

FINAL OFFICIAL STATEMENT DATED APRIL 15, 2020

NEW ISSUE - BOOK ENTRY ONLY
Non-Bank Qualified

RATINGS: Fitch "AAA"
Moody's "Aa1"
S&P Global "AA+"
(See "RATINGS" herein)

In the opinion of Foley & Lardner LLP and MWH Law Group LLP, Co-Bond Counsel, under existing law and assuming continued compliance with the requirements of the Internal Revenue Code of 1986, as amended (the "Code"), interest on the Obligations is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individual taxpayers. The District will NOT designate the Obligations as "qualified tax-exempt obligations" for purposes of Section 265(b)(3) of the Code. See "TAX EXEMPTION" herein for a more detailed discussion of some of the federal income tax consequences of owning the Obligations. Interest on the Obligations is not exempt from current State of Wisconsin income or franchise taxes.



\$80,000,000
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT, WISCONSIN
General Obligation Sewerage System Bonds, Series 2020A
(Green Bonds – Climate Bond Certified)

Dated: April 30, 2020


Due: October 1, as shown on inside cover

The \$80,000,000 General Obligation Sewerage System Bonds, Series 2020A (Green Bonds - Climate Bond Certified) (the "Obligations") will be dated the date of issuance and will mature on October 1 as shown on the inside front cover of this Official Statement. Interest will be payable on each April 1 and October 1, beginning on October 1, 2020. U.S. Bank National Association will serve as paying agent for the Obligations.

The proceeds of the Obligations will be used to finance portions of the District's capital budget for the years 2019, 2020 and 2021, which includes the acquisition, leasing, planning, design, construction, development, extension, enlargement, renovation, rebuilding, or improvement of land, waters, property, highways, buildings, equipment, or facilities relating to the sewerage system of the District. (See "THE RESOLUTIONS" herein.)

The Obligations maturing on and after October 1, 2030 are subject to redemption before their stated maturity dates, at the District's option, in whole or in part, in the order of maturity selected by the District, on October 1, 2029 and on any date thereafter. The redemption price will be 100% of the principal amount redeemed, plus accrued interest to the redemption date, and no premium will be paid. (See "REDEMPTION PROVISIONS" herein.)

The Obligations are being issued pursuant to Chapter 67 and Section 200.55(2) of the Wisconsin Statutes and will be general obligations of the District for which its full faith and credit and unlimited taxing powers are pledged. The District has levied a direct, irrevocable tax on all taxable property within the District sufficient to pay the interest on the Obligations as it falls due and to pay the principal thereof at maturity.

The Financial Advisor to the District is: 

The Obligations will be issued only as fully registered bonds and will be registered in the name of Cede & Co. as nominee of The Depository Trust Company, New York, New York ("DTC"). DTC will act as the securities depository of the Obligations. Individual purchases will be made in book-entry form only in denominations of \$5,000 principal amount or any multiple thereof. Purchasers of the Obligations will not receive certificates representing their interest in the Obligations purchased. (See "BOOK-ENTRY-ONLY SYSTEM" herein.)

The Obligations are offered when, as and if issued by the District and accepted by the Underwriters. The Obligations are also subject to the approval of legality by Foley & Lardner LLP and MWH Law Group LLP, Co-Bond Counsel. It is expected that delivery of the Obligations in book-entry form will be made through the facilities of DTC on or about April 30, 2020.

\$80,000,000
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT, WISCONSIN
General Obligation Sewerage System Bonds, Series 2020A
(Green Bonds – Climate Bond Certified)

MATURITY SCHEDULE

<u>Maturity (October 1)</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Yield</u>	<u>CUSIP⁽¹⁾ Base 602409</u>
2021	\$5,265,000	2.000%	0.880%	KV5
2022	3,875,000	3.000	0.900	KW3
2023	2,700,000	3.000	0.920	KX1
2024	2,940,000	4.000	0.930	KY9
2025	3,060,000	2.000	0.960	KZ6
2026	3,180,000	4.000	1.000	LA0
2027	3,310,000	4.000	1.050	LB8
2028	3,440,000	4.000	1.110	LC6
2029	3,580,000	4.000	1.190	LD4
2030	3,725,000	4.000	1.340	LE2
2031	3,880,000	4.000	1.520	LF9
2032	4,005,000	3.000	1.840	LG7
2033	4,135,000	3.000	1.990	LH5
2034	4,270,000	3.000	2.050	LJ1
2035	4,410,000	3.000	2.120	LK8
2036	4,555,000	3.000	2.200	LL6
2037	4,700,000	2.500	2.510	LM4
2038	4,855,000	2.500	2.550	LN2
2039	4,990,000	2.500	2.590	LP7
2040	5,125,000	2.625	2.630	LQ5

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MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
Milwaukee, Ozaukee, Washington and Waukesha Counties, Wisconsin

COMMISSIONERS

Dan Devine, Chairperson
Eugene Manzanet, Vice Chairperson
Tim Carpenter, Commissioner
Kathy Ehley, Commissioner
Cavalier Johnson, Commissioner
LaTonya Johnson, Commissioner
Bryan Kennedy, Commissioner
Kris Martinsek, Commissioner
Jeff Stone, Commissioner
John Swan III, Commissioner
Corey Zetts, Commissioner

DISTRICT STAFF

Kevin L. Shafer, P.E., Executive Director
Katherine Lazarski, Director of Legal Services
Anna Kettlewell, Commission Secretary/Executive Administrator
Michael J. Martin, P.E., Director of Technical Services
Mickie Pearsall, Director of Finance/Treasurer

PROFESSIONAL SERVICES

Financial Advisor: Robert W. Baird & Co. Incorporated, Milwaukee, Wisconsin
Co-Bond Counsel: Foley & Lardner LLP and MWH Law Group LLP
Paying Agent: U.S. Bank National Association
Green Bonds Verification: Kestrel Verifiers

REGARDING USE OF THIS OFFICIAL STATEMENT

This Official Statement is being distributed in connection with the sale of the Obligations referred to in this Official Statement and may not be used, in whole or in part, for any other purpose. No dealer, broker, salesman or other person is authorized to make any representations concerning the Obligations other than those contained in this Official Statement, and if given or made, such other information or representations may not be relied upon as statements of the Milwaukee Metropolitan Sewerage District, Wisconsin (the "District"). 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 Obligations by any person in any jurisdiction in which it is unlawful to make such an offer, solicitation or sale.

Unless otherwise indicated, the District is the source of the information contained in this Official Statement. Certain information in this Official Statement has been obtained by the District or on its behalf from The Depository Trust Company and other non-District sources that the District believes to be reliable. No representation or warranty is made, however, as to the accuracy or completeness of such information. Nothing contained in this Official Statement is a promise of or representation by Robert W. Baird & Co. Incorporated (the "Financial Advisor"). The Financial Advisor has provided the following sentence for inclusion in this Official Statement. The Financial Advisor and 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 this transaction, but the Financial Advisor and the Underwriters do not guarantee the accuracy or completeness of such information. The information and opinions expressed in this Official Statement are subject to change without notice. Neither the delivery of this Official Statement nor any sale made under this Official Statement shall, under any circumstances, create any implication that there has been no change in the financial condition or operations of the District or other information in this Official Statement, since the date of this Official Statement.

This Official Statement contains statements that are "forward-looking statements" as that term is defined in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. When used in this Official Statement, the words "estimate," "intend," "project" or "projection," "expect" and similar expressions are intended to identify forward-looking statements. Forward-looking statements are subject to risks and uncertainties, some of which are discussed herein, that could cause actual results to differ materially from those contemplated in such forward-looking statements. See, in particular, the discussion under the caption "GLOBAL HEALTH EMERGENCY RISK". Investors and prospective investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date of this Official Statement.

This Official Statement should be considered in its entirety. No one factor should be considered more or less important than any other by reason of its position in this Official Statement. Where statutes, ordinances, reports or other documents are referred to in this Official Statement, reference should be made to those documents for more complete information regarding their subject matter.

The Obligations will not be registered under the Securities Act of 1933, as amended, or the securities laws of any state of the United States and will not be listed on any stock or other securities exchange. Neither the Securities and Exchange Commission nor any other federal, state, municipal or other governmental entity shall have passed upon the accuracy or adequacy of this Official Statement.

IN CONNECTION WITH THE OFFERING OF THE OBLIGATIONS, THE UNDERWRITERS MAY OR MAY NOT OVERALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICES OF THE OBLIGATIONS AT LEVELS ABOVE THOSE WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME WITHOUT NOTICE. THE PRICES AND OTHER TERMS RESPECTING THE OFFERING AND SALE OF THE OBLIGATIONS MAY BE CHANGED FROM TIME TO TIME BY THE UNDERWRITERS AFTER THE OBLIGATIONS ARE RELEASED FOR SALE AND THE OBLIGATIONS MAY BE OFFERED AND SOLD AT PRICES OTHER THAN THE INITIAL OFFERING PRICES, INCLUDING SALES TO DEALERS WHO MAY SELL THE OBLIGATIONS INTO INVESTMENT ACCOUNTS.

TABLE OF CONTENTS

	<u>Page</u>
MATURITY SCHEDULE.....	2
COMMISSIONERS.....	3
DISTRICT STAFF.....	3
PROFESSIONAL SERVICES.....	3
REGARDING THE USE OF THIS OFFICIAL STATEMENT.....	4
SUMMARY.....	6
INTRODUCTORY STATEMENT.....	7
SECURITY.....	7
MATURITY AND INTEREST RATES.....	7
REDEMPTION PROVISIONS.....	7
DESIGNATION OF THE BONDS AS GREEN BONDS – CLIMATE BOND CERTIFIED.....	8
ESTIMATED SOURCES & USES.....	8
CONSTITUTIONAL AND STATUTORY CONSIDERATIONS AND LIMITATIONS CONCERNING THE DISTRICT’S POWER TO INCUR INDEBTEDNESS.....	9
THE RESOLUTIONS.....	10
THE MILWAUKEE METROPOLITAN SEWERAGE DISTRICT.....	11
General.....	11
Legal Boundary.....	11
Service Area.....	11
Service Responsibilities and Powers.....	11
Governance.....	12
Management.....	13
Employee Relations.....	13
Retirement System.....	13
Other Post Employment Benefits.....	14
Financial Powers.....	14
Insurance.....	15
OPERATING CONTRACT.....	16
THE EXISTING SEWERAGE FACILITIES.....	16
CAPITAL IMPROVEMENTS PROGRAM 2020-2025.....	18
LONG-RANGE FINANCING PLAN 2020-2025.....	20
ADOPTED 2020 CAPITAL BUDGET- LONG-RANGE FINANCING PLAN IN \$000-(Six Year Capital Improvements Program).....	22
OPERATION AND MAINTENANCE LONG RANGE FORECAST.....	23
Historical Sewer User Charges.....	24
Ten Largest Sewer Users.....	25
Sewer User Rate Charges.....	25
TAX LEVIES.....	26
EQUALIZED VALUATIONS.....	26
DEMOGRAPHIC AND ECONOMIC INFORMATION.....	27
Population.....	27
Per Return Adjusted Gross Income.....	27
Unemployment Rates.....	28
Largest Employers in the Milwaukee Metropolitan Area.....	28
Ten Largest Taxpayers.....	29
INDEBTEDNESS OF THE DISTRICT.....	30
Overlapping Indebtedness.....	31
Future Financing.....	31
Default Record.....	31
Statistical Summary.....	32
Debt Limit.....	32
FINANCIAL RECORDS.....	33
FINANCIAL ADVISOR.....	33
UNDERWRITING.....	33
RATINGS.....	33
TAX EXEMPTION.....	34
NO DESIGNATION AS QUALIFIED TAX-EXEMPT OBLIGATIONS.....	35
BOOK-ENTRY-ONLY SYSTEM.....	35
CONTINUING DISCLOSURE.....	37
LITIGATION AND REGULATORY PROCEEDINGS.....	37
GLOBAL HEALTH EMERGENCY RISK.....	38
MUNICIPAL BANKRUPTCY.....	39
MISCELLANEOUS.....	39
AUTHORIZATION.....	40

Appendix A: Basic Financial Statements and Related Notes for the year ended December 31, 2018

Appendix B: Form of Legal Opinions

Appendix C: Form of Continuing Disclosure Agreement

Appendix D: Verifier’s Report

SUMMARY

District:	Milwaukee Metropolitan Sewerage District, Wisconsin (the "District").
Issue:	\$80,000,000 General Obligation Sewerage System Bonds, Series 2020A (Green Bonds - Climate Bond Certified).
Dated Date:	April 30, 2020.
Interest Due:	Each April 1 and October 1, beginning on October 1, 2020. Interest on the Obligations will be computed on the basis of a 30-day month and a 360-day year.
Principal Due:	October 1, 2021 through 2040.
Denominations:	\$5,000 or multiples thereof.
Redemption Provisions:	<p>The Obligations maturing on and after October 1, 2030 are subject to redemption before their stated maturity dates, at the District's option, in whole or in part, in the order of maturity selected by the District, on October 1, 2029 and on any date thereafter. The redemption price will be 100% of the principal amount redeemed, plus accrued interest to the redemption date, and no premium will be paid.</p> <p>Notice of redemption shall be sent in the manner required by DTC, not less than 30 days and not more than 60 days prior to the date fixed for redemption to DTC as registered owner of the Obligations to be redeemed at the address shown on the registration books of the paying agent. (See "REDEMPTION PROVISIONS" herein.)</p>
Security:	The full faith and credit of the District are pledged to the payment of the principal of and the interest on the Obligations as the same become due. All taxable property within the District is subject to ad valorem taxation without limitation as to rate or amount to provide for such payment; and for said purposes, there has been levied on all the taxable property in the District, direct, annual irrevocable taxes in each year and in such amounts which will be sufficient to meet such principal and interest payments when due.
Credit Ratings:	The District has received ratings on this issue of "AAA", "Aa1" and "AA+" from Fitch Ratings, Moody's Investors Service, Inc. and S&P Global Ratings, respectively. (See "RATINGS" herein.)
Purpose:	The proceeds of the Obligations will be used to finance portions of the District's capital budget for the years 2019, 2020 and 2021, including the acquisition, leasing, planning, design, construction, development, extension, enlargement, renovation, rebuilding, or improvement of land, waters, property, highways, buildings, equipment, or facilities relating to the sewerage system of the District. (See "THE RESOLUTIONS" herein.)
Authority for Issuance:	The District has authorized the sale and issuance of the Obligations in accordance with the provisions of Chapter 67 and Section 200.55(2) of the Wisconsin Statutes. (See "THE RESOLUTIONS" herein.)
Form of Issuance:	The Obligations will be issued in Book-Entry-Only form, fully registered in the name of Cede & Co., as nominee of DTC, which will act as the securities depository of the Obligations. (See "BOOK-ENTRY-ONLY SYSTEM" herein.)
Tax Status:	Interest on the Obligations is excluded from gross income for federal income tax purposes. Interest on the Obligations is not exempt from current State of Wisconsin income or franchise taxes. (See "TAX EXEMPTION" herein.)
Designation as Green Bonds:	The District has designated the Obligations as "Green Bonds". (See "DESIGNATION OF THE BONDS AS GREEN BONDS – CLIMATE BOND CERTIFIED" herein.)
Delivery Date:	Delivery will be on or about April 30, 2020 at the expense of the District through the facilities of DTC.
Record Date:	The 15th day of the calendar month next preceding each interest payment date.
Bond Years:	928,875.56 years.
Average Life:	11.611 years.

Information set forth on this page is qualified by the entire Official Statement. A full review of the entire Official Statement should be made by potential investors.

INTRODUCTORY STATEMENT

This Official Statement presents certain information relating to the Milwaukee Metropolitan Sewerage District, Wisconsin (the "District") in connection with the sale of the District's \$80,000,000 General Obligation Sewerage System Bonds, Series 2020A (Green Bonds - Climate Bond Certified) (the "Obligations"). The Obligations are being issued pursuant to the Constitution and laws of the State of Wisconsin (the "State"), initial and award resolutions (the "Resolutions") adopted by the Milwaukee Metropolitan Sewerage Commission (the "Commission"), and other proceedings and determinations related thereto.

Upon the issuance of the Obligations, the total outstanding amount of general obligation debt of the District will be \$831,875,267, consisting of \$342,395,000 principal amount of publicly sold general obligation bonds and promissory notes and \$489,480,267 principal amount of general obligation promissory notes sold to the State of Wisconsin Clean Water Fund loan program.

All summaries of statutes, documents, and resolutions contained in this Official Statement are subject to all the provisions of, and are qualified in their entirety by reference to, such statutes, documents, and resolutions (including the Resolutions), and references herein to the Obligations are qualified in their entirety by reference to the form thereof included in the Award Resolution (defined herein). (See "THE RESOLUTIONS" herein.) Copies of the Resolutions may be obtained from the Financial Advisor (defined herein) upon request.

SECURITY

The full faith and credit of the District are pledged to the payment of the principal of and the interest on the Obligations as the same become due. All taxable property within the District is subject to ad valorem taxation, without limitation as to rate or amounts, to provide for such payment, and for said purposes there has been levied on all the taxable property in the District, direct annual irrevocable taxes in each year and in such amounts as will be sufficient to meet such principal and interest payments when due.

MATURITY AND INTEREST RATES

The Obligations are to be dated April 30, 2020 and will bear interest from that date at the rates, and shall mature each October 1 in the amounts, as set forth on the inside front cover of this Official Statement. Interest on the Obligations will be payable on each April 1 and October 1, beginning on October 1, 2020, and will be calculated on the basis of a 360-day year of twelve 30-day months.

REDEMPTION PROVISIONS

Optional Redemption

The Obligations maturing on and after October 1, 2030 are subject to redemption before their stated maturity dates, at the District's option, in whole or in part, in the order of maturity selected by the District, on October 1, 2029 and on any date thereafter. The redemption price will be 100% of the principal amount redeemed, plus accrued interest to the redemption date, and no premium will be paid. If less than all outstanding Obligations are redeemed, then the Obligations will be redeemed in \$5,000 multiples.

DESIGNATION OF THE BONDS AS GREEN BONDS – CLIMATE BOND CERTIFIED

The information set forth below concerning the Climate Bonds Initiative (“CBI”) and the process for obtaining certification of the Bonds as “Climate Bond Certified” has been extracted from materials provided by CBI and Kestrel Verifiers. Additional information relating to CBI and the certification process can be found at www.climatebonds.net. The CBI website is included for reference only and the information contained therein is not incorporated by reference in this Official Statement.

CBI is an independent, not-for-profit organization that works solely on mobilizing the bond market for climate change solutions. CBI has established a certification program that provides criteria for eligible projects to be considered a Certified Climate Bond. The CBI certification program is used globally by bond issuers, governments, and investors to prioritize investments which genuinely contribute to addressing climate change. CBI’s criteria are designed to ensure that financed activities are consistent with the 2 degrees Celsius warming limit established in the 2016 Paris Agreement, which exists within the United Nations Framework Convention on Climate Change, to address greenhouse-gas-emissions mitigation, adaptation, and finance.

In order to receive the CBI certification, the District engaged Kestrel Verifiers, a third-party, CBI-approved verifier, to provide verification to the CBI Certification Board that the Bonds meet the CBI standards and relevant sector criteria. Kestrel Verifiers reviewed information provided by the District, and provided its verification to CBI, and CBI certified the Bonds as Climate Bonds on February 18th, 2020. CBI has not independently verified such information or undertaken any independent evaluation of the Project or the District. Kestrel Verifiers will also provide a post-issuance report to CBI as to whether the proceeds of the Bonds have been applied in a manner consistent with the certification. Further information concerning the verification process is included in Kestrel Verifiers’ verification report, which is attached to this Official Statement as Appendix D.

The terms “Green Bonds” and “Climate Bond Certified” are solely for identification purposes and do not reflect or give rise to any additional rights of the owners of the Bonds. The certification of the Bonds as Climate Bonds is based solely on CBI’s Climate Bonds Standard & Certification Scheme and does not address any other matter relating to the Bonds or the Project. It is not a recommendation to any person to purchase, hold or sell the Bonds and does not address the suitability of the Bonds for a particular investor. The certification also does not address the merits of the decision by the District to undertake the Project, and does not represent an expression of an opinion as to the District or any aspect of the Project, other than with respect to conformance with CBI’s standards for Certified Climate Bonds.

The CBI certification is addressed solely to the Commission and may be withdrawn at any time in the CBI’s sole discretion, and there can be no assurance that such certification will not be withdrawn.

ESTIMATED SOURCES AND USES

Sources of Funds

Par Amount of the Obligations	\$80,000,000.00
Net Reoffering Premium	7,342,953.40
TOTAL SOURCES OF FUNDS	\$87,342,953.40

Uses of Funds

Deposit to Borrowed Money Fund	\$79,761,700.00
Bid Premium for Deposit to Debt Service Fund Account	7,184,243.88
Costs of Issuance (including Underwriters’ Discount)	397,009.52
TOTAL USES OF FUNDS	\$87,342,953.40

CONSTITUTIONAL AND STATUTORY CONSIDERATIONS AND LIMITATIONS CONCERNING THE DISTRICT'S POWER TO INCUR INDEBTEDNESS

The Constitution and laws of the State limit the power of the District (and other municipal corporations of the State) to issue obligations and to incur indebtedness. Such constitutional and legislative limitations include the following, in summary form and as generally applicable to the District.

Purpose

The Constitution of the State and legislation enacted pursuant thereto authorize the District (and other municipal corporations of the State) to borrow money and issue bonds and notes for purposes specified by statute, including the purposes for which the Obligations are being issued.

General Obligation Bonds

The District is authorized to borrow money through the issuance of general obligation bonds. The bonds must be payable within a period not exceeding fifty years following the date of issuance of the bonds. Projects that may be financed with general obligation bonds include the acquisition, leasing, planning, design, construction, development, enlargement, renovation, rebuilding, repair or improvement of land, waters, property, highways, buildings, equipment or facilities for public purposes.

Such bonds constitute a general obligation of the District for which the Commission is required to levy direct, annual, irrevocable taxes sufficient in amount to pay the interest on such bonds as it falls due and also to pay and discharge the principal thereof at maturity.

Issuance of bonds and promissory notes requires a vote of at least two-thirds of all Commissioners, except in the case of bond anticipation notes, which requires a vote of three-fourths of all Commissioners.

General Obligation Promissory Notes

The District is also authorized to borrow money for any public purpose through the issuance of general obligation promissory notes. The promissory notes must be payable within a period not exceeding twenty years following the date of issuance of any such notes issued to pay for a portion of the District's capital costs, and otherwise within a period not exceeding ten years following the date of any such notes.

Promissory notes constitute a general obligation of the District for which the Commission is required to levy direct, annual, irrevocable taxes sufficient in amount to pay the interest on such notes as it falls due and also to pay and discharge the principal thereof at maturity. Promissory notes may be issued to refund outstanding notes and shall be paid within ten years after the original date of the refunding note and within twenty years after the date of the original promissory note.

Refunding Bonds

The District is authorized to borrow money through the issuance of refunding bonds for refunding existing debt. Such refunding bonds must be payable within a period not exceeding fifty years from the date of issuance of the debt to be refunded. Such refunding bonds constitute a general obligation of the District.

Revenue Bonds

The District has the authority to borrow money for the acquisition, construction, improvement, operation and maintenance of its sewerage system through the issuance of utility revenue bonds, secured by the revenues derived from the operation of the system. The revenue bonds must be payable within a period not exceeding fifty years from the date of issuance of the bonds. The District is also authorized to levy taxes to provide for the payment of debt service on its revenue bonds. Revenue bonds are not general obligations of the District, and are not considered indebtedness within the meaning of the constitutional and statutory debt limits nor a charge against its general credit or taxing power.

Bond Anticipation Notes

In anticipation of issuing general obligation bonds or promissory notes, the District is authorized to borrow money using bond anticipation notes. Unless the District expressly levies a tax to pay principal and interest on the bond anticipation notes (which it is not required to do), the bond anticipation notes are not general obligations of the District and do not constitute an indebtedness of the District nor a charge against its general credit or taxing power. The bond anticipation notes are payable only from (a) proceeds of the bond anticipation notes set aside for payment of interest on the bond anticipation notes as they become due and (b) proceeds to be derived from the issuance and sale of general obligation bonds or promissory notes, which proceeds are pledged for the payment of the principal of and interest on the bond anticipation notes.

Debt Limit

The District has the power to incur indebtedness for purposes specified by statute so long as the principal amount thereof does not exceed five percent of the equalized valuation of taxable property within the District. For information with respect to the District's percent of legal debt incurred, see the caption "INDEBTEDNESS OF THE DISTRICT - Debt Limit".

THE RESOLUTIONS

The following is a summary of certain provisions of the Resolutions adopted by the District pursuant to the procedures prescribed by Wisconsin Statutes. Reference is made to the Resolutions for a complete recital of their terms.

The Initial Resolution

By adoption of an initial resolution on December 16, 2019 (the "Initial Resolution"), the Commission authorized the sale and issuance of general obligation bonds or promissory notes in a principal amount not to exceed \$80,000,000 for the purpose or purposes of financing portions of the District's capital budget for the years 2019, 2020 and 2021, which includes, the acquisition, leasing, planning, design, construction, development, extension, enlargement, renovation, rebuilding, or improvement of land, waters, property, highways, buildings, equipment, or facilities relating to the sewerage system of the District (collectively, the "Project").

The Award Resolution

By adoption of a resolution on April 15, 2020 (the "Award Resolution"), the Commission accepted the bid for the purchase of the Obligations submitted by the bidder whose bid for the Obligations resulted in the lowest true interest cost. The Award Resolution also provided the details and form of the Obligations, and set out certain covenants with respect thereto. The Award Resolution pledges the full faith and credit of the District to the payment of the principal of and interest on the Obligations. Pursuant to the Award Resolution, direct, annual, irrevocable taxes will be levied for collection in the years 2020 through 2040 in amounts which will be sufficient to pay the principal and interest on the Obligations when due (or monies to pay such debt service will otherwise be appropriated). The Award Resolution requires that the District keep the proceeds of the taxes levied for the payment of and interest on the Obligations in an account for the Obligations within its debt service fund, and that the District must maintain its debt service fund in accordance with Section 67.11 of the Wisconsin Statutes.

THE MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

General

The District is a special purpose municipal corporation organized under the laws of the State. The District has authority to levy taxes within its corporate boundary and to impose user charges within its entire service area. The District also has authority to issue its own debt. The District was created in 1982 by the reorganization of the prior sewerage district that operated the system, but which was financed by Milwaukee County.

Legal Boundary

The District's legal boundary presently includes all of Milwaukee County with the exclusion of the City of South Milwaukee. The legal boundary also includes the portion of the Village of Bayside that is in Ozaukee County, and those portions of the City of Milwaukee that are in Waukesha and Washington Counties. The District may levy ad valorem property taxes from time to time on all taxable property within its legal boundary. All of the tax base of the following 18 cities and villages (District Members) is within the District's legal boundary:

<u>Cities</u>		<u>Villages</u>	
Cudahy	Oak Creek	Bayside	River Hills
Franklin	St. Francis	Brown Deer	Shorewood
Glendale	Wauwatosa	Fox Point	West Milwaukee
Greenfield	West Allis	Greendale	Whitefish Bay
Milwaukee		Hales Corners	

Pursuant to Sections 200.21 through 200.65 of the Wisconsin Statutes (the "Enabling Act"), the District is authorized to establish a new boundary. If the District exercises this authority, all areas likely to receive service from the District within 10 years must be included within the District's boundary without reference to the county border; however, local municipalities must consent to be included within the District boundary. Areas expected to receive District sewerage service not less than 10 years or more than 25 years from this time may be included in the District's boundary. The District must exclude from its boundary any area not likely to receive sewer service in the next 25 years.

Service Area

The District presently provides sewage treatment services for the 18 cities and villages within the District's legal boundary. In addition, the District is authorized under the Enabling Act to provide sewage treatment service to areas beyond its legal boundary but within the portion of the multi-county drainage basin delineated as part of the Water Quality Management Plan developed by the Southeastern Wisconsin Regional Planning Commission pursuant to Section 208 of the Federal Water Pollution Control Act Amendments of 1972. This service area includes all or parts of 10 municipalities outside Milwaukee County. District sewage treatment service is presently provided to all or parts of these 10 municipalities.

Service Responsibilities and Powers

The District is statutorily responsible for construction, operation and maintenance of its sewers, watercourse improvements and wastewater treatment plant facilities within its service area. The District possesses the right of eminent domain throughout Wisconsin for the acquisition of property needed for the purpose of projecting, planning, constructing and maintaining the Sewerage System. It has the authority to promulgate rules and regulations necessary and proper to promote the best operation of the system, protect its works, prevent damage to the sewerage system, prevent surcharging of sewers or interference with the treatment process, and attain state and federal pretreatment requirements. These rules and regulations apply throughout the territory served and have precedence over any conflicting ordinance, code or regulation. The District may issue special orders to attain compliance with its rules and regulations. It may issue special use permits.

Governance

The Milwaukee Metropolitan Sewerage Commission is the District's governing body and is composed of eleven members. Seven of the eleven members are appointees of the Mayor of the City of Milwaukee. Three of the appointees of the Mayor of the City of Milwaukee must be elected officials. Four of the eleven are appointees of a body composed of the elected executive officer of each city or village other than the City of Milwaukee within the District's boundary. Of these four appointees, three must be elected officials. All appointees have terms of three years, except the elected official appointees of the Mayor of the City of Milwaukee, who serve for one year. Commissioners are limited to serving no more than nine consecutive years. The Commission elects a chairperson and vice chairperson from its membership. Most major financing decisions of the District require an approving vote of two-thirds of all Commissioners.

The present members of the Commission and the expirations of their respective terms of office are as follows:

<u>District Commissioners</u>	<u>Expiration of Term</u>
Dan Devine, Chairperson <i>Mayor, City of West Allis</i>	July 2020
Eugene Manzanet, Vice Chairperson <i>Senior Vice President of Community Lending, U.S Bank</i>	July 2020
Tim Carpenter, Commissioner <i>Wisconsin State Senator</i>	July 2020
Kathy Ehley, Commissioner <i>Mayor, City of Wauwatosa</i>	July 2022
Cavalier Johnson, Commissioner <i>Alderman, City of Milwaukee</i>	July 2020
LaTonya Johnson, Commissioner <i>Wisconsin State Senator</i>	July 2020
Bryan Kennedy, Commissioner <i>Mayor, City of Glendale</i>	July 2022
Kris Martinsek, Commissioner <i>Principal and owner of Martinsek & Associates</i>	July 2021
Jeff Stone, Commissioner <i>Senior Consultant, Kapur & Associates Consulting Engineers</i>	July 2021
John Swan III, Commissioner <i>Business Agent, Local 113</i>	July 2022
Corey Zetts, Commissioner <i>Executive Director, Menomonee Valley Partners</i>	July 2020

Source: The District.

Management

The Commission appoints an executive director, a secretary and a treasurer. The executive director reports directly to the Commission. The district treasurer, the director of legal services and the secretary report to the executive director. The principal executive staff of the District includes:

<u>Name</u>	<u>Title</u>
Kevin L. Shafer, P.E.	Executive Director
Katherine Lazarski	Director of Legal Services
Anna Kettlewell	Commission Secretary/Executive Administrator
Michael J. Martin, P.E.	Director of Technical Services
Mickie Pearsall	Director of Finance/Treasurer

Source: *The District*.

Employee Relations

As of December 31, 2019, the District employed 226 people.

<u>Department</u>	<u>Number of Employees</u>
Administrative	102
Engineering and Planning	63
Monitoring and Laboratory	61
TOTAL	226

As of December 31, 2019, the District had no employees covered by a labor agreement.

Source: *The District*.

Retirement System

All full-time and other eligible employees of the District are members of the Employees' Retirement System of the City of Milwaukee (the "Retirement System"), a cost-sharing, multiple-employer, defined-benefit pension plan. The Retirement System covers active or deferred employees from the City of Milwaukee and certain other governmental units, including the District. The City of Milwaukee Annuity and Pension Board (the "Retirement Board") governs the Retirement System. The Retirement Board serves as a fiduciary with respect to the members and beneficiaries of the Retirement System.

The Retirement System issues publicly available financial reports and actuarial valuation reports that include financial statements and required supplementary information. Those reports may be viewed at the Retirement System's website, as follows: <http://www.cmers.com/News-and-Information.htm>. Such information is prepared by the Retirement System and not by the District, and no such information is incorporated herein by this reference.

Retirement System members are required by charter ordinance of the City of Milwaukee to contribute either 4% or 5.5%, depending on hire date, of their salary or wages to the Retirement System. From 1970 through 2010, the District made such contributions to the Retirement System on behalf of its covered employees. Effective October of 2011, the District's management and non-represented employees began to make the 5.5% employee contributions. The District's represented employees were not required to begin the contributions at that time, because they were covered by a labor agreement that expired on April 30, 2012; thus their contribution payments began May 1, 2012. The District is now prohibited from making such contributions on behalf of covered employees. For the year ended December 31, 2019, the District employee contributions totaled \$981,650 and the District contributed an additional \$1,571,289 toward funding the Retirement System in order to meet 2019 funding requirements of the Retirement System for maintenance of plan assets.

The latest actuarial valuation of the Retirement System was completed by Cavanaugh Macdonald Consulting, LLC in June 2019 with an actuarial valuation date of January 1, 2019 (the "Actuarial Report"). In accordance GASB Statement No.68, Accounting and Financial Reporting for Pensions, as shown in the Actuarial Report, as of January 1, 2019, the total Retirement System fiduciary net position was \$4,950,881,000 and the total pension liability was \$6,400,901,000 resulting in a fiduciary net position as a percentage of total pension liability of 77.35% and a total net pension liability of \$1,450,020,000. The District's portion of the net pension liability as of January 1, 2019 was \$189,581,000.

As of January 1, 2019, the valuation funding status of the total Retirement System using the actuarial value resulted in total assets valued at \$5,218,294,000 and total liabilities valued at \$6,400,901,000, with a funding ratio of 81.52% and an unfunded actuarial accrued liability of \$1,182,607,000.

Source: The District.

Other Post Employment Benefits

The District currently provides post-employment benefits (health and life insurance) for its employees who have retired and meet other negotiated criteria. The District has historically paid its Other Post-Employment Benefits ("OPEB") on a "pay-as-you-go" basis and has not established a fund for the payment of OPEB in future years.

Membership in the retiree health and life insurance plan as of December 31, 2018 included 754 participants, consisting of 500 retirees receiving benefits, 249 active plan members and 5 terminated vested participants. The District implemented GASB No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions, effective January 1, 2018. The cumulative effect of the change in net position due to the change in accounting standard is shown as a change in beginning net position for 2018. The prior year balances for deferred outflows of resources, deferred inflow of resources, and the total OPEB liability were not restated due to the measurement date used for the calculation of the balances and the timing of the information received by the plan. MWM Consulting Group (the "Actuary") was retained by the District for the purpose of determining the expense and liabilities reported on the District's financial statement for the fiscal year ended December 31, 2018.

The information summarized in the remainder of this section, below, is taken from the Actuary's report.

The District is required to expense the estimated yearly cost of providing post-retirement benefits representing a level of funding that, if paid on an ongoing basis, is projected to cover costs and amortize unfunded actuarial liabilities over a given period not to exceed 30 years. Such annual accrual expense is referred to as the "annual required contribution." As of January 1, 2017, the District's annual OPEB cost for the fiscal year ending December 31, 2017 is calculated based on the annual required contribution of the employer, an amount actuarially determined in accordance with parameters of GASB Statement No. 45. For fiscal year 2017, contributions to the retiree health and life insurance plan totaled \$6,484,000, which was 62.4% of the annual required contribution and 71.2% of the annual OPEB cost. The District's funding practice has been to fund the yearly amount of benefit premiums on a "pay-as-you-go" basis.

The plan's ratio of actuarial value of assets to actuarial accrued liability for benefits (the "Funded Ratio") as of the most recent actuarial valuation date, December 31, 2017, was 0%. As of December 31, 2017 the actuarial accrued liability was \$172,143,000.

For more information, See Note 11 in "Appendix A - Basic Financial Statements and Related Notes for the year ended December 31, 2018" attached hereto.

Financial Powers

The District has a range of financial powers to raise the funds for both its capital improvement programs and its operation and maintenance responsibilities. Major aspects of the District's financial powers are described below.

Authority to Levy Taxes

The District may levy ad valorem taxes upon the taxable property within the District's legal boundary for the following purposes:

1. To pay principal of and interest on bonds or promissory notes issued by the District;
2. To enhance the marketability of any revenue bonds that may be issued by the District; and
3. To acquire, extend, plan, design, construct, add to or improve land, waters, property or facilities for sewerage and drainage purposes.

In general, a tax levy requires a vote of at least two-thirds of all Commissioners; however, if resolutions authorizing full funding of the local share of the District's next year's capital budget are not adopted by the Commission by October 15 of any year, the Commission may, by a simple majority of all Commissioners, raise up to \$40 million by direct tax levy in addition to the amount of any irrevocable tax previously levied for principal and interest payments on District general obligation indebtedness.

Taxes are uniformly levied by the District on all taxable property within the District's boundary based upon the equalized value of the property. The District certifies the taxes to each municipality within its boundary. The local municipality bills the property owners in December for the taxes levied during that calendar year. Taxpayers may elect to pay real property taxes in two or more installments.

The various municipalities within the District's legal boundary initially collect District taxes together with local and school taxes. As collections are made, the local treasurer makes pro rata settlements with the District beginning on or before January 15 each year and monthly thereafter in the same priority as school districts and vocational, technical and adult education districts. All municipalities are required to turn over delinquent District taxes to the treasurer of the county in which such municipality is located by August 15 of each year. **The county treasurer must settle the taxes in full with the municipalities, which in turn settle with the District, by August 20 regardless of the actual collections.**

Authority to Borrow

As discussed above under "CONSTITUTIONAL AND STATUTORY CONSIDERATIONS AND LIMITATIONS CONCERNING THE DISTRICT'S POWER TO INCUR INDEBTEDNESS", the Enabling Act allows the District to finance capital improvements through the issuance of debt instruments, including:

1. General obligation bonds and promissory notes;
2. Bond anticipation notes; and
3. Revenue bonds, including revenue bonds to which the District may pledge tax levies or funds in its treasury.

Authority to Establish and Collect User Charges

Operating Expenses. District operating expenses are recovered from all District customers by a sewer service charge. The District bills each municipality within its service area based on waste strength, quantity, and number of connections of its users. The municipalities, in turn, directly bill their residential, commercial and industrial users. The municipalities are required to settle with the District within 45 days from the date the municipality receives the wholesale bill from the District regardless of collections. The District is authorized to assess a late fee. The District's user charge system has been approved by the United States Environmental Protection Agency ("EPA") and the Wisconsin Department of Natural Resources ("DNR"). Such approvals are conditions for grants and loans from these agencies.

Capital Expenses. The District is authorized under the Enabling Act to establish a user charge for capital improvement financing. At this time, only those parts of municipalities located outside the District's legal boundary pay capital charges pursuant to a service charge established by the District.

Review by Public Service Commission. The Enabling Act does not require the District's user charge rates to be approved annually by the Wisconsin Public Service Commission. However, the Enabling Act does provide the opportunity for a rate payer to challenge the District's user charge rates for operations and capital improvements in front of the Wisconsin Public Service Commission under certain circumstances.

Insurance

The District carries policies of insurance with respect to its property, vessels, equipment, and passenger and commercial vehicles (including comprehensive liability), environmental site liability, contractor's pollution liability, owner's professional liability, fiduciary liability, employment practices liability and workers' compensation. The District carries no insurance coverage for general liability, and self-insures for health benefits, subject to a stop-loss policy.

OPERATING CONTRACT

In 1998, the District entered into a 10-year agreement with United Water Services Milwaukee LLC to manage, operate, and maintain the District's two water reclamation plants, bio-solids management and field operations, with the District retaining ownership of the assets. Effective March 1, 2008, the District entered into a 10-year contract with Veolia Water Milwaukee, LLC ("Veolia") to manage those facilities and operations. In 2018, the contract was commenced for an additional 10-year period.

The District continues to operate its industrial waste pretreatment program; capital planning and engineering services; environmental laboratory, water quality monitoring and research; and Milorganite® sales, marketing and distribution with in-house staff. The District has an extensive contract compliance and oversight program established with respect to the contract with Veolia.

Veolia is compensated based on a fixed monthly fee, subject to adjustment based on a variety of factors, including Consumer Price Index changes, variations in flows and loads, completion by the District of certain capital projects that affect operating costs, and certain incentives based on cost savings generated by Veolia's management. Certain operation and maintenance expenses are also passed through to the District.

THE EXISTING SEWERAGE FACILITIES

Water Reclamation Facilities

The District has two water reclamation facilities, which are operated by Veolia under its contract with the District. The plants provide sewage treatment services for the 18 cities and villages within the District's legal boundary and to all or parts of 10 municipalities outside of Milwaukee County.

Jones Island Water Reclamation Facility

Located on a peninsula in the Milwaukee harbor, the Jones Island Water Reclamation Facility ("Jones Island") is the oldest operating activated sludge plant in the country. Because of its historic leadership in wastewater treatment, the facility has been designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers and has been placed on the National Register of Historic Places.

Jones Island was originally constructed in 1925 with a capacity of 85 million gallons per day (MGD). Expansions in 1935 and 1952 increased treatment capacity to 200 MGD. With the completion of the Water Pollution Abatement Program (WPAP) in 1994, the daily maximum design flow at Jones Island for secondary treatment is 300 MGD. The peak (hourly) design capacity for full treatment is 330 MGD; with an additional 60 MGD of combined sewer wet weather treatment, the maximum plant capacity is 390 MGD. Current average daily flows to the plant are approximately 112 MGD.

