

# 2021 Proposed Operations and Maintenance and Capital Budgets

Milwaukee Metropolitan Sewerage District



# Milwaukee Metropolitan Sewerage District 2021 Proposed Budget

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Christine Durkin, *Management & Budget Analyst*  
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# Recent District Awards and Honors

## 2020

- GFOA Distinguished Budget Presentation Award

## 2019

- GFOA Certificate of Achievement for Excellence in Financial Reporting
- GFOA Distinguished Budget Presentation Award
- ACEC Engineering Excellence State Finalist Award
- ACEC Engineering Excellence Best of State Award
- Mayor's 2019 Design Award
- NACWA Peak Performance Award

## 2018

- Historic Milwaukee 2018 Remarkable Milwaukee Honoree
- Milwaukee Riverkeeper Estabrook Dam Award
- Rivers, Trails, and Conservation Assistance Program Partner Excellence Award
- B2GNow Collaboration Award
- GFOA Distinguished Budget Presentation Award
- GFOA Certificate of Achievement for Excellence in Financial Reporting
- NACWA Peak Performance Award

## 2017

- GFOA Certificate of Achievement for Excellence in Financial Reporting
- GFOA Distinguished Budget Presentation Award
- Leading Utilities of the World Award
- 2017 Wisconsin Local Corporation of the Year Award

## 2016

- GFOA Certificate of Achievement for Excellence in Financial Reporting
- GFOA Distinguished Budget Presentation Award
- NACWA Water Resources Utility of the Future Award
- Gathering Waters – Policymaker of the Year Award
- NACWA Peak Performance Award

## 2015

- GFOA Certificate of Achievement for Excellence in Financial Reporting
- GFOA Distinguished Budget Presentation Award
- NACWA Water Resources Utility of the Future Award
- 2015 ACEC Engineering Excellence Award
- NACWA Peak Performance Award

## 2014

- GFOA Certificate of Achievement for Excellence in Financial Reporting
- GFOA Distinguished Budget Presentation Award
- American Public Works Association 2014 Project of the Year Award
- 2014 Public/Private Partnership Award
- 2014 Governmental Partner of the Year Award
- NACWA Peak Performance Award

## 2013

- Business Council – Strategic Partner of the Year Award
- GFOA Certificate of Achievement for Excellence in Financial Reporting
- GFOA Distinguished Budget Presentation Award
- APWA – Environment Project of the Year Award
- NACWA Peak Performance Award



GOVERNMENT FINANCE OFFICERS ASSOCIATION

*Distinguished  
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**Milwaukee Metropolitan Sewerage District  
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For the Fiscal Year Beginning

**January 1, 2020**

Executive Director

The Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Award to the Milwaukee Metropolitan Sewerage District, Milwaukee, WI for its annual budget for the fiscal year beginning January 1, 2020. In order to receive this award, a governmental unit must publish a budget that meets program criteria as a policy document, as an operations guide, as a financial plan, and as a communications device. This award is valid for one year only. We believe our current budget continues to conform to program requirements, and we are submitting it to GFOA to determine its eligibility for another award.



**PARTNERS FOR A CLEANER ENVIRONMENT**

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**PARTNERS FOR A CLEANER ENVIRONMENT**



September 5, 2020

Commissioners:

I am pleased to submit the Milwaukee Metropolitan Sewerage District's 2021 Operations & Maintenance and Capital Budgets which continue to support the District's vision and mission of protecting public health and the environment through world-class, cost-effective water resource management, leadership, and partnership. Together, the Operations & Maintenance and Capital Budgets provide the District's financial and operational planning, both near and long-term.

The 2021 budget is built during an unprecedented year of change and challenges. The COVID-19 pandemic challenged us to adapt our programs and processes in order to continue to meet our mission while prioritizing the safety and welfare of our employees and those we serve. The uncertainty of the pandemic and its economic consequences gave us an opportunity to rethink our strategies and priorities. Despite the setbacks of the pandemic, MMSD had a number of accomplishments in 2020 that have set us up for a stronger, more resilient and equitable 2021. For example, in 2020, the District was the fourth in the country and the second in wastewater treatment agency to be issued a Certified Climate Bond, which will help strengthen our financial future. We completed the 2050 Facilities Plan to help guide our future investments. We affirmed our commitment to equality by adopting a Ban the Box policy and removing questions on criminal background in employment applications. We practiced continuous improvement by adopting a revised Private Property Infiltration and Inflow (PPI/I) Policy. After ten years of the PPI/I program, our revised policy reflects the lessons learned and removes program term limits, establishes a process to enable municipalities to acquire additional funding, and includes a residential element. We furthered our work on climate change adaptation by beginning a new Energy Plan for the District's processes and facilities to evaluate ways to decrease our carbon footprint. Finally, in order to better understand our constituents and the public we serve, we created a new Community Advisory Team that will host listening sessions and focus groups to identify local needs and priorities. We have always believed working together, we will accomplish more. This 2021 budget builds off of the recent accomplishments and meets the objectives of the Commission in terms of affordability to customers.

In the Operations and Maintenance budget, the 2021 user charge billings increase 1.0% compared to a projected 2.5% in the prior year's forecast. The 1.0% increase is achieved in part by a closer review of expenditures and an increase in Milorganite® revenue.

In the capital budget, the tax levy for 2021 is increased 1.0% compared to a 4% increase that was projected for 2021 purposes in the prior year's long-range financing plan. The limited tax levy increase is primarily managed through a close look at project priorities. In addition, the financing plan allows a strategic use of debt financing

to ensure inter-generational equity while still maintaining the District's compliance with policy objectives including 25% cash financing and well below debt capacity limitations.

The budgets continue to fund the critical needs of existing system infrastructure and ensure permit compliance. In addition, the 2021 budgets expand upon the District's goal of creating synergies between grey and green infrastructure by making available funding to eligible municipalities in its Green Solutions program and partnering with the private sector to find efficiencies in the Fresh Coast Protection Partnership Program.

Throughout the 2021 budget document, you will find discussion of many of the factors that impact the District to provide perspective and context to financial changes implemented in the budget.

### **Highlights of the 2021 Capital Budget**

The 2021 Capital Budget totals \$218.1 million. The 2021 tax levy increases 1.0% from the 2020 level. This compares to a 4% increase projected for 2021 one year ago. The long-range financing plan includes a tax levy increase of 4% for each year from 2022 through 2026. This is consistent with tax levy projections for that period from one year ago.

Highlighted expenditures include:

- Drying and Dewatering facilities rehabilitations, replacements and improvements: \$12.5 million
- Interplant Sludge Pipeline Improvements \$4.7 million
- NS12 Collector System Improvements \$3.0 million
- Western Milwaukee Flood Management \$2.9 million
- Kinnickinnic River Flood Management \$3.7 million
- Green Solutions \$5 million

The District's 2021 Capital Budget is based on its cornerstone financial objectives that provide sound long-term financial planning. These include limiting outstanding debt to no more than 2.5% of equalized value, while State Statutes allow up to 5%. In the 2021 long-range financing plan, debt outstanding is projected to be at the highest level in 2023 at 1.23%, and this is far below the policy provision of 2.5%. In addition, the District provides that six-year total project expenditures are financed with an average 25% cash financing over six years. The 2021 long-range financing plan provides 27% cash financing.

The majority of capital expenditures are rehabilitation, replacement or improvement of existing District facilities and infrastructure, at over \$473.3 million over the six-year plan. This is followed by extensive expenditures planned for watercourse and flood management improvements at \$185.4 million. The District also funds various capital programs that provide unique funding mechanisms to partner with municipalities served to lower overall system costs. The details of all capital projects can be found within the capital account sections of the capital budget.

## Highlights of the 2021 Operations & Maintenance Budget

The 2021 Operations & Maintenance (O&M) Budget expenditures total \$106.7 million. In the O&M Budget, the 2021 user charge billings increase is 1.0%, compared to the 2.5% increase that was projected as the user charges billings increase in the forecast in the 2020 budget. Overall expenditures are decreasing 3.8%, or \$4.3 million. A significant portion of the decrease relates to construction costs for Basin H PCB rehabilitation and Interplant pipeline cleaning costs that were included in the 2020 O&M budget, and upon further review the scope qualified for capital funding.

In addition to user charge billings, the District has other operating revenue sources. The District's second largest O&M revenue source is from Milorganite® net revenue. The Milorganite® net revenue in the 2021 O&M Budget is projected to be \$11.9 million, a 13.9% increase from the 2020 O&M Budget. The District's projected revenue from interest income is \$500,000, a decrease of 50% from the 2020 budgeted level, and revenue from Other Income decreases \$2.3 million from the 2020 budgeted level, primarily due to the Basin H PCB rehabilitation project insurance reimbursements being applied to the capital budget. The District also administers two cost recovery programs: the Industrial Waste Pretreatment Program (IWPP) projected at \$1.1 million and the Household Hazardous Waste Collection Program (HHW) projected at \$1.2 million. In addition to the above-mentioned revenue sources, the District returns any available surplus from prior fiscal years and has available reserves on an as-needed basis. In 2021, the \$3.1 million surplus from the 2019 budget is returned.

I would like to thank the dedicated employees of the District for their commitment to the District's vision and values, as well as the team of employees who helped in the preparation of the budget document. The District looks forward to partnering with others as we move forward protecting water quality and building resilient futures together.

Respectfully submitted,



Kevin L. Shafer, P.E.  
Executive Director

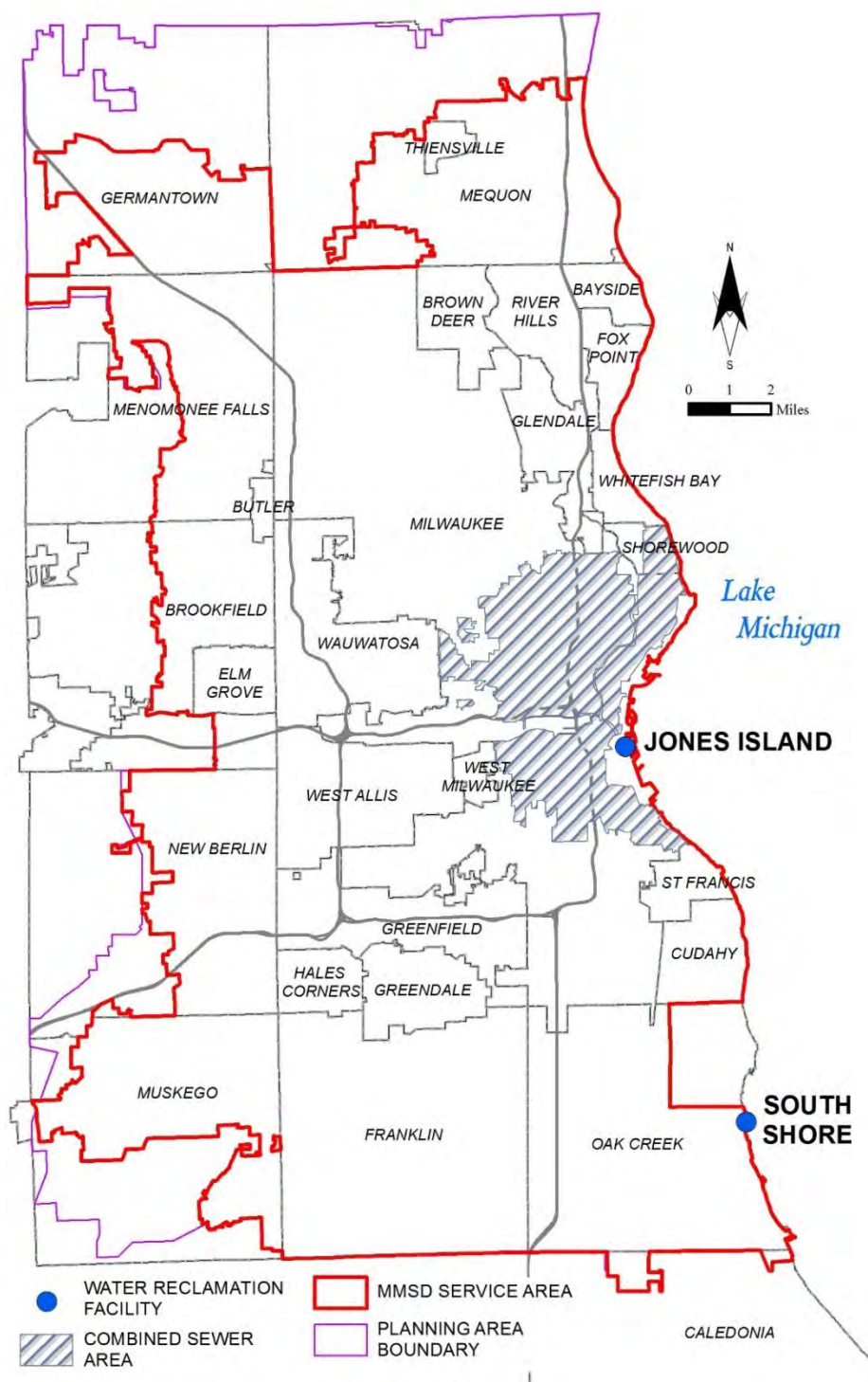
*"When we work together as a Region, we succeed as a Region"*



