVENUE SERVICE, INCLUDING BUT NOT LIMITED TO, SELECTION OF THE SERIES 2018 BONDS FOR AUDIT EXAMINATION, OR THE AUDIT PROCESS OR RESULT OF ANY EXAMINATION OF THE SERIES 2018 BONDS OR OTHER BONDS THAT PRESENT SIMILAR TAX ISSUES, WILL NOT ADVERSELY AFFECT THE MARKET PRICE OF THE SERIES 2018 BONDS. BOND COUNSEL TO THE AUTHORITY EXPRESSES NO OPINION REGARDING ANY PENDING OR PROPOSED FEDERAL OR STATE OF MICHIGAN TAX LEGISLATION.

INVESTORS SHOULD CONSULT WITH THEIR TAX ADVISORS AS TO THE TAX CONSEQUENCES OF THEIR ACQUISITION, HOLDING OR DISPOSITION OF THE SERIES 2018 BONDS AND THE TAX CONSEQUENCES OF THE ORIGINAL ISSUE PREMIUM THEREOF.

The tax status of the Series 2018 Bonds could be affected by post-issuance events. Various requirements of the Code must be observed or satisfied after the issuance of the Series 2018 Bonds in order for such interest to remain excludable from gross income of the holders thereof. These requirements include restrictions on the use of the proceeds of the Series 2018 Bonds, use of the facilities financed by the Series 2018 Bonds, investment of proceeds of the Series 2018 Bonds, and the rebate of so-called excess arbitrage earnings. Compliance with these requirements is the responsibility of GLWA. Failure to comply could result in the inclusion of interest on the Series 2018 Bonds in gross income retroactive to the date of issuance of the Series 2018 Bonds.

The IRS conducts an audit program to examine compliance with the requirements applicable to tax-exempt obligations. If the Series 2018 Bonds become the subject of an audit, under current IRS procedures, the Authority would be treated as a taxpayer in the initial stages of an audit, and the owners of the Series 2018 Bonds would have limited rights to participate in the audit process. The initiation of an audit with respect to the Series 2018 Bonds could adversely affect the market value and liquidity of the Series 2018 Bonds, even though no final determination about the tax-exempt status would have been

made. If an audit were to result in a final determination that the Series 2018 Bonds do not qualify as tax-exempt obligations, such a determination could be retroactive in effect to the date of issuance of the Series 2018 Bonds.

In addition to post-issuance compliance, a change in law after the date of issuance of the Series 2018 Bonds could affect the tax-exempt status of the Series 2018 Bonds or the economic benefit of investing in the Series 2018 Bonds. For example, Congress could eliminate the exemption for interest on the Series 2018 Bonds, or it could reduce or eliminate the federal income tax, or it could adopt a so-called “flat tax.”

## **CERTAIN LEGAL MATTERS**

The legality of the authorization, sale and delivery of the Series 2018 Bonds is subject to the approval of Bond Counsel to the Authority, whose approving opinion, substantially in the form attached as Appendix XI to this Official Statement, will be delivered upon the issuance of the Series 2018 Bonds. The fees to be received by the Bond Counsel to the Authority in connection with the issuance of the Series 2018 Bonds will be paid from the proceeds of the Series 2018 Bonds.

Certain legal matters will be passed upon for the Underwriters by their counsel, Kutak Rock LLP, Washington, D.C. Certain legal matters will be passed upon for DWSD by its counsel, Miller, Canfield, Paddock and Stone, P.L.C.

## **RATINGS**

Moody's Investors Service, Inc. (“Moody’s”), S&P Global Ratings (“S&P”) and Fitch Ratings (“Fitch”) have assigned the Series 2018 Bonds ratings of “A3” (stable outlook), “A+” (stable outlook), and “A-” (positive outlook) respectively. Such ratings reflect only the views of Moody’s, S&P and Fitch and an explanation of the significance of such ratings may be obtained from Moody’s, S&P and Fitch. The Authority has furnished to Moody’s, S&P and Fitch certain information and materials with respect to the Series 2018 Bonds. There is no assurance that the ratings which have been assigned to the Series 2018 Bonds will continue for any given period of time or that either of them will not be revised or withdrawn entirely by Moody’s, S&P or Fitch, if in the judgment of Moody’s, S&P or Fitch circumstances so warrant. A downward revision or withdrawal of a rating may have an adverse effect on the market price of the Series 2018 Bonds. A securities rating is not a recommendation to buy, sell or hold securities and may be subject to revision or withdrawal at any time.

## **UNDERWRITING**

The Series 2018 Bonds are being purchased on a negotiated basis by the underwriters set forth on the cover of this Official Statement (collectively, the “Underwriters”). The Underwriters have agreed, subject to the terms of a bond purchase agreement (the “Bond Purchase Agreement”) with the Authority dated September 18, 2018, to purchase the Series 2018 Bonds from the Authority. The Bond Purchase Agreement provides, in part, that the Underwriters, subject to certain conditions, will purchase from the Authority all the Series 2018 Bonds for a purchase price of \$174,843,540.77, which purchase price is equal to the par amount of the Series 2018 Bonds, plus net original issue premium of \$19,731,395.10, and less Underwriters’ discount of \$482,854.33. The initial public offering prices of the Series 2018 Bonds may be changed from time to time by the Underwriters.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. The

Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various investment banking and consulting services for the Authority for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Authority.

Citigroup Global Markets Inc., an Underwriter of the Series 2018 Bonds, has entered into a retail distribution agreement with Fidelity Capital Markets, a division of National Financial Services LLC (together with its affiliates, “Fidelity”). Under this distribution agreement, Citigroup Global Markets Inc. may distribute municipal securities to retail investors at the original issue price through Fidelity. As part of this arrangement, Citigroup Global Markets Inc. will compensate Fidelity for its selling efforts.

Wells Fargo Securities is the trade name for certain securities-related capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including Wells Fargo Bank, National Association, which conducts its municipal securities sales, trading and underwriting operations through the Wells Fargo Bank, NA Municipal Products Group, a separately identifiable department of Wells Fargo Bank, National Association, registered with the Securities and Exchange Commission as a municipal securities dealer pursuant to Section 15B(a) of the Securities Exchange Act of 1934.

Wells Fargo Bank, National Association, acting through its Municipal Products Group (“WFBNA”), one of the Underwriters of the Series 2018 Bonds, has entered into an agreement (the “WFA Distribution Agreement”) with its affiliate, Wells Fargo Clearing Services, LLC (which uses the trade name Wells Fargo Advisors) (“WFA”), for the distribution of certain municipal securities offerings, including the Series 2018 Bonds. Pursuant to the WFA Distribution Agreement, WFBNA will share a portion of its underwriting or remarketing agent compensation, as applicable, with respect to the Series 2018 Bonds with WFA. WFBNA has also entered into an agreement (the “WFSLLC Distribution Agreement”) with its affiliate Wells Fargo Securities, LLC (“WFSLLC”), for the distribution of municipal securities offerings, including the Series 2018 Bonds. Pursuant to the WFSLLC Distribution Agreement, WFBNA pays a portion of WFSLLC’s expenses based on its municipal securities transactions. WFBNA, WFSLLC, and WFA are each wholly-owned subsidiaries of Wells Fargo & Company.

J.P. Morgan Securities LLC (“JPMS”), one of the Underwriters of the Series 2018 Bonds, has entered into negotiated dealer agreements (each, a “Dealer Agreement”) with each of Charles Schwab & Co., Inc. (“CS&Co.”) and LPL Financial LLC (“LPL”) for the retail distribution of certain securities offerings at the original issue prices. Pursuant to each Dealer Agreement, each of CS&Co. and LPL may purchase Series 2018 Bonds from JPMS at the original issue price less a negotiated portion of the selling concession applicable to any Series 2018 Bonds that such firm sells.

Morgan Stanley & Co. LLC, an Underwriter of the Series 2018 Bonds, has entered into a retail distribution arrangement with its affiliate Morgan Stanley Smith Barney LLC. As part of this arrangement, Morgan Stanley & Co. LLC may distribute municipal securities to retail investors through the financial advisor network of Morgan Stanley Smith Barney LLC. As part of this arrangement, Morgan Stanley & Co. LLC may compensate Morgan Stanley Smith Barney LLC for its selling efforts with respect to the Series 2018 Bonds.



## FINANCIAL ADVISOR

PFM Financial Advisors LLC is acting as Financial Advisor (the “Financial Advisor”) to the Authority in connection with the issuance of the Series 2018 Bonds in connection with the issuance of the Series 2018 Bonds. The Financial Advisor’s fee for services rendered with respect to the sale of the Series 2018 Bonds and the Series 2018 Bonds is not contingent upon the issuance and delivery of the Series 2018 Bonds and the Series 2018 Bonds. PFM Financial Advisors LLC, in its capacity as Financial Advisor, does not assume any responsibility for the information, covenants and representations contained in any of the legal documents with respect to the federal income tax status of the Series 2018 Bonds or the Series 2018 Bonds, or the possible impact of any present, pending or future actions taken by any legislative or judicial bodies. The Financial Advisor is a “*municipal advisor*” as defined in Rule 15Ba1-1-(d)(3)(vi) of the Securities and Exchange Commission.

The Financial Advisor has provided the following for inclusion in this Official Statement: The Financial Advisor has reviewed the information in this Official Statement in accordance with, and as part of, its responsibilities to the Authority and, as applicable, to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Financial Advisor does not guarantee the accuracy or completeness of such information.

## CONTINUING DISCLOSURE UNDERTAKING

The Authority will covenant for the benefit of the Holders and the Beneficial Owners of the Series 2018 Bonds (as such terms are defined in the Continuing Disclosure Undertaking which the Authority expects to execute on or before the date of delivery of the Series 2018 Bonds (the “Continuing Disclosure Undertaking”), to disclose financial information and operating data, by not later than 270 days following the end of the applicable fiscal year, commencing with the report for fiscal years ending on or after June 30, 2018 (the “Annual Financial Information”) and to provide notices of the occurrence of certain listed events. The Continuing Disclosure Undertaking requires that the Annual Financial Information and notices of listed events be filed with the Municipal Securities Rulemaking Board (“MSRB”) by electronic transmission through the Electronic Municipal Market Access (“EMMA”) Dataport of the MSRB. The specific nature of the information to be contained in the Annual Financial Information and the notices of listed events are set forth in APPENDIX X - FORM OF CONTINUING DISCLOSURE UNDERTAKING. These covenants have been made in order to assist the Underwriters named on the cover page of this Official Statement to comply with paragraph (b)(5) of Rule 15c2-12 (the “Rule”) promulgated by the Securities and Exchange Commission.

Except as described in the Continuing Disclosure Undertaking the provisions of the Continuing Disclosure Undertaking will create no rights in any other person or entity. The obligation of the Authority to comply with the provisions of the Continuing Disclosure Undertaking is enforceable by any Beneficial Owner of outstanding Series 2018 Bonds as described in the Continuing Disclosure Undertaking. The right to enforce the provisions of the Continuing Disclosure Undertaking is limited to a right, by action in mandamus or for specific performance, to compel performance of the Authority’s obligations under the Continuing Disclosure Undertaking. Any failure by the Authority to perform in accordance with the Continuing Disclosure Undertaking will not constitute a default or an Event of Default under the Bond Ordinance, and the rights and remedies provided by the Bond Ordinance upon the occurrence of a default or an Event of Default will not apply to any such failure.

A failure by the Authority to comply with the Continuing Disclosure Undertaking must be reported by the Authority in accordance with the Rule and must be considered by any broker, dealer or municipal securities dealer before recommending the purchase or sale of the Series 2018 Bonds in the

secondary market. Consequently, such failure may adversely affect the marketability and liquidity of the Series 2018 Bonds and the market price thereof.

The Authority failed to file audited financial statements and operating data for Fiscal Years 2016 and 2017 within 270 days following the end of each Fiscal Year, as required by its continuing disclosure undertakings in connection with certain of the Bonds and certain bonds under the Master Bond Ordinance for the Sewer System issued by the Authority in 2016. The Authority filed notices of such failures to provide the annual financial information and has subsequently filed the required annual financial information. The failure to file timely for Fiscal Year 2016 was due to the start-up of the Authority's operations on January 1, 2016 midway through the fiscal year, as well as preparation and audit of opening balances on January 1, 2016 which were dependent on the audit of the six-month reporting period ending December 31, 2015 from DWSD. The failure to file timely for Fiscal Year 2017 was due to additional time necessary to complete the Authority's first twelve-month fiscal year of operations, including the accounting from the 2018 MOU. The Authority anticipates that it will timely file the Fiscal Year 2018 audited financial statement.

In order to provide continuing disclosure with respect to the Series 2018 Bonds in accordance with the Rule, the Authority has entered into a Disclosure Dissemination Agent Agreement ("Disclosure Dissemination Agreement") with Digital Assurance Certification, L.L.C. ("DAC"), under which the Authority has designated DAC as Disclosure Dissemination Agent.

The Disclosure Dissemination Agent has only the duties specifically set forth in the Disclosure Dissemination Agreement. The Disclosure Dissemination Agent's obligation to deliver the information at the times and with the contents described in the Disclosure Dissemination Agreement is limited to the extent the Authority has provided such information to the Disclosure Dissemination Agent as required by the Disclosure Dissemination Agreement. The Disclosure Dissemination Agent has no duty with respect to the content of any disclosures or notice made pursuant to the terms of the Disclosure Dissemination Agreement. The Disclosure Dissemination Agent has no duty or obligation to review or verify any information in the Annual Financial Information, Audited Financial Statements, notice of the occurrence of reportable events or voluntary disclosures, or any other information, disclosures or notices provided to it by the Authority and shall not be deemed to be acting in any fiduciary capacity for the Authority, the Bondholders or any other party. The Disclosure Dissemination Agent has no responsibility for the Authority's failure to report to the Disclosure Dissemination Agent a Notice Event or a duty to determine the materiality thereof. The Disclosure Dissemination Agent shall have no duty to determine or liability for failing to determine whether the Authority has complied with the Disclosure Dissemination Agreement. The Disclosure Dissemination Agent may conclusively rely upon certifications of the Authority at all times.

## **OTHER MATTERS**

The summaries and explanations herein of provisions of the Bond Ordinance, the Lease, the Water and Sewer Services Agreement, the Shared Services Agreement, the 2018 MOU, Act 94, Act 233 other public acts of Michigan, and other materials are brief summaries of certain provisions thereof. Such summaries do not purport to be complete and reference is made to such instruments, documents and other materials for full and complete statements of the provisions thereof.

The information contained in this Official Statement has been compiled or prepared from sources deemed to be reliable and, while not guaranteed as to completeness or accuracy, is believed to be correct as of this date. Any statements involving matters of opinion, whether or not expressly so stated, are intended as such and not as representations of fact.

The attached Appendices are an integral part of this Official Statement and must be read in their entirety together with all of the foregoing information.

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The execution and delivery of this Official Statement have been duly authorized by the Authority.

**GREAT LAKES WATER AUTHORITY**

By: /s/ Sue F. McCormick  
Chief Executive Officer

**SCHEDULE I**  
**REFUNDED BONDS**

Series	Maturity	Par	Coupon	CUSIP <sup>†</sup>
2001C	07/01/19	\$12,510,000	5.750%	2512556Z3
2001C	07/01/20	\$13,235,000	5.750%	2512557A7
2001C	07/01/21	\$13,985,000	5.750%	2512557B5
2001C	07/01/22	\$14,790,000	5.750%	2512557C3
2001C	07/01/23	\$14,510,000	5.750%	2512557D1
2001C	07/01/24	\$15,660,000	5.750%	2512557E9
2001C	07/01/25	\$15,970,000	5.750%	2512557F6
2001C	07/01/26	\$17,910,000	5.750%	2512557G4
2001C	07/01/27	\$18,085,000	5.750%	2512557H2
2001C	07/01/28	\$ 3,950,000	5.750%	2512557J8
2001C	07/01/29	\$18,455,000	4.750%	2512557K5
2001C	07/01/29	\$19,675,000	4.500%	2512557L3

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<sup>†</sup> Registered trademark of American Bankers Association. CUSIP data herein is provided by Standard and Poor's CUSIP Service Bureau, a division of the McGraw Hill Companies, Inc. This data is not intended to create a database and does not serve in any way as a substitute for the CUSIP service. CUSIP numbers are provided for reference only. Neither the Authority, the Trustee nor the Underwriters take any responsibility for the accuracy of such numbers.

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**APPENDIX I**  
**FEASIBILITY CONSULTANT'S REPORT**

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**T F G**  
**THE FOSTER GROUP**

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**THE FOSTER GROUP, LLC**  
BART FOSTER, PRESIDENT  
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September 18, 2018

Ms. Sue McCormick, Chief Executive Officer  
Great Lakes Water Authority  
735 Randolph Street  
Detroit, Michigan 48226

Dear Ms. McCormick:

In accordance with our agreement with the Great Lakes Water Authority (the "Authority" and/or "GLWA"), we submit herewith our Financial Feasibility Report to be included as an appendix to the official statement (the "Official Statement") prepared by the Authority in connection with its issuance of \$155,595,000 Water Supply System Revenue Refunding Second Lien Bonds (the "Series 2018 Bonds"). The Series 2018 Bonds are being issued to refinance certain outstanding Bonds of the Authority. The purpose of this report is to set forth information concerning financial factors relating to the Official Statement and the Series 2018 Bonds.

The report contains financial feasibility information including analyses of water supply service charges, including specific charge methodology, projections of revenues under existing charges, projection of future operation and maintenance expenses, a summary of the Regional Water System Capital Improvement Program (the "CIP") for fiscal years 2019 through 2023, CIP financing, the impact of projected revenue requirements on future revenues and water service charges for a five-year study period, and the ability of the Authority to meet the "Additional Bonds Test" as defined in the ordinance authorizing the issuance of bonds by the Authority (the "Master Bond Ordinance.") A listing of our major opinions developed as a result of our studies is presented at the end of the report.

THE FOSTER GROUP provides financial and engineering management consulting services to a broad customer base, specializing in services for municipal utility clients in the United States. Our principal experience includes: managing financial planning, cost of service, and rate design studies for water and wastewater utilities; preparation of feasibility reports in conjunction with issuance of municipal water and sewer revenue bonds; development of other feasibility reports; design of financial management information systems; consulting assistance regarding contractual and other relationships amongst municipalities, and expert witness services in utility litigation matters.

Principals of THE FOSTER GROUP have prepared every financial feasibility report published in conjunction with the revenue bonds issued by the Authority and the Detroit Water and Sewerage Department (the predecessor to the Authority) since 1989. Various reports have been issued in connection with work for the Authority on these matters and related matters, and are available for public inspection at the offices of the Authority.

It has been a pleasure to be of service to the Authority on this matter.

Very truly yours,

THE FOSTER GROUP

A handwritten signature in black ink, appearing to read 'Bart Foster', with a stylized flourish at the end.

Bart Foster  
President

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## **Introduction**

This report is based on our analysis of the records and capital improvement programs of the Authority, discussions with key Authority personnel, and such other investigations as we have found necessary.

In this report, where standards or requirements are indicated as being applicable, being fulfilled, or to be attained, such standards or requirements are those promulgated by the United States Environmental Protection Agency (the "EPA") and the Michigan Department of Environmental Quality (the "MDEQ") in accordance with the provisions of Federal laws and the laws of the State of Michigan governing the supply of drinking water. Capitalized terms not otherwise defined herein shall have the same meaning as ascribed to them in the Official Statement. References made herein to specific years are for the fiscal years ending June 30, unless otherwise noted.

The Authority was incorporated by the City of Detroit (the "City") and the Counties of Macomb, Oakland and Wayne (the "Counties") on November 26, 2014 pursuant to Act 233, Public Acts of Michigan, 1955, as amended ("Act 233"). At the time of the Authority's incorporation, the City, through its Detroit Water and Sewerage Department ("DWSD"), was providing wholesale water and sewer services to suburban wholesale customer communities and wholesale and retail water and sewer services to the City and its individual residents and businesses. Water service was provided via operation of the City's water supply system ("the Water System") that consisted of both wholesale and retail water production and delivery facilities.

On June 12, 2015, the City and GLWA executed a Regional Water Supply System Lease, a Regional Sewage Disposal System Lease and a Water and Sewer Services Agreement, and on December 1, 2015, the City and GLWA executed a Shared Services Agreement (each as more fully described under "THE GREAT LAKES WATER AUTHORITY" in this Official Statement). These agreements became effective on January 1, 2016 (the "Effective Date"), at which time the Authority assumed responsibility for the wholesale water and sewer services to the service area via operation of the portion of the Water System (the "Regional Water System") that provides service to the wholesale water customers. The Authority also provides "wholesale" water and sewer service to the City of Detroit Customer Class, although the City is served via a Water and Sewer Services Agreement that is different from the Authority's standard wholesale contracts, and the City of Detroit is not a wholesale customer of the Authority.

The portion of the Water System that provides water service directly to retail customers in the City of Detroit (the "Local Water System") continues to be operated by the City of Detroit through DWSD, just as the Authority's wholesale customers provide retail services to their individual residents and businesses. The Authority's customers (the "Customers") include communities and districts served via wholesale service contracts and the City of Detroit retail customer class, served via the terms of the Water and Sewer Services Agreement. The Authority is authorized by its Articles of Incorporation to provide retail water service, but does not currently provide retail service to any customers.

The revenues and revenue requirements of the Authority include wholesale amounts related to service provided by the Regional Water System and retail amounts related to service provided by the Local Water System. In this report, revenues and revenue requirements associated with the Regional Water System are defined as “Wholesale” and / or “Wholesale System” activities and those associated with the Local Sewer System are defined as “Retail” and / or “Retail System” activities. All revenues are deposited into a trust established under the Master Bond Ordinance. *See "GLWA Financial Planning Guiding Principles."*

All Customers, including the City of Detroit retail customer class, receive Wholesale service and provide Wholesale revenue to the trust. Only the City of Detroit retail customer class receives Retail service and provides Retail revenues to the trust. The total of the Wholesale and Retail activities are referred to herein as “Combined” and / or “Combined System” revenues and revenue requirements.

Certain portions of this report may refer to historical wholesale service performance and events as being attributable to the Authority, while in fact they were applicable to the operations of the DWSD that existed prior to the Effective Date. We consider the attribution to be technically accurate, since the Authority has assumed responsibility for such performance and events.

The proceeds from the Series 2018 Bonds will be utilized to refinance certain outstanding bonds of the Authority. None of the Series 2018 Bonds are designed to produce any proceeds to finance capital improvements. The capital improvement program expenditures scheduled in the CIP through at least June 2023 are projected to be financed by available fund balances, draws from loans from the State of Michigan Drinking Water Revolving Fund ("DWRF"), and internally generated funds. The projections in this report include future bond issues to finance capital improvement expenditures for both the Regional Water System and the Local Water System. However, availability of projected other financing sources, along with the pace of execution of the CIP, may impact those projections. *See "Capital Improvement Program Financing."*

In conducting our studies and formulating our projections and opinions contained herein, we reviewed the books, records, agreements, capital improvement programs and other information produced by the Authority as we deemed necessary. While we consider such books, records, and other documents to be reliable, we have not verified the accuracy of these documents.

The projections set forth herein are intended as “forward-looking statements”. Actual results may differ materially from those projected, as influenced by conditions, events, and circumstances that may actually occur. *See "Financial Feasibility for the Series 2018 Bonds."*

*[Remainder of page intentionally left blank]*

# Regional Water System Summary

## Introduction

The water treatment and transmission system consists of three major intake facilities, five water treatment plants, a conveyance system that consists of over 803 miles of transmission mains throughout the system, 19 booster pumping stations, and 32 water storage reservoirs. The Systems Control Center monitors and controls the water flow and pressure throughout the Regional Water System.

## Service Area

The Regional Water System is one of the largest in the nation in terms of water produced and population served, as the Authority is responsible for treatment and transmission of water to most of southeast Michigan. The System presently serves an area of 981 square miles in Wayne, Oakland, Macomb, Lapeer, Genesee, Washtenaw, St. Clair, and Monroe Counties. *See map, inside cover.* The Authority currently serves an estimated population of 3.8 million, with suburban customers served by wholesale service contracts comprising approximately 80 percent of the total, and the City of Detroit comprising the remainder.

Except as noted below, the Authority has traditionally experienced no material competition from other water supply systems in Southeastern Michigan. In 2010, Genesee County and the City of Flint (“Flint”), (along with other neighboring communities) formed the Karegnondi Water Authority (the “KWA”). In 2013, the Authority terminated its contract with Flint but continued to supply water to Flint. In May 2014, Flint began operating its own water treatment plant utilizing the Flint River as its raw water source and immediately began experiencing water quality issues. On October 16, 2015, Flint began receiving water services through the Authority on a short-term, emergency basis. During the period of emergency water service to Flint, the Authority was party to meetings with the State of Michigan, Flint, KWA and the Genesee County Drain Commissioner to develop a regional plan to provide Flint with long-term wholesale water service through the Authority and to provide reciprocal back-up services to the Authority and to the Genesee County Drain Commissioner.

On January 16, 2018, Flint, the Department of Environmental Quality of the State of Michigan (“DEQ”), the Genesee County Drain Commissioner (“GCDC”), the Authority, and KWA entered into a Master Agreement (the “Master Agreement”) and related documents outlining a set of inter-related transactions, effective as of December 1, 2017. As a result of the Master Agreement Flint became a full service Customer under terms of the Authority model contract and receives annual credits for its allocated share of debt service related to construction of the KWA pipeline. The Authority receives rights to Flint’s KWA raw water allocation once the KWA bonds have been retired. GCDC and the Authority enter into a reciprocal backup arrangement which establishes service redundancy for all parties. *See “SERVICE AREA AND CUSTOMERS” in this Official Statement.*

The implementation of the Master Agreement was effectuated during Fiscal Year 2018. Flint received a partial year credit related to the KWA debt service, and GCDC continued to be a full service Customer for a portion of the year. The Master Agreement has been reflected in the

sales volumes and revenue projections in this report. See “Financial Feasibility for the Series 2016 Bonds - Projection of Revenues.”

## Historical Water Sales and Non-Revenue Water

A summary of historical water sales, water production, and “non-revenue” water (reported in thousands of cubic feet – “Mcf”) is presented in Table 1. As shown on Line 1, water sales to master metered wholesale Customers stabilized during 2016, 2017, and 2018 after steadily declining in prior years. The reported figures for 2014 and 2015 were impacted by abnormally mild summer weather conditions, which produced much lower outdoor water demands during peak summer months than experienced during “normalized” conditions. The reported figures for 2013 were impacted by extremely high summer water demands. Fairly “normalized” demands occurred during the past three summers, and reported water sales during the peak months reflect those conditions.

**Table 1**  
**Historical Water System Sales and Non-Revenue Water**

Line No.		Fiscal Year Ending June 30,					
		2013	2014	2015	2016	2017	2018
		Mcf	Mcf	Mcf	Mcf	Mcf	Mcf
	<b>Water Sales Volumes</b>						<i>preliminary</i>
	<u>Suburban Wholesale Customers</u>						
	<u>Master Metered Customers (a)</u>						
1	Customers outside Genesee County	13,796,800	12,811,200	12,332,600	13,002,800	12,920,300	12,840,000
2	Flint (b)	1,189,800	1,178,700	0	432,200	594,800	547,200
3	GCDC (b)	0	<u>142,900</u>	<u>517,100</u>	<u>542,300</u>	<u>544,100</u>	<u>250,600</u>
4	Subtotal Master Metered	14,986,600	14,132,800	12,849,700	13,977,300	14,059,200	13,637,800
5	Dearborn (c)	701,300	645,700	613,900	628,800	645,100	628,300
6	Highland Park (c)	0	0	<u>109,900</u>	<u>109,900</u>	<u>109,900</u>	<u>110,000</u>
7	Total Wholesale Customers	15,687,900	14,778,500	13,573,500	14,716,000	14,814,200	14,376,100
8	Detroit Retail Customer Class (c)	<u>3,660,300</u>	<u>3,410,600</u>	<u>3,173,700</u>	<u>3,057,100</u>	<u>2,912,000</u>	<u>2,895,100</u>
9	Total System	19,348,200	18,189,100	16,747,200	17,773,100	17,726,200	17,271,200
10	Total Water Production (d)	26,832,800	26,088,800	23,238,000	23,580,700	23,915,600	23,228,600
11	Non-Revenue Water	7,484,600	7,899,700	6,490,800	5,807,600	6,189,400	5,957,400
12	Non-Revenue % of Production	27.9%	30.3%	27.9%	24.6%	25.9%	25.6%

(a) Reflects wholesale water sales as measured by master meters.

(b) Flint / Genesee County were a combined Customer through April 2014.

(c) Reflects retail meter sales - excludes any estimated distribution non revenue water.

(d) Water Production is estimated via pump curves and related measures.

Reported water sales during “off peak” months have continued to decline slightly, consistent with industry trends. The Authority believes this is indicative of changing attitudes towards water use being experienced throughout the country and throughout the entire year, and the impact of changing plumbing standards and fixtures such as low flow shower heads and toilets. However, reported sales volumes in off peak months during 2018 were the highest in the past three years.

As part of the preparation of the 2016 budget and financial plan, the Authority altered its approach for projecting annual water sales levels, in an effort to eliminate continued lower than



anticipated sales results and the associated revenue shortfall. This approach has continued, and the projected sales volumes for the 2019 budget and financial plan reflect a conservative expectation of future water sales. See *"Service Charge Methodology and Existing Service Charges."*

Water sales to Flint and GCDC have been identified separately in Table 1 to illustrate the impact of the transitioning service levels provided to those Customers during this period prior to execution of the Master Agreement. Prior to April 2014 Flint purchased all water from the prior DWSD and in turn contracted to sell water to the GCDC and its communities. In April 2014 Flint terminated service from DWSD, and DWSD in turn began selling water directly to GCDC. Flint returned to the System in September 2015, and both Customers received full service (through separate contractual agreements) during most of 2016 and all of 2017. In December 2017 Flint, the Authority, GCDC, the State of Michigan and other regional stakeholders executed agreements that established full service from the Authority to Flint and reciprocal standby water service between Flint and GCDC. GCDC received full service during Fiscal Year 2018 through October, and no longer purchases water from the Authority unless the reciprocal backup arrangement is necessary. See *"Service Area."*

Table 1 also separately presents water sales to Dearborn and Highland Park. Water sales to these Customers (and to the Detroit Retail Customer Class) are not measured by wholesale master meters, but must be estimated based, in part, on reported water sales via retail meters and factors to estimate non-revenue water that occurs within their individual distribution systems. The Authority has recently completed the first phase of a study to refine estimates of these unmetered amounts.

The Water System, as is common with all water systems, experiences a differential between the quantity of water produced by the treatment plants during the fiscal year and the quantity of water billed during that same period of time. The differential is referred to as "non-revenue water" and is the result of factors such as range of accuracy of production and retail meters, losses due to leaks or major breaks in the transmission and distribution system, unmetered water that is used for fire protection, and accuracy of estimates for unmetered water use.

The last row of Table 1 shows the non-revenue water as a percentage of total system production for the last six years. The Authority believes that recent reported levels of non-revenue water may be misleading, partially attributable to a change in the manner by which production at the water plants is reported. This production is not metered, but is rather estimated based on pump curves. This data continues to be reviewed, and the Authority has initiated efforts to measure production figures and refine production estimating techniques. Irrespective of the accuracy of the reported production levels, mitigating the reported level of non-revenue water is (and should be) a goal of the Authority, and of the DWSD Local Water System. Future reports of non-revenue water for 2019 and beyond will reflect estimates of unaccounted for water within the DWSD Local Water System and within Dearborn and Highland Park, and these amounts will be included in the basis for allocating revenue requirements. As such, these amounts are not technically "non-revenue" water and have the effect of overstating that metric in the historical data in Table 1.

## Capital Improvement Program

The Authority's System Planning Division is responsible for coordinating the evaluation of capital needs and developing programs to meet those needs. This division formally reviews the Capital Improvement Program and incorporates revisions into the five-year capital agenda on an annual basis.

In accordance with the terms of the Articles of Incorporation, the CIP must be approved by a supermajority of at least five members of the Authority's Board of Directors. The Authority can modify individual projects within the CIP during the year to address changing costs and management decisions on specific project scope as long as the changes are within the basic framework approved by the Board. The Fiscal Year 2019-2023 CIP was approved by the Board on June 20, 2018.

The CIP is dynamic and requires continual review and modification during the course of each year. As additional cost information is developed from design work being performed on the various projects, cost estimates are adjusted accordingly. The Authority has initiated efforts to prepare the Fiscal Year 2020-2024 CIP and the CIP expenditure schedule shown in Table 2 reflects the initial planning levels established as part of that update effort.

A summary of the water CIP is presented in Table 2. The CIP is divided into major categories representing Water Production, which includes each of the five water plants, and Water Delivery, which includes categories of transmission and pumping stations and reservoirs. Categories are also included to represent General Purpose projects, as well as the Water System's allocated share of Centralized Services projects. Expenditures in the early years of the CIP are primarily focused on rehabilitating the Springwells Water Treatment Plant, which currently produces the most water of any of the five plants, and on improvements to water delivery facilities, designed to enhance reliability of service and to facilitate the planned repurposing of the Northeast Water Plant. *See "THE MASTER PLAN AND THE CAPITAL IMPROVEMENT PLAN" in this Official Statement.* **Table 2 does not include any capital improvements to the Local Water System facilities owned and managed by DWSD.**

The recently completed Master Plan Update was somewhat unique, in that it was designed to establish a strategic infrastructure and operating plan associated with declining water demands, rather than to address growth. The total rated capacity of the existing five water treatment plants is 1.7 billion gallons per day. The Master Plan Update identified likely maximum demands in the range of 1.0 billion gallons per day during the 20-year planning period, and evaluated the possibility of repurposing one or more water treatment plants to strategically align available capacity and service requirements and planning for structural de-rating of capacity as warranted at the remaining four water treatment plants. The Master Plan recommends converting the existing Northeast Water Plant into a storage and pumping facility, thereby eliminating the need to invest in improvements that would otherwise be required for the existing facility to maintain rated capacity. The Master Plan also contains investments designed to strategically deliver water to the System via the four remaining water treatment plants. The initial projected expenditures required to implement this revised operating scenario envisioned by the Master Plan are included in Table

2, and the Authority anticipates that the new reduced capacity plan will be operational by 2021 to 2023. While the new operating scenario will likely result in operating expense savings, none have been assumed in the projections presented in this report.

**Table 2**  
**Regional Water System Capital Improvement Program**  
**Projected Expenditure Schedule - Fiscal Years 2019 through 2023**

	<i>Fiscal Year Ending June 30,</i>					<i>Total</i>
	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>Total</u>
	\$	\$	\$	\$	\$	\$
<u>Water Production</u>						
Water Works Park	4,354,000	19,030,000	27,203,000	10,965,000	24,000	61,576,000
Springwells	15,484,000	14,586,000	13,032,000	15,821,000	8,734,000	67,657,000
Northeast	831,000	1,313,000	1,710,000	1,517,000	95,000	5,466,000
Southwest	2,211,000	3,727,000	1,065,000	5,000	0	7,008,000
Lake Huron	4,335,000	15,054,000	11,880,000	8,606,000	3,783,000	43,658,000
General Water Treatment	9,042,000	4,372,000	4,315,000	4,165,000	3,396,000	25,290,000
Subtotal Production	36,257,000	58,082,000	59,205,000	41,079,000	16,032,000	210,655,000
<u>Water Delivery</u>						
Water Transmission System	6,573,000	28,961,000	32,671,000	57,256,000	85,564,000	211,025,000
Pumping Station & Reservoirs	2,783,000	5,015,000	11,100,000	20,785,000	23,636,000	63,319,000
Subtotal Delivery	9,356,000	33,976,000	43,771,000	78,041,000	109,200,000	274,344,000
General Purpose	17,697,000	15,489,000	18,733,000	15,688,000	22,139,000	89,746,000
Total Water Direct	63,310,000	107,547,000	121,709,000	134,808,000	147,371,000	574,745,000
Centralized Svcs - Water Portion	2,728,000	2,453,000	1,191,000	992,000	1,429,000	8,793,000
<b>GRAND TOTAL</b>	<b>66,038,000</b>	<b>110,000,000</b>	<b>122,900,000</b>	<b>135,800,000</b>	<b>148,800,000</b>	<b>583,538,000</b>

*[Remainder of page intentionally left blank]*

## Financial Feasibility for the Series 2018 Bonds

The financial data used in the analyses presented herein were obtained from the financial records of the Authority and of DWSD. The financial records of the prior DWSD were audited annually and maintained in conformity with generally accepted accounting principles for water and wastewater utilities, and financial records of both the Authority and DWSD are subject to annual audits.

The projections set forth herein are intended as “forward-looking statements”. In formulating these projections, The Foster Group has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized by The Foster Group in performing these analyses follows generally accepted practices for such projections. Such methodologies are summarized in this report and are reasonable and appropriate for the purpose for which they are used. While The Foster Group believes the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by conditions, events, and circumstances that may actually occur. Such factors may include the Authority’s ability to execute the CIP as scheduled and within budget, regional climate and weather conditions affecting the demand for water, and adverse legislative, regulatory or legal decisions (including environmental laws and regulations) affecting the Authority’s ability to manage the Regional Water System and maintain water quality.

## GLWA Financial Planning Guiding Principles

The financial plans developed for the Authority’s Water and Sewer Funds follow the guiding principles set forth in the various organizational documents, including the Articles of Incorporation, the Authority By-Laws, the Leases, the Water and Sewer Services Agreement with the City of Detroit, and the Master Bond Ordinances. In addition, in June 2018 DWSD and GLWA entered into a 2018 Memorandum of Understanding (the “2018 MOU”) that provides for clarification and implementation guidance for several elements of the organizational documents. The financial projections presented herein embrace these principles, which include:

- The Authority is empowered through its Board of Directors (the "Board") to provide wholesale water and wastewater service to the service area. The six member Board has the authority to execute contracts, to set policy for the Authority, to establish service charges for wholesale water and wastewater service, and to set a revenue requirement for the Detroit retail customer class<sup>1</sup>.
- The Board must appoint an Audit Committee to “*review the reports related to the financial condition, operations, performance and management of the Authority*” on a regular basis.
- Certain actions by the Authority Board require “*the affirmative vote of at least 5 members of the Board.*” The elements which require this supermajority approval

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<sup>1</sup> The Authority has engaged the City of Detroit as its agent to establish retail water and sewer rates for the Detroit retail customer class, and to bill and collect for service from that class. The Authority retains oversight responsibility for these activities through monitoring of the agency relationship.

include, but are not limited to, service charge schedules, annual operating budgets, capital improvement programs, and issuance of debt.

- The Authority must establish biennial budgets, with the first year serving as formal authorization (including an approved schedule of service charges to support the budget) and the second year serving as an initial estimate of revenues and revenue requirements.
- Through 2025, the Water (and Sewer) System “*is assumed to experience annual increases in the Authority Revenue Requirement of not more than 4%; provided however, this limitation shall not be applicable if the Authority Revenue Requirement must increase beyond the 4% assumption in order to satisfy the Rate Covenant or to pay the cost of improvements to the Leased Water Facilities that are required to be made by Applicable Laws.*”<sup>2</sup>
- In accordance with the City’s Plan of Adjustment, the Authority will provide annual contributions for Pension Obligations in an amount of \$45.4 million (which includes annual administrative fees of \$2.5 million) through 2023<sup>3</sup>. \$24 million of this amount will be treated as an operating expense, and funded via the Pension Obligation sub account of the Operation and Maintenance Fund. The remaining \$21.4 million will be treated as non-operating expense and funded via the Pension Obligation Payment Fund, which is subordinate to the debt service payment funds. The Water System’s share of the amounts above are \$10.3 million and \$9.2 million, respectively.
- ALL revenues, including revenues from retail customers of the City of Detroit, are deposited into a trust established under the Master Bond Ordinance (the “Trust”) and held by a trustee and subsequently applied to a flow of funds as set forth in summary fashion below:
  - Operation and Maintenance Fund, including separate accounts for the Authority Regional Water System and Detroit Local Water System operations, and including separate subaccounts for the “operating portion” of the Pension Obligation, separated by Authority Regional and Detroit Local portions; ***The accounts of the Operation and Maintenance Fund are the only monies held outside the Trust;***
  - Bond and Interest Redemption Funds, in cascading lien order, and including debt service accounts and bond reserve accounts;
  - Pension Obligation Payment Fund, to provide for funding of the Water System’s share of the “non-operating portion” of the Pension Obligation and obligation for the B and C Notes;
  - Water Residential Assistance Program (WRAP) Fund established to provide bill payment assistance to residents throughout the service area;
  - Budget Stabilization Fund established as a reserve to manage collection performance of the Detroit retail customer class;
  - Extraordinary Repair and Replacement Reserve Fund established as a reserve to pay the costs of making major unanticipated repairs or replacements;

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<sup>2</sup> The “not more than 4%” increase commitment has been achieved for the past three years. See “AUTHORITY FINANCIAL OPERATIONS - 4% Revenue Requirement Parameter” section of this Official Statement

<sup>3</sup> The agreement contemplates a “true-up” adjustment after 2023 to reconcile with final actuarial analyses and to finalize the Authority’s Pension Obligation.

- Improvement and Extension (I&E) Fund established to pay for improvements, enlargements, or extensions; separate subaccounts established for the Regional Water System and the Local Water System.
- Surplus Fund established to accommodate flexibility in managing the overall flow of funds.
- An annual common-to-all Lease Payment of \$50 million (of which the Regional Water System's share is \$22.5 million). The Lease Payment is to be deposited into the Local Water System I&E Account, except in circumstances whereby the City applies a portion of the annual Lease Payment to pay a portion of its share of debt service. If the City elects to apply a portion of the Lease Payment to pay debt service, the total revenue requirement allocated to the City of Detroit retail customer class would be reduced accordingly.

These principles have been embraced in the financial plan established by the Authority, which serves as the guiding platform for the projections presented in this report. A discussion regarding the funding requirements of each element of the funds within the Trust is presented in the financial plan. *See "Operational Financing Plan."*

The Board adopted the Great Lakes Water Authority FY 2019 and 2020 Biennial Budget on June 20, 2018. The biennial budget (the third such budget adopted by GLWA) establishes a formal authorization for 2019, including an approved schedule of service charges to support the budget, and an initial estimate for 2020. The budget includes several depictions of the overall financial plans, including a schedule that reflects "Sources of Revenues and Use of Revenue Requirements – Flow of Funds Basis per Master Bond Ordinance." That Combined System schedule includes elements related to the entire Water System, including Wholesale service requirements of the Authority, as well as the Retail service requirements of DWSD, and recognizes that all receipts from both organizations flow through the Master Bond Ordinance flow of funds. The projections in this report reflect the Combined System revenues and revenue requirements described above.

*[Additional information regarding organizational documents and related initiatives is contained in "THE GREAT LAKES WATER AUTHORITY" section of this Official Statement.]*

## **Service Charge Methodology and Existing Service Charges**

The Authority's water service charges are developed to provide sufficient levels of revenue to meet all operation and maintenance expenses of the Water System, debt service requirements on obligations issued for the Water System, capital improvement expenditures to be funded from current revenues, and other specific bond ordinance and revenue requirements. A schedule of wholesale water service charges is developed for each wholesale Customer, and an annual wholesale revenue requirement is established for the City of Detroit retail customer class, by determining the total costs of service and individual customer water service requirements. All Customers are proportionally allocated costs of service based on their use of the Regional Water System, as measured by each Customer's water usage, demands on the Regional Water System, and the distance and elevation relative to the water treatment plants.

The Authority's water cost of service allocation and service charge methodologies were developed in conjunction with its Customers as part of the design of the model contract originally implemented in 2010. The cost allocation and service charge methodologies are sound and strive to utilize the best available, verifiable information to allocate costs to individual Customers in the most equitable fashion possible. Customers are allocated costs based, in large part, on the demands they place on the system, and those demands are set forth in each Customer's contract.

The current water service charges became effective July 1, 2019 and were designed to generate an overall revenue increase of approximately 1.6 percent over revenues generated by the previous year's charges. One percent of this increase was designed to support an overall increase of one percent in the Water System's annual revenue requirement for 2019. The remaining approximate 0.6% represents the combined effect of the conversion of GCDC from a full service Customer to a reciprocal back-up Customer and moderately higher water sales expected for 2019 compared with 2018. As described below, the wholesale service structure consists of commodity and fixed portions, which are unique for each Customer. The average unit cost of the charge structure for the wholesale customer class at large is \$21.89 per thousand cubic feet of wholesale water sales.

The water service charges established for 2019 were developed in alignment with traditional cost of service principles that have been in place for over 30 years, although there are some notable modifications that emerged from the establishment of the Authority. These changes originally impacted the 2016 service charges previously established by DWSD, and continue for the 2019 service charges established by the Authority.

### ***Modifications Resulting from the Lease***

Prior to 2016, water cost allocations and charge schedules for wholesale customers have been developed on the "utility" basis, in conformance with State of Michigan statutes. Under the "utility" basis, a schedule of charges is developed for each wholesale customer that is designed to recover allocated cost of service responsibility as represented by operation and maintenance expense, depreciation expense, and a return on the investment the City had made in wholesale service facilities. The rate of return charged to wholesale customers generally averaged between six and seven percent in recent years. Water rates for retail customers within the City of Detroit were determined in the same manner, except that the rate of return was calculated to meet the Water System's cash requirements. The rate of return charged to City of Detroit customers was generally lower than that charged to wholesale customers, reflecting the City's ownership of the Water System and the associated risks, rights, and responsibilities of investing in regional water service facilities. In recent years, this annual "ownership benefit" was valued at approximately \$20.7 million. In effect, that amount reflects an amount that is reduced from the cost of service initially allocated to the City of Detroit retail class, and added to the Suburban Wholesale class at large, prior to determining final cost responsibility and schedules of charges.

The Lease contains a directive to "lock in" the ownership benefit at the \$20.7 million figure. The water service charges adopted for 2016 reflect the first year that formally reflects this provision. The principles of the utility basis remain in place, but rather than determining relative owner and non-owner rates of return on an annual basis, the resulting differential is fixed. The \$20.7 million adjustment was also applied in development of the 2019 water service charges.

## **Structural Wholesale Charge Reforms**

In recent years the structure of the wholesale charge schedules has been modified to recover more costs through a fixed component of the charge structure, and less through a commodity charge. This initiative is designed to more closely align the manner in which costs of service are allocated to customers and the manner in which such costs are recovered from customers, thereby further enhancing the water rate structure. In 2010 charges were designed to recover the entire wholesale revenue requirement through commodity charges. The 2011 charges reflected the first step in a phased approach and recovered approximately 10 percent of the revenue requirement through fixed charges. This portion was increased to approximately 27 percent in 2012 and to approximately 40 percent in 2013, where it remained through 2015. In addition to enhanced cost allocation and cost recovery alignment, this initiative also dampens seasonal and annual fluctuations in Water System revenues.

As noted earlier, reported sales volumes in recent years were significantly lower than planned levels, particularly during summer months and the traditional high levels of outdoor irrigation. Although downward adjustments in projected sales volumes were made each year, the still lower than anticipated water sales led to consistent revenue shortfalls, and the prior DWSD Board challenged management and customers to establish fundamental structural reforms similar in nature to the “Sewer Rate Simplification” initiative that was implemented for the 2015 sewer charges.

As part of the development of the 2016 water service charges, Authority management worked closely with customer representatives to recommend two fundamental modifications designed to provide enhanced equitability and revenue stability to the wholesale water service charge schedules.

- 1. Rather than relying on planning level estimates in customer contracts to develop revenue estimates and related financial plans, a uniform forecasting method was designed. Estimated 2016 water sales volumes for each Customer (including the City of Detroit retail class) reflected the 24-month average ending September 2014. This time period covers two of the mildest summers on record. For the wholesale class in total, the revised approach lowered projected sales volumes by over 10 percent. The resulting projected revenues were much less susceptible to abnormally low water sales volumes.*
- 2. The portion of the allocated revenue requirement recovered through fixed monthly charges was increased to 60% from 40%. As a result, any future variances in water sales volume will have far less impact on annual revenue levels.*

The recommended modifications were accepted and incorporated into the 2016 water service charges, and subsequently into the 2017, 2018, and 2019 water service charges. The uniform forecasting method has been slightly modified in each year, but continues to use recent actual historical sales data to estimate future water sales. The actual reported billings to wholesale customers during 2016, 2017, and 2018 indicate that the service charge structural reforms have been successful. Water sales volumes to wholesale master metered customers have consistently exceeded planned levels by approximately two percent in each of the past three years.



The Authority anticipates that analysis of future water charges will evaluate the most recent water sales data and will continue to reflect the uniform forecasting approach. The Authority does not endorse converting to a full fixed charge rate structure, as was implemented for the suburban wholesale sewer charges. While future analyses may result in further modifications to the fixed / commodity approach, the new allocation reflects a reasonable and responsible balance and should continue to stabilize revenues.

## **Projection of Revenues**

Table 3 presents projected operating revenues for the 2019 through 2023 study period. These projections reflect a baseline condition assuming that the existing 2019 water charges remain in effect for the duration of the study period (i.e., no revenue adjustments). Projected modifications to these charges and revenue levels will be discussed subsequently in Table 6. The Authority's financial records account for revenue based on all volume billed at the appropriate fiscal year charges and as such approximately reflect treated water pumped during the fiscal year. The projections shown in Table 3 are developed on the same basis.

Table 3 also presents the projected sales volumes upon which the commodity charge portion of the projected water revenues are based. The table is structured to separate wholesale Customers based on how sales to them are measured. Master meters are used to measure water sales to 85 of the 87 wholesale Customers. "Wholesale" water sales to Dearborn and Highland Park are estimated based on retail water meters and initial results of the Units of Service Study, which estimates non-revenue water in each of these Customers' distribution systems. In this manner Dearborn and Highland Park are treated similarly to Detroit.