Wastewater treatment at Jones Island consists of preliminary and primary treatment, secondary treatment, phosphorus removal, disinfection and dechlorination. This includes screening, grit removal, primary settling, activated sludge stabilization, secondary settling and disinfection. Biosolids removed are used in the production of Milorganite®, an organic fertilizer.

South Shore Water Reclamation Facility

Located south of Jones Island in Oak Creek, the South Shore Water Reclamation Facility ("South Shore") was constructed in 1964 as a primary treatment facility with a capacity of 60 MGD. The plant was expanded in 1974 to include secondary treatment and phosphorus removal. The current design capacity of South Shore is 250 MGD Maximum Day and 300 MGD Peak Hour. Current average daily flows to the plant are approximately 100 MGD, mostly from the southern and western portions of the District's service area.

Wastewater treatment at South Shore consists of preliminary and primary treatment, secondary treatment, phosphorus removal, disinfection and dechlorination. This includes screening, grit removal, primary settling, activated sludge stabilization, secondary settling and disinfection.

Sludge generated by the South Shore treatment process is typically sent to the anaerobic digesters and then pumped through the approximately 12-mile long interplant pipeline to Jones Island for processing into Milorganite®. If the Milorganite process cannot accommodate all of the sludge from South Shore, the stabilized sludge is dewatered in the solids processing facilities and then applied to agricultural sites as an organic fertilizer or hauled to a landfill.

Interplant Solids Pipeline System

The Interplant Solids Pipeline (“ISP”) system is used to transport solids between Jones Island and South Shore to maximize production of Milorganite® and to maximize the production of digester gas. The ISP system consists of four pipes (two pipes at 12-inch diameter and two pipes at 14-inch diameter) approximately 12 miles long and other appurtenant equipment and structures.

Collection and Conveyance System

The District owns and operates an extensive system of sanitary sewers used to collect, convey, and in some cases, store wastewater originated by local sewer systems (“Collection and Conveyance System”). The local sewer systems are operated and maintained by the local municipalities within the District and those that contract with the District. Wastewater generated from households and businesses flows to the local systems, is collected by the District’s System and is conveyed to the District’s two water reclamation facilities.

Metropolitan Interceptor Sewer System

The purpose of the Metropolitan Interceptor Sewer (“MIS”) system is to intercept wastewater from local sanitary and combined sewer systems within the service area. Wastewater within the MIS system is subsequently conveyed to either the Jones Island or the South Shore water reclamation facilities.

The MIS system consists of 294 miles of sanitary and combined sewers, seven sanitary sewer pump stations, and eight bypass pump stations. The system is divided into seven drainage basin subsystems for purposes of flow monitoring analysis and system control. In the combined sewer area where both sanitary and storm water systems are combined, the drainage basin subsystem consists of a high-level and a low-level sewer system. The low-level system provides service to the low-lying areas along the Milwaukee, Menomonee and Kinnickinnic rivers. Flow in both high- and low-level systems is conveyed by gravity to either of two siphon chambers (East Erie Street or East Bruce Street) and is then conveyed via a double-barreled siphon to a wet well at Jones Island.

Flows in various portions of the separated sewer area can be diverted between the drainage basin subsystems for conveyance to either Jones Island or South Shore. Moreover, flows can be diverted to the Inline Storage System, a large underground storage facility (the “Deep Tunnel”). Diversion of flow between subsystems and into the Deep Tunnel is accomplished by gates and flow diversion devices controlled from the District’s Central Control System.

Deep Tunnel System

The Deep Tunnel stores peak wastewater flows that temporarily exceed the capacity of either the water reclamation facilities or the MIS system. The Deep Tunnel is designed to substantially reduce the number of combined sewer overflows and meet permit requirements for the treatment of separate sewer flows. The District built the Deep Tunnel in three phases starting in the 1980’s. The first phase, which became fully operational in 1994, consists of 21.4 miles of tunnels 300 feet underground with a capacity of 432 million gallons of storage. The second phase, the Northwest Side Deep Tunnel, was completed in February 2006 with a length of 7.1 miles at a depth underground of 135-175 feet, adding 89 million gallons of storage. In April 2010 a two-mile extension to the Deep Tunnel was completed, adding 27 million gallons of storage. Completion of the third phase brought total storage capacity of the Deep Tunnel to 521 million gallons.

Central Control System

The goal of the “Central Control System” is to ensure that the wastewater treatment plants and conveyance capacity are utilized in the most efficient manner through flow monitoring and remote operation of the Collection and Conveyance System.

Flows within the MIS and Deep Tunnel systems are monitored using continuous monitors, which are permanently installed in approximately 300 locations and primarily use a wireless communication system to transmit data back to the District’s Central Control System located at Jones Island. Using this system, a single operator can identify and address potential problems in the system, remotely divert certain flows from one drainage basin subsystem to another, and even remotely divert some flows from one treatment plant to another or to the Deep Tunnel.

CAPITAL IMPROVEMENTS PROGRAM 2020 - 2025

The District's planning for future capital expenditures has resulted in a capital improvements program covering the years 2020 through 2025 ("2020 CIP"). The 2020 CIP includes proposed projects to improve the District's water reclamation facilities and conveyance systems, provide improved flood protection to the waterways, replace aging machinery and equipment and reduce infiltration and inflow and stormwater runoff entering the District's sewerage system.

A portion of those capital improvements was identified in the District's 2020 Facilities Plan. The District is currently in the process of developing its next facilities plan, the 2050 Facilities Plan, which will have interim goals to 2035. When the 2050 Facilities Plan is completed, it will identify capital implementation schedules that will be incorporated into future District capital improvements programs and budgets.

The 2020 CIP, including debt service, from 2020 through 2025 is estimated to cost \$1.5 billion and is explained in more detail in the following paragraphs.

Water Reclamation Facilities

The District's two water reclamation facilities (Jones Island and South Shore) have a combined daily maximum design flow capacity of 550 million gallons per day. In addition to traditional sewage treatment, a portion of the biosolids, which are the byproducts from the treatment of wastewater, are used in the production of Milorganite® fertilizer.

The 2020 CIP includes approximately \$313.0 million for planned improvements to these facilities. Of the \$313.0 million, \$177.2 million is planned for improvements to the Jones Island facility, \$112.6 million for planned improvements to the South Shore facility, and \$23.1 million for the Interplant Solids Pipeline.

Jones Island Water Reclamation Facility Improvements

At the Jones Island facility, major rehabilitation projects currently underway or planned from 2020 through 2025 include the following:

- Primary Treatment
 - Preliminary Facility Electrical Upgrade - \$4.3 million
 - Harbor Siphon Structures and Adjacent Asset Modifications - \$3.8 million
- Secondary Treatment
 - Aeration System Diffuser Replacement - \$3.6 million
 - Aeration Basin Concrete Rehabilitation - \$4.5 million
- Solids Processing
 - Greens Grade Train Replacement and Redundant Train Evaluation - \$4.6 million
 - Dewatering and Drying Dryers Guillotine Gate Replacement - \$3.7 million
 - Sludge Cake Transport and Feed Conveyors Replacement - \$7.2 million
 - D&D PLC 5 Upgrades \$7.3 million
 - Chaff System Improvements - \$13.7 million
 - D&D First Stage Classification Equipment Replacement - \$5.8 million
 - Milorganite Packaging Facility - \$8.7 million
- General Plant
 - Gas Turbine Replacement – Phase II - \$3.6 million
 - Dryer Conversion for Additional Landfill Gas - \$4.9 million
 - Rolling Stock & Other Equipment - \$6.8 million
 -

South Shore Water Reclamation Facility Improvements

At the South Shore facility, major rehabilitation projects currently underway or planned from 2020 through 2025 include the following:

- Primary Treatment
 - Primary Clarifier Rehabilitation - \$12.0 million
 - Grit Equipment Replacement - \$3.5 million
- Secondary Treatment
 - Capacity Improvements - \$3.7 million
- Solids Processing
 - Digester Mixing Improvements Phase II - \$4.7 million
 - Aeration Basin Concrete Rehabilitation Phase III & IV - \$4.9 million
 - Digester 6 and 8 Mixer Replacement - \$2.6 million
- General Plant
 - Rolling Stock & Other Equipment - \$6.3 million

Interplant Pipeline Facility Improvements

Work on the Interplant Solids Pipeline includes \$15.4 million for planned Interplant Solids Pipeline improvements.

Conveyance Systems

The District operates and maintains an extensive system of intercepting sewers that collect and temporarily store wastewater from local sanitary and combined sewer systems. The 2020 CIP includes \$163.5 million for planned improvements to the conveyance system. The conveyance system is separated into three areas: the MIS system, the Inline Storage System, and the Central Control System.

Metropolitan Interceptor Sewer Improvements

The purpose of the MIS system is to intercept wastewater from local sanitary and combined sewer systems within the service area. Wastewater within the MIS system is subsequently conveyed to either the Jones Island or the South Shore water reclamation facilities. \$96.2 million are included in the 2020 CIP for planned improvements to the MIS system.

Projects planned from 2020 through 2025 for MIS include the following structural and hydraulic upgrades to the central MIS portion of the service area:

- Force Main Greenfield Park Rehabilitation - \$2.5 million
- Mill/Green Bay/Green Tree MIS Relief - \$49.8 million
- Basin H PCB Remediation and Rehabilitation - \$4.3 million
- Edgewood MIS Extension - \$11.1 million
- River Road MIS & Glendale Sewer - \$17.6 million

Inline Storage System

The 2020 CIP includes \$19.7 million for rehabilitation of combined sewer overflow structures.

Central Control System

The goal of the Central Control System is to ensure that water reclamation and conveyance capacity is utilized in the most efficient manner. Through this system, flow can be diverted from one subsystem to another, or from one facility to another or to the Deep Tunnel. Approximately \$0.8 million is included in the 2020 CIP for planned improvements to the Central Control System.

Watercourse/Flood Management Projects

In addition to the collection and treatment of sanitary waste, the District works to provide environmentally responsible flood protection and has discretionary authority to make improvements to the watercourses contained in the six watersheds within the District's service area. In 1998, the District and local communities began the planning process for the development of an updated watercourse system management plan. Flood abatement alternatives are being developed and implemented for each of the six watersheds. The 2020 CIP includes \$187.2 million for planned watercourse improvement projects.

These improvements include both structural and non-structural flood control measures that are intended to remove structures from the 100-year floodplain. Key elements of this plan include:

- North 30th Street Corridor Wet Weather Relief - West - \$24.2 million
- Western Milwaukee Phase 2B - \$27.0 million
- Underwood Creek Reach 2–CR - \$7.2 million
- Kinnickinnic River Flood Management - \$27.0 million
- Jackson Park - \$17.9 million
- Wilson Park Creek Reach 3-CR - \$18.9 million

Other Projects

The 2020 CIP includes \$189.5 million for projects related to District facilities and facilities planning, including work related to the Private Property Infiltration and Inflow (“PPII”) Reduction Program, green infrastructure implementation, the sustainability of District facilities, regional stormwater integration planning, and planning for the adaption to wet weather. It also includes the District’s Workforce & Business Development Resource Program, financial planning, risk management, and an allowance for cost and schedule changes.

One of the primary causes of system capacity problems relates to the amount of excess water entering the system through infiltration and inflow on private property, such as aging or deteriorating laterals or foundation drains. Implementation of repairs or other changes on private property and improved stormwater management will help the District to become more resilient to future wet weather issues. Through the PPII Reduction Program, that started in 2010, the District is providing a funding mechanism for municipalities to spearhead solutions for PPII, including an additional \$5 million per year from 2020 through 2025. Complementing this program is the Green Solutions Program, which includes \$35 million for municipalities to implement green infrastructure that will assist the District in meeting its permit requirement to increase its ability to capture stormwater by an additional one million gallons each year.

Source: The District.

LONG-RANGE FINANCING PLAN 2020 - 2025

In addition to its 2020 capital budget, the Commission approved a long-range financing plan for the years 2020 through 2025. The financing plan provides for a tax levy increase of 1.75 percent for 2020 and 4 percent per year from 2021 through 2025. The tax rate for 2020 is \$1.65 per thousand dollars of equalized valuation. Tax rates in the long-range financing plan from 2020 through 2025 range from \$1.65 to \$1.81 per thousand dollars of equalized valuation. The long-range financing plan assumes a property value growth rate of 4.8 percent for 2020 and 2.5 percent per year from 2021 through 2025.

The Commission has approved the 2020 Capital Budget and the long-range financing plan for the years 2020 through 2025 as planning documents. The annual capital budget is a financial plan outlining the established expenditures for programs or projects already authorized or to be considered by the Commission. The capital budget is adopted by the Commission each year and reflects changes in anticipated expenditures and revenues for the budget year from projections made in prior multi-year financing plans. Approval of the capital budget does not in itself authorize any specific expenditures or projects. Requests for capital project expenditures must be approved by either the Commission or the Executive Director, as appropriate, within established limits of authority prior to the commitment of funds.

The District’s proposed long-range financing plan is subject to Commission approval, and its 2020 CIP used projections that were preliminary subject to change. The District believes that it has identified the major capital projects expected to be required to comply with current statutes and regulations applicable to the District and the services it provides and further believes that, in the absence of significant changes to these statutes and regulations, those projections will be sufficient to allow the District to meet its mandates and fulfill its statutory requirements. The District seeks to implement its capital program within the following financing objectives:

- 25 percent cash financing of capital project expenditures within the 6-year financing plan, and
- Maintaining outstanding debt at no more than 2.5 percent of total equalized property value, which is 50 percent of the statutory limit of 5 percent.

The District estimated that \$675.6 million of property tax revenues would be available to pay for capital projects and debt service from 2020 through 2025. Ten non-member communities pay an ad valorem equivalent capital charge to the District. In preparing its estimate of ad valorem equivalent capital charges to these communities, the District assumed that the growth in equalized value of taxable property in the service area outside the District's legal boundary would be 5.26% for 2020 and 3.4% per year thereafter. Actual property growth experienced over the last ten years has been -5.2% within the District and 4.0% outside the District among non-member communities within the District's service area. Actual property growth experienced over the last five years has been 10.3% within the District and 13.8% outside the District among non-member communities within the District's service area.

The long-range financing plan included estimated debt service payments of \$656.4 million from 2020 through 2025 for existing and future District-issued general obligation bonds and notes, State of Wisconsin Clean Water Fund Program loans, and a State Energy Program loan from the Wisconsin Department of Commerce. District issued debt was assumed to be structured as 20-year level debt service at interest rates of 3.65% for debt issued in 2020 and 4.15% for debt issued thereafter. The financing plan assumed that 55% of non-watercourse project expenditures after 2020 would be financed with Clean Water Fund Program loans at an interest rate of 2.28%.

During the 6-year period from 2020 through 2025, in addition to \$676 million in property tax revenues, the District projected \$183 million in revenue from ten non-member communities, \$12 million in interest earnings on its projected available funds, \$18 million from grants and state aid, \$398 million from Clean Water Fund Program loans, and \$243 million from District-issued general obligation bonds and promissory notes. The District intends to maintain a balance in capital funds at a level which provides working capital necessary for three months of capital expenditures plus amounts reserved in debt service funds.

The following tables of long-range forecasts and statistical schedules present detailed information as a context for the CIP projections. **These projections have not been revised to take into account the matters discussed under the caption "GLOBAL HEALTH EMERGENCY RISK". Because of those factors, among other possible developments, the actual revenues and expenditures may differ materially from the estimates and projections described above and presented in the following tables.**

Source: The District.

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**MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
ADOPTED 2020 CAPITAL BUDGET - LONG-RANGE FINANCING PLAN IN \$000**

	Estimate 2019	Six-Year Capital Improvements Program						Six-Year Total	% of Total
		2020	2021	2022	2023	2024	2025		
Beginning balance	\$90,340	\$41,704	\$78,797	\$32,155	\$79,269	\$43,227	\$88,851	\$41,704	
Add:									
Tax levy	\$100,102	\$101,853	\$105,928	\$110,165	\$114,571	\$119,154	\$123,920	\$675,591	45%
Non-member Billings	\$29,992	\$28,419	\$28,780	\$27,026	\$29,047	\$31,890	\$37,456	\$182,618	12%
Interest & other	\$4,073	\$2,526	\$2,370	\$1,207	\$2,321	\$1,401	\$2,481	\$12,305	1%
Federal, State Aid & Grants	\$4,107	\$2,419	\$2,479	\$2,414	\$2,511	\$2,611	\$5,550	\$17,984	1%
CWF Loans	\$21,982	\$49,024	\$65,587	\$61,170	\$71,678	\$81,274	\$69,599	\$398,333	26%
District Bonds/Notes	\$0	\$80,000	\$0	\$94,000	\$0	\$69,000	\$0	\$243,000	16%
Total revenues	\$160,637	\$264,241	\$205,143	\$295,982	\$220,129	\$305,330	\$239,006	\$1,529,831	101%
Use of (Additions to) available funds	\$48,637	(\$37,093)	\$46,642	(\$47,114)	\$36,042	(\$45,624)	\$27,063	(\$20,084)	-1%
Total sources	\$208,893	\$227,148	\$251,785	\$248,867	\$256,171	\$259,706	\$266,069	\$1,509,746	100%
Less:									
Water Reclamation Facilities	\$46,832	\$50,509	\$50,136	\$47,146	\$48,856	\$54,594	\$61,755	\$312,997	37%
Conveyance Facilities	\$7,462	\$13,045	\$28,476	\$25,249	\$30,657	\$32,556	\$33,555	\$163,538	19%
Watercourse & Flood Management	\$26,220	\$16,977	\$27,671	\$36,847	\$37,143	\$36,606	\$31,987	\$187,232	22%
Other Projects / Programs	\$19,190	\$34,992	\$29,236	\$38,418	\$35,970	\$27,284	\$23,651	\$189,551	22%
Projects / Programs	\$99,705	\$115,523	\$135,519	\$147,661	\$152,626	\$151,041	\$150,948	\$853,318	100%
Existing MMSD GO debt service	\$35,104	\$34,931	\$34,984	\$27,601	\$22,424	\$22,425	\$22,449	\$164,814	
Existing CWFL debt service	\$72,392	\$73,042	\$70,181	\$56,493	\$54,986	\$54,060	\$51,807	\$360,568	
Existing Other Debt Service	\$1,692	\$1,692	\$1,691	\$1,691	\$1,691	\$1,690	\$1,690	\$10,145	
Future Clean Water Fund Loan Debt Service	\$0	\$501	\$3,704	\$7,766	\$11,730	\$16,343	\$21,317	\$61,360	
Future MMSD GO debt service	\$0	\$1,460	\$5,706	\$7,656	\$12,714	\$14,146	\$17,859	\$59,541	
Debt service	\$109,188	\$111,625	\$116,266	\$101,206	\$103,545	\$108,664	\$115,121	\$656,428	43%
Total uses	\$208,893	\$227,148	\$251,785	\$248,867	\$256,171	\$259,706	\$266,069	\$1,509,746	
Ending balance	\$41,704	\$78,797	\$32,155	\$79,269	\$43,227	\$88,851	\$61,788	\$61,788	
Tax rate / \$1000	\$1.69	\$1.65	\$1.68	\$1.71	\$1.74	\$1.78	\$1.81		
% Change in Tax Levy	0.0%	1.75%	4.0%	4.0%	4.0%	4.0%	4.0%		
Annual % cash financing	0%	-12%	52%	-5%	53%	1%	54%	25%	
G.O. debt at year-end	\$736,625	\$779,129	\$753,730	\$833,782	\$829,308	\$899,363	\$883,223		
Debt as % of Eq. Value	1.22%	1.23%	1.17%	1.27%	1.24%	1.32%	1.27%		

- 2020 beginning balance is net of \$42.2M reserved for municipal capital reimbursement programs: PPII Reduction and Green Solution Programs.
- Tax levy growth limited to 1.75% for 2020 and 4% thereafter. To achieve tax rates shown, available working capital is placed in a debt service fund to abate the tax levy as necessary.
- Changes in District equalized value determined in 2019 for use in 2020 is 4.8% and averages 2.5% thereafter; and non-member equalized value determined in 2019 for use in 2020 is 5.26% and averages 3.4% thereafter.
- Investment of available funds at 2.5% interest rate.
- Future District bond issues structured as 20-year level debt service at 3.65% in 2020 and increasing to 4.15% through 2024.
- Future Clean Water Fund Loan debt service assumed at 55% of District bond rate, or 2.01% to 2.28% from 2020 through 2025.

The sum of rounded components may not equal the total due to rounding.

Source: The District.

OPERATION AND MAINTENANCE LONG-RANGE FORECAST

	2019 Adopted Budget	2020 Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast
Revenues							
User Charge Billings	84,771,281	86,871,306	89,076,290	91,299,999	93,578,602	95,922,712	98,334,501
Milorganite® Sales (Net)	10,000,000	10,400,000	10,400,000	10,400,000	10,400,000	10,400,000	10,400,000
Interest Income	1,000,000	1,000,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Other Income	865,945	3,043,895	850,000	858,500	867,085	875,756	884,513
Household Hazardous Waste	1,231,951	1,258,850	1,271,439	1,277,796	1,284,185	1,290,606	1,297,059
Industrial Waste Pretreatment	1,037,000	1,026,310	1,031,442	1,031,442	1,031,442	1,031,442	1,031,442
Total Operating Revenue	98,906,177	103,600,361	103,879,171	106,117,736	108,411,313	110,770,515	113,197,515
Reserves and Surplus							
Equipment Replacement Fund Applied (or Contribution)	(300,000)	(300,000)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)
User Charge Stabilization Fund Applied (or Contribution)	0	2,500,000	(680,000)	(850,000)	(700,000)	(550,000)	(150,000)
Surplus or Deficit Applied	6,027,340	5,221,920	4,500,000	3,676,907	3,660,468	3,633,228	3,680,819
IWPP Stabilization Fund Applied	59,000	0	0	0	0	0	0
Total Reserves and Surplus	5,786,340	7,421,920	3,670,000	2,676,907	2,810,468	2,933,228	3,380,819
Total Revenues	104,692,517	111,022,281	107,549,171	108,794,644	111,221,782	113,703,744	116,578,334
Expenditures							
Divisions							
Commission	236,282	232,582	237,233	241,978	246,817	251,754	256,789
Office of the Executive Director	3,157,588	2,233,002	2,277,662	2,323,215	2,369,680	2,417,073	2,465,415
Information Technology Services	4,915,969	4,641,773	4,734,609	4,829,301	4,925,887	5,024,404	5,124,893
Legal Services	895,012	966,258	985,583	1,005,295	1,025,401	1,045,909	1,066,827
Finance	2,731,956	3,841,743	3,918,577	3,996,949	4,076,888	4,158,426	4,241,594
Technical Services	69,965,341	77,621,664	74,989,825	76,674,560	78,454,370	80,275,934	82,140,241
Planning, Research & Sustainability	4,291,123	5,248,726	4,129,701	3,192,295	3,256,140	3,321,263	3,387,689
Water Quality Protection	6,823,795	6,681,928	6,815,567	6,951,878	7,090,916	7,232,734	7,377,389
Community Outreach and Business Engagement	7,063,211	6,845,302	6,982,208	7,121,852	7,264,289	7,409,575	7,557,767
Fringe Benefits	15,215,820	15,752,757	16,067,812	16,389,169	16,716,952	17,051,291	17,392,317
Charges to Capital	(13,603,581)	(15,220,362)	(15,750,075)	(16,065,076)	(16,386,378)	(16,714,105)	(16,718,435)
Net Division Expenditures	101,692,516	108,845,373	105,388,702	106,661,416	109,040,963	111,474,258	114,292,484
Unallocated Reserve	3,000,000	2,176,907	2,160,468	2,168,551	2,197,109	2,216,137	2,272,234
Total Expenditures	104,692,516	111,022,281	107,549,171	108,829,967	111,238,071	113,690,395	116,564,719
User Charge Billings Increase		2.5%	2.5%	2.5%	2.5%	2.5%	2.5%

Note, totals may not appear to add due to rounding.

Source: The District.

Historical Sewer User Charges⁽¹⁾

Municipalities Within the District

Municipality	Fiscal Year				
	2019 Estimate	2018	2017	2016	2015
City of Cudahy	2,216,779	2,138,977	2,057,456	1,960,292	1,804,675
City of Franklin	2,578,484	2,468,702	2,210,560	2,202,361	2,143,999
City of Glendale	1,135,328	1,078,316	984,641	1,008,386	953,839
City of Greenfield	2,497,704	2,349,736	2,120,970	2,107,906	2,036,361
City of Milwaukee	50,572,683	48,987,466	45,350,427	43,968,676	42,484,064
City of Oak Creek	2,934,977	2,773,581	2,454,978	2,367,729	2,222,514
City of St. Francis	718,909	678,143	590,960	585,989	561,119
City of Wauwatosa	3,967,621	3,793,471	3,404,955	3,259,792	3,178,030
City of West Allis	4,517,500	4,356,397	4,088,271	4,066,099	3,896,350
Village of Bayside	273,371	259,506	238,859	238,959	234,505
Village of Brown Deer	957,745	904,192	819,350	809,479	777,074
Village of Fox Point	431,529	408,707	372,589	375,364	372,582
Village of Greendale	919,525	866,391	814,645	792,771	796,170
Village of Hales Corners	546,126	513,223	470,888	469,508	456,334
Village of River Hills	119,373	112,498	97,527	89,271	88,063
Village of Shorewood	845,880	837,409	652,279	709,321	691,074
Village of West Milwaukee	885,979	892,546	922,139	944,055	961,138
Village of Whitefish Bay	<u>888,937</u>	<u>838,158</u>	<u>748,213</u>	<u>731,223</u>	<u>724,679</u>
Total Within the District	<u>\$77,008,450</u>	<u>\$74,257,419</u>	<u>\$68,399,707</u>	<u>\$66,687,181</u>	<u>\$64,382,570</u>

Municipalities Outside the District

Municipality	Fiscal Year				
	2019 Estimate	2018	2017	2016	2015
City of Brookfield	1,141,770	1,086,410	995,317	985,854	\$969,822
City of Mequon	1,430,246	1,374,444	1,246,411	1,281,186	1,234,929
City of Muskego	1,363,727	1,320,220	1,156,039	1,130,497	1,132,336
City of New Berlin	2,224,631	2,178,966	1,950,333	1,956,174	1,978,663
City of South Milwaukee ⁽²⁾	31,018	29,349	30,331	30,568	25,146
Village of Butler	258,050	252,748	432,882	404,769	224,889
Village of Caledonia	30,313	29,134	19,519	25,636	27,062
Village of Elm Grove	376,952	362,836	328,731	337,961	337,445
Village of Germantown	1,656,259	1,697,876	1,568,676	1,613,777	1,536,335
Village of Menomonee Falls	2,254,657	2,164,756	1,980,478	1,936,950	1,721,685
Village of Thiensville	220,836	210,618	192,587	191,595	193,249
Total Outside the District	<u>\$10,988,459</u>	<u>\$10,707,357</u>	<u>\$9,901,304</u>	<u>\$9,894,967</u>	<u>\$9,381,561</u>

⁽¹⁾ Includes Household Hazardous Waste and Industrial Waste Pretreatment charges, except where otherwise noted.

⁽²⁾ Includes Household Hazardous Waste charges only.

Source: The District.

Ten Largest Sewer Users

<u>Customer</u>	<u>Type of Business</u>	<u>2018</u>		<u>2009</u>	
		<u>Sewer Revenue Amount</u>	<u>%</u>	<u>Sewer Revenue Amount</u>	<u>%</u>
MillerCoors	Brewery	\$3,654,678	4.3%	\$3,098,006	4.5%
Patrick Cudahy	(a) Process meat products	1,174,659	1.4%	730,406	1.1%
D.R. Diedrich & Co.	Leather tanning and finishing	804,011	0.9%	1,082,180	1.6%
Wisconsin Paperboard	Paperboard mill	638,306	0.8%	344,330	0.5%
Milwaukee Water Works	Water utility	580,352	0.7%	527,825	0.8%
Covanta Environmental Solutions	Centralized waste treatment	517,955	0.6%	-	-
Chris Hansen/Maple	Food preparation	499,486	0.6%	-	-
Milwaukee County DHHS	Health services	391,032	0.5%	334,900	0.5%
Gehl Foods	Food preparation	381,177	0.4%	-	-
Malteurop North America	Malt manufacturing	287,023	0.3%	624,686	0.9%
Cargill Meat Solutions	(b) Meat packing plants	-	-	452,951	0.7%
Campbell Soup Supply Company	Food preparation	-	-	327,955	0.5%
Clement J. Zablocki VA Medical Center	Health services	-	-	263,836	0.4%
Subtotal (10 largest)		<u>\$8,928,678</u>	<u>10.5%</u>	<u>\$7,787,075</u>	<u>11.4%</u>
Balance from other customers		<u>76,036,098</u>	<u>89.5%</u>	<u>60,672,640</u>	<u>88.6%</u>
Grand Total		<u>\$84,964,776</u>	<u>100.0%</u>	<u>\$68,459,715</u>	<u>100.0%</u>

(a) Subsidiary of Smithfield Foods

(b) Closed Milwaukee Operations

Source: The District.

Sewer User Rate Charges

<u>Year</u>	<u>Flow (Cents Per 1000 Gallons)</u>	<u>Biochemical Oxygen Demand (BOD) (Cents Per Pound)</u>	<u>Total Suspended Solids (TSS) (Cents Per Pound)</u>	<u>Connection Charge (Dollars Per Year)</u>	<u>Volumetric (Dollars Per 1,000 Gallons)</u>	<u>Average Household (Dollars Per Year)</u>	<u>Millions of Gallons of Sewage Treated</u>
2019	1.31058	0.13062	0.17931	32.44	2.201584	140.22	85,600
2018	1.25965	0.13589	0.17541	30.34	2.152241	137.37	76,900
2017	1.12748	0.12730	0.16289	23.98	1.959230	124.04	71,800
2016	1.11377	0.11869	0.16275	21.71	1.922831	122.42	68,200
2015	0.96079	0.11781	0.15807	30.21	1.753133	125.17	67,100
2014	0.88437	0.10061	0.15815	30.68	1.632498	120.68	68,480

Note: Volumetric rate computed for domestic strength sewage using the equivalencies of 310 mg/l BOD equals 2.585 pounds per thousand gallons and 370 mg/l TSS equals 3.086 pounds per thousand gallons. This rate is applicable to the entire residential class and noncertified commercial users located within the District's Service Area.

Source: The District.

TAX LEVIES

Year	Equalized Value of Taxable Property	Tax Levies*	Tax Rate Per \$1,000 Equalized Value
2019	\$61,889,256,300	\$101,853,000	\$1.65
2018	59,060,994,300	100,101,650	1.69
2017	57,011,085,700	98,380,000	1.73
2016	56,188,121,100	98,380,000	1.75
2015	55,010,987,700	95,980,000	1.74

*Collected in following year.

Note: Due to varying assessment policies in the municipalities of the District, the District uses equalized value of taxable property for tax rate purposes.

Equalized valuations are net of the Tax Incremental District valuations.

Source: Equalized valuation amounts provided by Wisconsin Department of Revenue. Tax Levies and Tax Rate provided by the District.

EQUALIZED VALUATIONS

All equalized valuations of property in the State are determined by the State of Wisconsin, Department of Revenue, Supervisor of Assessments Office. Equalized valuations are the State's estimate of full market value.

The State determines assessed valuations of all manufacturing property in the State. Residential and commercial property located within the District are assessed annually by the local assessors. At hearings held each year a taxpayer may appeal the assessment of his property to the Board of Review of the local municipality. The Board of Review consists of local assessors and local officials. The assessors do not vote on final determinations.

Set forth in the table below are equalized valuations of property located within the District for the past five years, reflecting the effect of Tax Incremental Districts ("TID"):

Year	Equalized Valuation (TID-IN)	Equalized Valuation (TID-OUT)
2019	\$65,909,579,500	\$61,889,256,300
2018	62,864,827,600	59,060,994,300
2017	60,253,027,200	57,011,085,700
2016	59,145,532,800	56,188,121,100
2015	57,445,674,300	55,010,987,700

Source: Wisconsin Department of Revenue.

DEMOGRAPHIC AND ECONOMIC INFORMATION

Population

Municipality	Fiscal Year					
	2019	2018	2017	2016	2015	2014
Bayside	4,304	4,339	4,341	4,365	4,376	4,376
Brown Deer	12,246	12,346	12,340	12,305	12,217	12,157
Cudahy	18,071	18,208	18,186	18,192	18,250	18,224
Fox Point	6,571	6,652	6,648	6,678	6,690	6,676
Franklin	35,996	35,779	36,046	35,741	35,655	35,702
Glendale	12,483	12,587	12,604	12,724	12,753	12,773
Greendale	14,366	14,345	14,263	14,123	14,135	14,144
Greenfield	36,968	36,366	36,294	36,404	36,473	36,687
Hales Corners	7,593	7,622	7,619	7,652	7,670	7,678
Milwaukee	590,547	595,555	591,076	594,667	595,787	595,993
Oak Creek	35,830	35,739	35,560	35,206	34,791	34,707
River Hills	1,558	1,568	1,577	1,577	1,581	1,584
St. Francis	9,381	9,434	9,435	9,458	9,475	9,465
Shorewood	13,479	13,315	13,228	13,134	13,178	13,183
Wauwatosa	48,314	47,781	47,389	47,160	46,947	46,766
West Allis	59,780	59,590	59,652	60,164	60,329	60,272
West Milwaukee	4,124	4,159	4,158	4,181	4,193	4,197
Whitefish Bay	14,050	14,199	14,178	14,216	14,243	14,105
Total District population	<u>925,661</u>	<u>929,584</u>	<u>924,594</u>	<u>927,947</u>	<u>928,743</u>	<u>928,689</u>
Total population served by the District ⁽¹⁾	<u>1,078,367</u>	<u>1,079,701</u>	<u>1,072,574</u>	<u>1,075,208</u>	<u>1,074,811</u>	<u>1,074,101</u>

⁽¹⁾ Includes all or parts of the following municipalities outside the District: Brookfield, Butler, Elm Grove, Germantown, Menomonee Falls, Mequon, Muskego, New Berlin, Thiensville and Caledonia.

Source: Wisconsin Department of Administration, Demographic Services Center.

Per Return Adjusted Gross Income

	State of Wisconsin	Milwaukee County
2018	\$59,423	\$53,380
2017	56,698	50,516
2016	55,267	49,692
2015	54,227	48,533
2014	52,050	45,980

Source: Wisconsin Department of Revenue, Division of Research and Policy.

Unemployment Rates

	<u>U.S.</u>	<u>State of Wisconsin</u>	<u>Milwaukee County</u>
November, 2019	3.3%	2.9%	3.7%
November, 2018	3.5	2.5	3.1
Average, 2018	3.9%	3.0%	3.6%
Average, 2017	4.4	3.3	4.0
Average, 2016	4.9	4.0	5.0
Average, 2015	5.3	4.6	5.7
Average, 2014	6.2	5.4	6.9

Source: Wisconsin Department of Workforce Development Wisconsin.

Largest Employers in the Milwaukee Metropolitan Area

<u>Employer</u>	<u>2020 Employment Estimates</u>	<u>Type of Business or Service</u>
Advocate Aurora Health	28,539 ⁽¹⁾	Health care
Froedtert Health	13,472	Health care
Milwaukee Public Schools	12,402 ⁽²⁾	Education
Ascension Wisconsin	10,600	Health care
U.S. Federal Government	10,394 ⁽³⁾	Government
Roundy's Supermarket	8,601	Supermarkets and distribution center
Quad Graphics	8,000	Commercial printing
Kohl's Corporation	7,000	Specialty department stores
City of Milwaukee	6,870	Government
Medical College of Wisconsin	6,151	Medical school/academic/health care
GE Healthcare Technologies	6,000	Medical imaging, healthcare services
Children's Hospital of Wisconsin	5,322	Health care
Northwestern Mutual Life	5,000	Insurance
Pro Healthcare, Inc.	4,338	Health care
Milwaukee County	4,012	Government
Rockwell Automation	4,000	Manufacturer, electrical/electronic products
Amazon	4,000	Retail distribution
University of Wisconsin-Milwaukee	3,751	Education
U. S. Bank	3,700	Finance, banking
Piggly Wiggly	3,290	Retail grocer
(FIS) Fidelity National Info. Services	3,230	Financial services technology
WEC Energy Group Inc.	3,200	Electric/natural gas utility
Marcus Corporation	3,160	Hotels, resorts and movie theaters
Goodwill Industries of Southeastern Wis., Inc.	2,961	Training programs, retail, food service, packaging and assembly
Marquette University	2,926	Education

⁽¹⁾ Aurora's employee number includes four hospitals, rehabilitation, homecare and hospice facilities and their corporate office within a seven-county area including the Milwaukee County area. Does not include northern Illinois facilities.

⁽²⁾ This figure includes Milwaukee Public School's part-time employees as of December 18, 2019.

⁽³⁾ Milwaukee-Waukesha-West Allis, WI MSA data as of June, 2019.

Source: The 2019-2020 Business Journal Book of Lists, employer contacts December, 2019 and the U.S. Bureau of Labor Statistics January 2020.

Ten Largest Taxpayers (in Milwaukee County)

<u>Name of Business</u>	<u>Type of Business</u>	2018		2009	
		<u>Equalized Valuation</u>	<u>Percentage of Total Equalized Valuation*</u>	<u>Equalized Valuation</u>	<u>Percentage of Total Equalized Valuation</u>
Northwestern Mutual Life Insurance Co.	Insurance	\$575,134,120	0.96%	\$348,466,357	0.55%
Mayfair Mall LLC	Shopping Mall	502,167,805	0.83%	290,292,537	0.46%
Bayshore Town Center LLC	Shopping Mall	356,476,969	0.59%	345,364,935	0.54%
US Bank Corp	Banking	242,364,606	0.40%	272,626,855	0.43%
Mandel Group	Real estate	235,267,422	0.39%		
Aurora Health	Health care	178,226,793	0.25%		
Southridge Mall & Plaza	Shopping Mall	147,444,433	0.27%	138,388,621	0.22%
Metropolitan Associates	Real estate	143,806,606	0.24%	143,606,727	0.23%
Wal-Mart/Sam's Club	Retailer	141,590,937	0.24%		
Juneau Village/Prospect Tower/ Katz Properties	Real estate	125,519,780	0.21%		
Marcus Corp./Milw. City Center/ Pfister	Hotels/ theaters/convention center				
Wheaton Franciscan Services	Health care			132,329,512	0.21%
Columbia St. Mary's	Health care			115,588,537	0.18%
Harley-Davidson	Manufacturer of Motorcycles			112,188,168	0.18%
Towne Realty	Real estate			111,801,600	0.18%
Total for Ten Largest Taxpayers		<u>\$2,647,999,471</u>	<u>4.40%</u>	<u>\$2,010,653,849</u>	<u>3.16%</u>

**Based on the TID OUT valuation of Milwaukee County.*

Source: The District (non-industrial taxpayers); Milwaukee County (industrial taxpayers).

INDEBTEDNESS OF THE DISTRICT⁽¹⁾

Direct Indebtedness

Set forth below is the direct indebtedness of the District including principal and interest payments due on existing debt as well as the debt service on the Obligations. The average life of the Obligations is 11.611 years and the bond years are 928,875.56 years.

Year	Outstanding		Clean Water Fund Program Loans		Series 2020A Obligations		Less: Direct	Total Debt Service Requirements
	Bonds and Notes		As of April 2, 2020 ⁽²⁾				Payment	
	Principal	Interest	Principal	Interest	Principal	Interest	Interest Credits ⁽³⁾	
2020	\$24,855,000	\$10,075,636	\$60,925,177	\$11,020,070		\$1,034,080	(\$492,055)	\$107,417,909
2021	25,940,000	9,044,316	59,138,823	9,518,464	\$5,265,000	2,465,356	(458,561)	110,913,398
2022	19,640,000	7,960,904	46,947,381	8,207,764	3,875,000	2,360,056	(422,695)	88,568,410
2023	15,275,000	7,149,354	46,568,466	7,077,463	2,700,000	2,243,806	(385,866)	80,628,223
2024	15,865,000	6,560,349	46,763,011	5,953,888	2,940,000	2,162,806	(347,157)	79,897,897
2025	16,505,000	5,943,524	45,617,746	4,844,031	3,060,000	2,045,206	(306,170)	77,709,337
2026	17,055,000	5,296,474	41,730,667	3,794,972	3,180,000	1,984,006	(262,597)	72,778,522
2027	17,635,000	4,615,089	33,953,163	2,885,928	3,310,000	1,856,806	(215,817)	64,040,168
2028	18,245,000	3,898,864	28,232,529	2,141,105	3,440,000	1,724,406	(166,106)	57,515,798
2029	13,600,000	3,206,039	19,507,303	1,572,275	3,580,000	1,586,806	(113,686)	42,938,737
2030	14,085,000	2,657,879	19,296,506	1,111,811	3,725,000	1,443,606	(58,401)	42,261,401
2031	11,285,000	2,153,856	12,659,568	730,754	3,880,000	1,294,606	--	32,003,784
2032	11,660,000	1,780,906	6,737,628	501,811	4,005,000	1,139,406	--	25,824,752
2033	12,105,000	1,389,888	5,146,820	370,109	4,135,000	1,019,256	--	24,166,072
2034	12,675,000	978,000	4,991,948	261,749	4,270,000	895,206	--	24,071,904
2035	5,125,000	558,950	3,629,870	173,738	4,410,000	767,106	--	14,664,664
2036	5,320,000	379,575	2,866,899	112,554	4,555,000	634,806	--	13,868,834
2037	5,525,000	193,375	2,481,666	63,905	4,700,000	498,156	--	13,462,102
2038	--	--	1,650,177	26,364	4,855,000	380,656	--	6,912,198
2039	--	--	634,919	5,623	4,990,000	259,281	--	5,889,824
2040	--	--	--	--	5,125,000	134,531	--	5,259,531
	<u>262,395,000</u>	<u>73,842,976</u>	<u>489,480,267</u>	<u>60,374,377</u>	<u>80,000,000</u>	<u>27,929,955</u>	<u>(3,229,110)</u>	<u>990,793,464</u>
Less: 2020 Sinking Funds	<u>(24,855,000)</u>	<u>(10,075,636)</u>	<u>(60,925,177)</u>	<u>(11,020,070)</u>	<u>0</u>	<u>(1,034,080)</u>	<u>492,055</u>	<u>(107,417,909)</u>
TOTAL	<u><u>\$237,540,000</u></u>	<u><u>\$63,767,340</u></u>	<u><u>\$428,555,090</u></u>	<u><u>\$49,354,307</u></u>	<u><u>\$80,000,000</u></u>	<u><u>\$26,895,875</u></u>	<u><u>(\$2,737,056)</u></u>	<u><u>\$883,375,556</u></u>

⁽¹⁾ Upon the issuance of the Obligations, the total outstanding amount of general obligation debt of the District will be \$831,875,267, consisting of \$342,395,000 principal amount of general obligation bonds and promissory notes, and \$489,480,267 principal amount of general obligation promissory notes sold to the State of Wisconsin Clean Water Fund loan program.