**PARTNERS FOR A CLEANER ENVIRONMENT**



# Background, Statistical and Supplemental Information



The Milwaukee Metropolitan Sewerage District is a state chartered, governmental agency providing wastewater services for 28 municipalities with a population of about 1.1 million people. The District's chief responsibilities are to provide water reclamation services and to maintain and improve watercourses for nearly all of Milwaukee County, Wisconsin, and portions of municipalities in surrounding counties. While Milwaukee is the 31<sup>st</sup> largest city in the United States, its regional wastewater system is among the largest, most sophisticated, and well run in the country. The District's 412-square-mile planning area includes all cities and villages (except the City of South Milwaukee) within Milwaukee County and 10 municipalities in the surrounding counties of Ozaukee, Washington, Waukesha, and Racine. About 26 square miles, or six percent of the District's planning area, have combined sewers. Approximately 323 square miles, or 78 percent of the planning area, are separate sewer area. The remaining 63 square miles, or 15 percent of the planning area, are considered unsewered; they are within the planning area but have not yet been added to the District's service area.

A 4,033-mile system of local collector sewers and a 302-mile system of District intercepting and main sewers convey wastewater to the two District-owned water reclamation facilities. Additionally, the District owns six miles of combined sewers, 24 miles of near surface collectors, as well as, 25 miles of Inline Storage and seven miles of remote storage that store and convey wastewater for the region.

Wastewater treatment within the District's service area is provided at two District-owned water reclamation facilities. One is the Jones

Island Water Reclamation Facility, which began operations in 1925. The other is the South Shore Water Reclamation Facility, which began operations in 1968. On average, the two water reclamation facilities collect and treat more than 200 million gallons of wastewater each day, and, with a daily capacity of 600 million gallons, they return clean, clear water to Lake Michigan.

In 1926, Jones Island was the first wastewater facility to recycle biosolids by producing an organic fertilizer known as Milorganite®. This commercial fertilizer is sold throughout the United States and Canada for home lawn care as well as for golf courses, country clubs, and other professional grounds.

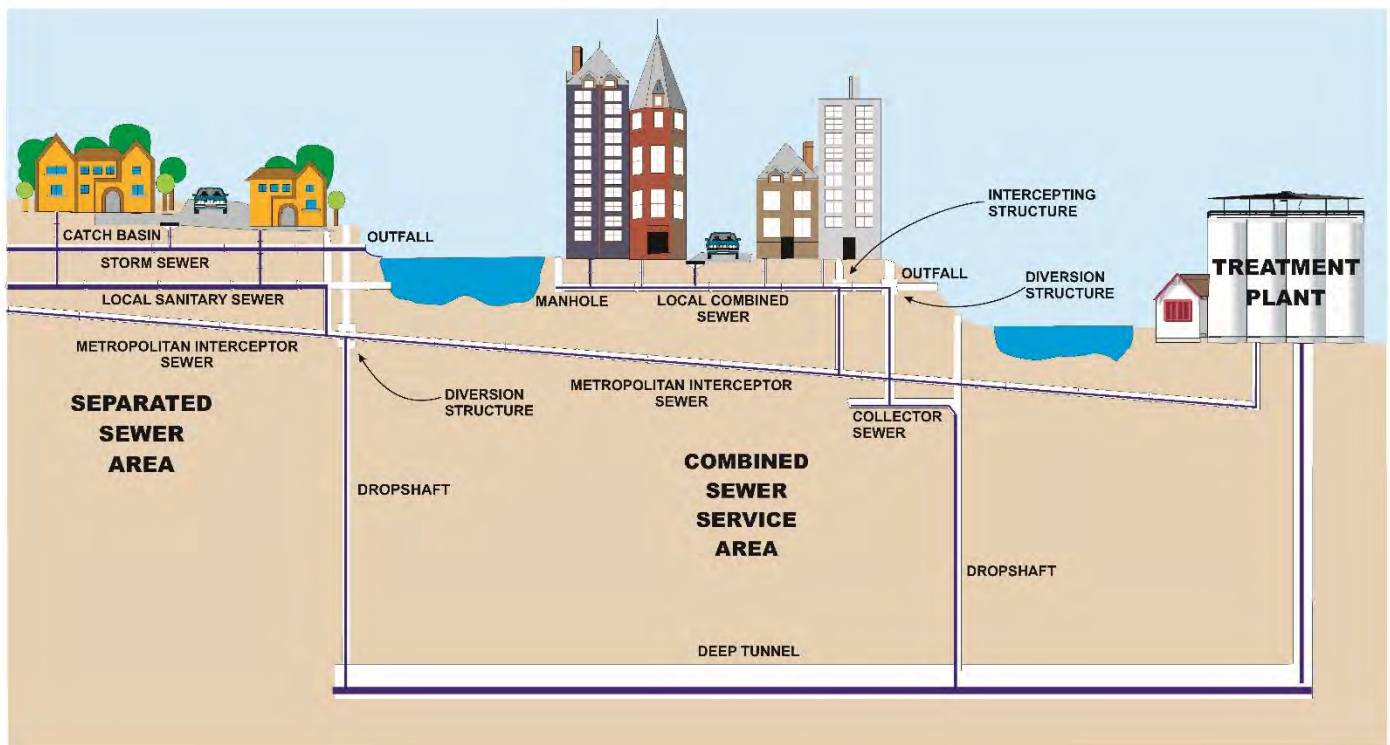
## Governance

The District's governing body is the Milwaukee Metropolitan Sewerage Commission, which is composed of 11 members. Seven commissioners are appointed by the Mayor of the City of Milwaukee and are subject to confirmation by the Common Council. Four commissioners are appointed by the Intergovernmental Cooperation Council of elected officials of cities and villages in the District other than the City of Milwaukee. The Commission establishes and enforces District policies in compliance with statutory responsibility and directs and controls budgetary, administrative, procedural, operational and informational support for the District.

The Commission has two standing committees: the Policy, Finance and Personnel Committee and the Operations Committee. In general, the Policy, Finance and Personnel Committee has jurisdiction over establishment of District policy, financial planning, budget recommendations, award of contracts not related to conveyance, storage and treatment, reporting and audits, personnel matters, labor relations, legal matters and legislation, and public information policies. The Operations Committee has jurisdiction over the operation of the wastewater collection and treatment systems, industrial pretreatment, and contract and bid awards for the District's conveyance, storage and treatment projects.

## Operations

In early 1998, the District approved a ten-year public private partnership agreement with United Water Services (UWS) for operating the District's two water reclamation facilities, bio-solids management, and field operations. The agreement with UWS saved District ratepayers more than \$164 million over the term of the contract. On December 3, 2007, a second ten-year contract was executed with Veolia Water Milwaukee (VWM) effective March 1, 2008. In 2016, the District executed a ten-year extension of the VWM contract, which is in effect from March 2018 through February 2028. The VWM contract provides the District with the lowest cost option to maintain, operate, and manage the District's water reclamation facilities, collection, and conveyance system.







Lake Michigan as seen from Atwater Beach

## District Performance

In order to ensure the District is meeting its mission to cost-effectively protect the quality of the region's water resources, the District measures and monitors its performance in the percent of wastewater that is captured and treated. The percent capture measures how much wastewater the District captures and treats by year, versus the amount that the District releases from its sewers to the area waterways untreated during heavy rain storms to prevent basement backups. The table to the right shows the District's past performance in capturing and treating wastewater.

In 2020 to-date, the District captured and treated **96.2%** of wastewater before returning it to the waterways.

Year	Percent captured and treated
2020 to-date	96.2%
2019	99.3%
2018	98.3%
2017	99.9%
2016	99.8%
2015	98.9%
2014	99.5%
2013	98.5%
2012	99.9%
2011	99.5%
2010	96.2%
2009	98.3%

# Supporting the United Nations Sustainable Development Goals

In 2015, the international community adopted a set of 17 Sustainable Development Goals (SDGs) as part of the United Nations 2030 Agenda for Sustainable Development. The Agenda's 17 SDGs and the associated 169 targets aim at stimulating action through 2030 in areas of critical importance for people and the planet. In order for the goals to be reached, the United Nations asks everyone to do their part, including governments, non-governmental agencies, business, and private citizens.

The District's vision of a healthier, cleaner, resilient region ties to the Sustainable Development Goals and in 2021, the District will emphasize work on the following goals:

## Goal 6: Clean Water and Sanitation

Ensure access to water and sanitation for all

## Goal 7: Affordable and Clean Energy

Ensure access to affordable, reliable, sustainable and modern energy

## Goal 13: Climate Action

Take urgent action to combat climate change and its impacts

## Goal 14: Life below Water

Conserve and sustainably use the oceans, seas and marine resources

## Goal 15: Life on Land

Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

The table on the following page discusses the District's connection to each of the 17 goals, with a green circle indicating a strong tie, yellow a weaker tie, and red no tie. Throughout the 2021 budget book, projects that include work to help achieve the above goals are noted with a Sustainable Development Goals logo.



Sustainable Development Goal	Level of Alignment with MMSD Vision and Goals
1. No Poverty	● No explicit goals, policies, or actions related to this SDG.
2. Zero Hunger	● No explicit goals, policies, or actions related to this SDG.
3. Good Health and Well-Being	● No explicit goals, however, the District promotes open space and the health benefits of green infrastructure in the region. Since healthcare is not a direct responsibility of the District, most of the goals focus on the relationship between health and land use.
4. Education	● Similar to SDG #3, education is not a direct responsibility of the District. The District's Educational Outreach group works with K-12 students to promote environmental literacy.
5. Gender Equality	● No explicit goals, policies, or actions related to this SDG.
6. Clean Water and Sanitation	● The District's mission and vision are directly related to providing and protecting clean water. An extensive set of goals, permit requirements, and measures align with this SDG.
7. Affordable and Clean Energy	● An extensive set of goals, policy objectives, and measurable targets align with this SDG.
8. Decent Work and Economic Growth	● Several broad goals related to economic development are included in the District's policies.
9. Industry, Innovation, and Infrastructure	● The District's Regional Resilience Plan emphasizes the need for building resilient infrastructure.
10. Reduced Inequalities	● No explicit goals, policies, or actions related to this SDG.
11. Sustainable Cities and Communities	● An extensive set of goals, policy objectives, and measurable targets align with this SDG.
12. Responsible Consumption and Production	● The District promotes public procurement practices that are sustainable.
13. Climate Action	● The District's 2035 Vision is directly related to climate change mitigation with an emphasis on energy efficiency. An extensive set of goals, permit requirements, and measures align with this SDG.
14. Life Below Water	● The District's Water Quality Protection division routinely collects data on stormwater and urban runoff as it affects water quality and ecological health. The Sustainability group emphasizes urban biodiversity in its projects.
15. Life on Land	● A small set of goals align with this SDG. Increasing urban biodiversity is a goal of new green infrastructure projects. The Greenseams® program emphasizes the conservation, restoration and sustainable use of land.
16. Peace, Justice, and Strong Institutions	● No explicit goals, policies, or actions related to this SDG.
17. Partnerships for the Goals	● No explicit goals, policies, or actions related to this SDG.