The figures shown for Master Metered Customers on Line 1 (and Line 13) include all water sales to Flint, but do not assume any water sales to GCDC during the study period. GCDC's conversion from full service to a reciprocal backup Customer results in a negative revenue variance of approximately \$18 million, which must be recovered from all other Customers. Approximately \$14 million of this revenue shortfall was planned for in the water service charges for 2018. The remainder impacted the development of the current water service charges implemented for 2019. See *"Operational Financing Plan."*

These revenue projections do not include any revenue from the City of Highland Park, a wholesale customer with a delinquent balance of over \$6.1 million. Highland Park began utilizing water from the Authority in January 2013 on an "interim non-contract" emergency basis and, while Highland Park has improved its payment performance for sewer service, they have not made a payment for water provided in over five years. Suburban wholesale revenues for 2019 and the remainder of the study period reflect application of the existing commodity charges to the projected sales volumes, and adding the revenue associated with the fixed monthly charges of the charge structure. The projected operating revenue from suburban wholesale customers assumes no collection from Highland Park, despite the fact that the Authority has taken legal action to recover the delinquent balance and ongoing bills for service, having received a favorable lower court judgment, subsequently stayed, pending action by the Michigan Supreme Court.

**Table 3**  
**Projected Water System Sales and Revenues Under Existing Charges (a)**

Line No.	Fiscal Year Ending June 30,				
	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
	\$	\$	\$	\$	\$
<b><u>Wholesale Service Charges</u></b>					
<b><u>Wholesale Customers</u></b>					
1	Master Metered Customers	296,711,500	297,943,700	297,943,700	297,943,700
2	Dearborn	10,671,100	10,671,100	10,671,100	10,671,100
3	Highland Park	<u>1,385,400</u>	<u>1,385,400</u>	<u>1,385,400</u>	<u>1,385,400</u>
4	Total Wholesale Customers	308,768,000	310,000,200	310,000,200	310,000,200
5	Detroit Customer Class	<u>20,181,600</u>	<u>20,181,600</u>	<u>20,181,600</u>	<u>20,181,600</u>
6	Total Wholesale Service Charges	328,949,600	330,181,800	330,181,800	330,181,800
7	less: Projected Wholesale Bad Debt	<u>(1,385,400)</u>	<u>(1,385,400)</u>	<u>(1,385,400)</u>	<u>(1,385,400)</u>
8	<b>Wholesale Service Charge Revenue</b>	327,564,200	328,796,400	328,796,400	328,796,400
<b><u>Detroit Retail Local Charges</u></b>					
9	Indirect Retail Service	37,756,900	37,756,900	37,756,900	37,756,900
10	Direct Retail Service	37,556,100	37,556,100	37,556,100	37,556,100
11	Miscellaneous Revenue	<u>2,200,000</u>	<u>2,200,000</u>	<u>2,200,000</u>	<u>2,200,000</u>
12	Subtotal Local Retail Revenue	77,513,000	77,513,000	77,513,000	77,513,000
13	<b>Total Operating Revenue into Trust</b>	<b>405,077,200</b>	<b>406,309,400</b>	<b>406,309,400</b>	<b>406,309,400</b>
14	<i>Total Revenue From Detroit Class (d)</i>	<i>97,694,600</i>	<i>97,694,600</i>	<i>97,694,600</i>	<i>97,694,600</i>
<i>Revenues are based on projected water sales in thousands of cubic feet (Mcf) of:</i>					
<b><u>Wholesale Customers</u></b>					
15	<i>Master Metered Customers (b)</i>	<i>13,172,640</i>	<i>13,252,400</i>	<i>13,252,400</i>	<i>13,252,400</i>
16	<i>Dearborn (c)</i>	<i>717,300</i>	<i>717,300</i>	<i>717,300</i>	<i>717,300</i>
17	<i>Highland Park (c)</i>	<u><i>151,300</i></u>	<u><i>151,300</i></u>	<u><i>151,300</i></u>	<u><i>151,300</i></u>
18	<i>Total Wholesale Customers</i>	<i>14,041,240</i>	<i>14,121,000</i>	<i>14,121,000</i>	<i>14,121,000</i>
19	<i>Detroit Retail Customer Class (c)</i>	<u><i>4,786,600</i></u>	<u><i>4,786,600</i></u>	<u><i>4,786,600</i></u>	<u><i>4,786,600</i></u>
20	<i>Total System</i>	<i>18,827,840</i>	<i>18,907,600</i>	<i>18,907,600</i>	<i>18,907,600</i>

(a) Based on application of FY 2019 charges.

(b) Reflects wholesale water sales as measured by master meters.

(c) Reflects proxy for wholesale water sales based on retail meter sales and estimated distribution non revenue water.

(d) Line (5) + Line (12)

The projected water sales for 2019 and 2020 reflect the uniform forecasting method introduced above. For purposes of this report, projected sales volumes for 2021 through 2023 are assumed at static levels indicated by the uniform forecasting method for 2020.

Revenues from the Detroit retail customer class are also reflected in Table 3. The total amount on Line 14 reflects estimated receipts into the Trust, again under the assumption that existing rates and charges remain in place during the study period. Detroit’s internal planning documents indicate potential for revenue growth related to improved collection rates. For purposes of our projections we have assumed a static level of revenues – again under the assumption that existing rates remain in place. The portion of these revenues that are related to Wholesale service are shown on Line 5, and are included in the wholesale service charge revenues shown on Line 6. These amounts from Detroit are fixed annually as part of the development of wholesale service charges and the Authority effectively “bills” Detroit monthly in equal installments<sup>4</sup>. While annual cost allocations may change in future years related to future cost of service and service charge studies, none have been anticipated for purposes of these projections.

The balance of revenues from the Detroit Customer class are Retail revenues and are available to be applied to Retail revenue requirements, as shown on Lines 9 through 12. These revenue requirements are presented in amounts that are related to “indirect” and “direct” Retail service. Indirect amounts reflect revenues that are collected from the Detroit Customer class that stay within the Trust to finance the Local System responsibilities for debt service, non-operating pension obligation, etc. Direct amounts reflect revenues that are transferred outside the Trust to the Local System Operation and Maintenance Accounts.

Total projected operating revenue from existing Wholesale water charges (and Local System Retail water rates) available to the Trust is shown on Line 13. In summary, while we have conducted detailed evaluations on potential sales growth for the Local System, these projections assumed a static level of revenues. Due to the fact that 60% of the revenue profile for the Suburban Wholesale Customers consists of fixed monthly charges, any variance in water sales volumes would only impact revenue levels by 40% of the variance.

## **Operation and Maintenance Expense Projections**

Table 4 presents projected operation and maintenance expense, and certain non-operating expenses related to financing legacy employee benefit obligations, for 2019 through 2023. Projections for 2019 and 2020 (in total)<sup>5</sup> are equal to the amounts reflected in the biennial budget adopted by the Authority, and projections for 2021, 2022, and 2023 are equal to amounts reflected in that planning document, which assume an overall 2% increase in annual Wholesale System operating expenses. The expenses in this table are those of the Combined System and reflect the total of Wholesale and Retail amounts.

The annual “normal” Wholesale operating expenses of the Wholesale System are reflected on Lines 1 through 15. As noted above, for purposes of our projections we have not made any changes to the five-year plan prepared by the Authority. The Authority continues to pursue implementation of programs designed to improve efficiency and produce operating expense savings, and it is possible that such savings will emerge during the projection period, particularly in the non-personnel cost categories.

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<sup>4</sup> All receipts from Detroit retail customers are deposited into the Trust, so the bill prepared for the Detroit Customer class is solely to assist in the accounting practices.

<sup>5</sup> The allocation of the total Wholesale System budget to individual budget elements remains under development.

**Table 4**  
**Projected Operation and Maintenance Expense (and Selected Non-Operating Expenses)**

Line No.		Fiscal Year Ended June 30,				
		2019	2020	2021	2022	2023
		\$	\$	\$	\$	\$
	<u>GLWA Wholesale System</u>					
1	Salaries & Wages	21,106,800	21,740,000	22,390,000	23,060,000	23,750,000
2	Overtime	1,919,400	1,920,000	1,920,000	1,920,000	1,920,000
3	Employee Benefits	7,293,100	7,440,000	7,590,000	7,740,000	7,890,000
4	Subtotal Personnel	30,319,300	31,100,000	31,900,000	32,720,000	33,560,000
5	Personal (Transitional) Service Contracts	3,436,000	3,440,000	3,440,000	3,440,000	3,440,000
6	TOTAL Personnel Costs	33,755,300	34,540,000	35,340,000	36,160,000	37,000,000
7	Contractual/Purchased Services	42,013,000	43,270,000	44,570,000	45,910,000	47,290,000
8	Utilities	29,808,300	29,820,000	29,830,000	29,840,000	29,850,000
9	Chemicals	6,011,500	6,310,000	6,630,000	6,960,000	7,310,000
10	Supplies & Other	13,457,600	13,593,900	13,743,800	13,873,300	13,973,400
11	Subtotal	125,045,700	127,533,900	130,113,800	132,743,300	135,423,400
12	Unallocated Reserve	3,656,800	3,660,000	3,660,000	3,660,000	3,660,000
13	Total Gross Regional O&M Expense	128,702,500	131,193,900	133,773,800	136,403,300	139,083,400
14	less: Shared Services Reimbursement	(7,139,900)	(7,200,000)	(7,300,000)	(7,400,000)	(7,500,000)
15	Net GLWA Regional O&M Expense	<b>121,562,600</b>	<b>123,993,900</b>	<b>126,473,800</b>	<b>129,003,300</b>	<b>131,583,400</b>
16	DWSD Retail System O&M (a)	35,484,300	36,126,600	36,811,100	37,508,600	38,220,500
17	Combined Total "Normal" O&M	<b>157,046,900</b>	<b>160,120,500</b>	<b>163,284,900</b>	<b>166,511,900</b>	<b>169,803,900</b>
	<u>Operating Pension Obligation (b)</u>					
18	GLWA Wholesale System	6,048,000	6,048,000	6,048,000	6,048,000	6,048,000
19	DWSD Retail System	4,272,000	4,272,000	4,272,000	4,272,000	4,272,000
20	Total	10,320,000	10,320,000	10,320,000	10,320,000	10,320,000
21	GRAND TOTAL O&M	167,366,900	170,440,500	173,604,900	176,831,900	180,123,900
	<u>Non-Operating Expense (c)</u>					
22	Non-Operating Portion of Pension Obligation	9,202,000	9,202,000	9,202,000	9,202,000	9,202,000
23	B & C Note Non-Operating Payments	1,493,700	1,493,700	1,493,700	1,493,700	1,493,700
24	Transfer to Pension Obligation Payment Fund	10,695,700	10,695,700	10,695,700	10,695,700	10,695,700

(a) Excludes DWSD's allocated Wholesale revenue requirement to avoid duplication of expenses.

(b) Transferred to Pension Obligation sub-account of the Operation and Maintenance Fund, and treated as Operation and Maintenance Expense for purposes of Net Revenue determination.

(c) **Not** treated as Operation and Maintenance Expense for purposes of Net Revenue determination.

The projected operating budget for DWSD Retail System operation and maintenance expense is shown on Line 16. This line item reflects amounts collected via Retail rates charged to the Detroit retail customer class and transferred to the Detroit Local Operation and Maintenance Account to fund local operating expenses. The amounts are effectively "pass through" revenue requirements for the Authority. For purposes of these projections we have relied upon detailed budget plans developed by DWSD. Line 17 indicates the projected Combined annual operation and maintenance expense for both entities, and represents the projected amount of revenues that will be transferred to the Operation and Maintenance Fund for each year related to current operating expenses of the Water System.

As noted above, the operation and maintenance expenses also include deposits to the Pension Obligation subaccounts of the Operation and Maintenance Fund, which total \$10.3 million annually for the Water System, and which are shown on Lines 18 and 19 of Table 4. The remaining Water System \$9.2 million annual contribution to the Pension Obligation Payment Fund is shown as a non-operating expense on Line 22, and the Water System's allocated share of the B and C Notes issued by the City of Detroit to finance other post-employment benefits settled by Detroit's Plan of Adjustment are shown on Line 23. The Water System's allocated share of the annual \$45.4 million combined annual contribution to the GRS pension plan totals approximately \$19.5 million, as reflected on Lines 20 and 22 of Table 4. These payments are designed to continue at current levels through 2023, at which point the Plan of Adjustment stipulates that the final resolution of the obligation will be subject to a true-up analysis.

## **Capital Improvement Program Financing Plan**

Projected capital financing plans for both the Wholesale Water System and the Local Water System are presented in Tables 5a and 5b, respectively.

### ***Wholesale System CIP Financing Plan***

The projected plan for financing the Wholesale Water System CIP for the study period is set forth in Table 5a. Traditionally, the Water System's capital financing strategies followed a "maximum debt financing" strategy under the prior DWSD, which was stipulated by various rate settlement agreements with sewer Customers and extended as a matter of policy for the Water System. In essence, within the constraints of the Additional Bonds Test and the Water System's debt service coverage policies, the amount of bonds to be issued was designed to maximize the capital requirements financed with bond proceeds. Authority management (with support of the Board) continues to modify the traditional strategy to achieve the objective of reducing the Water System's significant reliance on debt for capital financing and has indicated management's intent to shift towards a more balanced debt/revenue financing approach. The capital financing plan presented herein is designed to continue implementation of that more balanced approach. Customer representatives have embraced this planning strategy as being essential to improving the financial position of the Water System.

Total capital financing requirements are shown on Lines 1 through 3 of the table, and include budgeted capital outlay (minor replacements and equipment) and the major CIP expenditures from Table 2.

Lines 4 through 16 outline the sources available to meet the CIP financing requirements. The 2019 amount on Line 4 shows the estimated net balance in the Authority Improvement and Extension ("I&E") Fund as of June 30, 2018, which is available to fund the CIP.

**Table 5a**  
**GLWA Wholesale System Capital Improvement Program Financing Plan**

Line No.	Item	Fiscal Year Ending June 30,					Total
		2019	2020	2021	2022	2023	
		\$	\$	\$	\$	\$	\$
<b>Financing Requirements</b>							
1	Budgeted Capital Outlay	22,133,400	18,763,000	18,705,300	9,363,300	7,400,800	76,365,800
2	Major Capital Improvement Program (a)	<u>66,038,000</u>	<u>110,000,000</u>	<u>122,900,000</u>	<u>135,800,000</u>	<u>148,800,000</u>	<u>583,538,000</u>
3	Total Financing Requirements	88,171,400	128,763,000	141,605,300	145,163,300	156,200,800	659,903,800
<b>Financing Sources</b>							
4	Balance in Improvement and Extension Fund (b)	242,939,700	249,573,900	218,783,300	186,572,300	150,509,200	242,939,700 (i)
<b>Construction Bond Funds</b>							
5	Beginning Balance (b)	140,308,100	88,185,100	51,315,100	3,935,100	689,100	140,308,100 (i)
<b>Bond Proceeds</b>							
6	Water System Revenue Bonds (c)	155,595,000	0	0	17,600,000	23,600,000	196,795,000
7	Less: Defeasance Requirements (d)	(181,333,500)	NA	NA	NA	NA	(181,333,500)
8	Less: Transfer to DWSD Const. Fund (e)	0	0	0	(16,544,000)	(22,184,000)	(38,728,000)
9	Less: Issuance Expenses (f)	<u>25,738,500</u>	<u>0</u>	<u>0</u>	<u>(1,056,000)</u>	<u>(1,416,000)</u>	<u>23,266,500</u>
10	Net Bond Proceeds Available	0	0	0	0	0	0
11	State Drinking Water Revolving Fund Loan	10,500,000	20,459,000	29,529,000	46,022,000	30,722,000	137,232,000
12	Less: Transfer to DWSD Constr. Fund	<u>(10,500,000)</u>	<u>(4,000,000)</u>	<u>(11,982,000)</u>	<u>0</u>	<u>0</u>	<u>(26,482,000)</u>
13	Net State DWRF Financing for Authority	0	16,459,000	17,547,000	46,022,000	30,722,000	110,750,000
14	Investment Income	<u>743,000</u>	<u>462,000</u>	<u>408,000</u>	<u>252,000</u>	<u>500,000</u>	<u>2,365,000</u>
15	Subtotal - Construction Bond Funds	<u>141,051,100</u>	<u>105,106,100</u>	<u>69,270,100</u>	<u>50,209,100</u>	<u>31,911,100</u>	<u>253,423,100</u>
16	<b>Total Financing Sources Available</b>	383,990,800	354,680,000	288,053,400	236,781,400	182,420,300	496,362,800
<b>Application of Financing Sources</b>							
17	I&E Funds - Budgeted Capital Outlay	22,133,400	18,763,000	18,705,300	9,363,300	7,400,800	76,365,800
18	I&E Funds - Specifically Designated I&E Projects	13,172,000	11,209,000	12,565,000	11,280,000	12,007,000	60,233,000
19	I&E Funding of Debt Eligible Projects	0	45,000,000	45,000,000	75,000,000	105,000,000	270,000,000
20	Project Expenditures from Construction Fund	<u>52,866,000</u>	<u>53,791,000</u>	<u>65,335,000</u>	<u>49,520,000</u>	<u>31,793,000</u>	<u>253,305,000</u>
21	<b>Total Financing Sources Applied</b>	88,171,400	128,763,000	141,605,300	145,163,300	156,200,800	659,903,800
<b>Financing Sources Available for Future Requirements</b>							
<b>Improvement &amp; Extension Funds</b>							
22	Remaining Beginning Balance (g)	207,634,300	174,601,900	142,513,000	90,929,000	26,101,400	
23	Transfers from Water Receiving Fund	<u>41,939,600</u>	<u>44,181,400</u>	<u>44,059,300</u>	<u>59,580,200</u>	<u>67,694,100</u>	257,454,600
24	Total Improvement & Extension Fund	249,573,900	218,783,300	186,572,300	150,509,200	93,795,500	93,795,500 (j)
25	Construction Bond Funds (h)	<u>88,185,100</u>	<u>51,315,100</u>	<u>3,935,100</u>	<u>689,100</u>	<u>118,100</u>	<u>118,100 (j)</u>
26	<b>Financing Sources Available for Future Requirements</b>	337,759,000	270,098,400	190,507,400	151,198,300	93,913,600	93,913,600 (j)

(a) From Table 2.

(b) Estimated balance available June 30, 2018 (applies only to Fiscal Year 2019).

(c) Par value for the Series 2018 Bonds (for Fiscal Year 2019) and projected additional future bonds.

(d) Amounts required to defease the 2018 Refunded Bonds.

(e) Assumes that additional DWSD CIP financing will be required from additional future bonds.

(f) For 2019, includes net effect of a bond premium, release of accrued debt service reserve amounts, and other issuance expenses. For future years assumes amounts will be required from bond proceeds to fund debt service reserve fund.

(g) Line 4 minus Lines 17 through 19.

(h) Line 15 minus Line 20.

(i) Total column reflects estimated balance available June 30, 2018.

(j) Total column reflects estimated balance available June 30, 2023.

The capital financing available from the Authority Construction Fund is indicated on Lines 5 through 10. The 2019 amount on Line 5 shows the estimated net balance in the Construction Fund as of June 30, 2018, which is available to fund the CIP. Lines 6 through 10 reflect the projected financing sources generated via the issuance of revenue bonds. The Series 2018 Bonds are being issued entirely as revenue refunding bonds and are not designed to produce any proceeds to finance capital improvements for either the Wholesale Water System or the Local

Water System. The amount shown in 2019 on Line 6 represents the par value of the Series 2018 Bonds, which are entirely being issued to refinance existing bonds. The defeasance requirements for the refunded bonds are shown on Line 7 in 2019. The issuance expenses for 2019 shown on Line 9 reflect a net amount recognizing the net effect of bond premiums, release of accrued debt service reserve amounts, and underwriter discounts, and other issuance expenses.

The capital financing plan presented in Table 5a reflects strategic application of existing available fund balances, draws on loans from State Drinking Water Revolving Fund (DWRf) Loans, and transfers from revenues to the Authority I&E Fund to pay for improvements, and to then rely on this issuance of additional revenue bonds to the extent necessary. The basic strategy is based on maintaining projected minimum year end balances of approximately \$90 million and \$50 million in the Authority I&E Account of the I&E Fund and the Construction Fund, respectively.

Line 15 presents the proceeds from DWRf Loans. As the Authority incurs expenditures for DWRf funded projects, invoices are transmitted to the state administrators of the DWRf for remittance. As such, the amounts shown on Line 15 reflect the projected expenditure schedule of DWRf funded projects. The Authority recently received approval for approximately \$140 of new DWRf funding for projects commencing in 2020. The amounts shown on Line 15 reflect projected expenditure schedules for the specific projects funded via these loans. A portion of the existing DWRf loans are related to projects in the Retail Water System CIP. The relevant amounts are shown to be transferred to the DWSD Construction Fund on Line 16. While the Authority is responsible for the debt service on these Junior Lien Bonds, the annual principal and interest requirements are included in the Retail revenue requirements assigned to the City of Detroit customer class.

These new DWRf loans, coupled with the large level of existing balances of available capital financing resources and transfers of annual revenues, are projected to be sufficient to finance the Wholesale Water System CIP through the entirety of the five-year study period. The projection approach applied in this forecast results in a small projected issuances of additional revenue bonds in 2022 and 2023 to finance additional expenditures in the Retail Water System CIP. Again, while the Authority is responsible for the debt service on any bonds issued to finance capital improvements to the DWSD Local Water System, the annual principal and interest requirements are included in the revenue requirements assigned to the City of Detroit retail customer class.

Lines 17 through 21 illustrate the projected application of financing sources to meet the Authority's CIP financing requirements. The strategic approach applies I&E Funds to finance budgeted capital outlay and certain specifically designated, short lived major capital improvements, as noted on Lines 17 and 18. In addition, a strategic application of I&E Funds is planned for a portion of the "debt eligible" projects in the CIP, as shown on Line 19. All other major CIP expenditures are financed from available Construction Funds, which include the amounts funded via DWRf loans.

The balances of projected funds available for subsequent years is shown on Lines 22 through 26 and are carried forward to Lines 4 and 5 in the next year. Line 23 shows the amount

projected to be transferred to the I&E Fund each year from current operating revenues. *See Table 6.* For planning purposes, revenue transfers to the I&E Fund are not assumed to be eligible to finance capital improvements until at least the year subsequent to their generation. As such, they are effectively shown as a “year-end” transfer.

### **Local System CIP Financing Plan**

The projected plan for financing the Retail Water System CIP for the study period is set forth in Table 5b. The general format and approach is similar to that presented for the Wholesale System CIP in Table 5a.

An estimated level of major capital improvements is presented on Line 1. These projected expenditures reflect a leveled expectation of capital financing requirements, based on discussions with DWSD principals.

Line No.	Item	2019 \$	2020 \$	2021 \$	2022 \$	2023 \$	Total \$
<b>Financing Requirements</b>							
1	DWSD Local System CIP (a)	41,375,400	41,375,400	41,375,400	41,375,400	41,375,400	206,877,000
<b>Financing Sources</b>							
<u>DWSD Local System Improvement and Extension Account</u>							
2	Beginning Balance (b)	50,000,000	48,007,000	29,783,600	31,127,100	19,139,600	50,000,000
3	Deposits from Lease Payment (c)	18,694,700	19,152,000	19,145,100	19,139,600	19,139,400	95,270,800
4	Deposits from DWSD Local System Revenues	0	0	0	0	0	0
5	Subtotal - Improvement & Extension Fund	68,694,700	67,159,000	48,928,700	50,266,700	38,279,000	145,270,800
<u>Construction Bond Funds</u>							
6	Beginning Balance (b)	25,000,000	15,011,400	15,161,500	3,663,400	9,959,100	25,000,000
7	Net Bond Proceeds	0	0	0	16,544,000	22,184,000	38,728,000
8	State Drinking Water Revolving Fund Loans	10,500,000	4,000,000	11,982,000	0	0	26,482,000
9	Investment Income	199,100	150,100	93,700	0	0	442,900
10	Subtotal - Construction Bond Funds	35,699,100	19,161,500	27,237,200	20,207,400	32,143,100	90,652,900
11	<b>Total Financing Sources Available</b>	104,393,800	86,320,500	76,165,900	70,474,100	70,422,100	235,923,700
<b>Application of Financing Sources</b>							
12	Project Expenditures from I&E Funds	20,687,700	37,375,400	17,801,600	31,127,100	19,139,600	126,131,400
13	Project Expenditures from Construction Funds	20,687,700	4,000,000	23,573,800	10,248,300	22,235,800	80,745,600
14	<b>Total Financing Sources Applied</b>	41,375,400	41,375,400	41,375,400	41,375,400	41,375,400	206,877,000
<b>Financing Sources Available for Future Requirements</b>							
15	Improvement & Extension Fund (d)	48,007,000	29,783,600	31,127,100	19,139,600	19,139,400	19,139,400
16	Construction Bond Funds (e)	15,011,400	15,161,500	3,663,400	9,959,100	9,907,300	9,907,300
17	<b>Total Financing Sources Available for Future Req'ts</b>	63,018,400	44,945,100	34,790,500	29,098,700	29,046,700	29,046,700
(a) Preliminary pending additional review.							
(b) Estimated allocated balance available June 30, 2018. (applies only to FY 2019).							
(c) Total Lease Payment							
less: Lease Payment applied to Debt Service		(3,805,300)	(3,348,000)	(3,354,900)	(3,360,400)	(3,360,600)	(17,229,200)
Net Lease Payment transferred to Local I&E Account		18,694,700	19,152,000	19,145,100	19,139,600	19,139,400	95,270,800
(d) Line 5 minus Line 12.							
(e) Line 10 minus Line 13.							

Lines 2 through 11 illustrate projected financing sources. Funds available to the Retail System I&E Account include existing balances and deposits related to the portion of annual



deposits from the Lease Payment that are not directed to fund debt service. Based on discussions with DWSD principals, we have assumed that Detroit will direct a portion of future Lease Payments to fund their debt service responsibility. These projections assume that the “Lease Payment applied to debt service” amounts will be equivalent to the allocated debt service related to the \$57 million in net bond proceeds that were generated from the 2016 Water Bonds. *See Footnote (c).*

Funds available to the Retail System Construction Fund include existing balances and the allocated proceeds from the Series 2018 Bonds. As noted earlier, these projections do not anticipate the need for any additional bond issuances during the study period.

Financing sources are applied (on Lines 12 through 14) in a manner to maintain projected minimum year end balances in the Retail System I&E Account equivalent to the annual Lease Payment transfer. For planning purposes, we assumed that such amounts are not eligible to finance capital improvements until at least the year subsequent to their generation. All other financing requirements are assumed to be funded via issuance of new bonds to the extent necessary. The balances of funds available for subsequent years is shown on Lines 15 through 17 and are carried forward to Lines 2 and 6 in the next year.

## **Operational Financing Plan**

Projected financing plans for the annual operating and capital revenue requirements of the Water System for the 2019 through 2023 study period are presented in Table 6. This Combined System presentation includes all Wholesale and Retail revenues and revenue requirements, consistent with the MBO flow of funds. The table provides an indication of the adequacy of the Authority's revenues and the feasibility of future anticipated revenue bond sales and the associated capital financing plans. The overall financial plan summarized by these projections is designed to embrace the Authority's long-term financial stability strategy, which leverages efficiency savings and optimized infrastructure plans coupled with annual revenue adjustments, to produce increasing amounts of “unrestricted cash” that remains after providing for payment of operation and maintenance expenses, debt service payments, and funding of the various non-operating elements set forth in the foundational documents for the Authority. *See “GLWA Financial Planning Guiding Principles.”*

*[Remainder of page intentionally left blank]*

**Table 6**  
**Operational Financing Plan - Combined Wholesale and Retail System**

Line No.	Item	Fiscal Year Ending June 30,				
		2019	2020	2021	2022	2023
		\$	\$	\$	\$	\$
<b>Revenue (a)</b>						
1	Operating Revenue Under Existing Charges	402,877,200	404,109,400	404,109,400	404,109,400	404,109,400
	<u>Projected Revenue from Adjustments</u>					
2	FY 2020: 3.3%		13,433,400	13,433,400	13,433,400	13,433,400
3	FY 2021: 3.7%			15,306,100	15,306,100	15,306,100
4	FY 2022: 3.6%				15,782,100	15,782,100
5	FY 2023: 3.9%					17,351,900
6	Total Projected Revenue from Water Charges	402,877,200	417,542,800	432,848,900	448,631,000	465,982,900
7	Miscellaneous Operating Revenue	<u>2,200,000</u>	<u>2,200,000</u>	<u>2,200,000</u>	<u>2,200,000</u>	<u>2,200,000</u>
8	Total Operating Revenue	405,077,200	419,742,800	435,048,900	450,831,000	468,182,900
9	Non-Operating Revenue	<u>3,836,500</u>	<u>3,715,600</u>	<u>3,441,400</u>	<u>3,077,800</u>	<u>2,537,000</u>
10	<b>Total Revenue Available</b>	408,913,700	423,458,400	438,490,300	453,908,800	470,719,900
<b>Revenue Requirements</b>						
11	Transfer to GLWA Regional O&M Account	121,562,600	123,993,900	126,473,800	129,003,300	131,583,400
12	Transfer to DWSD Local O&M Account	35,484,300	36,126,600	36,811,100	37,508,600	38,220,500
13	Transfer to GLWA Pension O&M Account	6,048,000	6,048,000	6,048,000	6,048,000	6,048,000
14	Transfer to DWSD Pension O&M Account	4,272,000	4,272,000	4,272,000	4,272,000	4,272,000
15	Total O&M Expense	167,366,900	170,440,500	173,604,900	176,831,900	180,123,900
<u>Debt Service - Bond Interest and Redemption Deposits</u>						
Senior Lien Bonds						
16	Outstanding Bonds	119,230,800	123,909,900	126,616,400	127,412,400	131,184,100
17	Future Bonds ( <i>lien unspecified, assumed</i> )	<u>0</u>	<u>0</u>	<u>0</u>	<u>374,000</u>	<u>1,550,400</u>
18	Total Senior Lien Debt Service	119,230,800	123,909,900	126,616,400	127,786,400	132,734,500
Second Lien Bonds						
19	Outstanding Bonds ( <i>b</i> )	32,252,800	28,298,100	29,733,600	25,140,600	26,626,400
20	The 2018 GLWA Bonds	<u>13,961,600</u>	<u>19,551,300</u>	<u>19,547,300</u>	<u>19,543,000</u>	<u>18,417,000</u>
21	Total Second Lien Debt Service	<u>46,214,400</u>	<u>47,849,400</u>	<u>49,280,900</u>	<u>44,683,600</u>	<u>45,043,400</u>
22	Subtotal Debt Service	165,445,200	171,759,300	175,897,300	172,470,000	177,777,900
23	SRF Junior Lien Bonds	<u>2,710,600</u>	<u>4,318,600</u>	<u>12,084,700</u>	<u>12,090,400</u>	<u>12,085,000</u>
24	Total Debt Service	168,155,800	176,077,900	187,982,000	184,560,400	189,862,900
25	Non-Operating Portion of Pension Obligation	9,202,000	9,202,000	9,202,000	9,202,000	9,202,000
26	B & C Note Non-Operating Payments	<u>1,493,700</u>	<u>1,493,700</u>	<u>1,493,700</u>	<u>1,493,700</u>	<u>1,493,700</u>
27	Transfer to Pension Obligation Payment Fund	10,695,700	10,695,700	10,695,700	10,695,700	10,695,700
28	Transfer to WRAP Fund	2,061,000	2,100,500	2,176,700	2,257,800	2,343,900
29	Transfer to Budget Stabilization Fund	0	0	0	0	0
30	Transfer to Extra. Repair and Repl. Fund	0	0	0	0	0
31	Lease Payment - Transfer to Detroit Local I&E	18,694,700	19,152,000	19,145,100	19,139,600	19,139,400
<u>Transfers to I&amp;E Fund to Finance Capital Improvements</u>						
32	Transfer to GLWA Regional I&E Account	41,939,600	44,181,400	44,059,300	59,580,200	67,694,100
33	Transfer to DWSD Local I&E Account	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
34	Total Transfers to I&E Fund	41,939,600	44,181,400	44,059,300	59,580,200	67,694,100
35	Operating Reserves	0	810,400	826,600	843,200	860,000
36	<b>Total Revenue Requirements</b>	408,913,700	423,458,400	438,490,300	453,908,800	470,719,900
37	Indicated Balance (Deficiency)	0	0	0	0	0
<b>Debt Service Coverage Projections</b>						
38	Senior Lien for Rate Covenant Purposes	2.03	2.04	2.09	2.17	2.19
39	Second Lien for Rate Covenant Purposes	1.46	1.47	1.51	1.61	1.63
40	SRF Junior Lien for Rate Covenant Purposes	1.44	1.44	1.41	1.50	1.53
41	<i>Net Revenues (10) - (15)</i>	<i>241,546,800</i>	<i>253,017,900</i>	<i>264,885,400</i>	<i>277,076,900</i>	<i>290,596,000</i>
42	<i>Net Revenues Available after Debt Service (41)-(24)</i>	<i>73,391,000</i>	<i>76,940,000</i>	<i>76,903,400</i>	<i>92,516,500</i>	<i>100,733,100</i>
43	<i>Applied to MBO Reserve Funds (27,28,29,30)</i>	<i>(12,756,700)</i>	<i>(12,796,200)</i>	<i>(12,872,400)</i>	<i>(12,953,500)</i>	<i>(13,039,600)</i>
44	<i>Applied as Lease Payment to DWSD I&amp;E Acct (31)</i>	<i>(18,694,700)</i>	<i>(19,152,000)</i>	<i>(19,145,100)</i>	<i>(19,139,600)</i>	<i>(19,139,400)</i>
45	<i>Applied to Operating Reserves (36)</i>	<i>0</i>	<i>(810,400)</i>	<i>(826,600)</i>	<i>(843,200)</i>	<i>(860,000)</i>
46	<i>Available for I&amp;E Fund Accounts (42) - (43,44,45)</i>	<i>41,939,600</i>	<i>44,181,400</i>	<i>44,059,300</i>	<i>59,580,200</i>	<i>67,694,100</i>

(a) From Table 3. Based on application of FY 2019 charges for 2019 through 2023.

(b) Excludes debt service on the Series 2018 Refunded Bonds.

Operating revenue projections from Wholesale service charges and Detroit Retail rates and charges, presented in Table 3, are based on current water service charge schedules. Projected “Revenues from Adjustments” are presented on Lines 2 through 5, and reflect projected service charge increases necessary to produce a revenue level equal to the Combined revenue requirement resulting from the underlying projections for the Wholesale and Retail Systems. For the Wholesale System, these levels are equal to targeted levels contemplated by the terms of the Lease, which indicates 4.0% increases in annual revenue requirements. The Retail System figures are based on discussions with DWSD principals, and are consistent with the capital financing plan set forth in Table 5b. The projected revenue adjustments during the study period are believed to be comparable with those that should be experienced by GLWA’s peers.

Projected non-operating revenues of the Wholesale Water System include investment earnings from all eligible Water System funds and have been projected based on an analysis of funds on hand, construction schedules, and average fund balances. An annual interest rate of one percent has been assumed in projecting interest income for all funds.

The Revenue Requirements in this table are presented in a manner that follows the flow of funds set forth in the Master Bond Ordinance. Operation and maintenance expenses are provided for first, followed by debt service separated by the various liens, followed by deposits to the Pension Obligation Payment Fund, the WRAP Fund, the Extraordinary Repair and Replacement Reserve Fund, and finally the I&E Fund (including the Lease Payment), as further described below.

The projected operation and maintenance expenses shown on Lines 11 through 15 reflect the total projected transfers to the Wholesale System and Retail System Operation and Maintenance Accounts, including amounts to provide for the operating expense portion of the Pension Obligation, as summarized in Table 4.

The Authority’s projected debt service is depicted on Lines 16 through 24, separated by priorities of lien. Debt service on Senior Lien Bonds is summarized on Lines 16 through 18, and includes existing debt service on outstanding bonds, plus estimated debt service on future bond sales indicated in Table 5. For purposes of these projections, a scale assuming level debt service based on a 30-year term and an interest rate of 4.25 percent has been assumed on all future projected bond sales. While no strategic designation as to the lien status of future bonds has been made nor contemplated, for purposes of these projections it is assumed that any additional bonds would be issued as senior lien. A similar presentation of debt service on second lien bonds is presented on Lines 19 through 21. The debt service on outstanding second lien bonds shown on Line 19 excludes debt service on the Refunded Bonds refinanced with the Series 2018 Bonds. The debt service on the Series 2018 Bonds is shown on Line 20. Projected repayments of DWRF Junior Lien Bonds are shown on Line 23. These figures reflect repayments of existing loans, as well as the projected debt service on newly approved, but not yet issued, DWRF loans discussed in the CIP Financing Plan.

Transfers to the Pension Obligation Payment Fund are shown on Lines 25 through 27. These amounts reflect the Water System’s allocated share of the non-operating expense portion of the legacy Pension Obligation payments and the B and C Note payments.

Transfers to the WRAP Fund, shown on Line 28, are established at 0.5% of total projected revenues from service charges. For purposes of these projections, we've assumed that annual amounts deposited into the WRAP Fund will be fully exhausted in the year they are transferred, and therefore these projections do not track WRAP Fund balances or activities.

As part of the 2018 MOU implementation, the Budget Stabilization Fund and the Extraordinary Repair and Replacement Reserve ("ER&R") Fund requirement was fully funded from existing cash and investment balances. As such, no future deposits to those funds are projected to be required during the study period.

The next revenue requirement relates to the Water System's share of the \$50 million Lease Payment, which was initially established as \$22.5 million. For purposes of establishing the Wholesale System Operational Financing Plan, the entirety of the \$22.5 million payment is recognized as a Wholesale System revenue requirement from Wholesale service charges, irrespective of how it is utilized. However, if the City of Detroit opts to apply a portion of the Lease Payment to effectively fund a portion of its allocated debt service responsibility, that decision results in a reduction of revenue to the Combined System, and a corresponding reduction to the Lease Payment cash transfer to the Retail System I&E Account. Based on discussions with DWSD principals, we have assumed that Detroit will opt to apply an amount equivalent to allocated debt service related to the \$57 million in net bond proceeds from the 2016 Water Bonds issued in October 2016 as a "Lease Payment applied to debt service." Therefore the Combined System Lease Payment Transfer to the Retail System I&E Account is lower than the full \$22.5 million Lease Payment, as shown on Line 31.

All remaining balances are then available to be maintained as operating reserves in the Authority Wholesale Operation and Maintenance Account or transferred to the Authority Wholesale and Detroit Retail I&E subaccounts of the I&E Fund held within the Trust. Our projections assume that the Operation and Maintenance Account will be maintained at a level equivalent to 90 days of annual Authority operation and maintenance expense, including the operating portion of the transfer to the GLWA Pension O&M Account, in order to provide adequate working capital. Line 35 of Table 6 presents a revenue requirement established to ensure that this funding level is maintained.

For purposes of these projections we have assumed no funding of the Detroit Retail I&E Account (other than that provided by the Lease Payment) will be generated during the study period. Therefore all other remaining amounts are projected to be transferred to the Authority Wholesale I&E subaccount of the I&E Fund held within the Trust, as shown on Line 32. In effect, the projected amounts on this line reflect the total annual Wholesale System revenue requirement, as determined by the indexed 4 percent annual adjustments, less all other Wholesale System revenue requirements. The projected amounts are available to finance capital improvements and appear as a CIP financing source in Tables 5a and 5b.

Pursuant to the Rate Covenant of the Master Bond Ordinance, water service charges must be established to maintain debt service coverage ratios of at least 1.20 for Senior Lien Bonds, 1.10 for Second Lien Bonds, and 1.00 for SRF Junior Lien Bonds. The Authority's management team

has targeted higher minimum planning targets for each lien of debt. While these informal targets have not yet been formally established as policy positions, the long-term financial sustainability and stability objectives include increasing levels of debt service coverage as a strategic objective.

Projections of annual debt service coverage levels are summarized on Lines 38 through 40. These coverage levels are calculated on the same basis as required by the rate covenant contained in the Master Bond Ordinance. As indicated, annual coverage levels, assuming the revenue adjustments shown, are projected to be in excess of the amounts required by the Master Bond Ordinance, and are projected to continue the recently experienced steady improvement.

## **Projected Wholesale System Fund Balances**

Table 7 presents a summary of the projected cash and investment balances in the Wholesale Water System's Operating, Budget Stabilization, ER&R, and I&E Funds. It does not reflect any of the funds that are effectively "exhausted" in the year they are transferred, such as the Debt Service Accounts within the Bond and Interest Redemption Funds, the Pension Obligation Payment Fund, and the WRAP Fund.

The figures on Lines 1 through 18 represent those funds that are entirely generated by revenues, and exclude any amounts funded by bond proceeds. The mechanics of these funds have already been discussed. For planning purposes, operating revenues generated to finance capital improvements are transferred to the I&E Fund and assumed to be not be eligible for capital financing until at least the following year. These funds are technically available to be transferred to a Surplus Fund and to other Water System funds for any Water System use.

The Bond Reserve and Construction Fund balances on Lines 19 and 20 are generated via issuance of debt. Table 7 illustrates the projected stability in cash and investment balances, and the strategic use of liquidity to finance capital improvements.

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**Table 7**  
**Projected Cash and Investment Fund Balances - Wholesale System (a)**

Line No.	Item	Fiscal Year Ending June 30,				
		2019	2020	2021	2022	2023
		\$	\$	\$	\$	\$
	<u>Operating Fund</u>					
1	Beginning Balance	42,803,500	42,803,500	43,613,900	44,440,500	45,283,700
2	Deposit from Operations	0	810,400	826,600	843,200	860,000
3	Ending Balance	42,803,500	43,613,900	44,440,500	45,283,700	46,143,700
	<u>Budget Stabilization Fund (a)</u>					
4	Beginning Balance	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
5	Deposits / (Withdrawals)	0	0	0	0	0
6	Ending Balance	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
	<u>ER&amp;R Fund (a)</u>					
7	Beginning Balance	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000
8	Transfers In	0	0	0	0	0
9	Ending Balance	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000
	<u>I&amp;E Fund (b)</u>					
10	Beginning Balance	242,939,700	249,573,900	218,783,300	186,572,300	150,509,200
11	Budgeted Capital Outlay	(22,133,400)	(18,763,000)	(18,705,300)	(9,363,300)	(7,400,800)
12	Capital Expenditures	(13,172,000)	(56,209,000)	(57,565,000)	(86,280,000)	(117,007,000)
13	Subtotal prior to Revenue Transfer	207,634,300	174,601,900	142,513,000	90,929,000	26,101,400
14	Deposits from Revenues (b)	41,939,600	44,181,400	44,059,300	59,580,200	67,694,100
15	Ending Balance	249,573,900	218,783,300	186,572,300	150,509,200	93,795,500
	<u>Total Revenue Generated Funds (c)</u>					
16	Beginning Balance	315,243,200	321,877,400	291,897,200	260,512,800	225,292,900
17	Net Sources and Uses	6,634,200	(29,980,200)	(31,384,400)	(35,219,900)	(55,853,700)
18	Ending Balance	321,877,400	291,897,200	260,512,800	225,292,900	169,439,200
	<u>Other Funds</u>					
19	Bond Reserve (excludes Surety)	20,969,800	20,969,800	20,969,800	20,969,800	20,969,800
20	Construction Fund	88,185,100	51,315,100	3,935,100	689,100	118,100
21	Total Funds	487,084,200	422,874,700	348,078,300	308,471,900	253,814,700
22	Subtotal w/o Construction Funds	398,899,100	371,559,600	344,143,200	307,782,800	253,696,600

(a) Technically includes "Combined System" amounts held by GLWA.  
(b) Only includes GLWA Regional I&E Account. Does not include Lease Payment transferred to DWSD Local I&E Account.  
(c) Excludes MBO Funds that are funded and assumed to be fully expended each year, such as the Bond and Interest Redemption Funds, the Pension Obligation Payment Fund, and the WRAP Fund.

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## Compliance with Additional Bonds Test

The "Additional Bonds Test" (the "ABT") of the Master Bond Ordinance governing issuance of the Series 2018 Bonds provides two approaches for certifying eligibility to issue the bonds. For any bonds that are structured to provide new capital financing proceeds, the test requires a net revenues analysis to show coverage of maximum annual future debt service. An alternate test is available for bonds that are issued solely for refunding purposes. As the Series 2018 Bonds are being issued solely for refunding purposes, compliance with the ABT is achieved by demonstration of such savings. We have also included ABT coverage calculations in this report.

### **Coverage Test**

The coverage test portion of the Additional Bonds Test states that the Authority may not issue additional securities to finance system improvements unless the applicable net revenues of the Water System generate sufficient coverage of the maximum future annual principal and interest requirements on the outstanding bonds and on the additional bonds issued. The coverage requirement for each lien of priority includes debt service for the lien in question, plus debt service on all bonds (if any) of all higher lien priorities. Sufficient coverage is defined as being equal to or greater than 1.20 for Senior Lien Bonds, 1.10 for Second Lien Bonds, and 1.00 for all bonds, including Junior Lien Bonds. For purposes of determining the "applicable" net revenues, the Authority may utilize either (a) the historical net revenues for the most recently completed fiscal year for which there is an audit report (so long as the fiscal year has been completed within 16 months of the issuance date of the bonds in question); (b) the current fiscal year; or (c) the immediately succeeding fiscal year. To the extent that a historical year is chosen as the "applicable" year, and to the extent that any changes in rates, fees and charges has been authorized prior to the issuance of the bonds being evaluated, net revenues may be augmented by an amount reflecting the effect of such changes had the Water System's billings during such Fiscal Year been at the increased charges.

Table 8 presents the level of ABT coverage provided for the Series 2018 Bonds. For purposes of the test, we have prepared calculations of "ABT Net Revenues" for each of the three potentially available years defined by the test and described above. We have presented historical, augmented figures for 2017, which will remain eligible for the historical test up until October 31, 2018. These 2017 "ABT Net Revenues" reflect the amounts included in the statistical section of the audited GLWA financial statements for 2017<sup>6</sup>, augmented by adjustments to charges for 2018 and 2019.

We have also provided projected figures for 2019, the current fiscal year, and 2020, the succeeding fiscal year. The projected figures are consistent with those presented in Table 6. While the ABT technically only requires compliance with ANY ONE of the applicable test periods, this table presents capacity under ALL applicable test periods.

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<sup>6</sup> See page 115 of the GLWA Comprehensive Financial Report for Fiscal Year 2017.

**Table 7**  
**Projected Cash and Investment Fund Balances - Wholesale System (a)**

Line No.	Item	Fiscal Year Ending June 30,				
		2019	2020	2021	2022	2023
		\$	\$	\$	\$	\$
<u>Operating Fund</u>						
1	Beginning Balance	42,803,500	42,803,500	43,613,900	44,440,500	45,283,700
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<u>Budget Stabilization Fund (a)</u>						
4	Beginning Balance	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
5	Deposits / (Withdrawals)	0	0	0	0	0
6	Ending Balance	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
<u>ER&amp;R Fund (a)</u>						
7	Beginning Balance	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000
8	Transfers In	0	0	0	0	0
9	Ending Balance	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000
<u>I&amp;E Fund (b)</u>						
10	Beginning Balance	242,939,700	249,573,900	218,783,300	186,572,300	150,509,200
11	Budgeted Capital Outlay	(22,133,400)	(18,763,000)	(18,705,300)	(9,363,300)	(7,400,800)
12	Capital Expenditures	(13,172,000)	(56,209,000)	(57,565,000)	(86,280,000)	(117,007,000)
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<u>Total Revenue Generated Funds (c)</u>						
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18	Ending Balance	321,877,400	291,897,200	260,512,800	225,292,900	169,439,200
<u>Other Funds</u>						
19	Bond Reserve (excludes Surety)	20,969,800	20,969,800	20,969,800	20,969,800	20,969,800
20	Construction Fund	88,185,100	51,315,100	3,935,100	689,100	118,100
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22	Subtotal w/o Construction Funds	398,899,100	371,559,600	344,143,200	307,782,800	253,696,600

(a) Technically includes "Combined System" amounts held by GLWA.  
(b) Only includes GLWA Regional I&E Account. Does not include Lease Payment transferred to DWSD Local I&E Account.  
(c) Excludes MBO Funds that are funded and assumed to be fully expended each year, such as the Bond and Interest Redemption Funds, the Pension Obligation Payment Fund, and the WRAP Fund.

### **Alternate Test for Refundings**

The alternate test simply requires that any bonds that are issued solely for refunding purposes may also be issued "without regard to" the coverage test summarized above, so long as debt service savings can be illustrated in all future years. As the Series 2018 Bonds are being issued solely as refunding bonds, compliance with the "ABT" of the Bond Ordinance can be achieved if such savings can be demonstrated.

We have reviewed the Debt Service Installment Requirements associated with the Series 2018 Bonds, and the resulting Debt Service Installment Requirements for the Water Supply System in total. We find that after giving effect to the refunding transaction, Debt Service Installment Requirements in Fiscal Year 2019 (the current Fiscal Year) and in all future years are less than the Debt Service Installment Requirements would be without giving effect to the refunding.



## Opinions

As a result of our investigations and analysis, we have formulated the following opinions:

1. While faced with additional capital expenditures to ensure reliability of service and implement the Master Plan Update, the projected increases in the Authority's wholesale water charges through 2023 are comparable to what has recently been experienced by other large wholesale providers.
2. The Authority's organizational documents establish financial planning guiding principles that are designed to ensure responsible financial performance, balancing service requirements and impacts on Customers, and to result in continued improvements in the current financial position of the Water System, including reported debt service coverage and liquidity balances.
3. The Authority's financial plan is sound, supported by gradual revenue adjustments, and is expected to be sufficient to adequately fund the CIP and other programs necessary to meet Water System obligations.
4. The revenues pledged as security for the Series 2018 Bonds are projected to be sufficient to comply with rate covenants required by the Master Bond Ordinance and the targets established by Authority policy.
5. The requirements contained in the Master Bond Ordinance authorizing the issuance of the Series 2018 Bonds have been met, as debt service savings are evident in fiscal year 2019 and in all future years as a result of issuance of the Series 2018 Bonds.