⁽²⁾ The District had outstanding loan commitments of \$20,971,934 as of April 2, 2020 from the Clean Water Fund Program. These commitments will be utilized for future construction of reclamation facilities.

⁽³⁾ Assumed direct payment interest credit from the United States Treasury in connection with the Taxable General Obligation Sewerage System Bonds, Series 2010L (Build America Bonds-Direct Payment) dated December 23, 2010. Receipt of the credits is expected but not assured. Under State law, the District is required to levy an amount sufficient to meet the debt service on its outstanding general obligation debt, but such levy may be abated by the use of such offsetting revenues, if and to the extent available. The Budget Control Act of 2011 (the "BCA") requires the Director of the United States Office of Management and Budget ("OMB") to calculate cuts each year for the next ten years to federal programs necessary to reduce spending to levels specified in the BCA, which cuts are referred to as sequestration. The BCA has been amended to extend the reduction of subsidy payments through fiscal year 2029. The reductions to the subsidy payments in fiscal year 2020 is 5.9% (reflected in the table above for 2020 and beyond). Such cuts may be avoided or mitigated if Congress takes action to postpone or change the provisions of BCA. The District cannot predict whether any such cuts to the subsidy amounts it expects to receive will occur in the future.

Overlapping Indebtedness

Set forth below is information relating to the outstanding general obligation overlapping indebtedness of the District.

<u>Name of Entity</u>	<u>Amount of Debt (as of December 31, 2019)</u>	<u>Percent Allocable to District</u>	<u>Outstanding Debt Allocable to District</u>
Village of Bayside	\$10,167,420	100.00%	\$10,167,420
Village of Brown Deer	29,895,000	100.00	29,895,000
Village of Fox Point	12,425,000	100.00	12,425,000
Village of Greendale	22,675,000	100.00	22,675,000
Village of Hales Corners	12,900,000	100.00	12,900,000
Village of River Hills	2,546,351	100.00	2,546,351
Village of Shorewood	49,105,041	100.00	49,105,041
Village of West Milwaukee	5,870,000	100.00	5,870,000
Village of Whitefish Bay	50,495,401	100.00	50,495,401
City of Cudahy	22,940,000	100.00	22,940,000
City of Franklin	58,390,341	100.00	58,390,341
City of Glendale	39,370,000	100.00	39,370,000
City of Greenfield	79,904,533	100.00	79,904,533
City of Milwaukee	950,792,236	100.00	950,792,236
City of Oak Creek	98,780,000	100.00	98,780,000
City of Saint Francis	12,087,856	100.00	12,087,856
City of Wauwatosa	123,625,000	100.00	123,625,000
City of West Allis	75,628,199	100.00	75,628,199
Total Cities and Villages	<u>\$1,657,597,378</u>		<u>\$1,657,597,378</u>
Total School Districts	\$648,249,250	Varies	\$645,604,686
Milwaukee Area Technical College District	\$101,965,000	78.56%	\$80,103,704
Milwaukee County	<u>\$532,465,597</u>	98.05%	<u>\$522,082,518</u>
	<u>\$2,940,277,225</u>		<u>\$2,905,388,286</u>

Sources: Equalized value used to determine percentage of debt within District boundary from Wisconsin Department of Revenue. Net debt outstanding provided by each municipal entity through publicly available disclosure documents available on EMMA.msrb.org and direct inquiries.

NOTE: This summary may not reflect all of the District's outstanding overlapping and underlying indebtedness.

Future Financing

The District anticipates issuing approximately \$65,400,000 of additional general obligation debt in Clean Water Fund Loans between March 2020 and March 2021.

Depending upon market conditions, the District may also issue refunding bonds to refund portions of its outstanding debt.

Default Record

The District has no record of default on any prior debt repayment obligations.

Statistical Summary

The table below reflects direct, overlapping and underlying bonded indebtedness, including the Obligations.

Equalized Valuation (2019) as certified by Wisconsin Department of Revenue	\$65,909,579,500
Direct Bonded Indebtedness	\$831,875,267 ⁽¹⁾
Direct, Overlapping and Underlying Bonded	\$3,737,263,553
Direct Bonded Indebtedness as a Percentage of Equalized Valuation	1.26%
Direct, Overlapping and Underlying Bonded Indebtedness as a Percentage of Equalized Valuation	5.67%
Population of the District (2019 Estimate*)	925,661
Direct Bonded Indebtedness Per Capita	\$898.68
Direct, Overlapping and Underlying Bonded Indebtedness Per Capita*	\$4,037.40

*Source: Wisconsin Department of Administration, Demographic Services Center.

⁽¹⁾Includes Clean Water Fund Program loan balances as of April 2, 2020.

Debt Limit

As described under the caption "CONSTITUTIONAL AND STATUTORY CONSIDERATIONS AND LIMITATIONS CONCERNING THE DISTRICT'S POWER TO INCUR INDEBTEDNESS -- Debt Limit," the total indebtedness of the District may not exceed five percent of the equalized value of property in the District. Set forth in the table below is a comparison of the outstanding indebtedness of the District, including the Obligations, as of the closing date of the Obligations, as a percentage of the applicable debt limit.

Equalized Valuation (2019) as certified by Wisconsin Department of Revenue	\$65,909,579,500
Legal Debt Percentage Allowed	<u>5.00%</u>
Legal Debt Limit	\$3,295,478,975
Direct Bonded Indebtedness	\$831,875,267 ⁽¹⁾
Unused Margin of Indebtedness	\$2,463,603,708
Percent of Legal Debt Incurred	25.24%
Percentage of Legal Debt Available	74.76%

⁽¹⁾ Includes Clean Water Fund Program loan balances as of April 2, 2020.

FINANCIAL RECORDS

The District maintains its financial records on a calendar year basis. A copy of the District's Basic Financial Statements and Related Notes for the fiscal year ended December 31, 2018, including the accompanying independent auditor's report, is included as Appendix A to this Official Statement. Potential purchasers should read such financial statements in their entirety for more complete information concerning the District's financial position. Such financial statements have been audited by Baker Tilly Virchow Krause, LLP, Madison, Wisconsin (the "Auditor"), to the extent and for the periods indicated thereon. The District has not requested or engaged the Auditor to perform, and the Auditor has not performed, any additional examination, assessment, procedures or evaluation with respect to such financial statements since the date thereof, or relating to this Official Statement, nor has the District requested that the Auditor consent to the use of such financial statements in this Official Statement. Although the inclusion of the financial statements in this Official Statement is not intended to demonstrate the fiscal condition of the District since the date of the financial statements, in connection with the issuance of the Obligations, there has been no material adverse change in the financial position or results of operations of the District, nor has the District incurred any material liabilities, which would make such financial statements misleading.

FINANCIAL ADVISOR

Robert W. Baird & Co. Incorporated, Milwaukee, Wisconsin, has been retained as financial advisor (the "Financial Advisor" or "Baird") in connection with the issuance of the Obligations. In preparing this Official Statement, the Financial Advisor has relied upon the District, and other sources, having access to relevant data to provide accurate information for this Official Statement. To the best of the Financial Advisor's knowledge, the information contained in this Official Statement is true and accurate. However, the Financial Advisor has not been engaged, nor has it undertaken, to independently verify the accuracy of such information.

The Financial Advisor's duties, responsibilities, and fees in connection with this issuance arise solely from the services for which it is engaged to perform as financial advisor on the Obligations. Baird's compensation for serving as financial advisor on the Obligations is conditional on the successful closing of the Obligations.

UNDERWRITING

The Obligations have been purchased at a public sale by a group of underwriters for whom J.P. Morgan Securities LLC, New York, New York is acting as Managing Underwriter (the "Underwriters"). The Underwriters intend to offer the Obligations to the public initially at the prices which produce the yields set forth on the inside front cover of this Official Statement, plus accrued interest from April 30, 2020, if any, which prices may subsequently change without any requirement of prior notice. The Underwriters reserve the right to join with dealers and other underwriters in offering the Obligations to the public. The Underwriters may offer and sell the Obligations to certain dealers (including dealers depositing the Obligations into investment trusts) at prices lower than the public offering prices. In connection with this offering, the Underwriters may over allocate or effect transactions which stabilize or maintain the market price of the Obligations at a level above that which might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued at any time.

The reoffering yields shown on the inside cover of this Official Statement have been provided by the Underwriters, and not by the District.

RATINGS

The District has received ratings on this issue of "AAA", "Aa1" and "AA+" from Fitch Ratings, Moody's Investors Service, Inc. and S&P Global Ratings, respectively. Each rating reflects only the views of the rating agency furnishing the rating and any explanation of the significance of such rating may only be obtained from the rating agency furnishing the rating. Generally, a rating agency bases its rating on the information and materials furnished to it and on investigations, studies and assumptions of its own. There is no assurance that any rating will continue for any given period of time or that it will not be revised or withdrawn entirely by such rating agency, if in the judgment of such rating agency circumstances so warrant. Any revision or withdrawal of a rating may affect the market price of the Obligations.

Such rating is not to be construed as a recommendation of the rating agency to buy, sell or hold the Obligations, and the rating assigned by the rating agency should be evaluated independently. Except as may be required by the Continuing Disclosure Agreement described under the heading "CONTINUING DISCLOSURE" neither the District nor the Underwriters undertake responsibility to bring to the attention of the owners of the Obligations any proposed change in or withdrawal of such rating or to oppose any such revision or withdrawal.

TAX EXEMPTION

Federal Income Taxes

In the opinions of Co-Bond Counsel, under existing law, interest on the Obligations is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individuals. The District must comply with certain requirements of the Internal Revenue Code for interest on the Obligations to be, or continue to be, excluded from gross income for federal income tax purposes. The District has agreed to comply with those requirements to the extent it may lawfully do so. Its failure to do so may cause interest on the Obligations to be included in gross income for federal income tax purposes, perhaps even starting from the date the Obligations are issued. The proceedings authorizing the Obligations do not provide for an increase in interest rates or a redemption of the Obligations in the event interest on the Obligations ceases to be excluded from gross income.

The opinions of Co-Bond Counsel will be based on legal authorities that are current as of their date, will cover certain matters not directly addressed by those authorities, and will represent Co-Bond Counsel's judgement regarding the proper treatment of the Obligations for federal income tax purposes. It is not binding on the Internal Revenue Service (the "IRS") or the courts, and it is not a guaranty of result. As to questions of fact, Co-Bond Counsel will rely upon certified proceedings and certifications of public officials and others without independently undertaking to verify them. The opinions of Co-Bond Counsel will be in substantially in form attached hereto as Appendix B.

Co-Bond Counsel will express no opinion about other federal tax matters regarding the Obligations. Other federal tax law provisions may adversely affect the value of an investment in the Obligations for particular owners of Obligations. Prospective investors should consult their own tax advisors about the tax consequences of owning an Obligation.

Current and future legislative proposals, if enacted into law, may cause the interest on the Obligations to be subject, directly or indirectly, to federal income taxation or otherwise prevent the owners of the Obligations from realizing the full current benefit of the tax status of such interest. The introduction or enactment of any such legislative proposals may also affect the marketability of the Obligations. Prospective purchasers of the Obligations should consult their own tax advisors regarding any current or future federal legislative proposals.

The IRS has an active tax-exempt bond enforcement program. Under current IRS procedures, parties other than the District, including owners of the Obligations, would have little or no right to participate in an IRS examination of the Obligations. Moreover, because obtaining judicial review in connection with an IRS examination of tax-exempt obligations is difficult, obtaining independent review of IRS positions with which the District may disagree may not be practicable. Any action of the IRS, including selection of the Obligations for examination, the course or result of such an examination, or an examination of obligations presenting similar tax issues may affect the marketability of the Obligations and may cause the District to incur significant expense.

Original Issue Discount

The Obligations maturing in the years 2037 through 2040 are sold with original issue discount. Under existing law, any original issue discount on the Obligations is excluded from gross income for federal income tax purposes to the same extent as interest payable on such Obligations. The original issue discount is the excess of the principal amount of a Obligation over the issue price of that Obligation. The issue price of a maturity of the Obligations generally is the initial offering price to the public, excluding underwriters or other intermediaries, at which price a substantial amount of such maturity of the Obligations were first sold.

Original issue discount on tax-exempt obligations accrues on a constant-yield-to-maturity method based on regular compounding. The amount of original issue discount accrued in a particular accrual period will be considered to be received ratably on each day of the accrual period and will increase the owner's tax basis in the obligations. The adjusted tax basis will be used to determine taxable gain or loss upon a disposition (for example, upon a sale, exchange, redemption, or payment at maturity) of the obligations.

Owners of Obligations with original issue discount should consult their own tax advisors with respect to the federal tax consequences of owning such Obligations, including the computation of accrued original issue discount and the accrual of original issue discount allocable to owners that do not purchase their Obligations in the initial offering at the issue price. For certain corporations, a portion of the original issue discount that accrues in each year will be included in the calculation of federal alternative minimum tax liability. As a result, ownership of Obligations with original issue discount by such a corporation may result in an alternative minimum tax liability in the year of accrual, even though there has been no corresponding cash payment.

Owners of Obligations with original issue discount should also consult their own tax advisors with respect to the state and local tax consequences of owning Obligations. Under the applicable provisions governing the determination of state and local taxes, ownership of Obligations with original issue discount may result in a tax liability in the year of accrual, even though there will not be a corresponding cash payment until a later year.

Premium

Obligations purchased, whether at original issuance or otherwise, for an amount greater than their principal amount payable at maturity (or, in some cases, at their earlier call date) ("**Premium Bonds**") will be treated as having amortizable bond premium. No deduction is allowable for the amortizable bond premium in the case of bonds, like the Obligations, the interest on which is excluded from gross income for federal income tax purposes. However, the amount of tax exempt interest treated as received, and a Beneficial Owner's basis in a Premium Bond, will be reduced by the amount of amortizable bond premium properly allocable to such Beneficial Owner. Beneficial Owners of Premium Bonds should consult their own tax advisors with respect to the proper treatment of amortizable bond premium in their particular circumstances.

State of Wisconsin Income and Franchise Taxes

Interest on the Obligations is not exempt from current State of Wisconsin income or franchise taxes. Prospective investors should consult their own tax advisors about the state and local tax consequences of owning an Obligation.

NO DESIGNATION AS QUALIFIED TAX-EXEMPT OBLIGATIONS

The District will not designate the Obligations as "qualified tax-exempt obligations" for the purposes of Section 265(b)(3) of the Internal Revenue Code, relating to the ability of certain financial institutions (within the meaning of Section 265(b)(5) of the Internal Revenue Code) to deduct from income for federal income tax purposes 80% of the interest expense that is allocable to carrying and acquiring tax-exempt obligations.

BOOK-ENTRY-ONLY SYSTEM

The information contained in the following paragraphs of this subsection "Book-Entry-Only System" has been extracted from a document prepared by DTC entitled "SAMPLE OFFERING DOCUMENT LANGUAGE DESCRIBING BOOK-ENTRY-ONLY ISSUANCE." The District makes no representation as to the completeness or the accuracy of such information or as to the absence of material adverse changes in such information subsequent to the date hereof.

The Depository Trust Company ("DTC"), New York, NY, will act as securities depository for the Obligations. The Obligations 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 Obligation certificate will be issued for each maturity of the Obligations, each 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 an S&P Global Ratings rating of AA+. The DTC Rules applicable to its Direct Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchases of Obligations under the DTC system must be made by or through a Direct Participant, which will receive a credit for the Obligations on DTC’s records. The ownership interest of each actual purchaser of each Obligation (“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 Obligations 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 interests in Obligations, except in the event that use of the book-entry system for the Obligations is discontinued.

To facilitate subsequent transfers, all Obligations 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 Obligations with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Obligations; DTC’s records reflect only the identity of the Direct Participants to whose accounts such Obligations 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 Obligations may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Obligations, such as redemptions, tenders, defaults, and proposed amendments to the Obligation documents. For example, Beneficial Owners of Obligations may wish to ascertain that the nominee holding the Obligations for their benefit has agreed to obtain and transmit notices to Beneficial Owners.

Redemption notices shall be sent to DTC. If less than all of the Obligations within a maturity are being redeemed, DTC’s practice is to determine by lot the amount of the interest of each Direct Participant with such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to Obligations unless authorized by a Direct Participant in accordance with DTC’s MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the District 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 Obligations are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest on the Obligations 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 Participants’ accounts upon DTC’s receipt of funds and corresponding detail information from the District or the Paying Agent, on payment dates 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, the Paying Agent, or the District, 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 District or the Paying Agent, 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 depository with respect to the Obligations at any time by giving reasonable notice to the District or the Paying Agent. Under such circumstances, in the event that a successor depository is not obtained, Obligation certificates are required to be printed and delivered.

The District may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, Obligation certificates will be printed and delivered to DTC.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the District believes to be reliable, but the District takes no responsibility for the accuracy thereof.

NEITHER THE DISTRICT, THE PAYING AGENT NOR THE UNDERWRITERS WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO DIRECT PARTICIPANTS, TO INDIRECT PARTICIPANTS OR TO ANY BENEFICIAL OWNER WITH RESPECT TO (1) THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC, ANY DTC PARTICIPANT OR ANY INDIRECT PARTICIPANT; (2) THE PAYMENT BY DTC, ANY DTC PARTICIPANT OR ANY INDIRECT PARTICIPANT OF ANY AMOUNT WITH RESPECT TO THE PRINCIPAL OF, OR INTEREST ON THE OBLIGATIONS; (3) ANY NOTICE WHICH IS PERMITTED OR REQUIRED TO BE GIVEN TO HOLDERS OF THE OBLIGATIONS; (4) ANY CONSENT GIVEN BY DTC OR OTHER ACTION TAKEN BY DTC AS THE HOLDER OF THE OBLIGATIONS; OR (5) THE SELECTION BY DTC, ANY DTC PARTICIPANT OR ANY INDIRECT PARTICIPANT OF ANY BENEFICIAL OWNER TO RECEIVE PAYMENT IN THE EVENT OF A PARTIAL REDEMPTION OF OBLIGATIONS.

CONTINUING DISCLOSURE

In order to assist the Underwriters in complying with Rule 15c2-12 promulgated by the Securities and Exchange Commission (the "SEC"), pursuant to the Securities Exchange Act of 1934 (the "Continuing Disclosure Rule"), the District will enter into a Continuing Disclosure Agreement (the "Continuing Disclosure Agreement") for the benefit of owners, including beneficial owners, of the Obligations to provide certain financial information and operating data relating to the District annually to the Municipal Securities Rulemaking Board (the "MSRB"), and to provide notices to the MSRB of the occurrence of certain events enumerated in the Continuing Disclosure Rule. **The Continuing Disclosure Agreement provides that the annual financial information will be filed not later than 180 days after the end of each fiscal year. The District's fiscal year ends December 31st.** The Continuing Disclosure Agreement will be executed and delivered by the District on the date the Obligations are delivered, and will be in substantially the form attached hereto as Appendix C. A failure by the District to comply with the Continuing Disclosure Agreement will not constitute an event of default on the Obligations (although owners will have the right to compel performance of the obligations under the Continuing Disclosure Agreement). Nevertheless, such a failure must be reported in accordance with the Continuing Disclosure Rule and must be considered by any broker, dealer or municipal securities dealer before recommending the purchase or sale of the Obligations in the secondary market. Consequently, such a failure may adversely affect the liquidity of the Obligations and their market price.

The District is required to file its continuing disclosure information with the MSRB using the Electronic Municipal Market Access ("EMMA") system. Investors will be able to access continuing disclosure information filed with the MSRB at www.emma.msrb.org.

In the last five years, the District has not failed to comply in all material respects with any previous undertakings under the Continuing Disclosure Rule to provide annual reports or notices of listed events. Certain of the District's undertakings entered into before 2010 contemplate that the operating data filed annually by the District include the 20 largest users and 30 largest taxpayers; however, in accordance with Generally Accepted Accounting Principles as well as recommended financial reporting requirements for the Comprehensive Annual Financial Report (CAFR) by the Government Finance Officers Association, the District determined that only the 10 largest users and taxpayers are material. Therefore, the operating data filed by the District during the past five years has included only the 10 largest users and taxpayers.

LITIGATION AND REGULATORY PROCEEDINGS

There is not now pending, nor to the knowledge of the District threatened, any litigation restraining or enjoining the sale, issuance, execution or delivery of the Obligations or the authority of the District to levy taxes. There is not now pending, nor to the knowledge of the District threatened, any litigation questioning or affecting (i) the legal existence of the District or the title to office of its present officials, (ii) the authority of the District to own and operate its sewerage facilities, or (iii) the authority of the District to set rates and charges for its services. The District is involved in various other legal proceedings, claims and administrative actions arising in the normal course of business; however, the District believes that the resulting liability, if any, will not materially affect its financial condition.

Brian Kreuziger, Et al. v. Milwaukee County and MMSD

United States Court for the Eastern District of Wisconsin, Case No. 2:19-CV-01747

The District is a defendant in a lawsuit seeking \$4,521,676 in damages from the District and Milwaukee County relating to removal of a dam on the Milwaukee River. Plaintiffs are upstream landowners who assert that a taking of their property occurred when the dam was removed, by reducing the amount of water present in the river on their properties. The lawsuit was filed in December of 2019, and is in its initial stages. The District intends to contest the case vigorously. Outside counsel in the case will be provided by Milwaukee County.

Metropolitan Interceptor Sewer Contamination with PCB's

Polychlorinated biphenyl (PCB) contamination has been identified in the District's Basin H sewer near Capitol Drive. The sewer is directly downstream of an abandoned die casting facility with heavy PCB contamination. PCBs are present in the sewer at levels greater than 50 parts per million, triggering regulation by the United States Environmental Protection Agency ("EPA") under the Toxic Substances Control Act. The area for proposed remediation extends for roughly 8,000 linear feet (1.5 miles). The District prepared a Risk Based Work Plan, which EPA has approved for the remediation of Basin H. The estimated cost to implement the Work Plan is between \$2.5 and \$3.8 million. The District has notified its insurance carriers of this liability and expects a portion of this to be a covered liability, less the \$250,000 deductible.

PCB contamination has also been identified in a sewer running under Mitchell Park at levels exceeding 50 parts per million. The PCB contamination at this site is limited to a length of sewer of less than 1,000 feet. The District does not have an estimated cost for remediation but anticipates that it will be less than the cost to remediate the Basin H site. The District has notified its insurance carrier of this liability.

PCB contamination has also been identified in a sewer running between South 56th Street and Bruce Streets at 52.2 parts per million. This sewer has been unused in recent years. The District does not have an estimated cost for remediation, if it becomes necessary.

GLOBAL HEALTH EMERGENCY RISK

Impact of the Spread of COVID-19

In late 2019, a novel strain of coronavirus (COVID-19) emerged in Wuhan, Hubei Province, China. COVID-19 has spread throughout the world, including to the United States, resulting in the World Health Organization proclaiming COVID-19 to be a pandemic and President Trump declaring a national emergency. In response to the spread of COVID-19, the United States government, state governments, local governments and private industries have taken measures to limit social interactions in an effort to limit the spread of COVID-19. On March 25, 2020, Wisconsin Governor Tony Evers' "safer-at-home" order (the "Executive Order") went into effect, which orders the closure of all non-essential business and operations until April 24, 2020. In addition, the deadline for payment of State income taxes was extended to match the federal deadline of July 15, 2020.

The effects of the spread of COVID-19 and the government and private responses to the spread continue to rapidly evolve. COVID-19 has caused significant disruptions to the global, national and State economies. The extent to which the coronavirus affects the District and its financial condition will depend largely on future developments, including the duration of the outbreak and measures taken to address the outbreak, and the type and amount of federal assistance provided, all of which are highly uncertain and cannot be predicted by the District. However, the pandemic and the emergency responses have resulted in closures of restaurants, bars, malls, theatres, and other businesses, reductions in travel, and cancellations of numerous events as well as reduced business demand, worker layoffs, furloughs, and reductions in hours, and supply shortages. Consequently, District taxpayers and municipalities within the District's service area may be adversely affected.

The District's operations constitute an essential business, within the meaning of the Executive Order, as do those of its principal suppliers. Thus, unless a significant outbreak within its workforce or unexpected supply shortages occur, the District does not currently expect its operations to be significantly affected by the pandemic or the Executive Order.

As businesses within its service area have reduced or ceased operations, the sewerage usage has decreased, and the District expects this decrease to continue through all or part of the year. Without an offsetting increase in use later in the year, this would result in a decrease in the user charges described under "THE MILWAUKEE METROPOLITAN SEWERAGE DISTRICT - Financial Powers - Authority to Establish and Collect User Charges".

Depending upon the level of COVID-19 cases within its work force and their families, the District may see increased health care costs and increased costs of family and medical leave. In addition, operational costs may be passed along to the District pursuant to its operating agreement with Veolia. While these effects are impossible to predict at this time, the District does not expect overall operating cost increases to be material. The District may also experience cost overruns or delays in some elements of the Project and the 2020 CIP.

MUNICIPAL BANKRUPTCY

Municipalities are prohibited from filing for bankruptcy under Chapter 11 (reorganization) or Chapter 7 (liquidation) of the U.S. Bankruptcy Code (11 U.S.C. §§ 101-1532) (the "Bankruptcy Code"). Instead, the Bankruptcy Code permits municipalities to file a petition under Chapter 9 of the Bankruptcy Code, but only if certain requirements are met. These requirements include that the municipality must be "specifically authorized" under State law to file for relief under Chapter 9. For these purposes, "State law" may include, without limitation, statutes of general applicability enacted by the State legislature, special legislation applicable to a particular municipality, and/or executive orders issued by an appropriate officer of the State's executive branch.

As of the date hereof, Wisconsin law contains no authority for municipalities to file for bankruptcy relief under Chapter 9 of the Bankruptcy Code.

Nevertheless, there can be no assurance that State law will not change in the future, while the Obligations are outstanding, in a way that would allow the District to file for bankruptcy relief under Chapter 9 of the Bankruptcy Code. If, in the future, the District were to file a bankruptcy case under Chapter 9, the relevant bankruptcy court would need to consider whether the District could properly do so, which would involve questions regarding State law authority as well as other questions. If the relevant bankruptcy court concluded that the District could properly file a bankruptcy case, and that determination were not reversed, vacated, or otherwise substantially altered on appeal, then the rights of owners of the Obligations could be modified in bankruptcy proceedings. Such modifications could be adverse to owners of the Obligations, and there could ultimately be no assurance that holders of the Obligations would be paid in full or in part on the Obligations. Further, under such circumstances, there could be no assurance that the Obligations would not be treated as general, unsecured debt by a bankruptcy court, meaning that claims of holders of the Obligations could be viewed as having no priority (a) over claims of other creditors of the District; (b) to any particular assets of the District, or (c) to revenues otherwise designated for payment to owners of the Obligations.

Moreover, if the District were determined not to be a "municipality" for the purposes of the Bankruptcy Code, no representations can be made regarding whether it would still be eligible for voluntary or involuntary relief under Chapters of the Bankruptcy Code other than Chapter 9 or under similar federal or state law or equitable proceeding regarding insolvency or providing for protection from creditors. In any such case, there can be no assurance that the consequences described above for the holders of the Obligations would not occur.

MISCELLANEOUS

Any statements made in this Official Statement involving matters of opinion or of estimates, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of the estimates will be realized.

Co-Bond Counsel have not participated in the preparation of this Official Statement and will not pass on its accuracy, completeness or sufficiency. Co-Bond Counsel has not examined or verified any of the financial or statistical statements or data contained in this Official Statement and will express no opinion with respect thereto.

Legal matters incident to the authorization and issuance of the Obligations are subject to the unqualified approving legal opinions of Foley & Lardner LLP and MWH Law Group LLP, Co-Bond Counsel. Copies of such opinions will be available on the date of the delivery of the Obligations in substantially the form attached as Appendix B.

The execution and delivery of this Official Statement has been duly authorized by the Commission.

AUTHORIZATION

This Official Statement has been approved for distribution to prospective purchasers by the Underwriters. The District will provide to the Underwriters, on the date of delivery of the Obligations, a certificate confirming to the Underwriters that, to the best of its knowledge, information, and belief, this Official Statement, together with any supplements hereto, was on the date of the adoption of the Award Resolution and is on the date of delivery of the Obligations, true and correct in all material respects and did not and does not contain an untrue statement of a material fact or omit to state a material fact required to be stated, where necessary to make the statements in light of the circumstances under which they were made, not misleading.

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

By: /s/ Dan Devine

Chairperson

/s/ Anna Kettlewell

Secretary

APPENDIX A

Basic Financial Statements and Related Notes for the year ended December 31, 2018

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

and audit report of

**Baker Tilly Virchow, Krause, LLP
Madison, Wisconsin**

A copy of the District's Basic Financial Statements and Related Notes for the year ended December 31, 2018, including the accompanying independent Auditor's report, is included in this Appendix A. Potential purchasers should read such financial statements in their entirety. Such financial statements have been audited by the Auditor, to the extent and for the periods indicated thereon. The District has not requested or engaged the Auditor to perform, and the Auditor has not performed, any additional examination, assessment, procedures or evaluation with respect to such financial statements since the date thereof, or relating to this Official Statement, nor has the District requested that the Auditor consent to the use of such financial statements in this Official Statement. Although the inclusion of the financial statements in this Official Statement is not intended to demonstrate the fiscal condition of the District since the date of the financial statements, in connection with the issuance of the Obligations, the District represents that there has been no material adverse change in the financial position or results of operations of the District, nor has the District incurred any material liabilities, which would make such financial statements misleading

2018 Comprehensive Annual Financial Report



FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017

Milwaukee Metropolitan Sewerage District
Milwaukee, Wisconsin



Tour Group at MMSD Headquarters with the Lynyrd Skymmr Vessel

2018 Comprehensive Annual Financial Report

For the Years Ended
December 31, 2018 and 2017

Date of Incorporation
Reorganized April 26, 1982
pursuant to Chapter 282,
Laws of Wisconsin 1981

Finance Staff Mark T. Kaminski, CPA,
Director of Finance/Treasurer



Headquarters Green Roof Tour



Table of Contents

	Reference Exhibit	Page		Reference Exhibit	Page
I. Introductory Section					
Commission Organization Chart		4	Nonoperating Revenue and Expenses, for the fiscal years ended December 31, 2009 through 2018	B-5	41
Commissioners of the MMSD		5	User Charge Revenue by Municipality Within the District, for the fiscal years ended December 31, 2009 through 2018	B-6	42-43
2018 Letter from the MMSD Chair		6	User Charge Revenue by Municipality Outside the District, for the fiscal years ended December 31, 2009 through 2018	B-7	44-45
District Map		7	User Charge Rates, for the fiscal years ended December 31, 2009 through 2018	B-8	46-47
Letter of Transmittal		8-11	Wastewater Loadings by Customer Class, for the fiscal years ended December 31, 2009 through 2018	B-9	48-49
GFOA Certificate of Achievement		12	Ten Largest Sewer Users, for the fiscal years ended December 31, 2009 and 2018	B-10	50
II. Financial Section					
Independent Auditors' Report		14-15	Property Tax Information, for the fiscal years ended December 31, 2009 through 2018	B-11	51
Management's Discussion and Analysis - Required Supplementary Information		16-19	Bonded Debt Limit and Ratio of Bonded Debt to Equalized Value, for the fiscal years ended December 31, 2009 through 2018	B-12	52-53
Basic Financial Statements			Per Capita Debt, Personal Income and Unemployment Rate for the fiscal years ended December 31, 2009 through 2018	B-13	54
Statements of Net Position, December 31, 2018 and 2017	A-1	20-21	Computation of Overlapping Debt, for the fiscal year ended December 31, 2018	B-14	55
Statements of Revenues, Expenses, and Changes in Net Position, years ended December 31, 2018 and 2017	A-2	22	Ten Largest Taxpayers for Milwaukee County, for the fiscal years ended December 31, 2009 and 2018	B-15	56-57
Statements of Cash Flows, years ended December 31, 2018 and 2017	A-3	23	Population by Municipality, for the fiscal years ended December 31, 2009 through 2018	B-16	58
Notes to Financial Statements December 31, 2018 and 2017		24-32	Principal Private Sector Employers, for the fiscal years ended December 31, 2009 and 2018	B-17	59
Required Supplementary Information		33	Number of Employees by Identifiable Activity, for the fiscal years ended December 31, 2009 through 2018	B-18	60-61
Schedule of Funding Progress for Other Post-Employment Benefits Plan		33	Operating and Capital Indicators, for the fiscal years ended December 31, 2009 through 2018	B-19	62-63
Schedule of Employer's Proportionate Share of the Net Pension Liability (Asset) - ERS		33	MMSD's Mission		64
Schedule of Employer's Contributions - ERS		33			
Notes to Required Supplementary Information		33			
Supplementary Information		34			
Health Insurance Schedule of Changes in Total OPEB Liability and Related Ratios		34			
III. Statistical Section					
Net Position by Components, for the fiscal years ended December 31, 2009 through 2018	B-1	36-37			
Change in Net Position, for the fiscal years ended December 31, 2009 through 2018	B-2	38			
Operating Revenue by Source, for the fiscal years ended December 31, 2009 through 2018	B-3	39			
Operating Expenses, for the fiscal years ended December 31, 2009 through 2018	B-4	40			



South Shore Water
Reclamation Facility



INTRODUCTORY SECTION

Commission Organization Chart



Commissioners of the Milwaukee Metropolitan Sewerage District



Kris Martinsek
Commission Chair,
Owner,
Martinsek & Associates



Carl Krueger
Commission Vice Chair,
President,
Village of Brown Deer

Dan Devine
Mayor,
City of West Allis

Kathy Ehley
Mayor,
City of Wauwatosa

Cavalier C. Johnson
Alderman,
City of Milwaukee

LaTonya Johnson
Wisconsin State Senator

Eugene Manzanet
Vice President,
Community Development,
PNC Bank

José G. Pérez
Alderman,
City of Milwaukee

Jeff Stone
Vice President,
Kapur & Associates

John Swan, III
Business Agent,
LIUNA Local 113

District Staff

Kevin L. Shafer, P.E.
Executive Director

Anna Kettlewell
Commission Secretary

Susan B. Anthony
Director of Legal Services

Michael Martin
Director of Technical Services

Principal Advisors

Baker Tilly Virchow Krause, LLP
Independent Auditors

Foley & Lardner and
MWH Law Group
Co-Bond Counsel

Robert W. Baird & Co.
Financial Advisor

2018 Letter From The MMSD Chair

The 2018 Comprehensive Annual Financial Report details investments made by our customers and MMSD for the mission of protecting area waterways. But there are clouds on the horizon.

Yes, MMSD remains a global leader in its field, capturing and cleaning 98.4% of all the water and wastewater entering our system (versus the national goal of 85%). In 2018, we returned 76.9 billion gallons of clean water to Lake Michigan, 6% more than 2017, which was 6% more than in 2016.



Kris Martinsek
Commission Chair

As we move forward implementing our 2035 Vision and developing a 2050 plan, we are committed to providing reliable sewerage services, building flood resilience, and enhancing and protecting our waterways. But we face challenges. MMSD's reclamation facilities and 300 miles of regional sewers are aging and will require substantial investments to assure we optimize reliability and performance of both new and aging assets. In 2018 we invested \$60.3 million in capital projects with \$1.4 billion slated over the next six years (including debt service payments and new capital expenditures).

That alone will not be enough to meet future demands. Our climate is changing and in 2018 our region experienced frequent, high volume rainstorms making sewer overflows and flooding bigger threats. The latest National Climate Assessment, required by Congress and released by the Trump administration in November, stressed again that "heavy precipitation events in the Midwest have increased in frequency and intensity since 1901 and are projected to increase through this century."

We know we can't build our way out of the problem. To protect our environment and improve the region's ability to respond to these threats, we need to focus more resources on climate resiliency, managing water where it falls, before it enters the sewer system.

"We need to focus more resources on climate resiliency, managing water where it falls"

We have more work to do preserving critical floodplain areas and hydric soils, removing concrete from rivers, naturalizing them and restoring habitat and aquatic life. The region will always need to reduce inflow and infiltration from aging, leaky sewers. At the same time, we need to construct more green infrastructure and practice sustainability.

The future success of our efforts will depend on whether we can recruit the 1.1 million people in the MMSD service area to join our army of Freshcoast Guardians and take personal responsibility to reduce water pollution and improve our rivers and Lake Michigan. Help to manage water where it falls by installing a rain barrel, planting a rain garden, installing porous pavers on your patio or driveway and simply reducing the amount of water you use during wet weather events.

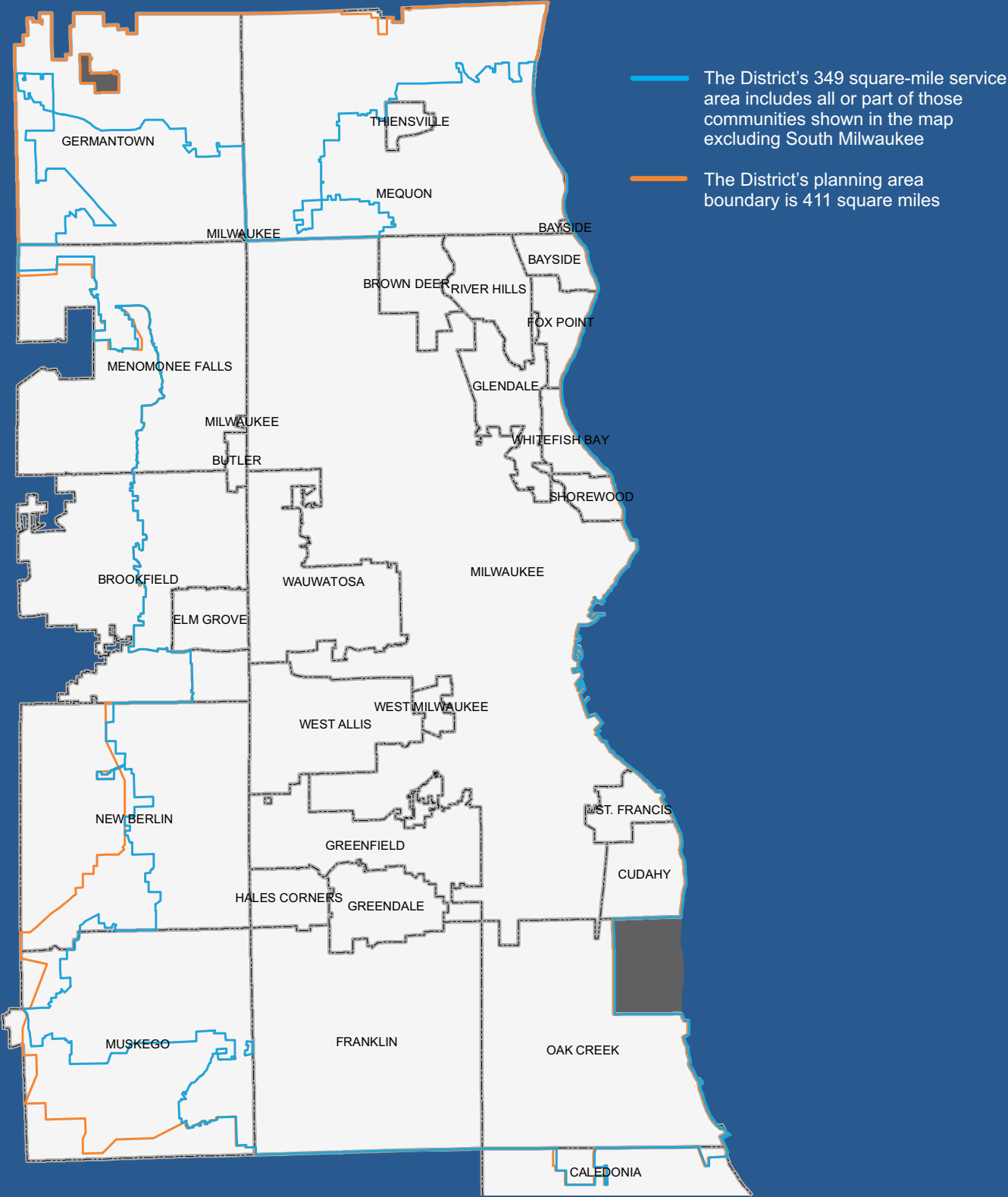
With a sound financial footing, a dedicated staff, strong partnerships with other government agencies and community organizations, and all of you working with us, together we can weather the storm.