# Other Statistical Information

The District annually evaluates local and national economic trends including price indices, property values, unemployment rates, personal income, and industrial growth rates. The economic trends help the District determine what an affordable user charge rate is for its customers and in turn, future revenue and expenditures.

## Price Indices

### Consumer Price Index

Year	US	Midwest
2019-2020 (1 <sup>st</sup> half)	1.2%	0.7%
2018-2019	1.8%	1.5%

Source: United States Department of Labor, Bureau of Labor Statistics

The District uses price indices to establish or benchmark annual contractual rate increases for some multi-year contracts. The Consumer Price Index (CPI), measures the change in the cost of a bundle of goods and services paid by consumers. In 2019, the national CPI increased 1.8 percent over 2018, and in Midwest CPI increased 1.5 percent. National CPI for the first half of 2020 is has increased 1.2 percent over the first half of 2019.

### Employment Cost Index

Year	US
2019-2020 (1 <sup>st</sup> half)	2.7%
2018-2019	2.7%

The Employment Cost Index (ECI) is a quarterly measure of the change in the price of labor, defined as compensation per employee hour worked. The index measures changes in the cost of compensation not only for wages and salaries, but also for a list of benefits. Compensation costs for civilian workers increased 2.7 percent for the 12-month period ending in June 2020 and also increased 2.7 percent in June 2019.

### Construction Cost Index and Building Cost Index

Year	Average	Average
	CCI	BCI
2018	2.0%	1.9%
2017	3.9%	3.5%
2016	2.3%	3.0%

The District also uses construction price indices to plan its capital expenditures. The Engineering News Record (ENR) is a magazine that publishes cost data for 20 major U.S. cities. The Construction Cost Index (CCI) and the Building Cost Index (BCI) measure the change in construction costs. Both indices have a materials and labor component. The CCI can be used where labor costs are in high proportion of total costs, whereas the BCI is useful for structures.

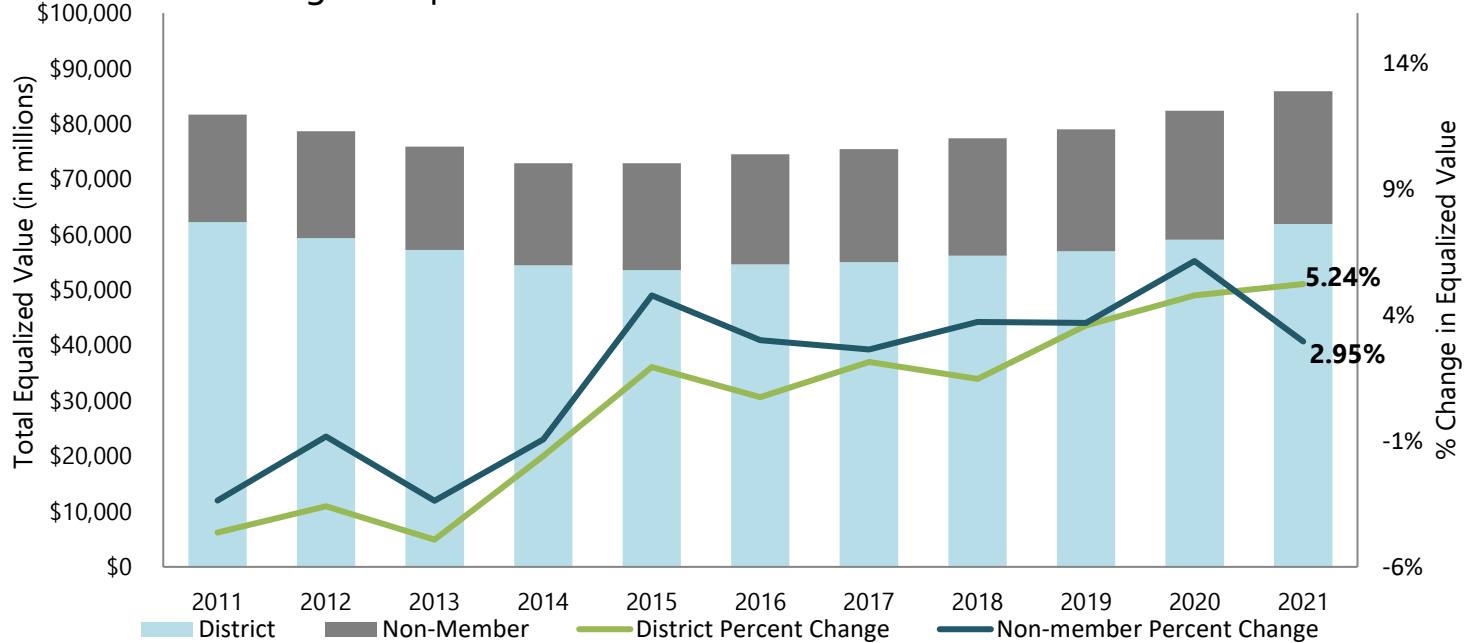




## Property Values

Property values are one of the region's most critical indicators of economic health. According to the Greater Milwaukee Association of Realtors, home prices in the four-county Milwaukee area through the second quarter of 2020 rose 8.1 percent.<sup>1</sup>

### 2011-2021: Change in Equalized Value



The District levies taxes on households based on equalized property values to fund its capital projects. Equalized values are calculated annually to ensure statewide fairness and equity in distributions based on property values. In 2021, the total equalized values in the District's service area are estimated to increase approximately 5.2 percent for member communities and increase 2.95 percent for non-member communities.

## Unemployment Rate

### Annual Unemployment Rate

Year	US	WI	Milwaukee-Waukesha-West Allis MSA
2020 First Half	11.1%	8.5%	10%
2019	3.7%	3.3%	3.5%
2018	3.9%	3.0%	3.2%

The COVID-19 pandemic severely disrupted the world, US, and Wisconsin economies. According to the State of Wisconsin Department of Revenue, unemployment rates peaked in April 2020, and Wisconsin employment is expected to decline 7.5 percent in 2020.

Source: For national, Wisconsin, and Milwaukee-Waukesha-West Allis MSA data: U.S. Bureau of Labor Statistics (July 2020).

## Personal Income

Personal income is the total income of all persons from all sources. The following table shows annual changes in personal income for the United States and Wisconsin.

Year	US	WI
2020 Q1	2.3%	2.5%
2019	4.4%	4.0%
2018	5.6%	5.1%

Wisconsin personal income grew 4.0 percent in 2019, compared to 4.4 percent nationwide. According to the Wisconsin Department of Revenue, Wisconsin personal income growth will slow to 2.2 percent in 2020 and 0.9 percent in 2021, as the fiscal stimulus fades.

Source: US Bureau of Economic Analysis

<sup>1</sup> Williams, Nick. "Home sale prices in southeast Wisconsin jumped double digits in June." *Milwaukee Business Journal Sentinel*, 13 July 2020.

# The District's Financial Performance

Credit rating agencies repeatedly award high ratings to the District. Such highly acclaimed financial performance is the result of developing and adhering to financial policies geared toward ensuring the District's continued financial strength. Each bond rating agency has published guidelines and examples of sound financial practices normally associated with strong credit quality. One example of such a list is the Standard and Poor's Top 10 Management Characteristics. The table below demonstrates the District's achievement of these standards.

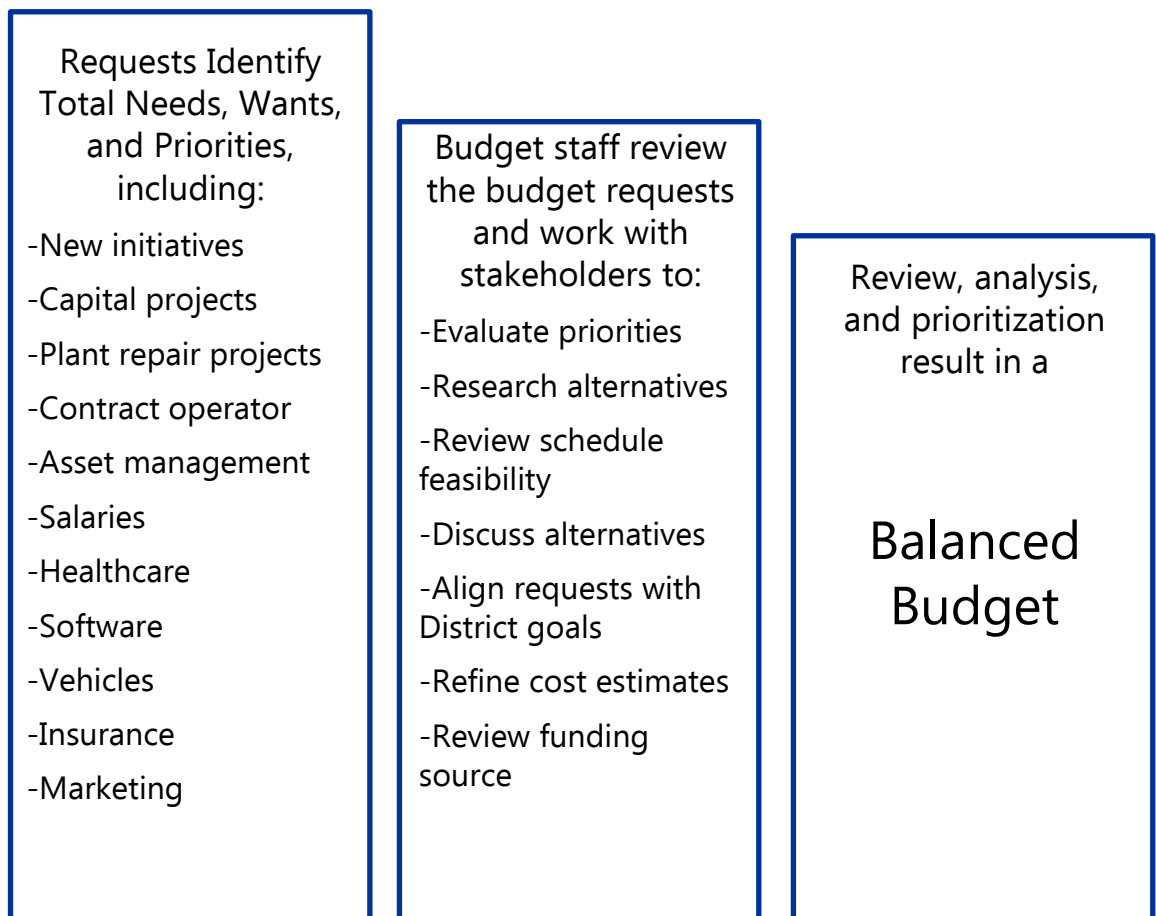
Top Ten Management Characteristics			District Performance
1	An established rainy day/budget stabilization reserve.	✓	<ul style="list-style-type: none"> <li>The District maintains two reserve funds: the User Charge Stabilization Fund and the Equipment Replacement Fund</li> </ul>
2	Regular economic and revenue reviews to identify shortfalls early.	✓	<ul style="list-style-type: none"> <li>Cost center managers review monthly variance reports</li> <li>Quarterly variance reviews are prepared and discussed for both the O&amp;M and Capital Budgets</li> <li>Quarterly financial statements are prepared and distributed</li> </ul>
3	Prioritized spending plans and established contingency plans for operating budgets.	✓	<ul style="list-style-type: none"> <li>Annual budget process prioritizes needs.</li> <li>Annual operating contingency established through the Unallocated Reserve.</li> </ul>
4	A formalized capital improvement plan in order to assess future infrastructure requirements.	✓	<ul style="list-style-type: none"> <li>Annual budget includes a six-year capital improvement program, including a long-range financing plan.</li> </ul>
5	Long-term planning for all liabilities of a government, including pension obligations, other post-employment benefits and other contingent obligations would be optimal and allow for assessment of future budgetary risks.	✓	<ul style="list-style-type: none"> <li>Financial statements are presented on the accrual basis of accounting.</li> <li>Expenses are recorded when liabilities are incurred.</li> <li>Since 1993, the District has recorded and disclosed its unfunded obligations for retiree health and life insurance.</li> </ul>
6	A debt affordability model in place to evaluate future debt profile.	✓	<ul style="list-style-type: none"> <li>The District's intent is to keep outstanding debt to no more than 2.5 percent of its equalized property value. The 2.5 percent limit is half of the amount allowed by Wisconsin Law.</li> <li>No more than 15 percent of its outstanding general obligation bonds are in variable rate form.</li> <li>Advance refunding for economic savings is undertaken only when net present value savings of at least two percent of refunded debt can be achieved.</li> </ul>
7	A pay-as-you-go financing strategy as part of the operating and capital budget.	✓	<ul style="list-style-type: none"> <li>Capital Budget complies with a 25 percent cash financing objective.</li> <li>The District has never issued debt to fund its O&amp;M expenditures.</li> </ul>
8	A multiyear financial plan in place that considers the affordability of actions or plans before they are part of the annual budget.	✓	<ul style="list-style-type: none"> <li>The Capital Budget includes a Long-Range Financing Plan.</li> <li>Budget staff prepare a six-year forecast of revenues and expenditures for internal decision making.</li> </ul>
9	Effective management and information systems.	✓	<ul style="list-style-type: none"> <li>The District uses an integrated core financials management system and other program-specific systems that capture and report critical operating information.</li> </ul>
10	A well-defined and coordinated economic development strategy.	✓	<ul style="list-style-type: none"> <li>The District regularly communicates with member communities and the top 20 industrial users regarding the District's financial decisions and the impact on District customers.</li> <li>The District's user charge and tax rates are competitive on a national basis.</li> <li>The District fully supports its Small, Women-, and Minority Owned Business Enterprise procurement policy.</li> <li>The District provides a Workforce and Business Development Resource Program.</li> <li>The District uses a local workforce preference policy whenever applicable.</li> </ul>