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**APPENDIX II**  
**AUDITED FINANCIAL STATEMENTS OF THE GREAT LAKES WATER AUTHORITY**  
**WATER FUND FOR THE YEAR ENDED JUNE 30, 2017**

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# Water 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.*

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# GREAT LAKES WATER AUTHORITY WATER FUND

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# GREAT LAKES WATER AUTHORITY WATER 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 Water 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 Water 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 Water 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 Lohman LLC*

# GREAT LAKES WATER AUTHORITY WATER FUND

## Statement of Net Position

June 30, 2017

### Assets

#### Current assets:

Cash and cash equivalents	\$ 266,483,138
Restricted cash and cash equivalents	60,753,268
Restricted cash for the benefit of DWSD	288,378
Investments	852,420
Restricted investments	1,169,187
Receivables:	
Billed	36,459,563
Unbilled	29,539,433
Other	1,300
Allowance for doubtful accounts	(4,941,777)
Due from other governments	21,327,713
Contractual obligation receivable	12,076,942
Prepaid items and other assets	2,437,047
Total current assets	<u>426,446,612</u>

#### Noncurrent assets:

Restricted cash and cash equivalents	177,939,494
Restricted investments	20,530,374
Contractual obligation receivable	483,604,380
Prepaid lease	11,250,000
Assets not subject to depreciation	452,185,674
Capital assets being depreciated, net	1,587,291,603
Prepaid insurance on debt	14,112,324
Total noncurrent assets	<u>2,746,913,849</u>

Total assets	<u>3,173,360,461</u>
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#### Deferred outflows of resources

Deferred loss on refunding	99,294,499
Deferred pension amounts	21,491,506

Total deferred outflows of resources	<u>120,786,005</u>
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continued...

# GREAT LAKES WATER AUTHORITY WATER FUND

## Statement of Net Position

June 30, 2017

### Liabilities

#### Current liabilities:

Accounts and contracts payable	\$ 36,751,842
Accrued salaries, wages and benefits	3,190,038
Other accrued liabilities	1,353,816
Due to other governments	25,393,813
Interest payable	39,329,322
Current portion of:	
Long-term debt	23,393,905
Lease payable	4,618,174
Obligation payable	159,803
Accrued compensated absences	2,157,888
Accrued workers' compensation	25,000
Total current liabilities	<u>136,373,601</u>

#### Noncurrent liabilities:

Other noncurrent liabilities	2,582,076
Long-term debt	2,606,465,431
Long-term lease payable	426,303,346
Obligation payable	17,265,503
Accrued compensated absences	2,288,125
Accrued workers' compensation	225,000
Claims and judgments	75,000
Net pension liability	69,569,044
Total noncurrent liabilities	<u>3,124,773,525</u>

Total liabilities	<u>3,261,147,126</u>
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#### Deferred inflows of resources

Deferred amounts for swap termination	85,068
Deferred gain on refunding	62,822,646
Deferred pension amounts	<u>6,565,776</u>

Total deferred inflows of resources	<u>69,473,490</u>
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#### Net position

Net investment in capital assets	134,919,107
Restricted for debt service	26,194,280
Restricted for capital acquisition	172,974,994
Restricted for payment assistance program	2,218,373
Unrestricted (deficit)	<u>(372,780,904)</u>

Total net position	<u>\$ (36,474,150)</u>
--------------------	------------------------

concluded

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

# GREAT LAKES WATER AUTHORITY WATER FUND

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

For the Year Ended June 30, 2017

Operating revenues	
Wholesale customer charges	\$ 331,115,131
Local system charges	15,490,300
Bad debt recovery	5,107,125
Other revenues	37,388
	<hr/>
Total operating revenues	351,749,944
	<hr/>
Operating expenses	
Operating before depreciation:	
Personnel	38,261,393
Contractual services	34,257,419
Utilities	28,469,603
Chemicals	5,340,753
Supplies and other expenses	7,982,562
Capital program allocation	(977,762)
Shared services allocation	(11,603,019)
Total operating before depreciation	101,730,949
	<hr/>
Depreciation	144,137,912
	<hr/>
Total operating expenses	245,868,861
	<hr/>
Operating income	105,881,083
	<hr/>
Nonoperating revenues (expenses)	
Earnings on investments	1,832,918
Interest on obligations receivable	25,269,750
Interest expense, net of capitalized interest	(132,434,945)
Amortization of debt related items and costs of issuance	2,403,018
Other	(2,283,399)
Loss on disposal of capital assets	(207,900)
Loss on impairment of capital assets	(31,499)
	<hr/>
Total nonoperating expenses	(105,452,057)
	<hr/>
Income before special item	429,026
	<hr/>
Special item - memorandum of understanding with DWSD	(32,811,581)
	<hr/>
Change in net position	(32,382,555)
	<hr/>
Net position (deficit), beginning of year	(4,091,595)
	<hr/>
Net position (deficit), end of year	\$ (36,474,150)
	<hr/>

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

# GREAT LAKES WATER AUTHORITY WATER FUND

## Statement of Cash Flows

For the Year Ended June 30, 2017

Cash flows from operating activities	
Cash received from customers	\$ 371,376,130
Cash payments to suppliers for goods and services	(58,059,394)
Cash payments for employee services	(65,550,769)
Cash paid from interfund services provided	(65,971)
Cash received for DWSD budget stabilization	369,109
Cash received (net) for DWSD nonoperating pension	622,642
Cash payments (net) from miscellaneous nonoperating expense	(2,283,399)
Other receipts	477,474
Principal payments received on obligation receivable	9,139,470
Interest received on obligation receivable	25,355,136
Payment of long-term debt proceeds to DWSD	(56,995,800)
Payments for bond issuance costs on DWSD debt	(222,234)
Proceeds to DWSD from issuance of state revolving fund loans	(2,032,280)
Transfer affordability bank account to DWSD	(977,278)
Net cash provided by operating activities	<u>221,152,836</u>
Cash flows from noncapital financing activities	
Proceeds from issuance of long-term debt for DWSD	57,218,034
Proceeds from state revolving fund loans for DWSD	2,436,781
Interest payments	(451,022)
Net cash provided by noncapital financing activities	<u>59,203,793</u>
Cash flows from capital and related financing activities	
Proceeds from issuance of long-term refunding debt	999,700,247
Payment to bond refunding escrow agent	(797,926,349)
Payments for bond issuance costs	(4,167,889)
Principal payments on bonds	(65,195,000)
Principal payments on lease	(4,429,876)
Interest payments	(134,868,353)
Purchase of capital assets	(43,750,490)
Net cash used in capital and related financing activities	<u>(50,637,710)</u>

continued...

## GREAT LAKES WATER AUTHORITY WATER FUND

### Statement of Cash Flows For the Year Ended June 30, 2017

Cash flows from investing activities	
Investment purchases	\$ (210,263,613)
Investment maturities	270,263,564
Interest received	<u>1,532,301</u>
Net cash provided by investing activities	<u>61,532,252</u>
Net change in cash and cash equivalents	291,251,171
Cash and cash equivalents, beginning of year	<u>214,213,107</u>
Cash and cash equivalents, end of year	<u>\$ 505,464,278</u>
Statement of net position classification of cash	
Cash and cash equivalents	\$ 266,483,138
Restricted cash and cash equivalents	61,041,646
Noncurrent restricted cash and cash equivalents	<u>177,939,494</u>
	<u>\$ 505,464,278</u>

continued...



# GREAT LAKES WATER AUTHORITY WATER 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	\$ 105,881,083
Adjustments to reconcile operating income to to net cash provided by operating activities:	
Depreciation	144,137,912
Miscellaneous nonoperating expense	(2,283,399)
Loan forgiveness pass through to DWSD	(1,168,307)
Interest income on contractual obligation receivable	25,269,750
Interest expense on obligation payable	(717,819)
Adjustment of special item	(32,811,581)
Changes in:	
Receivables:	
Billed	1,169,607
Unbilled	2,768,512
Other (excludes capital item)	21,897,746
Allowance for doubtful accounts	(20,098,835)
Due from other governments	20,158,444
Contractual obligation receivable	(22,512,072)
Prepaid lease	(11,250,000)
Other assets (excludes investing item)	(265,646)
Accounts payable (excludes capital items)	(3,641,398)
Accrued salaries, wages and benefits	302,758
Other accrued liabilities (excludes capital items)	210,047
Due to other governments (excludes non-capital financing)	11,724,923
Due to other funds	(65,971)
Other noncurrent liabilities	(128,016)
Obligation payable	(152,193)
Accrued compensated absences	(850,667)
Accrued workers' compensation	(3,708,324)
Claims and judgments	(4,419,694)
Net pension liability and deferred items	(8,294,024)

Net cash provided by operating activities \$ 221,152,836

concluded

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

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## NOTES TO FINANCIAL STATEMENTS

# GREAT LAKES WATER AUTHORITY WATER 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 Water Fund (the "Fund"), an enterprise fund of the Authority, separately accounts for the portion of the Water Supply System (the "System") that it operates. The System is one of the largest in the United States, both in terms of water produced and population served. It currently serves an area of 1,069 square miles located in eight Michigan counties and an estimated population of nearly 3.9 million or approximately 38% of Michigan's population. Suburban wholesale customers comprise approximately 82% of the population served by the System; retail water 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 WATER 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 WATER 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 Authority 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*

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

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

# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to Financial Statements

### *Deferred Outflows of Resources*

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to future periods and so will not be recognized as an outflow of resources (or expense) until then. The Fund reports deferred outflows of resources for two items: deferred charges on refunding and pension amounts. Deferred charges on refunding results from the difference in the carrying value of refunded debt and its reacquisition price; these amounts are deferred and amortized over the shorter of the life of the refunded or refunding debt. Deferred outflows of resources from pension amounts relate to the net pension liability. A portion of these costs represent contributions to the plan subsequent to the plan measurement date. More detailed information on pension amounts can be found in Note 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 water 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 \$1,456,000 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 Fund as the disbursements for payment will be processed from here with reimbursement from the Sewage Disposal Fund. The accrued compensated absences includes the employers' share of Social Security and Medicare taxes.

# GREAT LAKES WATER AUTHORITY WATER 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.



# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to Financial Statements

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 water. 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 \$1,252,465.

Operating expenses include the costs of operating the water 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 is reported net of capitalized interest.

### *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 WATER 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 water system. The budgeted expenses shall equal the sum of the revenue requirement, including the following for the regional water 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 lease, through the fiscal year ending June 30, 2025, the water 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 water facilities that are required to be made by applicable laws.

In the lease, the City acknowledges that all local water 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 system as provided in the Water and Sewer Services Agreement.

### *Schedule of Charges Process*

The GLWA Wholesale Customer Model Water 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.

# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to Financial Statements

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.

### 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	\$ 266,483,138
Restricted cash and cash equivalents	60,753,268
Restricted cash for the benefit of DWSD	288,378
Investments	852,420
Restricted investments	1,169,187
Noncurrent restricted cash and cash equivalents	177,939,494
Noncurrent restricted investments	<u>20,530,374</u>

Total	<u><u>\$ 528,016,259</u></u>
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#### Cash Deposits and Investments

Bank deposits -	
Checking/savings accounts	\$ 27,089,413
Investments in securities	22,551,981
Money market accounts	<u>478,374,865</u>

Total	<u><u>\$ 528,016,259</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 \$505,464,278; the bank balance was \$535,773,864 of which \$518,863,338 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	\$ 11,415,294
U.S. government agencies	<u>11,136,687</u>
Total	<u><u>\$ 22,551,981</u></u>

# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to Financial Statements

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

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

As of June 30, 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	10.5%
U.S. government agencies	Federal National Mortgage Association	89.5%

*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	\$ 9,783,063	\$ 1,632,231	\$ -	\$ 11,415,294
U.S. government agencies	1,169,187	9,967,500	-	11,136,687
Total	<u>\$ 10,952,250</u>	<u>\$ 11,599,731</u>	<u>\$ -</u>	<u>\$ 22,551,981</u>

## GREAT LAKES WATER AUTHORITY WATER FUND

### Notes to Financial Statements

*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	\$ 11,415,294	\$ -	\$ -	\$ 11,415,294
U.S. government agencies	-	11,136,687	-	11,136,687
Total	<u>\$ 11,415,294</u>	<u>\$ 11,136,687</u>	<u>\$ -</u>	<u>\$ 22,551,981</u>

#### 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.

## GREAT LAKES WATER AUTHORITY WATER FUND

### Notes to Financial Statements

The following schedule provides, 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	\$ 62,578,684	\$ 989,627	\$ -	\$ 63,568,311
Senior lien debt service	-	29,065,663	-	29,065,663
Senior lien bond reserve	-	-	122,034,996	122,034,996
Second & Junior lien debt service	-	15,763,514	-	15,763,514
Second & Junior lien debt reserve	-	-	52,267,696	52,267,696
Pension obligation	-	2,371,431	-	2,371,431
Water Residential Assistance Program (WRAP)	-	2,800,449	-	2,800,449
Budget stabilization	-	2,000,000	-	2,000,000
Extraordinary repair and replacement	27,500,000	-	-	27,500,000
Improvement and extension - Regional	177,256,874	-	-	177,256,874
Subtotal - reserves defined by ordinance	267,335,558	52,990,684	174,302,692	494,628,934
Less: funded by surety (non-cash)	-	-	(153,608,267)	(153,608,267)
Total - reserves defined by ordinance (net of surety coverage)	267,335,558	52,990,684	20,694,425	341,020,667
Cash held for the benefit of DWSD	-	288,378	-	288,378
Unspent construction bond proceeds	-	-	186,707,214	186,707,214
Total cash, cash equivalents and investments	<u>\$ 267,335,558</u>	<u>\$ 53,279,062</u>	<u>\$ 207,401,639</u>	<u>\$ 528,016,259</u>

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	\$ 266,483,138	\$ 60,753,268	\$ 177,939,494	\$ 505,175,900
Cash held for the benefit of DWSD	-	288,378	-	288,378
Investments	852,420	1,169,187	20,530,374	22,551,981
Totals	<u>\$ 267,335,558</u>	<u>\$ 62,210,833</u>	<u>\$ 198,469,868</u>	<u>\$ 528,016,259</u>

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

# GREAT LAKES WATER AUTHORITY WATER 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	\$ 34,244,101	\$ -	\$ (77,365)	\$ -	\$ 34,166,736
Easements	258,632,397	-	-	-	258,632,397
Construction in progress	122,681,592	39,662,580	-	(2,957,631)	159,386,541
Total nondepreciable assets	415,558,090	39,662,580	(77,365)	(2,957,631)	452,185,674
Depreciated capital assets:					
Site improvements	57,687,528	-	-	494,399	58,181,927
Buildings and structures	555,265,762	-	-	-	555,265,762
Infrastructure	586,102,646	-	-	330,348	586,432,994
Machinery and equipment	598,755,988	475,561	(350,877)	2,132,884	601,013,556
Vehicles	1,538,031	203,948	-	-	1,741,979
Total depreciable assets	1,799,349,955	679,509	(350,877)	2,957,631	1,802,636,218
Less accumulated depreciation:					
Site improvements	(4,570,741)	(9,141,481)	-	-	(13,712,222)
Buildings and structures	(17,711,187)	(35,422,716)	-	-	(53,133,903)
Infrastructure	(18,866,429)	(37,732,848)	-	-	(56,599,277)
Machinery and equipment	(29,898,877)	(61,341,808)	88,842	-	(91,151,843)
Vehicles	(248,311)	(499,059)	-	-	(747,370)
Total accumulated depreciation	(71,295,545)	(144,137,912)	88,842	-	(215,344,615)
Total capital assets being depreciated, net	1,728,054,410	(143,458,403)	(262,035)	2,957,631	1,587,291,603
Total net capital assets	\$ 2,143,612,500	\$(103,795,823)	\$ (339,400)	\$ -	\$ 2,039,477,277

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

## GREAT LAKES WATER AUTHORITY WATER 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	\$ 2,260,675,000	\$ 917,805,000	\$ (63,795,000)	\$ (773,800,000)	\$ 2,340,885,000	\$ 6,075,000
State revolving loans	17,383,761	1,268,474	(1,400,000)	-	17,252,235	1,435,000
Deferred amounts for:						
Unamortized premiums	264,672,431	-	(116,095,392)	139,113,281	287,690,320	19,119,372
Unamortized discounts	(18,256,393)	-	2,288,174	-	(15,968,219)	(3,235,467)
Total debt, net	2,524,474,799	919,073,474	(179,002,218)	(634,686,719)	2,629,859,336	23,393,905
Compensated absences	5,296,680	1,668,823	(2,519,490)	-	4,446,013	2,157,888
Totals	<u>\$ 2,529,771,479</u>	<u>\$ 920,742,297</u>	<u>\$ (181,521,708)</u>	<u>\$ (634,686,719)</u>	<u>\$ 2,634,305,349</u>	<u>\$ 25,551,793</u>

As of June 30, 2017, aggregate debt service requirements of the Fund's debt (fixed rate) instruments were as follows:

Year Ended June 30,	Principal	Interest	Total
2018	\$ 7,510,000	\$ 96,828,481	\$ 104,338,481
2019	54,325,000	116,777,608	171,102,608
2020	54,710,000	114,146,149	168,856,149
2021	63,620,000	111,236,502	174,856,502
2022	70,985,000	107,815,846	178,800,846
2023-2027	409,967,820	480,324,881	890,292,701
2028-2032	520,334,415	362,731,733	883,066,148
2033-2037	615,160,000	220,803,756	835,963,756
2038-2042	309,905,000	105,305,700	415,210,700
2043-2047	251,620,000	32,679,000	284,299,000
	<u>\$ 2,358,137,235</u>	<u>\$ 1,748,649,656</u>	<u>\$ 4,106,786,891</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 WATER 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 2001-C	5/14/08	\$ 4,055,000	4.25%	7/01/17-18	\$ 705,000	
Series 2001-C	5/14/08	186,350,000	4.50-5.75%	7/01/19-29	178,735,000	c
Series 2003-A	1/30/03	234,805,000	5.00%	7/01/34	100,000	c
Series 2003-B	1/30/03	172,945,000	5.00%	7/01/34	100,000	c
Series 2005-B	5/14/08	19,070,000	4.00-5.50%	7/01/17-18	3,185,000	
Series 2005-B	5/14/08	175,830,000	4.75-5.25%	7/01/35	100,000	c
Series 2006-A	8/16/06	237,205,000	5.00%	7/01/34	100,000	c
Series 2006-B	4/01/09	900,000	4.60-5.00%	7/01/17-19	250,000	
Series 2006-B	4/01/09	119,100,000	6.25%	7/01/36	100,000	c
Series 2011-A	12/22/11	37,880,000	5.00%	7/01/17-20	8,210,000	
Series 2011-A	12/22/11	341,710,000	5.00-5.75%	7/01/27-41	289,605,000	c
Series 2011-B	12/22/11	7,455,000	5.00%	7/01/17-21	2,630,000	
Series 2011-B	12/22/11	9,740,000	6.00%	7/01/23-33	2,295,000	c
Series 2011-C	12/22/11	3,925,000	5.00%	7/01/21	1,020,000	
Series 2011-C	12/22/11	99,965,000	4.50-5.25%	7/01/23-41	74,125,000	c
Series 2014-A (D-1)	9/04/14	162,350,000	5.00%	7/01/17-23	147,960,000	
Series 2014-A (D-1)	9/04/14	44,190,000	5.00%	7/01/35-37	44,190,000	c
Series 2014-B (D-2)	9/04/14	51,530,000	5.00%	7/01/23-24	51,530,000	
Series 2014-B (D-2)	9/04/14	136,925,000	5.00%	7/01/25-28	136,925,000	c
Series 2014-C (D-3)	9/04/14	62,700,000	5.00%	7/01/18-20	62,700,000	
Series 2014-D (D-4)	9/04/14	209,360,000	5.00%	7/01/29-34	209,360,000	c
Series 2014-E (D-5)	9/04/14	9,270,000	2.85%	7/01/19	9,270,000	
Series 2014-F (D-6)	9/04/14	21,735,000	5.00%	7/01/19-24	21,735,000	
Series 2014-F (D-6)	9/04/14	43,690,000	5.00%	7/01/25-36	43,690,000	c
Series 2014-G (D-7)	9/04/14	14,815,000	5.00%	7/01/17-18	8,300,000	
Series 2015-A (D-1)	12/15/15	20,155,000	3.00-5.00%	7/01/17-22	19,650,000	
Series 2015-A (D-1)	12/15/15	69,275,000	5.00%	7/01/27-35	69,275,000	c
Series 2015 (D-2)	12/15/15	37,235,000	5.00%	7/01/34	37,235,000	c
Series 2016-A	10/27/16	30,000	5.00%	7/01/21-26	30,000	
Series 2016-A	10/27/16	87,970,000	5.00%	7/01/27-46	87,970,000	c
Series 2016-B	10/27/16	30,000	5.00%	7/01/21-26	30,000	
Series 2016-B	10/27/16	163,800,000	5.00%	7/01/27-46	163,800,000	c
Series 2016-C	10/27/16	76,245,000	5.00%	7/01/22-26	76,245,000	
Series 2016-C	10/27/16	367,685,000	5.00-5.25%	7/01/27-35	367,685,000	c
Series 2016-D	10/27/16	4,665,000	5.00%	7/01/24-26	4,665,000	
Series 2016-D	10/27/16	217,380,000	4.00-5.00%	7/01/27-36	217,380,000	c
Total revenue bonds payable					<u>\$ 2,340,885,000</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.

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

## GREAT LAKES WATER AUTHORITY WATER 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 Water System bonds and loans are paid solely from the net revenues of the Water System. Net revenues are defined in the Great Lakes Water Authority Water Master Bond Ordinance as all revenues except those transferred to the Operation and Maintenance funds. These revenues are further defined to include the revenues from the Retail Customers who are serviced under the Water and Sewer Services Agreement with the City of Detroit which are reported in the financial statements of the City of Detroit Water and Sewerage Department. The pledged revenues calculation for the fiscal year ending June 30, 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 Water System bonds is to provide funding for various water treatment and transmission capital improvements, refund certain water revenue bonds, pay termination amounts for interest rate swap agreements and fund reserve requirements. The term of pledge commitment for the Water Fund is through 2047.

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

Remaining principal and interest requirement	\$4,106,786,891
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)	\$ 175,010,012
Pledged revenue for the year ending June 30, 2017	\$ 286,317,089
Pledged revenue collected as a percentage of funding requirement	163.6%
Approximate amount in restricted cash and investments related to various bond indentures at June 30, 2017	\$ 186,700,000

#### *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 2005 SRF-1	9/22/05	\$ 13,805,164	2.125%	10/01/17-26	\$ 7,385,164
Series 2005 SRF-2	9/22/05	8,891,730	2.125%	10/01/17-26	4,641,730
Series 2006 SRF-1	9/21/06	5,180,926	2.125%	10/01/17-26	2,750,926
Series 2008 SRF-1	9/29/08	2,590,941	2.50%	10/01/17-28	1,205,941
Series 2016B SRF	9/16/16	4,180,000	2.50%	4/1/19-28	1,268,474
Total state revolving loans payable					<u>\$ 17,252,235</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.

## GREAT LAKES WATER AUTHORITY WATER FUND

### Notes to Financial Statements

#### *Refunded Debt*

In October 2016 the Authority issued \$88,000,000 in Series 2016A senior lien revenue bonds, \$163,830,000 in Series 2016B second lien revenue bonds, \$443,930,000 in Series 2016C senior lien revenue refunding bonds and \$224,045,000 in Series 2016D second lien revenue refunding bonds. The net proceeds of the Series 2016A and Series 2016B will be used to pay certain costs of improvements, enlargements and extensions and repairs to the Regional Water System and Local Water System. The net proceeds of the Series 2016C and Series 2016D were used to purchase securities that were placed in an irrevocable trust with an escrow agent to refund \$116,645,000 of Series 2003D revenue bonds, \$30,335,000 of Series 2004A revenue bonds, \$15,725,000 of Series 2004B revenue bonds, \$147,985,000 of Series 2005B revenue bonds, \$119,345,000 of Series 2006A revenue bonds, \$85,250,000 of Series 2006B revenue bonds, \$198,700,000 of Series 2006C revenue bonds and \$59,815,000 of Series 2006D 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 \$185,424,383 over the next 20 years and an economic gain of \$120,780,483.

#### *Issuance of State Revolving Loans*

The Fund received loans from the State of Michigan Revolving Loan Fund totaling \$2,436,781, of which \$1,168,307 has been forgiven, during the year ended June 30, 2017. The loans were for DWSD, the subrecipient of the loans. At June 30, 2017, \$19,191,526 was authorized and unissued.

#### *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 water 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 the Fund totaled \$2,313,683,761.

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, including the additional debt issued during the year, is \$495,681,322.

#### *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.

## GREAT LAKES WATER AUTHORITY WATER FUND

### Notes to Financial Statements

The following is a schedule of the Fund's 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	\$ 26,540,080	4.00% and variable	4/1/2044	\$ 15,556,025
Series 2014-C	3,829,794	5.00%	12/10/2026	1,869,281
Total				<u>\$ 17,425,306</u>

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

Year Ended June 30,	Principal	Interest	Total
2018	\$ 159,803	\$ 715,705	\$ 875,508
2019	167,793	707,715	875,508
2020	176,183	699,326	875,509
2021	184,992	690,516	875,508
2022	194,242	681,266	875,508
2023-2027	3,319,672	3,154,254	6,473,926
2028-2032	3,889,006	2,333,403	6,222,409
2033-2037	3,889,006	1,975,615	5,864,621
2038-2042	3,889,006	1,166,702	5,055,708
2043-2044	1,555,603	140,004	1,695,607
	<u>\$ 17,425,306</u>	<u>\$ 12,264,506</u>	<u>\$ 29,689,812</u>

#### Interest expense

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

Bonded debt	\$ 119,367,849
Obligation payable	717,819
Lease payable	18,054,730
Less: amounts capitalized	<u>(5,705,453)</u>
	<u>\$ 132,434,945</u>

# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to Financial Statements

### 7. LONG-TERM LEASES 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, \$22,500,000 is allocated to the Fund. The lease for the Water System (the "Regional Water System") that provides service to the wholesale customers and the retail water customers of the City up the point of connection to the local Water 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 long-term lease payable for the Fund for the year ended June 30, 2017 were as follows:

Beginning Balance	Increase	Decrease	Ending Balance	Amount Due Within One Year *
\$ 435,351,396	\$ -	\$ (4,429,876)	\$ 430,921,520	\$ 4,618,174

\* 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 Fund for the year ended June 30, 2017 were as follows:

Gross future payments	\$ 866,250,000
Less: interest	<u>(435,328,480)</u>
Total principal remaining	<u>\$ 430,921,520</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 \$11,250,000.

### 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 WATER 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.

## GREAT LAKES WATER AUTHORITY WATER FUND

### Notes to Financial Statements

*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.

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.

# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to Financial Statements

### 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.

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.



# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to Financial Statements

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

The System issues publicly available financial reports that include financial statements and the required supplementary information. The reports can be obtained from City of Detroit Retirement Systems, One Detroit Center, 500 Woodward Ave., Suite 3000, Detroit, MI 48226 or obtained from the Systems' website ([www.rscd.org](http://www.rscd.org)). Detailed information about the pension plan's fiduciary net position is available in the separately issued financial 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 combined plan, benefits provided under Component II are frozen effective June 30, 2014. Component II also includes the income stabilization fund. The fund, a part of Component II and established as a provision of the POA, was established for the sole purpose of paying the income stabilization benefits to eligible pensioners. Complete details regarding the Component II benefits and changes in those benefits by virtue of the POA are presented in the System financial statements.

# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to 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.

*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.

## GREAT LAKES WATER AUTHORITY WATER FUND

### Notes to Financial Statements

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>		<u>5.28%</u>
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.

**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	\$ 196,712,089
Plan fiduciary net position	<u>(127,143,045)</u>
Fund's net pension liability	<u>\$ 69,569,044</u>

# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to Financial Statements

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at June 30, 2016	\$ 202,696,454	\$ 141,675,375	\$ 61,021,079
Changes for the year:			
Interest	14,475,348	-	14,475,348
Differences between expected and actual experience	(1,815,233)	-	(1,815,233)
Changes in assumptions	6,318,782	-	6,318,782
Employer contributions	-	10,810,800	(10,810,800)
Net investment loss	-	(470,295)	470,295
Benefit payments, including refunds of employee contributions	(24,963,262)	(24,963,262)	-
Other changes	-	90,427	(90,427)
Net changes	(5,984,365)	(14,532,330)	8,547,965
Balances at June 30, 2017	\$ 196,712,089	\$ 127,143,045	\$ 69,569,044

*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:

	1% Decrease (6.23%)	Current Discount Rate (7.23%)	1% Increase (8.23%)
Fund net pension liability	\$ 88,176,626	\$ 69,569,044	\$ 53,745,695

*Pension Plan Fiduciary Net Position.* Detailed information about the pension plan's fiduciary net position is available in the separately issued Plan 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 \$2,516,776. 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	\$ 10,680,706	\$ 6,565,776	\$ 4,114,930
Employer contributions to the plan subsequent to the measurement date	10,810,800	-	10,810,800
Totals	\$ 21,491,506	\$ 6,565,776	\$ 14,925,730

## GREAT LAKES WATER AUTHORITY WATER FUND

### Notes to Financial Statements

The amount reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction in the net pension liability for the year ending June 30, 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,	Amount
2018	\$ (437,101)
2019	(437,101)
2020	2,845,786
2021	<u>2,143,346</u>
Total	<u>\$ 4,114,930</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.

### 11. COMMITMENTS AND CONTINGENCIES

#### *Capital improvement program*

The Fund is engaged in a variety of projects that are a part of a five year Capital Improvement Program (the Program). The total cost of this Program is anticipated to be approximately \$800.6 million for the Fund through fiscal year 2022. The Program is being financed primarily from revenue bond proceeds in addition to customer charges revenues. 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 \$173.0 million in addition to the Improvement & Extension funds of \$177.3 million available for use in funding these commitments.

The total amount of construction contract commitments outstanding at June 30, 2017 was approximately \$34.5 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.

# GREAT LAKES WATER AUTHORITY WATER FUND

## Notes to Financial Statements

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 \$75,000 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 Fund holds various commercial insurance policies to cover other potential loss exposures.

## 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	\$ (17,759,200)
Reduction of claims and judgements for pre-bifurcation retail cases	294,199
Recognize prepayment on leases	11,250,000
Change in obligation receivable for DWSD share of debt	(26,749,580)
Transfer of retail receivables and related amounts	<u>153,000</u>
Total special item	<u>\$ (32,811,581)</u>

## 13. SUBSEQUENT EVENTS

*Partnership between the Great Lakes Water Authority, City of Flint, Karegnondi Water Authority, Genesee County Drain Commission and State of Michigan*

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

■ ■ ■ ■ ■

## REQUIRED SUPPLEMENTARY INFORMATION

## GREAT LAKES WATER AUTHORITY WATER 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	\$ 14,475,348	\$ 18,422,673
Differences between expected and actual experience	(1,815,233)	(153,112)
Changes in assumptions	6,318,782	(7,093,982)
Benefit changes	-	(54,618,440)
Benefit payments, including refunds of employee contributions	(24,963,262)	(19,462,302)
Net change	(5,984,365)	(62,905,163)
Share of total pension liability, beginning of year	202,696,454	265,601,617
Share of total pension liability, end of year	196,712,089	202,696,454
Share of plan fiduciary net position		
Employer contributions	10,810,800	10,808,000
Employee contributions	-	46,941
Net investment income (loss)	(470,295)	6,194,355
Benefit payments, including refunds of employee contributions	(24,963,262)	(19,462,302)
Administrative expense	-	(7,633)
Other changes	90,427	9,950,436
Net change	(14,532,330)	7,529,797
Share of plan fiduciary net position, beginning of year	141,675,375	134,145,578
Share of plan fiduciary net position, end of year	127,143,045	141,675,375
Share of net pension liability	\$ 69,569,044	\$ 61,021,079
Nonemployer contributing entity share of collective net pension liability	7.0%	7.4%
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 \$18,440,222.

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



## GREAT LAKES WATER AUTHORITY

### Required Supplementary Information

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

	Fiscal Year Based on Measurement Date
	2016*
Contractually required contribution**	\$ 10,810,800
Actual contribution	<u>10,810,800</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 WATER FUND

UNAUDITED

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

	Water Operations	Water Improvement and Extension	Water Construction Projects	Total
<b>Assets</b>				
Current assets:				
Cash and cash equivalents	\$ 90,581,675	\$ 175,901,463	\$ -	\$ 266,483,138
Restricted cash and cash equivalents	47,021,048	-	13,732,220	60,753,268
Restricted cash for the benefit of DWSD	288,378	-	-	288,378
Investments	852,420	-	-	852,420
Restricted investments	1,169,187	-	-	1,169,187
Receivables:				
Billed	36,459,563	-	-	36,459,563
Unbilled	29,539,433	-	-	29,539,433
Other	1,300	-	-	1,300
Allowance for doubtful accounts	(4,941,777)	-	-	(4,941,777)
Due from other governments	21,327,713	-	-	21,327,713
Contractual obligation receivable	12,076,942	-	-	12,076,942
Prepaid items and other assets	2,437,047	-	-	2,437,047
Total current assets	236,812,929	175,901,463	13,732,220	426,446,612
Noncurrent assets:				
Restricted cash and cash equivalents	4,964,501	-	172,974,993	177,939,494
Restricted investments	20,530,374	-	-	20,530,374
Contractual obligation receivable	483,604,380	-	-	483,604,380
Prepaid lease	11,250,000	-	-	11,250,000
Assets not subject to depreciation	452,185,674	-	-	452,185,674
Capital assets being depreciated, net	1,587,291,603	-	-	1,587,291,603
Prepaid insurance on debt	14,112,324	-	-	14,112,324
Total noncurrent assets	2,573,938,856	-	172,974,993	2,746,913,849
Total assets	2,810,751,785	175,901,463	186,707,213	3,173,360,461
Deferred outflows of resources				
Deferred loss on refunding	99,294,499	-	-	99,294,499
Deferred pension amounts	21,491,506	-	-	21,491,506
Total deferred outflows of resources	120,786,005	-	-	120,786,005

continued...

## GREAT LAKES WATER AUTHORITY WATER FUND

UNAUDITED

## Combining Schedule of Net Position

June 30, 2017

	Water Operations	Water Improvement and Extension	Water Construction Projects	Total
<b>Liabilities</b>				
Current liabilities:				
Accounts and contracts payable	\$ 22,838,286	\$ 181,337	\$ 13,732,219	\$ 36,751,842
Accrued salaries, wages and benefits	3,190,038	-	-	3,190,038
Other accrued liabilities	1,353,816	-	-	1,353,816
Due to other governments	25,393,813	-	-	25,393,813
Interest payable	39,329,322	-	-	39,329,322
Current portion of:				
Long-term debt	23,393,905	-	-	23,393,905
Lease payable	4,618,174	-	-	4,618,174
Obligation payable	159,803	-	-	159,803
Accrued compensated absences	2,157,888	-	-	2,157,888
Accrued workers' compensation	25,000	-	-	25,000
Total current liabilities	122,460,045	181,337	13,732,219	136,373,601
Noncurrent liabilities:				
Other noncurrent liabilities	2,582,076	-	-	2,582,076
Long-term debt	2,606,465,431	-	-	2,606,465,431
Long-term lease payable	426,303,346	-	-	426,303,346
Obligation payable	17,265,503	-	-	17,265,503
Accrued compensated absences	2,288,125	-	-	2,288,125
Accrued workers' compensation	225,000	-	-	225,000
Claims and judgments	75,000	-	-	75,000
Net pension liability	69,569,044	-	-	69,569,044
Total noncurrent liabilities	3,124,773,525	-	-	3,124,773,525
Total liabilities	3,247,233,570	181,337	13,732,219	3,261,147,126
Deferred inflows of resources				
Deferred amounts for swap terminations	85,068	-	-	85,068
Deferred gain on refunding	62,822,646	-	-	62,822,646
Deferred pension amounts	6,565,776	-	-	6,565,776
Total deferred inflows of resources	69,473,490	-	-	69,473,490
Net position				
Net investment in capital assets	134,919,107	-	-	134,919,107
Restricted for debt service	26,194,280	-	-	26,194,280
Restricted for capital acquisition	-	-	172,974,994	172,974,994
Restricted for payment assistance program	2,218,373	-	-	2,218,373
Unrestricted (deficit)	(548,501,030)	175,720,126	-	(372,780,904)
Total net position	\$ (385,169,270)	\$ 175,720,126	\$ 172,974,994	\$ (36,474,150)

concluded

## GREAT LAKES WATER AUTHORITY WATER FUND

UNAUDITED

## Combining Schedule of Revenues, Expenses and Changes in Fund Net Position

For the Year Ended June 30, 2017

	Water Operations	Water Improvement and Extension	Water Construction Projects	Total
Operating revenues				
Wholesale customer charges	\$ 331,115,131	\$ -	\$ -	\$ 331,115,131
Local system charges	15,490,300	-	-	15,490,300
Bad debt recovery	5,107,125	-	-	5,107,125
Other revenues	37,388	-	-	37,388
Total operating revenues	351,749,944	-	-	351,749,944
Operating expenses				
Operating before depreciation:				
Personnel	38,261,393	-	-	38,261,393
Contractual services	34,257,419	-	-	34,257,419
Utilities - Gas	952,285	-	-	952,285
Utilities - Electric	26,942,016	-	-	26,942,016
Utilities - Sewage	574,267	-	-	574,267
Utilities - Water	1,035	-	-	1,035
Chemicals	5,340,753	-	-	5,340,753
Supplies and other expenses	7,834,678	147,884	-	7,982,562
Capital program allocation	(977,762)	-	-	(977,762)
Shared services allocation	(11,603,019)	-	-	(11,603,019)
Total operating before depreciation	101,583,065	147,884	-	101,730,949
Depreciation	144,137,912	-	-	144,137,912
Total operating expenses	245,720,977	147,884	-	245,868,861
Operating income (loss)	106,028,967	(147,884)	-	105,881,083
Nonoperating revenues (expenses)				
Earnings on investments	1,342,272	6,626	484,020	1,832,918
Interest on obligations receivable	25,269,750	-	-	25,269,750
Interest expense, net of capitalized interest	(132,434,945)	-	-	(132,434,945)
Amortization of debt related items and costs of issuance	2,733,535	-	(330,517)	2,403,018
Other	(2,283,399)	-	-	(2,283,399)
Capital outlay	40,342,148	(858,305)	(39,483,843)	-
Loss on disposal of capital assets	(207,900)	-	-	(207,900)
Loss on impairment of capital assets	(31,499)	-	-	(31,499)
Total nonoperating revenues (expenses)	(65,270,038)	(851,679)	(39,330,340)	(105,452,057)
Income (loss) before special item and transfers	40,758,929	(999,563)	(39,330,340)	429,026
Special item - memorandum of understanding with DWSD	(32,811,581)	-	-	(32,811,581)
Transfer in	-	110,100,000	234,786,360	344,886,360
Transfer out	(344,671,815)	(214,545)	-	(344,886,360)
Change in net position	(336,724,467)	108,885,892	195,456,020	(32,382,555)
Net position (deficit), beginning of year	(48,444,803)	66,834,234	(22,481,026)	(4,091,595)
Net position (deficit), end of year	\$ (385,169,270)	\$ 175,720,126	\$ 172,974,994	\$ (36,474,150)

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

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## GREAT LAKES WATER AUTHORITY WATER FUND

### Schedule of Operations and Maintenance Expense for Water 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	\$ 58,395,600	\$ 58,395,600	\$ (17,975,100)
Contractual services	79,616,800	104,148,500	(35,828,400)
Utilities	34,903,600	34,903,600	(143,300)
Chemicals	6,192,400	6,192,400	-
Supplies and other expenses	16,490,700	16,490,700	-
Shared services reimbursement	(10,306,900)	(10,306,900)	-
Capital program allocation	(23,315,600)	(23,315,600)	-
Unallocated reserve	3,849,400	(20,682,300)	-
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>\$ 111,879,200</u>	<u>\$ 111,879,200</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
\$ 40,420,500	\$ 38,261,393	\$ (2,159,107)	-5.3%
68,320,100	34,257,419	(34,062,681)	-49.9%
34,760,300	28,469,603	(6,290,697)	-18.1%
6,192,400	5,340,753	(851,647)	-13.8%
16,490,700	7,982,562	(8,508,138)	-51.6%
(10,306,900)	(11,603,019)	(1,296,119)	12.6%
(23,315,600)	(977,762)	22,337,838	-95.8%
(20,682,300)	-	20,682,300	-100.0%
-	-	-	0.0%
-	-	-	0.0%
<u>\$ 111,879,200</u>	<u>\$ 101,730,949</u>	<u>\$ (10,148,251)</u>	-9.1%

concluded

# GREAT LAKES WATER AUTHORITY WATER FUND

UNAUDITED

## Schedule of Revenue Requirement for Water Operations

Budget to Actual

For the Year Ended June 30, 2017

	Original Budget	Amended Budget	Actual	Over (Under) Budget
Water fund				
Revenue:				
Revenue Requirement from Charges	\$ 329,135,600	\$ 329,135,600	\$ 346,605,431	\$ 17,469,831
Bad Debt Expense Recovery	-	-	5,107,125	5,107,125
Other Revenue	2,077,600	2,077,600	37,388	(2,040,212)
	<u>\$ 331,213,200</u>	<u>\$ 331,213,200</u>	<u>\$ 351,749,944</u>	<u>\$ 20,536,744</u>
Revenue requirements*				
Operations & maintenance expense	\$ 111,879,200	\$ 111,879,200	\$ 111,879,600	\$ 400
Operations & maintenance				
legacy pension allocation	6,037,100	6,037,100	6,048,100	11,000
Debt service allocation	159,277,500	159,277,500	141,481,548	(17,795,952)
Accelerated legacy pension allocation	6,035,200	6,035,200	6,260,724	225,524
Water residential assistance program	1,645,700	1,645,700	1,646,100	400
Lease payment to local system				
improvement & extension fund	22,500,000	22,500,000	22,500,000	-
Regional system improvement & extension fund*	23,838,500	23,838,500	23,838,500	-
Total revenue requirements	<u>\$ 331,213,200</u>	<u>\$ 331,213,200</u>	<u>\$ 313,654,572</u>	<u>\$ (17,558,628)</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 WATER FUND

UNAUDITED

## Schedule of Days Cash - Liquidity June 30, 2017

	2017	2016*
Cash and investments - Unrestricted	\$ 267,335,558	\$ 167,292,572
<i>Operating expense</i>		
Operating expense	\$ 245,868,861	\$ 120,841,204
Less: depreciation	(144,137,912)	(71,295,545)
<i>Net operating expense</i>	\$ 101,730,949	\$ 49,545,659
<i>Operating expense per day (365 days)</i>	\$ 278,715	\$ 273,733
<i>Days cash</i>		
Number of days cash	959	611

\*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 WATER 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.	56
Revenue Capacity Schedule 3	Revenue capacity information is intended to show the factors affecting the Fund's ability to generate its own-source revenue.	58
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.	59
Demographic/Economic Schedules 8 through 10	Demographic and economic information is intended to show the socioeconomic environment within which the Fund operates.	65
Operating Information Schedule 11 through 12	Operating information is intended to show contextual information about operations and resources to provide understanding and assessing the Fund's economic condition.	69

# GREAT LAKES WATER AUTHORITY WATER FUND

Schedule 1

UNAUDITED

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

	2017	2016*
Net investment in capital assets	\$ 134,919,107	\$ 400,187,482
Restricted for debt service	26,194,280	69,797,836
Restricted for capital acquisition	172,974,994	-
Restricted for payment assistance program	2,218,373	977,278
Unrestricted (deficit)	<u>(372,780,904)</u>	<u>(475,054,191)</u>
Total net position	<u>\$ (36,474,150)</u>	<u>\$ (4,091,595)</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 WATER FUND

Schedule 2  
UNAUDITED

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

	2017	2016*
Operating revenues		
Wholesale customer charges	\$ 331,115,131	\$ 160,777,169
Local system charges	15,490,300	6,833,500
Bad debt recovery	5,107,125	-
Other revenues	37,388	54,863
Total operating revenues	351,749,944	167,665,532
Operating expenses		
Personnel	38,261,393	8,301,022
Contractual services	34,257,419	3,304,113
Utilities	28,469,603	12,368,557
Chemicals	5,340,753	2,444,543
Supplies and other expenses	7,982,562	1,440,644
Capital program allocation	(977,762)	-
Shared services allocation	(11,603,019)	-
Centralized services	-	18,494,851
Administrative services	-	3,191,929
Depreciation	144,137,912	71,295,545
Total operating expenses	245,868,861	120,841,204
Operating income	105,881,083	46,824,328
Nonoperating revenues (expenses)		
Earnings on investments	1,832,918	392,031
Interest on obligations receivable	25,269,750	12,231,250
Interest expense, net of capitalized interest	(132,434,945)	(65,958,095)
Amortization of debt related items and costs of issuance	2,403,018	2,418,891
Other	(2,283,399)	-
Gain (loss) on disposal of capital assets	(207,900)	-
Loss on impairment of capital assets	(31,499)	-
Total nonoperating expenses	(105,452,057)	(50,915,923)
Income (loss) before special item	429,026	(4,091,595)
Special item - memorandum of understanding with DWSD	(32,811,581)	-
Change in net position	(32,382,555)	(4,091,595)
Net position (deficit), beginning of year	(4,091,595)	-
Net position (deficit), end of year	\$ (36,474,150)	\$ (4,091,595)

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

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY WATER FUND

Schedule 3

UNAUDITED

## Operating Revenues and Charge Increases

Last Two Years\*

	2017	2016
Operating revenues:		
Wholesale customer charges	\$ 331,115,131	\$ 160,777,169
Local system charges	15,490,300	6,833,500
Bad debt recovery	5,107,125	-
Other revenues	37,388	54,863
Total operating revenues	<u>\$ 351,749,944</u>	<u>\$ 167,665,532</u>
System charge increase	4.0%	4.0%
Number of wholesale customers [1]	88	85

\* 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 Water Official Statement Series 2016

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY WATER 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>Water Supply System Revenue Bonds</b>			
<b>Senior Lien Bonds</b>			
Water Supply System Revenue Senior Lien Bonds, Series 2003A	\$ 234,805,000	\$ 100,000	\$ 100,000
Water Supply System Revenue Senior Lien Bonds, Series 2005B	194,900,000	3,285,000	3,285,000
Water Supply System Revenue Senior Lien Bonds, Series 2006A	280,000,000	100,000	100,000
Water Supply System Revenue Senior Lien Bonds, Series 2011A	379,590,000	297,815,000	297,815,000
Water Supply System Revenue Senior Lien Bonds, Series 2011B	17,195,000	4,925,000	4,925,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2011C	103,890,000	75,145,000	75,145,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014A	206,540,000	192,150,000	192,150,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014B	188,455,000	188,455,000	188,455,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014C	62,700,000	62,700,000	62,700,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014D	307,645,000	209,360,000	209,360,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2014E	9,270,000	9,270,000	9,270,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2015A	89,430,000	88,925,000	88,925,000
Water Supply System Revenue Senior Lien Bonds, Series 2016A	88,000,000	88,000,000	88,000,000
Water Supply System Revenue Refunding Senior Lien Bonds, Series 2016C	443,930,000	443,930,000	443,930,000
	<u>2,606,350,000</u>	<u>1,664,160,000</u>	<u>1,664,160,000</u>
<b>Second Lien Bonds</b>			
Water Supply System Revenue Refunding Second Lien Bonds, Series 2001C	190,405,000	179,440,000	179,440,000
Water Supply System Revenue Second Lien Bonds, Series 2003B	172,945,000	100,000	100,000
Water Supply System Revenue Second Lien Bonds, Series 2006B	120,000,000	350,000	350,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2014F	65,425,000	65,425,000	65,425,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2014G	14,815,000	8,300,000	8,300,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2015B	37,235,000	37,235,000	37,235,000
Water Supply System Revenue Second Lien Bonds, Series 2016B	163,830,000	163,830,000	163,830,000
Water Supply System Revenue Refunding Second Lien Bonds, Series 2016D	222,045,000	222,045,000	222,045,000
	<u>986,700,000</u>	<u>676,725,000</u>	<u>676,725,000</u>
<b>SRF Junior Lien Bonds</b>			
Water Supply System Revenue Bonds, Series 2005-SRF-1	13,805,164	7,385,164	7,385,164
Water Supply System Revenue Bonds, Series 2005-SRF-2	8,891,730	4,641,730	4,641,730
Water Supply System Revenue Bonds, Series 2006-SRF	5,180,926	2,750,926	2,750,926
Water Supply System Revenue Bonds, Series 2008-SRF	2,590,941	1,205,941	1,205,941
Water Supply System Revenue Bonds, Series 2016A-SRF	9,605,000	-	9,605,000
Water Supply System Revenue Bonds, Series 2016B-SRF	4,180,000	1,268,474	4,180,000
Water Supply System Revenue Bonds, Series 2017-SRF	6,675,000	-	6,675,000
	<u>50,928,761</u>	<u>17,252,235</u>	<u>36,443,761</u>
<b>Total water supply system revenue bonds</b>	<u>\$ 3,643,978,761</u>	<u>\$ 2,358,137,235</u>	<u>\$ 2,377,328,761</u>

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

[2] Includes the full purchase contract amounts not drawn by June 30, 2017 from state revolving funds. Final amounts will be determined after project close-out.