Sincerely,

Kris Martinsek

Commission Chair

Milwaukee Metropolitan Sewerage District





June 11, 2019

The Commissioners
Milwaukee Metropolitan Sewerage District

Dear Commissioners:

State law requires that the Milwaukee Metropolitan Sewerage District (District) publish a complete set of financial statements presented in conformance with generally accepted accounting principles (GAAP) and audited in accordance with generally accepted auditing standards by a firm of independent licensed certified public accountants. Pursuant to that requirement, we hereby issue the comprehensive annual financial report of the District for the fiscal year ended December 31, 2018.

This report consists of management's representations concerning the finances of the District. Accordingly, management assumes full responsibility for the completeness and reliability of all information presented in the report. To provide a reasonable basis for making these representations, management of the District has established a comprehensive internal control framework that is designed both to protect the government's assets from loss, theft, or misuse and to compile sufficient reliable information for the preparation of the District's financial statements in conformity with GAAP. Because the cost of internal controls should not outweigh their benefits, the District's framework of internal controls has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. As management, we assert that, to the best of our knowledge and belief, this financial report is complete and reliable in all material respects.

Baker Tilly Virchow Krause, LLP, a firm of licensed certified public accountants, has audited the District's financial statements. The goal of the independent audit was to provide reasonable assurance that the financial statements of the District for the fiscal years ended December 31, 2018 and 2017, are free of material misstatement. The independent audit involved examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; assessing the accounting principles used and significant estimates made by management; and evaluating the overall financial statement presentation. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are

appropriate in the circumstances, but not for expressing an opinion on the effectiveness of the District's internal control over financial reporting. Accordingly, Baker Tilly Virchow Krause, LLP expresses no such opinion. The independent auditor concluded, based upon the audit, that there was a reasonable basis for rendering an unmodified opinion that the District's financial statements for the fiscal years ended December 31, 2018 and 2017 are fairly presented in conformity with GAAP. The independent auditor's report is presented as the first component of the financial section of this report.

The independent audit of the financial statements of the District was part of a broader, federally mandated "Single Audit" designed to meet the special needs of federal and state agencies. The standards governing Single Audit engagements require the independent auditor to report not only on the fair presentation of the financial statements, but also on the audited government's internal controls and compliance with legal requirements, with special emphasis on internal controls and legal requirements involving the administration of federal and state awards. These reports are available in the District's separately issued Single Audit Report.

GAAP require that management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement MD&A and should be read in conjunction with it. The District's MD&A can be found immediately following the report of the independent auditors.

PROFILE OF THE DISTRICT

General

The District is a special purpose municipal corporation organized under the laws of the State of Wisconsin. The District was created in 1982 by the reorganization of the sewerage function previously financed by the Milwaukee County government.

Milwaukee Metropolitan Sewerage District
260 W. Seeboth Street, Milwaukee, WI 53204-1446
414-272-5100 • www.mmsd.com

Legal Boundary

The District's legal boundary presently includes all of Milwaukee County with the exclusion of the City of South Milwaukee. The legal boundary also includes the portion of the Village of Bayside that is in Ozaukee County, and those portions of the City of Milwaukee that are in Waukesha and Washington Counties. The District may levy ad valorem property taxes from time to time on all taxable property within its legal boundary.

Service Area

The District presently provides sewage treatment services for the 18 cities and villages within the District's legal boundary. In addition, the District is authorized under state statutes to provide sewage treatment service to areas beyond its legal boundary but within the portion of the multi-county drainage basin delineated as part of the Water Quality Management Plan developed by the Southeastern Wisconsin Regional Planning Commission pursuant to section 208 of the Federal Water Pollution Control Act Amendments of 1972. This area includes all or parts of 10 municipalities outside Milwaukee County. District sewage treatment service is presently provided to all or parts of these 10 municipalities.

Service Responsibilities and Powers

The District is statutorily responsible for construction, operation and maintenance of its sewers, watercourse improvements and treatment plant facilities within its service area. The District possesses the right of eminent domain throughout Wisconsin. It has the authority to promulgate rules and regulations necessary and proper to promote the best operation of the system, protect its works, prevent damage to the sewerage system, prevent surcharging of sewers or interference with the treatment process, and to attain state and federal pretreatment requirements. These rules and regulations apply throughout the territory served and have precedence over any conflicting ordinance, code or regulation. The District may issue special orders to attain compliance with its rules and regulations and it may issue special use permits.

Governance

The District's governing body is the Milwaukee Metropolitan Sewerage Commission, which is composed of eleven members. Seven of the eleven members are appointees of the Mayor of the City of Milwaukee. Three of the appointees of the Mayor of the City of Milwaukee must be elected officials. Four of the eleven members are appointees of a body comprised of the elected executive

officer of each city or village other than the City of Milwaukee within the District's boundary. Of these four appointees, three must be elected officials. All appointees have terms of three years, except the elected official appointees of the Mayor of the City of Milwaukee, who serve for one year. The Commission elects a Chairperson and Vice Chairperson from its membership. Most major financing decisions of the District require an approving vote of two-thirds of all Commissioners.

Budgets

The District's annual Operation and Maintenance, and Capital budgets are financial plans outlining the established expenditures for programs or projects already authorized or to be considered by the District's Commission. Approval of the budgets by the District's Commission does not in itself authorize any specific expenditures or projects. Requests for capital project expenditures must be approved by either the Commission or the Executive Director, as appropriate, within established limits of authority prior to the commitment of funds. Operation and Maintenance budgets are structured so that expenses can be approved, and costs can be accumulated by: a) cost center, b) expense category, c) user charge parameter/activity in accordance with the cost recovery manual, as updated annually by the Commission, and d) special program costs as requested and approved by the Commission.

FACTORS AFFECTING FINANCIAL CONDITION

The information presented in the financial statements is perhaps best understood when it is considered from the broader perspective of the specific environment within which the District operates.

Local Economy

The Milwaukee metropolitan area continues to reflect a solid economic base and diversification despite the most significant national economic recession since the 1920's. After five straight years of declining property values, for the fifth consecutive year, taxable valuations in 2018 increased, with a 3.6% increase within the District and 3.6% in the District's total service area. The District's ten largest taxpayers make up only 4.4% of the total tax base. Six of these taxpayers are commercial real estate developers whose projects include shopping malls, office buildings, and hotels.

The Milwaukee metropolitan area continues to have a sizable manufacturing base, one of the largest in the Midwest. However, continued expansion of the service sector provides diverse employment opportunities to metropolitan area residents in the financial, governmental, and health care areas and has reduced the relative importance of manufacturing.

Another indicator of the improvement in the Milwaukee area economy has been the decrease in the unemployment rate. The unemployment rate in Milwaukee County was 3.6% in 2018 compared to 4.0% in 2017. The unemployment rate has now decreased each of the last eight years since 2010 when the unemployment rate was 9.6%.

Long-range Financial Planning

The District maintains long-range financing plans for its Operation and Maintenance (O&M) and Capital budgets. The District's operating budget utilizes a user charge stabilization fund and an equipment replacement fund to help stabilize user charge rates while improving customer service and the efficiency of operations. Items of note in the 2019 operating budget include:

- \$84.8 million in budgeted sewer user charge billings for 2019, an 1.22% increase from 2018. The annual average District household charge of \$140.22 in 2019 represents an increase of \$2.85 or 2.1% from the 2018 amount of \$137.37.
- Total O&M expenditures were budgeted at \$104.7 million, 2.7% higher than in 2018.
- The primary reasons O&M expenditures are increasing \$2.7 million in 2019, is because 2019 is the first full year of the extension agreement for the operating contract with Veolia Water Milwaukee and ensuring adequate funding for machinery and equipment replacement that does meet the capital budget funding criteria.

The District's six-year financing plan for the capital budget seeks to accomplish the District's capital program needs within the following financing objectives:

- 25% cash financing for capital projects, and
- Maintaining outstanding debt at no more than 2.5% of total equalized property value (i.e., 50% of the statutory limit of 5%).

The six-year plan provides for \$783.4 million in capital project and program expenditures from 2019 through 2024, primarily for rehabilitation, upgrade or replacement

of assets at the District's two water reclamation facilities, structural and hydraulic upgrades to the Metropolitan Interceptor Sewer system, watercourse and flood management projects, private property infiltration and inflow reduction, and development of green infrastructure solutions.

The 2018 Capital Budget continues the Private Property Infiltration and Inflow (PPI/I) Reduction program which began in 2010 and continues a program to fund municipal green infrastructure. One of the primary causes of system capacity problems is the amount of clear water entering the system through infiltration and inflow from private property, such as aging or deteriorating laterals, or foundation drains. The District's PPI/I Reduction program provides funding to municipalities to remedy I/I from private property sources within their municipalities. The Green Solutions program provides funding to municipalities to implement green infrastructure, assisting the District in meeting its permit requirement to capture an additional one million gallons of stormwater each year through green infrastructure. The long-range financing plan includes \$30 million (\$5 million per year) in planned funding for the PPI/I Reduction program and \$30 million (\$5 million per year) for the Green Solutions program.

The District's tax levy increased 1.75% when compared to last year's levy and is projected to increase 4% annually from 2020 through 2024.

Operating Contract

In June of 2016, the District's Commission approved a 10-year extension agreement between the District and Veolia Water Milwaukee, LLC (Veolia) as the operator of the District's two water reclamation facilities, biosolids management and field operations, with the terms of the extension beginning on March 1, 2018. This extension agreement follows a 10-year contract that expired February 28, 2018, in which Veolia replaced United Water Services (UWS) as the operator of the District's two water reclamation facilities. Biosolids management and field operations.

The District continues to operate its industrial waste pretreatment program; capital planning and engineering services; environmental laboratory, water quality monitoring and research; Milorganite sales, marketing, and distribution. The District has an extensive contract compliance and oversight program related to the 10-year extension.

LANDFILL GAS PIPELINE

The District has designed and built a low-pressure pipeline approximately 19 miles long to transport landfill gas from Advance Disposal Services Emerald Park Landfill in Muskego, to fuel the District's Jones Island Water Reclamation Facility, providing 25 years of green energy and reducing greenhouse gas emissions. The pipeline began full operations in 2014. The pipeline is estimated to result in significant savings to District customers over a 25-year period, depending on natural gas prices.

AWARDS AND ACKNOWLEDGEMENTS

The Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the District for its comprehensive annual financial report (CAFR) for the fiscal year ended December 31, 2017. This was the 40th consecutive year that the District has received this prestigious award. To be awarded a Certificate of Achievement, the District published an easily readable and efficiently organized CAFR. This report satisfied both GAAP and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current CAFR continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

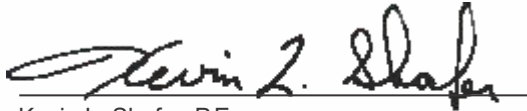
The District received the GFOA's Distinguished Budget Presentation Award for its 2018 annual budget document. To qualify for the distinguished Budget Presentation Award, the District's budget document was judged to be proficient in several categories. These categories include presentation as a policy document, financial plan, operations guide, and a communications device.

The preparation of this report would not have been possible without the efficient and dedicated services of the entire staff of the Accounting Department. Staff diligently and faithfully contributed to the continued improvement of the District's accounting function and preparation of this report. Their professional expertise, experience and judgment have been invaluable to us and to the overall efficiency of the District. We would like to thank the members of the Communications and Graphics staffs, for without their efficient and dedicated services,

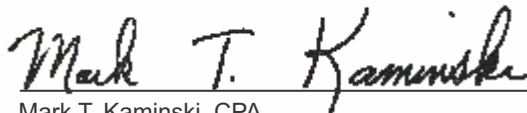
the preparation of this report could not have been accomplished on a timely basis. We would also like to thank the Commission for providing the policy direction that allows us to pursue sound financial management practices.

FINANCE STAFF CHANGES

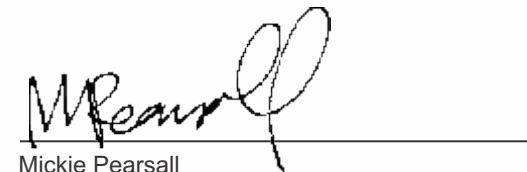
After forty years of service to the District, Mark Kaminski is retiring in 2019. Mickie Pearsall has been named Mark's successor beginning in 2019. Mark will stay on the staff for part of 2019 to ensure a smooth transition.



Kevin L. Shafer, P.E.
Executive Director



Mark T. Kaminski, CPA
Director of Finance/Treasurer 2018



Mickie Pearsall
Director of Finance/Treasurer 2019

The GFOA Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Milwaukee Metropolitan Sewerage District for its comprehensive annual financial report for the fiscal year ended December 31, 2017. This was the 40th consecutive year that the government has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

**Milwaukee Metropolitan Sewerage
District, Wisconsin**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

December 31, 2017

Christopher P. Morill

Executive Director/CEO



FreshCoast Guardians
Resource Center Tours



FINANCIAL SECTION



INDEPENDENT AUDITORS' REPORT

To the Commissioners
Milwaukee Metropolitan Sewerage District (the District)
Milwaukee, Wisconsin

Report on the Financial Statements

We have audited the accompanying financial statements of Milwaukee Metropolitan Sewerage District (the District), as of and for the years ended December 31, 2018 and 2017, and the related notes to the financial statements, which collectively comprise the District'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.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits 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 the auditors' 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 over financial reporting relevant to the District'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 District'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 District as of December 31, 2018 and 2017, and the respective changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note I, the District adopted the provisions of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, effective January 1, 2018. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the required supplementary information 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 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 basic financial statements as a whole. The Introductory Section and Statistical Section as identified in the table of contents is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we express no opinion or provide any assurance on it.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we will also issue a report on our consideration of the District'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 solely 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 the effectiveness of the District 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 District's internal control over financial reporting and compliance.

Baker Tilly Virchow Krause, LLP

Madison, Wisconsin
June 11, 2019

Management's Discussion and Analysis

As management of the Milwaukee Metropolitan Sewerage District (District), we offer readers of the District's financial statements this narrative overview and analysis of the financial activities of the District for the fiscal years ended December 31, 2018 and December 31, 2017. We encourage readers to consider the information presented here in conjunction with the additional information that we have furnished in our letter of transmittal, which can be found on pages 8 - 11 of this report.

FINANCIAL HIGHLIGHTS

- The District's net position of \$2.6 billion decreased 2.5% to \$2.5 billion because of the District implementing GASB Statement 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB Statement 75) in 2018.
- The District has a deficit balance of \$81.9 million for its unrestricted net position. This represents an increase of \$75.2 million from the deficit balance of \$6.7 million at December 31, 2017. In accordance with GASB Statement 75, at December 31, 2018, the District has recorded a total Other Postemployment Benefits (OPEB) liability of \$120.2 million. The District has elected to fund its liability related to postretirement benefits other than pensions as it comes due rather than when it is incurred. At January 1, 2018, the total OPEB liability was \$136.7 million using a net discount rate of 3.44%. At December 31, 2018 the net OPEB liability decreased \$16.5 to \$120.2 million using a net discount rate of 4.10%. This decrease of \$16.5 million, combined with a decrease of \$6.8 million in deferred inflows related to the OPEB expense during 2018, is the primary reason total operating expenses declined by 8% in 2018 when compared to 2017's amount. See note 11 to the financial statements for further details.
- During 2018, the District received \$19.7 million in loan proceeds from the State of Wisconsin Clean Water Fund Loan Program. The issuance of this new debt, along with the other general obligation debt, brings the District's outstanding bonded debt at December 31, 2018 to \$815.6 million. This is a decrease of \$64.6 million over the balance at December 31, 2017. The District's debt limit rate decreased from 1.46% to 1.30%, well below the statutory limit rate of 5%.

OVERVIEW OF THE FINANCIAL STATEMENTS

This discussion and analysis is intended to serve as an introduction to the District's basic financial statements. The District's basic financial statements are comprised of two components: 1) the financial statements and 2) notes to the financial statements that explain in more detail some of the information in the financial statements.

REQUIRED FINANCIAL STATEMENTS

The financial statements of the District report information about the District using accounting methods that are similar to those used by private-sector companies. These statements provide both long-term and short-term information about the District's overall financial status.

The statement of net position presents information on all of the District's assets, deferred outflows of resources, liabilities, and deferred inflows of resources with the difference reported as net position. This statement provides information about the nature and the amounts of investments in resources (assets) and the obligations to District creditors (liabilities). It provides one way to measure the financial health of the District by providing the basis for evaluating the capital structure of the District and assessing the liquidity and financial flexibility of the District. However, one will need to also consider nonfinancial factors such as changes in economic conditions, population, and industrial/commercial customer growth, and new or changed government legislation.

All the current year's revenues and expenses are accounted for in the Statement of Revenues, Expenses, and Changes in Net Position. This

See accompanying independent auditors' report.

statement measures the success of the District's operations over the past year and can be used to determine whether the District has successfully recovered all its costs through its user fees, net Milorganite sales revenue, other charges, and credit worthiness.

The final required financial statement is the Statement of Cash Flows. The statement reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and financing activities. This statement provides answers to such questions as where did cash come from, what was cash used for, and what was the change in the cash balance during the reporting period.

FINANCIAL ANALYSIS OF THE DISTRICT

Net Position

As previously noted, net position may serve over time as a useful indicator of an entity's financial position. In the case of the District, assets and deferred outflows of resources exceeded liabilities and deferred inflows of resources by \$2.5 billion at the close of the most recent fiscal year.

As can be seen in Table A-1 on page 17, the largest portion of the District's net position (99.9 % at December 31, 2018) reflects its investment in capital assets (e.g., sewers, buildings, machinery, and equipment), less any related debt used to acquire those assets that is still outstanding. The District uses these capital assets to provide sewerage treatment services, provide flood management and to maintain and improve watercourses for the entire District service area; consequently, these assets are not available for future spending. Although the District's investment in its capital assets is reported net of related debt, it should be noted that the resources to repay this debt must be provided from other sources, since the capital assets themselves are not intended to be used to liquidate these liabilities.

As shown in Table A-1, current, other assets and noncurrent assets decreased \$7.9 million or 2.4% from 2017 to 2018. The primary reason for the decrease was the District had \$53.1 million in unused proceeds from the General Obligation Promissory Notes, Bonds 2017A remaining at December 31, 2017. Only \$33.4 million in proceeds remain at December 31, 2018. This drawdown was planned, and the District does not plan to issue new General Obligation Debt until 2020. This decrease was partially offset by increases in unrestricted assets due to contributions to the user charge stabilization fund and the generation of O&M surpluses.

The Deferred Outflow of Resources consists of \$7.3 million related to pension deferred outflows in accordance with GASB Statement 68, Accounting and Financial Reporting for Pensions, at December 31, 2018 (see note 10 to the financial statements for additional details). The remaining \$3.3 million relates to the unamortized loss on the District issued \$47.8 million of General Obligation Sewerage System Refunding Bonds, Series 2015C.

As can be seen from Table A-1, total liabilities remained approximately unchanged at \$1 billion or a 0.3% increase from 2017 to 2018. The District received \$19.7 million in new debt proceeds during 2018 which was offset by \$84.3 million in planned principal pay down of existing District general obligation issued debt and Clean Water Fund Program loans. Offsetting this \$64.6 million net decrease in outstanding debt is the increase in the total OPEB liability from implementing GASB 75, increasing \$67.3 million from \$52.9 million at December 31, 2017 to \$120.2 million at December 31, 2018.

The Deferred Inflow of Resources increased \$10.9 million or 8.3%. \$8.9 million of the increase at December 31, 2018, is related to OPEB deferred inflows in accordance with GASB Statement 75. The balance is related to pension deferred inflows in accordance with GASB Statement 68, Accounting and Financial Reporting for Pensions.

The slight increase in the District net position invested in capital assets of \$12.1 million from 2017 to 2018 is due primarily from the District's continued effort to rehabilitate, replace, upgrade or improvement of existing District facilities and infrastructure.

Table A-1 Condensed Summary of Net Position (000's)

	2018	2017	2016	Percentage Increase (Decrease) 2018 Versus 2017
Current and Other Assets	\$218,116	\$215,974	\$227,767	1.0%
Noncurrent Assets	108,021	118,105	54,988	(8.5)
Capital Assets	<u>3,322,297</u>	<u>3,362,780</u>	<u>3,399,024</u>	(1.2)
Total Assets	<u>3,648,434</u>	<u>3,696,859</u>	<u>3,681,779</u>	(1.3)
Deferred Outflows of Resources	<u>10,652</u>	<u>12,047</u>	<u>14,402</u>	(11.6)
Current Liabilities	112,703	109,039	124,059	3.4
Noncurrent Liabilities	<u>887,650</u>	<u>888,741</u>	<u>875,092</u>	(0.1)
Total Liabilities	<u>1,000,353</u>	<u>997,780</u>	<u>999,151</u>	0.3
Deferred Inflows of Resources	<u>141,780</u>	<u>130,913</u>	<u>130,153</u>	8.3
Investment in Capital Assets	2,513,765	2,501,652	2,489,929	0.5
-Restricted	85,071	85,236	83,418	(0.2)
-Unrestricted	<u>(81,883)</u>	<u>(6,675)</u>	<u>(6,470)</u>	(1,126.7)
Total Net Position	<u>\$2,516,953</u>	<u>\$2,580,213</u>	<u>\$2,566,877</u>	(2.5)

The deficit in the District's unrestricted net position increased significantly by \$75.2 million to \$81.9 million. The deficit in the unrestricted net position is the result of the District electing to fund its long-term liability related to postretirement health and life insurance as it comes due rather than when it is incurred. As mentioned above, the District implemented GASB 75 in 2018. The total long-term OPEB liability related to this benefit was \$120.2 million at December 31, 2018. At December 31, 2017, the long-term liability reported was \$52.9 million. It should be noted in 2017 the District disclosed an unfunded actuarial accrued liability of \$172.1 million, and under GASB 75 accounting and reporting requirements, the entire unfunded liability has decreased to \$120.2 million.

When comparing 2016 to 2017, Table A-1 indicates current, other assets and noncurrent assets increased \$51.3 million or 18.2%. The primary reason for the increase was the issuance in \$80 million of General Obligation Promissory Notes, Bonds 2017A. The District had \$53.1 million in unused proceeds from the Bonds remaining at December 31, 2017. That amounts compare with the \$4.1 million remaining in unused proceeds at December 31, 2016 from the General Obligation Promissory Notes, Series 2015A.

The Deferred Outflow of Resources consists of \$8.3 million related to pension deferred outflows in accordance with GASB Statement 68, Accounting and Financial Reporting for Pensions, at December 31, 2017 (see note 10 to the financial statements for additional details). The remaining \$3.8 million relates to the unamortized loss on the District issued \$47.8 million of General Obligation Sewerage System Refunding Bonds, Series 2015C.

As can be seen from Table A-1, total liabilities remained approximately unchanged at \$998 million or 0.1% decrease from 2016 to 2017. Although the District received \$92.9 million in new debt proceeds during 2017 this was offset by the planned pay down of existing District general obligation issued debt and Clean Water Fund Program loans.

The slight increase in the District net position invested in capital assets of \$13.3 million from 2016 to 2017 is due primarily from the District's continued effort to rehabilitate, replace, upgrade or improvement of existing District facilities and infrastructure.

The deficit in the District's unrestricted net position increased slightly by \$205,000 to \$6.7 million. The deficit in the unrestricted net position is the result of the District electing to fund its long-term liability related to postretirement health and life insurance as it comes due rather than when it is incurred. The total long-term liability related to this benefit was \$52.9 million at December 31, 2017 with an unfunded actuarial accrued liability of \$172.1 million, amortized as a level dollar amount and the amortization period is open and is 30 years in accordance with GASB Statement 45, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions.

While the Summary of Net Position (Table A-1) shows the change in the District's financial position the Statements of Revenues, Expenses, and Changes in Net Position provides answers as to the nature and source of these changes. As can be seen in Table A-2 on page 18, for the fiscal year ended 2018, total revenues increased by \$6.8 million or 3.0% and expenses decreased by \$14.6 million or 6.9%. The major factors, which drove these results, include:

- Total user charges increased \$6.7 million or 8.5% from 2017. The District had budgeted an increase of 11.5% in user charges for 2018 primarily because it was the first year of 10-year Veolia Water operating contract extension agreement that began March 1, 2018.
 - Although the District's Milorganite revenue had a slight increase in 2018, the \$10.3 million amount represented a record high in net Milorganite revenue. As the District continues to focus on increasing sales in the retail market, including popular "big box" and warehouse stores that sell to homeowners and gardeners, the average net selling price increased \$4.05 per ton, to \$226.34 in 2018 from \$222.29 in 2017.
 - Excluding depreciation, operating expenses in 2018 decreased \$17.2 million or 19.0% over the amount for 2017. As mentioned earlier, the implementation of GASB 75 during 2018 resulted in a decrease of \$23.3 million related to the OPEB expense. The increase in the discount rate, combined with a decrease of \$6.8 million in deferred OPEB inflows created the decrease. This decrease was partially offset by a planned increase in operating expenses attributable to the first year of the extension agreement for the Veolia Water operating contract and \$700,000 in one-time expenditures for necessary environmental improvements.
 - Nonoperating revenues decreased by \$308,000 or 0.2%. The primary reason nonoperating revenues changed only slightly was because the District adopted a 0% increase in the tax levy for 2018 purposes.
 - Although nonoperating expenses in 2018 increased only 0.6% or \$178,000 from 2017's amount, it is important to note that interest expense increased \$3.2 million or 15.9%. In 2018, the District adopted GASB Statement 89, Accounting for Interest Cost Incurred Before the End of a Construction Period (GASB Statement 89). GASB Statement 89 requires the District to recognize interest costs before the end of a construction period as an expense in the year in which the costs are incurred. Since GASB Statement 89 also requires this change in accounting to be treated prospectively, the 2017 interest expense was net of \$5.1 million of interest cost capitalized in accordance with prior GASB Statements. Therefore, actual interest costs in 2018 decreased from approximately \$25.4 million in 2017 (amount prior to capitalization) to \$23.6 million in 2018, consistent with the District's decrease in outstanding debt.
- For the fiscal year ended 2017, when compared to 2016 amounts, total revenues increased by \$14.7 million or 7.0% and expenses increased by \$3.1 million or 1.5%. The major factors, which drove these results, include:
- Total user charges increased \$1.7 million or 2.2% from 2016. This is consistent with the District 2.5% budgeted or \$1.8 million increase for 2017 sewer user charge billings.

See accompanying independent auditors' report.

Table A-2 Condensed Summary of Revenues, Expenses, and Changes in Net Position (000's)

	2018	2017	2016	Percentage Increase (Decrease) 2018 Versus 2017
Operating Revenues:				
User Charges	\$84,965	\$78,301	\$76,582	8.5%
Fertilizer	10,313	\$10,272	9,054	0.4
Other	1,466	1,042	625	40.7
Total Operating Revenues	96,744	89,615	86,261	8.0
Nonoperating Revenues:				
Property Tax	98,328	98,250	95,798	0.1
Capital Charges - Municipalities Outside the District	31,700	31,523	25,912	0.6
Other	4,049	4,612	1,320	(12.2)
Total Nonoperating Revenues	134,077	134,385	123,030	(0.2)
Total Revenues	230,821	224,000	209,291	3.0
Operating Expenses:				
Systems - Operation and Maintenance	59,490	56,415	57,348	5.5
Laboratory and Research Services	832	2,812	2,582	(70.4)
Industrial Waste and Conveyance Monitoring	(601)	3,161	3,470	(119.0)
Finance, Engineering and Administration	13,591	28,115	25,756	(51.7)
Depreciation	96,356	93,951	91,961	2.6
Total Operating Expenses	169,668	184,454	181,117	(8.0)
Nonoperating Expenses	27,490	27,381	26,942	0.4
Land Contributed to Municipalities	87	18	649	383.3
Total Nonoperating Expenses	27,577	27,399	27,591	0.6
Total Expenses	197,245	211,853	208,708	(6.9)
Income (Loss) Before Capital Contributions	33,576	12,147	583	176.4
Capital Contributions	2,682	1,189	1,860	125.6
Changes in Net Position	36,258	13,336	2,443	
Beginning Net Assets, as Restated	2,580,213	2,566,877	2,564,434	
Cumulative Effect of a Change in Accounting Principle	(99,518)	0	0	
Ending Net Position	\$2,516,953	\$2,580,213	\$2,566,877	

- The District's Milorganite revenue increased \$1.2 million or 13.5% in 2017. As the District continues to focus on increasing sales in the retail market, including popular "big box" and warehouse stores that sell to homeowners and gardeners, 1,621 more tons were sold in 2017 and the average net selling price increased \$2.07 per ton, to \$222.29 from 2016 to 2017.
- Excluding depreciation, operating expenses in 2017 increased \$1.3 million or 1.5% over the amount for 2016. The District had a budgeted increase for 2017 expenditures of 0.7%. The primary reason for the larger increase in actual expenditures over 2016's amount, is a \$1.5 million larger than expected increase in health claims.
- Nonoperating revenues increased by \$11.3 million of 9.2%. Although tax levies to District member communities increased property tax revenue by \$2.5 million or 2.6%, there was an increase of \$5.6 million or 21.7% in 2017 for capital charges to municipalities outside the District. This is primarily due to lower credits related to a decrease in watercourse expenditures.

Municipalities outside the District receive a credit for expenditures on watercourses for which they are not tributary to the watercourse being improved.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

As of December 31, 2018, the District's investment in capital assets amounted to \$3.3 billion (net of accumulated depreciation) as shown in Table A-3 below. The decrease of \$40.5 million in net capital assets for 2019 reflects an \$96.3 million increase in accumulated depreciation which exceeds the \$55.5 million in net additions to the asset base during 2018.

During 2018 and 2017 the District incurred capital expenditures to rehabilitate, upgrade or replace assets at its two water reclamation facilities and conveyance system; continued to work on flood management projects, as well as work on sustainability projects and 2050 Facilities Planning. In 2019, the District's current six-year capital expenditure forecast projects \$783.3 million in project and program

Table A-3 Capital Assets (000's)

	2018	2017	2016	Percentage Increase (Decrease) 2018 Versus 2017
Land, Land Easements & Land Improvements	165,928	159,874	\$157,224	3.8%
Buildings	825,901	821,594	815,266	0.5
Machinery & Equipment	1,010,263	945,351	936,622	6.9
Aeration and Clarifier Tanks	86,398	86,254	86,254	0.2
Watercourse Improvements	363,229	361,507	361,382	0.5
Intercepting Sewer System & Rights	2,502,735	2,502,186	2,502,198	0.0
Construction in Progress	222,959	244,794	206,008	(8.9)
Subtotal	5,177,413	5,121,560	5,064,954	1.1
Less: Accumulated Depreciation	(1,855,116)	(1,758,780)	(1,665,930)	5.5
Net Capital Assets	\$3,322,297	\$3,362,780	\$3,399,024	(1.2)%

See accompanying independent auditors' report.

expenditures over the six-year period from 2019 through 2024. During this six-year period the capital improvement program continues its focus on asset management and sustainability rather than expansion of capacity.

More detailed information about the District's capital assets is presented in Note 6 to the financial statements.

Debt Administration

General obligation indebtedness outstanding at December 31, 2018 amounted to \$815.6 million. Included in this amount are \$286.5 million of general obligation bonds issued by the District.

The remaining balance of \$529.1 million represents funds received by the District through the State of Wisconsin Clean Water Fund Loan Program, which provides low interest loans for use in the construction of wastewater treatment facilities. Interest on these loans is payable semi-annually with interest rates ranging from 1.76% to 4.95%.

On June 12, 2017, the District issued \$80 million of General Obligation Promissory Bonds, Series 2017A. The net proceeds from this issue will provide funding for a portion of the District's capital improvements program in 2017 through 2019. The Series 2017A issue, competitively sold by the District, is the first issue since October of 2015.

Fitch Ratings affirmed the District's current bond rating on May 18, 2017. Moody's Investor's Services and Standard & Poor's current bond rating were affirmed on April 5 and April 7, 2017 respectively. The current ratings are as follows:

<u>Fitch Ratings</u> AAA	<u>Moody's Investors Service</u> Aa1	<u>Standard & Poor's</u> AA+
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At December 31, 2018, the District has an intergovernmental loan for \$18.8 million. This loan is with City of Franklin for costs related to constructing the Ryan Creek Interceptor in accordance with District standards and which the District will purchase from Franklin. The District made payments to Franklin, beginning in 2015, equal to Franklin's annual payments toward repaying its loan with the Clean Water Fund Loan Program used to finance the construction of the interceptor. On January 3, 2017, the District reimbursed Franklin for the sums Franklin has paid toward the Clean Water Fund Program loan through 2014.

Additional information on the District's long-term debt can be found in Note 7 to the financial statements and Exhibits B-12 to B-14 in the statistical section of this report.

ECONOMIC FACTORS AND NEXT YEAR'S BUDGETS AND RATES

- The average unemployment rate for Milwaukee County was 3.6 percent for 2018, a decrease from the 4.0 percent rate for 2017. This compares to the state's unemployment rate of 3.0 percent and the national rate of 3.9 percent.
- Inflation in the metropolitan area was similar to the national consumer price index.
 - The Midwest Region inflation rate was 1.3% for 2018.
 - The average U.S. city rate was 2.4% for 2018.
- The equalized valuation for the District's service area (including communities outside the District) increased by 3.6 percent in 2018, while 2018 user charge wasteloads changed as follows:
 - Billable flows down 1.5%.
 - Pounds of Biochemical Oxygen Demand (BOD) down 2.8%
 - Pounds of Total Suspended Solids (TSS) down 2.3%.

All these factors were taken into consideration when preparing the District's budgets.

The District approved a \$104.7 million 2019 Operation and Maintenance Budget, an increase of \$2.7 million or 2.7% from 2018. The District's user charge billings for 2019 are budgeted to increase 1.22% to \$84.8 million. The average District residential charge for 2019 is increasing \$2.85 to \$140.22 or 2.1% from the 2018 amount of \$137.37.

See accompanying independent auditors' report.

Items of note in the 2019 Operations and Maintenance (O&M) Budget include:

- Sewer user charge billings are increasing 1.22%, as the District enters the second year of a ten-year Veolia Water operating contract extension agreement that began in March of 2018.
- The 2019's O&M budget the District returns the 2017 surplus of \$6.0 million, a 19.3% decrease over 2018's amount of \$7.5 million.
- Milorganite net revenue is projected to increase to \$10 million or an 11.1% increase over 2018's budgeted amount. As the District continues to focus on increasing sales in the retail market, including popular "big box" and warehouse stores that sell to homeowners and gardeners, the District earned \$10.3 million in Milorganite revenue in 2018.
- Total O&M expenditures are increasing 2.7% or \$2.7 million, compared to the 2018 O&M budgeted amount. A significant portion of the increase is attributable to first full year of the extension agreement with Veolia Water, as well as ensuring adequate funding for machinery and equipment replacement that does not meet the capital budget funding criteria.

The District's Commission approved a 2019 Capital Budget that included a tax levy of \$100.1 million, which is a 1.75% increase over the amount of the levy of the prior year. The tax rate decreased 2.4% from \$1.73 to \$1.69 per \$1,000 of equalized value. Included in the 2019 Capital Budget is the current six-year financing plan that projects tax levy increases of 4% per year from 2020 through 2024, while increasing the estimated tax rate from \$1.69 to \$1.82 per \$1,000 of equalized value.

In the summer of 2010, the District's service area and local systems experienced extreme wet weather events that exceeded system capacity. To address the great magnitude of the problem, the 2011 Capital Budget introduced a Private Property Infiltration and Inflow (PPI/I) Reduction program. The 2018 Capital Budget's long-range financial plan maintains funding at \$5 million for years 2019 through 2024, bringing the total actual and planned program funding to \$80 million. The funding for this program will be used to reimburse each of the 28 municipalities within the District service area as they incur expenditures addressing I/I issues on private property within their own municipality. PPI/I program expenditures are written off in the year the municipality is reimbursed as they do result in a District asset.

The great majority of capital expenditures in the 2019 Capital Budget are for the continued effort to rehabilitate, replace, upgrade or improvement of existing District facilities and infrastructure, at over \$460 million over the next six years. Extensive expenditures are planned for watercourse and flood management improvements at \$176 million in the six-year long-range financing plan. The District's 2050 Facilities Plan and Green Infrastructure plan are underway and will have a significant impact on future budgets once the recommendations are approved.

Finally, the six-year long range financing plan provides for an average level of expenditures for capital projects and programs of \$130.1 million per year from 2019 through 2024 while the District maintains its average of 25% cash financing objective over the six-year period and while maintaining and stabilizing debt outstanding as a percentage of equalized value in a range of 1.21% in 2019 to 1.22% in 2024.

REQUESTS FOR INFORMATION

This financial report is designed to provide a general overview of the District's finances for all those with an interest in the District's finances and to demonstrate the District's accountability for the money it receives. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Milwaukee Metropolitan Sewerage District, 260 W. Seeboth St., Milwaukee, WI. 53204-1446 or made at the District's website www.mmsd.com.



Exhibit A-1

Statements of Net Position

AS OF DECEMBER 31, 2018 AND 2017
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

ASSETS	2018	2017
	(In Thousands)	
Current unrestricted assets:		
Cash and cash equivalents	\$ 22,285	\$ 6,327
Investments	14,629	24,439
Receivables:		
Billed user charges	3,798	6,941
Unbilled user charges	13,742	12,506
Fertilizer sales	1,599	1,062
Other	2,014	1,307
Inventories:		
Operating and maintenance supplies	2,498	2,499
Fertilizer	1,618	1,435
Total Current Unrestricted Assets	<u>62,183</u>	<u>56,516</u>
Current restricted assets:		
Cash and cash equivalents	5,010	18,072
Investments	18,918	10,339
Receivables:		
Tax levy	100,102	98,380
Capital charges – municipalities outside the District	29,660	30,892
Grant funds	1,658	628
Other	392	812
Prepaid expenses and other	193	336
Total Current Restricted Assets	<u>155,933</u>	<u>159,458</u>
Total Current Assets	<u>218,116</u>	<u>215,974</u>
Noncurrent restricted assets:		
Investments	<u>108,021</u>	<u>118,105</u>
Capital assets, at cost:		
Land	77,416	76,911
Land easements	65,063	62,921
Land improvements	23,449	20,042
Buildings	825,901	821,594
Aeration and clarifier tanks	86,398	86,254
Machinery and equipment	1,010,263	945,351
Intercepting sewer system	2,478,146	2,477,597
Interceptor rights	24,589	24,589
Watercourse improvement	363,229	361,507
Construction in progress	222,959	244,794
Total Capital Assets	5,177,413	5,121,560
Less: Accumulated depreciation	<u>(1,855,116)</u>	<u>(1,758,780)</u>
Net Capital Assets	<u>3,322,297</u>	<u>3,362,780</u>
Total Assets	<u>3,648,434</u>	<u>3,696,859</u>
DEFERRED OUTFLOWS OF RESOURCES		
Deferred outflows of resources:		
Pension deferred outflows	7,320	8,265
Unamortized loss on refunding	3,332	3,782
Total Deferred Outflows of Resources	<u>10,652</u>	<u>12,047</u>

See accompanying notes to financial statements.



LIABILITIES	<u>2018</u>	<u>2017</u>
	(In Thousands)	
Current liabilities (payable from unrestricted current assets):		
Accounts payable	\$ 10,744	\$ 7,399
Accrued salaries and wages	290	296
Accrued vacation pay	1,275	1,222
Other	<u>510</u>	<u>560</u>
Total Current Liabilities (Payable from Unrestricted Current Assets)	<u>12,819</u>	<u>9,477</u>
Current liabilities (payable from restricted assets):		
Accounts payable	9,421	7,759
Retainers payable	685	937
Accrued interest	4,959	5,405
Long-term obligations due within one year	<u>84,819</u>	<u>85,461</u>
Total Current Liabilities (Payable from Restricted Assets)	<u>99,884</u>	<u>99,562</u>
Total Current Liabilities Payable	<u>112,703</u>	<u>109,039</u>
Noncurrent liabilities:		
Retainers payable	199	7
Long-term obligations:		
General obligation bonds	273,222	298,909
Clean Water Fund Program loans	469,655	509,471
Intergovernmental loan	17,555	18,800
Total OPEB liability	120,212	52,920
Net pension liability	6,435	8,222
Accrued vested sick pay	<u>372</u>	<u>412</u>
Total Long-term Obligations	<u>887,650</u>	<u>888,741</u>
Total Liabilities	<u>1,000,353</u>	<u>997,780</u>
DEFERRED INFLOWS OF RESOURCES		
Tax levies	100,102	98,380
Capital charges – municipalities outside the District	29,770	32,031
Pension deferred inflows	2,966	502
OPEB deferred inflows	<u>8,942</u>	<u>-</u>
Total Deferred Inflows of Resources	<u>141,780</u>	<u>130,913</u>
Total Liabilities and Deferred Inflows of Resources	<u>1,142,133</u>	<u>1,128,693</u>
NET POSITION		
Net Position:		
Investment in capital assets	2,513,765	2,501,652
Restricted – capital projects and programs	62,188	58,337
Restricted – equipment replacement	15,082	14,694
Restricted – debt service	7,801	12,205
Unrestricted (deficit)	<u>(81,883)</u>	<u>(6,675)</u>
TOTAL NET POSITION	<u>\$ 2,516,953</u>	<u>\$ 2,580,213</u>

See accompanying notes to financial statements.