# Financial Planning

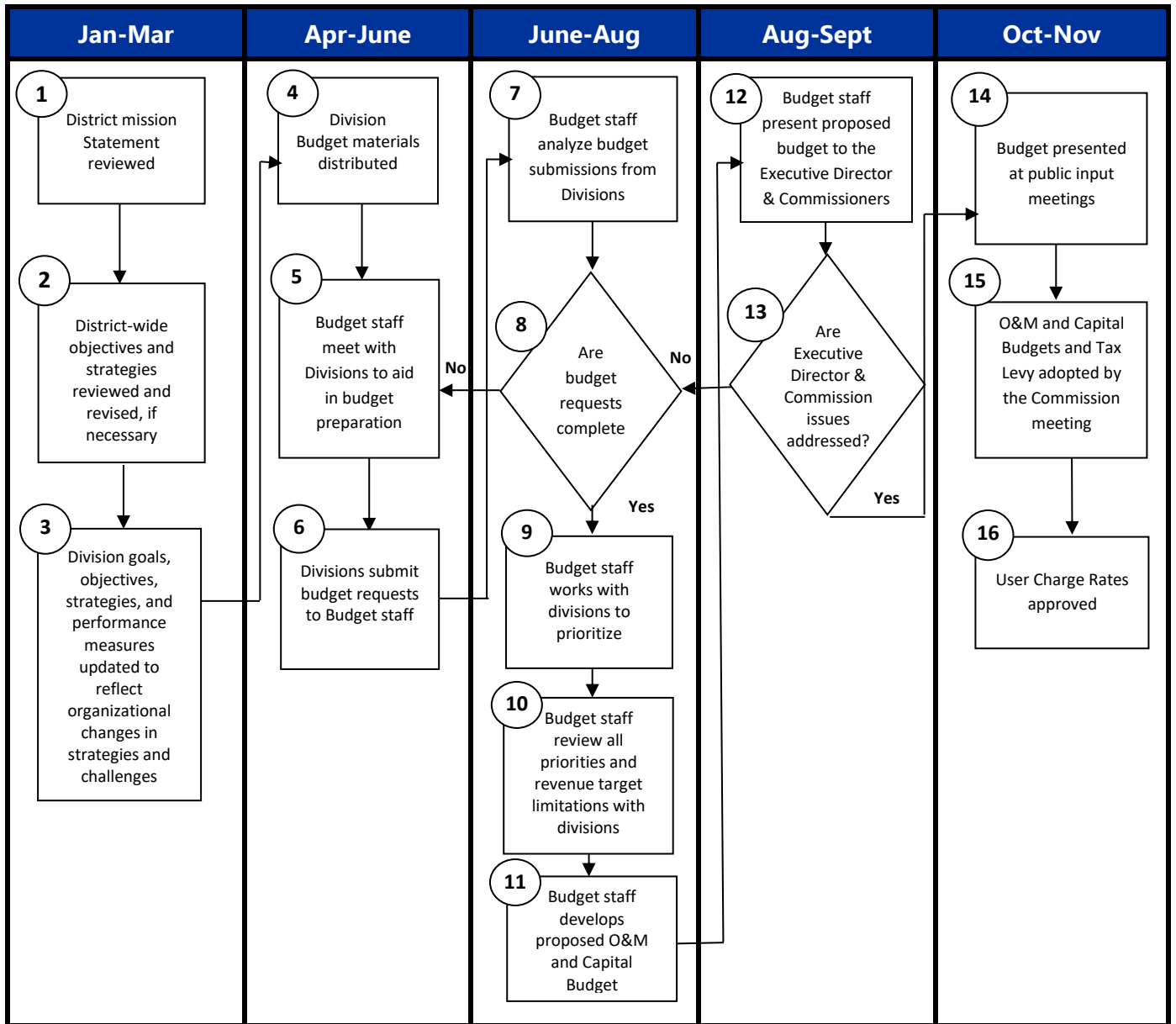
Just as strategic planning identifies objectives and strategies, financial planning identifies financing scenarios and alternatives for the strategic programs and other action items. A long-term forecast is prepared for both the Operations and Maintenance (O&M) and the Capital Budgets.

## The Budgeting Process

First, the Budget staff begin financial planning by developing preliminary scenarios for anticipated revenues and expenditures and make a recommendation to the Executive Director regarding funds that will be available in the upcoming year for expenditures funded through the O&M Budget. At the same time, projections of capital spending and new capital project requests are identified by the requesting divisions. These capital expenditures are incorporated into a similar process to ensure that priorities are identified, and financial goals are achieved. Both the O&M and Capital budgets are analyzed over the summer, and proposed budgets are developed for the Executive Director to present to the Commission for adoption. Requested amendments to the proposed documents are reviewed and incorporated if the Commission approves them. The budgets and tax levy are adopted in October or November. The user charges are adopted in November. The following graphic depicts the District's budget planning process and shows the linkage between strategic planning and financial planning.



# Budget Review & Adoption Calendar



DATE	TIME	ACTIVITY
Tuesday, April 14, 2020	2:30 pm	Budget Kick-Off
Friday, May 22, 2020	5:00 pm	Budget Requests Due
Throughout May and June		Staff analyze requests and begin to develop long-range financing plan and forecast
Monday, June 22, 2020	9:00 am	Capital and Operations & Maintenance Budget update to Commission
Monday, July 27, 2020	9:00 am	Capital and Operations & Maintenance Budget update to Commission
Friday, September 4, 2020	9:00 am	Distribute Budget to Commissioners
Monday, September 28, 2020	6:00 pm	Public Hearing on Budgets
Friday, October 9, 2020	5:00 pm	Budget Amendments Due
Monday, October 12, 2020	8:30 am	Public Hearing on Budgets
TBD		User Charge Ad Hoc Committee meets
Monday, October 26, 2020	9:00 am	Commission Adopts Budgets & Tax Levy Adopted
TBD		User Charge Billing Rates Set



# District Fund Structure

The District prepares its financial statements and budgets on an enterprise fund basis. The District's operating expenses are funded within the Operations and Maintenance (O&M) Budget, and the long-term capital expenditures are funded within the Capital Budget. The funding sources for the two budgets are different.

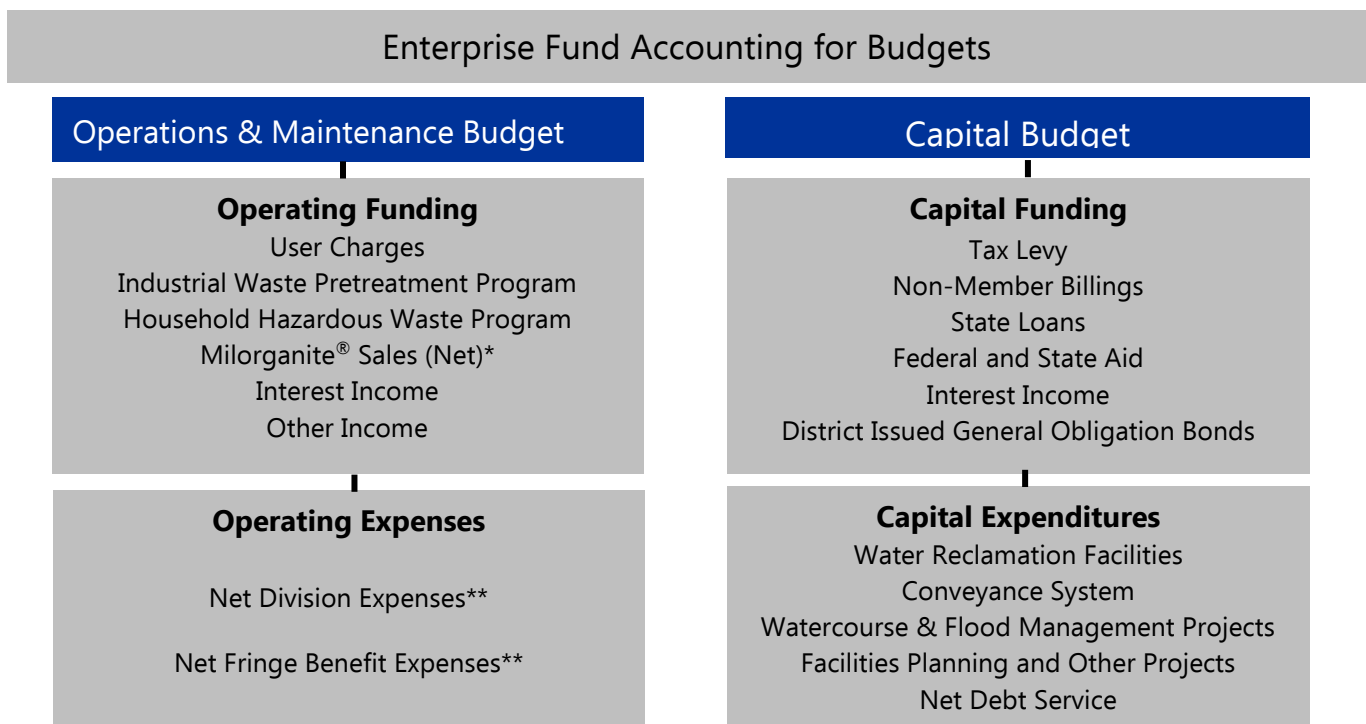
The District's enterprise fund is used to account for operations that are 1) financed and operated in a manner similar to a private business enterprise – where costs of providing public goods or services on a continuing basis are financed or recovered primarily through user charges and cost recovery programs, and 2) for which the District relies on taxes, non-member billings, federal and state aid, loans, and District-issued bonds which support the capital improvements program.

The District, in accordance with Generally Accepted Accounting Principles (GAAP), reports categories of net position that indicates the accessibility of the underlying resources. Net Position, per GASB 63 represents the equity of full accrual statements. The three portions of net position are net investment in capital assets, net position-restricted, and net position-unrestricted.