Source: Great Lakes Water Authority Financial Services Area

## GREAT LAKES WATER AUTHORITY WATER 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]	\$ 5,735	\$ 65,197	\$ 70,932	\$ 340	\$ 31,271	\$ 31,611
2019	43,955	82,629	126,584	8,815	33,819	42,634
2020	37,705	80,683	118,388	15,420	33,168	48,588
2021	44,070	78,738	122,808	17,925	32,238	50,163
2022	48,980	76,412	125,392	20,345	31,179	51,524
2023	52,225	73,881	126,106	16,875	30,141	47,016
2024	58,610	71,105	129,715	18,185	29,154	47,339
2025	61,550	68,084	129,634	19,275	28,105	47,380
2026	64,650	64,902	129,552	20,350	26,995	47,345
2027	67,915	61,574	129,489	21,490	25,822	47,312
2028	71,310	58,092	129,402	22,700	24,583	47,283
2029	74,870	54,436	129,306	23,970	23,363	47,333
2030	78,625	50,597	129,222	25,135	22,193	47,328
2031	82,550	46,566	129,116	26,310	20,949	47,259
2032	86,690	42,333	129,023	27,625	19,601	47,226
2033	91,015	37,888	128,903	29,005	18,328	47,333
2034	84,900	33,443	118,343	40,840	16,926	57,766
2035	93,165	28,923	122,088	38,555	15,143	53,698
2036	104,610	23,918	128,528	1,210	14,149	15,359
2037	13,255	20,932	34,187	118,605	11,153	129,758
2038	52,690	19,206	71,896	5	8,187	8,192
2039	59,775	16,251	76,026	5	8,187	8,192
2040	62,895	13,052	75,947	5	8,187	8,192
2041	66,180	9,685	75,865	5	8,187	8,192
2042	68,340	6,177	74,517	5	8,186	8,191
2043	15,905	3,997	19,902	29,630	7,446	37,076
2044	16,705	3,182	19,887	31,110	5,927	37,037
2045	17,535	2,326	19,861	32,670	4,333	37,003
2046	18,415	1,427	19,842	34,300	2,658	36,958
2047	19,335	483	19,818	36,015	900	36,915
2048	-	-	-	-	-	-
2049	-	-	-	-	-	-
Total	<u>\$ 1,664,160</u>	<u>\$ 1,196,119</u>	<u>\$ 2,860,279</u>	<u>\$ 676,725</u>	<u>\$ 550,478</u>	<u>\$ 1,227,203</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
\$ 1,435	\$ 360	\$ 1,795	\$ 104,338	\$ 442	\$ 104,780
1,555	329	1,884	171,102	700	171,802
1,585	295	1,880	168,856	847	169,703
1,625	261	1,886	174,857	848	175,705
1,660	225	1,885	178,801	848	179,649
1,700	189	1,889	175,011	848	175,859
1,735	151	1,886	178,940	848	179,788
1,770	113	1,883	178,897	848	179,745
1,805	75	1,880	178,777	847	179,624
1,833	35	1,868	178,669	846	179,515
235	12	247	176,932	850	177,782
236	6	242	176,881	848	177,729
78	2	80	176,630	893	177,523
-	-	-	176,375	978	177,353
-	-	-	176,249	973	177,222
-	-	-	176,236	977	177,213
-	-	-	176,109	975	177,084
-	-	-	175,786	974	176,760
-	-	-	143,887	976	144,863
-	-	-	163,945	974	164,919
-	-	-	80,088	971	81,059
-	-	-	84,218	977	85,195
-	-	-	84,139	978	85,117
-	-	-	84,057	973	85,030
-	-	-	82,708	974	83,682
-	-	-	56,978	973	57,951
-	-	-	56,924	972	57,896
-	-	-	56,864	976	57,840
-	-	-	56,800	973	57,773
-	-	-	56,733	971	57,704
-	-	-	-	978	978
-	-	-	-	319	319
<u>\$ 17,252</u>	<u>\$ 2,053</u>	<u>\$ 19,305</u>	<u>\$ 4,106,787</u>	<u>\$ 28,375</u>	<u>\$ 4,135,162</u>

# GREAT LAKES WATER AUTHORITY WATER FUND

Schedule 6

UNAUDITED

## Current Debt Ratings

as of June 30, 2017

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

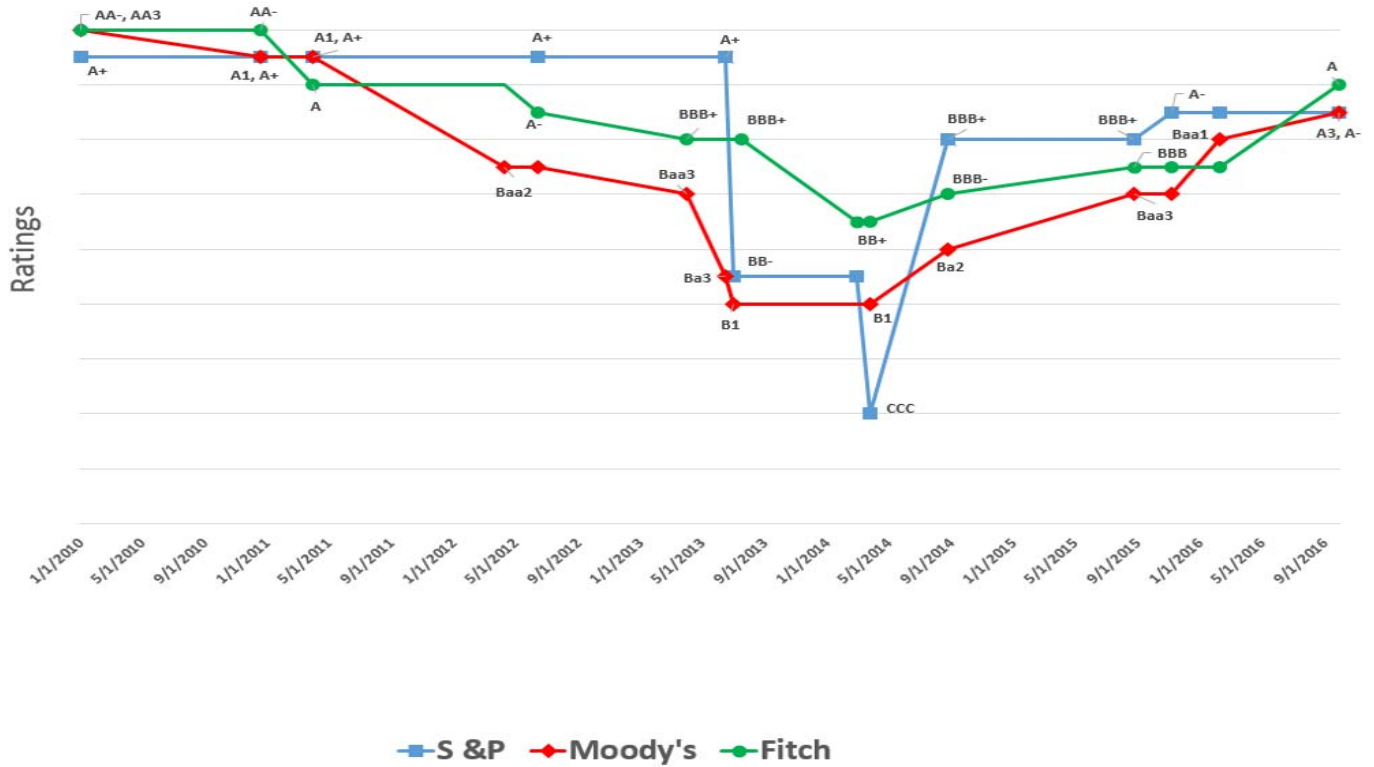
Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY WATER FUND

Schedule 7

UNAUDITED

## Water Senior Lien - Debt Ratings History 2010 to Present [1]



Source: Great Lakes Water Authority Financial Services Area

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# GREAT LAKES WATER AUTHORITY WATER 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	3,800,000	4.4%	\$ 49,612	(4) \$ 175,010,012	\$ 46.06	0.09%
2016 *	3,800,000	5.4%	48,467	(4) 171,138,525	45.04	0.09%
2015 *	3,800,000	5.9%	46,894	178,923,900	47.09	0.10%
2014 *	3,800,000	8.1%	44,718	182,464,900	48.02	0.11%
2013 *	3,800,000	9.7%	42,555	172,458,800	45.38	0.11%
2012 *	3,800,000	10.1%	42,168	153,524,200	40.40	0.10%
2011 *	3,800,000	11.4%	40,607	164,435,900	43.27	0.11%
2010 *	3,800,000	13.9%	37,837	157,590,500	41.47	0.11%
2009 *	3,976,100	15.1%	36,874	156,775,100	39.43	0.11%
2008 *	3,976,100	8.2%	38,998	135,156,500	33.99	0.09%

(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 WATER FUND

### Ten Largest Wholesale Water Customers / Total Billed Revenue

Last Ten Years

	2008 *	2009 *	2010 *	2011 *
Operating revenues				
Flint [1]	\$ 16,297,870	\$ -	\$ 17,421,663	\$ 17,103,752
Genesee County Drain Commission [1]	-	17,421,571	-	-
Southeast Oakland County Water Authority	10,165,018	9,285,621	9,285,621	10,293,814
Troy	8,606,895	7,445,795	7,550,028	7,295,491
Sterling Heights	9,424,067	8,578,659	8,696,601	8,113,053
Farmington Hills	7,611,586	7,547,579	7,547,585	7,775,635
Warren	7,775,671	-	-	7,532,208
Livonia	7,530,863	7,033,848	7,033,853	7,804,684
Shelby Township	7,537,378	7,403,055	7,403,056	8,175,322
Novi	-	6,913,500	6,782,362	7,063,698
Macomb Township	-	-	-	-
Rochester Hills	8,823,580	8,644,531	8,553,457	9,047,860
North Oakland County Water Authority	-	-	-	-
West Bloomfield Township	-	-	-	-
Canton Township	7,803,359	6,876,444	7,142,729	-
Total	<u>\$ 91,576,287</u>	<u>\$ 87,150,603</u>	<u>\$ 87,416,955</u>	<u>\$ 90,205,517</u>
Operating revenues - DWSD	\$ 292,983,220	\$ 274,095,463	\$ 285,470,426	\$ 316,002,201
Operating revenues - GLWA	-	-	-	-
Total operating revenues	<u>\$ 292,983,220</u>	<u>\$ 274,095,463</u>	<u>\$ 285,470,426</u>	<u>\$ 316,002,201</u>
% of total operating revenues	<u>31.26%</u>	<u>31.80%</u>	<u>30.62%</u>	<u>28.55%</u>

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

\*GLWA assumed operations on January 1, 2016. The information in this table from 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

2012 *	2013 *	2014 *	2015 *	2016 *	2017
\$ 20,919,987	\$ 23,308,800	\$ 23,871,366	\$ 15,804,309	\$ -	\$ 13,256,330
-	-	-	-	17,231,935	18,493,530
12,111,306	19,541,038	19,467,746	19,779,978	22,846,983	22,434,129
-	9,311,146	9,715,613	9,761,438	12,365,922	13,939,815
9,882,899	12,089,582	12,015,093	12,650,819	14,678,915	15,480,008
8,503,722	10,575,173	9,769,372	9,797,153	-	-
9,121,108	9,945,794	9,060,112	9,297,285	-	-
8,806,767	10,338,724	9,728,576	10,325,750	12,809,124	13,483,657
9,966,936	10,824,461	10,770,614	11,035,002	12,689,582	13,462,808
8,340,815	-	-	-	11,869,865	-
-	-	-	-	10,103,536	10,945,117
10,324,388	9,529,341	9,600,373	9,432,554	-	-
-	-	-	-	22,585,698	22,913,261
7,973,620	9,655,154	-	-	-	-
-	-	9,400,322	9,692,530	12,319,875	13,872,584
<u>\$ 105,951,548</u>	<u>\$ 125,119,213</u>	<u>\$ 123,399,187</u>	<u>\$ 117,576,818</u>	<u>\$ 149,501,435</u>	<u>\$ 158,281,239</u>
\$ 336,129,945	\$ 355,527,761	\$ 349,369,362	\$ 364,278,054	\$ 167,665,532	\$ -
-	-	-	-	217,759,272	351,749,944
<u>\$ 336,129,945</u>	<u>\$ 355,527,761</u>	<u>\$ 349,369,362</u>	<u>\$ 364,278,054</u>	<u>\$ 385,424,804</u>	<u>\$ 351,749,944</u>
<u>31.52%</u>	<u>35.19%</u>	<u>35.32%</u>	<u>32.28%</u>	<u>38.79%</u>	<u>45.00%</u>

# GREAT LAKES WATER AUTHORITY WATER FUND

Schedule 10

UNAUDITED

## FY 2016-17 Wholesale Water Schedule of Charges\*

and Total Revenue Requirement for the Detroit Retail Class

Community Name	Fixed Monthly \$/mo	Commodity \$/Mcf	Community Name	Fixed Monthly \$/mo	Commodity \$/Mcf
Allen Park	\$ 113,700	\$ 6.59	Madison Heights	\$ 99,700	\$ 5.39
Almont, Village of	10,700	9.51	Mayfield Township	1,400	23.86
Ash Township	36,400	7.28	Melvindale	32,700	5.57
Belleville	15,300	8.19	New Haven, Village of	17,100	9.79
Berlin Township	35,300	9.74	North Oakland County Water Authority	1,137,400	9.78
Brownstown Township	165,800	9.75	Northville, City	36,400	9.11
Bruce Township	2,400	19.40	Northville Township	321,900	20.12
Canton Township	638,600	15.77	Novi	426,900	12.98
Centerline	23,300	5.49	Oak Park	64,400	5.00
Chesterfield Township	186,000	9.18	Oakland County Drain Commission	3,200	2.84
Clinton Township	377,500	7.59	Plymouth City	50,100	9.54
Commerce Township	245,600	21.13	Plymouth Township	205,200	9.95
Dearborn	463,100	5.90	Redford Township	166,500	7.70
Dearborn Heights	186,400	6.84	River Rouge	34,400	4.75
East Pointe	79,400	5.43	Riverview	44,800	7.79
Ecorse	70,300	3.60	Rockwood	14,700	10.66
Farmington City	47,500	8.09	Romeo	12,800	17.05
Farmington Hills	430,900	9.50	Romulus	179,600	7.33
Ferndale	47,000	5.70	Roseville	130,500	5.02
Flat Rock	58,100	7.50	Royal Oak Township	11,200	7.47
Flint	662,100	8.93	Shelby Township	667,900	13.49
Fraser	63,600	7.83	Southeastern Oakland County Water Authority	1,099,900	6.84
Garden City	81,200	7.06	South Rockwood	5,000	8.08
Genesee County Drain Commission	964,800	12.71	Southgate	105,900	6.83
Gibraltar	22,900	10.79	St. Clair County-Burtchville Township	14,600	12.98
Grosse Ile	62,600	11.64	St. Clair County-Greenwood	19,000	15.17
Grosse Pointe Park	69,300	9.09	St. Clair Shores	150,400	5.45
Grosse Pointe Shores	30,100	12.68	Sterling Heights	774,900	10.05
Grosse Pointe Woods	69,600	7.42	Sumpter Township	31,800	8.49
Hamtramck	34,300	4.49	Sylvan Lake	11,700	13.37
Harper Woods	42,400	5.84	Taylor	235,800	6.60
Harrison Township	68,800	5.92	Trenton	103,800	9.12
Hazel Park	34,600	5.13	Troy	653,000	12.01
Highland Park	62,600	4.56	Utica	28,900	10.05
Huron Township	68,800	9.18	Van Buren Township	140,900	8.54
Imlay City	56,800	11.22	Walled Lake	45,200	11.66
Imlay Township	134	10.84	Warren	490,200	5.42
Inkster	89,800	6.90	Washington Township	150,800	18.28
Keego Harbor	15,300	11.13	Wayne	132,500	10.70
Lapeer	69,700	9.36	West Bloomfield Township	487,000	15.16
Lenox Township	14,800	6.23	Westland	295,300	7.45
Lincoln Park	108,400	5.94	Wixom	115,900	14.48
Livonia	663,700	10.88	Woodhaven	100,100	12.52
Macomb Township	516,000	13.90	Ypsilanti Community Utilities Authority	524,500	8.56

Total Revenue Requirement for the Detroit Retail Class \$15,490,300 - Effective July 1, 2016

\*Wholesale charges went into effect July 1, 2016

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

# GREAT LAKES WATER AUTHORITY WATER FUND

Schedule 11

UNAUDITED

## Produced and Billed Water Volumes

Last Ten Years

Fiscal Year	Estimated Total Water Produced (Mcf) [1]	Reported Water Sales			Estimated Non-Revenue Water (Mcf)	Estimated Non-Revenue % of Production [3]
		Wholesale Customer Billed (Mcf)	Local System Billed (Mcf)	Total Water Billed (Mcf) [2]		
2008 *	29,360,700	18,405,500	4,145,500	22,551,000	6,809,700	23.2%
2009 *	27,180,700	16,682,100	4,138,100	20,820,200	6,360,500	23.4%
2010 *	25,142,700	15,676,300	3,924,000	19,600,300	5,542,400	22.0%
2011 *	26,513,000	16,094,700	4,176,600	20,271,300	6,241,700	23.5%
2012 *	27,219,500	16,280,300	3,903,100	20,183,400	7,036,100	25.8%
2013 *	26,832,800	15,687,900	3,660,300	19,348,200	7,484,600	27.9%
2014 *	26,088,800	14,778,500	3,410,600	18,189,100	7,899,700	30.3%
2015 *	23,238,000	13,547,000	3,173,700	16,720,700	6,517,300	28.0%
2016 *	23,580,700	14,730,400	3,086,400	17,816,800	5,763,900	24.4%
2017	23,915,600	14,824,000	2,912,030	17,736,030	6,179,570	25.8%

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

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

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

\*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.

Source: Great Lakes Water Authority Financial Services Area

# GREAT LAKES WATER AUTHORITY WATER FUND

Schedule 12  
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 Water 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 2047
Calculation of Pledged Revenue as defined in Master Bond Ordinance	
GLWA revenue pledged-excludes local charges [1]	
Wholesale customer charges	\$ 331,115,131
Bad debt recovery	5,107,125
Other revenues	37,388
Earnings on investments net of construction fund investment earnings	1,348,898
less cash transfers to GLWA Operations and Maintenance Fund	(117,916,800)
GLWA net revenue for pledged revenue calculation	<u>219,691,742</u>
DWSD revenue pledged	
Customer charges	93,480,965
Penalties and fees	5,265,229
Miscellaneous	5,737,953
less cash transfers to DWSD Operations and Maintenance Fund	(37,858,800)
DWSD net revenue for pledged revenue calculation	<u>66,625,347</u>
Pledged revenue for the year ending June 30, 2017	<u>\$ 286,317,089</u>
Principal and interest funding requirement for the year ending June 30, 2017 [2]:	
Senior and second lien bonds	
Senior lien bonds	\$ 134,234,660
Second lien bonds	38,990,023
Total senior and second lien bonds	<u>173,224,683</u>
Junior lien bonds	1,785,328
Total all bonds	<u>\$ 175,010,011</u>
Rate covenant debt service coverage [2]	
Senior lien bonds	2.13
Senior and second lien bonds	1.65
All bonds, including SRF junior lien	1.64
Approximate amount in restricted cash and investments related to various bond indentures at June 30, 2017	\$ 186,700,000

[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 WATER FUND

Schedule 12a  
UNAUDITED

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

	2017	2016 [1]
Pledged revenue	<u>\$ 286,317,089</u>	<u>\$ 270,117,396</u>
Principal and interest funding requirement for the year ending June 30, 2017 [2]:		
Senior and second lien bonds		
Senior lien bonds	\$ 134,234,660	\$ 128,177,999
Second lien bonds	<u>38,990,023</u>	<u>41,178,843</u>
Total senior and second lien bonds	<u>173,224,683</u>	<u>169,356,842</u>
Junior lien bonds	<u>1,785,328</u>	<u>1,781,683</u>
Total all bonds	<u>\$ 175,010,011</u>	<u>\$ 171,138,525</u>
Rate covenant debt service coverage [2]		
Senior lien bonds	2.13	2.11
Senior and second lien bonds	1.65	1.59
All bonds, including SRF junior lien	1.64	1.58

[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

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### **APPENDIX III DETROIT MSA**

The Detroit-Warren-Dearborn Metropolitan Statistical Area (the “Detroit MSA”) is comprised of six counties: Wayne, Oakland, Macomb, Livingston, Lapeer and St. Clair. The Detroit MSA is ranked the 14<sup>th</sup> largest metropolitan statistical area in terms of population in the country.

#### **Population**

The population in the Detroit MSA grew from 3,169,649 in 1950 to 4,452,557 in 2000. In 2010 the population had shrunk to 4,296,250 and estimates indicate that the population has increased minimally since then, to 4,313,002 in July 2017. The following table presents population trends of the Detroit MSA and the United States since 1990.

**Table 1  
Population Trends**

<b>Year</b>	<b>Detroit MSA</b>		<b>U.S.</b>
	<b>Population</b>	<b>% Change</b>	<b>% Change</b>
1990	4,248,699	(5.3%)	9.8%
2000	4,452,557	4.8%	13.2%
2010	4,296,250	(3.5%)	9.7%
2017	4,313,002	0.3%	1.5%

SOURCE: US. Department of Commerce, Bureau of the Census.

#### **Employment**

The Detroit MSA’s economy is highly susceptible to swings in the national economy due to its high concentration of employment in the durable goods industries, particularly the automotive industry. Over the past two decades, all three major automotive companies have experienced severe financial problems which have adversely affected the economy of the Detroit area.

The following table sets forth certain information on total employment by industry group for the Detroit MSA and that of the United States. The region has in the past consistently maintained a greater percentage of persons employed in the manufacturing sector than the nation as a whole, which reflected the area’s dependence on the automotive industry.

**Table 2**  
**Annual Employment by Place of Work (Non-Agricultural)**

<b>Detroit-Warren-Dearborn MSA</b>								
	<b>2015</b>		<b>2016</b>		<b>2017</b>		<b>2018</b>	
	<b>(000's)</b>	<b>%</b>	<b>(000's)</b>	<b>%</b>	<b>(000's)</b>	<b>%</b>	<b>(000's)</b>	<b>%</b>
<b>Industry Group:</b>								
Natural Resources, Mining, & Construction.....	70	3.6%	70	3.5%	77	3.8%	80	3.9%
Manufacturing.....	240	12.3%	242	12.1%	257	12.6%	257	12.5%
Trade, Transportation & Utilities....	362	18.5%	364	18.2%	370	18.2%	374	18.2%
Information.....	27	1.4%	28	1.4%	28	1.4%	27	1.3%
Financial Activities.....	108	5.6%	114	5.7%	117	5.8%	118	5.8%
Professional and Business Services	392	20.0%	407	20.3%	399	19.6%	396	19.3%
Education and Health Services.....	302	15.4%	312	15.6%	314	15.4%	314	15.3%
Leisure & Hospitality.....	196	10.0%	207	10.3%	208	10.2%	220	10.7%
Other Services.....	76	3.9%	78	3.9%	77	3.8%	77	3.8%
Government.....	184	9.4%	182	9.1%	188	9.2%	189	9.2%
Total.....	<u>1,962</u>	<u>100.0%</u>	<u>2,004</u>	<u>100.0%</u>	<u>2,035</u>	<u>100.0%</u>	<u>2,051</u>	<u>100.0%</u>

<b>U.S.</b>								
	<b>2015</b>		<b>2016</b>		<b>2017</b>		<b>2018</b>	
	<b>(000's)</b>	<b>%</b>	<b>(000's)</b>	<b>%</b>	<b>(000's)</b>	<b>%</b>	<b>(000's)</b>	<b>%</b>
<b>Industry Group:</b>								
Natural Resources & Mining.....	825	0.6%	692	0.5%	684	0.5%	742	0.5%
Construction.....	6,621	4.6%	6,850	4.7%	7,157	4.8%	7,439	5.0%
Manufacturing.....	12,407	8.7%	12,374	8.5%	12,508	8.5%	12,795	8.5%
Trade, Transportation & Utilities....	26,955	18.9%	27,375	18.8%	27,498	18.6%	27,804	18.5%
Information.....	2,755	1.9%	2,802	1.9%	2,809	1.9%	2,781	1.9%
Financial Activities.....	8,168	5.7%	8,337	5.7%	8,510	5.8%	8,637	5.8%
Professional and Business Services	19,797	13.9%	20,330	14.0%	20,600	14.0%	21,134	14.1%
Education and Health Services.....	21,829	15.3%	22,484	15.5%	22,966	15.6%	23,417	15.6%
Leisure & Hospitality.....	15,742	11.0%	16,186	11.1%	16,759	11.4%	17,027	11.4%
Other Services.....	5,687	4.0%	5,761	4.0%	5,849	4.0%	5,956	4.0%
Government.....	<u>21,931</u>	<u>15.4%</u>	<u>22,048</u>	<u>15.2%</u>	<u>22,238</u>	<u>15.1%</u>	<u>22,248</u>	<u>14.8%</u>
Total.....	<u>142,717</u>	<u>100.0%</u>	<u>145,239</u>	<u>100.0%</u>	<u>147,578</u>	<u>100.0%</u>	<u>149,980</u>	<u>100.0%</u>

NOTE: Totals may not add due to rounding. 2018 totals are preliminary.

SOURCE: Michigan Department of Technology, Management and Budget, Labor Market Information; U.S. Department of Labor, Bureau of Labor Statistics.

Unemployment in the Detroit MSA in comparison to the City, the State and the United States is illustrated in the following table:

**Table 3**  
**Civilian Unemployment Rates (Not Seasonally Adjusted), 2010 to 2018**

	<u>Detroit</u>	<u>Detroit MSA</u>	<u>State of Michigan</u>	<u>U.S.</u>
2010	24.8%	13.9%	12.6%	9.6%
2011	21.1%	11.4%	10.4%	8.9%
2012	19.2%	10.1%	9.1%	8.1%
2013	18.9%	9.7%	8.8%	7.4%
2014	16.1%	8.2%	7.2%	6.2%
2015	11.8%	5.9%	5.4%	5.3%
2016	10.7%	5.3%	5.0%	4.9%
2017	9.3%	4.4%	4.6%	4.4%
2018*	9.3%	4.4%	4.3%	4.1%

SOURCE: Michigan Department of Technology, Management and Budget, Labor Market Information.  
U.S. Department of Labor, Bureau of Labor Statistics.

\*As of August 2018.

### **Housing Characteristics**

The following table shows certain housing characteristics of the Detroit MSA in comparison to the State and the United States.

**Table 4**  
**Housing Characteristics – Second Quarter 2018 Statistics**

	<u>Detroit MSA</u>	<u>State of Michigan</u>	<u>United States</u>
Homeownership Rates .....	70.0%	72.5%	64.3%
Rental Vacancy .....	7.6%	8.0%	6.8%
Homeownership Vacancy .....	0.9%	1.0%	1.5%

SOURCE: U.S. Department of Commerce, Bureau of Census.

### **Manufacturing**

The following table shows a breakdown of manufacturing employment by type for the Detroit MSA from 2014 through second quarter 2018.

**Table 5**  
**Manufacturing Employment**

<b>Industry Group:</b> <b>(000's)</b>	<b><u>2015</u></b>	<b><u>2016</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>
Total durable goods industries	197.5	206.7	208.9	211.3
Total nondurable goods industries	<u>42.4</u>	<u>45.1</u>	<u>45.8</u>	<u>45.9</u>
Total manufacturing employment	239.9	251.8	254.7	257.2

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics. 2018 totals are preliminary

### Household Income

The following table sets forth certain information concerning median household income in the 25 most populous U.S. metropolitan areas.

**Table 6**  
**Median Household Income - 2016**

<b>Rank</b>	<b>Metropolitan Area</b>	<b>Median household income (dollars)</b>
1	San Francisco-Oakland-Hayward, CA Metro Area	96,677
2	Washington-Arlington-Alexandria, DC-VA-MD-WV Metro Area	95,843
3	Boston-Cambridge-Newton, MA-NH Metro Area	82,380
4	Seattle-Tacoma-Bellevue, WA Metro Area	78,612
5	Baltimore-Columbia-Towson, MD Metro Area	76,788
6	Minneapolis-St Paul-Bloomington, MN-WI Metro Area	73,231
7	Denver-Aurora-Lakewood, CO Metro Area	71,926
8	New York-Newark-Jersey City, NY-NJ-PA Metro Area	71,897
9	San Diego-Carlsbad, CA Metro Area	70,824
10	Portland-Vancouver-Hillsboro, OR-WA Metro Area	68,676
11	Chicago-Naperville-Elgin, IL-IN-WI Metro Area	66,020
12	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metro Area	65,996
13	Los Angeles-Long Beach-Anaheim, CA Metro Area	65,950
14	Dallas-Fort Worth-Arlington, TX Metro Area	63,812
15	Atlanta-Sandy Springs-Roswell, GA Metro Area	62,613
16	Houston-The Woodlands-Sugar Land, TX Metro Area	61,708
17	Charlotte-Concord-Gastonia, NC-SC Metro Area	59,979
18	St Louis, MO-IL Metro Area	59,780
19	Riverside-San Bernardino-Ontario, CA Metro Area	58,236
20	Phoenix-Mesa-Scottsdale, AZ Metro Area	58,075
<b>21</b>	<b>Detroit-Warren-Dearborn, MI Metro Area</b>	<b>56,142</b>
22	San Antonio-New Braunfels, TX Metro Area	56,105
23	Orlando-Kissimmee-Sanford, FL Metro Area	52,385
24	Miami-Fort Lauderdale-West Palm Beach, FL Metro Area	51,362
25	Tampa-St Petersburg-Clearwater, FL Metro Area	51,115
	United States	57,617
	State of Michigan	52,492

SOURCE: U.S. Department of Commerce, Bureau of Census.

## **Detroit/Wayne County Port Authority**

The Detroit/Wayne County Port Authority is a public agency responsible for promoting trade and freight transportation through the Port of Detroit, (the “Port”) which provides direct water service to world markets via the Great Lakes/St. Lawrence Seaway. The Port has five privately-owned and operated full-service terminals, a liquid bulk terminal and bulk facility, and a single dock facility with capacity for 14 oceangoing vessels. In addition, more than 30 industries located on the Detroit and Rouge Rivers have their own port facilities. A variety of ship repair services are available. The Detroit area, which is the largest foreign trade zone in the United States, provides financial advantages related to federal taxes and customs duties at subzones throughout the City and region. The Port is a principal port of entry for trade with Canada by means of bridge, vehicular tunnel, rail tunnel and barge service. Steel and scrap steel are the principal export products of the Port, handled for the three local steel mills. General cargo constitutes a minor portion of total tonnage due to the lack of regularly scheduled shipping service.

## **Transportation Network**

Five major rail lines provide direct service to the Detroit area by railroad companies such as Conrail, Norfolk Southern, Grand Trunk Western, Canadian Pacific and CSX Transportation. Major cargo handled by the rail lines in the Detroit area include automobiles, auto parts, steel, chemicals and food products. Air transportation service is provided at the Detroit City Airport, which has general aviation and cargo services, and at the Detroit Metropolitan Wayne County Airport, the nation’s 17<sup>th</sup> largest airport (by number of aircraft operations as of 2015) and 18<sup>th</sup> busiest airport (by number of enplanements as of 2016). Detroit Metropolitan Wayne County Airport also serves as one of Delta Airlines busiest connecting hubs and serves as an international gateway for the airline. The Detroit Metropolitan Wayne County Airport had scheduled nonstop passenger service to 140 plus destinations with more than 34.4 million annual passenger deplanements and enplanements. This area’s extensive toll-free highway system, which includes the 1-94, 1-75, 1-96 and 1-696 interstate highways and Canadian Highway 401, provides one-day access, based on a 500-mile day, to 48% (by population) of the U.S. market and to the Province of Ontario, Canada.

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## **APPENDIX IV DEFINITIONS**

In addition to the terms defined elsewhere in this Official Statement, the following terms shall have the following meanings when used in this Official Statements.

“Accountant” means an independent certified public accountant or a firm of independent certified public accountants having a favorable reputation for skill in performing similar duties to the duties imposed on the Accountant under the Bond Ordinance selected by GLWA Board.

“Act 34” means Public Acts of Michigan, 2001, as amended.

“Additional Bonds” means water supply revenue bonds or water supply revenue refunding bonds of GLWA of equal standing with or subordinate to the DWSD Water Bonds of any Priority of Lien, issued under and in accordance with the Ordinance for the purposes set forth therein.

“Additional Bonds Debt Service Coverage” means, for purposes of issuing Additional Bonds under the Bond Ordinance and for each Priority of Lien, a number equal to Projected Net Revenues in the then current or next succeeding Fiscal Year, or Historical Net Revenues, all as determined by GLWA, divided by Maximum Annual Debt Service for such Priority of Lien and any higher Priority of Lien.

“Applicable Laws” means all laws, rules, regulations, ordinances, permit and license requirements, and orders of courts, governmental officials and agencies of competent jurisdiction with respect to the Leased Water Facilities or which generally relate to the Leased Water Facilities.

“Authority Regional Construction Account” means the account of the Construction Fund for the Regional Water System created pursuant to the Bond Ordinance.

“Authority Regional Improvement and Extension Account” means the account of the Improvement and Extension Fund for the Regional Water System created pursuant to the Bond Ordinance.

“Authority Regional Operation and Maintenance Account” means the account of the Operation and Maintenance Fund created pursuant to the Bond Ordinance.

“Authority Revenue Requirement” means the sum of the projected expenses and revenue requirements for the Regional Water System for each Fiscal Year, including without limitation all of the following: (a) Operation and Maintenance Expenses of the Regional Water System; (b) the amounts necessary to pay the principal of and interest on all Bonds and to restore any reserves therefor established in the Bond Ordinance; (c) the Lease Payment, which shall be a common-to-all charge; (d) the Authority Pension Obligation and the Authority BC Note Obligation; (e) the amount necessary to be deposited to the WRAP Fund, which shall be a common-to-all charge equal to 0.5% of the base budgeted operating Revenues for the Regional Water System for such Fiscal Year; (f) the amounts needed to make the required deposits to the Authority Regional Extraordinary Repair and Replacement Account of the Extraordinary Repair and Replacement Reserve Fund and the Authority Regional Improvement and Extension Account of the Improvement and Extension Fund in the Bond Ordinance; and (g) the amount necessary to satisfy the coverage ratios required by the rate covenant in the Bond Ordinance (collectively, the “Rate Covenant”).

“Authorized Officer” means the Chief Executive Officer, the Chief Financial Officer, or any officer designated by GLWA Board or the designee of any of them.

“Bankruptcy Case” means the City’s Chapter 9 Bankruptcy Case No. 13-53846 in the Bankruptcy Court.

“Bankruptcy Court” means the United States Bankruptcy Court, Eastern District of Michigan, Southern Division.

“Bankruptcy Order” means the Order Pursuant to (I) 11 U.S.C. §§ 105, 364(c), 364(d)(1), 364(e), 902, 904, 921, 922, and 928 (A) Approving Post Petition Financing and (B) Granting Liens and (II) Bankruptcy Rule 9019 Approving Settlement of Confirmation Objections, entered August 25, 2014 in the Bankruptcy Case.

“BC Note Obligation” means, collectively, the debt service on (a) the City of Detroit Financial Recovery Bonds, Series 2014B(1) and Series 2014B(2), dated December 10, 2014, and (b) the City of Detroit Financial Recovery Bonds, Series 2014C, dated December 10, 2014, which bonds were issued to satisfy in whole or in part claims relating to the City’s pension obligation certificates and post-retirement health benefits.

“Bond” or “Bonds” means, regardless of Priority of Lien, any DWSD Water Bond, established and created by the City and outstanding under Ordinance No. 01-05 and any Series of Additional Bonds established and created by GLWA under the Bond Ordinance and issued pursuant to a Series Ordinance, and Reimbursement Obligations and Junior Lien Reimbursement Obligations of any Priority of Lien established and created under Ordinance No. 01-05 or by a Series Ordinance.

“Bond Counsel” means a firm of nationally recognized bond counsel acceptable to GLWA.

“Bond Fund” means, collectively, the Bond Interest and Redemption Funds created pursuant to the Bond Ordinance.

“Bond Interest and Redemption Fund” means each fund for the payment of Debt Service for each Series of Bonds of the same Priority of Lien.

“Bond Ordinance” means Master Bond Ordinance No. 2015-01 adopted by the GLWA Board on October 7, 2015, as from time to time restated, amended or supplemented by Supplemental Ordinances in accordance with the terms and provisions thereof.

“Bond Payment Date” means any of the dates specified in a Series Ordinance for payment of interest, or interest and principal on the Bonds.

“Bond Reserve Account” means collectively, the Senior Lien Bond Reserve Account and the Second Lien Bond Reserve Account Fund created pursuant to the Bond Ordinance.

“Bondholder” or “Holder” or any similar term means any person or party who shall be the registered owner of any Bond.

“Budget Stabilization Fund” means the fund created pursuant to the Bond Ordinance.

“Budget Stabilization Requirement” means with respect to the Local Water System, an amount calculated each Fiscal Year equal to (A) two times a number equal to twenty percent of the average bad debt expense of Retail Water Customers as a class for the two preceding Fiscal Years based on audited financial statements (or unaudited statements if audited statements are not available), which amount shall be funded from Retail Revenues initially in thirds over three Fiscal Years beginning in Fiscal Year 2016,



or (B) such other amount specified by GLWA Board by supermajority (5/6) vote. For purposes of the required deposit for Fiscal Year 2016 the amount shall be \$2,327,026 for the Local Water System.

“Business Day” means a day other than (i) Saturday, Sunday or a legal holiday, (ii) a day on which the Trustee is authorized or required to remain closed, (iii) a day on which the New York Stock Exchange is closed or (iv) a day on which the Federal Reserve is closed.

“Capital Improvement Program” means the ongoing program of capital improvements for the Leased Water Facilities, as the same may be modified from time to time by GLWA.

“CIPs” means, collectively, the Capital Improvement Program and the Detroit Capital Improvement Program.

“Chief Executive Officer” means the Chief Executive Officer of GLWA.

“Chief Financial Officer” means the Chief Executive Officer of GLWA.

“Common-to-all” means the method or methods for allocating to wholesale customers of the Regional Water System and Retail Water Customers the cost of water service provided by the Regional Water System that benefits both wholesale customers and Retail Water Customers, which allocation is determined on a case by case analysis of the benefits derived from each customer class from such service.

“Code” means the Internal Revenue Code of 1986, as amended, and the regulations, rulings and court decisions thereunder, as the context may require.

“Construction Fund” means the fund created pursuant to the Bond Ordinance.

“Credit Entity” means, with respect to a Series of Bonds or a maturity of such Series, a commercial bank, a bond insurance company, any other financial institution or combination of such financial institutions or governmental entity which issues a Credit Facility for such Series of Bonds or maturities but only while such Credit Facility is outstanding or Reimbursement Obligations or Junior Lien Reimbursement Obligations or other amounts are outstanding under any written agreement with a Credit Entity pursuant to which a Credit Facility is issued.

“Credit Facility” means one or more credit facilities with respect to a Series of Bonds or maturity of such Series consisting of an irrevocable and unconditional letter of credit, line of credit, standby bond purchase agreement, municipal bond insurance policy, surety bond, liquidity facility, or other credit enhancement facility or other liquidity facility issued by a Credit Entity as described in the Bond Ordinance to provide moneys for the purpose of paying the principal (whether upon tender or upon maturity or redemption) of and the interest on such Series of Bonds, but only while such Credit Facility is outstanding.

“Debt Service” means with respect to Bonds of each Priority of Lien, the amount scheduled to become due and payable annually on all Outstanding Bonds as (i) interest, exclusive of interest capitalized on such Outstanding Bonds and paid from the proceeds of a Series of Bonds or investment earnings on such capitalized interest, plus (ii) principal, plus (iii) Mandatory Redemption Requirements. For purposes of calculating Debt Service:

- (i) All principal payments shall be deemed to be made as and when the same shall become due or upon mandatory redemption;

(ii) Outstanding Variable Rate Bonds shall be deemed to bear interest during any period after the date of calculation at a fixed annual rate equal to the weighted average of the actual rates on such Variable Rate Bonds for each day during the 365 consecutive days (or any lesser period such Variable Rate Bonds have been Outstanding) ending on the last day of the month next preceding the date of calculation, or at the effective fixed annual rate thereon as a result of a Swap Agreement with respect thereto; provided, that such effective fixed annual rate for Variable Rate Bonds subject to a Swap Agreement must be utilized as long as such Swap Agreement is contracted to remain in full force and effect, and provided further, that for purposes of establishing compliance with the requirements of issuing Additional Bonds under the Bond Ordinance, Outstanding Variable Rate Bonds shall be deemed to bear interest as provided for Variable Rate Bonds proposed to be issued in clause (iii) below;

(iii) Variable Rate Bonds proposed to be issued shall be deemed to bear interest at a fixed annual rate equal to the average of the interest rates published in The Bond Buyer Revenue Bond Index during the twelve (12) months preceding the date of issuance of such Variable Rate Bonds, or at the effective fixed annual rate thereon as a result of a Swap Agreement with respect to such Variable Rate Bonds; and provided, that such effective fixed annual rate must be utilized only so long as such Swap Agreement is contracted to remain in full force and effect;

(iv) Any computation of Debt Service shall recognize and give effect to the alternative, rather than the cumulative, nature of obligations on Bonds, including any related Reimbursement Obligations or Junior Lien Reimbursement Obligations to a provider of credit enhancement or a liquidity facility securing payment of such Bonds. The portion of any termination payment constituting regularly scheduled debt service which becomes payable pursuant to the terms of a Swap Agreement shall constitute interest as provided in Act 34.

“Debt Service Installment Requirement” means, as of the first day of the month with respect to each Priority of Lien of Outstanding Bonds, the amounts calculated as described below. For interest payments due on Bonds of such Priority of Lien semiannually, the amount set aside and transferred to the Bond Fund each month for interest on such Bonds shall be 1/6 of the total amount of interest on such Bonds next coming due or such lesser amount as is necessary to assure that the amount set aside in the Bond Fund as of the first day of such month is not less than the product of (a) 1/6 of the amount of interest next due on such Bonds times (b) the number of months elapsed since and including the last interest payment date. For Series of Bonds of such Priority of Lien with more frequent interest payment dates, the amounts set aside each month shall equal one month’s accrued interest on such Bonds as provided in the Series Ordinance for such Bonds. For the month immediately prior to each Bond Payment Date the amount set aside and transferred to the Bond Fund to pay interest shall be reduced by investment earnings in the Bond Fund which are available for such purpose and shall be increased by the amount, if any, necessary so that the amount on deposit is sufficient to pay the interest due on such Bond Payment Date. The amount set aside and transferred to the Bond Fund each month for principal on the Bonds of such Priority of Lien shall be 1/12 of the amount of principal next coming due by maturity or as a Mandatory Redemption Requirement or such lesser amount as is necessary to assure that the amount set aside in the Bond Fund as of the first day of such month is not less than the product of (a) 1/12 of the amount of principal next due on such Bonds times (b) the number of months elapsed since and including the last principal payment date, If there is any deficiency in the amount previously set aside, that deficiency shall be added to the next succeeding month’s requirement. For the month immediately prior to each Bond Payment Date, the amount set aside and transferred to the Bond Fund to pay principal shall be reduced by investment earnings in the Bond Fund which are available for such purpose and shall be increased by the amount, if any, necessary so that the amount on deposit is sufficient to pay the principal due on such Bond Payment Date. For all purposes of the Bond Ordinance and the Bonds of such Priority of Lien, Term Bonds of such Priority of Lien shall be deemed to come due at the time and in the amounts

of the Mandatory Redemption Requirements therefor and the principal amount due on such Term Bonds on the dates of their stated maturities shall be reduced by the Mandatory Redemption Requirements therefor coming due prior to the stated maturities for such Term Bonds. Mandatory Redemption Requirements for Term Bonds may be satisfied by the call of Bonds of such Priority of Lien of the same maturity in principal amount of the Mandatory Redemption Requirement at par and accrued interest or the purchase and surrender to the Trustee of Bonds of the same maturity in the principal amount of the Mandatory Redemption Requirement from moneys in the Bond Fund, or purchased with other funds legally available therefor, all as specified in a Series Ordinance.

“Detroit Capital Improvement Program” means the ongoing program of capital improvements for the Detroit Local Water Facilities, as the same may be modified from time to time by the City.

“Detroit Local Construction Account” means the account of the Construction Fund for the Local Water System created pursuant to the Bond Ordinance.

“Detroit Local Improvement and Extension Account” means the account of the Improvement and Extension Fund for the Local Water System created pursuant to the Bond Ordinance.

“Detroit Local Operation and Maintenance Account” means the account of the Operation and Maintenance Fund for the Local Water System created pursuant to the Bond Ordinance.

“Detroit Local Sewer Facilities” means those sewage disposal facilities, other than the Leased Sewer Facilities, that are used to provide sewer service directly to Retail Sewer Customers on the Effective Date, all as more fully described in the Water and Sewer Services Agreement and the Sewer Lease.

“Detroit Local Water Facilities” means those Water System facilities, other than the Leased Water Facilities, that are used to provide water service directly to Retail Water Customers on the Effective Date, including fire hydrants, all as more fully described in the Water and Sewer Services Agreement and the Lease.

“DWSD-R” means the Detroit Water and Sewerage Department, as in existence on and after the Effective Date.

“DWSD Water Bonds” means all bonds and other indebtedness of the City secured by a pledge of and a statutory lien on the Net Revenues of the Water System and Outstanding immediately prior to the Effective Date, as more fully described in Schedule B to the Lease.

“Event of Default” means an Event of Default as such term is defined in the Bond Ordinance.

“Extraordinary Repair and Replacement Maximum Requirement” means, for any Fiscal Year, 15% of the budgeted Operation and Maintenance Expenses of the Regional Water System and the Local Water System for such Fiscal Year, less any amount that is withdrawn in the Fiscal Year from the Extraordinary Repair and Replacement Reserve Fund for paying a major unanticipated repair or replacement to the Regional Water System or the Local Water System pursuant to the Bond Ordinance, but only in the Fiscal Year that such amount is withdrawn.

“Extraordinary Repair and Replacement Minimum Requirement” means, for any Fiscal Year, 1/12 of 3% of the budgeted Operation and Maintenance Expenses of the Regional Water System and the Local Water System for such Fiscal Year plus such amount as is necessary to restore to the Extraordinary Repair and Replacement Reserve Fund any amount credited to the Improvement and Extension Fund.

“Extraordinary Repair and Replacement Reserve Fund” means the fund created pursuant to the Bond Ordinance.

“Fiscal Year” means the fiscal year and operating year of GLWA which begins on July 1 and ends on the following June 30, as it may be modified.

“Government Obligations” means direct obligations of the United States, its agencies, or, or United States government sponsored enterprises or obligations the payment of principal and interest on which is fully and unconditionally guaranteed by the United States, or its agencies.

“GRS” means the General Retirement System of the City.

“GRS Plan” means the frozen defined benefit plan of the GRS in effect on December 10, 2014, the effective date of the Plan of Adjustment.

“Historical Net Revenues” means, for purposes of issuing Additional Bonds under the Bond Ordinance, (a) the Net Revenues of the Water System for either (i) the immediately preceding Fiscal Year for which audited financial statements of GLWA are available, and if not, the audited financial statements of DWSD for such Fiscal Year may be used, or (ii) any audited Fiscal Year ending not more than sixteen months prior to the date of delivery of the Additional Bonds then being issued pursuant to the Bond Ordinance, as determined by GLWA, plus, at the option of GLWA, (b) an amount determined by GLWA in accordance with the Bond Ordinance to equal the effect of any change in the rates, fees and charges of the Regional Water System and the Local Water System authorized at or prior to the date of sale of the Additional Bonds then being issued pursuant to the Bond Ordinance, as if the Water System’s billings during such Fiscal Year had been at the increased rates, plus, at the option of GLWA, (c) an amount determined by GLWA in accordance with the Bond Ordinance to equal one hundred percent of the estimated increase in Net Revenues projected to accrue as a result of (i) the acquisition of the repairs, extensions, enlargements and improvements to the Water System projected to be paid in whole or in part from the proceeds of the Additional Bonds then being issued pursuant to the Bond Ordinance and (ii) any acquisition, extension or connection which was made subsequent to the end of such Fiscal Year. For purposes of determining Historical Net Revenues, if the first Fiscal Year of such determination is comprised of less than 12 months, then Historical Net Revenues for the complete Fiscal Year shall be the combined Net Revenues of (i) DWSD’s partial fiscal year and (ii) GLWA’s partial Fiscal Year and shall be used with adjustments to assure no duplication of Revenues in the calculation.

“Improvement and Extension Fund” means the fund used for improvements, enlargements, extensions or betterment of the Water System, created pursuant to the Bond Ordinance.

“Insurance Consultant” means an independent person or a firm of persons having skill and experience in dealing with the insurance requirements of municipal Water Systems comparable in size and function to the Water System.

“Issuance Costs” means items of expense payable or reimbursable directly or indirectly by or to GLWA and related to the authorization, sale and issuance of Bonds and authorization of the Bond Ordinance, which items of expense shall include, but not be limited to, application fees and expenses, publication costs, printing costs, costs of reproducing documents, filing and recording fees, Bond Counsel, financial and other consultants’ fees, initial Trustee’s fees, costs and expenses, underwriters’ fees and discount, costs of credit ratings, costs of Credit Facilities and charges for execution, transportation and safekeeping of the Bonds and related documents, and other costs, charges and fees in connection with the foregoing.

“Junior Lien Bond Fund” means the fund created pursuant to the Bond Ordinance.

“Junior Lien Bonds” means any Bonds or Series of Bonds, including Second Lien Bonds and SRF Junior Lien Bonds, issued by the City under Ordinance No. 01-05 and Second Lien Bonds, SRF Junior Lien Bonds, Pension Junior Lien Bonds and any Additional Bonds of a Priority of Lien subordinate thereto issued by GLWA under the Bond Ordinance and pursuant to a Series Ordinance and payable from Net Revenues deposited in the Junior Lien Bond Fund after satisfaction of requirements for funding the Senior Lien Bond Fund, and Junior Lien Reimbursement Obligations established and created by a Series Ordinance.