Exhibit A-2

Statements of Revenues, Expenses and Changes in Net Position

FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

	2018	2017
	(In Thousands)	
OPERATING REVENUES		
User charges	\$ 84,965	\$ 78,301
Fertilizer	10,313	10,272
Other	1,466	1,042
Total Operating Revenues	96,744	89,615
OPERATING EXPENSES		
Systems - operation and maintenance	59,490	56,415
Laboratory and research services	832	2,812
Industrial waste and conveyance monitoring	(601)	3,161
Finance, engineering, and administration	13,591	28,115
Depreciation and amortization	96,356	93,951
Total Operating Expenses	169,668	184,454
OPERATING LOSS	(72,924)	(94,839)
NONOPERATING REVENUES (EXPENSES)		
Property taxes - capital	98,328	98,250
Investment income	2,970	1,390
Net increase (decrease) in fair value of investments	14	(165)
Interest expense	(23,603)	(20,364)
Capital charges - municipalities outside the District	31,700	31,523
Gain (loss) on disposal of capital assets	(1,251)	1,034
Capital program expenditures	(3,887)	(7,017)
Land contributed to municipalities	(87)	(18)
Other	2,316	2,353
Total Nonoperating Revenues (Expenses), Net	106,500	106,986
Income before Capital Contributions	33,576	12,147
CAPITAL CONTRIBUTIONS	2,682	1,189
CHANGE IN NET POSITION	36,258	13,336
NET POSITION - Beginning of Year	2,580,213	2,566,877
Cumulative effect of a change in accounting principle	(99,518)	-
NET POSITION - END OF YEAR	\$ 2,516,953	\$ 2,580,213

See accompanying notes to financial statements.

Exhibit A-3

Statements of Cash Flows

FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

	2018	2017
	(In Thousands)	
CASH FLOW FROM OPERATING ACTIVITIES		
Receipts from customers and users	\$ 100,143	\$ 92,566
Payments for capital programs	(3,887)	(7,017)
Payments to suppliers	(77,371)	(71,976)
Payments to employees	(14,340)	(13,890)
Net Cash Provided (Used) by Operating Activities	<u>4,545</u>	<u>(317)</u>
CASH FLOW FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Acquisition and construction of capital assets	(54,834)	(54,254)
Proceeds from long-term debt issued	19,734	92,850
Principal payments on long-term obligations	(85,518)	(96,169)
Interest paid on long-term obligations (net of capitalized interest)	(25,205)	(28,078)
Premium received on debt issued	-	5,579
Government grant receipts and other contributions	877	526
Tax levy receipts	98,328	98,250
Capital charges – municipalities outside the District	30,671	30,877
Net Cash Provided (Used) by Capital and Related Financing Activities	<u>(15,947)</u>	<u>49,581</u>
CASH FLOW FROM INVESTING ACTIVITIES		
Investment income	2,970	1,390
Purchase of investments	(602)	(45,836)
Proceeds from sale and maturity of investments	11,930	10,393
Net cash provided (used) by investing activities	<u>14,298</u>	<u>(34,053)</u>
Net (decrease) increase in cash and cash equivalents	2,896	15,211
CASH AND CASH EQUIVALENTS - Beginning of Year	<u>24,399</u>	<u>9,188</u>
CASH AND CASH EQUIVALENTS - END OF YEAR	<u>\$ 27,295</u>	<u>\$ 24,399</u>
CASH AND CASH EQUIVALENTS AS PRESENTED IN THE ACCOMPANYING STATEMENTS OF NET POSITION		
Current cash and equivalents	\$ 22,285	\$ 6,327
Current investments	14,629	24,439
Current restricted cash and investments	23,928	28,410
Noncurrent investments	108,021	118,105
Less: Noncash equivalents	<u>(141,568)</u>	<u>(152,882)</u>
CASH AND CASH EQUIVALENTS	<u>\$ 27,295</u>	<u>\$ 24,399</u>
RECONCILIATION OF OPERATING LOSS TO NET CASH PROVIDED (USED) BY OTHER OPERATING ACTIVITIES		
Operating loss	\$ (72,924)	\$ (94,839)
Adjustments to reconcile operating loss to net cash provided (used) by operating activities		
Depreciation	96,356	93,951
Postretirement benefits	(23,284)	2,626
Other nonoperating revenue	2,316	2,353
Capital program expenditures	(3,887)	(7,017)
Changes in current assets and liabilities:		
Current receivables and other assets	1,083	598
Prepaid expenses and other	143	(105)
Inventories	(182)	(180)
Accounts payable and other liabilities	<u>4,924</u>	<u>2,296</u>
NET CASH (USED IN) PROVIDED BY OPERATING ACTIVITIES	<u>\$ 4,545</u>	<u>\$ (317)</u>
NONCASH INVESTING, CAPITAL AND RELATED FINANCING ACTIVITIES		
Increase (decrease) in fair value of investments	\$ 14	\$ (165)
Increase (decrease) in capital grants accrued municipalities outside the District (net impact)	1,030	-
Capital assets contributed by others	1,029	646
Capitalized interest	744	934
Capitalized interest	-	5,068
Gain (loss) on disposal of capital assets	(1,251)	1,034
Land contributed to municipalities	87	18

See accompanying notes to financial statements.

NOTE 1 – BASIS OF PRESENTATION

The Milwaukee Metropolitan Sewerage District (the District) is a special purpose municipal corporation established by the laws of the State of Wisconsin. The District's legal boundary includes all of Milwaukee County with the exclusion of the City of South Milwaukee. The legal boundary also includes the portion of the Village of Bayside which is in Ozaukee County and those portions of the City of Milwaukee that are in Waukesha County and Washington County. The District determines and costs associated with collection and sewer user charges from municipalities within this area in order to apportion all operation and maintenance costs associated with treatment operations. The District also provides service to certain municipalities outside the District for collection and treatment of their sewage. Construction and maintenance of all intercepting sewers, watercourse improvements, and water reclamation facilities within its territorial area are also the responsibilities of the District. The District also produces organic nitrogen fertilizer (Milorganite®) as a by-product of its wastewater treatment process for residential and commercial use.

The District has the authority to finance its capital project costs through the use of a property tax levy, user charge, or the sale of revenue or general obligation bonds. Additionally, the District may contract with users outside the District's boundaries for payment toward its capital costs.

The accompanying financial statements include all transactions of the District for which the District is financially accountable. Financial accountability is defined as an appointment of a majority of a component unit's board and either the ability to impose the will of the District or the possibility that the component unit will provide a financial benefit to or impose a financial burden on the District. Based on these criteria, the District has determined that there are no component units that come under the criteria for inclusion. The District is not a component unit of any other government entity.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the District have been prepared in conformity with accounting principles generally accepted in the United States of America as applied to enterprise funds of governmental units. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles.

The following is a summary of the more significant policies.

FINANCIAL STATEMENT PRESENTATION AND BASIS OF ACCOUNTING

The District prepares its financial statements on an enterprise fund basis. Enterprise funds are used to account for operations that are financed and operated in a manner similar to private businesses, where the intent is that all costs of providing certain goods and services to the general public be financed or recovered primarily through user charges, or where it has been deemed that periodic determination of net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes. Accordingly, the District's financial statements are presented using the economic resources measurement focus and the accrual basis of accounting. Revenues from operations, investments, and other sources are recorded when earned, and expenses are recorded when liabilities are incurred.

In June 2015, the GASB issued Statement No. 75 - Accounting and Financial Reporting for Postemployment Benefits Other than Pensions. This statement replaces the requirements of Statements No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions, as amended, and No. 57, OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans, for OPEB. This standard was implemented January 1, 2018. The cumulative impact of implementation is shown in Note 14.

In June 2018, the GASB issued Statement No. 89 - Accounting for Interest Cost Incurred before the End of a Construction Period. This statement establishes requirements for interest cost incurred before the end of a construction period. This standard was implemented January 1, 2018.

CASH EQUIVALENTS

The District generally considers deposits and all unrestricted highly liquid investments purchased with an initial maturity of three months or less to be cash equivalents.

INVESTMENTS

Investment of the District's funds is restricted by state statutes. Investments are limited to:

- ◆ Time deposits in any credit union, bank, savings bank or trust company maturing in three years or less.
- ◆ Bonds or securities of any county, city, drainage district, technical college district, village, town, or school district of the state. Also, bonds issued by a local exposition district, local professional baseball park district, local professional football stadium district, local cultural arts district the University of Wisconsin Hospitals and Clinics Authority, or the Wisconsin Aerospace Authority.
- ◆ Bonds or securities issued or guaranteed by the federal government.
- ◆ The local government investment pool.
- ◆ Any security maturing in seven years or less and having the highest or second highest rating category of a nationally recognized rating agency.
- ◆ Securities of an open end management investment company or investment trust, subject to various conditions and investment options.
- ◆ Repurchase agreements with public depositories, with certain conditions.

Investments are reported at fair value based on quoted market prices in accordance with GASB statement No. 72, Fair Value Measurement and Application. Fair values are based on methods and inputs as outlined in Note 3.

Investment income, including changes in the fair value of investments and realized gains and losses, is recognized as revenue in the Statements of Revenues, Expenses, and Changes in Net Position.

The District invests in the Wisconsin Local Government Investment Pool (the Pool), which is part of the State Investment Fund (SIF) and is managed by the State of Wisconsin Investment Board. The SIF is not registered with the Securities and Exchange Commission (SEC), but operates under the statutory authority of Wisconsin Chapter 25. The Pool reports the fair value of its underlying assets annually. The District's investment in the Pool is reported at fair value in the statements of net position. The fair value of the District's investment in the Pool equals the net realizable value of the District's share of the Pool (see Note 3). The Pool is authorized by Wisconsin statutes to enter into investments on behalf of government entities within Wisconsin and, in certain circumstances, to enter into derivative transactions to maximize the yield on its investments. However, specific information about the Pool's derivative transactions is not available to the District. Participants in the Pool have the

right to withdraw their funds on the same business day, if notification is received by the Pool by 11:00 am.

USER CHARGES

User charges are recorded on the accrual basis. User charges billed to municipalities within the service area are designed to cover only operation and maintenance expenditures and are not intended to recover capital costs. User charge rates are set by District resolution on an annual basis to recover net estimated operating expenses, excluding depreciation, after giving effect to prior year surpluses or deficits. These charges are billed to municipalities in proportion to each user's contribution to total wastewater loading into the treatment system. Each municipality's bill reflects the amount due from each user class – residential, commercial, and industrial. Due to the delay in user charge billing caused by the monthly or quarterly billing cycle, the District accrues unbilled service charges with respect to services provided during the current year.

INVENTORIES

Inventories are valued at the lower of cost (weighted average cost) or market.

PREPAYMENTS

Prepayments represent costs of insurance paid during the current audit year for coverage in subsequent years.

RESTRICTED ASSETS

The District maintains specific investments held by the bank for safekeeping for funds intended for equipment replacement. The equipment replacement funds are classified as restricted assets and were approximately \$15,082,000 and \$14,694,000 in 2018 and 2017. Also included in restricted assets are investments, receivables, and other assets available for restricted liabilities related to the District's capital improvement program of \$207,684,000 and \$197,608,000 in the same periods. Investments restricted for debt service were \$7,801,000 and \$12,205,000, respectively. Investments related to unspent bond proceeds primarily restricted for construction funds were \$33,387,000 and \$53,056,000, respectively.

PROPERTY TAXES AND CAPITAL CHARGES

Property taxes levied have been designated by the District's Commission to be legally available for capital expenditures, capital programs, and debt service requirements in the ensuing year. Taxes levied in 2018, to be collected in 2019, of \$101,101,650, have been included in deferred inflows of resources in the statements of net position at December 31, 2018, and are available for expenditure in 2019. Taxes levied in 2017, to be collected in 2018, of \$98,380,000, have been included in deferred inflows of resources in the statements of net position at December 31, 2017, and were available for expenditure in 2018.

The various municipalities within the District's legal boundary initially collect District taxes. As collections are made, the local or county treasurer makes pro rata settlements with the District beginning on or before January 15 each year and monthly thereafter. All municipalities are required to remit delinquent District taxes to the treasurer of the county in which such municipality is located by August 15 each year. The county treasurer, in turn, must settle the taxes in full with the District by August 20 regardless of actual collections.

Communities outside the District's legal boundary, but within the service area are assessed a capital charge in place of levying a property tax.

CAPITAL CONTRIBUTIONS

Capital contributions consist of federal and state grants, contributions from Veolia Water, and funds from other outside sources used to finance capital expenditures. Federal and state grant receivables are recognized as the related capital project expenditures are incurred. Revenue from grants and contributions is recognized in the year in which all eligibility requirements have been satisfied. Eligibility requirements include timing requirements, which specify the year when the resources are required to be used or the fiscal year when use is first permitted, matching requirements, in which the District must provide local resources to be used for a specified purpose, and expenditure requirements, in which the resources are provided to the District on a reimbursement basis.

CAPITAL ASSETS

Capital assets, which include land, land easements, land improvements, buildings, aeration and clarifier tanks, machinery and equipment, intercepting sewer system, interceptor rights, and watercourse improvements, are stated at cost. The District defines capital assets as assets with an initial individual cost of more than \$5,000 and an estimated useful life of three or more years. Public domain property (i.e., sewers) and other capital assets are recorded at cost. Donated capital assets are recorded at their estimated acquisition value at the date of donation. The cost of normal maintenance and repairs that do not add to the value of the asset or materially extend the assets' lives are not capitalized.

Through December 31, 2017, interest was capitalized on constructed assets acquired with tax-exempt debt. The amount of interest to be capitalized is calculated by offsetting interest expense incurred from the date of the borrowing until completion of the project with interest earned on invested proceeds over the same period. Capitalized interest cost is amortized on the same basis as the related asset is depreciated. The amount of interest capitalized was \$0 and \$5,068,000 in 2018 and 2017, respectively. As of January 1, 2018, the District adopted GASB Statement No. 89.

Depreciation/amortization are provided using the straight-line method over the following estimated useful lives:

	Years
Land easements	50
Land improvements	30-60
Buildings	50-65
Aeration and clarifier tanks	20-25
Machinery and equipment	3-50
Intercepting sewer system	20-100
Interceptor rights	50
Watercourse improvements	65-80

Depreciation is not provided on construction in progress until the project is completed and placed in service.

VACATION PAY

Vacation pay is accrued as earned although vacation pay is to be used within one year, as an accommodation to workload variations, employees are allowed to accumulate vacation hours in excess of the current year allotment during the calendar year. However, all balances in excess of 150% of the current year allotment are reduced to the 150% level on December 31 of each year. The accrued vacation pay of \$1,275,000 and \$1,222,000 at December 31, 2018 and 2017, respectively, is classified as a current liability.

RETAINERS PAYABLE

The District withholds payment for a portion of construction work completed. Upon completion of construction projects, the District remits payment for the amount withheld. Retainers expected to be paid during the next year are classified as current.

DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES

A deferred outflow of resources represents the consumption of net position that applies to a future period and therefore will not be recognized as an outflow of resources (expense) until that future period.

A deferred inflow of resources represents an acquisition of net position that applies to a future period and therefore will not be recognized as an inflow of resources (revenue) until that future time.

On an accrual basis, revenue from property taxes and capital charges for communities outside the District are recognized in the period they are intended to finance, which is the year after the taxes are levied and the capital charges are incurred. A deferred inflow of resources arises when assets are recognized before the period for revenue recognition has occurred.

Gains or losses on refunding are deferred and amortized over the life of related bonds on a straight line basis and are reported as deferred inflows or outflows.

Certain changes impacting the net position liability and total OPEB liability are deferred as discussed in Note 10 and 11.

BOND PREMIUMS AND DISCOUNTS

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.

VESTED SICK PAY

Prior to 1984, it was the District's practice that employees could accumulate unused sick pay to a maximum of 240 days, and upon retirement could receive payment for one-half of their accumulated days. In 1984, the accumulated unused sick pay for management employees was frozen at the balance earned as of December 31, 1983. The Union employees continued to accumulate unused sick pay until 2012. The accumulated sick pay for Union employees was frozen at the balance earned as of April 30, 2012. As of December 31, 2018, the District had no employees covered by a labor agreement. District Council 48, Local 366, AFSCME, AFL-CIO, which previously represented 82, voted to decertify in 2016 and the associated labor agreement expired April 30, 2016. The frozen sick pay of the District employees is \$662,000 and \$708,000 at December 31, 2018 and 2017, respectively. Of the total, \$372,000 and \$412,000 at December 31, 2018 and 2017, respectively, are classified as a long-term liability. The current portion is included with accrued salaries and wages.

PENSIONS

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Employees' Retirement System (ERS) and additions to/deductions from ERS' fiduciary net position have been determined on the same basis as they are reported by ERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms, investments are reported at fair value.

POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS (OPEB)

For purposes of measuring the total OPEB liability (asset), deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, the OPEB Plan recognizes benefit payments when due and payable in accordance with the benefit terms.

NET POSITION

Net position is displayed in three components as follows:

Investment in Capital Assets – consists of all capital assets, net of accumulated depreciation and reduced by outstanding debt that is attributable to the acquisition, construction, and improvement of those assets; debt related to unspent proceeds or other restricted cash and investments is excluded from the determination.

Restricted – consists of constraints placed on net position that are legally restricted by outside parties or by law through constitutional provisions or enabling legislation. When both restricted and unrestricted resources are available for use, generally it is the District's policy to use restricted resources first, then unrestricted resources when they are needed.

Unrestricted – consists of net position that does not meet the definition of "restricted" or "net investment in capital assets".

CLASSIFICATION OF REVENUES AND EXPENSES

The District has classified its revenues as either operating or nonoperating. Operating revenue includes activities that have the characteristics of exchange transactions, including sewer user charges and fertilizer (Milorganite®) sales. Nonoperating revenue includes interest income on investments and activities that have characteristics of nonexchange transactions including federal, state, and local grants and contributions.

Operating expenses are related to the operating, managing, and maintaining of the District's sewerage system. These expenses are primarily funded by sewer user charges and sales of Milorganite®. Nonoperating expenses are related to the cost of acquiring, purchasing, adding to, leasing, planning, designing, constructing, extending, and improving all or any part of the District's sewerage system; capital programs designed to finance improvements outside the system that minimize the need for future system expansion; and paying principal, interest, or premiums on any indebtedness for these purposes. These expenses are primarily funded by property taxes levied on member communities and capital billings to communities outside the District.

GAIN (LOSS) ON DISPOSAL OF CAPITAL ASSETS

Gains and losses on disposal of capital assets include assets retired as well as projects that were terminated and disposed of during the year. In addition, the cost of demolition associated with certain watercourse properties is included here.

CAPITAL PROGRAM EXPENDITURES

The District offers funding to municipalities for planning, design, investigation, and construction of projects intended to reduce inflow and infiltration on private property. The District also offers funding to municipalities for the implementation of green infrastructure. Actual costs reimbursed by the District to municipalities are shown as a nonoperating expense on the statements of revenues, expenses, and changes in net position.

LAND CONTRIBUTED TO MUNICIPALITIES

As part of its watercourse and flood abatement program, the District purchases natural wetlands to reduce the risk of future flooding problems. These properties are subsequently donated to local municipalities because they provide multiple benefits to the local community in the form of open space, wildlife habitat and passive recreation, while the District retains a conservation easement.

USE OF ESTIMATES

The preparation of financial statements in conformity with U.S. generally accepted accounting principles 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 financial statements and the reported amounts of revenues, expenses, and capital contributions during the reporting period. Actual results could differ from those estimates.

NEW ACCOUNTING PRONOUNCEMENTS

GASB has approved GASB Statement No. 83, Certain Asset Retirement Obligations, Statement No. 84, Fiduciary Activities, Statement No. 87, Leases, Statement No. 88, Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements, and Statement No. 90, Majority Equity Interests – an amendment of GASB Statements No. 14 and No. 61. When they become effective, application of these standards may restate portions of these financial statements.

RECLASSIFICATION

Certain amounts in the 2017 financial statements may have been reclassified to conform to the classification used in 2018.

NOTE 3 – DEPOSITS AND INVESTMENTS

As of December 31, 2018, the District had the following investments and cash and cash equivalents and maturities:

Carrying Value	Investment Maturities (in Years)		
	Less than 1	1-2	3-5
	(In Thousands)		
Checking (overdraft)	\$ (334)	\$ -	\$ -
U.S. Instrumentalities	17,651	7,015	10,636
U.S. Treasuries	10,846	4,043	4,819
Local Government Investment Pool	128,935	-	-
Corporate Bonds	6,247	2,398	3,849
Money Market	5,010	5,010	-
Certificates of Deposit	508	508	-
Total Cash and Investments	\$ 168,863	\$ 147,575	\$ 19,304

As of December 31, 2017, the District had the following investments and cash and cash equivalents and maturities:

Carrying Value	Investment Maturities (in Years)		
	Less than 1	1-2	3-5
	(In Thousands)		
Checking (overdraft)	\$ (1,394)	\$ -	\$ -
U.S. Instrumentalities	20,711	5,082	14,173
U.S. Treasuries	7,809	2,365	4,455
Local Government Investment Pool	136,387	-	-
Corporate Bonds	6,258	2,858	1,003
Money Market	7,006	7,006	-
Certificates of Deposit	504	504	-
Total Cash and Investments	\$ 177,281	\$ 152,808	\$ 21,025

The checking account bank balance was \$363,800 and \$445,600 at December 31, 2018 and 2017, respectively. Deposits in each local and area bank are insured by the FDIC in the amounts of \$250,000 for time and savings accounts (including NOW accounts) and \$250,000 for demand deposit accounts (interest and noninterest bearing). Bank accounts are also insured by the State Deposit Guarantee Fund (SDGF) in the amount of \$400,000.

Interest rate risk is the risk changes in interest rates will adversely affect the fair value of an investment. During 2018 and 2017, the District was in compliance with its investment policy that all investments shall be limited to maturities not exceeding five years, and the District shall maintain at least \$10,000,000 of its total investment portfolio in instruments maturing in 60 days or less. During 2018 and 2017, investments with maturities of less than 180 days, based on par value, comprised on average, 85.95% and 84.9%, respectively, of the District's month-end investment portfolio balance.

Credit risk is risk that an issuer of an investment will not fulfill its obligations to the District. State law limits investments in commercial paper and corporate bonds to the top two ratings issued by a nationally recognized rating service at the time of purchase.

The District investment policy further limits the purchase of commercial paper to issuers with a commercial paper program size of at least \$500,000,000, except for banks and companies located within the District's boundaries. The District did not hold any investments in commercial paper as of December 31, 2018 and 2017. The District's investment in corporate bonds at December 31, 2018 and 2017, ranged from A+ to AAA by Standard & Poor's, or Aa3 to Aaa by Moody's Investors Service.

As to the credit risk related to the District's investment in the Local Government Investment Pool (LGIP), the investments are not insured. The Federal Deposit Insurance Corporation (FDIC) insures the pro rata share of certificates of deposit held by the LGIP.

At December 31, 2018 and 2017, all of the District's investment in U.S. Instrumentalities are rated either AA+ by Standard & Poor's or Aaa by Moody's Investors Service.

Concentration of credit risk is the risk of loss attributed to the magnitude of the District's investment in a single issuer. The District places no limit on the amount invested in any one issuer.

As of December 31, 2018, the District had more than 5% of the District's investments in the following issuer:

Issuer	Percentage
U.S. Treasury Note	5.11

As of December 31, 2017, the District did not have more than 5% of the District's investments in any individual issuer.

In the case of deposits, in which the related risk is the event of a bank failure, the District's deposits may not be returned to it. The District maintained certificates of deposit of \$500,000 at December 31, 2018 and 2017, respectively. These deposits, excluding \$8,000 of accrued interest at December 31, 2018 and \$4,000 of accrued interest at December 31, 2017, are fully insured through a combination of federal and state deposit insurance.

FAIR VALUE MEASUREMENT

The District records assets and liabilities in accordance with GASB 72, which establishes general principles for measuring fair value, provides additional fair value application guidance and enhances disclosures about fair value measurements.

GASB 72 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is a market-based measurement for a particular asset or liability based on assumptions that market participants would use in pricing the asset or liability. Such assumptions include observable and unobservable inputs of market data, as well as assumptions about risk and the risk inherent in the inputs to the valuation technique. As a basis for considering market participant assumptions in fair value measurements, GASB 72 establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels:

- ◆ Level 1 inputs are quoted prices for identical assets or liabilities in active markets that a government can access at the measurement date. Examples include U.S. Treasury securities and equity securities from active markets. The hierarchy gives the highest priority to Level 1 inputs.
- ◆ Level 2 inputs are inputs other than quoted prices included in Level 1 that are observable for an asset or liability either directly or indirectly. Examples include government agency securities and derivatives valued using prices for similar locations or products on published exchanges.
- ◆ Level 3 inputs are unobservable inputs for an asset or liability.

The following valuation methods were used for the Districts' recurring fair value measurements as of December 31, 2018 and 2017:

- ◆ Corporate Bonds, U.S. Instrumentalities and U.S. Treasuries classified in Level 1 of the fair value hierarchy are valued using quoted market prices and all fall under the Level 1 category.

The District has the following recurring fair value measurements as of December 31, 2018 and 2017:

Investment Type	December 31, 2018			
	Level 1	Level 2	Level 3	Total
	(In Thousands)			
Corporate Bonds	\$ 6,247	\$ -	\$ -	\$ 6,247
U.S. Instrumentalities	17,651	-	-	17,651
U.S. Treasuries	10,846	-	-	10,846
Total Investments	\$ 34,744	\$ -	\$ -	\$ 34,744

Investment Type	December 31, 2017			
	Level 1	Level 2	Level 3	Total
	(In Thousands)			
Corporate Bonds	\$ 6,258	\$ -	\$ -	\$ 6,258
U.S. Instrumentalities	20,710	-	-	20,710
U.S. Treasuries	7,809	-	-	7,809
Total Investments	\$ 34,777	\$ -	\$ -	\$ 34,777

NOTE 4 – OPERATING CONTRACT AND EXPENSES

On December 3, 2007, the Milwaukee Metropolitan Sewerage District Commission approved a 10-year contract effective March 1, 2008 with Veolia Water Milwaukee, LLC (Veolia) to replace UWS as the operator of the District's two wastewater treatment plants, biosolids management and field operations, while retaining ownership of the assets. Veolia's proposal was determined to be the most cost-effective and was selected based on a competitive bid process which included UWS and after evaluating the cost effectiveness of returning the operations to the public sector. The District continued to operate its industrial waste pretreatment program; capital planning and engineering services; environmental laboratory, water quality monitoring and research; Milorganite® sales, marketing and distribution while maintaining ownership of the assets. On June 27, 2016, the District's Commission approved a 10-year extension agreement between the District and Veolia effective March 1, 2018.

As part of the original contract with Veolia, the District transferred custody of the operating and maintenance supplies inventory to Veolia on March 1, 2008 while the District retained ownership. At the termination of the contract, custody of the inventory reverts back to the District, and any change in the value of inventory is paid by the District or to the District. Any changes in inventory levels throughout the term of the agreement are recorded as inventory.

The operation and maintenance and utility fees are subject to adjustments based on various indices. The total net expenditures related to the contract for the year ended December 31, 2018 were \$48,307,000 and for the year ended December 31, 2017 were \$46,283,000. The District continues to operate its industrial waste pretreatment program, engineering, central lab monitoring and research, Milorganite® sales, marketing, and distribution. Under the terms of the new contract with Veolia the District is liable for 75% of actual energy costs, except landfill gas costs which are paid entirely by the District and Veolia is responsible for the remainder.

NOTE 5 – FEDERAL AND STATE GRANTS

The District has been awarded federal grant funds for planning, design, and construction, and state grant funds for construction.

Available and outstanding federal and state grants are presented as follows:

	Total Grant Awards	Outstanding Grants Receivable		
		Billed	Unbilled	Total
(In Thousands)				
December 31, 2018:				
Federal	\$ 5,141	\$ 1,202	\$ -	\$ 1,202
State and other	699	456	-	456
Totals	\$ 5,840	\$ 1,658	\$ -	\$ 1,658
December 31, 2017:				
Federal	\$ 1,333	\$ 78	\$ -	\$ 78
State and other	3,234	550	-	550
Totals	\$ 4,567	\$ 628	\$ -	\$ 628

The District accrues for unbilled grant amounts based on eligible project expenditures incurred. Actual billings are made in accordance with respective grant provisions.

Grants and amounts received may be subject to compliance audits. In the District's opinion, adjustments, if any, resulting from the disallowance of expenditures would not have a material adverse effect on the District's financial position.

NOTE 6 – CAPITAL ASSETS

Capital assets activity for the year ended December 31, 2018 was as follows:

	Balance, Beginning of Year	Additions	Deductions	Balance, End of Year
(In Thousands)				
Capital assets not being depreciated:				
Land	\$ 76,911	\$ 505	\$ -	\$ 77,416
Construction in progress	244,794	55,051	76,886	222,959
Total Capital Assets Not Being Depreciated	321,705	55,556	76,886	300,375
Capital assets being depreciated:				
Land easements	62,921	2,142	-	65,063
Land improvements	20,042	3,407	-	23,449
Buildings	821,594	4,308	-	825,902
Aeration and clarifier tanks	86,254	143	-	86,397
Machinery and equipment	945,351	64,933	21	1,010,263
Intercepting sewer system	2,477,597	549	-	2,478,146
Interceptor rights	24,589	-	-	24,589
Watercourse improvements	361,507	1,722	-	363,229
Total Capital Assets Being Depreciated	4,799,855	77,204	21	4,877,038
Less accumulated depreciation:				
Land easements	6,230	1,503	-	7,733
Land improvements	13,327	353	-	13,680
Buildings	409,494	16,195	-	425,689
Aeration and clarifier tanks	42,900	1,172	-	44,072
Machinery and equipment	524,981	36,431	21	561,391
Intercepting sewer system	694,358	35,161	-	729,519
Interceptor rights	2,213	492	-	2,705
Watercourse improvements	65,277	5,050	-	70,327
Total Accumulated Depreciation	1,758,780	96,357	21	1,855,116
Total Capital Assets Being Depreciated, Net	3,041,075	(19,153)	-	3,021,922
Total Capital Assets, Net	\$ 3,362,780	\$ 36,403	\$ 76,886	\$ 3,322,297

Notes to Financial Statements

Continued

Capital assets activity for the year ended December 31, 2017 was as follows:

	Balance, Beginning of Year	Additions	Deductions	Balance, End of Year
	(In Thousands)			
Capital assets not being depreciated:				
Land	\$ 75,920	\$ 991	\$ -	\$ 76,911
Construction in progress	206,008	57,111	18,325	244,794
Total Capital Assets Not Being Depreciated	281,928	58,102	18,325	321,705
Capital assets being depreciated:				
Land easements	61,262	1,659	-	62,921
Land improvements	20,042	-	-	20,042
Buildings	815,266	6,328	-	821,594
Aeration and clarifier tanks	86,254	-	-	86,254
Machinery and equipment	936,622	9,939	1,210	945,351
Intercepting sewer system	2,477,609	-	12	2,477,597
Interceptor rights	24,589	-	-	24,589
Watercourse improvements	361,382	125	-	361,507
Total Capital Assets Being Depreciated	4,783,026	18,051	1,222	4,799,855
Less accumulated depreciation:				
Land easements	4,840	1,390	-	6,230
Land improvements	12,996	331	-	13,327
Buildings	393,402	16,092	-	409,494
Aeration and clarifier tanks	41,732	1,168	-	42,900
Machinery and equipment	491,779	34,291	1,089	524,981
Intercepting sewer system	659,227	35,143	12	694,358
Interceptor rights	1,721	492	-	2,213
Watercourse improvements	60,233	5,044	-	65,277
Total Accumulated Depreciation	1,665,930	93,951	1,101	1,758,780
Total Capital Assets Being Depreciated, Net	3,117,096	(75,900)	121	3,041,075
Total Capital Assets, Net	\$ 3,399,024	\$ (17,798)	\$ 18,446	\$ 3,362,780

The District had construction contract commitments of approximately \$18,935,000 and \$8,059,000 as of December 31, 2018 and 2017, respectively.

The increase in construction in progress may differ from the decrease in capital assets due to discontinued projects, projects or assets from completed projects transferred or donated to other municipalities or other parties.

NOTE 7 – LONG-TERM OBLIGATIONS

Changes in long-term obligations for the year ended December 31, 2018 were as follows:

	Beginning Balance	Additions	Reductions (In Thousands)	Ending Balance	Due within One Year
General obligation bonds	\$ 312,940	\$ -	\$ (26,465)	\$ 286,475	\$ 24,080
Plus unamortized premium	12,434	-	(1,607)	10,827	-
Total Bonds Payable	325,374	-	(28,072)	297,302	24,080
State of Wisconsin Clean					
Water Fund	567,253	19,734	(57,838)	529,149	59,494
Subtotal	892,627	19,734	(85,910)	826,451	83,574
Intergovernmental loan	20,014	-	(1,214)	18,800	1,245
Net OPEB liability	136,720	5,894	(22,402)	120,212	-
Net Pension liability	8,222	-	(1,787)	6,435	-
Vested sick pay*	708	-	(48)	662	290
Total	\$ 1,058,291	\$ 25,628	\$ (111,359)	\$ 972,560	\$ 85,109

Changes in long-term obligations for the year ended December 31, 2017 were as follows:

	Beginning Balance	Additions	Reductions (In Thousands)	Ending Balance	Due within One Year
General obligation bonds	\$ 270,040	\$ 80,000	\$ (37,100)	\$ 312,940	\$ 26,465
Plus unamortized premium	8,483	5,579	(1,628)	12,434	-
Total Bonds Payable	278,523	85,579	(38,728)	325,374	26,465
State of Wisconsin Clean					
Water Fund	611,184	12,850	(66,781)	567,253	57,782
Subtotal	889,707	98,429	(95,509)	892,627	84,247
Intergovernmental loan	22,302	-	(2,288)	20,014	1,214
Other long term debt	-	-	-	-	-
Other postretirement benefits	50,294	9,110	(6,484)	52,920	-
Net Pension liability	8,075	147	-	8,222	-
Vested sick pay*	777	-	(69)	708	296
Total	\$ 971,155	\$ 107,686	\$ (104,350)	\$ 974,491	\$ 85,757

*Vested sick pay is frozen as discussed in Note 2.

The District has issued general obligations bonds to provide funds for the acquisition and construction of major capital assets. All general obligation bonds are backed by the full faith and credit of the District. Interest on these bonds is payable semiannually at varying interest rates ranging from 2.39% to 4.45% (effective interest rate of 3.32%).

Debt service requirements are as follows:

Year	Principal	Interest (In Thousands)	Subsidy*	Total
2019	24,080	11,024	(557)	34,547
2020	24,855	10,076	(523)	34,408
2021	25,940	9,044	(487)	34,497
2022	19,640	7,961	(449)	27,152
2023	15,275	7,149	(410)	22,014
2024-2028	85,305	26,314	(1,379)	110,240
2029-2033	62,735	11,189	(183)	73,741
2034-2037	28,645	2,110	-	30,755
Total	\$ 286,475	\$ 84,867	\$ (3,988)	\$ 367,354

* The subsidy is based on the original 35% federal interest subsidy provided by the federal government. During fiscal year 2018 interest subsidies received were reduced by 6.6% and during federal fiscal year 2019, the subsidy payments have been reduced by 6.2%. This amount may continue to change based on sequestration.

The District has received funds through the State of Wisconsin Clean Water Fund Loan Program. Interest on these loans is payable semiannually at varying interest rates ranging from 1.76% to 4.95% (effective interest rate of 2.88%). Principal is payable annually in varying amounts. Debt service requirements are as follows:

Year	Principal	Interest (In Thousands)	Total
2019	\$ 59,494	\$ 12,218	\$ 71,712
2020	60,242	10,686	70,928
2021	58,417	9,178	67,595
2022	46,024	7,883	53,907
2023	45,631	6,769	52,400
2024-2028	191,386	18,340	209,726
2029-2033	58,039	3,470	61,509
2034-2036	9,916	321	10,237
Total	\$ 529,149	\$ 68,865	\$ 598,014

The District has outstanding loan commitments available of \$6,907,959 and \$7,904,948 at December 31, 2018 and 2017, respectively, from the State of Wisconsin Clean Water Fund Loan Program. These commitments will be utilized for future construction of wastewater treatment facilities.

In 2010, the District entered into an intergovernmental loan agreement with the City of Franklin to finance the Ryan Interceptor (project). The City of Franklin is constructing the project which will ultimately become an asset of the District. The City of Franklin has obtained Clean Water Fund Loan financing for this project at 2.46%. The District's obligation will equal the total principal and interest payments on that loan. The District has agreed to make payments to the City of Franklin beginning in 2015 and the debt is anticipated to be paid off in 2031. On January 3, 2017, the District made a payment to the City of Franklin to reimburse the City for the sums paid toward the loan through 2014. The outstanding amount at December 31, 2018 is \$18,799,970. Debt service requirements are as follows:

Year	Principal	Interest (In Thousands)	Total
2019	1,245	448	1,693
2020	1,275	417	1,692
2021	1,307	385	1,692
2022	1,339	352	1,691
2023	1,372	319	1,691
2024-2028	7,382	1,064	8,446
2029-2031	4,880	182	5,062
Total	\$ 18,800	\$ 3,167	\$ 21,967

On December 15, 2003, the District issued \$38,105,000 General Obligation Capital Purpose Refunding Bonds, Series 2003I. The proceeds were used to purchase state and local government securities which, together with an initial cash deposit and debt service funds released, were placed in an irrevocable trust with an escrow agent to provide for future debt service payments on a portion of the General Obligation Capital Purpose Bonds, Series 2001A and Series 2003D. Neither the defeased debt nor the funds held in trust are recorded on the District's statement of net position. The difference between the reacquisition price and the net carrying amount of the old debt was a loss of \$1,981,000, which is reported in the accompanying financial statements as a reduction to long-term obligations and is being amortized as a component of interest expense through 2018. The unamortized refunding loss was \$0 and \$100,000 as of December 31, 2018 and 2017, respectively. The remaining balance on the Series 2003I Bonds at December 31, 2018 and 2017, included in general obligation bonds, is \$0 and \$6,180,000 respectively.

On April 21, 2005, the District issued \$57,115,000 of General Sewerage System Refunding Bonds, Series 2005A. The proceeds were used to purchase state and local government securities which, together with an initial cash deposit and debt service funds released, were placed in an irrevocable trust with an escrow agent to provide for future debt service payments on a portion of the General Obligation Sewerage System Bonds, Series 2001A. Neither the defeased debt nor the funds held in trust are recorded on the District's statement of net position. The difference between the acquisition price and the net carrying amount of the old debt was a loss of \$217,000, which is reported in the accompanying financial statements as a reduction to long-term obligations and is being amortized as a component of interest expense through 2022.

The unamortized refunding loss was \$45,000 and \$57,000 as of December 31, 2018 and 2017, respectively. The remaining balance on the Series 2005A Bonds at December 31, 2018 and 2017, included in general obligation bonds, is \$38,485,000 and \$42,525,000 respectively.

On August 4, 2008, the District issued \$70,000,000 of General Sewerage System Bonds, Series 2008F, with an average interest rate of 4.9 percent. The proceeds were used to fund District capital improvements. On October 21, 2015, \$42,725,000 of callable maturities of the 2008F bonds were funded with the issuance of the 2015C General Sewerage System Bonds. The new service life of the remaining debt is through 2018. The remaining balance on the Series 2008F Bonds at December 31, 2018 and 2017, included in general obligation bonds, is \$0 and \$3,235,000, respectively.

On December 23, 2010, the District issued \$50,000,000 of General Obligation Sewerage System Bonds, Series 2010L with an average interest rate of 3.9 percent. Included in the proceeds is a subsidy from the Build America Bonds program of \$9,186,000 which will reduce the payment over the life of the bonds until 2030. This amount may change based on sequestration. The proceeds were used to fund District capital improvements. The remaining balance on the series 2010L Bonds at December 31, 2018 and 2017 included in general obligation bonds is \$32,365,000 and \$34,635,000, respectively.

On May 6, 2015, the District issued \$100,000,000 of General Obligation Sewerage System Bonds, Series 2015A with an average interest rate of 3.7 percent. The proceeds were used to fund District capital improvements. The remaining balance on the Series 2015A Bonds at December 31, 2018 and 2017, included in general obligation bonds, is \$95,670,000 and \$100,000,000, respectively.

On October 21, 2015, the District issued \$47,765,000 of General Sewer System Refunding Bonds, Series 2015C. The proceeds were used to purchase U.S. government securities which, together with an initial cash deposit and debt service funds released, were placed in an irrevocable trust with an escrow agent to provide for future debt service payments on a portion of the General Obligation Sewerage System Bonds, Series 2008F. Neither the defeased debt nor the funds held in trust are recorded on the District's statement of net assets. The difference between the acquisition price and the net carrying amount of the old debt was a loss of \$4,443,000, which was reported in the accompanying financial statements as a loss to long-term obligations and is being amortized as a component of interest expense through 2028. The unamortized refunding loss was \$3,287,000 and \$3,624,000 as of December 31, 2018 and 2017, respectively. The remaining balance on the Series 2008F Bonds at December 31, 2018 and 2017, included in general obligation bonds, is \$0 and \$3,235,000, respectively. The remaining balance on the Series 2015C Bonds at December 31, 2018 and 2017, included in general obligation bonds, is \$45,695,000 and \$46,365,000, respectively.

On June 12, 2017 the District issued \$80,000,000 of General Sewerage System Bonds, Series 2017A, with an average interest rate of 3.5 percent. The proceeds are being used to fund District capital improvements. The remaining balance on the Series 2017A Bonds at December 31, 2018 and 2017 included in general obligation bonds, is \$74,260,000 and \$80,000,000, respectively.

Interest incurred to finance the construction of capital projects were capitalized as additional costs of capital projects. Such costs capitalized, net of related interest income, amounted to \$0 in 2018 due to the implementation of GASB issued Statement No. 87 - Accounting for Interest Cost Incurred Before the End of a Construction Period, and \$5,068,000 in 2017.