Restricted balances consist of constraints placed on net position that are legally restricted by outside parties or by law through constitutional provisions or enabling legislation. Unrestricted balances consist of net position that does not meet the definition of restricted or net investment in capital assets and reflect the net accessible resources of the fund.

As of December 31, 2019, per the District's most recent audited Comprehensive Annual Financial Report, the District has a total net position for its enterprise fund of \$2.5 billion. Total Net Position is comprised of:

- \$2.5 billion investment in capital assets, net of related accumulated depreciation and outstanding debt (the debt is reduced by the unspent debt proceeds) ;
- \$60.1 million is restricted for the District's capital improvement projects and programs (see capital budget for further explanation on capital programs);
- \$8.2 million is restricted for debt service, and
- \$15.4 million is restricted for replacement of qualified machinery and equipment and is required to be maintained by federal and state regulatory agencies.
- (\$91.2 million) is in unrestricted. The negative unrestricted amount is the result of the District electing to fund its long-term liability related to post-retirement health and life insurance as it comes due rather than when it is incurred. The unfunded actuarial accrued liability is \$138.4 million at December 31, 2019, amortized as a level dollar amount and over 20 years.



\* Milorganite® revenue is reported net of discounts, rebates, fees, discount, freight, etc.

\*\* Net operating expenses are reported after charges to the capital budget have been subtracted.

# Operations and Maintenance & Capital Budgeting

Item	Operations and Maintenance	Capital
Sources of Funds	User Charges, Net Revenue from Milorganite <sup>®</sup> sales, Interest Income, Surplus Applied, User Charge Stabilization Fund Applied, and other operating income.	Tax Levy and Nonmember Billings, Loans and Bonds, Federal and State Aid, Interest and Other, Uses of Funds on Hand, and all other capital income.
Use of Funds	Net Division Expenses and All Other Operating Expenses.	Total Project & Program Expenses and Net Debt Service.
Budgetary Basis of Accounting	Actual revenues and expenses are recorded on a full accrual basis in accordance with Generally Accepted Accounting Principles. Revenues and expenses are budgeted on a full accrual basis, with the exception of capital outlays. These are budgeted as an expense in the year incurred but capitalized and depreciated for financial reporting purposes.	For financial reporting, actual revenues and expenses are recorded on a full accrual basis in accordance with Generally Accepted Accounting Principles. Revenues are budgeted on a cash basis. Because the Capital Budget serves as a financing plan, it is important to plan when revenues are received rather than when they are earned.
Basis for Expenses	Expenditures for repairs and maintenance on assets, which allow these assets to continue to be used during their originally established useful life; including those expenditures that do not extend the life of the asset at least 10 years or are less than \$25,000. This includes costs of controlling, operating, managing or maintaining the sewerage system. Projects occur on District owned areas do not require a conservation easement.	Costs of acquiring, purchasing, adding to, leasing, planning, designing, constructing, extending and improving all or any part of a sewerage system and of paying principal, interest or premiums on any indebtedness incurred for these purposes if a project is greater than \$25,000. If a green infrastructure project is to occur on areas not District owned, a minimum 10-year conservation easement on the property will be required.
New	Service life is less than 10 years.	Improvement and a life greater than 10 years. Installation of equipment or components that have new or improved materials and/or provide new or improved technology. Existing assets are no longer supported by the manufacturer, so an in-kind replacement is unavailable.
Replacement	The Equipment Replacement Fund may be used for machinery and equipment with a cost greater than \$25,000 and a service life between 10 and 20 years.	Cost greater than or equal to \$25,000 and a service life greater than 20 years for a replacement in-kind asset. Work & expenditures of major system assets or components that will extend the life of an asset funded originally from the capital budget for an additional 10 years or greater.

# 2021 Combined Summary of Revenues and Expenditures

(Dollars in Thousands)

	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Adopted Budget	% Change from 2020 Adopted
<b>Operations &amp; Maintenance</b>						
User Charge Billings	\$83,698	\$86,871	\$82,871*	\$87,775	\$904	1.0%
Milorganite® Sales (Net)	11,851	10,400	11,925	11,850	1,450	13.9%
All Other Operating Income	4,513	6,329	3,648	3,598	(2,731)	-43.1%
User Charge Stabilization Fund Applied (or Contribution)	0	2,500	2,500	500	(2,000)	-80.0%
Equipment Replacement Fund Applied (or Contribution)	(309)	(300)	(300)	(110)	190	-63.3%
IWPP Fund Applied (or Contribution)	59	0	0	0	0	0.0%
Surplus Applied	6,027	5,222	5,222	3,136	(2,085)	-39.9%
<b>Total Operations &amp; Maintenance Funding</b>	<b>105,840</b>	<b>111,022</b>	<b>105,866</b>	<b>106,749</b>	<b>(4,273)</b>	<b>-3.8%</b>
<b>Capital</b>						
Tax Levy	100,101	101,853	101,854	102,873	1,019	1.0%
Non-member Billings	29,992	28,419	27,395	27,686	(733)	-2.6%
Federal and State Aid	4,182	2,419	1,580	3,730	1,312	54.2%
State Loans	17,202	49,024	15,313	37,437	(11,587)	-23.6%
Interest and Other Income	4,959	2,526	4,383	119	(2,407)	-95.3%
District Bonds	0	80,000	145,313	46,000	(34,000)	-42.5%
Use of (Additions to) Available Funds	42,300	(37,093)	(33,853)	288	37,381	-100.8%
<b>Total Capital Funding</b>	<b>198,736</b>	<b>227,148</b>	<b>261,985</b>	<b>218,133</b>	<b>(9,014)</b>	<b>-4.0%</b>
<b>Total Funding</b>	<b>\$304,576</b>	<b>\$338,170</b>	<b>\$367,851</b>	<b>\$324,883</b>	<b>(\$13,287)</b>	<b>-3.9%</b>
<b>Expenditures</b>						
<b>Operations &amp; Maintenance</b>						
Net Division Expenditures	87,534	96,911	89,813	95,059	(1,852)	-1.9%
Net Fringe Benefit Expenditures	9,942	11,935	9,238	9,597	(2,337)	-19.6%
Unallocated Reserve	0	2,177	0	2,093	(84)	-3.8%
<b>Total Operations &amp; Maintenance Expenditures</b>	<b>\$97,475</b>	<b>\$111,022</b>	<b>\$99,052</b>	<b>\$106,749</b>	<b>(\$4,273)</b>	<b>-3.8%</b>
<b>Capital</b>						
Water Reclamation Facilities	38,155	50,509	64,555	43,850	(6,659)	-13.2%
Conveyance Facilities	5,641	13,045	10,733	16,118	3,072	23.6%
Watercourse & Flood Mgmt Projects	21,753	16,977	19,452	14,712	(2,265)	-13.3%
Other Projects & Programs	24,591	34,992	31,824	31,452	(3,540)	-10.1%
Debt Service	108,596	111,625	135,421	112,002	377	0.3%
<b>Total Capital Expenditures</b>	<b>198,736</b>	<b>227,148</b>	<b>261,985</b>	<b>218,133</b>	<b>(9,014)</b>	<b>-4.0%</b>
<b>Total Expenditures</b>	<b>\$296,212</b>	<b>\$338,170</b>	<b>\$361,037</b>	<b>\$324,883</b>	<b>(\$13,287)</b>	<b>-3.9%</b>

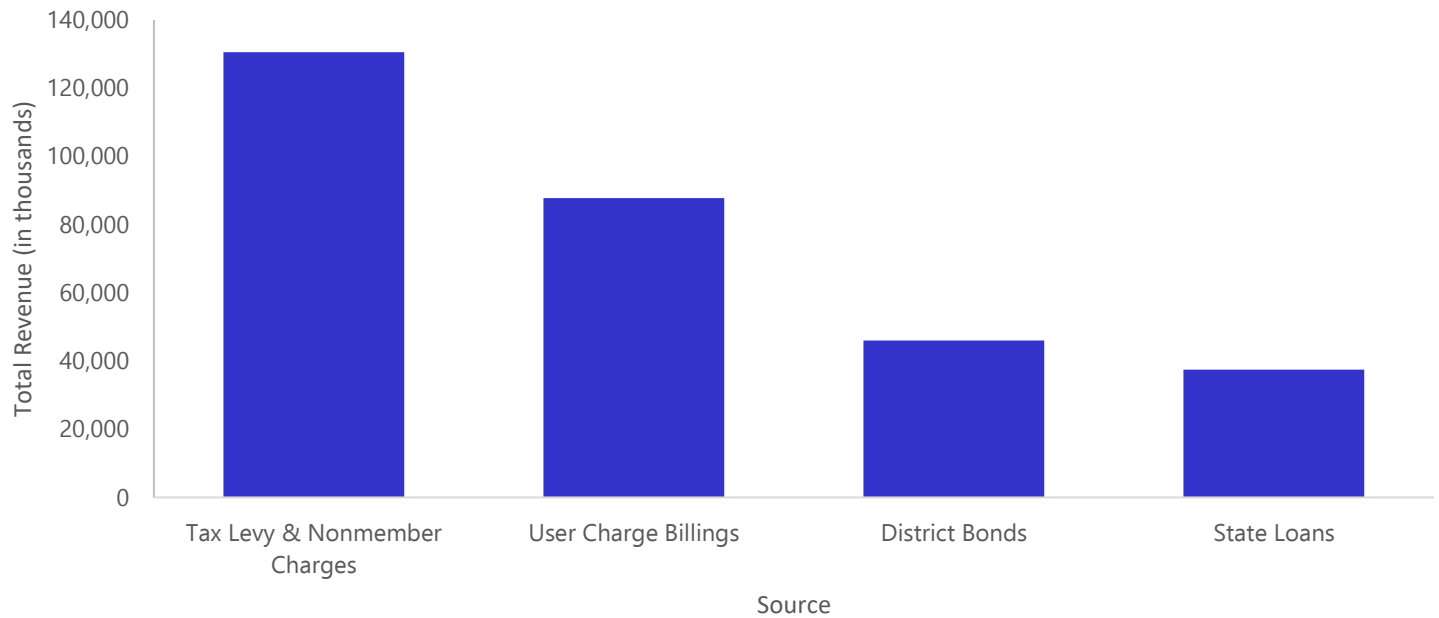
2020 estimate is as of second quarter 2020

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

\*A lag exists in the submittal of waste load data from municipalities that is used for user charge billings purposes. This estimate is currently a 5% reduction and is a scenario for planning. To-date, user charge revenues are in-line with 2019 actuals and 2020 budgeted levels.