“Junior Lien Reimbursement Obligations” means any obligations to repay a Credit Entity for payments of Debt Service made with respect to a Series of Junior Lien Bonds, as provided in any written agreement between GLWA and a Credit Entity pursuant to which a Credit Facility is issued, which Junior Lien Reimbursement Obligations may be evidenced by Refunding Bonds or Junior Lien Bonds or contractual undertakings with the Credit Entity; provided, that for purposes of determining Debt Service, reimbursement of expenses, fees and other similar contractual undertakings shall not be included.

“Lease” means the Regional Water System Lease dated June 12, 2015, between the City, as lessor, and GLWA, as lessee, of the Leased Water Facilities, as amended from time to time.

“Lease Payment” means the annual payment required to be made by GLWA for the benefit of the City pursuant to the Lease, in consideration for the leasing of the Leased Water Facilities to GLWA and the absolute and irrevocable assignment and transfer to GLWA of the Revenues as provided in the Lease and to be applied by GLWA as provided herein.

“Leased Sewer Facilities” means, collectively, all of the City’s right, title and interest in and to that portion of the real and tangible personal property comprising a part of the Regional Sewer System and owned by the City and providing sewer service to the wholesale customers of the Regional Sewer System and Retail Sewer Customers up to the point of connection to the Detroit Local Sewer Facilities, all as more fully set forth in the Sewer Lease.

“Leased Water Facilities” means, collectively, all of the City’s right, title and interest in and to that portion of the real and tangible personal property comprising a part of the Water System and owned by the City and providing water service to both the wholesale customers of the Regional Water System and Retail Water Customers up to the point of connection to the Detroit Local Water Facilities, including without limitation, the land, buildings, water intakes, pump stations, storage facilities, other structures fixtures (including meters and transmission mains), and improvements and real property interests such as easements, access rights, rights of way, permits and leases, all as more fully set forth in Schedule A attached to the Lease (the “Real Property”), and any and all tangible personal property such as machinery, equipment, pumps, tanks, storage facilities, pipes, pipelines, transmission lines, vehicles, furniture, office equipment and inventory, including without limitation the personal property that is described in Schedule A attached to the Lease (the “Personal Property”). Leased Water Facilities include all improvements and additions to and replacements of the foregoing described Real Property and Personal Property, but do not include the Detroit Local Water Facilities.

“Local Sewer System” means that portion of the Sewer System that provides sewer service directly to Retail Sewer Customers, which on the Effective Date consists of the Detroit Local Sewer Facilities.

“Local Water System” means that portion of the Water System that provides water service directly to the Retail Water Customers, which on the Effective Date consists of the Detroit Local Water Facilities.

“Mandatory Redemption Requirement” means as to each Series of Bonds for any year, the principal amount of Bonds of such Series subject to mandatory sinking fund redemption in such year, as provided in the Series Ordinance or Sale Resolution for such Series of Bonds.

“Maximum Annual Debt Service” means, with respect to any given Priority of Lien, the maximum aggregate Debt Service Installment Requirements in any future Fiscal Year on Outstanding Bonds of such Priority of Lien and any Additional Bonds then being issued in accordance with the Bond Ordinance. If any Additional Bonds (any of such, the “Refunding Bonds”) are to be issued to refund Outstanding Bonds (the “Bonds to be Refunded”), the Debt Service Installment Requirements to be used for determining Maximum Annual Debt Service shall include the Debt Service Installment Requirements with respect to the Refunding Bonds and not the Debt Service Installment Requirements with respect to the Bonds to be Refunded.

“Net Proceeds” means in the event of the destruction or taking of any portion of the Leased Water Facilities or the Detroit Local Water Facilities, the gross proceeds derived by GLWA or the City, as the case may be, from insurance on or condemnation of the Leased Water Facilities or the Detroit Local Water Facilities, respectively, less payment of attorneys’ fees, if any, and other expenses properly incurred in the collection thereof.

“Net Revenues” means for any period of time, all Revenues received during such period of time, except for those Revenues transferred to the Operation and Maintenance Fund.

“Operation and Maintenance Expenses” means the reasonable expenses of administration, operation and maintenance of the Regional Water System or the Local Water System, as the case may be, but shall not include the Required Annual GRS Payment.

“Operation and Maintenance Fund” means the Operation and Maintenance Fund established under the Bond Ordinance. As further provided in the Bond Ordinance, such Fund shall not be part of the Trust Estate held for the benefit of Holders, who shall have no interest in such Fund whatsoever, and any funds on deposit in or credited to such Fund are not and shall not be Pledged Assets.

“Ordinance” means the Bond Ordinance, and shall include the Series Ordinance and Sale Resolution (if any) or Sale Order (if any) of the Chief Executive Officer or other Authorized Officer, for each Series of Bonds.

“Ordinance No. 01-05” means Ordinance No. 01-05 of the City, adopted by the City Council of the City on January 26, 2005, and which amended and restated Ordinance No. 30-02 of the City related to the Water System.

“Outstanding” means, as of any date and unless otherwise provided in a Series Ordinance, all Bonds which have been authenticated and delivered by the Trustee under Ordinance No. 01-05 and the Bond Ordinance (including tendered Bonds which may be owned by GLWA, from time to time, prior to the remarketing thereof), except:

- (i) Bonds (or portions of Bonds) for the payment or redemption of which there shall be held in trust by the Trustee under the Bond Ordinance (whether at or prior to maturity or redemption) (a) moneys equal to the principal amount or Redemption Price thereof, as the case

may be, with interest to the date of maturity or redemption or (b) Sufficient Government Obligations in such principal amounts, having such maturities and bearing such interest, as together with the moneys described in clause (a), if any, shall be sufficient without reinvestment to pay when due the principal amount or Redemption Price, as the case may be, with interest due to the date of maturity or redemption; provided, that if such Bonds are to be redeemed, notice of such redemption shall have been given as provided in Article III or provisions satisfactory to the Trustee shall have been made for giving of such notice:

(ii) Bonds in lieu of or substitution for which other Bonds shall have been authenticated and delivered pursuant to the Bond Ordinance;

(iii) Bonds deemed to have been paid or defeased as provided under the Bond Ordinance; and

(iv) Bonds subject to a mandatory tender which have not been tendered prior to the related tender date which are deemed to have been redeemed.

“Pension Junior Lien Bonds” means Bonds, if any, issued to pay all or any part of the Required Annual GRS Payment, which may only be issued as Junior Lien Bonds with a Priority of Lien subordinate to SRF Junior Lien Bonds.

“Pension Obligation” means the amounts allocable to the Water System and required to be paid over time by DWSD and as provided in the Lease, GLWA, in respect of (i) the GRS Plan as provided in the Plan of Adjustment and the Bankruptcy Order and (ii) the BC Note Obligation as provided in the Plan of Adjustment.

“Pension Obligation Payment Fund” means the Pension Obligation Payment Fund established under the Bond Ordinance.

“Permitted Investment” means with respect to any particular amounts, an investment permitted by Act 94, including Government Obligations, and subject to such limitations as imposed under the Bond Ordinance or a Series Ordinance for the investment of such amounts.

“Person” means any natural person, firm, partnership, entity or public body.

“Plan of Adjustment” means the Eighth Amended Plan for the Adjustment of Debts of the City of Detroit, in the Bankruptcy Case, as confirmed by order of the Bankruptcy Court entered on November 12, 2014 and effective on December 10, 2014.

“Pledged Assets” means:

(i) Net Revenues;

(ii) the funds and accounts established by or pursuant to the Bond Ordinance except for the Operation and Maintenance Fund, the Construction Fund and the Rebate Fund and any account of any such fund; and

(iii) investments of amounts or any income or gain realized therefrom credited to any fund, account or subaccount that is a Pledged Asset.

“Priority of Lien” means, with respect to any particular Bonds, all other Bonds having a lien on Pledged Assets on parity with such Bonds.

“Projected Net Revenues” means, the Net Revenues of the Water System for any given Fiscal Year, which may include (a) one hundred percent of the estimated increase in Net Revenues projected to result from approved rate increases and (b) in the case of issuing Additional Bonds, for the purpose of determining the Additional Bonds Debt Service Coverage, one hundred percent of the estimated increase in Net Revenues projected to accrue as a result of the acquisition of the repairs, extensions, enlargements and improvements to the Water System projected to be paid for in whole or in part from the proceeds of the Additional Bonds.

“Prudent Utility Practices” means those practices, methods, techniques, standards and acts engaged in or approved by a significant portion of the regulated water utility industry in the United States or any of the practices, methods, techniques, standards and acts which, in the exercise of reasonable judgment in light of the facts known (or which a qualified and prudent operator could reasonably be expected to have known) at the time a decision is made, would have been expected to accomplish a desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition, in each case related to the operation, maintenance and improvement of similar systems at utility facilities of the same or similar size and type as the Leased Water Facilities.

“Rate Covenant Debt Service Coverage” means, for purposes of the rate covenant in the Bond Ordinance and for each Priority of Lien, a number equal to Projected Net Revenues for the Fiscal Year of calculation divided by the aggregate Debt Service Installment Requirements on Bonds for such Fiscal Year, net of funds on hand representing capitalized interest, all for such Priority of Lien and any higher Priority of Lien.

“Rating Agency” means any nationally recognized rating service then rating any of the Bonds.

“Rebate Fund” means the Rebate Fund created pursuant to the Bond Ordinance.

“Receiving Fund” means the Fund required to be established and maintained by GLWA under the Bond Ordinance to which all Revenues of the Water System are to be credited and applied as provided in the Bond Ordinance.

“Redemption Price” means the principal of any Bond which has been called for redemption, together with any premium thereon.

“Refunding Bonds” means any Additional Bonds issued to refund Outstanding Bonds pursuant to the Bond Ordinance.

“Regional Sewer System” means that portion of the Sewer System that provides sewer service to the wholesale customers thereof and Retail Sewer Customers up to the point of connection to the Local Sewer System, which on the Effective Date consists of the Leased Sewer Facilities.

“Regional Water System” means that portion of the Water System that provides water service to the wholesale customers thereof and Retail Customers up to the point of connection to the Local Water System, which on the Effective Date consists of the Leased Water Facilities.

“Reimbursement Obligations” means any obligations to repay a Credit Entity for payments of Debt Service made with respect to a Series of Senior Lien Bonds as provided in any written agreement between GLWA (as successor to the City or otherwise) and a Credit Entity pursuant to which a Credit



Facility is issued, which Reimbursement Obligations may be evidenced by the Senior Lien Bonds of such Series, Refunding Bonds or contractual undertakings with the Credit Entity; provided, that for purposes of determining Debt Service, reimbursement of expenses, fees and other similar contractual undertakings shall not be included.

“Required Annual GRS Payment” means the amount determined as specified in “SUMMARY OF CERTAIN PROVISIONS OF THE BOND ORDINANCE – Certain Other Funds – The Pension Obligation Payment Fund” herein.

“Required Coverage” means (a) for Senior Lien Bonds, 1.20, (b) for Second Lien Bonds, 1.10, and (c) for any Junior Lien Bonds other than Second Lien Bonds, 1.00.

“Reserve Requirement” means, except as otherwise provided with respect to a particular Series of Bonds in the applicable Series Ordinance pursuant to the Bond Ordinance, an amount equal to the Maximum Annual Debt Service requirements for each Series of Outstanding Senior Lien Bonds, which amount is required to be on deposit or, if permitted by law, otherwise provided for (including, but not limited to, through provision of a letter of credit, surety bond or insurance policy in the same amount and with a credit rating at the time of issuance of such Series of Bonds not less than the credit rating on such Series of Bonds) in the Senior Lien Bond Reserve Account; provided, however, that such requirement may be satisfied by a deposit of Bond proceeds at the time of issuance of a Series of Senior Lien Bonds, or by an accumulation on a scheduled basis of investment earnings or other deposits which will result in an amount equal to the Reserve Requirement for such Series of Bonds being on deposit no later than the date of the last scheduled application of all capitalized interest for such Series; provided, further, that with respect to a Series of Senior Lien Bonds which are proposed to be issued as Variable Rate Bonds, the Reserve Requirement shall be calculated utilizing the assumptions set forth under subparagraph (iii) of the definition of Debt Service; and provided that in no event shall the Reserve Requirement exceed the maximum permitted by the Code. Any Reserve Requirement with respect to one or more Series of Junior Lien Bonds shall be established by the related Series Ordinance, and if no amount is established therein, the Reserve Requirement shall be based on the Maximum Annual Debt Service requirement.

“Retail Customers” means, collectively, the Retail Water Customers and the Retail Sewer Customers.

“Retail Revenues” means Revenues collected from Retail Customers.

“Retail Sewer Customers” means those individual customers located within and outside the City that receive sewer service directly from the Detroit Local Sewer Facilities.

“Retail Water Customers” means those individual customers located within and outside the City that receive water service directly from the Detroit Local Water Facilities.

“Revenue Receipts Fund” means the Revenue Receipts Fund created pursuant to the Bond Ordinance and under GLWA’s Regional Sewer System Master Bond Ordinance and held in trust by the Trustee.

“Revenues” means the revenues, including the Retail Revenues, of GLWA from the Water System, which shall be construed as defined in Section 3 of Act 94, and shall also include:

- (i) amounts received from a Swap Provider under a Swap Agreement, including any amounts payable upon termination thereof;

(ii) income earned and gain realized from the investment of amounts in the various funds, accounts and subaccounts established by the Bond Ordinance other than the Construction Fund for any Fiscal Year in which earnings on the Construction Fund are not credited to the Receiving Fund; and

(iii) all moneys collected directly or indirectly by GLWA or by the City, as agent of GLWA, under the Water and Sewer Services Agreement, and deposited or to be deposited into the Receiving Fund under the Bond Ordinance.

“Sale Resolution” or “Sale Order” means a resolution or resolutions of GLWA adopted by GLWA Board in accordance with the Bond Ordinance or an Order of the Chief Executive Officer, Chief Financial Officer or other specified Authority official authorizing the sale of a Series of Bonds in accordance with the terms and provisions of the Bond Ordinance and a Series Ordinance.

“Second Lien Bonds” means the DWSD Water Bonds having a second lien on the Net Revenues of the Water System that are being assumed by GLWA and any Additional Bonds of equal Priority of Lien.

“Senior Lien Bonds” means the DWSD Water Bonds having a first and senior lien on the Net Revenues of the Water System that are being assumed by GLWA, and any Additional Bonds of equal Priority of Lien.

“Series” means a Series of Bonds issued and sold pursuant to a Series Ordinance and the Bond Ordinance or Ordinance No. 01-05.

“Series Ordinance” means an ordinance or ordinances, including, if necessary, a Sale Resolution or Sale Order, authorizing the issuance and sale of a Series of Bonds in accordance with the provisions of the Bond Ordinance.

“Sewer Lease” means the Regional Sewage Disposal System Lease, to be effective on the Effective Date, relating to the lease of the Leased Sewer Facilities from the City to GLWA.

“Sewer Lease Payment” means the annual payment required to be made by GLWA for the benefit of the City pursuant to the Sewer Lease in consideration for the leasing of the Leased Sewer Facilities to GLWA as provided therein.

“Sewer System” means, the City’s sewage disposal system as existing immediately prior to the Effective Date, which consists on the Effective Date of the Regional Sewer System and the Local Sewer System as the same may be improved from time to time.

“Shared Services Agreement” means the Shared Services Agreement between the City and GLWA relating to the provision of services by the City to GLWA with respect to the Regional Water System and the Regional Sewer System, and the provision of services by GLWA to the City with respect to the operation and management of the Detroit Local Water Facilities and the Detroit Local Sewer Facilities, as it may be amended and supplemented as provided therein.

“SRF” means the State Drinking Water Revolving Fund financing program.

“SRF Junior Lien Bonds” means all SRF Junior Lien Bonds being assumed by GLWA and any Additional Bonds of equal Priority of Lien issued for the purpose of providing improvements to the Water System under the SRF and shall be the second Priority of Lien of Junior Lien Bonds.

“State” means the State of Michigan.

“Sufficient Government Obligations” means (a) direct obligations of the United States of America or (b) obligations the principal of and interest on which are fully guaranteed by the United States of America, and which (i) are not redeemable at the option of the issuer and (ii) without reinvestment of the interest, come due at such times and in such amounts as to be fully sufficient to pay the principal or Redemption Price and interest, respectively, as each becomes due on the Bonds.

“Supplemental Ordinance” means a Series Ordinance or other Ordinance supplemental to the Bond Ordinance and authorized pursuant to the Bond Ordinance.

“Surplus Fund” means the fund created pursuant to the Bond Ordinance.

“Swap Agreement” means any interest rate exchange or swap, hedge or other similar agreement or agreements entered into in connection with the issuance of obligations or other evidences of indebtedness or in connection with GLWA’s then Outstanding Senior Lien Bonds or Junior Lien Bonds within the limitations provided by Act 34 or its predecessor statute.

“Swap Provider” means any party with whom GLWA (as successor to the City or otherwise) has or shall enter into a Swap Agreement.

“System Consultant” means any professionally qualified person, firm or corporation nationally recognized in the municipal water supply industry and of favorable reputation for skill and experience in performing the duties of providing consulting services to municipal water systems comparable in size and function to the Water System, including setting of rates and charges for the use of such systems.

“Trustee” means U.S. Bank National Association or any successor independent bank or trust company qualified and appointed pursuant to the Bond Ordinance to act as Trustee hereunder and any company into which the Trustee may be merged or converted or with which it may be consolidated, or any company resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any company to which the Trustee may sell or transfer all or substantially all of its corporate trust business, provided such company shall be a trust company or bank which is qualified to be a successor Trustee under the Bond Ordinance, or any other bank or trust company at any time substituted in its place pursuant to the Bond Ordinance.

“Variable Rate Bonds” means any Bonds the interest rate on which is not fixed to maturity as of the date of the calculation being performed.

“Water and Sewer Services Agreement” means the Water and Sewer Services Agreement, dated June 12, 2015, between the City and GLWA relating to the provision of water supply service to the Retail Water Customers and sewage disposal service to Retail Sewer Customers, as it may be amended and supplemented as provided therein.

“Water System” means the City’s water supply system as existing immediately prior to the Effective Date, which on the Effective Date consists of the Regional Water System and the Local Water System, as the same may be improved from time to time.

“WRAP Fund” means the Water Residential Assistance Program Fund created pursuant to the Bond Ordinance, which is a fund independently-administered on behalf of GLWA to provide assistance to indigent residential customers throughout the Water System and the Sewer System.

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## **APPENDIX V SUMMARY OF THE LEASE**

This summary does not purport to be comprehensive or definitive and is subject to all of the terms of the Lease, to which reference is hereby made and copies of which are available on GLWA's website at [www.glwater.org](http://www.glwater.org) or from the Underwriters prior to the execution and delivery of the Series 2018 Bonds and thereafter may be examined or obtained at the expense of the person requesting the same at the corporate trust office of the Trustee.

### **General**

On June 12, 2015, the City and GLWA executed (i) the Lease pursuant to which the City agreed to lease to GLWA the Leased Water Facilities and (ii) the Sewer Lease pursuant to which the City agreed to lease to GLWA the Leased Sewer Facilities. Complete copies of the Lease and the Sewer Lease are available on GLWA's website at [www.glwater.org](http://www.glwater.org). On June 27, 2018, certain sections of the Lease and the Sewer Lease were clarified under the 2018 MOU. For a summary of the 2018 MOU as it relates to the Lease and the Sewer Lease, see APPENDIX IX - SUMMARY OF 2018 MOU.

Pursuant to the Lease, the City leased the Leased Water Facilities and assigned and transferred its interest in all revenues derived from the sale of water supply services to the wholesale customers and the Retail Water Customers of the Water System to GLWA for the Term. On the Effective Date, the City conveyed to GLWA by lease for the Term all of the City's right, title and interest in and to the Leased Water Facilities in order to enable GLWA to operate the Leased Water Facilities as provided in the Lease. The City continues to own, operate and be responsible for the operation and maintenance of the Detroit Local Water Facilities, which consist of all water supply facilities that provide water supply services directly to the Retail Water Customers, all as more particularly described in the Water and Sewer Services Agreement. See APPENDIX VII—Summary of the Water and Sewer Services Agreement.

### **Term of the Lease**

The term of the Lease (the "Term") commenced on the Effective Date and shall initially terminate on the 40th anniversary of the Effective Date (the "Initial Lease Termination Date"). Upon the issuance of Additional Bonds by GLWA with a maturity date after the Initial Lease Termination Date, the Initial Lease Termination Date shall automatically, and without further action of the parties to the Lease, be amended to coincide with the date on which all of the Bonds have been paid or provision for payment of all such Bonds has been made in accordance with the Bond Ordinance.

### **Assignment and Assumption**

On the Effective Date, GLWA assumed all of the City's obligations under the DWSD Water Bonds, including all of the obligations to make payments of principal of and interest on the DWSD Water Bonds. In acquiring the Leased Water Facilities pursuant to the Lease, commencing on the Effective Date, GLWA also acquired for the Term, and the City absolutely and irrevocably assigned, transferred and conveyed to GLWA, and GLWA purchased and acquired from the City, (i) all of the City's right, title and interest in and to the Revenues, including the Retail Revenues, in existence on the Effective Date, and (ii) all of the City's right, title and interest in and to the Revenues, including Retail Revenues, derived from operation of the Water System on and after the Effective Date and through the end of the Term.

In addition, on the Effective Date, the City assigned and GLWA assumed the City's wholesale contracts related to the Regional Water System, existing DWSD vendor contracts related to the Regional

Water System, the City's rights under the contracts with bond insurers and surety bond providers with respect to the DWSD Water Bonds and all other liabilities and obligations of the City with respect to the Leased Water Facilities. GLWA also agreed to provide continuing disclosure with respect to information within its control relating to GLWA, the Leased Water Facilities and the DWSD Water Bonds that the City would otherwise have had to disclose on an annual basis pursuant to continuing disclosure undertakings entered into by the City with respect to the DWSD Water Bonds.

### **Retirement Obligations**

As further consideration for the acquisition of the Regional Water System pursuant to the Lease, the Authority is required to pay that portion of the Pension Obligation allocable to the Regional Water System (the "Authority Pension Obligation") and that portion of the BC Note Obligation allocable to the Regional Water System (the "Authority BC Note Obligation"). The City agrees that it is liable for and shall be required to pay that portion of the Pension Obligation allocable to the Local Water System (the "City Pension Obligation") and that portion of the BC Note Obligation allocable to the Local Water System (the "City BC Note Obligation"). Amounts due for the Pension Obligation and the BC Note Obligation shall be allocated between the Authority and the City on the basis that such amounts are payable with respect to employees of the Authority and the City, respectively.

### **Rate Setting**

Pursuant to the Lease, the City and GLWA agree that (i) GLWA shall have the exclusive right to establish rates for water service for customers of the Water System, including Retail Water Customers, (ii) GLWA may delegate its rights to establish rates for water service to customers of the Water System to one or more agents, as it deems necessary or convenient, and (iii) directly or through an agent, GLWA shall have the exclusive right to charge and bill to and collect from such customers amounts from water services constituting the Revenues, including the Retail Revenues. Under the Water and Sewer Services Agreement, GLWA has delegated to the City its rights to set and collect rates with respect to Retail Customers of the City.

### **Lease Payments**

Part of the consideration for the Lease will be an allocation of \$22,500,000 per year (the "Lease Payment"), to be funded from a portion of the common-to-all revenue requirements for the Regional Water System. The Lease Payment will be retained by GLWA and applied as provided below. The Lease Payment will flow through the existing flow of funds under the Bond Ordinance, together with other funding requirements, after payment of Operations and Maintenance Expenses. The Lease Payment will not be treated as an Operation and Maintenance Expense and shall be applied solely, at the City's direction and discretion, to the cost of improvements to the Local Water System (payable after debt service and pension liability payments in the flow of funds), the payment of debt service on Bonds associated with such improvements or the City's share of debt service on Bonds associated with common-to-all improvements. Any Additional Bonds issued to finance Regional Water System improvements or Local Water System improvements will be issued by GLWA and will be secured by the Net Revenues.

### **Operation of Leased Water Facilities**

GLWA agrees to operate the Leased Water Facilities for the purpose of furnishing water service to its customers in accordance with Applicable Laws and Prudent Utility Practices, all in a manner so as to provide water service to customers in the same or an improved manner as was provided by DWSD immediately prior to the Effective Date (collectively, the "Performance Standards"). In connection therewith, GLWA will pay all costs of operating, using, repairing, maintaining, replacing, enlarging,

extending, improving, financing and refinancing the Leased Water Facilities, including by way of illustration and not by way of limitation, all capital costs, utility rates and charges, fees and other amounts due under existing contracts, taxes and special assessments, salaries and other employment costs, permits and license fees and rents. GLWA has agreed that it will not cause or permit any waste, damage or injury to the Leased Water Facilities and to keep the Leased Water Facilities in good condition and repair (reasonable wear and tear, obsolescence and damage by act of God, fire or other causes beyond the control of GLWA excepted).

From and after the Effective Date, GLWA is obligated, at its own expense, to keep the Leased Water Facilities insured against any casualty loss and shall also obtain and maintain public liability insurance (covering bodily and personal injury, property damage and contractual liability), automobile liability insurance and worker's compensation insurance for the operation of the Leased Water Facilities and the Regional Water System in commercially reasonable amounts, provided that GLWA is be required to carry a particular type of insurance coverage as set forth in the Lease during any period that such insurance is not available in the insurance market of the United States at commercially reasonable rates. The insurance required of GLWA by the Lease in the amounts, with the coverage and other required features, may be supplied by a fully funded self-insurance program of GLWA or a self-insurance pool in which GLWA is a participant; provided that such self-insurance program or pool will provide the coverage required herein.

### **Destruction or Taking of Leased Water Facilities**

If during the Term, any portion of the Leased Water Facilities is damaged or destroyed by fire or other casualty, GLWA is obligated to repair, restore, rebuild or replace the damaged or destroyed portion of the Leased Water Facilities and complete the same as soon as reasonably possible (subject to the adjustment and receipt of insurance proceeds, if any, and the Bond Ordinance), to at least the condition they were in prior to such damage or destruction, except for obsolescent facilities or changes in design or materials as may then be necessary to achieve the Performance Standards.

In the event of any taking of the Leased Water Facilities or any part thereof in or by condemnation or other eminent domain proceedings pursuant to any Applicable Laws, or by reason of the temporary requisition of the use or occupancy of the Leased Water Facilities or any part thereof by any governmental authority (each a "Taking"), GLWA will promptly notify the City upon receiving notice of such Taking or commencement of proceedings therefor. GLWA will then, if requested by the City, file or defend its claim thereunder and prosecute the same with due diligence to its final disposition. Subject to the terms of the Bond Ordinance, all proceeds or any award or payment in respect of any taking are hereby assigned and shall be paid to GLWA, and GLWA is permitted to take all steps reasonably necessary in its discretion to notify the condemning authority of such assignment. Such award or payment shall be applied to the Leased Water Facilities as necessary to achieve the Performance Standards.

If the Leased Water Facilities or any portion thereof are in whole or in part destroyed or damaged as a result of any cause whatsoever, or a Taking occurs with respect to the Leased Water Facilities or any portion thereof, there shall be no abatement, diminution or reduction in any Lease Payment payable under the Lease.

In the Lease, the City agrees not to commence any proceedings against the Leased Water Facilities that would constitute a Taking of all or any part of the Leased Water Facilities if the effect of such Taking is to render it impracticable for the Leased Water Facilities to furnish water service to GLWA's customers in accordance with the Performance Standards.

## **Improvements to Leased Water Facilities**

During the Term, GLWA is entitled to make such rehabilitation of and replacements and improvements to the Leased Water Facilities as it determines to be necessary in order to keep the Leased Water Facilities in compliance with the Performance Standards. In connection therewith, GLWA, for each Fiscal Year will prepare and approve a Capital Improvement Program, which shall set forth the improvements to the Leased Water Facilities that GLWA proposes to undertake during the next five Fiscal Years.

In addition, during the Term, GLWA will review and revise as necessary the DWSD water master plan. In reviewing the plan, GLWA will use its best efforts to maximize utilization of the capacity in the Regional Water System so that economies of scale may be realized, shall take into account the needs of GLWA's service area in planning and operating the Regional Water System, shall strive to become the provider of choice for southeastern Michigan and shall consider incentives for customers to utilize the Regional Water System for their water supply needs.

## **Adoption of Budget; Rates for Use of Leased Water Facilities**

GLWA adopted a budget for the Regional Water System for the period from the Effective Date through June 30, 2016, which was based on a bi-furcation between the Regional Water System and the Local Water System of the budget adopted by DWSD relating to the Water System for the Fiscal Year beginning July 1, 2015. Commencing with the Fiscal Year beginning July 1, 2016, the Authority is required to adopt a two-year budget for the Regional Water System for the following two Fiscal Years that sets forth budgeted Revenues and expenses for each such Fiscal Year. The budgeted expenses for each such Fiscal Year shall equal the sum of the projected expenses and revenue requirements for the Regional Water System for each such Fiscal Year (collectively, the "Authority Revenue Requirement"), including without limitation all of the following:

- (a) Operation and Maintenance Expenses of the Regional Water System;
- (b) The amounts necessary to pay the principal of and interest on all Bonds and to restore any reserves therefor established in the Bond Ordinance;
- (c) The Lease Payment, which shall be a common-to-all charge;
- (d) The Authority Pension Obligation and the Authority BC Note Obligation;
- (e) The amount necessary to be deposited to the WRAP Fund, which shall be a common-to-all charge equal to 0.5% of the base budgeted operating Revenues for the Regional Water System for such Fiscal Year;
- (f) The amounts needed to make the required deposits to the Authority Regional Extraordinary Repair and Replacement Account of the Extraordinary Repair and Replacement Reserve Fund and the Authority Regional Improvement and Extension Account of the Improvement and Extension Fund in the Bond Ordinance; and
- (g) The amount necessary to satisfy the coverage ratios required by the rate covenant to be included in the Bond Ordinance (collectively, the "Rate Covenant").

GLWA, for each Fiscal Year, shall fix and approve rates and charges to its customers in an amount that is expected to produce Revenues sufficient to satisfy the Authority Revenue Requirement. In



connection with the determination by the Authority of the rates and charges applicable to Retail Water Customers in the City for such Fiscal Year, the City shall receive a credit in the amount of \$20,700,000, representing the return on equity to the City for the Water System in recognition of the City's ownership of the Water System and support of the rate structure for the Water System.

As provided in the Lease, through the Fiscal Year ending June 30, 2025, the Water System is assumed to experience annual increases in the Authority Revenue Requirement of not more than 4%; provided however, this limitation shall not be applicable if the Authority Revenue Requirement must increase beyond the 4% assumption in order to satisfy the Rate Covenant or to pay the cost of improvements to the Leased Water Facilities that are required to be made by Applicable Laws.

In the Lease, the City acknowledges that all Revenues received from customers in the City, including Revenues derived exclusively from the Local Water System, are the property of the Authority and will be deposited as received in the Receiving Fund in the Bond Ordinance and applied as provided in the Bond Ordinance, including amounts deposited in the Budget Stabilization Fund. As a result, the City agrees to provide the Authority with a budget for the Local Water System as provided in the Water and Sewer Services Agreement.

### **Sale or Disposition of Leased Water Facilities or Detroit Local Water Facilities**

Subject to the Bond Ordinance, GLWA, following notice to the City, has the right to sell or dispose of any of the Real Property or Personal Property that constitutes part of the Leased Water Facilities if GLWA determines that such Real Property or Personal Property is not or is no longer needed or useful in connection with the operation of the Leased Water Facilities or that such sale or disposition will not impair the operating efficiency of the Leased Water Facilities or reduce the ability of GLWA to satisfy the Rate Covenant as provided in the Bond Ordinance. To the extent necessary to accomplish such a sale of Personal Property, the Lease also constitutes a quit claim transfer by the City of any residual property rights it may have in and to such Personal Property. The City shall cooperate with GLWA in arranging the execution and delivery of a deed for the disposition of any Real Property. The proceeds of any such sale shall be deposited in the Receiving Fund established by the Bond Ordinance.

If the City sells or disposes of any real or personal property that constitutes part of the Detroit Local Water Facilities that was paid for in whole or in part with common-to-all funds, the proceeds of such sale or disposition shall be paid to GLWA in the same proportion that common-to-all funds were used to pay the purchase price, for deposit in the Receiving Fund established by the Bond Ordinance.

In connection with the sale or disposition of any of the Leased Water Facilities or any of the Detroit Local Water Facilities that were paid for in whole or in part with common-to-all funds, the City and GLWA shall cooperate and use their best efforts to sell such property at market value, exchange such property for other property of similar value or sell such property as otherwise agreed to by the parties.

### **Events of Default and Remedies**

Events of Default. Under the Lease, the term "Event of Default" means the occurrence of any one of the following events:

(a) GLWA's failure to pay any Lease Payment (without setoff, recoupment, or other deduction of any kind) when due.

(b) GLWA's failure to fully perform and comply with any of the other terms, conditions or provisions of the Lease within ninety (90) days after delivery to GLWA of a written notice from the City specifying such failure.

(c) The City's failure to fully perform and comply with any of the terms, conditions or provisions of the Lease within ninety (90) days after delivery to the City of a written notice from GLWA specifying such failure.

#### Remedies.

(1) If an Event of Default set forth in (a) or (b) above occurs, the City, subject to the dispute resolution procedures described below under "Dispute Resolution" (the "Dispute Resolution Procedures"), shall have all rights and remedies available to the City at law or in equity, including specific performance.

(2) If an Event of Default set forth in (c) above occurs, GLWA, subject to the Dispute Resolution Procedures, shall have all right and remedies available to GLWA at law or in equity, including specific performance.

(3) Notwithstanding anything else to the contrary in the Lease, so long as Bonds are outstanding, neither the City nor GLWA shall have any right to terminate the Lease at any time prior to the end of the Term, whether or not an Event of Default has occurred.

(4) The City's or GLWA's failure to insist upon the strict performance of any agreement, term, covenant or condition of the Lease or to exercise any right or remedy for breach of or Event of Default under the Lease shall not constitute a waiver of any such breach or Event of Default. Similarly, the City's acceptance of full or partial Lease Payments during any such breach by or Event of Default attributable to GLWA shall not constitute a waiver of any such breach or Event of Default. No waiver of any breach or Event of Default shall affect or alter this subsection and every term, covenant, condition and provision of the Lease shall continue in full force and effect with respect to any other then existing or subsequent breach or Event of Default.

(5) Subject to (3) above and the Dispute Resolution Procedures, each right and remedy provided in the Lease shall be cumulative and shall be in addition to every other right or remedy provided for in the Lease or now or later existing at law or in equity either by statute or otherwise. The City's or GLWA's exercise of any one or more of its rights or remedies shall not preclude the City's or GLWA's simultaneous or later exercise of any or all of its other rights or remedies under the Lease.

### **Dispute Resolution**

#### Disputes; Resolution.

GLWA and the City shall each designate in writing to the other from time to time a representative who shall be authorized to resolve any dispute relating to the subject matter of the Lease in an equitable manner and, unless otherwise expressly provided herein, to exercise the authority of such party to make decisions by mutual agreement.

The City and GLWA each agree (i) to attempt to resolve all disputes arising under the Lease promptly, equitably and in a good faith manner and (ii) to provide each other with reasonable access during normal business hours to any and all non-privileged written records, information and data pertaining to any such dispute.

If any dispute relating to the subject matter of the Lease is not resolved between the City and GLWA within 30 days (or such later date agreed to by the parties) from the date on which a party provides written notice to the other party of such dispute and of the notifying party's position on the disputed matter, then upon written notification by either party to the other party, such dispute shall be settled exclusively and finally by arbitration as described under "Arbitration" below. During the pendency of any dispute and until such dispute is resolved as provided below, the City and GLWA shall continue to operate under the terms of the Lease.

#### Arbitration.

Any dispute or claim arising under or relating to the Lease that cannot be resolved between the City and GLWA, including any matter relating to the interpretation or performance of the Lease, shall be submitted to arbitration irrespective of either the magnitude thereof or the amount in dispute.

Each arbitration between the City and GLWA shall be conducted pursuant to the Uniform Arbitration Act, Act No. 371, Public Acts of Michigan, 2012 and before a panel composed of three arbitrators (the "Arbitration Panel"). Each party shall appoint an arbitrator, obtain its appointee's acceptance of such appointment and deliver written notification of such appointment and acceptance to the other party within 15 days after delivery of a notice of arbitration. The two arbitrators appointed by the City and GLWA shall jointly appoint the third (who shall be the chairperson), obtain the acceptance of such appointment and deliver written notification of such appointment within 15 days after their appointment and acceptance.

Any arbitration commenced hereunder shall be completed within 120 days after the appointment of the Arbitration Panel absent agreement of the City and GLWA to the contrary. Further, absent agreement of the City and GLWA or, upon request of one of the parties, an order of the Arbitration Panel to the contrary: (i) all discovery shall be completed within 60 days after the appointment of the Arbitration Panel; (ii) each party shall be limited to a maximum of 5 depositions; (iii) each deposition shall be completed within a maximum period of two consecutive 8-hour days; (iv) each party shall be limited to 2 expert witnesses; and (v) interrogatories shall be limited to a maximum of 50 single issues without sub-parts. The City and GLWA waive any claim to any damages in the nature of punitive, exemplary or statutory damages in excess of compensatory damages or otherwise expressly provided for in the Lease, and the Arbitration Panel is specifically divested of any power to award such damages. The Arbitration Panel shall have the power to award injunctive or other equitable relief. All decisions of the Arbitration Panel shall be pursuant to a majority vote. Any interim or final award shall be rendered by written decision.

If either the City or GLWA fails to appoint its arbitrator within 15 days after delivery of a notice of arbitration, or if the two arbitrators appointed cannot agree upon the third arbitrator within 15 days after appointment of the second arbitrator, then the required arbitrator(s) shall be appointed by the American Arbitration Association or as otherwise agreed by the City and GLWA.

No arbitrator shall be a past or present employee or agent of, or consultant or counsel to, either the City or GLWA or any affiliate of either the City or GLWA.

GLWA and the City shall each bear the out-of-pocket costs and expenses of their respective arbitrator, attorneys and witnesses, and they shall each bear one-half of the out-of-pocket costs and expenses of the chairperson of the Arbitration Panel and all administrative support for the arbitration.

Appeals and Enforcement of Arbitration Awards and Decisions. The City or GLWA may appeal an award or decision issued by the Arbitration Panel may enforce any awards or decisions of the

Arbitration Panel as provided in the Lease. The remedies described under “Dispute Resolution” shall be the sole and exclusive remedies of the City and GLWA with respect to any claim, dispute or Event of Default under the Lease. The City and GLWA agree not to bring, or cause to be brought, in a court of law any action, proceeding or cause of action whatsoever with respect to any such claim, dispute or Event of Default, other than as necessary to enforce the award or decision of the Arbitration Panel as provided in the Lease.

#### **Amendments to Lease**

The Lease may be amended from time to time by agreement of the City and GLWA. Any such amendment shall not be effective unless the amendment is in writing and is executed by the Mayor of the City and the duly authorized officers of GLWA; provided, however, that the Lease shall not be subject to any amendment which would in any manner affect either the security for the Bonds or the prompt payment of the principal of and interest thereon.

## **APPENDIX VI SUMMARY OF THE BOND ORDINANCE**

This summary does not purport to be comprehensive or definitive and is subject to all of the terms of the Bond Ordinance, to which reference is hereby made and copies of which are available on GLWA's website at [www.glwater.org](http://www.glwater.org) or from the Underwriters prior to the execution and delivery of the Series 2018 Bonds and thereafter may be examined or obtained at the expense of the person requesting the same at the corporate trust office of the Trustee. On June 27, 2018, certain sections of the Bond Ordinance were clarified under the 2018 MOU. For a summary of the 2018 MOU as it relates to the Bond Ordinance, see APPENDIX IX - SUMMARY OF 2018 MOU.

### **The Revenue Receipts Fund and the Receiving Fund**

Under the Bond Ordinance, consistent with the sale, assignment and transfer of Revenues contained in the Lease, GLWA and the City, as agent of GLWA under the Water and Sewer Services Agreement, shall deposit or cause to be deposited all Revenues each receives from operation of the Regional Water System and the Local Water System in the GLWA Revenue Receipts Fund established under the Bond Ordinance. GLWA shall allocate moneys in the GLWA Revenue Receipts Fund between the Water System and the Sewer System and cause funds related to the Regional Water System and Local Water System to be deposited in the Receiving Fund. The City shall act as an agent of GLWA when collecting the Retail Revenues, and shall hold the Retail Revenues in trust for the exclusive benefit of GLWA until such funds are transferred to the Trustee and deposited in the GLWA Revenue Receipts Fund.

### **Flow of Funds**

Under the Bond Ordinance, in accordance with the requirements of Act 94 and the Lease, GLWA has established certain funds and accounts for the Water System under the Bond Ordinance to be held in trust by the Trustee. The Bond Ordinance permits the establishment of additional funds for additional priorities of GLWA Bonds.

In accordance with the terms of Act 94 and the Bond Ordinance, all Revenues of the Water System shall be deposited with the Trustee and, with the exception of Revenues transferred to the GLWA Regional Operation and Maintenance Account or the Detroit Local Operation and Maintenance Account of the Operation and Maintenance Fund as directed by GLWA as provided in the Bond Ordinance, held in trust pursuant to the terms of the Bond Ordinance. The Lease and the Bond Ordinance provide that, subject to the issuance of Bonds permitted by the Bond Ordinance to satisfy all or a portion of the Pension Obligation, pursuant to the provisions of paragraph 24 of the Bankruptcy Order, DWSD's contribution to the GRS pension plan set forth in the Plan of Adjustment shall be payable as follows: (i) the portion of that contribution equal to \$24 million annually, plus DWSD's share of the annual "defined contribution" payments related to its employees (as such term is used in the Bankruptcy Order), both to be allocated between the Sewer System and the Water System, will be paid by the Trustee as Operation and Maintenance Expenses under priority "First" below, and (ii) the difference between DWSD's annual GRS pension plan contribution provided for in the Plan of Adjustment and \$24 million will be paid by the Trustee out of the Pension Obligation Payment Fund under priority "Fifth" below.

As of the first day of each month (or, in the case of the transfer to the respective Reserve Account, following the annual July 1 valuation of investments in such Reserve Account, pursuant to the Bond Ordinance), amounts credited to the Receiving Fund, including any Lease Payment (which is to be applied to the Fund(s) and Account(s) designated by the City pursuant to the Lease) shall be transferred

seriatim into the following funds and accounts but only within the respective limitations and only if the maximum amount within such limitation has been credited to the preceding fund or account:

First: to the Authority Regional Operation and Maintenance Account and the Detroit Local Operation and Maintenance Account of the Operation and Maintenance Fund, 1/12 of the then current Fiscal Year's Operation and Maintenance Expenses of the Regional Water System and the Local Water System, respectively, as determined by GLWA and certified to the Trustee by an Authorized Officer as sufficient to provide for the payment of the next month's expenses of administration and operation of the Regional Water System and the Local Water System, respectively, and such current expenses for the maintenance thereof as may be necessary to preserve the same in good repair and working order;

Second: to the Senior Lien Bond Debt Service Account, an amount that, when added to all other amounts then on deposit therein, shall equal the Debt Service Installment Requirement for Bonds as of the first day of such month;

Third: following the annual July 1 valuation of investments in the Senior Lien Bond Reserve Account pursuant to the Bond Ordinance, to the Senior Lien Bond Reserve Account, an amount, if any, that when added to all other amounts then on deposit therein shall equal the Reserve Requirement for Senior Lien Bonds;

Fourth: to the Bond Interest and Redemption Fund established for each Priority of Lien of Junior Lien Bonds, beginning with the Second Lien Bonds and continuing in descending order of priority to, and including, each Priority of Lien of Junior Lien Bonds, as follows:

*First:* to the Debt Service Account established for such Priority of Lien, an amount that, when added to amounts then on deposit in such account, shall equal the Debt Service Installment Requirement for Junior Lien Bonds of such Priority of Lien as of the first day of such month; and

*Second:* following the annual July 1 valuation of investments in the Reserve Accounts pursuant to the Bond Ordinance, to the Reserve Account, if any, established for such Priority of Lien, an amount that, when added to amounts then on deposit in such account, shall equal the Reserve Requirement for such Priority of Lien of Junior Lien Bonds;

Fifth: except as provided in the Bond Ordinance with respect to the initial deposit to the Pension Obligation Payment Fund, to the extent Pension Junior Lien Bonds are not issued, to the Pension Obligation Payment Fund an amount that equals 1/12 of the Required Annual GRS Payment and 1/12 of the BC Note Obligation at the written direction of an Authorized Officer to the Trustee;

Sixth: except as provided in the Bond Ordinance with respect to the initial deposit to the Water Residential Assistance Program ("WRAP") Fund, to the WRAP Fund, 1/12 of the amount to be deposited therein for the current Fiscal Year as directed in writing by an Authorized Officer to the Trustee;

Seventh: except as otherwise provided in the Bond Ordinance with respect to the initial deposit to the Budget Stabilization Fund, for each of the Fiscal Years 2016, 2017 and 2018, to the

Budget Stabilization Fund, an amount equal to 1/12 of one-third of the amount necessary to assure that the Budget Stabilization Requirement will be on deposit in the Budget Stabilization Fund within three full Fiscal Years at the written direction of an Authorized Officer to the Trustee and for subsequent Fiscal Years thereafter 1/12 of an amount that when added to amounts then on deposit in the Budget Stabilization Fund shall equal the Budget Stabilization Requirement, at the written direction of an Authorized Officer to the Trustee;

Eighth: to the Extraordinary Repair and Replacement Reserve Fund, the amount of the Extraordinary Repair and Replacement Minimum Requirement to the extent that the balance thereof is less than the Extraordinary Repair and Replacement Maximum Requirement; and

Ninth: at the written direction of an Authorized Officer to the Trustee, to the Authority Improvement and Extension Account and the Detroit Local Improvement and Extension Account of the Improvement and Extension Fund, such amounts as GLWA may deem advisable for the Regional Water System and Local Water System; provided that no amount shall be deposited in either such account for so long as a withdrawal from the Extraordinary Repair and Replacement Reserve Fund remains unpaid.

In any month, funds on deposit in the Receiving Fund in excess of the requirements set forth above may, upon the direction of GLWA, be transferred to the Improvement and Extension Fund (provided that no amount shall be deposited to the Improvement and Extension Fund or credited thereto for so long as a withdrawal from the Extraordinary Repair and Replacement Reserve Fund remains unpaid).

**Any amounts remaining in the Receiving Fund as of the last day of each Fiscal Year shall be applied against future years' Revenue deposit obligations under the Bond Ordinance, unless directed by GLWA within thirty (30) days of completion of the Fiscal Year's audited financial statements to be deposited in the Surplus Fund.**

### **Priority of Funds and Accounts**

Pursuant to the Bond Ordinance, if amounts in the Receiving Fund are insufficient to provide for current requirements of the Operation and Maintenance Fund and each Bond Interest and Redemption Fund (including the Reserve Account, if any, therein), then any amounts or securities held in the Surplus Fund, the Improvement and Extension Fund, the Extraordinary Repair and Replacement Reserve Fund, the WRAP Fund, the Budget Stabilization Fund and the Pension Obligation Payment Fund shall be credited or transferred from such Funds in the order listed, first, to the Operation and Maintenance Fund and, second, to the particular Bond Interest and Redemption Fund, to the extent of the insufficiency therein.

If any debt service on Bonds of the same Priority of Lien becomes due (whether on a stated or scheduled date, by reason of call for redemption or otherwise), and there are insufficient amounts for the payment thereof in the Bond Interest and Redemption Fund established for Bonds of such Priority of Lien after applying payments in any Reserve Account established for Bonds of such Priority of Lien, then there shall be applied by the Trustee to such payment amounts in each Bond Interest and Redemption Account established for Series of Bonds of each lower Priority of Lien, beginning with the lowest Priority of Lien and proceeding seriatim in ascending order of Priority of Lien, until such payments are made in full.

## **Operation and Maintenance Fund**

The Operation and Maintenance Fund consists of two accounts, the Authority Regional Operation and Maintenance Account and the Detroit Local Operation and Maintenance Account, and within each account a Pension Obligation Subaccount. The Operation and Maintenance Fund shall not be part of the Trust Estate held for the benefit of Holders, who shall have no interest in such Fund whatsoever. Any funds at any time on deposit in or credited to the Operation and Maintenance Fund are not and shall not be Pledged Assets.

Amounts in the Authority Regional Operation and Maintenance Account of the Operation and Maintenance Fund shall be used to pay the expenses of administration and operation of the Regional Water System and such current expenses for the maintenance thereof as may be necessary to preserve the same in good repair and working order. The Authority shall have sole and exclusive authority to withdraw funds from the Authority Regional Operation and Maintenance Account of the Operation and Maintenance Fund to pay the expenses of administration and operation of the Regional Water System and such current expenses for the maintenance thereof as may be necessary to preserve the same in good repair and working order as it, in its sole discretion, may at any time and from time to time deem necessary or appropriate. The Regional Water System's allocable share of the Pension Obligation that is required to be paid as an Operation and Maintenance Expense pursuant to the Bankruptcy Order shall be deposited and held in the Pension Obligation Subaccount until paid to GRS. No other Person, shall have the right or authority to use or withdraw funds from the Authority Regional Operation and Maintenance Account of the Operation and Maintenance Fund.

Amounts in the Detroit Local Operation and Maintenance Account of the Operation and Maintenance Fund shall be used to pay the expenses of administration and operation of the Local Water System and such current expenses for the maintenance thereof as may be necessary to preserve the same in good repair and working order. The City shall have sole and exclusive authority to withdraw funds from the Detroit Local Operation and Maintenance Account of the Operation and Maintenance Fund to pay the expenses of administration and operation of the Local Water System and such current expenses for the maintenance thereof as may be necessary to preserve the same in good repair and working order as it, in its sole discretion, may at any time and from time to time deem necessary or appropriate. The Local Water System's allocable share of the Pension Obligation that is required to be paid as an Operation and Maintenance Expense pursuant to the Bankruptcy Order shall be deposited and held in the Pension Obligation Subaccount until paid to GRS. No other Person, shall have the right or authority to use or withdraw funds from the Detroit Local Operation and Maintenance Account of the Operation and Maintenance Fund.