A computation of the legal debt margin, as defined by Wisconsin Statute, as of December 31 follows:

	2018	2017
	(In Thousands)	
Equalized valuation as determined by the Supervisor of Assessments of the Wisconsin Department of Revenue	\$ 62,864,828	\$ 60,253,027
Statutory debt limit rate - Wisconsin Statutes Section 67.03	5%	5%
Statutory Debt Limit	3,143,241	3,012,651
General obligation indebtedness:		
Outstanding bonds issued by the District	(286,475)	(312,940)
Clean Water Fund Program loans	(529,149)	(567,253)
Legal Debt Margin	\$ 2,327,617	\$ 2,132,458

NOTE 8 - RISK MANAGEMENT

The District is exposed to various risks of loss related to torts; theft of, damage to, or destruction of assets; errors and omissions; workers' compensation; and health care of its employees. The District carries policies of insurance with respect to its property, vessels, equipment, and passenger and commercial vehicles (including comprehensive liability), environmental site liability, contractor's pollution liability, owner's professional liability, excess workers' compensation and health benefits. The District carries no insurance coverage for general liability. Settled claims have not exceeded the commercial coverage in any of the past three years. There has been no reduction in insurance coverage from that of prior years.

The District is self-insured for workers' compensation and employer liability claims subject to certain limits of coverage. In addition, the District retains the risk for all comprehensive general liability claims. A liability for a claim is established if information indicates that it is probable that a liability has been incurred at the date of the financial statements and the amount of the loss is reasonably estimable. The liability for claims payable included with accounts payable in the statements of net position includes claims incurred but not reported (IBNR) totaling approximately \$40,000 and \$80,000 as of December 31, 2018 and 2017, respectively.

	2018	2017	2016
	(In Thousands)		
Unpaid claims, beginning of year	\$ 80	\$ 120	\$ 140
Claim payments	(62)	(61)	(108)
Current year claims and changes in estimates	22	21	88
Unpaid Claims, End of Year	\$ 40	\$ 80	\$ 120

In addition, the District retains a certain level of risk related to employee health insurance, and uses commercial insurance for stop-loss purposes. A liability for claims incurred but not reported (IBNR) is estimated at year end based on a review of the historical data. As of December 31, 2018 and 2017, the IBNR reported in other current liabilities is \$510,000 and \$560,000, respectively.

	2018	2017	2016
	(In Thousands)		
Unpaid claims, beginning of year	\$ 560	\$ 560	\$ 440
Claims and premiums paid	(8,312)	(10,486)	(8,458)
Current year claims and changes in estimates	8,262	10,486	8,578
Unpaid Claims, End of Year	\$ 510	\$ 560	\$ 560

The District does not allocate overhead costs or other nonincremental costs to the claims liabilities.

NOTE 9 - CONTINGENCIES AND COMMITMENTS

LITIGATION

The District is involved in various legal proceedings, claims, and administrative actions arising in the normal course of business. In the opinion of management, the District's liability, if any, will not materially affect its financial condition.

Provision has been reflected in the accompanying financial statements if deemed appropriate by the District, for the following major lawsuits and administrative actions:

Claims by Upstream Riparian Landowners relating to Estabrook Dam Removal

During 2018 the District received 49 Notices of Claim from riparian landowners along the Milwaukee River; previously these same property owners filed suit and sought damages based on claimed diminution in property value as the result of removal of the Estabrook Dam. This prior case was captioned Brian Kreuziger, et al. v. Milwaukee County and MMSD, Milwaukee County Circuit Case No. 11-CV-8784. The District was never formally served with process in that case; and the case is now dismissed (without prejudice) by agreement of the Parties. In that case, the plaintiffs sought to certify a class of similarly situated riparian land owners. On behalf of this putative class, plaintiffs sought \$11 million in property value depreciation and \$1.2 million for remediation of property damage, along with punitive damages, costs, fees and attorneys' fees. It is possible that the recent Notices of Claim filed with the District will be the basis for future litigation against the District, but no action has been filed to date. If a suit is filed, the District expects to prevail in this action.

Urbain A. Boudjou v. MMSD

ERD Case No. CR201703576 and EEOC Case No 26G201800346C

Plaintiff former employee filed case in January of 2018, alleging violation of the Wisconsin Fair Employment Act. Mediation of the matter was successful, resulting in a settlement approved by the Commission March 2019.

Metropolitan Interceptor Sewer Contamination with PCB's

Polychlorinated biphenyl (PCB) contamination has been identified in the District's Basin H sewer near Capitol Drive. The sewer is directly downstream of an abandoned die casting facility with heavy PCB contamination. PCBs are present in the sewer at levels greater than 50 parts per million, triggering regulation by the United States Environmental Protection Agency ("U.S. EPA") under the Toxic Substances Control Act. The area for proposed remediation extends for roughly 8,000 linear feet (1.5 miles). The District prepared a Risk Based Work Plan, which U.S. EPA has approved for the remediation of Basin H. The estimated cost to implement the Work Plan is between \$2.5 and \$3.8 million. The design of remediation is underway; and cleanup is expected to begin in 2018. The District has notified its insurance carriers of this liability, and expects a portion of this to be a covered liability, less the \$250,000 deductible.

PCB contamination has also been identified in a sewer running under Mitchell Park at levels exceeding 50 parts per million. The PCB contamination at this site is limited to a length of sewer less than 1000 feet in length. The District does not have an estimated cost for remediation, but anticipates that it will be less than the cost to remediate the Basin H site. The District has notified its insurance carrier of this liability.

PCB contamination has also been identified in a sewer running between South 56th Street and Bruce Streets at 52.2 parts per million. This sewer has been unused in recent years. The District does not have an estimated cost for remediation, if it becomes necessary.

CLAIM FOR DAMAGES RELATED TO SETTLEMENT OF HARBOR SIPHONS

On or about February 10, 2018, structural distress occurred at the Harbor Siphons High-Level Flow Chamber (chamber) structures at the Jones Island Water Reclamation Facility (JWRF), causing untreated sewage to leak from the siphons onto the ground surface. The siphons project was constructed in 2007-09 as part of an \$87.0 million construction project. The siphons are a system of multiple pipes used to lift sewage up to JWRF from pipes located several hundred feet below the surface, which have settled as the result of earth movement. An emergency was declared and excavation and repairs were initiated. Estimates of the repairs are up to \$10 million. The District notified its liability carrier, AIG, of the claim. On March 22, 2018, AIG issued a reservation of rights, conceding \$100 million of coverage (with a \$100,000 deductible) under the policy for earth movement, but reserved rights while an investigation is undertaken. The District believes coverage will be afforded under the AIG policy and negotiations are underway with AIG.

NATURAL GAS PURCHASING COMMITMENT

On March 1, 2008 the District entered into an operating contract with Veolia Water for operations of the wastewater treatment facilities. As part of the contract the District became directly responsible for 75% of the natural gas costs at the plants. During 2008, management and the Commission determined it to be prudent to enter into forward transactions with a supplier to purchase natural gas for future periods. At December 31, 2018 the District had commitments to purchase \$2,583,790 in natural gas during the future year, of which 75% will be paid for by the District and 25% will be paid for by Veolia. At December 31, 2017 the District had commitments to purchase \$3,195,025 in natural gas during the future years, of which 75% will be paid for by the District and 25% will be paid for by Veolia. These purchases will be recorded as expenses and liabilities in the period in which the gas is delivered.

NOTE 10 – RETIREMENT SYSTEM

General Information About the Pension Plan

Plan description. All full-time and other eligible employees of the District are members of the Employees' Retirement System of the City of Milwaukee (the System), a cost-sharing multiple employer defined benefit pension plan. The System provides retirement, disability, and death benefits to plan members and beneficiaries.

The City Charter assigns the authority to establish and amend benefit provisions. The System issues a publicly available financial report that includes financial statements and required supplementary information for the City of Milwaukee. Detailed information about the pension plan's fiduciary net position is available in these separately issued financial statements. That report may be obtained by writing to the Employees' Retirement System of the City of Milwaukee, 200 East Wells Street, Room 603, Milwaukee, WI 53202.

Plan members are required by charter ordinance of the City of Milwaukee to contribute, or have contributed on their behalf, 5.5% of their salary or wages to the System. The District is required to contribute the remaining amounts necessary to fund the System. In 1970, the District began contributing the 5.5% on behalf of the employees. However, as a result of Wisconsin Act 10, the management/non-represented employees were required to begin making the 5.5% employee contribution in 2011. Effective, October, 2011, the management/non-represented employees began to make the 5.5% employee contribution. The represented employees were not required to begin the contribution at that time since they were covered by a labor agreement that expired on April 30, 2012. Beginning the first pay period in May, 2012, the represented employees began making the 5.5% employee contribution. As of December 31, 2018 and 2017, the System recognized \$1,587,306 and \$1,546,382 in contributions from the District.

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At December 31, 2018 and 2017, the District reported a liability (asset) of \$6,435,000 and \$8,222,000, respectively for its proportionate share of the net pension liability (asset). The net pension liability (asset) was measured as of December 31, 2017 and 2016, and the total pension liability used to calculate the net pension liability (asset) was determined by an actuarial valuations as of January 1, 2017 and 2016 rolled forward to December 31, 2017 and 2016. No material changes in assumptions or benefit terms occurred between the actuarial valuation date and the measurement date. The District's proportion of the net pension liability (asset) was based on the District's share of contributions to the pension plan relative to the contributions of all participating employers. At December 31, 2017, the District's proportion was 1.7749%, which was a decrease of 0.1546% from its proportion measured as of December 31, 2016. At December 31, 2016, the District's proportion was 1.9295%, which was an increase of 0.0094% from its proportion measured as of December 31, 2015.

For the year ended December 31, 2018 and December 31, 2017, the District recognized pension expense of \$3,447,000 and \$3,571,000.

The District reported deferred outflows of resources and deferred outflows of resources related to pensions from the following sources as of December 31:

Deferred Outflows of Resources	2018	2017
Differences between expected and actual experience	\$ 889,000	\$ -
Net differences between projected and actual earnings on pension plan	-	5,416,000
Changes in actuarial assumptions	3,248,000	-
Changes in proportion and differences between employer contributions and proportionate share of contributions	3,000	5,000
Employer contributions subsequent to the measurement date	3,179,564	2,844,067
Total	\$ 7,319,564	\$ 8,265,067

The District reported deferred inflows of resources and deferred inflows of resources related to pensions from the following sources as of December 31: (cont.)

Deferred Inflows of Resources	2018	2017
Differences between expected and actual experience	\$ -	\$ (449,000)
Net differences between projected and actual earnings on pension plan	(2,495,000)	-
Changes in proportion and differences between employer contributions and proportionate share of contributions	(201,000)	-
Changes in actuarial assumptions	-	(53,000)
Total	\$ (2,966,000)	\$ (502,000)

Deferred outflows related to pensions resulting from the District's contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability (asset) in future periods. At December 31, 2018 the District reported \$3,179,564 in contributions made subsequent to the measurement date, which will be recognized in 2019 (\$1,571,704) and 2020 (\$1,607,860) when they are recognized by the plan in the actuarial report. Other amounts reported as deferred outflows and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year	Deferred Outflows of Resources
2019	\$ 1,423,472
2020	1,040,469
2021	(93,158)
2022	(1,196,783)
Thereafter	-
Total	\$ 1,174,000

Actuarial assumptions. The total pension liability in the actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Actuarial valuation date	January 1, 2017
Measurement date of net pension liability (asset)	December 31, 2017
Actuarial cost method	Entry Age Normal – Level Percentage of Pay
Asset valuation method	Market Value
Investment Rate of Return	8.00% for calendar years through 2022, and 8.25% thereafter
Discount rate	8.24%
Inflation	2.50%
Salary increases	
General City	2.5% - 5.5%
Police & Fire	4.0% - 13.4%
Mortality	For regular retirees and for survivors, the RP-2014 Healthy Annuitant Mortality Table (using 111% of rates for males and 110% of rates for females) projected generationally with Scale MP-2016. For duty and ordinary disability retirees, the RP-2014 Disability Mortality Table (using 102% of rates for males and 98% of rates for females) projected generationally with Scale MP-2016 was used. For death in active service, the RP-2014 Non-annuitant annuitant Mortality Table projected generationally with Scale MP-2016

Actuarial assumptions are based on an experience study for the period January 1, 2012 – December 31, 2016.

Actuarial assumptions. The total pension liability in the December 31, 2017, actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Actuarial valuation date	January 1, 2016
Measurement date of net pension liability (asset)	December 31, 2016
Actuarial cost method	Entry Age Normal – Level Percentage of Pay
Asset valuation method	Market Value
Investment Rate of Return	8.25% for calendar years through 2017, and 8.50% thereafter
Discount rate	8.5049%
Inflation	3.00%
Salary increases	
General City	3.0% - 7.5%
Police & Fire	3.0% - 14.4%
Mortality	For regular retirees and for survivors, the RP-2000 Combined Mortality Table projected nine years using Scale AA. Future generational rates are projected from 2009 based on Scale AA. For duty and ordinary disability retirees, use the RP-2000 Disability Mortality Table. For death in active service, the rates are similar to those used for regular retirees and survivors with a 6-year setback.

Actuarial assumptions are based on an experience study for the period January 1, 2007 – December 31, 2011.

Long-term Expected Rate of Return. The long term expected rate of return on pension plan investments was determined based on the results of an experience review performed by Conduent HR Consulting, LLC. Projected long term rates of return for each major asset class in the Retirement System's target asset allocation as of December 31, 2018 are summarized in the following table:

Asset Class	Actual	Long-term Expected Rate of Return
Public Equity	49.00%	8.25%
Fixed Income	13.00%	1.83%
Cash	1.00%	0.94%
Real Estate	7.70%	6.91%
Real Assets	3.30%	5.38%
Private Equity	8.00%	12.54%
Absolute Return	18.00%	4.66%
	100.0%	

Long-term Expected Rate of Return. The long term expected rate of return on pension plan investments was determined using Callan Associates' 10 year geometric capital market projections. Projected long term rates of return for each major asset class in the Retirement System's target asset allocation as of December 31, 2017 are summarized in the following table:

Asset Class	Actual	Long-term Expected Rate of Return
Public Equity	55.72%	8.32%
Fixed Income	20.50%	1.87%
Cash	0.62%	0.92%
Real Estate	7.95%	6.82%
Real Assets	2.20%	5.63%
Private Equity	4.96%	12.52%
Absolute Return	8.05%	4.67%
	100.0%	

Discount rate. The discount rate used to measure the total pension liability was 8.24% and 8.5% for 2018 and 2017, respectively. 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 employer contributions will be made at contractually required rates, actuarially determined. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. 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.

Sensitivity of the utility's proportionate share of the net pension liability (asset) to changes in the discount rate. The following presents the District's proportionate share of the net pension liability (asset) calculated using the discount rate of 8.24 percent, as well as what the District's proportionate share of the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower (7.24 percent) or 1-percentage-point higher (9.24 percent) than the current rate:

Proportionate Share of Net Pension Liability (Asset)	1% Decrease (7.24%)	Current Discount Rate (8.24%)	1% Increase (9.24%)
2018	\$ 18,071,000	\$ 6,435,000	\$ (3,310,000)

Sensitivity of the utility's proportionate share of the net pension liability (asset) to changes in the discount rate. The following presents the District's proportionate share of the net pension liability (asset) calculated using the discount rate of 8.50 percent, as well as what the District's proportionate share of the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower (7.50 percent) or 1-percentage-point higher (9.50 percent) than the current rate:

Proportionate Share of Net Pension Liability (Asset)	1% Decrease (7.50%)	Current Discount Rate (8.50%)	1% Increase (9.50%)
2017	\$ 19,385,000	\$ 8,222,000	\$ (1,194,000)

NOTE 11 – OTHER POSTRETIREMENT BENEFITS

The District implemented GASB No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions, effective January 1, 2018. The cumulative effect of the change in net position due to the change in accounting standard is shown as a change in beginning net position for 2018. The prior year balances for deferred outflows of resources, deferred inflows of resources, and the total OPEB liability were not restated due to the measurement date used for the calculation of the balances and the timing of the information received by the Plan.

Plan description. The District provides postretirement health and life insurance in accordance with union contracts and Commission policy. Represented employees hired prior to December 1, 2004, who retired from the District on or after attaining age 55 with at least 10 years of creditable service, or who left employment prior to age 55 with at least 20 years of creditable service, are eligible for postretirement health insurance at age 55 and a pension benefit. For represented employees hired on or after December 1, 2004, the employee must have at least 20 years of service and reach age 55 in order to be eligible for the postretirement health insurance.

Management/nonrepresented employees hired prior to August 1, 2002, covered by Commission policy, who retire from the District on or after attaining age 60 with at least 10 years of creditable service, or with at least 15 years of creditable service who are under the age of 60, are eligible for postretirement health insurance. Management/nonrepresented employees hired after August 1, 2002, covered by Commission policy, with at least 15 years of creditable service, will be entitled to the following pre-Medicare health insurance benefits:

Years of Service:	Premium Paid by District
15 – 19	30%
20 – 24	40
25 or more	50

The District no longer pays for supplemental health insurance upon becoming Medicare eligible for management/nonrepresented employees hired after August 1, 2002.

Benefits provided. The District provides the same health coverage as offered active employees. This insurance provides approximately 100% coverage; certain health coverage options involving deductibles; and co-pays. The Commission has the authority to establish and revise the funding policy for the plan. Currently the plan is funded on a pay-as-you-go basis.

Employees covered by benefit terms. At December 31, 2018, the following employees were covered by the benefit terms:

Retired Participants	500
Terminated vested participants	5
Active plan members	249
	<u>754</u>

Effective March 1, 1998 the District curtailed the plans as a result of the transfer of 290 employees to a private contractor in conjunction with the privatization of the District's operations (see Note 4).

TOTAL OPEB LIABILITY

The utility's total OPEB liability of \$120,211,696 was measured as of December 31, 2018, and was determined by an actuarial valuation as of that date.

Actuarial assumptions and other inputs. The total OPEB liability in the December 31, 2018 actuarial valuation was determined using the following actuarial assumptions and other inputs, applied to all periods included in the measurement, unless otherwise specified:

Salary increases	3% per annum
Healthcare cost trend rates	8.0% decreasing to 5.0%
Retirees' share of benefit-related costs	<u>Represented Employees (contributions cease at age 65)</u> Pre 1984 Retirees \$ 0 Post 1984 Retirees \$35 Single / \$70 Family Post 2004 Retirees \$45 Single / \$90 Family Post 1/1/2008 Retirees \$50 Single / \$100 Family Pre-Medicare coverage only for post 3/8/2010 hires. <u>Non-Represented Employees</u> Pre 2003 Hires \$ 0 Post 2003 Hires (pre-Medicare coverage only): Years of Service Retiree Contribution 15-20 70% of Cost 20-30 60% of Cost 30+ 50% of Cost
	<u>UWS Transfers</u> For employees who transferred to UWS, MMSD is liable for a portion of total benefits based on the ratio of service at MMSD to total service.

The discount rate of 3.44% was used as of January 1, 2018 and 4.10% as of December 31, 2018.

Mortality rates were based on the RP-2000 Healthy Annuitant Mortality Table for Males or Females, as appropriate, with adjustments for mortality improvements based on Scale AA.

CHANGES IN THE TOTAL OPEB LIABILITY

	Total OPEB Liability
Balances at December 31, 2017	\$ 136,720,232
Changes for the year:	
Service cost	1,305,767
Interest	4,588,191
Differences between expected and actual experience	(8,959,140)
Changes in assumptions or other inputs	(6,758,198)
Benefit payments	(6,685,156)
Net changes	<u>(16,508,536)</u>
Balances at December 31, 2018	\$ 120,211,696

Changes of assumptions and other inputs reflect a change in the discount rate from 3.44 percent in 2017 to 4.10 percent in 2018.

Sensitivity of the total OPEB liability to changes in the discount rate. The following presents the total OPEB liability of the utility, as well as what the utility's total OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (3.10 percent) or 1-percentage-point higher (5.10 percent) than the current discount rate:

	1% Decrease (3.10%)	Discount Rate (4.10%)	1% Increase (5.10%)
Total OPEB liability	\$ 135,413,779	\$ 120,211,696	\$ 107,564,482

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates. The following presents the total OPEB liability of the utility, as well as what the utility's total OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower (7.0 percent decreasing to 3.5 percent) or 1-percentage-point higher (9.0 percent decreasing to 5.5 percent) than the current healthcare cost trend rates:

	1% Decrease (7.0% Decreasing to 3.5%)	Healthcare Cost Trend Rates (8.0% Decreasing to 4.5%)	1% Increase (9.0% Decreasing to 5.5%)
Total OPEB liability	\$ 108,732,299	\$ 120,211,696	\$ 133,888,641

Notes to Financial Statements

Continued

OPEB EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO OPEB

For the year ended December 31, 2018, the utility recognized OPEB expense of (\$23,283,429). At December 31, 2018, the utility reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ -	\$ (5,097,340)
Changes of assumptions or other inputs	-	(3,845,105)
Total	\$ -	\$ (8,942,445)

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Year Ended December 31:

2018	\$ (6,774,893)
2019	(2,167,552)
Total	(8,942,445)

As of January 1, 2017 the District's annual OPEB cost (expense) for the fiscal year ending December 31, 2017 is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty years. The following table shows the components of the District's annual OPEB cost for the year, the amount actually contributed to plan, and changes in the District's net OPEB obligation to the plan:

	2017 (In Thousands)
Annual required contribution	\$ 10,385
Interest on net OPEB obligation	870
Adjustment to annual required contribution	(2,145)
Annual OPEB cost	9,110
Contributions made	(6,484)
Increase in Net OPEB Obligation	2,626
Net OPEB Obligation - Beginning of Year	50,294
Net OPEB Obligation - End of Year	\$ 52,920

The District's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for 2017 and 2016 was as follows:

Fiscal Year Ended	Annual OPEB Cost (In Thousands)	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation (In Thousands)
2017	\$ 9,110	71.2%	\$ 52,920
2016	9,583	56.5%	50,294

The funded status of the plan as of December 31, 2017, the most recent actuarial valuation dates, was as follows:

	2017 (In Thousands)
Actuarial accrued liability (AAL)	\$ 172,143
Actuarial value of plan assets	-
Unfunded Actuarial Accrued Liability (UAAL)	\$ 172,143
Funded ratio (actuarial value of plan assets / AAL)	-
Covered payroll (active plan members)	\$ 20,851
UAAL as a percentage of covered payroll	826%

Actuarial valuations of an ongoing plan involve estimates for the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, will present multiyear trend information that shows whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing benefit costs between the employer and plan members to that point. The methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

In the actuarial valuation, the entry age actuarial cost method was used. The 2017 Annual OPEB Cost was calculated using the actuarial assumptions of 1.66% investment rate of return and an annual healthcare cost trend rate of 8.0% initially, reduced to an ultimate 5% after seven years, including a 2.5% inflation assumption. The plan has not accumulated assets and does not hold assets in a segregated trust. The plan's unfunded actuarial accrued liability is being amortized as a level dollar amount. The amortization period is open and is 30 years.

NOTE 12 – LEASES

The District's primary source of lease revenue was derived from Alterra Coffee for space within the District's Milwaukee River Flushing Station. The District has been granted a permit for an outdoor advertising structure for RED Outdoor Media that is to be constructed in 2019. Lease receipts for this structure will not begin until it is operational. The District has one long term, through 2058, lease with Pt. Loomis Associates Limited Partnership related to an enclosed channel. The remaining leases involve seasonal crop land agreements on land from the District's Conservation Easement Program, use of office space by the Conservation Easement Program and a billboard on District property.

Future minimum lease receipts under noncancelable operating leases (with initial or remaining lease terms in excess of one year) as of December 31, 2018 are as follows:

Year ending December 31:	
2019	\$ 186,226
2020	224,696
2021	228,068
2022	229,187
2023	228,055
2024 through 2028	428,197
2029 through 2033	245,705
2034 through 2038	245,705
2039 through 2043	101,705
2044 through 2048	65,705
2049 through 2053	65,705
2054 through 2058	65,705
Total Minimum Lease Receipts	\$ 2,314,659

The District has five lease agreements for antenna space on towers or buildings in the Milwaukee area. The antennas serve as hubs for the District's radio communication system that is used to send and receive data from the District's remote facilities, which are located throughout the service area. Each lease agreement is for 10 years.

Future minimum lease payments under noncancelable operating leases (with initial or remaining lease terms in excess of one year) as of December 31, 2018 are:

Year ending December 31:	
2019	\$ 72,744
2020	42,619
2021	42,857
2022	43,183
2023	43,433
2024-2028	96,245
2029-2033	66,015
2034-2037	42,493
Total Minimum Lease Payments	449,589
Less current installments of obligations under operating leases	(72,744)
Obligations under Operating Leases, Excluding Current Installments	\$ 376,845



NOTE 13 – SUBSEQUENT EVENT

The utility evaluated subsequent events through the date that the financial statements were available to be issued, for events requiring recording or disclosure in the financial statements.

NOTE 14 – CUMULATIVE EFFECT OF A CHANGE IN ACCOUNTING PRINCIPLE

The utility adopted GASB Statement No. 75 effective January 1, 2018. The cumulative effect of implementation is reflected as a change in net position at December 31, 2017 as follows:

Total OPEB liability January 1, 2018	\$ 136,720
Deferred inflows January 1, 2018	15,718
Total	152,438
Less: 2017 liability recorded under GASB 45	(52,920)
Cumulative Effect of a Change in Accounting Principle	\$ 99,518



Career Day at MMSD



Required Supplementary Information

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

SCHEDULE OF FUNDING PROGRESS AND CONTRIBUTIONS Other Postemployment Benefit Plans

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
(In Thousands)						
12/31/2017	\$ -	\$ 172,143	\$ 172,143	0%	\$ 20,851	826%
12/31/2016	-	189,300	189,300	0%	20,077	943%

SCHEDULE OF EMPLOYER'S PROPORTIONATE SHARE OF THE NET PENSION LIABILITY (ASSET) Employee's Retirement System

	2018	2017	2016	2015
Employer's proportion of the net pension liability (asset)	1.7749%	1.92951%	1.92007%	1.928695%
Employer's proportionate share of the net pension liability (asset)	\$ 6,435,000	\$ 8,222,000	\$ 8,075,000	\$ 2,189,000
Employer's covered payroll	18,587,334	17,752,000	17,030,000	16,655,000
Employer's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	34.62%	47.42%	47.42%	13.14%
Plan fiduciary net position as a percentage of the total pension liability (asset)	93.70%	91.87%	97.76%	97.76%

SCHEDULE OF EMPLOYER'S CONTRIBUTIONS Employee's Retirement System - Employer Year

	2018	2017	2016	2015
Contractually required contributions	\$ 1,587,306	\$ 1,546,382	\$ 1,532,962	\$ 1,517,102
Contributions in relation to the contractually required contributions	\$ 1,587,306	\$ 1,546,382	\$ 1,532,962	\$ 1,517,102
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -
Employer's covered payroll (calendar year)	\$ 19,280,366	\$ 18,587,334	\$ 17,752,000	\$ 17,030,000
Contributions as a percentage of covered-employee payroll	8.02%	8.25%	8.64%	8.91%

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

The District is required to present the last ten years of data; however, accounting standards allow the presentation of as many years as are available until 10 years are presented.

Changes of benefit terms: There were no changes in benefit terms.

Changes of assumption: There were no changes in assumptions.

See accompanying notes and required supplementary information.

Supplementary Information

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

HEALTH INSURANCE SCHEDULE OF CHANGES IN TOTAL OPEB LIABILITY AND RELATED RATIOS Most Recent Fiscal Year

	<u>2018</u>
Total OPEB Liability	
Service cost	\$ 1,305,767
Interest	4,588,191
Changes of benefit terms	-
Differences between expected and actual experience	(8,959,140)
Changes of assumptions	(6,758,198)
Benefit payments	<u>(6,685,156)</u>
Net Change in Total OPEB Liability	(16,508,536)
Total OPEB Liability - Beginning	<u>136,720,232</u>
Total OPEB Liability - Ending	<u>\$ 120,211,696</u>
Covered-employee payroll	\$ 21,217,853
Total OPEB liability as a percentage of covered-employee payroll	566.56%

Notes to Schedule:

Valuation date:

Actuarially determined contribution rates are calculated as of December 31, 2018, one year prior to the end of the fiscal year.

Actuarial cost method	Entry age normal												
Amortization method	N/A												
Amortization period	N/A												
Asset valuation method	N/A												
Inflation	4.10 percent												
Healthcare cost trend rates	8.0 percent initial decreasing to an ultimate rate of 5.0 percent												
Salary increases	3.0 percent, average, including inflation												
Investment rate of return	N/A												
Retirement age	Rates of retirement are based on age only. Rates are shown below:												
	<table> <thead> <tr> <th style="text-align: center;"><u>Age</u></th> <th style="text-align: center;"><u>Rate</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">55-59</td> <td style="text-align: center;">5%</td> </tr> <tr> <td style="text-align: center;">60</td> <td style="text-align: center;">25%</td> </tr> <tr> <td style="text-align: center;">61</td> <td style="text-align: center;">15%</td> </tr> <tr> <td style="text-align: center;">62-64</td> <td style="text-align: center;">30%</td> </tr> <tr> <td style="text-align: center;">65</td> <td style="text-align: center;">100%</td> </tr> </tbody> </table>	<u>Age</u>	<u>Rate</u>	55-59	5%	60	25%	61	15%	62-64	30%	65	100%
<u>Age</u>	<u>Rate</u>												
55-59	5%												
60	25%												
61	15%												
62-64	30%												
65	100%												
Mortality	RP-2014 Mortality Table base rates projected to 2019 with scale MP2018, Sex Distinct												

Benefit changes. There were no changes to the benefits.

No assets are accumulated in a trust that meets the criteria in paragraph 4 of Statement 75.

The utilities implemented GASB Statement No. 75 in 2018. Information prior to 2018 is not available.

See accompanying notes and required supplementary information.

This part of the Milwaukee Metropolitan Sewerage District's (District) comprehensive annual financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required supplementary information says about the District's overall financial health.

<u>Contents</u>	<u>Exhibit</u>
Financial Trends These schedules contain trend information to help the reader understand how the District's financial performance and well-being have changed over time.	B-1, B-2
Revenue Capacity These schedules contain information to help the reader assess the District's most significant revenue sources.	B-3, B-4, B-5, B-6, B-7, B-8, B-9, B-10, B-11
Debt Capacity These schedules present information to help the reader assess the affordability of the District's current levels of outstanding debt and the government's ability to issue additional debt in the future.	B-12, B-13, B-14, B-15
Demographic and Economic Information These schedules offer demographic and economic indicators to help the reader understand the environment within which the District's financial activities take place.	B-16, B-17
Operating Information These schedules contain service and infrastructure data to help the reader understand how the information in the District's financial report relates to the services the government provides and the activities it performs.	B-18, B-19

Jones Island Water
Reclamation Facility





Exhibit B-1

Net Position By Components

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

	Fiscal Year				
	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
	(In Thousands)				
Investment in Capital Assets	\$ 2,513,765	\$ 2,501,652	\$ 2,489,929	\$ 2,471,795	\$ 2,486,416
Restricted - Capital Projects and Programs	62,188	58,337	43,412	50,887	34,527
Restricted - Equipment Replacement	15,082	14,694	14,667	14,509	14,411
Restricted - Debt Service	7,801	12,205	25,339	31,130	25,541
Unrestricted	<u>(81,883)</u>	<u>(6,675)</u>	<u>(6,470)</u>	<u>(3,887)</u>	<u>(4,382)</u>
	<u>\$ 2,516,953</u>	<u>\$ 2,580,213</u>	<u>\$ 2,566,877</u>	<u>\$ 2,564,434</u>	<u>\$ 2,556,513</u>



Fiscal Year				
<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
(In Thousands)				
\$ 2,464,531	\$ 2,466,406	\$ 2,505,430	\$ 2,481,000	\$ 2,436,462
46,210	37,633	21,158	17,781	46,899
14,411	14,411	14,916	16,066	16,066
26,518	24,829	5,801	16,568	11,650
<u>4,131</u>	<u>10,905</u>	<u>14,488</u>	<u>17,288</u>	<u>20,726</u>
<u>\$ 2,555,801</u>	<u>\$ 2,554,184</u>	<u>\$ 2,561,793</u>	<u>\$ 2,548,703</u>	<u>\$ 2,531,803</u>



Exhibit B-2 Change In Net Position

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>Operating Revenue</u>	<u>Operating Expenses</u>	<u>Operating Income/(Loss)</u>	<u>Total Nonoperating Revenues/(Expenses)</u> (In Thousands)	<u>Income/(Loss) Before Capital Contributions</u>	<u>Capital Contributions</u>	<u>Change In Net Position</u>
2018	\$ 96,744	\$ 169,668	\$ (72,924)	\$ 106,500	\$ 33,576	\$ 2,682	\$ 36,258
2017	89,615	184,454	(94,839)	106,986	12,147	1,189	13,336
2016	86,261	181,117	(94,856)	95,439	583	1,860	2,443
2015	83,609	175,417	(91,808)	94,858	3,050	3,070	6,120
2014	78,806	175,605	(96,799)	91,507	(5,292)	6,004	712
2013	78,397	167,921	(89,524)	88,125	(1,399)	3,016	1,617
2012	78,634	162,924	(84,290)	72,440	(11,850)	4,241	(7,609)
2011	78,515	158,675	(80,160)	91,201	11,041	2,049	13,090
2010	77,783	153,985	(76,202)	91,374	15,172	1,728	16,900
2009	76,858	152,909	(76,051)	102,305	26,254	1,994	28,248



Exhibit B-3

Operating Revenue by Source

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>Total Operating Revenue</u>	<u>Sewer User Charge</u> (In Thousands)	<u>Fertilizer</u>	<u>Other</u>
2018	\$ 96,744	\$ 84,965	\$ 10,313	\$ 1,466
2017	89,615	78,301	10,272	1,042
2016	86,261	76,582	9,054	625
2015	83,609	73,940	8,603	1,066
2014	78,806	70,029	7,993	784
2013	78,397	69,572	7,667	1,158
2012	78,634	69,578	7,827	1,229
2011	78,515	69,570	7,252	1,693
2010	77,783	70,355	7,004	424
2009	76,858	68,460	7,957	441



Exhibit B-4

Operating Expenses

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>Total Operating Expenses</u>	<u>System-Operation & Maintenance</u>	<u>Laboratory & Research Services</u>	<u>Industrial Waste & Conveyance Monitoring</u>	<u>Finance, Engineering & Administration</u>	<u>Depreciation</u>
			(In Thousands)			
2018	\$ 169,668	\$ 59,490	\$ 832	\$ (601)	\$ 13,591	\$ 96,356
2017	184,454	56,415	2,812	3,161	28,115	93,951
2016	181,117	57,348	2,582	3,470	25,756	91,961
2015	175,417	57,618	2,388	3,274	22,231	89,906
2014	175,605	58,754	2,449	3,444	23,311	87,647
2013	167,921	57,130	2,448	3,227	22,331	82,785
2012	162,924	55,177	2,511	3,458	21,803	79,975
2011	158,675	56,896	2,170	3,280	20,121	76,208
2010	153,985	55,218	2,115	3,794	21,310	71,548
2009	152,909	58,055	2,339	3,774	19,610	69,131



Exhibit B-5

Nonoperating Revenue and Expenses

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>Total Non-Operating Revenues (Expenses)</u>	<u>Property Taxes</u>	<u>Capital Charges Municipalities Outside the District</u>	<u>Investment Income and Change in Fair Value of Investments</u> (In Thousands)	<u>Interest Expenses</u>	<u>Gain (Loss) on Disposal of Capital Assets</u>	<u>Land Contributed to Municipalities</u>	<u>Capital Program Expenditures and Other</u>
2018	\$ 106,500	\$ 98,328	\$ 31,700	\$ 2,984	\$ (23,603)	\$ (1,251)	\$ (87)	\$ (1,571)
2017	106,986	98,250	31,523	1,225	(20,364)	1,034	(18)	(4,664)
2016	95,439	95,798	25,912	799	(22,816)	(1,766)	(649)	(1,839)
2015	94,858	93,239	28,433	402	(23,450)	(791)	(515)	(2,460)
2014	91,507	90,919	29,396	437	(24,260)	(2,110)	(722)	(2,153)
2013	88,125	88,626	28,424	(53)	(24,293)	(1,582)	(176)	(2,821)
2012	72,440	86,485	27,562	491	(22,663)	(5,033)	(8,782)	(5,620)
2011	91,201	85,212	24,864	736	(21,783)	87	-	2,085
2010	91,374	82,390	22,445	919	(13,333)	(2,134)	-	1,087
2009	102,305	82,332	22,757	2,176	(11,725)	6,053	-	712



Exhibit B-6

User Charge Revenue by Municipality Within the District

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

Municipality	Fiscal Year				
	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
City of Cudahy	2,138,977	2,057,456	1,960,292	\$ 1,804,675	\$ 1,618,550
City of Franklin	2,468,702	2,210,560	2,202,361	2,143,999	2,040,662
City of Glendale	1,078,316	984,641	1,008,386	953,839	900,806
City of Greenfield	2,349,736	2,120,970	2,107,906	2,036,361	1,945,286
City of Milwaukee	48,987,466	45,350,427	43,968,676	42,484,064	40,235,500
City of Oak Creek	2,773,581	2,454,978	2,367,729	2,222,514	2,133,231
City of St. Francis	678,143	590,960	585,989	561,119	540,392
City of Wauwatosa	3,793,471	3,404,955	3,259,792	3,178,030	2,961,982
City of West Allis	4,356,397	4,088,271	4,066,099	3,896,350	3,726,150
Village of Bayside	259,506	238,859	238,959	234,505	239,170
Village of Brown Deer	904,192	819,350	809,479	777,074	735,633
Village of Fox Point	408,707	372,589	375,364	372,582	363,849
Village of Greendale	866,391	814,645	792,771	796,170	788,101
Village of Hales Corners	513,223	470,888	469,508	456,334	436,428
Village of River Hills	112,498	97,527	89,271	88,063	84,893
Village of Shorewood	837,409	652,279	709,321	691,074	676,706
Village of West Milwaukee	892,546	922,139	944,055	961,138	917,770
Village of Whitefish Bay	<u>838,158</u>	<u>748,213</u>	<u>731,223</u>	<u>724,679</u>	<u>697,095</u>
Total Within the District	<u>\$ 74,257,419</u>	<u>\$ 68,399,707</u>	<u>\$ 66,687,181</u>	<u>\$ 64,382,570</u>	<u>\$ 61,042,204</u>



Fiscal Year				
<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
\$ 1,507,280	\$ 1,613,522	\$ 1,656,103	\$ 1,805,096	\$ 1,855,515
2,006,441	1,914,760	1,925,628	1,931,327	1,800,766
934,241	923,834	931,804	912,462	875,951
1,944,800	1,964,108	1,962,998	1,957,031	1,872,833
40,211,422	40,081,180	40,329,654	41,323,722	40,763,430
2,069,149	1,991,631	2,005,209	2,052,065	1,905,558
540,870	555,621	496,818	368,714	365,919
2,997,566	3,115,200	3,088,718	3,144,526	2,924,523
3,717,622	3,716,622	3,721,541	3,679,178	3,443,449
230,494	240,845	240,213	229,068	216,064
721,924	731,400	719,455	710,976	679,053
361,777	359,258	369,485	363,502	346,870
742,539	715,631	733,597	720,827	705,538
434,642	428,409	433,212	429,876	413,923
84,355	85,807	89,742	88,543	83,757
662,621	673,288	678,964	659,074	658,519
971,000	1,105,930	1,006,938	895,309	1,062,403
<u>687,053</u>	<u>694,737</u>	<u>698,033</u>	<u>682,223</u>	<u>449,142</u>
<u>\$ 60,825,796</u>	<u>\$ 60,911,783</u>	<u>\$ 61,088,112</u>	<u>\$ 61,953,519</u>	<u>\$ 60,423,213</u>



Exhibit B-7

User Charge Revenue by Municipality Outside the District

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

Municipality	Fiscal Year				
	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
City of Brookfield	\$ 1,086,410	\$ 995,317	\$ 985,854	\$ 969,822	\$ 917,553
City of Mequon	1,374,444	1,246,411	1,281,186	1,234,929	1,206,940
City of Muskego	1,320,220	1,156,039	1,130,497	1,132,336	1,092,905
City of New Berlin	2,178,966	1,950,333	1,956,174	1,978,663	1,859,908
City of South Milwaukee*	29,349	30,331	30,568	25,146	30,496
Village of Butler	252,748	432,882	404,769	224,889	175,348
Village of Caledonia	29,134	19,519	25,636	27,062	26,174
Village of Elm Grove	362,836	328,731	337,961	337,445	325,919
Village of Germantown	1,697,876	1,568,676	1,613,777	1,536,335	1,387,769
Village of Menomonee Falls	2,164,756	1,980,487	1,936,950	1,897,058	1,777,329
Village of Thiensville	<u>210,618</u>	<u>192,587</u>	<u>191,595</u>	<u>193,249</u>	<u>186,370</u>
Total Outside the District	<u>\$ 10,707,357</u>	<u>\$ 9,901,313</u>	<u>\$ 9,894,967</u>	<u>\$ 9,556,934</u>	<u>\$ 8,986,711</u>

* Household Hazardous Waste Program Charges Only



Fiscal Year				
<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
\$ 898,795	\$ 897,586	\$ 956,248	\$ 935,751	\$ 903,262
1,094,553	1,119,264	1,077,743	1,056,814	1,018,547
1,054,548	1,041,072	1,024,359	1,004,530	969,988
1,818,911	1,827,310	1,764,458	1,776,161	1,717,723
28,042	27,588	25,225	27,456	26,594
174,544	171,463	182,373	177,528	183,573
25,528	25,639	26,407	25,047	25,597
310,463	297,649	301,897	308,781	300,991
1,413,618	1,278,930	1,190,224	1,185,985	1,046,395
1,745,112	1,799,637	1,750,504	1,721,685	1,670,983
<u>181,708</u>	<u>180,254</u>	<u>182,594</u>	<u>181,356</u>	<u>172,849</u>
<u>\$ 8,745,822</u>	<u>\$ 8,666,392</u>	<u>\$ 8,482,032</u>	<u>\$ 8,401,094</u>	<u>\$ 8,036,502</u>



Exhibit B-8 User Charge Rates

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>Flow (Cents Per 1000 Gallons)</u>	<u>Biochemical Oxygen Demand (BOD) (Cents Per Pound)</u>	<u>Total Suspended Solids (TSS) (Cents Per Pound)</u>	<u>Connection Charge (Dollars Per Year)</u>
2018	\$1.25965	\$0.13589	\$0.17541	\$30.34
2017	1.12748	0.12730	0.16289	23.98
2016	1.11377	0.11869	0.16275	21.71
2015	0.96079	0.11781	0.15807	30.21
2014	0.88437	0.10061	0.15815	30.68
2013	0.86507	0.09992	0.15924	29.84
2012	0.81173	0.09910	0.15803	31.78
2011	0.81861	0.09120	0.16142	33.45
2010	0.82846	0.12689	0.14968	23.49
2009	0.80385	0.13323	0.13372	20.51

Volumetric rate computed for domestic strength sewage using the equivalencies of 310 mg/l BOD equals 2.585 pounds per thousand gallons and 370 mg/l TSS equals 3.086 pounds per thousand gallons.