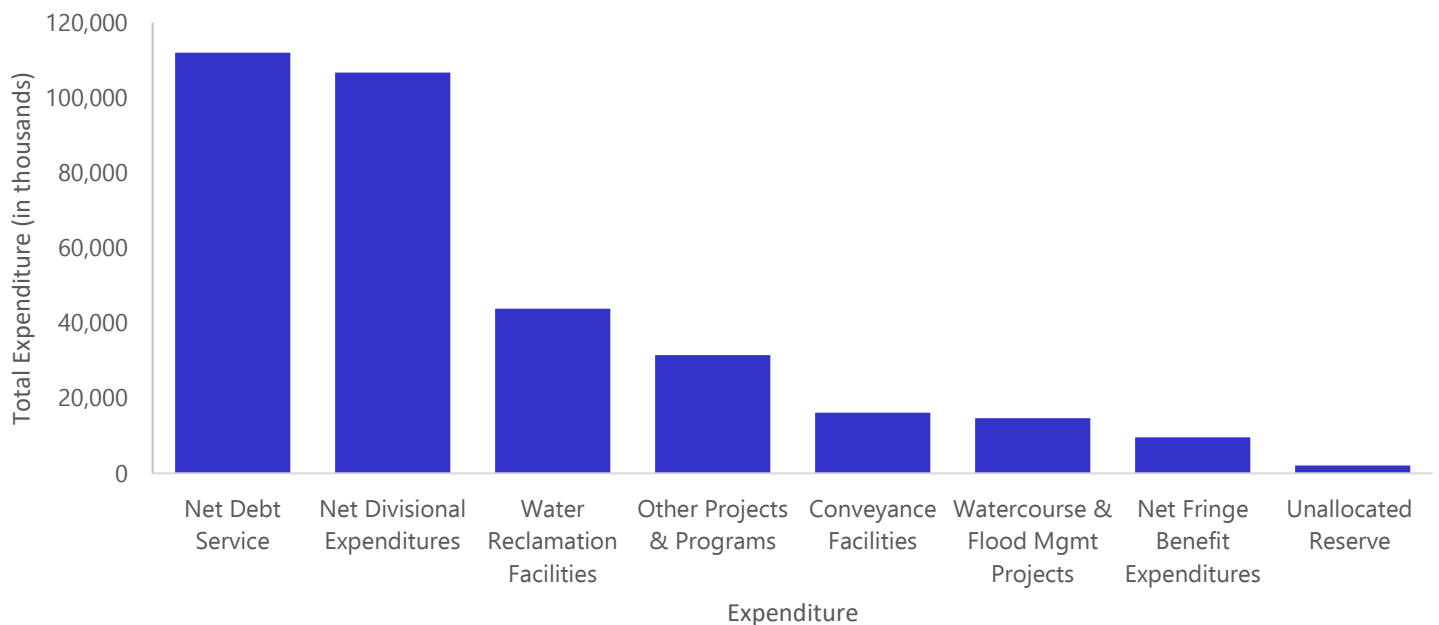
The District’s 2021 combined budget totals approximately \$324.9 million. As seen in the following chart, the primary sources of funds in the 2021 combined budgets are the tax levy, non-member billings, and user charge billings.

## 2021 Combined Summary of Revenue



On the expenditure side, the Capital Budget again comprises the majority of the 2021 combined budget with net debt service, water reclamation facilities, watercourse and flood management, other projects and programs, and conveyance project expenditures totaling 67.1 percent. The net divisional and fringe benefit expenditures, which include operations of the District facilities, are 32.2 percent of the combined expenditures.

## 2021 Combined Summary of Expenditures





## 2021 Operations & Maintenance Budget

The Operations & Maintenance (O&M) Budget provides a framework to implement and accomplish District priorities that support its mission of environmental stewardship and sustainability. The majority of the Operations & Maintenance Budget is targeted towards operations of wastewater reclamation facilities and controlling point and non-point sources of pollution. This budget enables the District to continue its high standard of performance in protecting water resources at levels higher than permit requirements.

### REVENUES

In the 2021 O&M Budget, the District anticipates \$106.7 million in sources of funds. This includes user charge billings, net revenue from Milorganite® fertilizer sales, interest and other income, two cost recovery programs, the return of a 2019 surplus, and the use of reserves. The primary source of revenue for O&M expenditures is the user charge billings. In 2021, user charge billings are budgeted at \$87.8 million, a 1.0 percent increase from the 2020 budget.

In the 2021 O&M Budget, total revenue decreases \$4.3 million or 3.8 percent from the 2020 budget.

### EXPENDITURES

A majority of the District's expenditures are related to the Veolia Water Milwaukee (VWM) contract for operations and maintenance of District water reclamation facilities and conveyance system. The VWM operations and maintenance fee comprises approximately 46.7 percent of the 2021 O&M Budget. In addition to the contract cost, the District is also responsible for 75 percent of all energy costs under this contract. Combined with the utility fee paid to VWM, energy expenditures are approximately 8.9 percent of the O&M Budget.

Total expenditures are decreasing 3.8 percent from the 2020 budgeted level.



## Capital Expenditures Impact on the Operating Budget

The District undertakes life-cycle costing in the analysis of capital projects. This includes, when possible, what the change in the O&M costs will be following the completion of each capital project, and carefully considering those costs in deciding which projects move forward in the Capital Improvement Program (CIP). When CIP undertakes new initiatives or new technologies, it is more likely to result in new O&M expenditures or incremental changes to ongoing O&M expenditures. Many capital projects replace or improve existing infrastructure and might have minimal change to the O&M budget. In capital project summaries, the O&M impact section will describe the changed condition, start date, and annual budget impact.

O&M expenditures resulting from the completion of capital projects may be budgeted in expenditures for the Veolia Water Milwaukee contract or in District division budgets.

## Guide to the 2021 O&M Budget

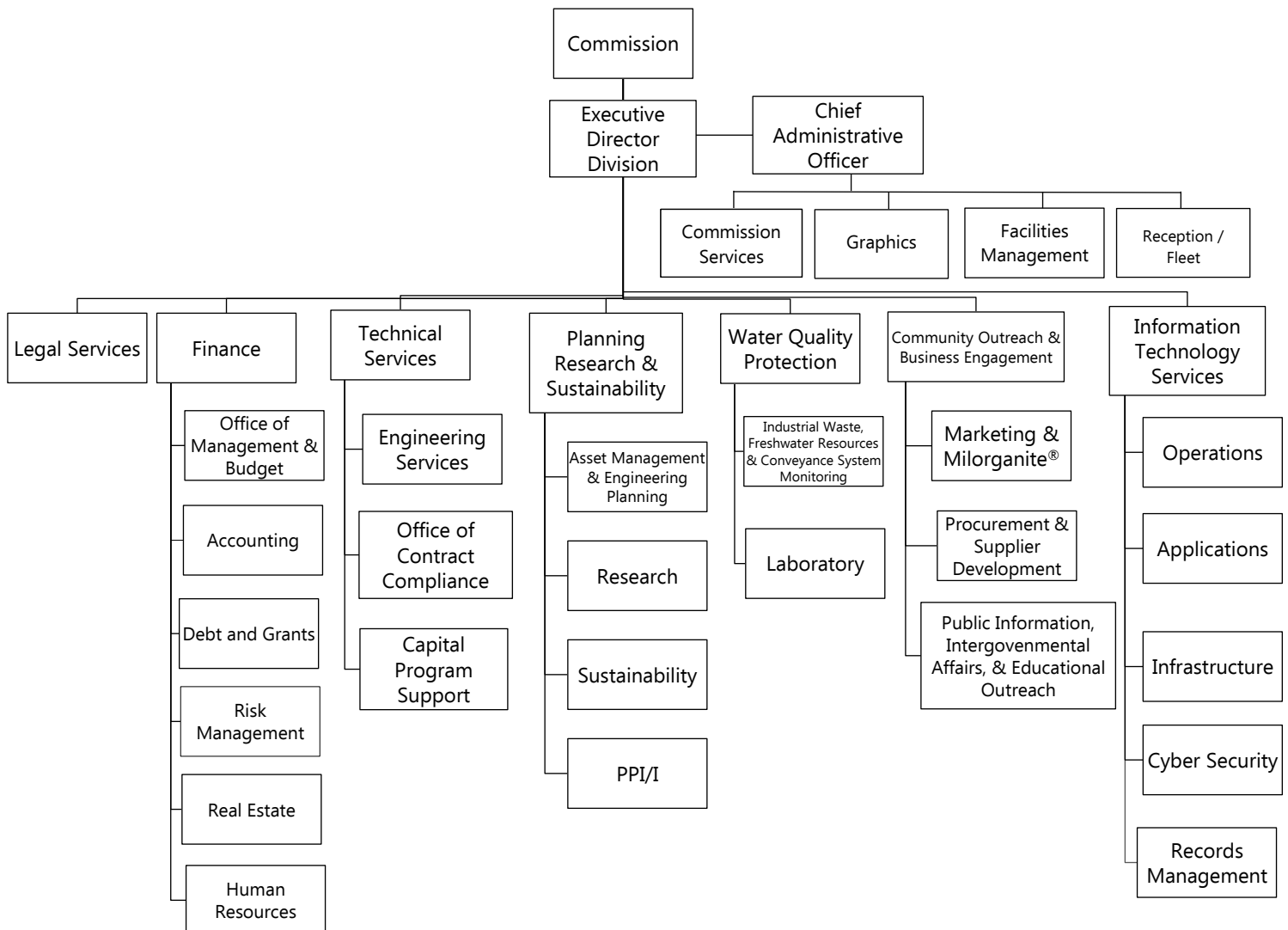
Concluding the O&M Summary are a series of charts and graphs providing an overview of the 2021 O&M Budget's organizational structure and staffing levels, District revenues and expenditures, and division and cost center expenditures. The Sources of Funds section discusses each of the District's O&M revenues. The Budget describes each revenue source's historical data, changes in funding levels, and trends that affect the revenue source. The Division Summaries discuss the District's operating divisions: the Commission, the Office of the Executive Director; Legal Services; Finance and Human Resources Division; Technical Services Division; Planning, Research, & Sustainability Division; Water Quality Protection Division; the Division of Community Outreach and Business Engagement; and Information Technology Services. These summaries provide the detail of the division's structure, mission and services, budgeted expenditures, and staffing levels. The final section, Other Expenditures, provides detailed information about the District's Fringe Benefits, Division Expense Adjustments, and the Unallocated Reserve.



In December 2019, District staff hold an open house to connect with stakeholders on new projects.

## Milwaukee Metropolitan Sewerage District Organizational Chart

Below is the District's organization chart. Each division's narrative includes a detailed explanation of the responsibilities of each functional area.



## Summary of Authorized Staffing by Division

Divisions	2019 Budget	2020 Budget	2021 Budget	Change from 2020
<b>Commission</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Office of the Executive Director <sup>1</sup>	7	7	8	1
Human Resources	4	0	0	0
Facilities	4	4	4	0
<b>Executive Director</b>	<b>15</b>	<b>11</b>	<b>12</b>	<b>1</b>
Information Technology Services	20	20	20	0
Records	3	3	3	0
<b>Information Technology Services</b>	<b>23</b>	<b>23</b>	<b>23</b>	<b>0</b>
Legal Services	7	6	6	0
<b>Legal Services</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>0</b>
Finance	19	19	19	0
Human Resources	0	4	4	0
<b>Finance and Human Resources</b>	<b>19</b>	<b>23</b>	<b>23</b>	<b>0</b>
Office of Contract Compliance	9	10	10	0
Capital Program Support <sup>2</sup>	37	36	36	0
Engineering Services <sup>3</sup>	20	20	23	3
<b>Technical Services</b>	<b>66</b>	<b>66</b>	<b>69</b>	<b>3</b>
Planning, Research & Sustainability	23	25	25	0
<b>Planning, Research &amp; Sustainability</b>	<b>23</b>	<b>25</b>	<b>25</b>	<b>0</b>
Industrial Waste & Conveyance Monitoring	39	39	39	0
Central Laboratory	23	23	23	0
<b>Water Quality Protection</b>	<b>62</b>	<b>62</b>	<b>62</b>	<b>0</b>
Marketing and Milorganite®	6	7	7	0
Procurement & Supplier Development	7	6	6	0
Public Information, Intergov. Affairs, and Educational Outreach	6	5	5	0
<b>Community Outreach &amp; Business Engagement</b>	<b>19</b>	<b>18</b>	<b>18</b>	<b>0</b>
<b>Total District</b>	<b>234</b>	<b>234</b>	<b>238</b>	<b>4</b>

Note: Commissioners are not included in this table

### Explanation of Changes to Divisions and Authorized Staffing

1. In mid-2020, the Office of the Executive Director cost center created a new Senior Project Manager position.
2. In the 2021 budget, one vacant Engineering Aide position is eliminated and one Senior Project Manager – Resident Engineer position is created.
3. In the 2021 budget, the Engineering Services cost center includes three new positions, two Project Managers to help with cross training and succession planning and one new Project Manager to work on Watercourse projects.