## **Certain Other Funds**

### *The Extraordinary Repair and Replacement Reserve Fund*

Under the Bond Ordinance, amounts in the Extraordinary Repair and Replacement Reserve Fund may be used by GLWA to pay costs of making major unanticipated repairs and replacements to the Regional Water System which individually have cost or are reasonably expected to cost in excess of \$1 million as determined by the GLWA Board. GLWA may withdraw funds from the Extraordinary Repair and Replacement Fund for such purposes at any time and from time to time upon written request to the Trustee therefor.

Amounts in the Extraordinary Repair and Replacement Reserve Fund may also be used by the City to pay costs of making major unanticipated repairs and replacements to the Local Water System which individually have cost or are reasonably expected by the GLWA Board to cost in excess of \$1



million as determined by the GLWA Board based on certifications provided by an authorized officer of the City. The City may withdraw funds from the Extraordinary Repair and Replacement Fund for such purposes at any time and from time to time upon written request to GLWA and the Trustee therefor.

#### *The Pension Obligation Payment Fund*

Under the Bond Ordinance, subject to the issuance of Pension Junior Lien Bonds to satisfy all or a portion of the Pension Obligation, at the written direction of an Authorized Officer to the Trustee, the Trustee shall pay from the Revenues of the Water System on deposit in the Pension Obligation Payment Fund, on the same ratable basis as the allocation of payroll costs between the Water System and the Sewer System, (i) to GRS the difference between the annual allocation of the Plan of Adjustment GRS pension contributions provided in the Plan of Adjustment and \$24 million in the aggregate, and (ii) the Water System's allocable share of the BC Note Obligation, as determined by GLWA.

Subject to the flow of funds as provided in the Bond Ordinance, at the written direction of an Authorized Officer to the Trustee, sufficient funds shall be allocated and disbursed by the Trustee, to the Pension Obligation Payment Fund on a monthly basis until such time as the Pension Obligation Payment Fund contains funds sufficient to pay (i) the difference between the Water System's allocable share of the annual allocation of the Pension Obligation contributions required to be paid to GRS as provided in the Plan of Adjustment, and the Water System's allocable share of \$24 million (the "Required Annual GRS Payment") and (ii) the Water System's allocable share of the BC Note Obligation as provided in the Plan of Adjustment, as determined by the Authority.

#### *The WRAP Fund*

Under the Bond Ordinance, the WRAP Fund shall be used to provide assistance to indigent residential customers throughout the Water System and the Sewer System as directed by an Authorized Officer to the Trustee.

#### *The Budget Stabilization Fund*

Under the Bond Ordinance, the Budget Stabilization Fund shall be maintained in the amount of the Budget Stabilization Requirement. Moneys in the Budget Stabilization Fund may be applied by GLWA in its discretion for any lawful purpose of the Water System in the event of shortfalls in the Retail Revenues attributable to unfavorable variances between actual bad debt expenses and budgeted bad debt expenses of Retail Water Customers as a class. At least quarterly, in connection with the preparation of the annual audit for the Local Water System and the Local Sewer System, the Chief Financial Officers of the Authority and the DWSD-R shall determine whether a draw on the Budget Stabilization Fund is necessary in accordance with the requirements and procedures set forth in the Water and Sewer Services Agreement. If so, an Authorized Officer may provide written direction to the Trustee to draw on the Budget Stabilization Fund an amount equal to the amount by which the actual bad debt expenses of the Retail Water Customers as a class exceeds the budgeted bad debt expenses of that class, and deposit such amount into the appropriate fund or account. Amounts on deposit in the Budget Stabilization Fund in excess of the Budget Stabilization Requirement for the following Fiscal Year based on audited financial statements shall be transferred to the Detroit Local Improvement and Extension Account of the Improvement and Extension Fund. The deposit of Retail Revenues in the Budget Stabilization Fund shall be subordinate to payment of Operation and Maintenance Expenses and the payment of principal of and interest on the Bonds.

### *The Improvement and Extension Fund*

The Improvement and Extension Fund consists of two accounts, the Authority Regional Improvement and Extension Account and the Detroit Local Improvement and Extension Account. Under the Bond Ordinance, amounts in the Authority Improvement and Extension Account and the Detroit Local Improvement and Extension Account of the Improvement and Extension Fund shall be used for improvements, enlargements or extensions to the Regional Water System and the Local Water System, respectively. The Authority may withdraw funds from the Authority Regional Improvement and Extension Account of the Improvement and Extension Fund for the purposes of paying the costs of improvements, enlargements or extensions to the Regional Water System at any time and from time to time upon written request to the Trustee therefor and may withdraw funds from the Extraordinary Repair and Replacement Reserve Fund for such purposes as provided in the second paragraph under “Extraordinary Repair and Replacement Reserve Fund” above. The City may withdraw funds from the Detroit Local Improvement Account of the Improvement and Extension Fund for the purpose of paying the costs of improvements, enlargements or extensions to the Local Water System at any time and from time to time upon written request to the Trustee therefor.

### *The Surplus Fund; Uses and Replenishments of Deficits in Other Funds*

Under the Bond Ordinance, amounts from time to time on deposit in the Surplus Fund may, at the option of GLWA, be withdrawn upon written request to the Trustee and used for any purposes related to the Water System; provided, however, that, if and whenever there should be any deficit in the Operation and Maintenance Fund or in any Bond Interest and Redemption Fund (excluding any Reserve Account therein), then transfers shall be made by GLWA from the Surplus Fund to such funds in the priority and order described above under “Priority of Funds and Accounts” above to the extent of any such deficit.

### **Construction Fund**

The Construction Fund consists of two accounts, the Authority Regional Construction Account and the Detroit Local Construction Account. The Construction Fund shall not be part of the Trust Estate held for the benefit of Holders, who shall have no interest in such Fund whatsoever. Any funds at any time on deposit in or credited to the Construction Fund are not and shall not be Pledged Assets.

Amounts in the Authority Regional Construction Account and the Detroit Local Construction Account of the Construction Fund shall be used to pay the cost of repairs, extensions, enlargements, and improvements to the Regional Water System and the Local Water System, respectively, and any Issuance Costs. A separate account shall be established at the direction of the Authority within the Construction Fund, entitled “Issuance Costs Account,” from which the Custodian shall pay the Issuance Costs related to Outstanding Bonds and any Additional Bonds issued subject to the Bond Ordinance. The Authority and the City each shall have sole and exclusive authority to withdraw funds from the Authority Regional Construction Account and the Detroit Local Construction Account, respectively, for such purposes as they, in their sole discretion, may at any time and from time to time deem necessary or appropriate. No other Person shall have the right or authority to use or withdraw funds from the Construction Fund.

Any unexpended balance remaining in an account of the Construction Fund may in the discretion of the Authority be used for meeting any Reserve Requirement or for further improvements, enlargements and extensions to the Regional Water System or the Local Water System, as the case may be, if, at the time of such expenditure, such use based upon an opinion of Bond Counsel, is permitted by the Bond Ordinance and, in the case of Tax-Exempt Bonds, will not adversely affect the exclusion from gross income for federal income tax purposes of the Series of Bonds, the proceeds of which were deposited in such account. Any remaining balance after such expenditure shall be paid into the Bond Interest and

Redemption Fund established for the Series of Bonds of the Priority of Lien giving rise to such balance for the purpose of purchasing Bonds of such Priority of Lien or used for the purpose of calling such Bonds for redemption. The Authority may provide additional or different lawful uses for such unexpended balance or remaining balance by Series Ordinance which shall, nonetheless, be subject to the Authority's relevant tax covenants.

### **Rebate Fund**

The Rebate Fund shall be maintained by the Trustee as a separate depository account. The Rebate Fund is not pledged as security for any Bonds and is established for the sole purpose of paying to the United States the amounts required to be rebated pursuant to Section 103(c)(6) of the Code. Rebate calculations shall be obtained by the Trustee at the written direction of the Authority. Transfers to the Rebate Fund from the Operation and Maintenance Fund may be directed by the Authority to the Trustee in writing. The Authorized Officer shall direct the Trustee to transfer to the Rebate Fund, an amount sufficient to make the amount on deposit in the Rebate Fund equal to 100% of the amount certified by the Authority as the amount required to be rebated to the United States pursuant to Section 103(c)(6) of the Code as of the close of the bond year (as defined in the Code) for the related Series of Bonds. Such amount shall be certified by an Authorized Officer to the Trustee. The Trustee shall make payments to the United States from the Rebate Fund at the written direction of an Authorized Officer to the Trustee, no less frequently than every five years, or as otherwise provided in Section 103(c)(6) of the Code, or in a non-arbitrage and tax compliance certificate related to a Series of Tax-Exempt Bonds, together with all investment earnings thereon as the Authorized Officer shall direct. The Trustee shall retain records of determination of the amounts deposited in the Rebate Fund, the proceeds of any investments of moneys in the Rebate Fund and the amounts paid to the United States, until the date six years after the payment in full of the related Series Bonds. If the Rebate Fund is overfunded, as determined at the market value of any investments therein, at the written direction of an Authorized Officer to the Trustee, the Trustee shall withdraw the excess and return such excess to the Receiving Fund.

### **Rate Covenant**

The Bond Ordinance contains a covenant to fix, charge and collect, or cause to be fixed, charged and collected, rates, fees and charges for the use and operation of the Water System. Such rates, fees and charges shall be fixed and revised from time to time as may be expected to be necessary to produce the greater of:

1. The amounts required:
  - a. To provide for the payment of Operation and Maintenance Expenses of the Water System; and
  - b. To provide for the payment of all Debt Service Installment Requirements coming due during the Fiscal Year of calculation; and
  - c. To provide for the creation and maintenance of reserves therefor as required by the Bond Ordinance; and
  - d. To provide for the payment of the Lease Payment; and
  - e. To provide for the deposit to the WRAP Fund; and

f. To repay any withdrawals from the Extraordinary Repair and Replacement Fund;  
and

g. To provide for such other expenditures and funds for the Water System as the Bond Ordinance may require; and

2. Amounts so that the Rate Covenant Debt Service Coverage shall not be less than the Required Coverage; and

3. Amounts required by Act 94.

The coverage requirements for determining the Required Coverage under the Bond Ordinance are the following percentages:

	<b>Priority of Lien of Bonds:</b>	<b>Percentage:</b>
Senior Lien Bonds		120%
Second Lien Bonds		110%
SRF Junior Lien Bonds and Pension Junior Lien Bonds		100%

### **Additional Bonds**

Under the Bond Ordinance, GLWA may not incur any obligations payable from Pledged Assets except Bonds, and no obligations of GLWA may be secured by a lien on Pledged Assets except as provided in the Bond Ordinance.

#### *Coverage Requirements*

Under the Bond Ordinance, prior to or concurrently with the issuance of Additional Bonds of any Priority of Lien, GLWA shall calculate a number equal to Projected Net Revenues in the then current or the next succeeding Fiscal Year, or Historical Net Revenues, all as determined by GLWA, divided by Maximum Annual Debt Service for such Priority of Lien and any higher Priority of Lien (the “Additional Bonds Debt Service Coverage”). GLWA may elect to determine Additional Bonds Debt Service Coverage on the basis of Projected Net Revenues or Historical Net Revenues. In determining Projected Net Revenues, GLWA shall engage the services of and be guided by a professionally qualified person, firm or corporation nationally recognized in the municipal water supply industry and of favorable reputation for skill and experience in performing the duties of providing consulting services to municipal water systems comparable in size and function to the Water System, including setting of rates and charges for the use of such systems (a “System Consultant”). In determining Historical Net Revenues, GLWA may engage the services of and be guided by a System Consultant if it is relying on audited financial statements without augmenting Net Revenues on the basis of changes in rates, fees or charges or repairs, extensions, enlargements, improvements, acquisitions, extensions or connections to the Water System. In determining Historical Net Revenues, GLWA shall engage the services of and be guided by a System Consultant if it is augmenting Net Revenues on such a basis.

#### *General Authority*

Under the Bond Ordinance, GLWA may issue Additional Bonds of any Priority of Lien for repairs, extensions, enlargements, and improvements to the Regional Water System or the Local Water System (including repaying amounts withdrawn from the Extraordinary Repair and Replacement Reserve Fund for the Regional Water System or the Local Water System), and/or refunding all or a part of any outstanding Bonds and paying the costs of issuing such Additional Bonds, including deposits, if any, to be

made to any Reserve Account established or to be established for such Additional Bonds or any other Bonds, if, but only if GLWA shall certify that the Additional Bonds Debt Service Coverage for each Priority of Lien (regardless of the Priority of Lien of the Additional Bonds) is not less than the Required Coverage. The determination in a Series Ordinance that the Additional Bonds Debt Service Coverage for each Priority of Lien is not less than the Required Coverage shall be conclusive.

#### *Alternate Test for Refundings*

Under the Bond Ordinance, GLWA may issue Additional Bonds of any Priority of Lien, including a portion of a Series of Additional Bonds, without regard to the above requirements for refunding all or part of Bonds then Outstanding and paying costs of issuing such Additional Bonds, including deposits which may be made to any Reserve Account established or to be established for such Additional Bonds or any other Bonds if, but only if: the aggregate Debt Service Installment Requirements required to be set aside in the Bond Fund in the current Fiscal Year and each Fiscal Year thereafter until maturity on (A) the Additional Bonds and (B) giving effect to the refunding, all outstanding unrefunded Bonds of equal and higher Priority of Lien, is less than the aggregate Debt Service Installment Requirements required to be set aside in the Bond Fund in the current Fiscal Year and each Fiscal Year thereafter until maturity on all equal and higher Priority of Lien Bonds, without giving effect to the refunding.

#### **Events of Default and Remedies**

*Events of Default.* Each of the following events is an “Event of Default” under the Bond Ordinance:

- (a) the Authority shall default in the payment of the principal or Redemption Price of any Bond or Bonds when and as the same shall become due, whether at maturity or upon redemption or otherwise; or
- (b) payment of any installment of interest on any Bond or Bonds shall not be made, when and as the same shall become due.

No default in the payment of the principal of, interest on or Redemption Price of any Junior Lien Bond shall be considered a default for any Senior Lien Bond.

*Remedies.* Upon the happening and continuance of any Event of Default specified above, the Trustee may, or upon the request of the Holders of not less than 20% in principal amount of the Outstanding Bonds shall proceed, in its own name, to protect and enforce its rights and the rights of the Bondholders, by suit, action, or other proceedings, and to protect and enforce the statutory lien on the Net Revenues and enforce and compel the performance of all duties of the officials of the Authority. The Trustee shall on behalf of the Bondholders be entitled as a matter of right, upon application to a court of competent jurisdiction, to have appointed a receiver of the Authority for the business and property of the Water System, or any part thereof, including all Revenues, issues, income, receipts and profits derived, received or had by the Authority thereof or therefrom, with such power as the Authority may have to operate and maintain such business and property, collect, receive and apply all Revenues, income, receipts and profits arising therefrom, and prescribe fees and other charges in the same way and manner as the Authority might do. The Trustee is entitled to indemnification against fees, costs, expenses and liabilities for its enforcing any of the remedies permitted by the Bond Ordinance on the terms provided therein in connection with its exercise of any of the foregoing remedies.

## **Limitation on Rights of Bondholders**

No individual Bondholders may initiate legal proceedings to enforce rights under the Bond Ordinance unless such Holder shall have given to the Trustee written notice of the Event of Default or breach of duty on account of which such proceeding is to be taken, and unless the Holders of not less than 20% in principal amount of all Bonds then Outstanding have made written request of the Trustee after the right to exercise such right of action has occurred, and have afforded the Trustee a reasonable opportunity either to exercise the powers granted to it under the Bond Ordinance or to institute such proceedings in its name and unless, also, there has been offered to the Trustee reasonable security and indemnity against fees, costs, expenses and liabilities, and the Trustee has refused or neglected to comply with such request within a reasonable time.

## **Application of Revenues and Other Moneys After Default**

After an Event of Default, the Trustee shall have a first lien on the Pledged Assets with right of payment for all reasonable fees, charges, costs and expenses made in the performance of the duties of the Trustee and for the cost and expense included in defending any liability, unless such liability is adjudicated to have resulted from the gross negligence or willful misconduct of the Trustee (collectively the "Trustee's Default Fees and Costs"). During the continuance of an Event of Default, the Trustee, except as otherwise provided in the provisions of the Bond Ordinance relating to remedies, shall apply moneys, securities, funds and Revenues and the investment income thereon in the Funds and Accounts as follows and in the following order:

- (i) to the payment of the Trustee's Default Fees and Costs and the reasonable fees, charges, costs, expenses and liabilities of the System Consultant selected by the Authority pursuant to the Bond Ordinance;
- (ii) to the payment of the amounts required for reasonable and necessary Operation and Maintenance Expenses; and for the reasonable renewals, repairs and replacements of the Leased Water Facilities necessary to prevent loss of Revenues, as certified to the Trustee by the System Consultant. For this purpose the books of records and accounts of the Authority relating to the Regional Water System shall at all times be subject to the inspection of the System Consultant during the continuance of such Event of Default; and
- (iii) to the payment of the interest and principal or Redemption Price then due on the Senior Lien Bonds or Junior Lien Bonds, as follows:

First: To the payment to the persons entitled thereto of all installments of interest on Senior Lien Bonds (including payments in the nature of interest payable to Swap Providers), then due in order of the maturity of such installments, and, if the amount available shall not be sufficient to pay in full any installment, then to the payment thereof ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference; and

Second: To the payment to the persons entitled thereto of the unpaid principal or Redemption Price of any Senior Lien Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates and, if the amounts available shall not be sufficient to pay in full all the Bonds due on any date, then to the payment thereof ratably, according to the amounts of principal or Redemption Price due on such date, to the persons entitled thereto, without any discrimination or preference.

Third: To the payment to the persons entitled thereto of all installments of interest on Junior Lien Bonds, including payments in the nature of interest payable to a Swap Provider under a Swap Agreement, then due in order of Priority of Lien and order of maturity of such installments, and, if the amount available shall not be sufficient to pay in full any installment, then to the payment thereof ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference; and

Fourth: To the payment to the persons entitled thereto of the unpaid principal or Redemption Price of any Junior Lien Bonds which shall have become due, whether at maturity or by call for redemption, in the order of Priority of Lien and order of their due dates and, if the amounts available shall not be sufficient to pay in full all the Junior Lien Bonds due on any date, then to the payment thereof ratably, according to the amounts of principal or Redemption Price due on such date, to the persons entitled thereto, without any discrimination or preference.

Fifth: To the payment to any Swap Provider of any termination payment due and payable under a Swap Agreement, and if the amounts available shall not be sufficient to pay in full all termination payments due under the Swap Agreements then to the payment thereof ratably according to the amounts of termination payments due on such date to the persons entitled thereto without any discrimination or preference.

If and whenever all overdue installments of interest on all Senior Lien Bonds and Junior Lien Bonds, together with the reasonable fees, charges, costs, expenses and liabilities of the Trustee and the System Consultant, and all other sums payable by the Authority to the Trustee under the Bond Ordinance, including the principal and Redemption Price of and accrued unpaid interest on the Senior Lien Bonds and Junior Lien Bonds which shall then be payable, shall either be paid by or for the account of the Authority, or provision satisfactory to the Trustee shall be made for such payment, and all defaults under the Bond Ordinance shall be made good or secured to the satisfaction of the Trustee or provision deemed by the Trustee to be adequate shall be made therefor, the Trustee shall pay over to the Authority all moneys, securities, funds and Revenues then remaining unexpended in the hands of the Trustee (except moneys, securities, funds or Revenues deposited or pledged, or required by the terms of the Bond Ordinance to be deposited or pledged, with the Trustee), and thereupon the Authority and the Trustee shall be restored, respectively to their former positions and rights under the Bond Ordinance, and all Revenues shall thereafter be applied as provided in the provisions of the Bond Ordinance governing the establishment and use of Funds and Accounts. No such payment over to the Authority by the Trustee or resumption of the application of Revenues as so provided shall extend to or affect any subsequent default under the Bond Ordinance or impair any right consequent thereon.

### **Bondholder's Direction of Proceedings**

Anything in the Bond Ordinance to the contrary notwithstanding, following and during the continuation of an Event of Default only, subject to the last sentence of this paragraph, the Holders of not less than 20% in principal amount of the Bonds then Outstanding shall have the right, by an instrument or concurrent instruments in writing executed and delivered to the Trustee, to direct the method of conducting all remedial proceedings to be taken by the Trustee hereunder subject to the right of the Trustee to indemnification for fees, charges, costs, expenses and liabilities prior to exercising any remedy, and provided that such direction shall not be otherwise than in accordance with law or the provisions of the Bond Ordinance, and that the Trustee shall have the right to decline to follow any such direction which in the opinion of the Trustee would be unjustly prejudicial to Holders of Bonds not parties to such direction. If conflicting or inconsistent directions are received from more than one group of such Holders,

each satisfying such 20% criterion, the Trustee shall be entitled to rely upon the direction given by the Holders with the largest percentage in aggregate principal amount of Bonds then Outstanding.

### **Responsibilities of Trustee**

Prior to an Event of Default, the Trustee shall have the obligation to perform such express duties and only such express duties as are provided for in the Bond Ordinance, including any Series Ordinance or Supplemental Ordinance, and no implied covenants or obligations shall be read into the Bond Ordinance against the Trustee.

The permissive right of the Trustee to do things enumerated in the Bond Ordinance shall not be construed as a duty, and the Trustee, except for its gross negligence or willful misconduct, shall not be liable for (i) any loss or damage whatsoever arising out of any action or failure to act in connection with its obligations under the Bond Ordinance or for (ii) the exercise of any discretion or power hereunder, or mistake of judgment, or otherwise. The Trustee shall be under no obligation to institute any suit, or to undertake any proceeding under the Bond Ordinance, or to enter any appearance or in any way defend in any suit in which it may be made defendant, or to take any steps in the execution of the trusts created under the Bond Ordinance or in the enforcement of any rights and powers hereunder, until it shall be indemnified, to the extent permitted by applicable law, to its satisfaction against any and all reasonable costs and expenses, outlays and counsel fees and other anticipated disbursements, and against all liability except to the extent determined by a court of competent jurisdiction to have been caused solely by its own gross negligence or willful misconduct. Nevertheless, the Trustee may begin suit, or appear in and defend suit or do anything else in its judgment proper to be done by it as the Trustee, without indemnity, and in such case the Trustee shall, to the extent not reimbursed by the Authority, reimburse itself from the monies available in the Surplus Fund under the Bond Ordinance for all costs and expenses, outlays and counsel fees and expenses and other reasonable disbursements properly incurred in connection therewith.

The Trustee shall be under no obligation or duty to perform any act under the Bond Ordinance or defend any suit unless indemnified (other than by the Authority) to its reasonable satisfaction for the reimbursement of all fees, costs and expenses to which it may be put and to protect it against all liability, except liability that is adjudicated to have resulted from its own gross negligence or willful misconduct in connection with any action so taken.

Upon the occurrence of an Event of Default and during the continuance of an Event of Default (which has not been cured or waived) the Trustee shall exercise such of the rights and powers vested in it by the Bond Ordinance and shall use the same degree of care and skill in the exercise or use as an ordinarily prudent trustee under a corporate indenture would exercise or use under the circumstances in the conduct of its own affairs.

### **Resignation and Removal of Trustee**

The Trustee may resign by giving written notice to the Authority and mailing notice thereof by first class mail to each registered Bondholder as shown by the registration books held by the Trustee, and such resignation shall take effect upon the day that a successor shall have been appointed as provided under "Appointment of and Transfer to Successor Trustee" below.

The Trustee shall be removed by the Authority at any time on 30 days' prior written notice if so requested by an instrument or concurrent instruments in writing, filed with the Trustee and the Authority, and signed by the Holders of not less than 51% of the principal amount of the Outstanding Bonds or their attorneys-in-fact duly authorized, excluding any Bonds held by or for the account of the Authority. The Authority may remove the Trustee at any time, except during the existence of any Event of Default, in the



sole discretion of the Authority, by filing with the Trustee an instrument to such effect signed by the Treasurer of the Authority. Any such removal of the Trustee shall take effect upon the day that a successor shall have been appointed as provided under "Appointment of and Transfer to Successor Trustee" below.

### **Appointment of and Transfer to Successor Trustee**

If the Trustee shall resign or shall be removed or shall become incapable of acting, or shall be adjudged a bankrupt or insolvent, or if a receiver, liquidator or conservator of the Trustee, or of its property, shall be appointed, or if any public officer shall take charge or control of the Trustee, or of its property or affairs, the Authority covenants and agrees that the GLWA Board will thereupon appoint a successor Trustee which shall be a bank or trust company authorized to do business in the State having a capital and surplus aggregating at least \$50,000,000 and which shall accept and agree to perform the trusts imposed upon it by the Bond Ordinance by depositing with the Authority and the predecessor Trustee a written instrument of acceptance. If no successor Trustee is appointed by the GLWA Board within 60 days after the Trustee's giving of written notice of resignation to the Authority or the Authority's giving of written notice of removal, any Bondholder or the resigning party may apply to any court of competent jurisdiction to appoint a successor Trustee. Such court may, after such notice appoint a successor Trustee in accordance with the requirements of the preceding sentence. The GLWA Board (or the appointing court) shall mail notice of any such appointment made by it by first class mail to each registered Bondholder within 20 days after such appointment.

The Trustee ceasing to act shall, upon receiving payment of all of its uncontested fees, costs and expenses, execute, acknowledge and deliver such instruments of conveyance and further assurance and do such other things as may reasonably be required for more fully and certainly vesting and confirming in such successor Trustee all the right, title and interest of the predecessor Trustee in and to any property held by it under the Bond Ordinance and shall pay over, assign and deliver to the successor Trustee any money or other property subject to the trusts and conditions herein set forth.

### **Discharge of Lien**

#### *Discharge of Lien of Pledged Assets*

Upon the defeasance (as described below) of a Series of Senior Lien Bonds or Junior Lien Bonds, and payment of the Trustee's fees, costs and expenses related thereto, the lien of the Bond Ordinance upon the Pledged Assets with respect to such Series of Senior Lien Bonds or Junior Lien Bonds shall cease, terminate and be void.

Upon the defeasance of all Outstanding Bonds, the lien of the Bond Ordinance upon the Pledged Assets shall cease, terminate and be void and thereupon the Trustee, upon determining that all conditions precedent to the satisfaction and discharge of the Bond Ordinance have been complied with, and upon payment of the Trustee's fees, costs and expenses hereunder, shall (i) cancel and discharge the Ordinance and the lien on Pledged Assets, (ii) execute and deliver to the Authority such instruments in writing as shall be required to cancel and discharge the Bond Ordinance and the lien on Pledged Assets, (iii) re-convey to the Authority the Pledged Assets, and (iv) assign and deliver to the Authority so much of the Pledged Assets as may be in its possession or subject to its control, except, in the event of a defeasance of a Series of Bonds, moneys and Government Obligations held in the related Bond Interest and Redemption Funds, Debt Service Accounts, and Reserve Accounts for the purpose of paying such Series of Bonds; provided, however, such cancellation and discharge of the Bond Ordinance shall not terminate the powers and rights granted to the Trustee with respect to the payment, transfer and exchange of Bonds; and,

provided, further, that the rights of the Trustee to indemnity and payment of all reasonable fees and expenses shall survive.

#### *Defeasance of Bonds*

Bonds are “defeased” and a “defeasance” has occurred for purposes of the Bond Ordinance if:

(1) there has been deposited in trust sufficient cash and Sufficient Government Obligations, not callable by the issuer, the principal of and interest on which mature at the time and in the amounts, without the reinvestment thereof, necessary to pay principal of and interest on such Bonds to its maturity, or, if called for redemption, to the date fixed for redemption, together with the amount of the redemption premium, if any, provided, however, that the sufficiency of the deposit to effectuate the defeasance of a Bond shall have been verified by a nationally recognized accounting firm or verification agent; and

(2) if such Bonds are to be redeemed prior to maturity, irrevocable instruments have been given to the Trustee, acting as a transfer agent, to call such Bonds for redemption.

A Series Ordinance may be delivered to the Trustee with respect to a Series of Bonds which may:

(1) provide different means of defeasing such Series of Bonds, and such means may be in addition to or in lieu of the means set forth above;

(2) provide for Permitted Investments for the defeasance of such Bonds, but no such Permitted Investments may thereafter be changed except as provided herein; and

(3) provide for the consequences of such Bonds being defeased.

Except as otherwise provided in a Series Ordinance:

(1) cash or Government Obligations for the defeasance of such Bonds are the Permitted Investments therefor; and

(2) the statutory lien herein granted pursuant to Act 94 shall be terminated with respect to defeased Bonds, the Holders of such defeased Bonds shall have no further rights under the Bond Ordinance except for payment from the deposited funds and registration and replacement of such Bonds, and such Bonds shall no longer be considered to be Outstanding under the Bond Ordinance.

#### **Amendments without Consent**

The Authority may, without the consent of the Bondholders, but with the prior written consent of the Trustee in case the Series Ordinance or Supplemental Ordinance changes any of the Trustee’s duties under the Bond Ordinance, and where required by a Credit Facility, the consent of the related Credit Entity, adopt at any time or from time to time Series Ordinances or Supplemental Ordinances for any one or more of following purposes, and any Series Ordinance or Supplemental Ordinance shall become effective in accordance with its terms upon the filing with the Trustee of a copy thereof certified by the Authorized Officer:

(1) To provide for the issuance of a Series of Bonds and to prescribe the terms and conditions pursuant to which such Bonds may be issued, paid or redeemed;

(2) To add additional covenants and agreements of the Authority for the purpose of further securing the payment of the Bonds, provided such additional covenants and agreements are not contrary to or inconsistent with the covenants and agreements of the Authority contained in the Bond Ordinance;

(3) To prescribe further limitations and restrictions upon the issuance of Bonds and the incurring of indebtedness by the Authority which are not contrary to or inconsistent with the limitations and restrictions thereon theretofore in effect;

(4) To surrender any right, power or privilege reserved to or conferred upon the Authority by terms of the Bond Ordinance;

(5) To confirm as further assurance any security created under and subject to any lien or claim created or to be created by the provisions of the Bond Ordinance;

(6) To modify the provisions of the Bond Ordinance or any previously adopted Series Ordinance to permit compliance with changes in federal tax law which is required to maintain the tax exempt status of the Tax-Exempt Bonds;

(7) With the consent of the Trustee in reliance upon an opinion of Bond Counsel, to cure any ambiguity or defect or inconsistent provision in the Bond Ordinance or to insert such provisions clarifying matters or questions arising under the Bond Ordinance as are necessary or desirable in the event any such modifications are not contrary to or inconsistent with the Bond Ordinance as theretofore in effect;

(8) To comply with the Trust Indenture Act of 1939; or

(9) To amend or supplement the Bond Ordinance in any respect with regard to Bonds of one or more Priorities of Lien so long as such amendment does not materially adversely affect the Holders of Outstanding Bonds.

No Holders of Bonds of a Priority of Lien shall be “materially adversely affected” for the purposes of the Bond Ordinance by the change of any coverage percentage established for Bonds of any other Priority of Lien, and no amendment of or supplement to this Ordinance that provides for or facilitates the issuance of Bonds of any Priority of Lien shall “materially adversely affect” the Holders of Bonds of any other Priority of Lien for the purposes of this Ordinance so long as such amendment does not change any coverage percentage established for such Priority of Lien or is not an amendment that requires the consent of the Holders of such Bonds as described under “Amendments with Consent” below.

Notice of the adoption and delivery of any Supplemental Ordinance or resolution and a copy thereof shall be filed by the Trustee with the Rating Agency at the time of such adoption and delivery.

#### **Amendments with Consent**

Exclusive of Supplemental Ordinances under “Amendments without Consent” above, the Holders of at least 51% of the principal amount of Outstanding Bonds affected by the proposed Supplemental Ordinance and when required by of a Credit Facility, the related Credit Entity, shall have the right to consent to and approve the adoption by the Authority of other Supplemental Ordinances; provided, however, that nothing contained in this Article shall permit or be construed as permitting the following actions without the following consents: (i) an extension of the maturity of the principal of, or

mandatory redemption date of, or the interest on any Bond, except upon the consent of the Holders of 100% of the principal amount of Bonds being affected thereby, (ii) a reduction in the principal amount of, or the premium or rate of interest on any Bond, except upon the consent of the Holders of 100% of the principal amount of all Bonds being affected thereby, (iii) modification of the privilege or priority of any Senior Lien Bond or Bonds over any other Senior Lien Bonds, except upon the written consent of the Holders of 100% of the principal amount of the Senior Lien Bonds Outstanding or (iv) modification of the privilege or priority of any Junior Lien Bond or Junior Lien Bonds of a Priority of Lien over any other Junior Lien Bonds of a different Priority of Lien, except upon the written consent of the Holders of 100% of the principal amount of Junior Lien Bonds Outstanding. For the purposes of obtaining the foregoing consents, a Credit Entity shall be deemed to be the Holder of Senior Lien Bonds or Junior Lien Bonds pledged by the Authority to the Credit Entity or owned by the Credit Entity or Senior Lien Bonds or Junior Lien Bonds secured by a Credit Facility except to the extent the Credit Entity has not honored a draw on its Credit Facility which draw complies with the requirements of the Credit Facility.

The Trustee shall give written notice of the proposed adoption of a Supplemental Ordinance by mail to the registered addresses of Holders of the Outstanding Bonds and to the Credit Entity. Such notice shall briefly set forth the nature of the proposed Supplemental Ordinance and shall state that copies thereof are on file at the designated trust office of the Trustee for inspection by Holders of Bonds. If, within 60 days or such longer period as shall be prescribed by the Trustee at the written direction of an Authorized Officer following the mailing of such notice, the Holders of not less than the required percent of the principal amount of the Senior Lien Bonds and Junior Lien Bonds Outstanding by instruments filed with the Trustee shall have consented to the adoption thereof and any other prerequisites such as the approval of any Credit Entity having such right, such Supplemental Ordinance may be adopted and the Bond Ordinance shall be deemed to be modified and amended in accordance therewith.

Anything in the Bond Ordinance to the contrary notwithstanding, a Supplemental Ordinance which affects the rights, duties and obligations of the Trustee shall not become effective unless and until the Trustee shall have consented in writing in the case of the Trustee, to the adoption of such Supplemental Ordinance and unless the Authority has first obtained the approval of the State Department of Treasury if such approval is required.

### **Proposed Amendments to Bond Ordinance; Effective Date**

The 2018 Series Ordinance contains certain proposed amendments to the Bond Ordinance that, following approval by Bondholders as described below under “Effective Date of Amendments,” amend the definition of “Reserve Requirement” and provide GLWA with the ability to reduce or eliminate the amounts required to be on deposit in the Senior Lien Bond Reserve Account and the Second Lien Bond Reserve Account, respectively.

#### *Proposed Amendments*

The following sentence is proposed to be added at the end of the definition of “Reserve Requirement” in the Bond Ordinance:

“Notwithstanding the foregoing, (i) in the case of Senior Lien Bonds secured by the Senior Lien Bond Reserve Account, upon satisfaction of the conditions set forth in Section 506(e) of this Ordinance, the Reserve Requirement for all Outstanding Senior Lien Bonds secured by the Senior Lien Bond Reserve Account, regardless of when issued, at the election of the Authority set forth in a written notice to the Trustee, may be reduced or eliminated, and if reduced, the reduced Reserve Requirement in no event to be in excess of the maximum permitted by the Code, and (ii) in the case of Second Lien Bonds secured by the Second Lien Bond Reserve Account, upon the satisfaction of the conditions set forth in Section 506(f)

of this Ordinance, the Reserve Requirement for all Outstanding Second Lien Bonds secured by the Second Lien Bond Reserve Account, regardless of when issued, at the election of the Authority set forth in a written notice to the Trustee, may be reduced or eliminated, and if reduced, the reduced Reserve Requirement in no event to be in excess of the maximum permitted by the Code.”

The following new subsection (e) is proposed to be added to Section 506 of the Bond Ordinance:

“(e) The Authority may elect to reduce or eliminate the Reserve Requirement for all Outstanding Senior Lien Bonds secured by the Senior Lien Bond Reserve Account in accordance with the last sentence of the definition of Reserve Requirement in Section 101 at such time as the Authority shall have provided evidence to the Trustee that the Senior Lien Bonds are rated at least Aa3, AA- or AA- by at least two of Moody’s, S&P, and Fitch, respectively, and that neither of such ratings will be reduced solely as a result of the change in the Reserve Requirement for such Senior Lien Bonds. Such election shall be set forth in a written notice to the Trustee and shall be effective on the date of delivery of such notice to the Trustee. Following such election by the Authority, notwithstanding any other provision of this Ordinance, amounts on deposit in the Senior Lien Bond Reserve Account in excess of the Reserve Requirement for the Outstanding Senior Lien Bonds secured by the Senior Lien Bond Reserve Account shall be transferred by the Trustee into the Senior Lien Debt Service Account, the Receiving Fund and/or the Surplus Fund, as directed by the Authority.”

The following new subsection (f) is proposed to be added to Section 506 of the Bond Ordinance:

“(f) The Authority may elect to reduce or eliminate the Reserve Requirement for all Outstanding Second Lien Bonds secured by the Second Lien Bond Reserve Account in accordance with the last sentence of the definition of Reserve Requirement in Section 101 at such time as the Authority shall have provided evidence to the Trustee that the Senior Lien Bonds are rated at least Aa3, AA- or AA- by at least two of Moody’s, S&P, and Fitch, respectively, and that neither of such ratings will be reduced solely as a result of the change in the Reserve Requirement for such Second Lien Bonds. Such election shall be set forth in a written notice to the Trustee and shall be effective on the date of delivery of such notice to the Trustee. Following such election by the Authority, notwithstanding any other provision of this Ordinance, amounts on deposit in the Second Lien Bond Reserve Account in excess of the Reserve Requirement for the Outstanding Second Lien Bonds secured by the Second Lien Bond Reserve Account shall be transferred by the Trustee into the Second Lien Debt Service Account, the Receiving Fund and/or the Surplus Fund, as directed by the Authority.”

#### *Effective Date of Amendments*

Pursuant to the Bond Ordinance, the amendments set forth above shall become effective only upon, (1) in the case of Senior Lien Bonds secured by the Senior Lien Bond Reserve Account, the consent or deemed consent (by purchasing such Senior Lien Bonds where the offering document with respect to such Bonds contains a description of the amendments in the first two paragraphs under “Proposed Amendments” above) of the Holders of at least 51% of such Outstanding Senior Lien Bonds, and (2) in the case of Second Lien Bonds secured by the Second Lien Bond Reserve Account, the consent or deemed consent (by purchasing such Second Lien Bonds where the offering document with respect to such Bonds contains a description of the amendments in the first and third paragraphs under “Proposed Amendments” above) of the Holders of at least 51% of such Outstanding Second Lien Bonds.

**BY PURCHASING SERIES 2018 BONDS, EACH PURCHASER IS CONSENTING TO THE AMENDMENTS AS DESCRIBED ABOVE.**

The foregoing amendments have been approved by the holders of at least 51% of the Outstanding Second Lien Bonds and are therefore effective with respect to the Second Lien Bonds. See “SECURITY AND SOURCES OF PAYMENT FOR THE SERIES 2018 BONDS – Reserve Fund Amendment” in the body of the Official Statement.

## **APPENDIX VII**

### **SUMMARY OF THE WATER AND SEWER SERVICES AGREEMENT**

This summary does not purport to be comprehensive or definitive and is subject to all of the terms of the Water and Sewer Services Agreement, to which reference is hereby made and copies of which are available on GLWA's website at [www.glwater.org](http://www.glwater.org) or from the Underwriters prior to the execution and delivery of the Series 2018 Bonds and thereafter may be examined or obtained at the expense of the person requesting the same at the corporate trust office of the Trustee.

#### **General**

The City and the Authority (the "Parties") entered into the Water and Sewer Services Agreement on June 12, 2015. Pursuant to the Water and Sewer Services Agreement, the Authority will provide water to the Detroit Local Water Facilities ("Water Services") and will collect, carry, separate, treat and dispose of both sewage and water runoff from the Detroit Local Sewer Facilities to the Regional Sewer System ("Sewer Services"), all as more fully provided therein. Additionally, the Water and Sewer Services Agreement establishes and defines the scope of the agency relationship between the City and the Authority with respect to the development of rates and the billing, collection and enforcement of charges for the provision of Water Services and Sewer Services to Retail Customers, as described below. On June 27, 2018, certain sections of the Water and Sewer Services Agreement were clarified under the 2018 MOU. For a summary of the 2018 MOU as it relates to the Water and Sewer Services Agreement, see APPENDIX IX - SUMMARY OF 2018 MOU.

#### **Definitions**

In addition to terms defined elsewhere in this Official Statement, the following terms shall have the following meanings:

"Authority Bonds" means bonds or other evidences of indebtedness assumed by the Authority under the Leases and related Master Bond Ordinance or issued by the Authority under the related Bond Ordinance pursuant to Act 94 and secured by a pledge of and statutory lien upon the Net Revenues (as that term is defined in the related Master Bond Ordinance) of the related System.

"Detroit Local Systems" means, collectively, the Local Water System and the Local Sewer System.

"Green Infrastructure" means an array of products, technologies and practices that use natural systems or engineering systems that mimic natural process by using soils and vegetation to remove storm water from the Sewer System as components of a storm water management system, which systems may include by are not limited to green roofs, porous pavement, rain gardens and vegetated swales.

"Green Infrastructure Program" means implementation of Green Infrastructure to remove storm water from the Sewer System and expenditure of the average annual requirement as required by the Wastewater Treatment NPDES Permit.

"Master Bond Ordinance" means, individually or collectively, as the context requires, the ordinance adopted by the Authority prior to the Effective Date for each System, setting forth the terms and provisions under which Authority Bonds may be assumed or issued.

## Water Services

The Authority shall provide Water Services in amounts sufficient to meet the requirements of the Water and Sewer Services Agreement and in compliance with the technical and other requirements as provided in the Water and Sewer Services Agreement. The City agrees to remit payment for all Water Services provided by the Authority at such rates as the Authority may establish, but only from amounts billed to and collected from Retail Customers. The City shall act as agent for the Authority as described below with respect to the development of rates, and billing and collecting and enforcing the collection of fees and charges from Retail Customers for Water Services. The City shall establish rates consistent with Applicable Laws that are reasonably projected to meet the revenue requirement the Authority establishes for Retail Customers as well as other costs of the Local Water System; provided that:

- (i) rates established by the Authority shall be reasonable in relation to the costs incurred by the Authority for the supply of water;
- (ii) the Authority shall not establish a revenue requirement for Retail Customers for the 2015-2016 Fiscal Year in an amount exceeding the revenue requirement established by DWSO for that period; and
- (iii) each year, the Authority shall reflect in the revenue requirement a credit for the Retail Customers located in the City in the amount of \$20,700,000 against the portion of the Authority's revenue requirements allocated to the City, representing the return on equity to the City for the Water System in recognition of the City's ownership of the Water System and support of the rate structure for the Water System.

Measurement of City Usage. Annual volume and demands (used interchangeably as Units of Service) of the Local Water System on the Regional Water System will be estimated based on a combination of retail automated meter sales data and estimated sales data for non-automated meter customers, other Prudent Utility Practices measurement techniques, as well as all sources of non-revenue water. To the extent that all or a portion of water sales to the Local Water System becomes measured by master meters, the general approach may be modified.

Authority Usage. Until such time as the Leased Facilities are completely master metered, the Parties shall use the best available data and Prudent Utility Practices to develop Leased Facility annual volumes and maximum flow rates. Water usage by the Authority in the Leased Facilities connected to and receiving water service from the Local Water System shall be accounted for by applying applicable Prudent Utility Practices, including metering where feasible, and where not metered subject to the quarterly review and concurrence by the City and the Authority. Such usage may be excluded from any calculations used to determine the annual purchase volumes, maximum day demands or peak hour demands for Water Services to Retail Customers from the Authority.

Water Treatment Production Metering. The Authority shall complete the metering improvements specified in the Fiscal Year 2016 Water Supply System Capital Improvement Program, Fiscal Years 2016-2020, approved on March 1, 2015 by the Board of Water Commissioners, for the Northeast, Springwells, and Waterworks Park water treatment facilities no later than June 30, 2020. The Authority shall include in a future Authority CIP adequate means of measuring Authority consumption of water at other Regional Water Facilities.

Rate Methodology. The Authority shall adopt, and may amend from time to time, a methodology for ratemaking for the sale of water detailed in the Water and Sewer Services Agreement that complies with Michigan law. The Authority shall provide the City a description of such methodology and any



amendment thereto in a form that complies with the provisions of the Water and Sewer Services Agreement and accounts for differences attributable to the Water and Sewer Services Agreement and the Leases. The Authority shall provide the City any update to its methodology within twenty (20) business days of its adoption by the GLWA Board.

Lease Payments. The Authority shall apply any portion of the Lease Payments directed by the City to debt service on Authority Bonds to the water revenue requirement established for the City and incorporate in its budget any portion of the Lease Payments directed by the City to the Detroit Local Account in the Water Improvement and Extension Fund.

Operation of Local Water System. The City shall repair, maintain, improve and operate the Local Water System in compliance with all Applicable Laws and the requirements of governmental and quasi-governmental permits issued with respect to the Local Water System or that are generally applicable to the Local Water System. Except to the extent caused by an act or omission of the Authority, the City shall be solely responsible for any noncompliance by the Local Water System with any of the foregoing, including the correction of the noncompliance and the payment of the costs thereof, and for the payment of any related fines, penalties, costs, losses or damages related thereto.

### **Sewer Services**

The Authority shall provide Sewer Services to the Retail Customers in amounts sufficient and in compliance with other technical requirements as described in the Water and Sewer Services Agreement. The City agrees to remit payment for all Sewer Services provided by the Authority at such rates as the Authority may establish, but only from amounts billed to and collected from Retail Customers. The City shall act and is hereby appointed as agent for the Authority with respect to the development of rates for, and billing and collecting and enforcing the collection of fees and charges from the Retail Customers for Sewer Services. The City shall establish rates consistent with Applicable Laws that are reasonably projected to meet the revenue requirement the Authority establishes for Retail Customers, as well as other costs of the Local Sewer System; provided that:

- (i) rates established by the Authority consistent with the Water and Sewer Services Agreement shall be reasonable in relation to the costs incurred by the Authority for the supply of Sewer Services; and
- (ii) the Authority shall not establish a revenue requirement for the 2015-2016 Fiscal Year in an amount exceeding the amount currently in effect as established by DWSD for that period; and
- (iii) each year, the Authority shall reflect in its rate structure for Sewer Services a credit for Retail Customers in the City in the amount of \$5,516,000 against the portion of the Authority's revenue requirements allocated to the City, representing the return on equity to the City for the Sewer System in recognition of the City's ownership of the Sewer System.

Rate Methodology. The Authority shall adopt, and may amend from time to time, the methodology for ratemaking for the sale of Sewer Services that complies with Applicable Laws. The current methodology utilized by DWSD prior to the Effective Date is identified in the Water and Sewer Services Agreement. The Authority shall provide the City any update to its methodology within twenty (20) business days of its adoption by the GLWA Board.

Lease Payments. The Authority shall apply any portion of the Lease Payments directed by the City to debt service on Authority Bonds to the sewer revenue requirement established for the City and

incorporate in its budget any portion of the Lease Payments directed by the City to the Detroit Account in the Sewer Improvement and Extension Fund.

Authority Usage. Sewer Services used by the Authority in the operation of the Leased Facilities connected to and receiving sewer service from the Local Sewer System shall be accounted for by applying applicable Prudent Utility Practices, including metering where applicable, and where not metered subject to the quarterly review and concurrence by the City and the Authority. Such usage shall be excluded from any calculations used to determine the City's cost for Sewer Services to Retail Customers from the Authority.

Operation of Local Sewer System. The City shall repair, maintain, improve and operate the Local Sewer System in compliance with all Applicable Laws and the requirements of governmental and quasi-governmental permits issued with respect to the Local Sewer System or that are generally applicable to the Local Sewer System, including without limitation the provisions of Wastewater Treatment NPDES Permit applicable to the Local Sewer System. Responsibilities for compliance with the Wastewater Treatment NPDES Permit shall be generally allocated as provided in the Water and Sewer Services Agreement. Except to the extent caused by an act or omission of the Authority, the City shall be solely responsible for any noncompliance by the Local Sewer System with any of the foregoing, including the correction of the noncompliance and the payment of the costs thereof, and for the payment of any related fines, penalties, costs, losses or damages related thereto.

Detroit Local System Usage. Until such time as the Detroit Local System is master metered, sewer usage by all Retail Customers connected to and receiving sewer service from the Detroit Local System shall be accounted for by Prudent Utility Practices including metering where applicable, and where not metered subject to the quarterly review and concurrence by the City and the Authority.

### **Notification of Rates and Charges**

As soon as possible in the ratemaking process, the Authority shall provide information on proposed rates and charges and the draft data and information used in the calculation of the proposed rates in a format that will enable the City to assist in the ratemaking process. Not less than one hundred twenty (120) days prior to the effectiveness of any new rates, the Authority shall provide the City with written notice of the proposed rates and the underlying data used to calculate the rates. The Authority shall meet with the City to review the rates and the data.

### **License**

Although the City has retained the right and responsibility to operate the Detroit Local Systems, it hereby grants the Authority the right to use the Detroit Local Systems for the Term of the Water and Sewer Services Agreement (coterminous with the Term of the Lease), in order to provide Water Services and Sewer Services to customers of the Regional Systems including Retail Customers.