This rate is applicable to the entire residential class and noncertified commercial users located within the District's Service Area.



<u>Volumetric (Dollars Per 1,000 Gallons)</u>	<u>Average Household (Dollars Per Year)</u>	<u>Million of Gallons of Sewage Treated</u>
\$2.152241	\$137.37	76,900
1.959230	124.04	71,800
1.922831	122.42	68,200
1.753133	125.17	67,100
1.632498	120.68	68,480
1.614778	118.20	73,900
1.555585	117.97	60,100
1.552504	121.17	74,100
1.618383	118.26	71,300
1.560910	113.65	72,200



Exhibit B-9 Wastewater Loadings by Customer Class

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

PARAMETER	Fiscal Year				
	2018	2017	2016	2015	2014
<u>Billable Flow (1,000 Gallons)</u>					
RESIDENTIAL	16,051,283	16,492,164	16,864,146	17,640,483	17,769,153
NON-CERTIFIED COMMERCIAL	10,311,636	10,305,654	10,416,779	10,297,948	10,399,901
CERTIFIED COMMERCIAL	1,520,052	1,615,067	1,679,723	1,602,378	1,684,463
CERTIFIED INDUSTRIAL	<u>3,935,501</u>	<u>3,899,933</u>	<u>3,819,379</u>	<u>3,754,697</u>	<u>3,675,147</u>
TOTALS	<u>31,818,472</u>	<u>32,312,819</u>	<u>32,780,026</u>	<u>33,295,507</u>	<u>33,528,663</u>
<u>Biochemical Oxygen Demand (Pounds)</u>					
RESIDENTIAL	41,492,565	42,632,247	43,593,817	45,600,648	45,940,473
NON-CERTIFIED COMMERCIAL	26,655,586	26,640,109	26,927,382	26,620,196	26,888,015
CERTIFIED COMMERCIAL	3,291,454	3,430,903	3,595,322	3,550,589	3,673,331
CERTIFIED INDUSTRIAL	<u>42,821,001</u>	<u>44,791,831</u>	<u>42,082,946</u>	<u>38,786,074</u>	<u>39,320,945</u>
TOTALS	<u>114,260,606</u>	<u>117,495,090</u>	<u>116,199,467</u>	<u>114,557,507</u>	<u>115,822,764</u>
<u>Total Suspended Solids (Pounds)</u>					
RESIDENTIAL	49,534,260	50,894,825	52,042,750	54,438,534	54,832,149
NON-CERTIFIED COMMERCIAL	31,821,701	31,803,254	32,146,176	31,779,465	32,092,121
CERTIFIED COMMERCIAL	3,928,144	4,104,044	4,302,174	4,244,553	4,380,708
CERTIFIED INDUSTRIAL	<u>18,564,724</u>	<u>19,444,039</u>	<u>19,499,076</u>	<u>18,590,657</u>	<u>18,622,057</u>
TOTALS	<u>103,848,829</u>	<u>106,246,162</u>	<u>107,990,176</u>	<u>109,053,209</u>	<u>109,927,035</u>
<u>Connections</u>					
RESIDENTIAL	266,115	265,519	265,067	264,492	264,015
NON-CERTIFIED COMMERCIAL	37,164	37,145	37,409	37,137	37,160
CERTIFIED COMMERCIAL	1,791	1,957	1,979	1,995	2,000
CERTIFIED INDUSTRIAL	<u>687</u>	<u>677</u>	<u>684</u>	<u>694</u>	<u>699</u>
TOTALS	<u>305,757</u>	<u>305,298</u>	<u>305,139</u>	<u>304,318</u>	<u>303,874</u>



Fiscal Year				
<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
17,613,063	17,879,709	18,320,590	18,967,992	19,320,420
10,353,855	10,833,579	10,536,191	10,446,335	10,630,049
1,710,422	1,819,600	1,703,993	1,727,538	1,719,087
<u>3,936,045</u>	<u>4,199,362</u>	<u>4,281,621</u>	<u>4,233,640</u>	<u>4,428,295</u>
<u>33,613,385</u>	<u>34,732,250</u>	<u>34,842,396</u>	<u>35,375,505</u>	<u>36,097,851</u>
45,536,920	46,226,302	47,366,157	49,039,952	49,951,014
26,768,965	28,009,249	27,240,384	27,008,069	27,482,929
3,663,473	3,855,902	3,657,812	3,700,567	3,708,026
<u>43,583,211</u>	<u>41,248,840</u>	<u>40,762,360</u>	<u>36,817,277</u>	<u>37,344,665</u>
<u>119,552,569</u>	<u>119,340,293</u>	<u>119,026,713</u>	<u>116,565,865</u>	<u>118,486,634</u>
54,350,489	55,173,312	56,533,775	58,531,540	59,618,952
31,950,040	33,430,370	32,512,699	32,235,413	32,802,206
4,366,923	4,544,170	4,297,500	4,344,976	4,342,935
<u>18,653,681</u>	<u>19,999,548</u>	<u>19,664,094</u>	<u>19,073,819</u>	<u>18,840,371</u>
<u>109,321,133</u>	<u>113,147,400</u>	<u>113,008,068</u>	<u>114,185,748</u>	<u>115,604,464</u>
264,034	264,013	263,867	264,190	263,862
37,164	37,483	37,104	37,168	37,286
2,030	2,014	1,991	1,937	1,980
<u>721</u>	<u>715</u>	<u>718</u>	<u>742</u>	<u>746</u>
<u>303,949</u>	<u>304,225</u>	<u>303,679</u>	<u>304,037</u>	<u>303,873</u>



Exhibit B-10

Ten Largest Sewer Users

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 AND 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

<u>Customer</u>	<u>Type of Business</u>	<u>2018</u>		<u>2009</u>	
		<u>Sewer Revenue</u> <u>Amount</u>	<u>%</u>	<u>Sewer Revenue</u> <u>Amount</u>	<u>%</u>
MillerCoors	Brewery	\$ 3,654,678	4.3%	\$ 3,098,006	4.5%
Patrick Cudahy	a Process meat products	1,174,659	1.4%	730,406	1.1%
D.R. Diedrich & Co.	Leather tanning and finishing	804,011	0.9%	1,082,180	1.6%
Wisconsin Paperboard	Paperboard mill	638,306	0.8%	344,330	0.5%
Milwaukee Water Works	Water utility	580,352	0.7%	527,825	0.8%
Covanta Environmental Solutions	Centralized waste treatment	517,955	0.6%		
Chris Hansen/Maple	Food preparation	499,486	0.6%		
Milwaukee Co DHHS	Health services	391,032	0.5%	334,900	0.5%
Gehl Foods	Food preparation	381,177	0.4%		
Malteurop North America	Malt manufacturing	287,023	0.3%	624,686	0.9%
Cargil Meat Solutions	b Meat packing plants			452,951	0.7%
Campbell Soup Supply Company	Food preparation			327,955	0.5%
Clement J. Zablocki VA Medical Center	Health services			263,836	0.4%
Subtotal (10 largest)		\$ 8,928,678	10.5%	\$ 7,787,075	11.4%
Balance from other customers		<u>76,036,098</u>	<u>89.5%</u>	<u>60,672,640</u>	<u>88.6%</u>
Grand Totals		<u>\$ 84,964,776</u>	<u>100.0%</u>	<u>\$ 68,459,715</u>	<u>100.0%</u>

a Subsidiary of Smithfield Foods

b Closed Milwaukee Operations



Exhibit B-11

Property Tax Information

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>Equalized Value of Taxable Property</u>	<u>Tax Levies</u>	<u>Tax Rate Per \$1,000 Equalized Value</u>
2018	\$ 59,060,994,300	\$ 100,101,650	\$ 1.69
2017	57,011,085,700	98,380,000	1.73
2016	56,188,121,100	98,380,000	1.75
2015	55,010,987,700	95,980,000	1.74
2014	54,607,126,500	93,639,000	1.71
2013	53,567,657,800	91,222,000	1.70
2012	54,435,721,000	88,694,000	1.63
2011	57,252,275,690	86,531,000	1.51
2010	59,383,339,276	85,674,000	1.44
2009	62,267,788,363	82,458,000	1.32

Due to varying assessment policies in the municipalities of the District, the District uses equalized value of taxable property for tax rate purposes.

Equalized valuations are net of the Tax Incremental District valuations.

Equalized valuations amounts provided by Department of Revenue - State of Wisconsin.



Exhibit B-12

Bonded Debt Limit and Ratio of Bonded Debt to Equalized Value

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

	Fiscal Year			
	2018	2017	2016	2015
Equalized Value ⁽¹⁾	\$ 62,864,827,600	\$ 60,253,027,200	\$ 59,145,532,800	\$ 57,445,674,300
Debt Limit (5% of equalized value) ⁽²⁾	<u>\$ 3,143,241,380</u>	<u>\$ 3,012,651,360</u>	<u>\$ 2,957,276,640</u>	<u>\$ 2,872,283,715</u>
Outstanding Bonds Issued by the District	\$ 286,475,000	\$ 312,940,000	\$ 270,040,000	\$ 305,615,000
Clean Water Fund Program Loans	<u>529,148,687</u>	<u>567,252,821</u>	<u>611,184,396</u>	<u>654,385,332</u>
Total General Obligation Debt ⁽³⁾	<u>\$ 815,623,687</u>	<u>\$ 880,192,821</u>	<u>\$ 881,224,396</u>	<u>\$ 960,000,332</u>
Legal Debt Margin	<u>\$ 2,327,617,693</u>	<u>\$ 2,132,458,539</u>	<u>\$ 2,076,052,244</u>	<u>\$ 1,912,283,383</u>
Percentage of Bonded Debt to Equalized Value	1.30%	1.46%	1.49%	1.67%

(1) Includes Tax Increment District valuation reported by State of Wisconsin, Department of Revenue.

(2) Per Wisconsin Statutes Section 67.03

(3) In accordance with GASB 44 the debt applicable to the limit may be offset only by amounts that the applicable law expressly allows. Wisconsin Statute 67.03 states that the aggregate indebtedness of the entity is subject to the debt limit.



Fiscal Year					
2014	2013	2012	2011	2010	2009
\$ 57,151,739,300	\$ 56,031,757,800	\$ 56,637,438,900	\$ 59,760,633,490	\$ 61,995,778,776	\$ 65,340,474,863
<u>\$ 2,857,586,965</u>	<u>\$ 2,801,587,890</u>	<u>\$ 2,831,871,945</u>	<u>\$ 2,988,031,675</u>	<u>\$ 3,099,788,939</u>	<u>\$ 3,267,023,743</u>
\$ 233,835,000	\$ 265,665,000	\$ 296,380,000	\$ 309,080,000	\$ 321,635,000	\$ 281,440,000
<u>689,893,418</u>	<u>704,591,497</u>	<u>712,633,839</u>	<u>661,199,044</u>	<u>662,150,024</u>	<u>611,285,569</u>
<u>\$ 923,728,418</u>	<u>\$ 970,256,497</u>	<u>\$ 1,009,013,839</u>	<u>\$ 970,279,044</u>	<u>\$ 983,785,024</u>	<u>\$ 892,725,569</u>
<u>\$ 1,933,858,547</u>	<u>\$ 1,831,331,393</u>	<u>\$ 1,822,858,106</u>	<u>\$ 2,017,752,631</u>	<u>\$ 2,116,003,915</u>	<u>\$ 2,374,298,174</u>
1.62%	1.73%	1.78%	1.62%	1.59%	1.37%



Exhibit B-13

Per Capita Debt, Personal Income and Unemployment Rate

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

Year	Outstanding General Obligation Debt ⁽¹⁾	Inter- Governmental Loan	District Population	Milwaukee County Personal Income (Thousands)	District Personal Income Per Capita	Outstanding Debt		Milwaukee County Unemployment Rate
						Per Capita	Percentage of Personal Income	
2018	\$ 815,623,687	\$ 18,799,970	929,584	Not Available	-	\$ 877.41	-	4.0%
2017	880,192,821	20,014,693	924,594	42,937,677	46,439	\$ 951.98	2.05%	5.1%
2016	881,224,396	21,200,228	927,947	41,268,719	44,473	\$ 949.65	2.14%	5.1%
2015	960,000,332	22,357,276	928,743	41,201,661	44,363	1,033.66	2.33%	5.8%
2014	923,728,418	23,486,522	928,689	39,697,233	42,745	994.66	2.33%	7.0%
2013	970,256,497	24,565,423	929,373	39,213,035	42,193	1,043.99	2.47%	8.3%
2012	1,009,013,839	22,064,833	927,307	38,808,170	41,850	1,088.11	2.60%	8.4%
2011	970,279,044	-	927,321	37,035,130	39,938	1,046.32	2.62%	9.0%
2010	983,785,024	-	926,579	35,893,702	38,738	1,061.74	2.74%	9.6%
2009	892,725,569	-	910,698	35,586,784	39,076	980.27	2.51%	9.3%

(1) In accordance with GASB 44 the debt applicable to the limit may be offset only by amounts that the applicable law expressly allows. Wisconsin Statute 67.03 states that the aggregate indebtedness of the entity is subject to the debt limit.

Note:

Intergovernmental loan is with the City of Franklin to finance the Ryan Creek Interceptor.
 Personal income for Milwaukee County includes City of South Milwaukee. Data for current year not yet available.
 District population excludes City of South Milwaukee and includes portion of Village of Bayside outside Milwaukee County.

Sources:

District population from U.S. Bureau of the Census and Wisconsin Department of Administration.
 Milwaukee County personal income from U.S. Bureau of Economic Analysis.
 Milwaukee County unemployment rate from Wisconsin Department of Workforce Development.



Exhibit B-14

Computation of Overlapping Debt

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

<u>Name of Government Unit</u>	<u>Net Debt Outstanding</u>	<u>Debt Within District Boundary</u>	<u>Within District Boundary</u>
Villages & Cities:			
Village of Bayside	\$11,213,173	100.00%	\$ 11,213,173
Village of Brown Deer	\$19,790,343	100.00%	19,790,343
Village of Fox Point	\$9,715,555	100.00%	9,715,555
Village of Greendale	\$24,480,000	100.00%	24,480,000
Village of Hales Corners	\$10,460,000	100.00%	10,460,000
Village of River Hills	\$3,689,912	100.00%	3,689,912
Village of Shorewood	\$53,420,679	100.00%	53,420,679
Village of West Milwaukee	\$12,384,888	100.00%	12,384,888
Village of Whitefish Bay	\$51,080,250	100.00%	51,080,250
City of Cudahy	\$24,510,000	100.00%	24,510,000
City of Franklin	\$26,399,970	100.00%	26,399,970
City of Glendale	\$39,945,000	100.00%	39,945,000
City of Greenfield	\$80,335,000	100.00%	80,335,000
City of Milwaukee	\$962,476,349	100.00%	962,476,349
City of Oak Creek	\$98,490,000	100.00%	98,490,000
City of Saint Francis	\$12,897,492	100.00%	12,897,492
City of Wauwatosa	\$121,875,000	100.00%	121,875,000
City of West Allis	<u>73,255,754</u>	100.00%	<u>73,255,754</u>
Total Cities and Villages	\$ 1,636,419,365		\$ 1,636,419,365
School Districts:			
Brown Deer	\$ 46,646,184	100.00%	\$ 46,646,184
Cudahy	21,988,000	100.00%	21,988,000
Fox Point-Bayside	2,865,000	100.00%	2,865,000
Franklin	66,180,000	100.00%	66,180,000
Glendale-River Hills	1,861,940	100.00%	1,861,940
Greendale	15,235,000	100.00%	15,235,000
Greenfield	55,780,953	100.00%	55,780,953
Maple Dale-Indian Hill	2,308,486	100.00%	2,308,486
Milwaukee Area Technical College	103,545,000	78.04%	80,806,518
Milwaukee Public	72,147,613	100.00%	72,147,613
Nicolet High School	5,135,000	100.00%	5,135,000
Oak Creek-Franklin	104,800,000	100.00%	104,800,000
Shorewood	14,185,000	100.00%	14,185,000
Saint Francis	11,965,186	100.00%	11,965,186
Wauwatosa	-	-	-
West Allis-West Milwaukee	48,519,735	92.48%	44,871,051
Whitefish Bay	10,605,000	100.00%	10,605,000
Whitnall	<u>10,063,345</u>	100.00%	<u>10,063,345</u>
Total School Districts	\$ 593,831,442		\$ 567,444,276
Milwaukee County	<u>\$ 564,652,211</u>	98.05%	<u>\$ 553,641,493</u>
Total Overlapping Debt	<u>\$ 2,794,903,018</u>		<u>\$ 2,757,505,134</u>

Source: Milwaukee County Department of Administration, Wisconsin Department of Revenue.



Exhibit B-15

Ten Largest Taxpayers for Milwaukee County

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 AND 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

Name of Business	Type of Business
NORTHWESTERN MUTUAL LIFE INSURANCE CO.	INSURANCE
MAYFAIR MALL LLC	SHOPPING MALL
BAYSHORE TOWN CENTER LLC	SHOPPING MALL
US BANK CORP	BANKING
MANDEL GROUP	REAL ESTATE
AURORA HEALTH	HEALTH CARE
SOUTHRIDGE MALL	SHOPPING MALL
METROPOLITAN ASSOCIATES	REAL ESTATE
WAL-MART/SAM'S CLUB	RETAILER
JUNEAU VILLAGE/PROSPECT TOWER/KATZ PROPERTIES	REAL ESTATE
MARCUS CORPORATION/MILW. CITY CENTER/PFISTER	HOTELS, THEATERS & RESTAURANTS
WHEATON FRANCISCAN SERVICES	HEALTH CARE
COLUMBIA ST. MARY'S	HEALTH CARE
HARLEY-DAVIDSON	MANUFACTURER OF MOTORCYCLES

Total for Ten Largest

a Now BMO Harris Bank

Source:

Largest Industrial Taxpayer - Milwaukee County

Non-Industrial Taxpayer - MMSD



2018		2009	
Equalized Valuation	Percentage of Total Equalized Valuation	Equalized Valuation	Percentage of Total Equalized Valuation
\$ 575,134,120	0.96%	\$ 348,466,357	0.55%
502,167,805	0.83%	290,292,537	0.46%
356,476,969	0.59%	345,364,935	0.54%
242,364,606	0.40%	272,626,855	0.43%
235,267,422	0.39%		
178,226,793	0.25%		
147,444,433	0.27%	138,388,621	0.22%
143,806,606	0.24%	143,606,727	0.23%
141,590,937	0.24%		
125,519,780	0.21%		
		132,329,512	0.21%
		115,588,537	0.18%
		112,188,168	0.18%
		111,801,600	0.18%
<u>\$ 2,647,999,471</u>	<u>4.40%</u>	<u>\$ 2,010,653,849</u>	<u>3.16%</u>



Exhibit B-16

Population by Municipality

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

Municipality	Fiscal Year										Percentage Change 2009-2018
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	
Bayside	4,339	4,341	4,365	4,376	4,376	4,380	4,380	4,383	4,300	4,170	4.1%
Brown Deer	12,346	12,340	12,305	12,217	12,157	12,086	12,065	12,001	11,999	11,720	5.3%
Cudahy	18,208	18,186	18,192	18,250	18,224	18,227	18,247	18,253	18,267	18,650	-2.4%
Fox Point	6,652	6,648	6,678	6,690	6,676	6,630	6,644	6,665	6,701	6,803	-2.2%
Franklin	35,779	36,046	35,741	35,655	35,702	35,810	35,520	35,504	35,451	33,700	6.2%
Glendale	12,587	12,604	12,724	12,753	12,773	12,845	12,808	12,833	12,872	12,980	-3.0%
Greendale	14,345	14,263	14,123	14,135	14,144	14,165	14,123	14,027	14,046	13,950	2.8%
Greenfield	36,366	36,294	36,404	36,473	36,687	36,770	36,740	36,672	36,720	36,300	0.2%
Hales Corners	7,622	7,619	7,652	7,670	7,678	7,691	7,683	7,685	7,692	7,646	-0.3%
Milwaukee	595,555	591,076	594,667	595,787	595,993	596,500	595,425	595,525	594,833	584,000	2.0%
Oak Creek	35,739	35,560	35,206	34,791	34,707	34,695	34,530	34,495	34,451	32,600	9.6%
River Hills	1,568	1,577	1,577	1,581	1,584	1,587	1,591	1,593	1,597	1,634	-4.0%
St. Francis	9,434	9,435	9,458	9,475	9,465	9,462	9,452	9,448	9,365	8,936	5.6%
Shorewood	13,315	13,228	13,134	13,178	13,183	13,189	13,174	13,177	13,162	13,360	-0.3%
Wauwatosa	47,781	47,389	47,160	46,947	46,766	46,705	46,320	46,380	46,396	45,800	4.3%
West Allis	59,590	59,652	60,164	60,329	60,272	60,300	60,300	60,365	60,411	60,600	-1.7%
West Milwaukee	4,159	4,158	4,181	4,193	4,197	4,205	4,200	4,206	4,206	4,029	3.2%
Whitefish Bay	<u>14,199</u>	<u>14,178</u>	<u>14,216</u>	<u>14,243</u>	<u>14,105</u>	<u>14,126</u>	<u>14,105</u>	<u>14,109</u>	<u>14,110</u>	<u>13,820</u>	2.7%
Total District population	<u>929,584</u>	<u>924,594</u>	<u>927,947</u>	<u>928,743</u>	<u>928,689</u>	<u>929,373</u>	<u>927,307</u>	<u>927,321</u>	<u>926,579</u>	<u>910,698</u>	
Total population served by the District (2)	<u>1,079,701</u>	<u>1,072,574</u>	<u>1,075,208</u>	<u>1,074,811</u>	<u>1,074,101</u>	<u>1,074,130</u>	<u>1,071,835</u>	<u>1,071,622</u>	<u>1,051,876</u>	<u>1,054,725</u>	
2009 = 100%	102.4%	101.7%	101.9%	101.9%	101.8%	101.8%	101.6%	101.6%	99.7%	100.0%	
Total state population	<u>5,816,231</u>	<u>5,783,278</u>	<u>5,775,120</u>	<u>5,753,324</u>	<u>5,732,981</u>	<u>5,717,110</u>	<u>5,703,525</u>	<u>5,694,236</u>	<u>5,686,986</u>	<u>5,688,040</u>	
2009 = 100%	102.3%	101.7%	101.5%	101.2%	100.8%	100.5%	100.3%	100.1%	100.0%	100.0%	

(1) Includes all or parts of the following communities outside the District: Brookfield, Butler, Elm Grove, Germantown, Menomonee Falls, Mequon, Muskego, New Berlin, Thiensville and Village of Caledonia.

Sources: U.S. Department of Commerce, Bureau of the Census, Department Service Center, Wisconsin Department of Administration, MMSD Cost Recovery Procedures Manual.



Exhibit B-17

Principal Private Sector Employers

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 AND 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

<u>Employer</u>	2018			2009		
	<u>Employees</u>	<u>Percentage of Total</u>	<u>Rank</u>	<u>Employees</u>	<u>Percentage of Total</u>	<u>Rank</u>
Aurora Health Care Inc.	27,599	6.06%	1	21,570	5.09%	1
Froedtert Health	11,820	2.59%	2			
Ascension Wisconsin	8,656	1.90%	3	9,371	2.21%	2
Roundy's Inc.	7,581	1.66%	4	6,800	1.61%	4
Quad/Graphics Inc.	7,500	1.65%	5	6,600	1.56%	5
Kohl's Corp.	7,000	1.54%	6	5,920	1.40%	7
GE Healthcare	6,000	1.32%	7	6,000	1.42%	6
The Medical College of Wisconsin Inc.	5,941	1.30%	8	4,833	1.14%	10
Children's Hospital and Health System	5,170	1.13%	9			
Northwestern Mutual	5,000	1.10%	10	5,000	1.18%	9
Wal-Mart Stores				7,682	1.81%	3
Columbia St. Mary's Health System				<u>5,371</u>	<u>1.27%</u>	8
Total for Ten Largest	<u>92,267</u>	<u>20.25%</u>		<u>79,147</u>	<u>18.69%</u>	
Total Milwaukee County Employment	455,545	100.00%		423,498	100.00%	

Note:

Employee count reflects number of full-time equivalent employees in the Milwaukee area, including Milwaukee, Kenosha, Racine, Waukesha, Ozaukee, Walworth and Washington counties.

Source:

Employee count from Milwaukee Business Journal August 17, 2018 Addition.

Total County Employment from Wisconsin's Workforce and Labor Market Information System.



Exhibit B-18

Number of Employees by Identifiable Activity

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

	Full-time Equivalent Employees as of December 31,				
	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
<u>Engineering/Inspection/Construction/Water Quality</u>					
Engineering	19	19	20	44	43
Planning	52	52	53	29	32
Contract Compliance	9	8	8	8	7
Lab/Monitoring	52	52	54	60	63
<u>Administration</u>					
Office of the Executive Director	4	5	2	5	5
Legal Services	6	6	6	6	6
Internal Services	<u>68</u>	<u>67</u>	<u>68</u>	<u>63</u>	<u>63</u>
Total Employees	<u>210</u>	<u>209</u>	<u>211</u>	<u>215</u>	<u>219</u>

Source:

Milwaukee Metropolitan Sewerage District Payroll Records and O&M & Capital Budgets.



Full-time Equivalent Employees as of December 31,				
<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
46	47	49	52	54
27	27	27	28	24
6	6	7	6	6
60	60	68	68	70
5	5	6	5	9
7	7	7	8	8
<u>65</u>	<u>65</u>	<u>67</u>	<u>65</u>	<u>67</u>
<u>216</u>	<u>217</u>	<u>231</u>	<u>232</u>	<u>238</u>



Exhibit B-19

Operating and Capital Indicators

FOR THE FISCAL YEARS ENDED DECEMBER 31, 2009 THROUGH 2018
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

	Fiscal Year			
	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Wastewater Treatment				
Miles of Sewers	362	359	360	362
Number of Water Reclamation Facilities	2	2	2	2
Treatment Capacity (MGD)	600	600	600	600
Storage Capacity (millions of gallons)	521	521	521	521
Amount Treated Annually (millions of gallons)	76,900	71,800	68,200	67,100
Percentage of Wastewater Captured	98.40%	99.99%	99.8%	98.9%
Percentage of Treatment Capacity Utilized	63.84%	59.61%	56.47%	55.71%
Number of Inline Storage System Events	46	52	46	47
Number of Overflows	9	1	2	2
Greenseams Acres Acquired to Date	3,711	3,647	3,433	3,183
Household Hazardous Waste (lbs collected) ¹	1,248,441	1,181,059	1,155,611	832,357
Milorganite® Production (tons)	47,722	48,418	40,274	43,816
Milorganite® Tons Sold	44,753	45,349	43,728	43,284
Average selling price per ton shipped	\$ 226.34	\$ 222.29	\$ 220.22	\$ 198.52

¹ Does not include medicine collection pounds.

Sources:

MMSD O&M and Capital Budgets, MMSD Annual Capacity, Management, Operation, and Maintenance (CMOM) Program Report, and MMSD real estate records.



Fiscal Year					
<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
362	347	356	356	321	321
2	2	2	2	2	2
600	600	600	600	600	600
521	521	521	521	521	494
68,300	73,900	60,100	74,100	71,300	72,200
99.5%	98.5%	99.9%	99.5%	96.2%	98.3%
56.70%	61.30%	49.90%	61.50%	59.20%	59.90%
47	42	47	51	40	37
3	2	1	1	8	6
3,058	2,682	2,500	2,348	2,254	2,034
909,919	866,609	977,176	965,804	992,266	1,095,425
45,408	47,954	45,203	49,376	48,817	45,338
45,498	47,672	41,378	36,073	36,685	39,277
\$ 178.57	\$ 164.15	\$ 185.89	\$ 196.49	\$ 192.71	\$ 189.61

MMSD's Mission

To cost-effectively protect public health and the environment, prevent pollution and enhance the quality of area waterways



Interns Touring the South Shore Water Reclamation Facility

Overall responsibility for preparation of this report was provided by:
Mark T. Kaminski, CPA, Director of Finance/Treasurer
Starr M. Pentek-Schuetz, Graphic Designer





Tour Group with MMSD on the Pelagos Research Vessel



Milwaukee Metropolitan Sewerage District
260 W. Seeboth Street, Milwaukee, Wisconsin 53204
414-272-5100

Visit our website at www.mmsd.com

APPENDIX B

FORM OF LEGAL OPINIONS

April __, 2020

Milwaukee Metropolitan Sewerage District
260 West Seeboth Street
Milwaukee, Wisconsin 53204

Subject: \$80,000,000
Milwaukee Metropolitan Sewerage District, Wisconsin
General Obligation Sewerage System Bonds, Series 2020A
(Green Bonds – Climate Bond Certified)

We have acted as co-bond counsel to Milwaukee Metropolitan Sewerage District, Wisconsin (the “**District**”) in connection with the issuance of its \$80,000,000 General Obligation Sewerage System Bonds, Series 2020A (Green Bonds – Climate Bond Certified), dated April 30, 2020 (the “**Obligations**”).

We examined the law, a certified copy of the proceedings relating to the issuance of the Obligations, and certifications of public officials and others. As to questions of fact material to our opinion, we relied upon the certified proceedings and certifications without independently undertaking to verify them.

Based upon this examination, it is our opinion that, under existing law:

1. The Obligations are valid and binding general obligations of the District.
2. All taxable property in the District’s territory is subject to *ad valorem* taxation without any limit as to rate or amount to pay the principal and interest coming due on the Obligations. The District is required by law to include in its annual tax levy the principal and interest coming due on the Obligations except to the extent that the District has deposited other funds, or there is otherwise surplus money, in the account within the debt service fund created for the Obligations under Wisconsin law.
3. Interest on the Obligations is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individuals. The District must comply with all requirements of the Internal Revenue Code of 1986, as amended, that must be satisfied after the Obligations are issued for interest on the Obligations to be, or continue to be, excluded from gross income for federal income tax purposes. The District has agreed to comply with those requirements. Its failure to do so may cause interest on the Obligations to be included in gross income for federal income tax purposes, in some cases retroactively to the date the Obligations were issued. We express no opinion about other federal tax law consequences relating to the Obligations.

The rights of the owners of the Obligations and the enforceability of the Obligations may be limited by bankruptcy, insolvency, reorganization, moratorium, and other similar laws

Milwaukee Metropolitan Sewerage District

April __, 2020

Page 2

affecting creditors' rights and by equitable principles (which may be applied in either a legal or an equitable proceeding).

We express no opinion as to the truth or completeness of any official statement or other disclosure document used in connection with the offer and sale of the Obligations.

Our opinion is given as of the date of this letter. We assume no duty to update our opinion to reflect any facts or circumstances that later come to our attention or any subsequent changes in law. In acting as bond counsel, we have established an attorney-client relationship solely with the District.

Very truly yours,

APPENDIX C

FORM OF CONTINUING DISCLOSURE AGREEMENT

CONTINUING DISCLOSURE AGREEMENT

This Continuing Disclosure Agreement, dated as of April 30, 2020 (this “**Disclosure Agreement**”), is executed and delivered by the Milwaukee Metropolitan Sewerage District, Wisconsin (the “**Issuer**”), a municipal securities issuer and a governmental entity located in the State of Wisconsin. The Issuer covenants and agrees as follows:

Section 1. Definitions.

The following capitalized terms have the following meanings:

“**Annual Financial Information**” means the Issuer’s financial information or operating data, for the preceding fiscal year, of the type included in the Final Official Statement, as described in Section 3(b) hereof.

“**Commission**” means the U.S. Securities and Exchange Commission.

“**Dissemination Agent**” means any agent responsible for assisting the Issuer in carrying out its obligations under this Disclosure Agreement, which has been designated as a dissemination agent in writing by the Issuer, and has filed with the Issuer a written acceptance of such designation, and the successors and assigns of such dissemination agent.

“**EMMA**” means the Electronic Municipal Market Access system for municipal securities disclosures, a Commission-approved electronic database established and operated by the MSRB to accommodate the collection and availability of required filings of secondary market disclosures under the Rule.

“**Event Notice**” means a notice of occurrence of a Listed Event provided under Section 4(b) hereof or a notice provided under Sections 3(d), 4(c), or 8 hereof, each of which shall be transmitted as described in Section 5 hereof.

“**Exchange Act**” means the Securities Exchange Act of 1934, as amended from time to time.

“**Final Official Statement**” means the offering document prepared and distributed to a Participating Underwriter in connection with the primary offering of the Obligations.

“**Financial Obligation**” means (i) a debt obligation, (ii) a derivative instrument entered into in connection with, or pledged as security or a source of payment for, an existing or planned debt obligation; or (iii) a guarantee of clause (i) or (ii) of this definition. The term Financial Obligation shall not include municipal securities as to which a final official statement has been provided to the MSRB consistent with the Rule.

“**Issuer**” means the municipal securities issuer named above.

“**Listed Event**” means any of the events listed in Section 4(a) of this Disclosure Agreement.

“**MSRB**” means the Municipal Securities Rulemaking Board, which serves as the sole repository for all required filings of all secondary market disclosures under the Rule.

“**Obligations**” means the Issuer’s \$80,000,000 General Obligation Sewerage System Bonds, Series 2020A dated April 30, 2020.

“**Owners**” means the beneficial owners from time to time of the Obligations.

“**Participating Underwriter**” means any broker, dealer, or municipal securities dealer that is required to comply with the Rule when acting as an underwriter in a primary offering of the Obligations.

“**Resolution**” means collectively, the resolutions adopted by the governing body of the Issuer on December 16, 2019 and on April 15, 2020, pursuant to which the Obligations are issued.

“**Rule**” means Rule 15c2-12(b)(5) adopted by the Commission under the Exchange Act.

Section 2. Purpose of this Disclosure Agreement.

The purpose of this Disclosure Agreement is to assist a Participating Underwriter in complying with the Rule when acting as an underwriter in a primary offering of the Obligations.

Section 3. Annual Financial Information.

- (a) The Issuer shall submit its Annual Financial Information to the MSRB not later than 180 days following the close of the Issuer’s fiscal year (currently December 31), beginning with the 2019 Annual Financial Information.
- (b) The Annual Financial Information will consist of (i) the Issuer’s audited annual financial statements prepared using generally accepted accounting principles, and (ii) the following operating data:
 - 1. expenses by type,
 - 2. revenues by source,
 - 3. sewer user charges by municipalities within the metropolitan sewerage district,
 - 4. sewer user charges by municipalities outside the metropolitan sewerage district,
 - 5. sewer user charge rates,
 - 6. ten largest sewer users,

7. tax levies and tax rates,
 8. equalized value of taxable property,
 9. ratio of bonded debt to equalized value and bonded debt per capita,
 10. statement of bonded debt limit,
 11. computation of overlapping debt, and
 12. ten largest taxpayers.
- (c) If the Issuer's audited annual financial statements are not available on the date the Annual Financial Information is due to be submitted, then the Issuer shall submit the statements to the MSRB within ten business days after they are publicly available.
- (d) If the Issuer fails to submit its Annual Financial Information to the MSRB by the date required in subsection (a) above, then the Issuer shall promptly send an Event Notice of such failure to the MSRB.

Section 4. Reporting of Listed Events; Event Notices.

- (a) This Section 4 shall govern the submission of an Event Notice after the occurrence of any of the following Listed Events with respect to the Obligations:
1. Principal and interest payment delinquencies.
 2. Non-payment related defaults, if material under the Exchange Act.
 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 Obligations, or other material events affecting the tax status of the Obligations.
 7. Modifications to rights of Owners, if material under the Exchange Act.

8. Redemptions of the Obligations, if material under the Exchange Act, and tender offers.
 9. Defeasances.
 10. Release, substitution, or sale of property securing repayment of the Obligations, if material under the Exchange Act.
 11. Rating changes.
 12. Bankruptcy, insolvency, receivership, or similar event of the Issuer (for the purposes of this event, the event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent, or similar officer for the Issuer in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the Issuer, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement, or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all the assets or business of the Issuer).
 13. The consummation of a merger, consolidation, or acquisition involving the Issuer or the sale of all or substantially all the assets of the Issuer, 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 under the Exchange Act.
 14. Appointment of a successor or additional trustee or the change of name of a trustee, if material under the Exchange Act.
 15. Incurrence of a Financial Obligation of the Issuer, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a Financial Obligation of the Issuer, any of which affect Owners of the Obligations, if material.
 16. Default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a Financial Obligation of the Issuer, any of which reflect financial difficulties.
- (b) The Issuer shall submit an Event Notice to the MSRB within ten business days after the occurrence of any particular Listed Event.

- (c) If the Issuer determines that it failed to submit an Event Notice of an occurrence of a Listed Event as required by subsection (b) above, then it shall promptly submit an Event Notice with respect to such occurrence to the MSRB.

Section 5. Transmittal of Annual Financial Information and Event Notices.

Annual Financial Information and Event Notices shall be submitted to the MSRB in an electronic format, and accompanied by identifying information, as prescribed by the MSRB. As of the date of this Disclosure Agreement, the MSRB requires that all submissions of secondary disclosure be made through EMMA. The Annual Financial Information may be submitted as a single document or as a package comprising separate documents. Any or all the items constituting the Annual Financial Information may be incorporated by reference from other documents available to the public on the MSRB's internet website or filed with the Commission. The Issuer shall clearly identify each document that is incorporated by reference.

Section 6. Duty to Confirm MSRB's Filing Format and Procedure.

The Issuer shall confirm, in the manner it deems appropriate, the MSRB's prescriptions concerning the electronic format and accompanying identifying information for submissions. As of the date of this Disclosure Agreement, information on the MSRB's required electronic format and submission procedures through EMMA can be found on the MSRB's internet website at www.emma.msrb.org.

Section 7. Termination of Disclosure Agreement and Reporting Obligation.

This Disclosure Agreement and the Issuer's disclosure obligations under this Disclosure Agreement with respect to the Obligations shall terminate upon the legal defeasance (if applicable), prior redemption, or payment in full of all the Obligations or if the Rule shall be revoked or rescinded by the Commission or declared invalid by a final decision of a court of competent jurisdiction.

Section 8. Amendment; Waiver.

Notwithstanding any other provision of this Disclosure Agreement, the Issuer may amend this Disclosure Agreement, and any provision of this Disclosure Agreement may be waived, if the following conditions are met:

- (a) The amendment or waiver is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature, or status of the Issuer or an obligated person, or the type of business conducted;
- (b) This Disclosure Agreement, as amended or waived, would have complied with the requirements of the Rule on the date of the primary offering, after

taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

- (c) The amendment or waiver does not materially impair the interests of Owners, as determined either by parties unaffiliated with the Issuer (such as the fiscal agent, trustee, or bond counsel), or by approving vote of the Owners pursuant to the terms of the Resolution at the time of the amendment.

In the event this Disclosure Agreement is amended for any reason other than to cure any ambiguities, inconsistencies, or typographical errors that may be contained herein, the Issuer agrees the next Annual Financial Information it submits after such amendment shall include an explanation of the reasons for the amendment and the impact of the change, if any, on the type of financial statements or operating data being provided.

If the amendment concerns the accounting principles to be followed in preparing financial statements, then the Issuer agrees that it will give an Event Notice and that the next Annual Financial Information it submits after such amendment will include a comparison between financial statements or information prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles.

Section 9. Dissemination Agent.

The Issuer may, from time to time, appoint or engage a Dissemination Agent and may discharge any Dissemination Agent, with or without appointing a successor Dissemination Agent.

Section 10. Additional Information.

The Issuer may from time to time choose to disseminate other information, using the means of transmittal set forth in Section 5 hereof or any other means of communication, or to include other information with its Annual Financial Information or Event Notice, in addition to that which is required by this Disclosure Agreement. If the Issuer chooses to include any information with its Annual Financial Information or Event Notice in addition to that which is specifically required by this Disclosure Agreement, then the Issuer shall have no obligation under this Disclosure Agreement to update such information or include it in any future Annual Financial Information or Event Notice.

Section 11. Default.

The sole remedy of the Owners under this Disclosure Agreement in the event of any failure of the Issuer to comply with this Disclosure Agreement shall be an action to compel performance.

Section 12. Beneficiaries.

The Issuer intends to be contractually bound by this Disclosure Agreement. This Disclosure Agreement shall inure solely to the benefit of the Issuer, the Participating Underwriters, and the Owners, and shall create no rights in any other person or entity.

Section 13. Recordkeeping.

The Issuer shall maintain records of all Annual Financial Information and Event Notices submitted to the MSRB pursuant to this Disclosure Agreement, including the content and the date of filing of such submissions until the last Obligation has been retired.

Section 14. Responsible Officer.