## 2021 O&M Revenues and Expenditures

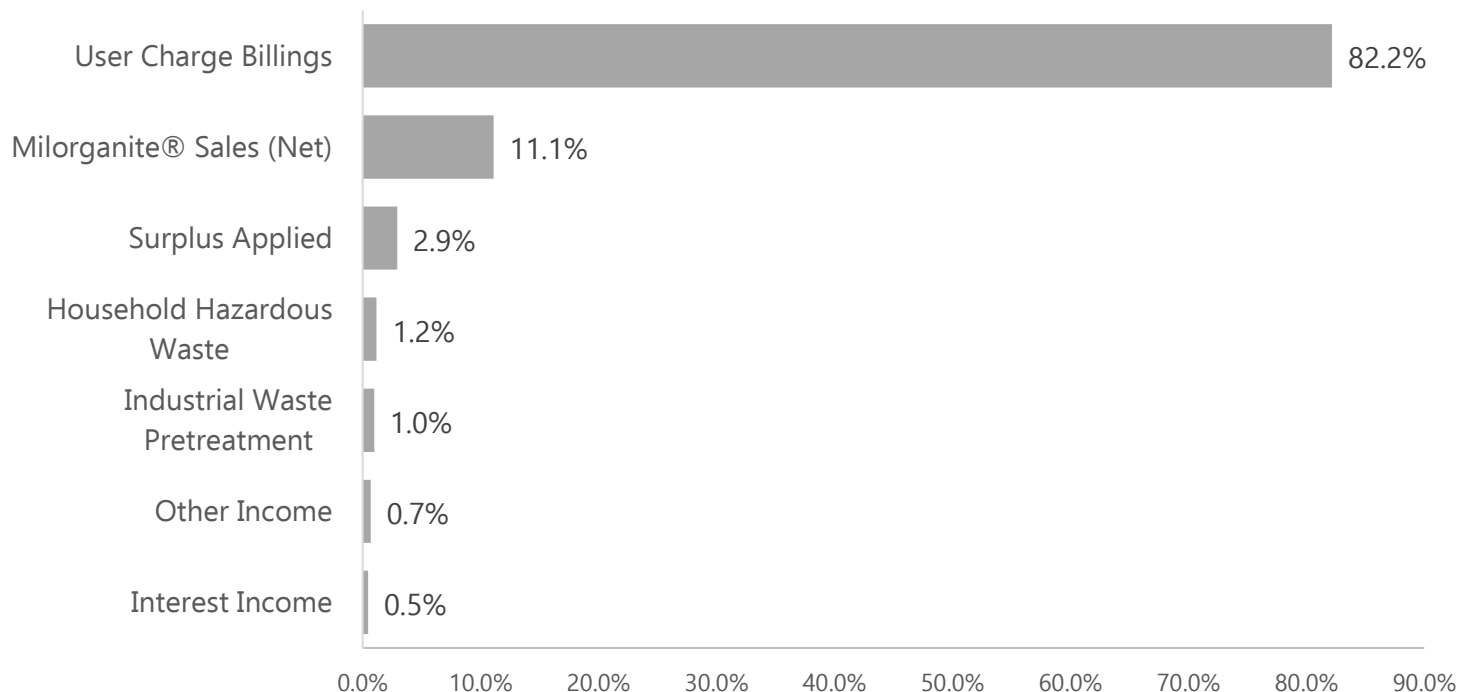
	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Adopted Budget	% Change from 2020 Adopted Budget
<b>Revenues</b>						
User Charge Billings	\$83,698,485	\$86,871,306	\$82,871,306*	\$87,774,811	\$903,505	1.0%
Milorganite® Sales (Net)	11,851,432	10,400,000	11,925,375	11,850,000	1,450,000	13.9%
Interest Income	1,146,310	1,000,000	500,000	500,000	(500,000)	-50.0%
Other Income	918,750	3,043,895	960,358	735,000	(2,308,895)	-75.9%
Household Hazardous Waste	1,343,659	1,258,850	1,057,850	1,254,471	(4,380)	-0.3%
Industrial Waste Pretreatment	1,103,972	1,026,310	1,129,530	1,108,669	82,359	8.0%
Total Operating Revenue	100,062,608	103,600,361	98,444,419	103,222,951	(377,411)	-0.4%
<b>Reserves and Surplus</b>						
Equipment Replacement Fund						
Applied (or Contribution)	(308,802)	(300,000)	(300,000)	(110,000)	190,000	-63.3%
User Charge Stabilization Fund						
Applied (or Contribution)	0	2,500,000	2,500,000	500,000	(2,000,000)	-80.0%
IWPP Stabilization Fund Applied	59,000	0	0	0	0	0.0%
Surplus or Deficit Applied	6,027,340	5,221,920	5,221,920	3,136,432	(2,085,488)	-39.9%
Total Reserves and Surplus	5,777,538	7,421,920	7,421,920	3,526,432	(3,895,488)	-52.5%
<b>Total Funding</b>	<b>\$105,840,146</b>	<b>\$111,022,281</b>	<b>\$105,866,339</b>	<b>\$106,749,383</b>	<b>(\$4,272,899)</b>	<b>-3.8%</b>
<b>Expenditures</b>						
<b>Divisions</b>						
Commission	207,197	232,582	230,489	231,882	(700)	-0.3%
Office of the Executive Director	3,066,516	2,233,002	2,060,808	2,265,304	32,302	1.4%
Information Technology Services	4,406,999	4,641,773	4,965,029	4,937,901	296,128	6.4%
Legal Services	1,036,707	966,258	780,314	920,454	(45,804)	-4.7%
Finance and Human Resources	2,557,843	3,841,743	3,587,230	4,211,576	369,833	9.6%
Technical Services	69,128,273	77,621,664	73,811,189	76,051,953	(1,569,712)	-2.0%
Planning, Research & Sustainability	4,885,497	5,248,726	4,547,968	5,457,733	209,007	4.0%
Water Quality Protection	6,610,017	6,681,928	6,419,340	6,578,626	(103,302)	-1.5%
Community Outreach and						
Business Engagement	6,859,537	6,845,302	7,244,047	7,129,429	284,127	4.2%
Fringe Benefits	12,803,429	15,752,757	12,539,926	13,158,007	(2,594,751)	-16.5%
Charges to Capital	(14,086,623)	(15,220,362)	(17,134,719)	(16,286,606)	(1,066,244)	7.0%
Net Division Expenditures	\$97,475,392	\$108,845,374	\$99,051,621	\$104,656,257	(\$4,189,116)	-3.8%
Unallocated Reserve	0	2,176,907	0	2,093,125	(83,781)	-3.8%
<b>Total Expenditures</b>	<b>\$97,475,392</b>	<b>\$111,022,281</b>	<b>\$99,051,621</b>	<b>\$106,749,383</b>	<b>(\$4,272,899)</b>	<b>-3.8%</b>

2020 Estimate is as of Q2 2020. Note, totals may not appear to add due to rounding.

\*A lag exists in the submittal of waste load data from municipalities that is used for user charge billings purposes. This estimate is currently a 5% reduction and is a scenario for planning. To-date, user charge revenues are in-line with 2019 actuals and 2020 budgeted levels.

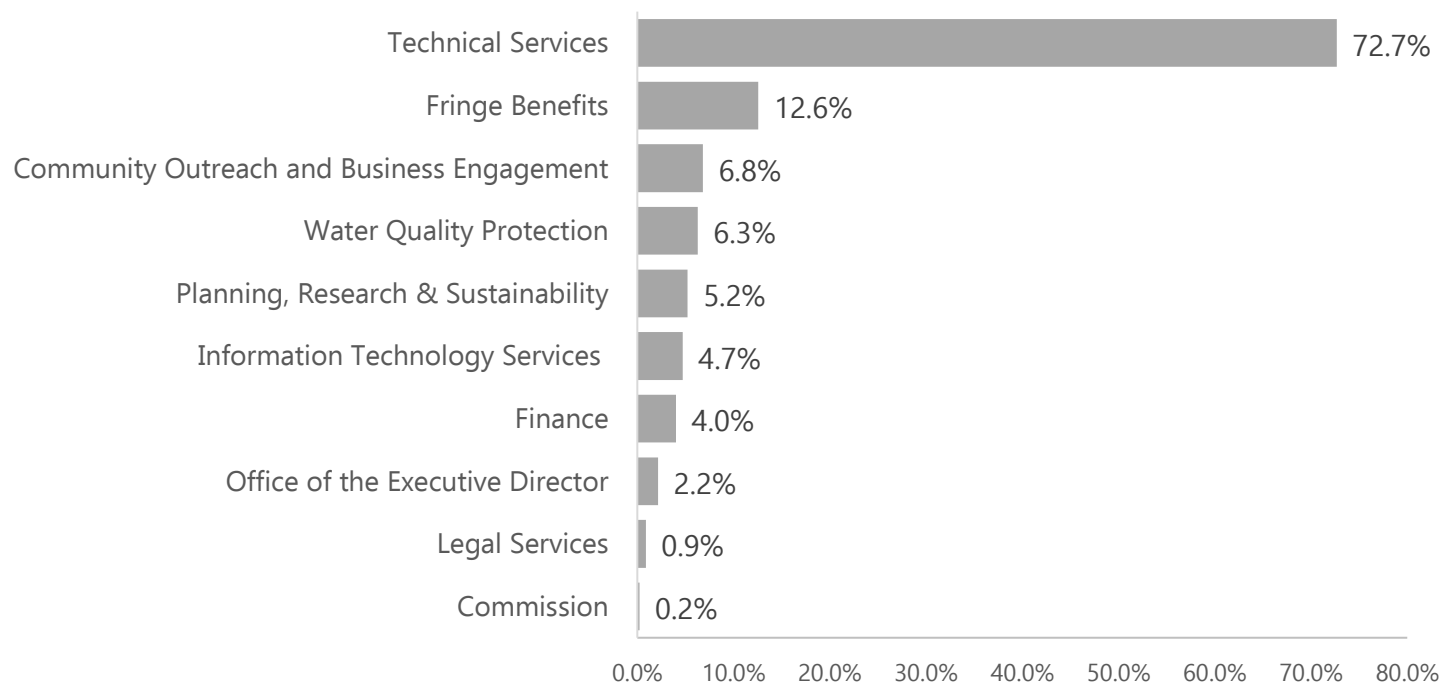
The District's 2021 O&M Budget totals approximately \$106.7 million. For operating revenue, as seen in the following chart, user charge billings comprise the majority of O&M revenues, followed by net Milorganite® sales, the surplus applied from 2019. Additional details on the revenues by category may be found in the *Sources of Funds* section.

### 2021 Operating Revenue by Category



On the expenditure side, the Technical Services Division accounts for 72.7 percent of the 2021 O&M Budget. The Technical Services Division includes the Veolia Water Milwaukee contract for operations and maintenance of the District and reclamation facilities.

### 2021 Expenditures by Division



# Sources of Funds

In 2021, the District's estimated revenue is \$106.7 million compared to the 2020 budgeted level of \$111.0 million. The \$4.3 million decrease represents a 3.8 percent decrease from the 2020 budget.

The District's primary source of funds is user charge billings. The District also has other sources of funds for the O&M Budget:

- Net sales of Milorganite® fertilizer
- Interest Income
- Other Income
- Cost recovery programs: Household Hazardous Waste and Industrial Waste Pretreatment Program
- Reserves
- Prior year's surplus

Each source of funds is further explained in the following pages. The table below presents a summary of the sources of funds the District expects in the 2021 O&M Budget.