### **Deposit of Revenues**

Consistent with the assignment of Revenues contained in the Leases, the Authority and the City shall deposit or cause to be deposited all Revenues each receives or collects from the operation of the Systems into the Revenue Receipts Fund of the Authority or, where feasible, directly into the Receiving Fund for the related System. From the Revenue Receipts Fund, the Revenue Receipts Trustee, at the direction of the Authority, shall allocate and cause these funds to be deposited into the appropriate Receiving Fund.

As described under “Appointment and Termination of Agency” below, the City shall act as an agent of the Authority when collecting the portion of the Revenues derived from the provision of Water Services and Sewer Services to the Retail Customers, and the City shall hold such Revenues in trust for the exclusive benefit of the Authority until such funds are deposited into the Revenue Receipts Fund.

### **Application of Lease Payments**

For Fiscal Year 2016, the City directed that \$2,327,026 of the Lease Payment for the Regional Water System and \$19,991,469 of the Lease Payment for the Regional Sewer System to be applied to common-to-all debt service for the related Authority Bonds. The balance of the Lease Payments for Fiscal Year 2016 was directed to be deposited to the Detroit Local System Account in the related Improvement and Extension Fund. For subsequent Fiscal Years, no later than May 1 each year the City shall provide to the Authority a written direction concerning the application of the Lease Payments to be paid by the Authority to the City for the next Fiscal Year (each a “Direction to Apply Lease Payment”). A Direction to Apply Lease Payment shall include direction as to the allocation of the full amount of the Lease Payment for that year, and may also reflect commitment of Lease Payments for future years to the payment of debt service on Authority Bonds, consistent with the Leases. The Direction to Apply Lease Payment shall direct the Authority to allocate and credit to the City identified portions of the Lease Payment for: (i) the payment of principal of and interest on that portion of the Authority Bonds issued to finance the cost of improvements to the Detroit Local Facilities; (ii) the payment of the City’s share of the principal of and interest on Authority Bonds issued to finance the cost of common-to-all improvements to the Leased Facilities; and (iii) the payment of the cost of improvements to and repairs of the Detroit Local Facilities. Upon receipt of the Direction to Apply Lease Payment from the City, the Authority shall ensure that the Lease Payments are allocated to Authority funds and accounts consistent with that direction, and shall honor any direction from the City to release to the City portions of the Lease Payment which are required to be deposited in the Detroit Local System Account in the Authority’s Improvement and Extension Fund to the City to be applied to Detroit Local System improvements. The Authority shall transfer such amounts to the designated Bond Funds and the Detroit Local System Account in the related Improvement and Extension Fund at the times specified in the Master Bond Ordinance.

To the extent any portion of the Lease Payments have not previously been encumbered, the City may amend a Direction to Apply Lease Payment at any time during each Fiscal Year, to pay debt service or to pay the cost of an executed contract for improvements to the Detroit Local Facilities. The City may not amend a Direction to Apply Lease Payment to redirect any portion of a Lease Payment previously committed by the City to pay debt service on outstanding Authority Bonds or an executed contract for improvements to the Detroit Local Facilities.

### **Appointment and Termination of Agency**

The Authority appoints the City as its agent, and the City accepts such appointment as agent, to perform the services and undertake the duties, obligations and administrative functions described in the third sentence of the first paragraph under “Water Services” above, in the third sentence of the first paragraph under “Sewer Services” above, and in the second paragraph under “Deposit of Revenues” above on behalf and for the benefit of the Authority, in accordance with the terms of the Water and Sewer Services Agreement and Applicable Law. This appointment and the City’s acceptance thereof may not be revoked or terminated except in accordance with the express terms described under “Termination of Agency” below. Unless and until this agency relationship between the Authority and the City is revoked or terminated in whole or in part as described below, the City is authorized and empowered by the Authority to execute and deliver, in the name and on behalf of the Authority, any and all instruments, documents or notices necessary or appropriate in performing its role as agent of the Authority under the Water and Sewer Services Agreement. The Authority shall execute and deliver to the City such

documents as have been prepared by the City for execution by the Authority and shall furnish the City with such other documents as may be in the Authority's possession, in each case, as the City may determine to be necessary or appropriate to enable it to carry out and perform its duties, obligations and administrative functions under the Water and Sewer Services Agreement and Applicable Law. Upon the City's written request, the Authority shall furnish the City with any powers of attorney or other documents necessary or appropriate to enable the City to carry out and perform its duties, obligations and administrative functions hereunder. The City may perform its agency duties directly or through one or more third parties, provided that the City shall remain primarily responsible for the performance of such duties.

The City shall act in its capacity as agent for the Authority (and not in its own capacity as principal or otherwise) for the purposes described in the first paragraph under "Water Services" above, in the first paragraph under "Sewer Services" above and under "Deposit of Revenues" above. The Authority may revoke or terminate, in accordance with the procedures described under "Termination of Agency" below, its appointment of the City as agent for the Authority, if the City fails to perform its duties, obligations or administrative functions in accordance with and as described in the first paragraph under "Water Services" above, in the first paragraph under "Sewer Services" above and under the "Deposit of Revenues" above and, to the extent applicable, the Performance Standards and Applicable Law; and in particular by failing to:

- (i) Establish a two-year budget which includes the costs of performing the City's agency responsibilities for the Detroit Local Systems under the Water and Sewer Services Agreement no later than April 23 of each year starting with Fiscal Year 2017;
  - (ii) Establish rates reasonably intended to meet the revenue requirements for the Water Services and Sewer Services for each Fiscal Year that will become effective no later than June 30 of the prior Fiscal Year;
  - (iii) Send bills to Retail Customers at least every other month;
  - (iv) Collect and enforce payment of bills consistent with the Performance Standards;
- and
- (v) Deposit Revenues as described under "Deposit of Revenues" above.

Termination of Agency. In the event the City fails to satisfy any of the requirements described in the immediately preceding paragraph at any time after attempting to resolve concerns as provided under "Dispute Resolution" below, the Authority may, but is not obligated or required to, revoke or terminate the agency of the City with respect to those requirements that the City has failed to carry out and perform (but the agency shall continue with respect to all other requirements), subject to prior compliance by the Authority with the exclusive procedures and remedies provided and described under "Remedies" and "Arbitration" below. If, pursuant to a decision of the Arbitration Panel as described under "Remedies" and "Arbitration" below, the Arbitration Panel determines that the City has failed to satisfy any of the requirements set forth in the immediately preceding paragraph, the Authority may perform each of those requirements that was not satisfied by the City in accordance with the Water and Sewer Services Agreement directly or through another appointed agent. The City may not resign or assign any of its responsibilities as described under this "Appointment and Termination of Agency" without the prior written consent of the Authority.

## **Standard of Performance**

The Authority shall endeavor to perform, or cause to be performed, all Services required under the Water and Sewer Services Agreement in compliance with Prudent Utility Practices, but shall in no event perform the Services at a level of service below the Performance Standards.

## **Cooperation of Parties**

The Parties shall cooperate reasonably with each other in connection with any steps required to be taken as part of their respective obligations under the Water and Sewer Services Agreement, and shall (i) furnish upon request to each other such information and data, including maps, which are reasonably accessible and would not cause the Party providing such information and data to violate the terms of any agreement to which it is subject at the time of the request; (ii) execute and deliver to each other such other documents; and (iii) do such other acts and things, all as the other Party may reasonably request that is necessary or convenient to effectuate the purposes of the Water and Sewer Services Agreement and the transactions contemplated thereby.

The Director of DWSD-R and the Chief Executive Officer of the Authority or their designees shall initially meet weekly or at such other interval as they shall reasonably agree to review data, information and processes relevant to the operation and management of the Systems, including capital improvements, the Authority CIP and the Detroit CIP, maintenance and repairs, and any other issues arising out of the Leases or the Water and Sewer Services Agreement. Such meetings shall include a review of Service delivery and any other issues relevant to the Water and Sewer Services Agreement. The City and the Authority agree to develop plans and protocols for operational coordination, GIS coordination, hydraulic water and sewer modeling, fire hydrant removal coordination and asset identification.

The Parties agree and covenant to coordinate all efforts and undertakings under the Water and Sewer Services Agreement, including the implementation of the Detroit CIP and the Authority CIP, with the goal of maximizing any economies of scale and achieving any other available financial and operational efficiencies from such coordination. The Parties shall develop a long-term plan for the installation of master meters and backflow prevention devices between the Detroit Local Water System and the Regional Water System to be implemented in connection with the implementation of the Detroit CIP, recognizing that the installation of such meters may be implemented over a long period of time. Such plan shall provide for modifications to the Systems as part of replacement projects to facilitate metering implementation.

The City and the Authority shall confer at least annually to develop, coordinate and prioritize a schedule for financing components of the Authority CIP and the City CIP, including grant applications and prioritization of applications for financing through the Michigan Clean Water Revolving Loan Fund or the Drinking Water Revolving Loan Fund.

With respect to each permit issued in the names of both the Authority and the City, the Parties shall identify which Party state regulatory officials should contact regarding questions or enforcement matters and the Parties shall provide such contact information to the issuer of the permit. The Parties shall jointly or separately perform such functions under the Wastewater Treatment NPDES Permit as set forth in the Water and Sewer Services Agreement.

The Parties shall maintain a combined sewer overflow control plan which shall include protocols for the management of City and Authority facilities during wet weather events. The Parties recognize that (i) the City is served by a combined sewer overflow ("CSO") system and that the rate of flow will vary

greatly depending upon the rainfall magnitude and other climatological factors, and (ii) under certain conditions the Regional Sewer System will have insufficient capacity to handle all flow generated by the City. The Authority will continue to operate the Regional Sewer System in accordance with the current Michigan Department of Environmental Quality (“MDEQ”)-approved Wet Weather Operational Plan (the “Operational Plan”) to provide service to the City. In situations where the Operational Plan does not address a particular instance or issue, the Parties agree that the mutual goal of the Parties is to maximize the treatment and disinfection of Flows (as defined in Exhibit B to the Water and Sewer Services Agreement). Review and modification of the Operational Plan may occur periodically as mutually agreed between the Parties, and approved by MDEQ. Such review and/or modification may occur as Sewer System improvements are implemented or adaptive management strategies are found to be effective and formalized. If changes to the Operational Plan are significant and result in increased capacity limits for Authority wholesale customers, an adjustment to the CSO cost allocation or other appropriate cost allocation may be considered.

To the extent the Wastewater Treatment NPDES Permit allows for and requires Green Infrastructure, the City shall be primarily responsible for performing the Green Infrastructure Program required by the Wastewater Treatment NPDES Permit, including achieving the wet weather flow removal goal and annual average expenditure requirement. The City also shall be primarily responsible for performing the elective Green Infrastructure elements of the Wastewater Treatment NPDES Permit. The City’s responsibility shall be limited to projects in the City. Subject to the City’s reasonable approval, the Authority may propose additional Green Infrastructure Projects on properties located in but not owned by the City to the extent the projects are demonstrated to provide cost effective reduction of wet weather flow into sewers. Subject to the Authority’s reasonable approval, the City may apply any wet weather flow removed, and expenditure made, by any additional Green Infrastructure Projects performed by the Authority to meet the flow removal and annual expenditure requirements of the Wastewater Treatment NPDES Permit. In the event the City fails to implement any Green Infrastructure required under the Wastewater Treatment NPDES permit in the timeline provided in such permit, the Authority may implement Green Infrastructure Programs in the City in order to meet the permit requirements. In such event, the Authority shall give the City notice of its intent to implement Green Infrastructure in the City in the following Fiscal Year no later than the end of the each December after the Authority’s review of the report provided to MDEQ in August of each year.

The Authority shall have the right to review and approve the City’s construction plans for meter facilities at new water distribution points to be connected to the Leased Water Facilities, water mains sized twenty-four inches and larger, pump stations, reservoirs, water towers, and any other construction that will cross, or be within close proximity to, or have influence upon the Leased Water Facilities. The Authority’s approval of construction plans shall be timely and shall not be unreasonably withheld.

#### **City Budget; Detroit CIP; Application of Lease Payments**

Each year the City shall provide the Authority with: (i) the budget forecast for the Detroit Local Systems as described below; (ii) the budgets for the operation and maintenance and other funding requirements of the Detroit Local Systems (the “Detroit Local System Budgets”) as described below; (iii) the Detroit CIP as described below; and (iv) the Direction to Apply Lease Payment as described under “Application of Lease Payments” above. The Detroit Local System Budgets for Fiscal Year 2015-2016 shall be the portions of the DWSD Fiscal Year 2015-2016 budget adopted on March 11, 2015 by the Board of Water Commissioners allocated to the Local Water System and the Local Sewer System. The allocation of responsibilities and charges listed in the Service Delivery Schedules attached to the Shared Services Agreement between the Parties shall not alter the Detroit Local System Budgets for Fiscal Year 2015-2016. On the Effective Date, the Authority shall deposit into each of the WRAP Fund, the Budget Stabilization Fund for each System and the funds designated by the City for application of the Lease

Payments for Fiscal Year 2016 an amount equal to the annual deposit required for such fund or Lease Payment for Fiscal Year 2016 divided by twelve, which shall be multiplied by the number of months already elapsed during such Fiscal Year.

Preliminary Budget Forecast. The City agrees to provide the Authority with a preliminary budget forecast for the Detroit Local Systems. Commencing with the Fiscal Year beginning July 1, 2016, the City shall prepare and submit to the Authority on or before January 1 of each year, a preliminary two-year budget forecast for the Detroit Local Systems for the following two Fiscal Years that sets forth projected revenues and expenses for each such Fiscal Year. The preliminary budget forecast shall set forth the City's assumptions for at least that two-year period with respect to demand for Water Services and Sewer Services and the expected delinquency level for amounts billed to Retail Customers in the City. The preliminary forecast for each such Fiscal Years shall project revenues necessary to generate the sum of the projected expenses and revenue requirements for the Detroit Local Systems for such Fiscal Years (collectively, the "Local Revenue Requirement") and the City share of the Authority's revenue requirement, including without limitation the following:

- (i) the amounts reasonably necessary to fund all expenses of administration and operation and the expenses for maintenance as may be necessary to preserve the Detroit Local Systems in good repair and working order;
- (ii) the Detroit Local Systems' share of the common-to-all amounts required to fund the Lease Payments;
- (iii) the Detroit Local Systems' share of debt service on the portion of the Authority Bonds issued to finance capital improvements to the Regional Systems and the Detroit Local Systems not covered by Lease Payments;
- (iv) the amounts necessary to fund the Detroit CIP or make deposits to the Detroit Local Improvement and Extension Account of the Improvement and Extension Funds in the applicable Master Bond Ordinance from Retail Revenues, a portion of the Lease Payments or bond proceeds;
- (v) the Detroit Local Systems' share of the (x) common-to-all portion of liability assumed by the Authority on behalf of DWSD as a result of the City's Plan of Adjustment, including costs of (A) debt service on the B Notes, (B) debt service on the C Notes, and (C) funding for the City's frozen General Retirement System pension plan, and (y) the portion of such liabilities associated with Detroit Local System employees;
- (vi) the amount necessary to be deposited to the WRAP Fund, which shall be equal to 0.5% of the base budgeted operating revenues for the Detroit Local Systems for such Fiscal Year;
- (vii) (y) for each of Fiscal Years 2016, 2017 and 2018, an amount equal to one-third of the Budget Stabilization Requirement; and (z) for subsequent Fiscal Years one-third of the amount necessary to assure that the Budget Stabilization Requirement will be on deposit in the Budget Stabilization Fund within three full Fiscal Years; and
- (viii) any other amount that the City may be required to pay to the Authority in order to satisfy its revenue requirement from the Authority for such Fiscal Years. If the Authority issues bonds or other debt to satisfy its portion of liability associated with the City's frozen General Retirement System pension plan, the City shall include its portion of the debt service thereon in the Detroit Local System Budgets.

The City shall prepare an impact statement with respect to any new, modifications for or other changes in program or activity levels and revenue requirements for the forecast period. The impact statement shall include an explanation of the rationale for the change and the financial impact of the change on current and future budgets. The City and the Authority agree to act in good faith and to meet to review the budget forecast and the assumptions therefore relating to demand for Water Service and Sewer Service and delinquencies and any other significant assumptions. If City and Authority administrators are unable to resolve differences of opinion regarding the assumptions, then the Reconciliation Committee shall meet promptly for the purpose of reaching consensus.

Adopted Budget. No later than March 23 of each year, commencing March 23, 2016, the City shall develop, adopt and provide the Authority with a copy of the Detroit Local System Budgets for the following two Fiscal Years. The Detroit Local System Budgets shall identify the Local Revenue Requirement for each Local System and shall include for each such Fiscal Year, at a minimum:

- (i) the amounts reasonably necessary to fund all expenses of administration and operation and the expenses for maintenance as may be necessary to preserve the Detroit Local Systems in good repair and working order;
- (ii) the Detroit Local Systems' share of the common-to-all amounts required to fund the Lease Payments;
- (iii) the Detroit Local Systems' share of debt service on the portion of the Authority Bonds issued to finance capital improvements to the Regional Systems and the Detroit Local Systems not covered by Lease Payments;
- (iv) the amounts necessary to fund the Detroit CIP or make deposits to the Detroit Local Improvement and Extension Account of the Improvement and Extension Funds in the applicable Master Bond Ordinance from Retail Revenues, a portion of the Lease Payments or bond proceeds;
- (v) the Detroit Local Systems' share of the (x) common-to-all portion of liability assumed by the Authority on behalf of DWSD as a result of the City's Plan of Adjustment, including costs of (A) debt service on the B Notes, (B) debt service on the C Notes, and (C) funding for the City's frozen General Retirement System pension plan, and (y) the portion of such liabilities associated with Detroit Local System employees;
- (vi) the amount necessary to be deposited to the WRAP Fund, which shall be equal to 0.5% of the base budgeted operating revenues for the Detroit Local Systems for such Fiscal Year;
- (vii) (y) for each of Fiscal Years 2016, 2017 and 2018, an amount equal to one-third of the Budget Stabilization Requirement; and (z) for subsequent Fiscal Years one-third of the amount necessary to assure that the Budget Stabilization Requirement will be on deposit in the Budget Stabilization Fund within three full Fiscal Years; and
- (viii) any other amount that the City may be required to pay to the Authority in order to satisfy its revenue requirement from the Authority for such Fiscal Years. If the Authority issues bonds or other debt to satisfy its portion of liability associated with the City's frozen General Retirement System pension plan, the City shall include its portion of the debt service thereon in the Detroit Local System Budgets.



Tracking. The City shall, within 45 days following the end of each fiscal quarter of each Fiscal Year, furnish to the Authority a comparison of actual revenues and expenses for such fiscal quarter against the budgeted amounts in each Detroit Local System Budget. If the Authority determines that for such fiscal quarter there is a significant unfavorable variance which is reasonably expected to have a negative effect on the Authority's budget with respect to revenues or any of the following expense categories: (i) compensation (including wages, salaries and fringe benefits), (ii) operation and maintenance expenses and (iii) debt service, then the Reconciliation Committee (consisting of a member of the GLWA Board appointed by the Mayor of the City, or his or her designee, and a member of the Board of Water Commissioners of the City, or his or her designee) shall meet promptly for the purpose of reviewing actions the City proposes to take to address such significant unfavorable variance. Following the meeting of the Reconciliation Committee, the City agrees to take actions to address any such significant unfavorable variance and to make appropriate adjustments to the related Detroit Local System Budget in the current and succeeding Fiscal Year. Favorable variances may be incorporated into the budget by following the same process. An impact statement shall be prepared for each such action, and the impact of any budget amendments shall be carried through, as appropriate, in budget forecasts for subsequent Fiscal Years. The Authority may draw on the Budget Stabilization Fund an amount equal to the amount by which actual bad debt expense of the Retail Customer class exceeds the budgeted bad debt expense for that class. At least quarterly, and in connection with the preparation of the annual audit for the Local Water System and the Local Sewer System, the chief financial officers of the Authority and DWSD-R shall determine whether a draw on the Budget Stabilization Fund is necessary. In the event the chief financial officers cannot reach agreement on whether a draw is necessary, the Reconciliation Committee shall promptly meet for the purpose of resolving such disagreement. Amounts on deposit in the Budget Stabilization Fund in excess of the Budget Stabilization Requirement for the following Fiscal Year based on audited financial statements shall be transferred to the Detroit Local Improvement and Extension Account of the Improvement and Extension Fund in the applicable Master Bond Ordinance.

Detroit CIP. No later than February 1 of each year, the City shall develop and provide the Authority with a copy of its current Detroit CIP for the Detroit Local Facilities. The Detroit CIP shall include the capital improvements and estimate of the costs therefor which the City plans to undertake in the next Fiscal Year, and projected capital improvement projects and estimates for the five years following. At least three months prior to finalizing each Detroit CIP and any modifications thereto, the City shall provide a copy of the proposed CIP to the Authority solely for the purpose of: (A) coordinating the Detroit CIP and the Authority CIP to maximize economies of scale, minimize service disruptions and to achieve other efficiencies from a coordinated implementation effort, and (B) providing notice to the Authority of any financing requirements of the City for the Detroit Local Facilities to be satisfied from Lease Payments and/or the issuance of Authority Bonds or requests for collaboration on grant applications or other funding opportunities. Upon receipt of the adopted Detroit CIP from the City, consistent with the fourth paragraph under "Cooperation of Parties" above, the Authority shall ensure that its financial planning and budgeting reflect the foregoing requirements.

The City agrees that, in conjunction with the implementation of the Detroit CIP and consistent with the plan developed as described in the third paragraph under "Cooperation of Parties" above, it will install master water meters to measure consumption by the Detroit Local Water System and cross connection controls between the Detroit Local Water System and the Regional Water System.

### **Third Party Disputes**

Each Party hereby agrees to reasonably assist the other Party in the event any disputes arise between any Party and any third party arising out of the operation and maintenance of the Systems. In the event of a dispute between the Authority or the City and any third party, the City and the Authority shall cooperate with each other to resolve and defend such dispute. Any disputes between the City and the

Authority arising in connection with third party disputes as described in this paragraph shall be resolved as described under “Dispute Resolution” below.

### **System Operation Costs**

Each year, each Party shall provide to the other Party information and data regarding its actual costs associated with providing Water Services and Sewer Services to its respective wholesale and Retail Customers for the following Fiscal Year to allow the other Party to establish the revenue requirements for the Systems.

### **First Response; Findings**

The City shall be the first responder for unscheduled and/or emergency situations (e.g. main breaks, sinkholes, etc.) which may arise in those portions of the Systems’ water transmission and distribution system and wastewater collection system within the City. The City shall promptly respond when necessary and work diligently to stabilize (e.g. notify miss-dig, throttle valves, install traffic control), using Prudent Utility Practices, the affected portion of the Systems, to protect public health and safety and minimize property damage, regardless of responsibility for that portion of the Systems. The City will notify the Authority, in accordance with established protocols, prior to taking actions beyond those necessary to stabilize the affected portion of the Systems. Each Party reserves the right to take over response actions to the extent that the action is related to an asset for which it has operating responsibility.

The Parties shall establish mutually agreeable and coordinated response protocols for unscheduled and/or emergency response situations and include the protocol in the Shared Services Agreement. In all cases where investigation and/or work is to be or has been performed by a Party, the responding staff of that Party is to respond promptly, take necessary actions in accordance with Prudent Utility Practices, standards, exercise due care, document the results of any investigation, and notify the other Party of all findings. Any disputes arising from such unscheduled and/or emergency repairs shall be resolved as described under “Disputes Arising from Physical, Technical and Mechanical Issues” below.

### **Defaults**

Either Party shall be in default under the Water and Sewer Services Agreement if it fails to fully perform and comply with any of the terms, conditions or provisions of the Water and Sewer Services Agreement after it has received thirty (30) days’ notice of such default, provided that if such failure cannot be remedied within such thirty (30) day cure period, the defaulting Party shall not be in default if it commits to remedy within the thirty (30) day cure period and diligently pursues the remedy to its completion.

### **Remedies**

Upon default of the Authority, the City may, at its sole option and as its exclusive remedy, pursue any rights and remedies available to such Party at law or in equity under the Water and Sewer Services Agreement as determined in accordance with the dispute resolution procedures described under “Dispute Resolution,” “Arbitration” and “Disputes Arising from Physical, Technical and Mechanical Issues” below, including specific performance; provided, that the City may not terminate the Water and Sewer Services Agreement.

Upon default of the City, the Authority may but is not required to: (i) terminate the agency described above under “Appointment and Termination of Agency” and exercise all rights granted to the City thereunder, which includes the power of the Authority to establish rates to be paid by the Retail

Customers for the Services and to charge, bill and collect from the Retail Customers amounts due for the Services; and (ii) pursue all rights and remedies available to the Authority described under “Dispute Resolution,” “Arbitration” and “Disputes Arising from Physical, Technical and Mechanical Issues” below; provided, that the Authority may not terminate the Water and Sewer Services Agreement and shall continue to provide Water Services and Sewer Services as described under “Water Services” and “Sewer Services” above. The foregoing remedies are the exclusive remedies available upon a default for non-payment by the City.

### **Waiver**

The failure of any Party to insist in any one instance upon strict performance by the other Party of its obligations under the Water and Sewer Services Agreement shall not constitute a waiver or relinquishment of any such obligations as to any other instances. No covenant or condition of the Water and Sewer Services Agreement may be waived by either Party except in a writing signed by that Party, and the forbearance or indulgence of that Party in any regard whatsoever and regardless of the duration of such forbearance or indulgence shall not constitute a waiver of the covenant, condition or obligation until performed or waived in writing, and that Party shall be entitled to invoke any remedy available to that Party under the Water and Sewer Services Agreement despite the forbearance or indulgence.

### **Dispute Resolution**

The Authority and the City shall each designate in writing to the other from time to time a representative who shall be authorized to resolve any dispute relating to the subject matter of the Water and Sewer Services Agreement in an equitable manner and, unless otherwise expressly provided herein, to exercise the authority of such party to make decisions by mutual agreement.

The City and the Authority each agree (i) to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner and (ii) to provide each other with reasonable access during normal business hours to any and all non-privileged written records, information and data pertaining to any such dispute.

If any dispute relating to the subject matter of the Water and Sewer Services Agreement is not resolved between the City and the Authority as described under this “Dispute Resolution” within 30 days from the date on which a party provides written notice to the other party of such dispute and of the notifying party’s position on the disputed matter, then upon written notification by either party to the other party, such dispute shall be settled exclusively and finally by binding arbitration as described under “Arbitration” below.

During the pendency of any dispute and until such dispute is resolved the Parties shall continue to operate under the terms of the Water and Sewer Services Agreement.

### **Arbitration**

It is specifically understood and agreed that any dispute or claim arising under or relating to the Water and Sewer Services Agreement that cannot be resolved between the City and the Authority, other than disputes arising under “Disputes Arising from Physical, Technical and Mechanical Issues” below, including any matter relating to the interpretation or performance of the Water and Sewer Services Agreement, shall be submitted to binding arbitration irrespective of either the magnitude thereof or the amount in dispute.

Each arbitration between the City and the Authority shall be conducted pursuant to the Uniform Arbitration Act, Act No. 371, Public Acts of Michigan, 2012 (“Act 371”).

The arbitration shall be conducted before a panel composed of three arbitrators (the “Arbitration Panel”). Each party shall appoint an arbitrator, obtain its appointee’s acceptance of such appointment and deliver written notification of such appointment and acceptance to the other party within 15 days after delivery of a notice of arbitration. The two arbitrators appointed by the City and the Authority shall jointly appoint the third (who shall be the chairperson), obtain the acceptance of such appointment and deliver written notification of such appointment within 15 days after their appointment and acceptance.

Any arbitration commenced hereunder shall be completed within 120 days after the appointment of the Arbitration Panel absent agreement of the City and the Authority to the contrary. Further, absent agreement of the City and the Authority or, upon request of one of the Parties, an order from the Arbitration Panel to the contrary: (i) all discovery shall be completed within 60 days after the appointment of the Arbitration Panel; (ii) each Party shall be limited to a maximum of 5 depositions; (iii) each deposition shall be completed within a maximum period of two consecutive 8-hour days; (iv) each Party shall be limited to 2 expert witnesses; and (v) interrogatories shall be limited to a maximum of 50 single issues without sub-parts. The City and the Authority waive any claim to any damages in the nature of punitive, exemplary or statutory damages in excess of compensatory damages or otherwise expressly provided for herein, and the Arbitration Panel is specifically divested of any power to award such damages. The Arbitration Panel shall have the power to award injunctive or other equitable relief. All decisions of the Arbitration Panel shall be pursuant to a majority vote. Any interim or final award shall be rendered by written decision.

If either the City or the Authority fails to appoint its arbitrator within 15 days after delivery of a notice of arbitration, or if the two arbitrators appointed cannot agree upon the third arbitrator within 15 days after appointment of the second arbitrator, then the required arbitrator(s) shall be appointed by the American Arbitration Association or as otherwise agreed by the City and the Authority.

No arbitrator shall be a past or present employee or agent of, or consultant or counsel to, either the City or the Authority or any affiliate of either the City or the Authority.

The Authority and the City shall each bear the out-of-pocket costs and expenses of their respective arbitrator, attorneys and witnesses, and they shall each bear one-half of the out-of-pocket costs and expenses of the chairperson of the Arbitration Panel and all administrative support for the arbitration.

### **Disputes Arising from Physical, Technical and Mechanical Issues**

If any disputes arise between the City and the Authority regarding physical, technical or mechanical issues arising under the Water and Sewer Services Agreement (but specifically excluding any claims that may arise under Act 222, Public Acts of Michigan, 2001, as amended), including but not limited to the assignment of responsibility for breaks or failures of water and sewer pipes or other mechanical failures based on the operating control of the respective portion of the facilities, and the Parties do not resolve such dispute within fourteen days, or such other time mutually agreeable to the Parties, after the City or the Authority expresses its disagreement with the position of the other Party to such matters, a committee consisting of one officer (as well as such other employees with expertise in the particular area of dispute) of the Authority and one officer (as well as such other employees with expertise in the particular area of dispute) of the City shall meet and attempt in good faith to resolve such dispute. If such committee is unable to resolve such dispute within fourteen days, or such other time mutually agreeable to the Parties, following their initial meeting, then the Parties shall select a panel of three engineers with experience in the design, construction, or operation and maintenance of a water and

sewer utility system in the same manner as the Arbitration Panel is selected as described in the third paragraph under “Arbitration” above (the “Engineer Panel”), and the Engineer Panel shall be designated to consider and decide the issues raised by such dispute unless both Parties determine that further discussions by the committee are merited. The Engineer Panel shall be designated not later than the third day following the expiration of the second fourteen-day or other period described above, such designation to become effective on the third day following such designation. Within ten days after the designation of the Engineer Panel, the Authority and the City shall each submit to the Engineer Panel a notice (a “Technical Position Notice”) setting forth in detail such Party’s position in respect of the issues in dispute. Such notice shall include supporting documentation, if appropriate.

The Engineer Panel shall complete all proceedings and issue its decision with regard to the issues under dispute as promptly as reasonably possible, but in any event not later than ten days after the date on which both Technical Position Notices are submitted, unless the Engineer Panel reasonably determines that additional time is required in order to give adequate consideration to the issues raised. In such case, the Engineer Panel shall state in writing its reasons for believing that additional time is needed and shall specify the additional period required, which period shall not exceed ten days without the City’s and the Authority’s agreement.

In resolving a dispute under this section, the Engineer Panel shall consider all facts and circumstances the panel deems reasonable given the nature of the dispute.

The Engineer Panel shall choose either the City’s position or the Authority’s position as set forth in their respective Technical Position Notices or shall choose from each Party’s Technical Position Notices the portions that are technically correct. If the Engineer Panel determines that the position set forth in the City’s Technical Position Notice is correct, the panel shall so state and shall state the appropriate actions to be taken by the Authority. In such case, the Authority shall promptly take such actions. If the Engineer Panel determines that the position set forth in the Authority’s Technical Position Notice is correct, the panel shall so state and shall state the appropriate actions to be taken by the City. In such case, the City shall promptly take such actions. If the Engineer Panel determines that a portion of the City’s Technical Position Notice is correct and a portion of the Authority’s Technical Position Notice is correct, the panel shall so state and shall state the appropriate actions to be taken by each respective Party. In such case, the respective Party shall promptly take such actions. The Engineer Panel may assign responsibility of the costs of repairs undertaken by a Party to the Party that is responsible for such water and sewer pipes. The decision of the Engineer Panel shall be final and non-appealable; provided that, any such decision may be treated as an arbitration award for purposes of enforcement.

The Authority and the City shall each bear the out-of-pocket costs and expenses of their respective engineer, attorneys and witnesses, and they shall each bear one-half of the out-of-pocket costs and expenses of the chairperson of the Engineer Panel and all administrative support for the arbitration.

### **Appeals of Arbitration Awards and Decisions**

The City or the Authority may appeal an award or decision issued by the Arbitration Panel for the reasons set forth in Section 23 of Act 371 (MCL 691.1703).

### **Enforcement of Arbitration Awards and Decisions**

The City or the Authority may enforce any awards or decisions of the Arbitration Panel or the Engineer Panel as described above pursuant to Section 22 of Act 371 (MCL 691.1702). The provisions of the Water and Sewer Services Agreement as described under “Dispute Resolution,” “Arbitration” and “Disputes Arising from Physical, Technical and Mechanical Issues” above shall be the sole and exclusive

remedy of the parties with respect to any claim or dispute, other than disputes arising under “Disputes Arising from Physical Technical and Mechanical Issues” described above. The City and the Authority agree not to bring, or cause to be brought, in a court of law any action, proceeding or cause of action whatsoever with respect to any such claim or dispute, other than as necessary to enforce the award or decision of the Arbitration Panel or the Engineer Panel as described in this paragraph.

#### **Amendments to Water and Sewer Services Agreement**

The Water and Sewer Services Agreement may be amended only by written agreement executed and approved by both Parties, as applicable. Approval by the GLWA Board shall be by supermajority vote.

## **APPENDIX VIII SUMMARY OF THE SHARED SERVICES AGREEMENT**

This summary does not purport to be comprehensive or definitive and is subject to all of the terms of the Shared Services Agreement, to which reference is hereby made and copies of which are available on GLWA's website at [www.glwater.org](http://www.glwater.org) or from the Underwriters prior to the execution and delivery of the Series 2018 Bonds and thereafter may be examined or obtained at the expense of the person requesting the same at the corporate trust office of the Trustee. Capitalized terms used in this Appendix and not otherwise defined in this Official Statement shall have the meanings given to such terms in the Shared Services Agreement.

### **General**

The City and the Authority entered into the Shared Services Agreement as of December 1, 2015 pursuant to which each party agreed to provide services to the other in connection with the management and operation of the Regional Water System and the Local Water System to avoid duplication of internal administrative and office functions. The Shared Services Agreement became effective on January 1, 2016.

### **Service Delivery Schedules**

The City and the Authority have agreed that, to facilitate and enhance the efficiency of the operation of the Regional Systems by the Authority and the operation of the Local Systems by DWSD, and to increase the efficiency of operation of the Systems into the future, minimizing duplication of services and functions by both the Authority and the City, the City shall provide to the Authority the City Services for the periods described on the Service Delivery Schedules attached to the Shared Services Agreement and the Authority shall provide to the City the Authority Services for the periods described on the Service Delivery Schedules, commencing on the Effective Date, subject to periodic modification as to scope and duration as provided under "Modifications and Extensions of Service Delivery Schedules" below. Generally, the Performing Party for a particular Service will be the party that utilizes or requires the Service more than the Subscribing Party, unless such allocation of responsibility would result in a substantial increase in FTEs to the other Party. Each Service Delivery Schedule shall contain, at minimum, the following information:

- a) the Performing Party and the Subscribing Party;
- b) identification of the Service to be provided and how such Service shall be delivered;
- c) the period for which the Service is to be provided;
- d) the Service Cost, which, beginning no later than Fiscal Year 2017-2018, shall include a breakdown, where practicable, of each component of the Service Cost, and the charges therefor;
- e) a statement of any variations of the terms of this Agreement which may be reasonably necessary for the specific Service being performed;
- f) if necessary, a process for determining how such Services will be provided after an initial transition period; and

g) notice and other provisions, including Separation Costs, regarding the termination or modification of the Service under this Agreement.

The Parties may mutually agree to adopt new or modified Service Delivery Schedules as the need or desirability of such Services occurs or changes as described under “Modification or Extension of Service Delivery Schedules” below. The Director of DWSD (the “Director”) and the Chief Executive Officer or their assignees shall maintain and update as necessary a list of primary contacts from each Party for each Service Delivery Schedule. Each Party shall ensure that the appropriate employee or officer of that Party responsible for the provision or subscription of a specific Service is kept informed of the current contact list.

Except as otherwise provided in a Service Delivery Schedule, no Party shall be responsible for paying any Separation Costs.

### **Provision of Services**

The Authority shall perform or cause to be performed the Authority Services as provided in each applicable Service Delivery Schedule. The Authority may perform the Services directly or contract with third parties to perform all or a portion of the Services on its behalf.

The City shall perform, or cause to be performed, the City Services as provided in each applicable Service Delivery Schedule. The City may perform the Services directly or contract with third parties to perform all or a portion of the Services on its behalf. The City Services may be provided on behalf of DWSD by the City’s central administration as an operation and maintenance expense to the extent the central administration has historically provided such services to DWSD.

In the event a Performing Party has contracted with a third party to perform all or a portion of the Services on its behalf, the provisions of this Agreement shall control in the event of a conflict between the provisions of such contract and this Agreement. Additionally, a Subscribing Party shall have the right to consent to the selection of any new third party contractor who will be providing all or a portion of Services on behalf of a Performing Party, which consent shall not be unreasonably withheld.

A Performing Party shall dedicate such resources as are necessary to ensure its officers, employees and contractors promptly respond to reasonable requests of the Subscribing Party in connection with the provision of Services. In the event a Subscribing Party requests information or support pursuant to the Shared Services Agreement or a Service Delivery Schedule to which a representative of the Providing Party fails to respond in a timely manner, the Director and the Chief Executive Officer and the appropriate employees or agents of each Party responsible for responding to the request shall meet within three business days to provide the response or establish a date certain for responding, as appropriate.

### **Modification or Extension of Service Delivery Schedules**

Prior to the development of the DWSD budget for each Fiscal Year pursuant to the Water and Sewer Services Agreement, the Chief Executive Officer and the Director shall meet to discuss and plan for any modifications to the Service Delivery Schedules for the next Fiscal Year and the anticipated need and Service Costs for any “as-needed” Services for the next Fiscal Year based on actual results in prior Fiscal Years. Any proposed modification shall identify or project any Stranded Costs and Transition Costs calculated by applying the Service Cost cost-components. Except as otherwise provided in a Service Delivery Schedule, the expectation is that the effective date and expiration of each Service Delivery Schedule shall be coterminous with the Fiscal Year of the Parties.



The Chief Executive Officer and the Director may approve Service Delivery Schedules to share additional Services if the Service Cost will not exceed \$50,000 in a Fiscal Year, or otherwise with the approval of the GLWA Board and the Board of Water Commissioners. Any existing Service Delivery Schedule may be terminated other than by its terms, modified or extended by: (a) mutual agreement of the Chief Executive Officer and the Director if the Chief Executive Officer and the Director reasonably believe that the modified service arrangement will not result in an increase in the cost of acquiring such Service in excess of the greater of \$50,000 or 10% of the annual Service Cost, including any applicable Separation Costs; or (b) otherwise by approval of the GLWA Board and the Board of Water Commissioners. At least quarterly, the Chief Executive Officer shall provide to the GLWA Board and the Director shall provide to the Board of Water Commissioners a report including any modifications, extensions and terminations of existing Service Delivery Schedules.

### **Compliance with Procurement Policies and Procedures**

The procurement of Services pursuant to the Shared Services Agreement by a Subscribing Party is not subject to the procurement policies and procedures of the Parties. In the event a Subscribing Party requires a Service from a Performing Party hereunder on an “as needed” basis, it may request such Service pursuant to this Agreement and the applicable Service Delivery Schedule according to the procedures agreed to by the Chief Executive Officer and the Director notwithstanding any procurement policies or procedures of the Subscribing Party then in effect.

### **Standard of Performance**

A Performing Party shall endeavor to perform, or cause to be performed, all Services required under the Shared Services Agreement in compliance with Prudent Utility Practices, but shall in no event perform the Services at a level of service below the Performance Standards. The Parties shall endeavor to establish reasonable safeguards and internal controls to ensure the fiscal integrity of the operations and fiscal management of each Party with respect to the Services, including conducting criminal and credit background checks of each employee with access to any cash, information technology systems, or other assets of either Party.

### **Cooperation of Parties**

The Parties shall cooperate reasonably with each other in connection with any steps required to be taken as part of their respective obligations under the Shared Services Agreement, the Water Lease, the Sewer Lease, the Water and Sewer Services Agreement, permits or any Applicable Laws, including the development of the capital improvement plans of each Party, financial planning and debt management, and shall (i) furnish upon request to each other such information, data and records, including maps, which are reasonably accessible and would not cause a Performing Party to violate the terms of any agreement to which it is subject at the time of the request or which are required to be disclosed pursuant to any agreements or Applicable Laws; (ii) execute and deliver to each other such other documents; (iii) provide such witness testimony, documents, records and other services or information within the possession or control of each Party necessary or desirable for the proper prosecution and/or defense of any current or future litigation affecting either Party, and (iv) do such other acts and things, all as the other Party may reasonably request that is necessary or convenient to effectuate the purposes of this Agreement and the transactions contemplated hereby.

The Director, the City and the Chief Executive Officer or their designees shall initially meet weekly or at such other interval as they shall reasonably agree or as specified in a particular Service Delivery Schedule, to review data, information and processes relevant to the provision of Services and any other issues arising out of this Agreement. Such meetings shall include a review of Service delivery,

potential Invoice Disputes as known, anticipated Service Delivery Schedule requests, including modifications, extensions or potential amendments, and any other issues relevant to this Agreement.

In the event the performance of a Service is going to be assumed by a Subscribing Party, the Parties and their employees shall reasonably cooperate and provide information and training to each other in order to ensure the seamless transfer of knowledge with respect to that Service.

When necessary or desirable, the Parties shall jointly develop operational protocols with respect to specific Services.

The City shall maintain a record and be the repository of all easements and other real property interests acquired by the Authority during the term of the Water Lease and the Sewer Lease. The Authority shall provide all original documents memorializing such easements and other real property interests to the City. The City shall take all actions necessary to record or otherwise perfect its interest in all easements or other real property interests acquired by it or the Authority during the term of the Water Lease and the Sewer Lease. The City shall provide the Authority access to and copies of any easements and other real property interests necessary for the performance of its rights and duties under this Agreement, the Water Lease, the Sewer Lease and the Water and Sewer Services Agreement.

#### **Invoices; Payment Terms; Invoice Disputes**

Invoices. For Fiscal Year 2015-2016, the City shall pay the Authority \$4,707,608 for all Authority Services (including “as-needed” Services) and the Authority shall pay the City \$2,179,506 for all City Services (including “as-needed” Services), each in equal monthly installments. Such installments received by the Authority shall be deposited into the Authority Regional Operation and Maintenance Account of the Operation and Maintenance Fund established in the master bond ordinances for each of the Systems, and such installments received by the City shall be deposited into the Detroit Local Operation and Maintenance Account of the Operation and Maintenance Fund established in the master bond ordinances for each of the Systems. Commencing no later than July 1, 2016, each Party shall provide the other Party one monthly invoice itemized by Service Delivery Schedule for Services provided other than for “as needed” Services, which shall be invoiced as described below under “As Needed and Other Hourly Services.”

The Parties shall engage, and share the costs of, a third-party to analyze the actual Service Costs (“Cost Analysis”) of providing the City Services and the Authority Services for Fiscal Year 2015-2016 and each subsequent Fiscal Year. If, based on this Cost Analysis: (a) the costs paid by a Subscribing Party were greater than the costs of providing the Services, the Providing Party shall pay an amount equal to such cost variance to the Subscribing Party in the next Fiscal Year or as otherwise agreed to by the Parties; and (b) the costs paid by a Subscribing Party were less than the costs of providing the Services, the Subscribing Party shall pay an amount equal to such cost variance to the Providing Party in the next Fiscal Year or as otherwise agreed to by the Parties. Additionally, Service Costs will not include costs of funding the Pension Obligation (as defined in each of the Leases), but shall be addressed as part of the process of preparing budgets for the Regional Systems and Local Systems as set forth in the Water and Sewer Services Agreement.

Each invoice, whether for Services provided regularly or “as-needed,” shall itemize the costs and charges by Services provided under each Service Delivery Schedule, and shall provide sufficient detail to the Subscribing Party to identify the Services performed and the basis for the charges. A Performing Party may only charge the Service Cost for Services provided. Neither Party may set-off any amount it owes to the other Party on account of any amounts it may be owed by such Party. Contract, material and other applicable Service Costs shall be billed at the contractual rates or third-party charges therefor.

Payment Terms. Payments for Services shall be payable monthly. Unless otherwise specified in a Service Delivery Schedule, payment of each invoice shall be due no later than thirty (30) days after the date of delivery of the Invoice, provided however, that in the event the City has not received its current monthly disbursement of operations and maintenance operating funds from the Authority pursuant to the Water and Sewer Services Agreement, its payment due date shall be five (5) business days after receipt of such funds (the “Payment Terms”).

Invoice Disputes. In the event a Subscribing Party disputes all or a portion of the amount billed under any invoice, it shall notify the Performing Party of such dispute (an “Invoice Dispute”) in writing within twenty (20) days of the date of receipt of the disputed invoice. Invoice Disputes shall be resolved as described under “Dispute Resolution” below.

The Subscribing Party shall pay the undisputed amount of any invoice pursuant to the Payment Terms. If the Invoice Dispute is not resolved by the date the payment on the disputed invoice is due, the Subscribing Party shall deposit the disputed amount into an escrow account to be held for the benefit of the Performing Party until the dispute is resolved.

Reconciliation. Beginning with Fiscal Year 2017-2018, the Performing Party shall reasonably calculate the Service Cost required to provide each Service during the next Fiscal Year, and shall notify the Subscribing Party of that Service Cost in sufficient time for the Subscribing Party to ensure the organization’s Fiscal Year budget is sufficient to pay such Service Costs. By December 1 of each year, a Performing Party shall provide to the other Party the Service Costs for each Service it expects to provide in the next Fiscal Year.

Beginning with the Fiscal Year 2017-2018, in the event a Performing Party incurs extraordinary and unanticipated Service Costs, the Chief Executive Officer and the Director shall meet within ten (10) business days to discuss any reconciliation or adjustments to the amounts paid by the Subscribing Party to ensure the payment of the Service Costs.

“As-needed” and Other Hourly Services. Commencing no later than July 1, 2016, for Services provided on an “as-needed” basis, the Performing Party shall exercise its best efforts to provide invoices within thirty (30) days after the end of each month for such Services performed during the immediately preceding month, with such invoices clearly marked as final if all “as needed” Services have been completed or marked as open if the “as needed” Services are still being performed. “As-needed” Services shall be billed on an hourly unit price basis, which shall be recorded and billed in quarter hour increments, comprising the Service Cost for such Services.

“As-needed” Services and other Services billed on hourly basis shall be recorded and billed in quarter hour increments, comprising the following Service Cost elements: salaries and fringe benefits; provided that, such hourly unit price shall be based on the annualized productive hours for the class of employee being billed. This amount shall be subject to the annual Cost Analysis reconciliation described under “Invoices” above.

## **Defaults**

A Performing Party shall be in default under the Shared Services Agreement if it fails to perform any of the Services required of it thereunder in accordance with the Performance Standards after it has received thirty (30) days’ notice of such default, provided that if such failure cannot be remedied within such thirty (30) day cure period, the Performing Party shall not be in default if it commences to remedy the default within the 30 day cure period and diligently pursues the remedy to its completion pursuant to a

mutually agreeable action plan and schedule agreed to by the Director and the Chief Executive Officer or their assignees.

A Subscribing Party shall be in default under the Shared Services Agreement if it does not make the payments required, whether in whole or in part, pursuant to the Payment Terms and after resolution of any invoice dispute as described above.

Either Party shall be in default under the Shared Services Agreement if it fails to fully perform and comply with any of the other terms, conditions or provisions of the Shared Services Agreement not covered by the two immediately preceding paragraphs after it has received thirty (30) days' notice of such default, provided that if such failure cannot be remedied within such thirty (30) day cure period, the defaulting Party shall not be in default if it commits to remedy within the thirty (30) day cure period and diligently pursues the remedy to its completion pursuant to a mutually agreeable action plan and schedule agreed to by the Director and the Chief Executive Officer or their assignees.

### **Remedies**

Upon default by a Performing Party, the Subscribing Party may (i) perform or cause a third party to perform such obligation of the Performing Party upon written notice to the Performing Party, and the Performing Party shall reimburse the non-defaulting Party for all reasonable increased costs incurred in such performance; and (ii) resolve the dispute as described under "Disputes, Resolution" below.

Upon default by a Subscribing Party, the Performing Party may, at its sole option: (i) provide written notice to the Subscribing Party of such default; and (ii) pursue all rights and remedies available to the Performing Party under the Shared Services Agreement.

Upon default of a Party as described in the third paragraph under "Defaults" above, the non-defaulting Party may, at its sole option, pursue any rights and remedies available to such Party under the Shared Services Agreement, including specific performance.

### **Waiver**

The failure of any Party to insist in any one instance upon strict performance by the other Party of its obligations under the Shared Services Agreement shall not constitute a waiver or relinquishment of any such obligations as to any other instances, and the same shall continue in full force and effect. No covenant or condition of the Shared Services Agreement may be waived by either Party except by written consent of that Party, and forbearance or indulgence of that Party in any regard whatsoever and no matter how long shall not constitute a waiver of the covenant or condition until performed or waived in writing, and that Party shall be entitled to invoke any remedy available to that Party under the Shared Services Agreement or by applicable law, despite the forbearance or indulgence.

### **Disputes; Resolution**

The Authority and the City shall each designate in writing to the other from time to time a representative who shall be authorized to resolve any dispute relating to the subject matter of the Shared Services Agreement in an equitable manner and, unless otherwise expressly provided herein, to exercise the authority of such party to make decisions by mutual agreement.