The Issuer's Treasurer shall be the officer, representative, agency, or agent of the Issuer ultimately responsible for submitting Annual Financial Information and Event Notices to the MSRB, to the extent required hereunder, regardless of whether a Dissemination Agent has been appointed. Any inquiries regarding this Disclosure Agreement should be directed to:

Milwaukee Metropolitan Sewerage District
Attention: Treasurer
260 West Seeboth Street
Milwaukee, WI 53204-1446
Telephone: (414) 225-2213
Fax: (414) 272-0270
Email: mpearsall@mmsd.com

[Signature Page Follows]

IN WITNESS WHEREOF, the Issuer has caused this Disclosure Agreement to be executed by its duly authorized officer or representative as of the date written above.

MILWAUKEE METROPOLITAN SEWERAGE
DISTRICT, WISCONSIN,
Issuer

By: _____
Title: Treasurer

APPENDIX D

VERIFIER'S REPORT



VERIFIER'S REPORT

**Milwaukee Metropolitan Sewerage District General Obligation Sewerage System Bonds
Series 2020A (Green Bonds) – “Series 2020A Green Bonds”**



Prepared for: Milwaukee Metropolitan Sewerage District

February 18, 2020

+1 541.399.6806

info@kestrelverifiers.com

www.kestrelverifiers.com

2700 Wells Drive, Hood River, OR 97031

VERIFIER’S REPORT

Milwaukee Metropolitan Sewerage District General Obligation Sewerage System Bonds, Series 2020A (Green Bonds)

(“Series 2020A Green Bonds”)

Issuer: Milwaukee Metropolitan Sewerage District
Project: Capital Improvements
Green Category: Water Infrastructure, Low Carbon Transport
Location: 200 Waterfront Place, City of West Milwaukee, Wisconsin, USA
Financing value: Approximately \$80 million*
Evaluation Date: February 18, 2020
Lead Verifier: Evan Smith, M.S.

CONTENTS

Transaction Overview	3
About the Issuer	3
About the Verification Engagement	3
MMSD’s Responsibilities for Climate Bonds Verification	4
Verifier’s Responsibilities.....	4
Relevant Climate Bonds Sector Criteria and Other Standards	4
Independence and Quality Control.....	4
Assurance Approach	4
Conformance with the Climate Bonds Standard	5
Project Description	5
Alignment with United Nations Sustainable Development Goals.....	8
Project Evaluation and Selection	8
Management of Proceeds	9
Reporting	9
Opinion	10

* The financed amount is subject to change until the Guaranteed Maximum Price is finalized and the bonds are sold. However, the total amount financed shall not exceed \$80 million.

TRANSACTION OVERVIEW

Milwaukee Metropolitan Sewerage District (MMSD), plans to issue approximately \$80 million in Milwaukee Metropolitan Sewerage District General Obligation Sewerage System Bonds, Series 2020A (Green Bonds) (“Series 2020A Green Bonds”).

MMSD proposes financing its capital improvements with Certified Climate Bonds, an internationally accepted green bond standard. This financing involves a variety of capital projects ranging from water reclamation facilities to conveyance and storage system upgrades, and green infrastructure to reduce flooding and stormwater runoff.

The capital improvements will result in increased operational efficiency, reduced energy use, improved sanitation services, reduced flooding and improved water quality in the greater Milwaukee, Wisconsin area.

This Verifier’s Report reflects Kestrel Verifier’s view of MMSD’s projects and financing, allocation and oversight, and conformance of the bonds with the Climate Bonds Standard (V3.0), and the Water Infrastructure sector criteria. In our opinion, the Series 2020A Green Bonds to be issued by MMSD are completely aligned with the Climate Bonds Standard, and the Water Infrastructure criteria.

ABOUT THE ISSUER

The Milwaukee Metropolitan Sewerage District (MMSD) provides sewerage services in Milwaukee, Wisconsin. MMSD captures and treats 98.5% of the wastewater generated across the service area along the southwestern shore of Lake Michigan. MMSD ranks among the largest sewerage utilities in the country encompassing a service area of nearly 411 square miles, serving 28 municipalities with a total population of about 1.1 million people.

MMSD’s primary mission is to protect public health and the environment through world-class, cost-effective water resource management, leadership, and partnership. MMSD operates and maintains an extensive array of facilities. The organization’s two water reclamation facilities, Jones Island and South Shore, with a combined maximum plant capacity of 630 million gallons daily (MGD), are the centers of MMSD’s services.

MMSD has set aggressive goals to improve its environmental impact and sustainability through the MMSD 2035 Vision, a plan which envisions a healthier Milwaukee region and a cleaner Lake Michigan accomplished through leadership in attaining zero sewage overflows, zero basement sewage backups, and improved storm water management. The District also adopted an Urban Biodiversity Plan, a Sustainability Plan, an Energy Plan and a Resilience Plan. The organization has an updated GHG Emissions Inventory, and a robust Climate Change Vulnerability Analysis conducted in 2014. MMSD has a goal to reduce its carbon footprint by 90% from baseline conditions by 2035.

MMSD intends to use the proceeds of the Series 2020A Green Bonds exclusively to finance capital improvements and associated capitalized interest and financing costs, which are described more fully later in this report.

ABOUT THE VERIFICATION ENGAGEMENT

MMSD has engaged Kestrel Verifiers to provide a pre-issuance, independent verification on the alignment of the Series 2020A Green Bonds with the Climate Bonds Standard and Certification Scheme—which includes the Climate Bonds Standard (V3.0) and Water Infrastructure sector criteria. The Climate Bonds Initiative (the “CBI”) administers the standard and sector criteria. Additionally, Kestrel Verifiers has examined alignment of the Series 2020A Green Bonds with the United Nations Sustainable Development Goals (“SDGs”).

Kestrel Verifiers is a Climate Bonds Initiative Approved Verifier. The Kestrel review team included a water resources engineer and other environmental scientists. We performed a Reasonable Assurance engagement for MMSD’s Series 2020A Green Bonds to provide an independent verification as to whether the subject matter meets, in all material respects, the relevant criteria, defined later.

For this engagement, Kestrel Verifiers reviewed MMSD’s green bond framework and relevant plans, examined public and non-public information, and interviewed members of MMSD’s management and finance teams. Our

goal was to understand sustainability impacts of the business, the planned use of proceeds, procedures for managing proceeds, and plans and practices for reporting. This document contains Kestrel’s opinion of the Series 2020A Green Bonds.

MMSD’s Responsibilities for Climate Bonds Verification

MMSD is responsible for providing detailed information and documents relating to:

- the details of the Capital improvements and the corresponding project selection process;
- record keeping and internal controls;
- how the projects meet the criteria; and
- reporting and procedures for reporting on the Series 2020A Green Bonds.

Verifier’s Responsibilities

Kestrel Verifiers’ responsibilities for confirming alignment of the Series 2020A Green Bonds with the Climate Bonds Standard and Water Infrastructure criteria include:

- assess and certify MMSD’s internal processes and controls, including selection process for projects and assets, internal tracking of proceeds, and the allocation system for funds;
- assess policies and procedures established by MMSD, including reporting;
- assess the readiness of MMSD to meet the Climate Bonds Standard (V3.0) and Water Infrastructure sector criteria; and
- express a Reasonable Assurance conclusion.

Relevant Climate Bonds Sector Criteria and Other Standards

The Series 2020A Green Bonds align with the Climate Bond Initiative’s Climate Bonds Standard (V3.0) and Water Infrastructure criteria.



Independence and Quality Control

Kestrel Verifiers is providing an independent opinion on the conformance of these Series 2020A Green Bonds with the Water Infrastructure criteria of the Climate Bonds Standard. For almost twenty years, Kestrel has worked at the intersection of finance and sustainability, helping clients to advance water, energy and environmental projects. Kestrel relies on our experienced team of dedicated professionals, our qualified judgment and our attention to detail to ensure the highest quality assessment and verification.

Assurance Approach

Kestrel Verifiers’ responsibility was to conduct a Reasonable Assurance engagement to determine whether the MMSD’s Series 2020A Green Bonds met, in all material respects, the requirements of the Climate Bonds Standard. Our reasonable assurance was conducted in accordance with the Climate Bonds Standard (V3.0) and the *International Standard on Assurance Engagements (ISAE) 3000: Assurance Engagements Other than Audits or Reviews of Historical Financial Information*. Reasonable Assurance engagements offer a high level of scrutiny over the bond-financed activities and allow the Verifier to positively conclude whether those activities meet the specified criteria.

Kestrel Verifiers has relied on information provided by MMSD. There are inherent limitations in performing assurance, and fraud, error or non-compliance may occur and not be detected. Kestrel Verifiers is not responsible or liable for any opinions, findings or conclusions that are incorrect. Our assurance is limited to MMSD’s policies and procedures in place as of February 18, 2020, ahead of the issuance of the Series 2020A Green Bonds. The distribution and use of this assurance report are at the sole discretion of MMSD. Kestrel Verifiers does not accept or assume any responsibility for distribution to any other person or organization.

CONFORMANCE WITH THE CLIMATE BONDS STANDARD

Project Description

MMSD’s first green bond is the *Milwaukee Metropolitan Sewerage District General Obligation Sewerage System Bonds, Series 2020A (Green Bonds)*, herein referred to as the “Series 2020A Green Bonds.” The Series 2020A Green Bonds will finance MMSD’s Capital improvements, which are described in Appendix A of the Green Bond Framework, and fall in these general categories;

- Jones Island Water Reclamation Facility
- South Shore Water Reclamation Facility
- Interplant Pipeline
- Conveyance
- Inline Storage System
- Watercourse and Flood Management
- Green Infrastructure
- Facilities Planning

The Series 2020A Green Bonds include approximately \$80 million for capital improvements, capitalized interest and financing costs, as shown in Table 1.

Table 1. Summary of Sources of Funds

2020 Project Financing Component	Cost
Par Amount	\$ 80,000,000
Premium	\$ 7,545,738
Total	\$ 87,545,738

2020 Project Component	Cost
Project Fund	\$ 79,753,700
Bid Premium for Deposit to Debt Service Fund	\$ 7,145,738
Costs of Issuance (including Underwriters’ Discount)	\$ 646,300
Total	\$ 87,545,738

The project fund covers hard costs and soft costs related to procurement, construction, and installation of capital improvement projects. Hard costs include site work, construction, installation, and general conditions and liability insurance. Soft costs include engineering fees, pre-development consultant fees, development management fees, test, inspection and permit fees, technology equipment, and other equipment costs.

Project Highlights:

Water Reclamation Facility Upgrades: Both the Jones Island and South Shore Water Reclamation Facilities require equipment upgrades and replacements to ensure that MMSD can continue to meet its high standards in water reclamation. These projects will reduce energy use and improve operational efficiency, and include:

- Primary Clarifier Drive Improvements
- D&D ID Fan Energy Conservation
- Sludge Cake Transport & Feed Conveyors Replacement
- Power System Improvements
- Sewer System Capacity Improvements
- Aeration Basin Diffuser Replacement
- Bldg. 383 HVAC Replacement

Variable Frequency Drive (VFD) Pumps: Aeration, the process of adding air into wastewater to allow aerobic biodegradation is one of the largest energy users in water reclamation. MMSD will replace flow control valves with VFD blowers that can reduce energy costs by 50%.

Watershed Restoration Projects: MMSD plans to “daylight” sections of Schoonmaker Creek and other tributary creeks in the greater Milwaukee River Basin. Daylighting is the practice of restoring a previously a previously underground stream or removing a culvert. Daylighting can provide economic benefits by reducing culvert maintenance and by keeping stormwater out of combined sewer systems, thereby reducing water treatment costs. The practice can create a greater floodplain area and increased hydraulic storage, which can help reduce flooding. Free flowing creeks provide benefits to urban biodiversity and public health and well-being.

Greenseams® Natural Areas Program and Green Infrastructure: Greenseams® is an innovative flood management program that permanently protects key lands containing water-absorbing soils and sequesters carbon. MMSD has implemented this program to help municipalities in the District meet their commitments to address stormwater runoff and improve water quality. Green infrastructure also helps reduce inflows to the MMSD system. Green infrastructure projects are a high priority for the District due to their multiple community benefits in line with the District’s various sustainability plans. The District plans to implement Phase 2 of the Greenseams Program, additional Community Based Green Infrastructure Projects and many other watercourse and flood management projects.

Milorganite®, Production: MMSD has been recycling biosolids since 1926, to make a nutrient-rich byproduct that is transformed into a highly effective fertilizer and sold commercially. The District produces Milorganite® - a premier organic fertilizer which is all-natural, pesticide-free, and free of mined resources and synthetics. Milorganite® production is currently the most cost-effective solution for disposal of biosolids from the Jones Island and South Shore Water Reclamation Facilities. MMSD plans to improve the facilities used to produce Milorganite®

Sector Criteria

Water Infrastructure Criteria

MMSD’s bond-financed activities align with the Water Infrastructure Criteria under the Asset Class “Water Treatment/ Installation or upgrade of water treatment infrastructure” as shown in Figure 2. An orange circle indicates that the eligibility of these assets or projects is conditional on meeting specific requirements per the Mitigation and/or Adaptation and Resilience requirements of the Criteria.

Assets	Example projects*	Mitigation	Adaptation & Resilience
Water treatment, including but not limited to: Drinking water treatment Desalination plants Water recycling systems Wastewater treatment facilities Manure/ slurry treatment facilities	<ul style="list-style-type: none"> Improving energy efficiency or shifting to low carbon fuel sources Installation or upgrade of water treatment infrastructure (excluding the examples listed above) 	●	●

Figure 2. Eligible Asset Types

Source: Table I, Climate Bonds Standard – Water Infrastructure Criteria, April 2018

- Water Infrastructure Mitigation Requirements

As per CBI, “The Mitigation Component of the Water Infrastructure Criteria is intended to provide transparency over the impact that the use of proceeds will have on GHG emissions and the degree of mitigation that will be delivered over the operational lifetime of the project or asset. For use of proceeds subject to a Mitigation Assessment as indicated by an orange circle, they are eligible for certification only if: No net GHG emissions impact is expected, and the issuer discloses the justification for this decision.”

It is Kestrel Verifier’s opinion that there will be no net increase in GHG emissions. The project list shown in Appendix A of MMSD’s Framework shows many projects which will result in increased operational and energy efficiency. Since the treatment capacity remains the same, no net GHG emissions impact is expected from the projects. Furthermore, the addition of natural areas and open space through the Greenseams® program, can be seen as a net negative for GHG emissions impact.

- Water Infrastructure Adaptation and Resilience Requirements

As per CBI, “The Adaptation & Resilience Component of the Water Infrastructure Criteria is intended to provide transparency over the asset’s resilience to climate change as well as its impact on other stakeholders’ resilience to climate change. Such stakeholder impacts include their access to water in sufficient quantity and sufficient quality. From this perspective, ecosystems are also considered a stakeholder.”

Figure 3 shows the CBI decision tree for this component of the criteria. Assets and projects that are demarcated with an orange circle in the Adaptation and Resilience column and have an expected or remaining operational lifespan of more than 20 years, are subject to a Vulnerability Assessment / Adaptation Plan Evaluation.

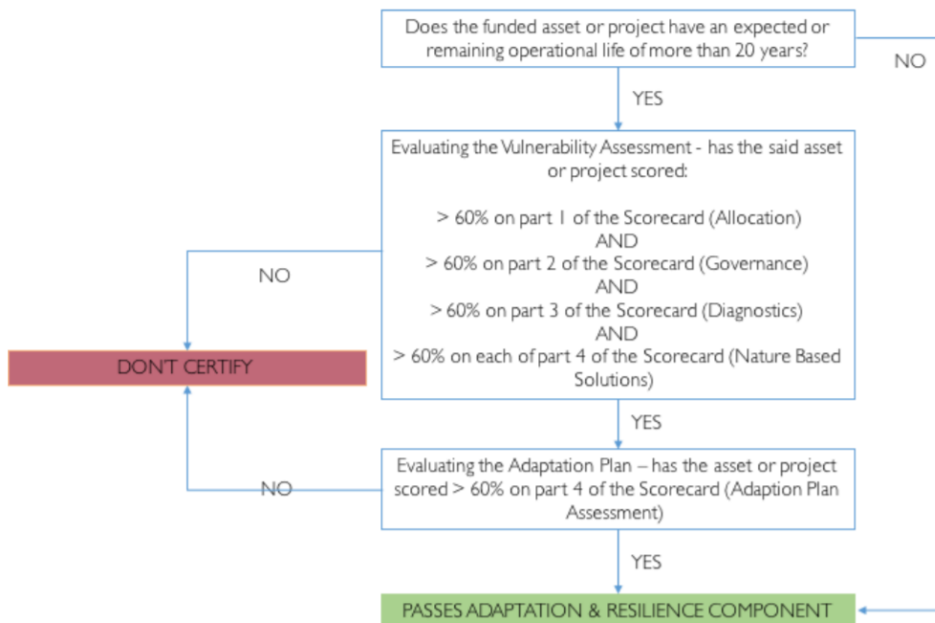


Figure 3. Decision tree for the Adaptation & Resilience component of the Water Infrastructure Criteria

Source: Figure 1– CBI Water Infrastructure Criteria, April 2018

As the operational life for the wastewater treatment plants and related infrastructure is greater than 20 years, a vulnerability assessment was conducted. This is attached in Appendix A of this Verifier’s Report. MMSD scored 47 points out of 62 points reaching the threshold of 60% in each category as required for certification. This is shown in the summary table in Figure 3.

Alignment with United Nations Sustainable Development Goals

In a related area, and recognized by MMSD, the *2030 Agenda for Sustainable Development* adopted by all United Nations member states in 2015 provides “a shared blueprint for peace and prosperity for people and the planet.” The United Nations’ Agenda describes 17 Sustainable Development Goals (SDGs). As shown in MMSD’s framework and operations, the goals and practices of MMSD align with many of the SDGs. For the purposes of the Series 2020A Green Bonds offering, the projects align most closely with three SDGs:



SDG 6: Clean Water and Sanitation, which includes targets to achieve access to adequate and equitable sanitation and hygiene for all and improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials.



SDG 11: Sustainable Cities and Communities, which includes targets to make cities and human settlements inclusive, safe, resilient and sustainable.



SDG 13: Climate Action, which includes targets to take urgent action to combat climate change and its impacts.

Use of Proceeds

The Series 2020A Green Bonds will be used to finance the capital improvements listed in Appendix A of MMSD’s Green Bond Framework, which are eligible green projects as defined by the Climate Bonds Initiative’s Standard and Certification Scheme (Water Infrastructure criteria).

Project Evaluation and Selection

MMSD believes in transparency to both constituents and investors regarding its process for project evaluation and selection. It is part of MMSD’s approval process to ensure that all of its financed activities comply with internal environmental and social directives. All of MMSD’s environmental and social policies and related reports can be found at: <https://www.mmsd.com/what-we-do/sustainability>

In addition to meeting MMSD’s long-term needs, the Series 2020A Green Bonds will be used for projects that address and meet the following objectives:

1. Support MMSD’s mission to protect public health and the environment through world-class, cost-effective water resource management, leadership, and partnership.
2. Address resilience and sustainability issues in the City of Milwaukee through efforts such as prioritizing green infrastructure and urban biodiversity, incorporating renewable energy solutions, and building energy efficiency into capital improvements.
3. By certifying the Bonds as Climate Bonds in the category of Water Infrastructure, MMSD hopes to inform investors of the environmentally beneficial and climate-aligned aspects of projects and the District’s responsible management of water resources, cognizant of climate change.

MMSD utilizes a robust and transparent annual process to prioritize capital improvements for financing, and the District maintains long-range financing plans for its Operation and Maintenance and Capital Projects budgets. The Strategic Plan for FY 2019-2021 identifies the project list, presented in Appendix A of MMSD’s Green Bond Framework, as a priority for bond financing. Projects selected for financing are also reviewed against MMSD’s Environment Statement (Appendix F in the Framework).

Projects to be financed are evaluated and selected based on:

- a) alignment with the current Strategic Plan, Total Maximum Daily Load (TMDL) for the Milwaukee River Basin, and MMSD 2035 Vision;
- b) business case studies and community benefits (identify need, options, and preferred solution);

- c) a thorough vetting process including stakeholder consultation;
- d) review by Budget Staff and final approval by Executive Director and Commissioners.

MMSD staff compiles project recommendations which are presented to the Operations Committee. The Operations Committee reviews project details and operating procedures.

As an organization, MMSD is committed to public health and the environment through world-class, cost-effective wastewater treatment. MMSD considers the local and regional impacts of its practices. MMSD's guiding beliefs associated with sustainability support the vision of reducing environmental impacts. The projects to be financed with the Series 2020A Green Bonds meet this vision and subsequent criteria.

Management of Proceeds

MMSD's management of proceeds follows Generally Accepted Accounting Principles and Government Finance Officers Association (GFOA) recommendations for best practices. Net proceeds will be tracked by MMSD's Finance team and 100% of funds will be allocated to fund the capital improvements, capitalized interest and financing costs.

Proceeds from Green Bonds will be specifically directed to pay the costs of design, construction, property acquisition, and other related expenses necessary for the selected green bond-eligible projects. Ensuring that green bond proceeds are allocated only to green designated projects and activities, will be the responsibility of MMSD's Director of Finance, Mickie Pearsall.

MMSD's Green Bond proceeds will be held in a segregated account and used exclusively to finance eligible green projects. Green Bond proceeds may also be used to pay the cost of issuance and underwriter's fees related to this transaction. These costs will be specifically delineated in closing documents.

The Treasurer of MMSD, Mark T. Kaminski, shall invest said proceeds in permitted short term investments as defined by MMSD, with capital preservation as the priority. Permitted investments will be made in accordance with the applicable State of Wisconsin Statutes and are further restricted to the following types of securities and transactions:

1. U.S. Treasury Obligations
2. Federal Instrumentality Securities
3. U.S. Government Agency Securities
4. Prime Commercial Paper

MMSD provides a Comprehensive Annual Financial Statement which is prepared by an independent auditor. The Government Finance Officers Association awarded a Certificate of Achievement for Excellence in Financial Reporting to the District for its comprehensive annual financial report (CAFR) for the fiscal year ended December 31, 2017. This was the 40th consecutive year that the District has received this prestigious award.

Reporting

Continuing Disclosures and Voluntary Impact Reporting

So long as the Series 2020A Green Bonds are outstanding, Milwaukee Metropolitan Sewerage District will submit continuing disclosures to the Municipal Securities Rulemaking Board (MSRB). This reporting will be done annually on the Electronic Municipal Market Access (EMMA) system operated by the MSRB.

MMSD will also voluntarily produce an annual report detailing how the Green Bond proceeds were used to finance the selected projects, a description of the selected projects, and details of the environmental benefits resulting from the projects. MMSD may also voluntarily provide information as to progress toward the 17 United Nations' Sustainable Development Goals. Such information will be posted to the EMMA system of the Municipal Securities Rulemaking Board, accessible at www.emma.msrb.org. This report will be posted along with other MMSD filings.

Within 24 months of the bonds closing, Kestrel Verifiers will provide one post-issuance Update Report to the Climate Bonds Initiative. MMSD will also post this report voluntarily on EMMA.

OPINION

Based on the Reasonable Assurance procedures we have conducted, in our opinion, the MMSD Series 2020A Green Bonds conform, in all material respects, with the Climate Bonds Standard, and the bond-financed activities are aligned with the Water Infrastructure sector criteria and United Nations Sustainable Development Goals 6, 11 and 13.

MMSD's vision of a healthier, cleaner, more resilient region is supported with the capital improvements, which exceed the requirements of the Climate Bonds Standard.

It is the opinion of Kestrel Verifiers that MMSD's Series 2020A Green Bonds are in complete alignment with the Water Infrastructure criteria of the Climate Bonds Standard, and that MMSD is demonstrating leadership toward a zero-carbon future by implementing these beneficial projects.

Sincerely,



Evan Smith, Lead Technical Verifier
Kestrel Verifiers
February 18, 2020

About Kestrel Verifiers

To public and corporate finance teams who are preparing green bonds, Kestrel is an Approved Verifier with direct project experience in many sectors: water infrastructure, green buildings, renewable energy, energy efficiency, pollution prevention, climate change adaptation, natural resources and land uses. As bespoke US municipal bond specialists, we strive to provide a personal, focused approach and dedicated support. We bring real-world experience, relationships and tools to efficiently verify and report on green bonds. Kestrel is a Woman-Owned Small Business and a certified Women's Business Enterprise based in the USA.

For more information, visit www.kestrelverifiers.com

APPENDIX A

**Climate Bonds Standard Water Infrastructure Adaptation & Resilience Scorecard
(p20 of Criteria)**

CRITERIA: The project must score at least 60% of the maximum potential score in all parts of the Scorecard

Section 4 only needs to be completed for “Nature Based and Hybrid Infrastructure” only (see Criteria for detail)

Vulnerability Assessment SECTION 1: ALLOCATION (To be completed for all Water Infrastructure assets)					
		Max Score	Actual Score	Requirement: Evidence and/or Disclosure	Comments
1.1	Are there accountability mechanisms in place for the management of water allocation that are effective at a sub-basin and/or basin scale?	1	1	Disclosure	There are several plans outlining management of water the most relevant and adopted internationally is the Great Lakes Compact https://dnr.wi.gov/topic/GreatLakes/documents/Congress_Compact_Consent.pdf https://www.sewrpc.org/SEWRPC/Environment/RegionalWaterSupplyPlan.htm Regional Water Supply Plan In 1979, the Commission completed and adopted a regional water quality management plan. The plan was designed, in part, to meet the Congressional mandate that the waters of the United States be made “fishable and swimmable” to the extent practical. Continued eligibility of local units of government for Federal and State loans and grants in partial support of sewerage system development and redevelopment; From the last quarter of 2003 through December 2007, SEWRPC prepared an update of the regional water quality management plan for the Greater Milwaukee Watersheds and was amended in 2013-A REGIONAL WATER QUALITY MANAGEMENT PLAN UPDATE FOR THE GREATER MILWAUKEE WATERSHEDS-Amended May 2013 https://dnr.wi.gov/topic/WaterUse/compact.html Great Lakes Compact
1.2	Are the following factors taken into account in the definition of the available resource pool? a) Non-consumptive uses (e.g., navigation, hydroelectricity) b) Environmental flow requirements c) Dry season minimum flow requirements d) Return flows (how much water should be returned to the resource pool, after use) e) Inter-annual and inter-seasonal variability f) Connectivity with other water bodies g) Climate change impacts	7	5	Evidence	A) As MMSD only receives water used, their plan does not determine allocation, however they are subject to WQ Page 383 addresses navigation and dam regulation in the plan as does the Great Lakes Compact B) C) D) City of Waukesha has return flow plan through MMSD http://www.waukesha-water.com/downloads/4_City_of_Waukesha_Return_Flow_Plan.pdf E) P. 60-61 of water supply plan looks at seasonal temperature and precipitation F) Yes, connectivity of Lake Michigan with other Lakes and St. Lawrence is heavily discussed G) Discussed and considered as part of adapting plans in the future
1.3	Are arrangements in place to accommodate the potentially adverse impacts of climate change on the resource pool? (E.g. using best available science to plan for future changes in availability, undertaking periodic monitoring and updating of available pool.)	1	1	Evidence	P.377 Water Supply and P. 854 water quality and on the amendment discusses Climate Change and impacts on resource pool, p. 856 the sections of the plan updated to accommodate changes https://www.sewrpc.org/SEWRPC/Environment/ClimateChange.htm Wisconsin Initiative on Climate Change
1.4	Is there a distinction between the allocation regimes used in “normal” times and in times of “extreme/severe” water shortage?	1	1	Evidence	p. 284 Water Quality Management Plan discusses water quality changes in wet and dry weather and outflows consistent with this.
1.5	Are there plans to define “exceptional” circumstances, such as an extended drought, that influence the allocation regime? (E.g., triggers water use restrictions, reduction in allocations according to pre-defined priority uses, suspension of the regime plan, etc.)	1	1	Evidence	There are triggers during extreme wet events to discharge more under blending practices. P.62 water supply plan defines drought and p. 131 discusses limitations during these times
1.6	For international / trans boundary basins, is there a legal mechanism in place to define and enforce water basin allocation agreements?	1	1	Disclosure	P. 357 Water Supply Plan describes Water Resources Development Act that enforces Lake Michigan water allocations Great Lakes Compact includes Canadian Premier
1.7	Are water delivery agreements defined on the basis of actual in situ seasonal / annual availability instead of volumetric or otherwise inflexible mechanisms?	1	1	Evidence	Lake Michigan water levels are consistent seasonally, however new pumping or diversions are subject to seasonal or annual variations when there are lower lake water levels. Water Supply Plan
1.8	Has a formal environmental flows (e- flows)/sustainable diversion limits or other environmental allocation been defined for the relevant sub-basin or basin? (If there is a pre-existing plan, then has the environmental flows program been updated to account for the new project?)	1	1	Evidence	There is a ban on diversions out of the basin with limited exceptions with the Great Lakes Compact, and all water is returned to the Lake. The program has not been updated to account for the project, but amounts will not be affected.
1.9	Have designated environmental flows / allocation programs been assured / implemented?	1	1	Evidence or Disclosure	Yes, great lakes compact is implemented and followed for diversions
1.10	Has a mechanism been defined to update the environmental flows plan periodically (e.g., every 5 to 10 years) in order to account for changes in allocation, water timing, and water availability?	1	1	Evidence	p. 50 great lakes compact update every 5 years or each time the incremental Basin Water losses reach 50 million gallons per day average in any 90-day period
1.11	Is the amount of water available for consumptive use in the resource pool linked to a public planning document? (E.g., a river basin management plan or another planning document – please indicate)	1	1	Evidence	SEWRPC Regional Water Supply Plan and shown in https://www.sewrpc.org/SEWRPCFiles/Environment/watersupply/2011-05-24-RWSP-presentation-to-wauk-co-board-of-supervisors.pdf update
1.12	If present, is the river basin plan a statutory instrument that must be followed rather than a guiding document?	1	1	Disclosure	Yes, signed by U.S. Congress and is statutory law.
Total Allocation Score		16	/18		
Eligibility Criterion 1 passed/not passed			89 %		

Vulnerability Assessment SECTION 2: Governance

(To be completed for all Water Infrastructure assets)

		Max Score	Actual Score	Requirement: Evidence and/or Disclosure	Comments
2.1	Have water entitlements been defined according to one of the following? Purpose that water may be used for Maximum area that may be irrigated Maximum volume that may be taken in a nominated period Proportion of any water allocated to a defined resource pool	1	1	Disclosure	Great Lakes Compact gives limits of withdrawal of 100,000 gallons per day or greater average over any 90-day period or new or increased Consumptive Use of 5 million gallons per day or greater average over any 90-day period.
2.2	Is the surface water system currently considered to be neither over allocated nor over-used? N.B. Over-allocated would be if e.g. current use is within sustainable limits but there would be a problem if all legally approved entitlements to abstract water were used. Over-used would be if existing abstractions exceed the estimated proportion of the resource that can be taken on a sustainable basis.	1	1	Evidence	Not considered either over-used or over-allocated and new user and diversions outside the lake are prohibited
2.3	If monitored and the investment uses groundwater, is the groundwater water system currently considered to be neither over- allocated nor over-used? N.B. Over-allocated would be if e.g. current use is within sustainable limits but there would be a problem if all legally approved entitlements to abstract water were used. Over-used would be if existing abstractions exceed the estimated proportion of the resource that can be taken on a sustainable basis.	1	1	Evidence	SEWRPC considers the Deep Sandstone Aquifer overused, but majority of water supply is coming from the great lakes and the greater area groundwater is not considered over-allocated. http://www.sewrpc.org/SEWRPCFiles/Environment/watersupply/2005-09-19_water_supply_planni.pdf
2.4	Is there a limit to the proportion (e.g. percentage) of water that can be abstracted?	1	0	Evidence	No regulations stating % of Lake Michigan
2.5	Are governance arrangements in place for dealing with exceptional circumstances (such as drought, floods, or severe pollution events), especially around coordinated infrastructure operations?	1	1	Disclosure	p.9 and 10 of http://docs.legis.wisconsin.gov/statutes/statutes/281.pdf Wisconsin legislation on great lakes compact put in place arrangements for flooding
2.6	Is there a process for re-evaluating recent decadal trends in seasonal precipitation and flow OR recharge regime, in order to evaluate "normal" baseline conditions?	1	1	Evidence	p. 50 Great Lakes compact addresses climate change impacts every 5 years and changes to supply regime
2.7	Is there a formal process for dealing with new entrants?	1	1	Disclosure	Yes, Great Lakes Compact has formal process on new applicants and proposals
2.8	For existing entitlements, is there a formal process for increasing, varying, or adjusted use(s)?	1	1	Disclosure	Yes, p.34 outlines all new or increased diversions are prohibited except in outlined in the Compact for straddling communities
2.9	Is there policy coherence across sectors (agriculture, energy, environment, urban) that affect water resources allocation, such as a regional, national, or basin-wide Integrated Water Resources Management (IWRM) plan?	1	1	Evidence	The compact is the defining document for managing the international Water Resource and it considers urban, agriculture, and environment. P. 10 of the compact
2.10	Are obligations for return flows and discharges specified and enforced?	1	1	Disclosure	Return flows are discussed in water supply plans and great lakes compact all flows are required to be returned after use
2.11	Is there a mechanism to address impacts from users who are not required to hold a water entitlement but can still take water from the resource pool?	1	1	Disclosure	No users outside of compact are entitled to diversions from Lake Michigan
2.12	Is there a pre-defined set of priority uses within the resource pool? (E.g., according to or in addition to an allocation regime)	1	0	Disclosure	Not readily available
2.13	If there are new entrants and/if entitlement holders want to increase the volume of water they use in the resource pool and the catchment is open, are these entitlements conditional on either assessment of third party impacts, an Environmental Impact Assessment (EIA) or an existing user(s) forgoing use?	1	1	Evidence	p. 5 Environmentally Sound and Economically Feasible Water Conservation Measures that include addressing environmental impact (does not specify EIA) i) are environmentally sound, ii) reflect best practices applicable to the water use sector, iii) are technically feasible and available, iv) are economically feasible and cost effective based on an analysis that considers direct and avoided economic and environmental costs and v) consider the particular facilities and processes involved, taking into account the environmental impact, age of equipment and facilities involved, the processes employed, energy impacts and other appropriate factors.
2.14	Are withdrawals monitored, with clear and legally robust sanctions?	1	1	Evidence	Yes, Great Lakes Compact requires each party to monitor withdrawals p. 26
2.15	Are there conflict resolution mechanisms in place?	1	1	Disclosure	Yes, p.54 dispute resolution in great lakes compact
Total Governance Score		13	/15		
Eligibility Criterion 2 passed / not passed		87	%		

Vulnerability Assessment SECTION 3: TECHNICAL DIAGNOSTICS

(To be completed for all Water Infrastructure assets)

		Max Score	Actual Score	Requirement: Evidence and/or Disclosure	Comments
1	Does a water resources model of the proposed investment and ecosystem (or proposed modifications to existing investment and ecosystem) exist? Specify model types, such as WEAP, SWAT, RIBASIM, USACE applications). Scale should be at least sub-basin.	1	1	Evidence	Regional groundwater model created with USGS and SEWRPC http://www.sewrpc.org/SEWRPCFiles/Publications/TechRep/tr-041_aquifer_simulation_model.pdf USACE HEC-RAS model developed by SEWRPC for hydraulic and flood analysis http://www.sewrpc.org/SEWRPCFiles/Publications/mr/mr-172-milw-river-watercourse-system-plan.pdf NOAA Great Lakes https://www.glerl.noaa.gov/res/Programs/ipemf/GLCFS_nextgen.html A Lake Michigan PRMS model was constructed over the entire Lake Michigan Basin area. The model was constructed and parameterized using available geographic information system (GIS) datasets, and calibrated using available observed (measured) streamflow, solar radiation, and potential evapotranspiration data. Four different emissions scenarios were used.
3.2	Can the system model the response of the managed water system to varied hydrologic inputs and varied climate conditions?	1	1	Evidence	Considers varied hydrologic conditions and climatic variability but does not account for progressive climate change P. 54 Milwaukee watercourse system plan
3.3	Are environmental performance limits (ecosystem, species, ecological community) and/or ecosystem services specified?	1	1	Evidence	EcoDyn modelling consists of nowcasts and scenario-based forecasts to predict the effects of invasive species, climate, nutrient loadings, and meteorology on Great Lakes food webs, fisheries productivity, and water quality. Data, observations and related process studies are used in ecosystem models to forecast the effects of stressors and management options. Part of NOAA GLCFS https://www.glerl.noaa.gov/res/Programs/eco_dyn/eco_dyn.html
3.4	Can these performance limits be defined and quantified using the water resources model?	1	0	Evidence	
3.5	Have these limits been defined based on expert knowledge and/or scientific analysis?	1	1	Evidence	Yes, linked to long-term ecological observations, targeted fundamental research on ecological processes
3.6	Are these performance limits linked to infrastructure operating parameters?	1	0	Evidence	
3.7	Are these limits linked to an environmental flows regime?	1	0	Evidence	
3.8	For new projects, is there an ecological baseline evaluation describing the pre-impact state?	1	0	Evidence	
3.9	For rehabilitation / reoperation projects, is there an ecological baseline evaluation available before the projects was developed?	1	0	Evidence	
3.10	Has there been an analysis that details impacts related to infrastructure construction and operation that has been provided?	1	0	Evidence	
3.11	Are lost species and/or lost or modified ecosystem functions specified for restoration in the environmental evaluation?	1	1	Evidence	Suggestions including mitigating water storage of water during wet years for use during drier years, which in turn provides additional resiliency to the associated aquatic ecosystems. P.67 PRMS USGS Model Lake Michigan
3.12	Have regional protected areas / nature reserves been included in the analysis for impacts from the investment asset and future climate impacts?	1	0	Evidence	No
3.13	Does the model include analysis of regression relationships between climate parameters and flow conditions using time series of historical climate and stream flow data?	1	1	Evidence	Yes, using streamflow data and SPARROW model regression analysis p.68 PRMS USGS Model
3.14	Does the model include climate information from a multi modal ensemble of climate projections (eg from the Climate Wizard or the World Bank's Climate Portal) to assess the likelihood of climate risks for the specified investment horizons (s)?	1	1	Evidence	Yes, https://pubs.usgs.gov/sir/2014/5175/pdf/sir2014-5175.pdf USGS Lake Michigan PRMA model includes many emissions scenarios and multi-modal climate projections to determine Great Lakes conditions
3.15	Are changes in the frequency and severity of rare weather events such as droughts and floods included?	1	1	Evidence	Yes, p.36 PRMS addresses high streamflow and low streamflow events
3.16	Are sub-annual changes in precipitation seasonality included?	1	1	Evidence	Yes, p.22 PRMS seasonal variability in radiation evapotranspiration and precipitation
3.17	Is GCM climate data complemented with an analysis of glacial melt water and sea level rise risks, where appropriate (e.g., high or coastal elevation sites)?			Evidence	N/A
3.18	Is paleo-climatic data (e.g., between 10,000 and >1000 years before present) included?	1	0	Evidence	No
3.19	Is the number of model runs and duration of model runs disclosed?	1	1	Evidence	GLOFS is run 4 times/day, 6 hours

3.20	Has a sensitivity analysis been performed to understand how the asset performance and environmental impacts may evolve under shifting future flow conditions?	1	1	Evidence	p.21 PRMS model addresses sensitivity of model, but does not directly discuss the asset
3.21	Is directly measured climate data available for more than 30 years and incorporated into the water resources model?	1	1	Evidence	Yes, climate data from 1969-2008 in PRMS model
3.22	Has evidence demonstrated that climate change has already had an impact on operations and environmental targets? Are these impacts specified and, to the extent possible, quantified? These impacts should be responded to directly in the Adaptation Plan.	1	0	Evidence	No
3.23	Does the evidence suggest that climate change will have an impact on operations and environmental targets over the operational lifespan? Are these impacts specified and, to the extent possible, quantified? These impacts should be responded to directly in the Adaptation Plan.	1	1	Evidence	On the impacts of MMSD and operations of treatment, no as the large portion of water supply is pumped and MMSD only handles treatment of water in use.
3.24	Is there a discussion of the uncertainties associated with projected climate impacts on both operations and environmental impacts?	1	1	Evidence	p.22 PRMS discusses uncertainty calculation and p. 63 uncertainty in climate scenarios
Total Governance Score		14	/23		
Eligibility Criterion passed / not passed		61	%		

Section 5: ADAPTATION PLAN

(To be completed for all Water Infrastructure assets)

		Max Score	Actual Score	Requirement: Evidence and/or Disclosure	Comments
AP.1	Is there a plan to restore or secure lost/modified ecosystem functions / species?	1	1	Evidence	MMSD adopted in 2019 a Resilience Plan designed to adapt infrastructure to changing climatic conditions with ecosystem functions in mind https://www.freshcoastguardians.com/static/Resilience_Plan_2019_F.pdf
AP.2	Is the adaptation plan for environmental targets / infrastructure robust across specified <u>observed</u> / recent climate conditions? Confer VA	1	1	Evidence	Yes, adapting to increasing population and other factors to coincide with observed and recent climate conditions as well as addressing recent storms.
AP.3	Is the adaptation plan for environmental targets / infrastructure robust across specified <u>projected</u> climate conditions? Confer VA	1	1	Evidence	Yes, page 13 addresses projected changes in regional climate
AP.4	Is there a monitoring plan designed to track ongoing progress and impacts to inform future decisions?	1	1	Evidence	Page 60 Action 17 revolves around monitoring progress
AP.5	Is there a plan to reconsider on a periodic basis the VA for operational parameters, governance and allocation shifts, and environmental performance targets?	1	0	Evidence	No
TOTAL ADAPTATION PLAN SCORE:		4	5/5		
Eligibility Criterion passed / not passed		80	%		