The City and the Authority each agree (i) to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner and (ii) to provide each other with reasonable access

during normal business hours to any and all non-privileged written records, information and data pertaining to any such dispute.

If any dispute relating to the subject matter of the Shared Services Agreement is not resolved between the City and the Authority as described under this “Disputes; Resolution” within 30 days from the date on which a party provides written notice to the other party of such dispute and of the notifying party’s position on the disputed matter, then upon written notification by either party to the other party, such dispute shall be settled exclusively and finally by arbitration in accordance with the procedures described under “Arbitration” below.

### **Arbitration**

It is specifically understood and agreed that any dispute or claim arising under or relating to the Shared Services Agreement that cannot be resolved between the City and the Authority, including any matter relating to the interpretation or performance of the Shared Services Agreement, shall be submitted to arbitration irrespective of either the magnitude thereof or the amount in dispute.

Each arbitration between the City and the Authority shall be conducted pursuant to the Uniform Arbitration Act, Act No. 371, Public Acts of Michigan, 2012 (“Act 371”).

The arbitration shall be conducted before a panel composed of three arbitrators (the “Arbitration Panel”). Each party shall appoint an arbitrator, obtain its appointee’s acceptance of such appointment and deliver written notification of such appointment and acceptance to the other party within 15 days after delivery of a notice of arbitration. The two arbitrators appointed by the City and the Authority shall jointly appoint the third (who shall be the chairperson), obtain the acceptance of such appointment and deliver written notification of such appointment within 15 days after their appointment and acceptance.

Any arbitration commenced hereunder shall be completed within 120 days after the appointment of the Arbitration Panel absent agreement of the City and the Authority to the contrary. The City and the Authority waive any claim to any damages in the nature of punitive, exemplary or statutory damages in excess of compensatory damages or otherwise expressly provided for herein, and the Arbitration Panel is specifically divested of any power to award such damages. The Arbitration Panel shall have the power to award injunctive or other equitable relief. All decisions of the Arbitration Panel shall be pursuant to a majority vote. Any interim or final award shall be rendered by written decision.

If either the City or the Authority fails to appoint its arbitrator within 15 days after delivery of a notice of arbitration, or if the two arbitrators appointed cannot agree upon the third arbitrator within 15 days after appointment of the second arbitrator, then the required arbitrator(s) shall be appointed by the American Arbitration Association or as otherwise agreed by the City and the Authority.

No arbitrator shall be a past or present employee or agent of, or consultant or counsel to, either the City or the Authority or any affiliate of either the City or the Authority.

The Authority and the City shall each bear one-half of the out-of-pocket third party costs and expenses of an arbitration, including the arbitrators’ fees.

### **Appeals of Arbitration Awards and Decisions**

The City or the Authority may appeal an award or decision issued by the Arbitration Panel for the reasons set forth in Section 23 of Act 371 (MCL 691.1703).

## **Enforcement of Arbitration Awards and Decisions**

The City or the Authority may enforce any awards or decisions of the Arbitration Panel issued as described under this “Arbitration” pursuant to Section 22 of Act 371 (MCL 691.1702). The provisions described under “Disputes; Resolution” and “Arbitration” above shall be the sole and exclusive remedy of the Parties with respect to any claim or dispute. The City and the Authority agree not to bring, or cause to be brought, in a court of law any action, proceeding or cause of action whatsoever with respect to any such claim or dispute, other than as necessary to enforce the award or decision of the Arbitration Panel as provided above.

## **Term**

The term of the Shared Services Agreement shall run concurrently with the terms of the Leases.

## **Amendments**

The Shared Services Agreement can be amended only by written agreement executed and approved by both Parties, as applicable; provided, that Service Delivery Schedules may be executed, modified, or terminated as described under “Modification or Extension of Service Delivery Schedules” above.

## **Confidential Information**

Each Party acknowledges that it may receive or have access to “Confidential Information,” as that term is defined below (a “Possessing Party”), of the other Party (a “Protected Party”). A Possessing Party shall protect the Protected Party’s Confidential Information with the same degree of care as the Possessing Party uses to avoid unauthorized use, disclosure, publication or dissemination of its own Confidential Information of a similar nature, but in no event, less than a reasonable degree of care. A Possessing Party shall not manipulate, modify, corrupt or otherwise change any of the Confidential Information of the Protected Party. A Possessing Party shall not disclose or otherwise make available the Protected Party’s Confidential Information to any third party without the prior written consent of Protected Party; provided, however, that the Possessing Party may disclose the Confidential Information to its officers and employees who need access to the Confidential Information to perform their obligations to the Protected Party and who are themselves bound by nondisclosure obligations at least as restrictive as those set forth under this “Confidential Information.” Further, the Possessing Party shall comply with all confidentiality-related guidelines, standards and law applicable to the Protected Party. The Possessing Party agrees to immediately notify the Protected Party in the event the Possessing Party becomes aware of any loss or unauthorized disclosure of the Protected Party’s Confidential Information. A Possessing Party shall not utilize any Confidential Information of a Protected Party for its own benefit.

“Confidential Information” means any information related to the business, personnel and operations of the Protected Party obtained by the Possessing Party, and may include but is not limited to information or data related to business affairs, customer billing and usage information, data, manuals, financial and accounting data, data and information concerning contracts, intellectual property, proprietary information and other operational information. Confidential Information shall not include: (A) any information that the Possessing Party can document: (i) was generally available to the public at the time it was received by the Possessing Party, (ii) was known to the Possessing Party, without restriction, at the time of disclosure, or (iii) was independently developed by the Possessing Party without any use of any Confidential Information; and (B) any public records subject to disclosure pursuant to Act 442, Public Acts of Michigan, 1976, as amended.

Upon expiration or termination of the applicable Service Delivery Schedule, the Possessing Party shall promptly return to the Protected Party all Confidential Information of the Protected Party and all copies, or at the Protected Party's option, the Possessing Party shall destroy the Confidential Information.

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## **APPENDIX IX**

### **SUMMARY OF 2018 MOU**

This summary does not purport to be comprehensive or definitive and is subject to all of the terms of the 2018 MOU, to which reference is hereby made and copies of which are available on GLWA's website at [www.glwater.org](http://www.glwater.org) or from the Underwriters prior to the execution and delivery of the Series 2018 Bonds and thereafter may be examined or obtained at the expense of the person requesting the same at the corporate trust office of the Trustee.

#### **General**

On June 27, 2018, DWSD and GLWA entered into the 2018 MOU to provide for clarification of specific sections of the Leases, the Water and Sewer Services Agreement, Master Bond Ordinance No. 2015-01 adopted by the GLWA Board with respect to the Water System on October 7, 2015, as amended (the "Water Bond Ordinance"), and the Bond Ordinance (the Bond Ordinance together with the Water Bond Ordinance, the "Bond Ordinances"), to make adjustments contemplated by the Leases, the Water and Sewer Services Agreement and the Bond Ordinances, and to address the liquidation of certain liabilities set forth in the Leases. Complete copies of the Leases, the Water and Sewer Services Agreement and the Bond Ordinances are available on GLWA's website at [www.glwater.org](http://www.glwater.org).

#### **Adjustments to Cash Held for the Benefit of DWSD**

The 2018 MOU provides that the following book entry credits and charges are effective July 1, 2017, reflecting a net amount of \$74,201,200 to the Cash Held for the Benefit of DWSD as established on GLWA's General Ledger Account:

1. A credit of \$78,434,300 for the assumption by DWSD of the Pre-Effective Date Liabilities, as outlined below, reduced by \$9,000,000 for the reimbursement of certain litigation liabilities previously paid by GLWA, for a net deposit of \$69,434,300.
2. A reduction of the Budget Stabilization Requirement to \$7,500,000, and to reflect this adjustment, GLWA shall apply \$3,433,000 as a credit to DWSD.
3. A credit of \$1,333,900, reflecting the portion of the final annual \$20,000,000 sewer lookback adjustment charged during Fiscal Year 2016, which was attributable to a deposit to DWSD's Sewer System Improvement and Extension ("I&E") Account of the Sewer System I&E Fund. The final sewer bad debt lookback adjustment, as calculated as of June 30, 2017, shall reduce DWSD's Fiscal Year 2019 revenue requirement by \$6,527,200. This adjustment is different than the prior sewer lookback adjustment agreement that is reflected in the first sentence of this paragraph 3. The parties agree that the Budget Stabilization Fund sufficiently accomplishes the intent of mitigating collection risk, obviating the need for any further sewer bad debt lookback.

#### **Adjustments to Non-cash Related Book Entries**

Lease Pre-payment. The 2018 MOU provides that 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 \$25,000,000 Lease payment on January 1, 2016 shall be applied to the period of July 1, 2055 through December 31, 2055.

Obligation Payable by DWSD to GLWA for Direct Allocable Share of pre-Effective Date Bonded Indebtedness for the Local Systems. DWSD's agreed upon allocable share of pre-Effective Date bonded indebtedness at June 30, 2017 related to the Local Systems is \$437,280,200 for the Local Water System and \$358,090,600 for the Local Sewer System. This allocation was determined based on an agreed upon share of debt service in Fiscal Year 2016 of \$455,000,000 for the Local Water System and \$370,000,000 for the Local Sewer System and the amounts included in the revenue requirements allocated to the Retail Customers related to the debt service for Fiscal Year 2016 and Fiscal Year 2017. The amortization schedule of DWSD's obligations payable related to pre-Effective Date bonded indebtedness for the Local Systems is set forth in Schedule 3 to the 2018 MOU. This amortization schedule establishes fixed payment terms for these obligations, with an agreed upon interest rate of 4.76% for the Local Water System and 4.33% for the Local Sewer System. This amortization schedule shall not be altered to reflect any refunding of pre-Effective Date bonded indebtedness after calendar year 2017. Debt service on bonds issued Post-Effective Date, other than bonds issued after calendar year 2017 to refund pre-Effective Date bonded indebtedness, shall be allocated based on the use of the proceeds. Consistent with implementation of the amortization schedule, GLWA shall reduce the DWSD Fiscal Year 2018 Revenue Requirement by \$2,177,500.

### **DWSD Retail Customers**

The 2018 MOU provides the following adjustments with respect to pre-Effective Date receivables and Landlord/Tenant Deposits and Affordability Accounts:

1. Pre-Effective Date Receivables. As of July 1, 2017, GLWA shall transfer to DWSD all of GLWA's interests in remaining pre-Effective Date retail accounts receivable and DWSD assumes all liability associated with repayment of delinquent tax advances. Net balances of \$8,816,149 shall be written off from GLWA's books as of July 1, 2017. In addition, GLWA shall transfer the aggregate amount of \$16,293,664 related to the cumulative Wayne County Revolving Fund Loan balance as of June 30, 2017, collected after July 1, 2017, to (i) DWSD's Sewer System Operation and Maintenance ("O&M") Account in the Sewer System O&M Fund in the amount of \$15,044,972 and the related obligations and (ii) DWSD's Water System O&M Account in the Water System O&M Fund in the amount of \$1,248,692 and the related obligations. Other collection activity related to these retail accounts receivable, since July 1, 2017, shall be deposited to the Receiving Fund held under the related Bond Ordinance, distributed in accordance with terms of the related Bond Ordinance and credited to the Cash Held for the Benefit of DWSD Account.

2. Landlord/Tenant Deposits and Affordability Accounts. GLWA shall transfer to DWSD all of GLWA's interests, if any, in the balances in the Landlord/Tenant Deposits and Affordability Accounts (i.e. non-Revenues representing, respectively, deposits required by DWSD for tenants in leased facilities and voluntary charitable contributions by Retail Customers to be used to assist certain other Retail Customers with paying bills for Water Services and Sewer Services) held in the Bond Ordinances in a fiduciary capacity and the related obligations.

### **Cash Transfers to DWSD**

The 2018 MOU provides for the following cash transfers to DWSD Accounts:

1. DWSD Sewer System I&E Account. Proceeds of DWSD Bonds held in the Construction Fund for such DWSD Bonds and available on the Effective Date are allocated consistent with the DWSD agreed upon allocable share of bond debt service related to the Local Systems. In recognition, GLWA shall transfer \$15,174,200 from GLWA's Sewer System I&E Account to DWSD's Sewer System I&E Account.

2. DWSD O&M Account. GLWA shall transfer \$18,622,473 to DWSD, in full satisfaction of GLWA's remaining short and long-term worker's compensation, unemployment, compensated absences employment and other liabilities included in Schedule 4 to the 2018 MOU. Upon execution of the 2018 MOU, DWSD will notify the City Office of the Chief Financial Officer that DWSD has become solely responsible for these liabilities. Net balances of \$18,622,473 shall be written off from GLWA's books as of July 1, 2017. DWSD shall record a like amount as of July 1, 2017.

### **Extraordinary Repair & Replacement ("ER&R") Reserve Fund Contributions and Clarifications**

The 2018 MOU provides that except for the required restoration of DWSD withdrawals, GLWA shall fund future deposits to the ER&R Reserve Fund from Regional System Revenues as needed to satisfy the ER&R Maximum Requirement, as defined in the related Bond Ordinance and based on the sum of the Regional Systems' and Local Systems' Fiscal Year O&M Budgets. This provision does not require any cash or non-cash adjustments between the parties.

The ER&R Reserve Fund shall be available to both GLWA and DWSD as provided in the Bond Ordinances. To the extent there may be an investment loss if funds are drawn by DWSD, DWSD's Chief Financial Officer shall be advised before any loss is incurred. The entity that uses the funds shall fund investment losses incurred, if any.

DWSD draws not repaid as contemplated by the Bond Ordinances shall be repaid in full, in installments, over a period up to the next three fiscal years, plus a surcharge calculated as provided below, as part of the revenue requirement allocated to and payable by DWSD. The surcharge on the portion of the draw which remains unpaid at June 30 of the Fiscal Year in which the draw was made shall be based on the three-year U.S. Treasury Note Rate, as published in the Wall Street Journal, plus 150 basis points.

Until DWSD's ER&R Reserve Fund withdrawal is repaid, and unless DWSD has other resources available for that purpose or otherwise agreed to by GLWA, DWSD shall apply any available funds in the related DWSD I&E Account for that purpose. GLWA Board approval shall be required for repayment terms in excess of three (3) years. The quarterly Reconciliation Committee meetings shall include a review of the progress in DWSD repaying any ER&R Reserve Fund withdrawal.

### **Reconciliation Committee**

The 2018 MOU provides that the Reconciliation Committee (defined by the Water and Sewer Services Agreement as a DWSD Board Member and GLWA Board Member or their designees) along with GLWA's Chief Executive Officer, DWSD's Director, and their respective Chief Financial Officers and General Counsels shall meet at a minimum quarterly (January, April, July, and October). GLWA's designated Board Member liaison shall not be a Mayoral appointee and shall not be selected by the Mayoral appointees to the GLWA Board. The purpose of the quarterly meetings is to expand the level of communication between the two entities related to financial, operational, legal, capital planning, and other matters and opportunities for improved management and coordination of both entities and foster a positive partnership in the water services sector. The results of those meetings shall be reported back to the respective Boards by the Board liaison.

### **Financial Reporting on the Local Systems**

The 2018 MOU provides that beginning June 1, 2018, DWSD shall transmit to GLWA:

- a. Quarterly Budget to Actual Report for Revenues and Expenses for O&M, I&E, and Construction Bond activities.
- b. Quarterly cash flow forecast for the subsequent two-year time period for O&M, I&E, and Construction Bond activities.
- c. Quarterly reconciliation of the Cash Held by GLWA, as recorded by DWSD, with the Cash Held for the Benefit of DWSD, as provided by GLWA.
- d. Monthly cash receipts presented on a year-over-year basis with variance analysis.
- e. Monthly accounts receivable roll-forward by system, which provides beginning balance, revenues, expenses, write-offs, other adjustments, and reconciling items.
- f. Daily cash receipt reconciliation.
- g. Any other reports as requested by the Reconciliation Committee.

### **Standard Operating Procedures**

The 2018 MOU provides that DWSD and GLWA shall jointly develop standard operating procedures (“SOPs”) for working through and documenting operational interactions. To the extent that SOPs cannot be agreed upon by the DWSD and GLWA team members after review with the GLWA Chief Executive Officer and the DWSD Director, the issue may be brought forward to the Reconciliation Committee.

### **Budget Shortfalls**

The 2018 MOU provides that if DWSD experiences a cumulative negative variance of more than two percent (2%) of the total budget for either Local System (a “Budget Shortfall”) from its budget adopted pursuant to the Water and Sewer Services Agreement based on DWSD’s quarterly reports to GLWA, DWSD, as the agent of GLWA, shall, within thirty (30) days thereafter, schedule a meeting of the Reconciliation Committee to discuss the magnitude and reasons for the shortfall and possible approaches to address the shortfall. Within sixty (60) days after the Reconciliation Committee meets, DWSD, as agent, shall develop a plan to cure the Budget Shortfall and the time period within which the shortfall will be cured, taking into account the reasons for and magnitude of the shortfall. If Revenues, including, but not limited to, adjustments to Local O&M expenditures and the use of subsequent positive receipts, are not available to cure the Budget Shortfall within the same Fiscal Year, DWSD shall reallocate available funds in the related DWSD I&E Account or reallocate any unencumbered Lease Payment to eligible debt service to satisfy the Budget Shortfall.

Budget Shortfalls not cured by the end of the Fiscal Year following the year in which they arise shall be repaid in full, in installments, over a period not to exceed the next three fiscal years, plus a surcharge calculated as provided below, as part of the Revenue Requirement payable by DWSD. The surcharge factor on the portion of the Budget Shortfall which remains unpaid at June 30 of the Fiscal Year following the fiscal year in which the Budget Shortfall arises shall be based on the three-year U.S. Treasury Note Rate, as published in the Wall Street Journal, plus 150 basis points.

Until the Budget Shortfall is repaid, and unless DWSD has other resources available for that purpose or otherwise agreed to by GLWA, DWSD shall apply any available funds in the related DWSD I&E Account for that purpose. GLWA Board approval shall be required for repayment terms in excess of three (3) years. The quarterly Reconciliation Committee meetings shall include a review of the progress in eliminating the Budget Shortfall.

## **Write-offs Related to 2018 MOU Implementation**

The 2018 MOU provides that any write-offs recognized in GLWA's Financial Statements related to implementing the 2018 MOU shall not directly affect current or future revenue requirements for customer specific cost pools.

## **Water and Sewer Charges to GLWA**

The 2018 MOU includes a provision that GLWA desires a meeting to begin the discussion on the clarification of water supply and sewage disposal services provided by DWSD to the Regional System within thirty (30) days after the execution of the 2018 MOU. The 2018 MOU provides that if this issue is not resolved within ninety (90) days after the meeting, the matter will be brought to the Reconciliation Committee for potential resolution prior to invoking Article 7 - Dispute Resolution of the Water and Sewer Services Agreement.

## **Pre-Effective Date Liabilities**

The 2018 MOU provides and clarifies that DWSD assumes liability for third party litigation, arbitrations and claims arising out of events and/or actions occurring on or before January 1, 2016 and involving the following types of matters (collectively, the "Pre-Effective Date Liabilities"):

- a. Local System ratemaking, collections and enforcement.
- b. Sewer back-ups in the City of Detroit, unless there is admissible evidence of the failure of Leased Sewer Facility or Facilities.
- c. Personal injury matters (more fully described in the 2018 MOU).
- d. Contract matters related to the Local Systems (more fully described in the 2018 MOU).
- e. Environmental matters related to the Local Systems.
- f. City of Detroit Bankruptcy matters, excluding BC Notes and pension liabilities as described in Section 4.3 of the Leases.
- g. Freedom of Information Act and Open Meetings Act matters related to the Local System for which DWSD maintains the records.
- h. In addition to the matters addressed in "Cash Transfers to DWSD – DWSD O&M Account" described above, employment matters for DWSD employees that were not actually offered employment by GLWA, including labor/union and discrimination and harassment.
- i. Any other Pre-Effective Date Liabilities relating to the Local Systems only.

For all Pre-Effective Date Liabilities, DWSD agrees to lead in the defense of the Pre-Effective Date Liabilities and assume all financial or legal exposure for the Pre-Effective Date Liabilities, including any and all unpaid amounts to fund ratemaking litigation settlements. GLWA agrees that the arbitration demands approved by GLWA's Board related to Pre-Effective Date Liabilities involving third parties shall be withdrawn. GLWA agrees to cooperate in DWSD's defense of any Pre-Effective Date Liabilities.

The 2018 MOU provides that GLWA shall have no further liability as to the liabilities transferred to and assumed by DWSD under the 2018 MOU, specifically those assigned as described under "Adjustments to Cash Held for the Benefit of DWSD – Consideration for Assumption of Pre-Effective Date Liabilities," second paragraph of "DWSD Retail Customers," "Cash Transfers to DWSD – DWSD O&M Account," and first two paragraphs of "Pre-Effective Date Liabilities."

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## APPENDIX X

### FORM OF CONTINUING DISCLOSURE UNDERTAKING

This Continuing Disclosure Undertaking (the “Undertaking”) is executed and delivered by the Great Lakes Water Authority (the “Issuer”) and in connection therewith have examined the law and certified copies of the proceedings and other documents relating to the issuance by the Issuer of its \$155,595,000 Water Supply System Revenue Refunding Second Lien Bonds, Series 2018A (the “Series 2018 Bonds”).

The Series 2018 Bonds have been authorized and are being issued pursuant to the provisions of (i) Act 233 and Act 94, Public Acts of Michigan, 1933, as amended (“Act 94”), (ii) Master Bond Ordinance No. 2015-01 adopted by the Board of Directors of the Issuer on October 7, 2015, as amended (the “Bond Ordinance”), (iii) the Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue and Revenue Refunding Bonds in a Principal Amount not to Exceed \$225,000,000, adopted by the Board of Directors of the Issuer on August 8, 2018, as amended (the “2018 Series Ordinance”), and (iv) a Sale Order of the Chief Executive Officer of the Issuer dated September 18, 2018 (the “2018 Sale Order,” and, together with the Bond Ordinance and the 2018 Series Ordinance, the “Ordinance”).

**Section 1. Purpose of the Undertaking.** This Undertaking is being executed and delivered by the Issuer for the benefit of the Bondholders. The Issuer acknowledges that the State of Michigan (the “State”) has undertaken no responsibility with respect to any notices or disclosures provided or required under this Undertaking and has no liability to any person, including any Bondholders, with respect to any such notices or disclosures. The Issuer acknowledges that this Undertaking does not address the scope of any application of Rule 10b-5 promulgated by the SEC pursuant to the 1934 Act to the notices of the Listed Events provided or required to be provided by the Issuer pursuant to this Undertaking.

**Section 2. Definitions.** The following capitalized terms shall have the following meanings:

“1934 Act” shall mean the Securities Exchange Act of 1934, as amended.

“Annual Report” shall mean any Annual Report of the Issuer provided by the Issuer pursuant to, and as described in, Sections 3 and 4 of this Undertaking.

“Beneficial Owner” shall mean any person which has or shares the power, directly or indirectly, to make investment decisions concerning ownership of any Series 2018 Bonds (including any person holding Series 2018 Bonds through nominees, depositories or other intermediaries).

“Bondholder” shall mean the registered owner of any Series 2018 Bond and any person which (a) has the power, directly or indirectly, to vote or consent with respect to, or to dispose of ownership of, any of the Series 2018 Bonds (including persons holding Series 2018 Bonds through nominees, depositories or other intermediaries), or (b) is treated as the owner of any of the Series 2018 Bonds for federal income tax purposes.

“Disclosure Dissemination Agent” shall mean the Issuer or any successor Disclosure Dissemination Agent appointed in writing by the Issuer and which has filed with the Issuer a written acceptance of such appointment. In order to provide continuing disclosure with respect to the Series 2018 Bonds in accordance with the Rule in connection with the issuance of the Series 2018 Bonds, the Issuer will enter into a Disclosure Dissemination Agent Agreement (“Disclosure Dissemination Agreement”) for the benefit of the Bondholders

with Digital Assurance Certification, L.L.C. (“DAC”), under which the Issuer has designated DAC as Disclosure Dissemination Agent.

“EMMA” shall mean the Electronic Municipal Market Access system of the MSRB. As of the date of this Undertaking, the EMMA Internet Web site address is <http://www.emma.msrb.org>.

“GAAP” shall mean generally accepted accounting principles, as such principles are prescribed, in part, by the Financial Accounting Standards Board and modified by the Governmental Accounting Standards Board and in effect from time to time.

“Listed Events” shall mean any of the events listed in Section 5(a) of this Undertaking.

“MSRB” shall mean the Municipal Securities Rulemaking Board established in accordance with the provisions of Section 15B(b)(1) of the 1934 Act. As of the date of this Undertaking, the address and telephone and telecopy numbers of the MSRB are as follows:

Municipal Securities Rulemaking Board  
1300 “I” Street, N.W., Suite 1000  
Washington, DC 20005  
Tel: (202) 838-1500  
Fax: (202) 898-1500

“Official Statement” shall mean the final Official Statement for the Series 2018 Bonds dated September 18, 2018.

“Participating Underwriter” shall mean any of the original underwriters of the Series 2018 Bonds required to comply with the Rule in connection with the primary offering of the Series 2018 Bonds.

“Rule” shall mean Rule 15c2-12 (17 CFR Part 240, § 240.15c2-12) promulgated by the SEC pursuant to the 1934 Act, as the same may be amended from time to time, together with all interpretive guidance or other official interpretations or explanations thereof that are promulgated by the SEC.

“SEC” shall mean the United States Securities and Exchange Commission.

“Securities Counsel” shall mean legal counsel expert in federal securities law.

“State” shall mean the State of Michigan.

### **Section 3. Provision of Annual Reports.**

(a) Each year, the Issuer shall provide, or shall cause the Disclosure Dissemination Agent to provide, not later than 270 days after the last day of the Issuer’s fiscal year, commencing with the Issuer’s Annual Report for its fiscal year ended June 30, 2018, to the MSRB an Annual Report for the preceding fiscal year which is consistent with the requirements of Section 4 of this Undertaking. Not later than 15 business days (or such lesser number of days as is acceptable to the Disclosure Dissemination Agent) prior to said date, the Issuer shall provide the Annual Report to the Disclosure Dissemination Agent (if other than the Issuer). Currently, the Issuer’s fiscal year commences on July 1. In each case, the Annual Report may be submitted as a single document or as separate documents comprising a package, and may include by specific reference other information as provided in Section 4 of this Undertaking; provided, however, that if the



audited financial statements of the Issuer are not available by the deadline for filing the Annual Report, they shall be provided when and if available, and unaudited financial statements in a format similar to the audited financial statements then most recently prepared for the Issuer shall be included in the Annual Report.

(b) If the Issuer is unable to provide to the MSRB an Annual Report of the Issuer by the date required in subsection (a), the Issuer shall file a notice, in a timely fashion, with the MSRB, in substantially the form attached as Exhibit A.

(c) If the Issuer's fiscal year changes, the Issuer shall file written notice of such change with the MSRB, in substantially the form attached as Exhibit B.

(d) Whenever any Annual Report or portion thereof is filed as described above, it shall be attached to a cover sheet in substantially the form attached as Exhibit C.

(e) If the Disclosure Dissemination Agent is other than the Issuer, the Disclosure Dissemination Agent shall file a report with the Issuer certifying that the Annual Report has been provided pursuant to this Undertaking, stating the date it was provided.

(f) In connection with providing the Annual Report, the Disclosure Dissemination Agent (if other than the Issuer) is not obligated or responsible under this Undertaking to determine the sufficiency of the content of the Annual Report for purposes of the Rule or any other state or federal securities law, rule, regulation or administrative order.

**Section 4. Content of Annual Reports.** The Issuer's Annual Report shall contain or include by reference the following:

(a) The audited financial statements of the Issuer for its fiscal year immediately preceding the due date of the Annual Report.

(b) An update of the financial information and data contained in the tables under the captions: "THE REGIONAL WATER SYSTEM," "SERVICE AREA AND CUSTOMERS," "THE MASTER PLAN AND THE CAPITAL IMPROVEMENT PLAN," "AUTHORITY FINANCIAL OPERATIONS" (excluding any projections included therein) appearing in the Official Statement.

The Issuer's financial statements shall be audited and prepared in accordance with GAAP with such changes as may be required from time to time in accordance with State law.

Any or all of the items listed above may be included by specific reference to other documents available to the public on the MSRB's Internet Web site or filed with the SEC. The Issuer shall clearly identify each such other document so included by reference.

#### **Section 5. Reporting of Significant Events.**

(a) The Issuer covenants to provide, or cause to be provided, notice of the occurrence of any of the following events with respect to the Series 2018 Bonds in a timely manner not in excess of ten (10) business days after the occurrence of the event and in accordance with the Rule:

(1) Principal and interest payment delinquencies;

- (2) Non-payment related defaults, if material;
- (3) Unscheduled draws on debt service reserves reflecting financial difficulties;
- (4) Unscheduled draws on credit enhancements reflecting financial difficulties;
- (5) Substitution of credit or liquidity providers, or their failure to perform;
- (6) Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Series 2018 Bonds, or other material events affecting the tax status of the Series 2018 Bonds;
- (7) Modifications to rights of security holders, if material;
- (8) Bond calls, if material;
- (9) Defeasances;
- (10) Release, substitution, or sale of property securing repayment of the Series 2018 Bonds, if material;
- (11) Rating changes;
- (12) Tender offers;
- (13) Bankruptcy, insolvency, receivership or similar event of the Issuer;
- (14) The consummation of a merger, consolidation, or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and
- (15) Appointment of a successor or additional trustee or the change of name of a trustee, if material.

(b) Whenever the Issuer obtains knowledge of the occurrence of a Listed Event described in subsection (a)(2), (7), (8), (10), (14) or (15), the Issuer shall as soon as possible determine if such Listed Event would be material under applicable federal securities laws. The Issuer covenants that its determination of materiality will be made in conformance with federal securities laws.

(c) If the Issuer determines that (i) a Listed Event described in subsection (a)(1), (3), (4), (5), (6), (9), (11), (12) or (13) has occurred or (ii) the occurrence of a Listed Event described in subsection (a)(2), (7), (8), (10), (14) or (15) would be material under applicable federal securities laws, the Issuer shall cause a notice of such occurrence to be filed with the MSRB within ten (10) business days of the occurrence of the Listed Event, together with a cover sheet in substantially the form attached as Exhibit D. In connection with providing a notice of the occurrence of a Listed Event described in subsection (a)(9), the Issuer shall include

in the notice explicit disclosure as to whether the Series 2018 Bonds have been escrowed to maturity or escrowed to call, as well as appropriate disclosure of the timing of maturity or call.

(d) In connection with providing a notice of the occurrence of a Listed Event, the Disclosure Dissemination Agent (if other than the Issuer), solely in its capacity as such, is not obligated or responsible under this Undertaking to determine the sufficiency of the content of the notice for purposes of the Rule or any other state or federal securities law, rule, regulation or administrative order.

(e) The Issuer acknowledges that the “rating changes” referred to in subsection (a)(11) above may include, without limitation, any change in any rating on the Series 2018 Bonds or other indebtedness for which the Issuer is liable.

(f) The Issuer acknowledges that it is not required to provide a notice of a Listed Event with respect to credit enhancement when the credit enhancement is added after the primary offering of the Series 2018 Bonds, the Issuer does not apply for or participate in obtaining such credit enhancement, and such credit enhancement is not described in the Official Statement.

#### **Section 6. Mandatory Electronic Filing with EMMA.**

All filings with the MSRB under this Undertaking shall be made by electronically transmitting such filings through the EMMA Dataport at <http://www.emma.msrb.org> as provided by the amendments to the Rule adopted by the SEC in Securities Exchange Act Release No. 59062 on December 5, 2008.

#### **Section 7. Termination of Reporting Obligation.**

(a) The Issuer’s obligations under this Undertaking shall terminate if and when the Issuer’s obligation to pay the principal of and interest on Series 2018 Bonds is assumed in full by some other entity, such entity shall be responsible for compliance with this Undertaking in the same manner as if it were the Issuer, and the Issuer shall have no further responsibility hereunder.

(b) This Undertaking, or any provision hereof, shall be null and void in the event that the Issuer (i) receives an opinion of Securities Counsel, addressed to the Issuer, to the effect that those portions of the Rule, which require such provisions of this Undertaking, do not or no longer apply to the Series 2018 Bonds, whether because such portions of the Rule are invalid, have been repealed, amended or modified, or are otherwise deemed to be inapplicable to the Series 2018 Bonds, as shall be specified in such opinion, and (ii) files notice to such effect with the MSRB.

**Section 8. Disclosure Dissemination Agent.** The Issuer, from time to time, may appoint or engage a Disclosure Dissemination Agent to assist it in carrying out its obligations under this Undertaking and may discharge any such Disclosure Dissemination Agent, with or without appointing a successor Disclosure Dissemination Agent. Except as otherwise provided in this Undertaking, the Disclosure Dissemination Agent (if other than the Issuer) shall not be responsible in any manner for the content of any notice or report prepared by the Issuer pursuant to this Undertaking.

#### **Section 9. Amendment; Waiver.**

(a) Notwithstanding any other provision of this Undertaking, this Undertaking may be amended, and any provision of this Undertaking may be waived, provided that the following conditions are satisfied:

(i) if the amendment or waiver relates to the provisions of Section 3(a), (b), (c), 4 or 5(a), it may only be made in connection with a change in circumstances that arises from a change in legal requirements, a change in law or a change in the identity, nature or status of the Issuer, or type of business conducted by the Issuer;

(ii) this Undertaking, as so amended or taking into account such waiver, would, in the opinion of Securities Counsel, have complied with the requirements of the Rule at the time of the original issuance of the Series 2018 Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(iii) the amendment or waiver does not, in the opinion of nationally recognized bond counsel, materially impair the interests of the Bondholders.

(b) In the event of any amendment to, or waiver of a provision of, this Undertaking, the Issuer shall describe such amendment or waiver in the next Annual Report and shall include an explanation of the reason for such amendment or waiver. In particular, if the amendment results in a change to the annual financial information required to be included in the Annual Report pursuant to Section 4 of this Undertaking, the first Annual Report that contains the amended operating data or financial information shall explain, in narrative form, the reasons for the amendment and the impact of such change in the type of operating data or financial information being provided. Further, if the annual financial information required to be provided in the Annual Report can no longer be generated because the operations to which it related have been materially changed or discontinued, a statement to that effect shall be included in the first Annual Report that does not include such information.

(c) If the amendment results in a change to the accounting principles to be followed in preparing financial statements as set forth in Section 4 of this Undertaking, the Annual Report for the year in which the change is made shall include a comparison between the financial statements or information prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles. The comparison shall include a qualitative discussion of such differences and the impact of the changes on the presentation of the financial information. To the extent reasonably feasible, the comparison shall also be quantitative. A notice of the change in accounting principles shall be filed by the Issuer or the Disclosure Dissemination Agent (if other than the Issuer) at the written direction of the Issuer with the MSRB.

**Section 10. Additional Information.** Nothing in this Undertaking shall be deemed to prevent the Issuer from disseminating any other information, using the means of dissemination set forth in this Undertaking or any other means of communication, or including any other information in any Annual Report or notice of occurrence of a Listed Event, in addition to that which is required by this Undertaking. If the Issuer chooses to include any information in any Annual Report or notice of occurrence of a Listed Event in addition to that which is specifically required by this Undertaking, the Issuer shall have no obligation under this Undertaking to update such information or include it in any future Annual Report or notice of occurrence of a Listed Event.

**Section 11. Failure to Comply.** In the event of a failure of the Issuer or the Disclosure Dissemination Agent (if other than the Issuer) to comply with any provision of this Undertaking, any Bondholder or Beneficial Owner may bring an action to obtain specific performance of the obligations of the Issuer or the Disclosure Dissemination Agent (if other than the Issuer) under this Undertaking, but no person or entity shall be entitled to recover monetary damages hereunder under any circumstances, and any failure to comply with the obligations under this Undertaking shall not constitute a default with respect to the Series 2018 Bonds. Notwithstanding the foregoing, if the alleged failure of the Issuer to comply with this

Undertaking is the inadequacy of the information disclosed pursuant hereto, then the Bondholders and the Beneficial Owners (on whose behalf a Bondholder has not acted with respect to this alleged failure) of not less than a majority of the aggregate principal amount of the then outstanding Series 2018 Bonds must take the actions described above before the Issuer shall be compelled to perform with respect to the adequacy of such information disclosed pursuant to this Undertaking.

**Section 12. Duties of Disclosure Dissemination Agent.** The Disclosure Dissemination Agent shall have only such duties as are specifically set forth in this Undertaking.

**Section 13. Beneficiaries.** This Undertaking shall inure solely to the benefit of the Issuer, the Disclosure Dissemination Agent, the Participating Underwriter, the Bondholders and the Beneficial Owners, and shall create no rights in any other person or entity.

**Section 14. Transmission of Information and Notices.** Unless otherwise required by law or this Undertaking, and, in the sole determination of the Issuer or the Disclosure Dissemination Agent, as applicable, subject to technical and economic feasibility, the Issuer or the Disclosure Dissemination Agent, as applicable, shall employ such methods of information and notice transmission as shall be requested or recommended by the herein-designated recipients of such information and notices.

**Section 15. Additional Disclosure Obligations.** The Issuer acknowledges and understands that other State and federal laws, including, without limitation, the Securities Act of 1933, as amended, and Rule 10b-5 promulgated by the SEC pursuant to the 1934 Act, may apply to the Issuer, and that under some circumstances, compliance with this Undertaking, without additional disclosures or other action, may not fully discharge all duties and obligations of the Issuer under such laws.

**Section 16. Governing Law.** This Undertaking shall be construed and interpreted in accordance with the laws of the State, and any suits and actions arising out of this Undertaking shall be instituted in a court of competent jurisdiction in the State. Notwithstanding the foregoing, to the extent this Undertaking addresses matters of federal securities laws, including the Rule, this Undertaking shall be construed and interpreted in accordance with such federal securities laws and official interpretations thereof.

GREAT LAKES WATER AUTHORITY

Dated: October 3, 2018

By: \_\_\_\_\_  
Chief Executive Officer

**EXHIBIT A**

**NOTICE OF FAILURE TO FILE ANNUAL REPORT**

Issuer: Great Lakes Water Authority (the “Issuer”)

Name of Bond Issue: \$155,595,000 Great Lakes Water Authority Water Supply System  
Revenue Refunding Bonds, Series 2018A

Date of Bonds: October 3, 2018

**NOTICE IS HEREBY GIVEN** that the Issuer has not provided an Annual Report with respect to the above-named Bonds as required by Section 3 of its Continuing Disclosure Undertaking with respect to such Bonds. The Issuer anticipates that the Annual Report will be filed by \_\_\_\_\_.

**GREAT LAKES WATER AUTHORITY**

By: \_\_\_\_\_  
Its \_\_\_\_\_

Dated: \_\_\_\_\_

**EXHIBIT B**

**NOTICE OF CHANGE IN ISSUER'S FISCAL YEAR**

Issuer: Great Lakes Water Authority

Name of Bond Issue: \$155,595,000 Great Lakes Water Authority Water Supply System  
Revenue Refunding Bonds, Series 2018A

Date of Bonds: October 3, 2018

**NOTICE IS HEREBY GIVEN** that the Issuer's fiscal year has changed. Previously, the Issuer's fiscal year ended on \_\_\_\_\_. It now ends on \_\_\_\_\_.

**GREAT LAKES WATER AUTHORITY**

By: \_\_\_\_\_  
Its \_\_\_\_\_

Dated: \_\_\_\_\_

## EXHIBIT C

### ANNUAL REPORT COVER SHEET

This cover sheet and the attached Annual Report or portion thereof should be filed electronically with the Municipal Securities Rulemaking Board through the EMMA Dataport at <http://www.emma.msrb.org> pursuant to Securities and Exchange Commission Rule 15c2-12(b)(5)(i)(A) and (B).

Issuer: Great Lakes Water Authority

Issuer's Six-Digit CUSIP Number(s): \_\_\_\_\_

or Nine-Digit CUSIP Number(s) to which the attached Annual Report relates: \_\_\_\_\_

Number of pages of the attached Annual Report or portion thereof: \_\_\_\_\_

Name of Bond Issue to which the attached Annual Report relates: \$155,595,000 Great Lakes Water Authority Water Supply System Revenue Refunding Bonds, Series 2018A

Date of such Bonds: \_\_\_\_\_

I hereby represent that I am authorized by the Issuer or its agent to distribute this information publicly:

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Employer: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip Code: \_\_\_\_\_

Voice Telephone Number: \_\_\_\_\_



## EXHIBIT D

### EVENT NOTICE COVER SHEET

This cover sheet and the attached Event Notice should be filed electronically with the Municipal Securities Rulemaking Board through the EMMA Dataport at <http://www.emma.msrb.org> pursuant to Securities and Exchange Commission Rule 15c2-12(b)(5)(i)(C) and (D).

Issuer: Great Lakes Water Authority

Issuer's and/or Other Obligated Person's Six-Digit CUSIP Number(s): \_\_\_\_\_

or Nine-Digit CUSIP Number(s) to which the attached Event Notice relates: \_\_\_\_\_

Number of pages of the attached Event Notice: \_\_\_\_\_

Description of the attached Event Notice (Check One):

- |     |       |  |
|-----|-------|--|
| 1.  | _____ | Principal and interest payment delinquencies   |
| 2.  | _____ | Non-Payment related defaults   |
| 3.  | _____ | Unscheduled draws on debt service reserves reflecting financial difficulties   |
| 4.  | _____ | Unscheduled draws on credit enhancements reflecting financial difficulties   |
| 5.  | _____ | Substitution of credit or liquidity providers, or their failure to perform   |
| 6.  | _____ | Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the security, or other material events affecting the tax status of the security  |
| 7.  | _____ | Modifications to rights of securities holders  |
| 8.  | _____ | Bond calls   |
| 9.  | _____ | Defeasances  |
| 10. | _____ | Release, substitution, or sale of property securing repayment of the securities  |
| 11. | _____ | Rating changes   |
| 12. | _____ | Tender offers  |
| 13. | _____ | Bankruptcy, insolvency, receivership or similar event of an obligated person   |
| 14. | _____ | The consummation of a merger, consolidation, or acquisition involving an obligated person or the sale of all or substantially all of the assets of an obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms |
| 15. | _____ | Appointment of a successor or additional trustee, or the change of name of a trustee   |
| 16. | _____ | Failure to provide annual financial information as required  |
| 17. | _____ | Other material event notice (specify) _____  |

I hereby represent that I am authorized by the Issuer or its agent to distribute this information publicly:

Signature: \_\_\_\_\_

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Employer: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip Code: \_\_\_\_\_

Voice Telephone Number: \_\_\_\_\_

**Please format the Event Notice attached to this cover sheet in 10 point type or larger. Contact the MSRB at (202) 838-1500 with questions regarding this form or the dissemination of this notice.**

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**APPENDIX XI**  
**FORM OF APPROVING OPINION OF BOND COUNSEL**

October 3, 2018  
Great Lakes Water Authority  
Counties of Macomb, Oakland and Wayne, Michigan

We have acted as bond counsel to the Great Lakes Water Authority, Counties of Macomb, Oakland and Wayne, Michigan (the “Issuer”) and in connection therewith have examined the law and certified copies of the proceedings and other documents relating to the issuance by the Issuer of its \$155,595,000 Water Supply System Revenue Refunding Second Lien Bonds, Series 2018A (the “Bonds”). The Bonds are dated October 3, 2018, are payable as to principal and interest as provided in the Bonds and are subject to redemption prior to maturity in the manner, at the times and at the prices specified in the Bonds.

The Bonds are issued pursuant to (i) Act 233, Public Acts of Michigan, 1955, as amended (“Act 233”), (ii) Act 94, Public Acts of Michigan, 1933, as amended (“Act 94”), (iii) Ordinance No. 2015-01 adopted by the Board of Directors of the Issuer on October 7, 2015, as amended (the “Bond Ordinance”), (iv) Ordinance No. 2018-02 adopted by the Board of Directors of the Issuer on August 8, 2018 (the “Series Ordinance”), and (v) a Sale Order of the Chief Executive Officer of the Issuer executed September 18, 2018 (the “Sale Order,” and together with the Bond Ordinance and the Series Ordinance, the “Ordinance”). Capitalized terms not otherwise defined herein shall have the meaning given such terms in the Bond Ordinance.

As to questions of fact material to our opinion, we have relied upon certified proceedings and other certificates of public officials furnished to us without undertaking to verify the same by an independent investigation.

Based on the foregoing, we are of the opinion that, under existing law:

1. The Issuer is duly organized and validly existing as a municipal authority and public body corporate under Act 233.
2. The Bond Ordinance and the Series Ordinance have been duly and lawfully adopted by the Issuer and the Sale Order has been duly executed by the Chief Executive Officer of the Issuer, and each of the Bond Ordinance, the Series Ordinance and the Sale Order is in full force and effect and is valid and binding upon the Issuer and enforceable in accordance with its terms.
3. The Bonds have been duly authorized, executed and delivered by the Issuer and are valid and legally binding obligations of the Issuer, secured by and payable solely from the Pledged Assets, which includes a pledge of the Net Revenues of the Water System.
4. Pursuant to Act 94, the Ordinance creates a valid statutory lien on the Pledged Assets as security for payment of the principal of and interest on the Bonds, on a senior lien basis, parity lien basis or junior lien basis with other bonds previously issued, currently being issued and to be issued hereafter, as described in the Bonds.
5. The Bonds and the interest thereon are exempt from taxation by the State of Michigan or by any taxing authority within the State of Michigan, except estate taxes and taxes on gains realized from the sale, payment or other disposition thereof.

6. The interest on the Bonds is excluded from gross income for federal income tax purposes. Interest on the Bonds is not an item of tax preference for purposes of the individual federal alternative minimum tax (“AMT”); however, during tax years beginning before January 1, 2018, interest on the Bonds held by a corporation (other than an S corporation, regulated investment company, or real estate investment trust) may be indirectly subject to federal AMT because of its inclusion in the adjusted current earnings of a corporate holder. The opinion set forth in the first sentence of this paragraph is subject to the condition that the Issuer comply with all requirements of the Internal Revenue Code of 1986, as amended (the “Code”), that must be satisfied subsequent to the issuance of the Bonds in order that interest thereon be (or continue to be) excluded from gross income for federal income tax purposes. Failure to comply with certain of such requirements could cause the interest on the Bonds to be so included in gross income retroactive to the date of issuance of the Bonds. The Issuer has covenanted to comply with all such requirements. We express no opinion regarding other federal tax consequences arising with respect to the Bonds.

It is understood that the rights of the holders of the Bonds and the enforceability thereof may be subject to bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights heretofore or hereafter enacted to the extent constitutionally applicable and that their enforcement may also be subject to the exercise of judicial discretion in appropriate cases.

This opinion is given as of the date hereof, and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention, or any changes in law that may hereafter occur.

Respectfully submitted,

## **APPENDIX XII**

### **BOOK-ENTRY ONLY SYSTEM**

#### **Book-Entry-Only System**

The information in this Appendix “Book-Entry-Only System” has been furnished by The Depository Trust Company (“DTC”). No representation is made by the Authority, the State, the Trustee or the Underwriters as to the completeness or accuracy of such information or as to the absence of material adverse changes in such information subsequent to the date hereof. No attempt has been made by the Authority, the State, the Trustee or the Underwriters to determine whether DTC is or will be financially or otherwise capable of fulfilling its obligations. Neither the Authority, the State nor the Trustee will have any responsibility or obligation to DTC Direct Participants, Indirect Participants (both as defined below) or the persons for which they act as nominees with respect to the Series 2018 Bonds, or for any principal, premium, if any, or interest payment thereof.

DTC will act as securities depository for the Series 2018 Bonds. The Series 2018 Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered certificate will be issued for each maturity of each Type of the Series 2018 Bonds, in the aggregate principal amount of such maturity, and will be deposited with DTC.

DTC, the world’s largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC’s participants (“Direct Participants”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“Indirect Participants”). DTC has a Standard & Poor’s rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com).

Purchases of the Series 2018 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 2018 Bonds on DTC’s records. The ownership interest of each actual purchaser of each Series 2018 Bond (“Beneficial Owner”) is in turn to be recorded on the Direct and Indirect Participants’ records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and

Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interest in the Series 2018 Bonds, except in the event that use of the book-entry system for the Series 2018 Bonds is discontinued.

To facilitate subsequent transfers, all Series 2018 Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Series 2018 Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not affect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series 2018 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series 2018 Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the Series 2018 Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Series 2018 Bonds, such as redemptions, tenders, defaults, and proposed amendments to the Security documents. For example, Beneficial Owners of Series 2018 Bonds may wish to ascertain that the nominee holding the Series 2018 Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of the notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the Series 2018 Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Series 2018 Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Authority as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Series 2018 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on the Series 2018 Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participant's accounts upon DTC's receipt of funds and corresponding detail information from the Authority or Trustee, on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC (nor its nominee), the Trustee, or the Authority, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Authority or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the Series 2018 Bonds at any time by giving reasonable notice to the Authority or Trustee. Under such

circumstances, in the event that a successor securities depository is not obtained, Series 2018 Bond certificates are required to be printed and delivered.

The Authority may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, Series 2018 Bond certificates will be printed and delivered.

The information in this section concerning DTC and DTC's book-entry-only system has been obtained from sources that the Authority believes to be reliable, but neither the Authority nor the Underwriters take any responsibility for the accuracy thereof. The Authority and the Underwriters cannot and do not give any assurances that DTC, the Direct and Indirect Participants or others will distribute payments of principal and interest with respect to the Series 2018 Bonds paid to Cede & Co. or another DTC nominee as the Owner, or will distribute any redemption or other notices to the Beneficial Owners, or that they will do so on a timely basis or will serve and act in the manner described in this Official Statement. The Authority and the Underwriters are not responsible or liable for the failure of DTC or any Participant to make any payment or give any notice to a Beneficial Owner with respect to the Series 2018 Bonds or an error or delay relating thereto.

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