## 2021 Funding Summary

	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
User Charge Billings	\$83,698,485	\$86,871,306	\$82,871,306*	\$87,774,811	\$903,505	1.0%
Milorganite® Sales (Net)	11,851,432	10,400,000	11,925,375	11,850,000	1,450,000	13.9%
Interest Income	1,146,310	1,000,000	500,000	500,000	(500,000)	-50.0%
Other Income	918,750	3,043,895	960,358	735,000	(2,308,895)	-75.9%
Household Hazardous Waste	1,343,659	1,258,850	1,057,850	1,254,471	(4,380)	-0.3%
Industrial Waste Pretreatment	1,103,972	1,026,310	1,129,530	1,108,669	82,359	8.0%
<b>Total Operating Revenues</b>	<b>\$100,062,608</b>	<b>\$103,600,361</b>	<b>\$98,444,419</b>	<b>\$103,222,951</b>	<b>(\$377,411)</b>	<b>-0.4%</b>
Equipment Replacement Fund	(308,802)	(300,000)	(300,000)	(110,000)	190,000	-63.3%
User Charge Stabilization Fund	0	2,500,000	2,500,000	500,000	(2,000,000)	-80.0%
IWPP Stabilization Fund Applied	59,000	0	0	0	0	0.0%
Surplus or Deficit Applied	6,027,340	5,221,920	5,221,920	3,136,432	(2,085,488)	-39.9%
Total Reserves and Surplus	\$5,777,538	\$7,421,920	\$7,421,920	\$3,526,432	(\$3,895,488)	-52.5%
<b>Total Funding</b>	<b>\$105,840,146</b>	<b>\$111,022,281</b>	<b>\$105,866,339</b>	<b>\$106,749,383</b>	<b>(\$4,272,899)</b>	<b>-3.8%</b>

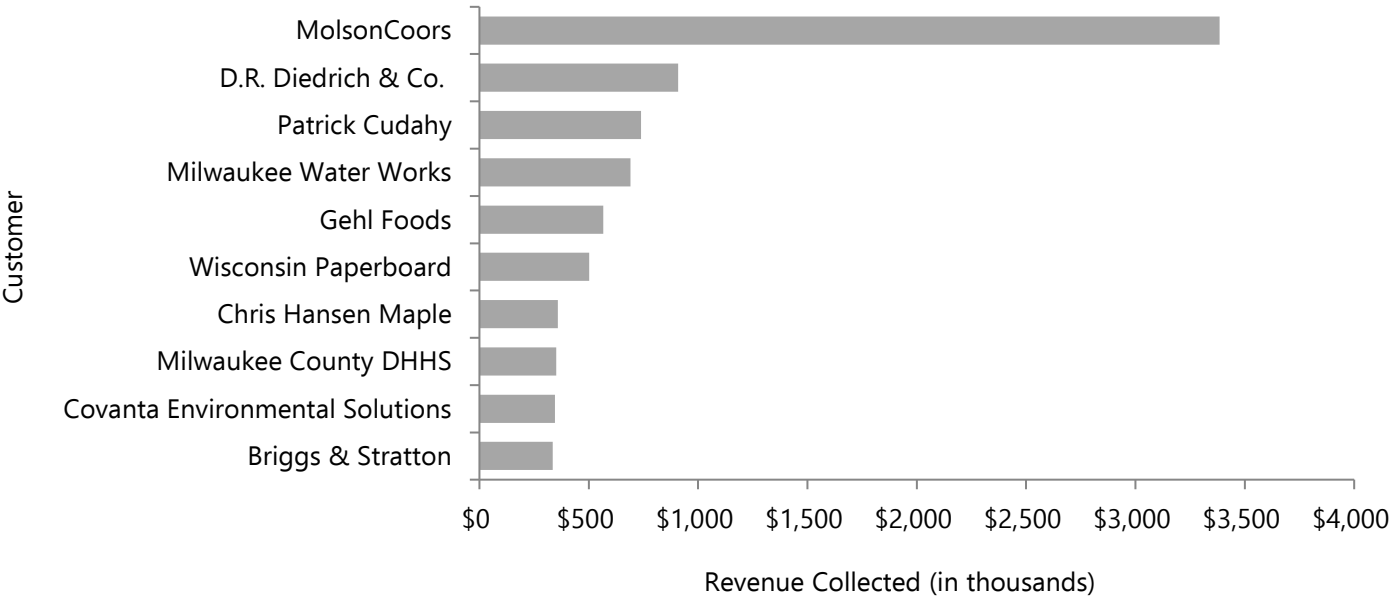
Note, totals may not add due to rounding. 2020 estimate is as of Q2 2020.

\*A lag exists in the submittal of waste load data from municipalities that is used for user charge billings purposes. This estimate is currently a 5% reduction and is a scenario for planning. To-date, user charge revenues are in-line with 2019 actuals and 2020 budgeted levels.

# Funding the Operating Budget

District operating expenses are primarily recovered from District customers through a sewer service charge. The sewer service charge is billed to each municipality within the District’s service area based on waste strength, flow volume, and the number of connections. The Environmental Protection Agency (EPA) and Wisconsin Department of Natural Resources (DNR) have approved the District’s user charge system. The following table shows a listing of the ten largest sewer users within the District’s service area in 2019 by revenue collected.

## Top Ten Sewer Users in 2019



Source: 2019 Comprehensive Annual Financial Report

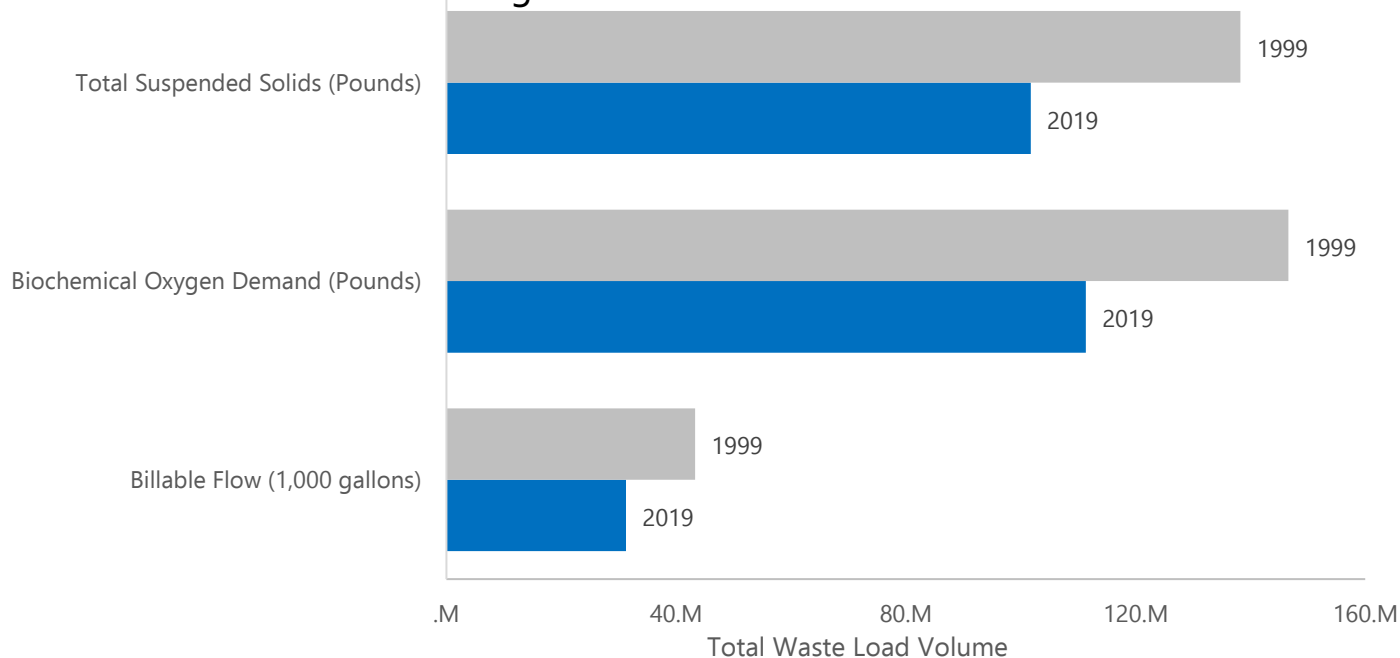


The majority of the operating budget is targeted towards operations of the wastewater reclamation facilities, as seen above.  
*Photo credit Veolia Water Milwaukee*

## Waste Loads and the Customer Base

The District calculates user charges based on four billing parameters: flow (\$/1,000 gallons), biochemical oxygen demand (BOD lbs.), total suspended solids (TSS lbs.), and connections to the sewer system. Since 1999, the District has seen an overall drop in the volume of TSS, BOD, and billable flow. Using waste load data reported in the 2019 Comprehensive Annual Financial Report (CAFR), from 1999 to 2019, the waste load parameters show a 26 percent decline in TSS, a 24 percent decline in BOD, and a 28 percent decline in flow among all customers.

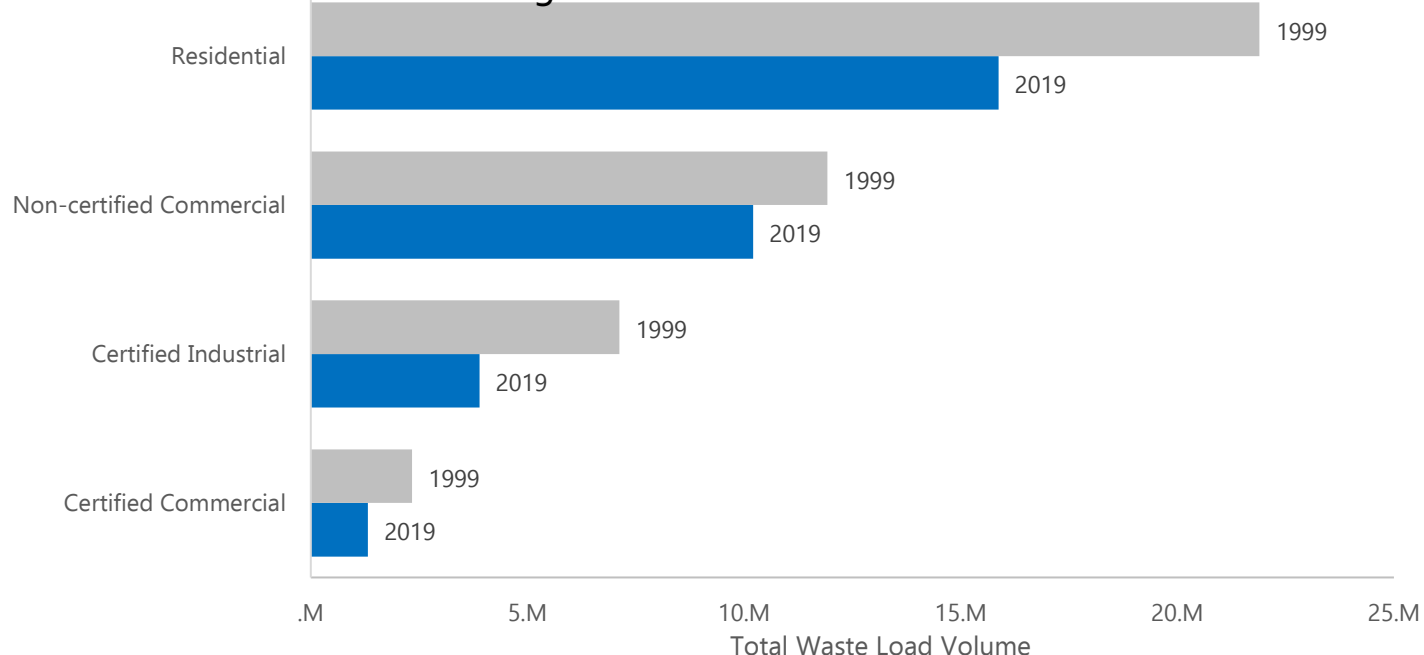
### 1999 to 2019 Changes in Volume of Waste Load Parameters



Source: 2019 Comprehensive Annual Financial Report

The billing parameters from each of the four customer classes: residential, non-certified commercial, certified industrial, and certified commercial has continued to decline over the last two decades.

### 1999 to 2019 Changes in Volume of Waste Load Parameters



Source: 2019 Comprehensive Annual Financial Report

## User Charge Billings

Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
User Charge Billings	\$83,698,485	\$86,871,306	\$82,871,306*	\$87,774,811	\$903,505	1.0%

\*A lag exists in the submittal of waste load data from municipalities that is used for user charge billings purposes. This estimate is currently a 5% reduction and is a scenario for planning. To-date, user charge revenues are in-line with 2019 actuals and 2020 budgeted levels.

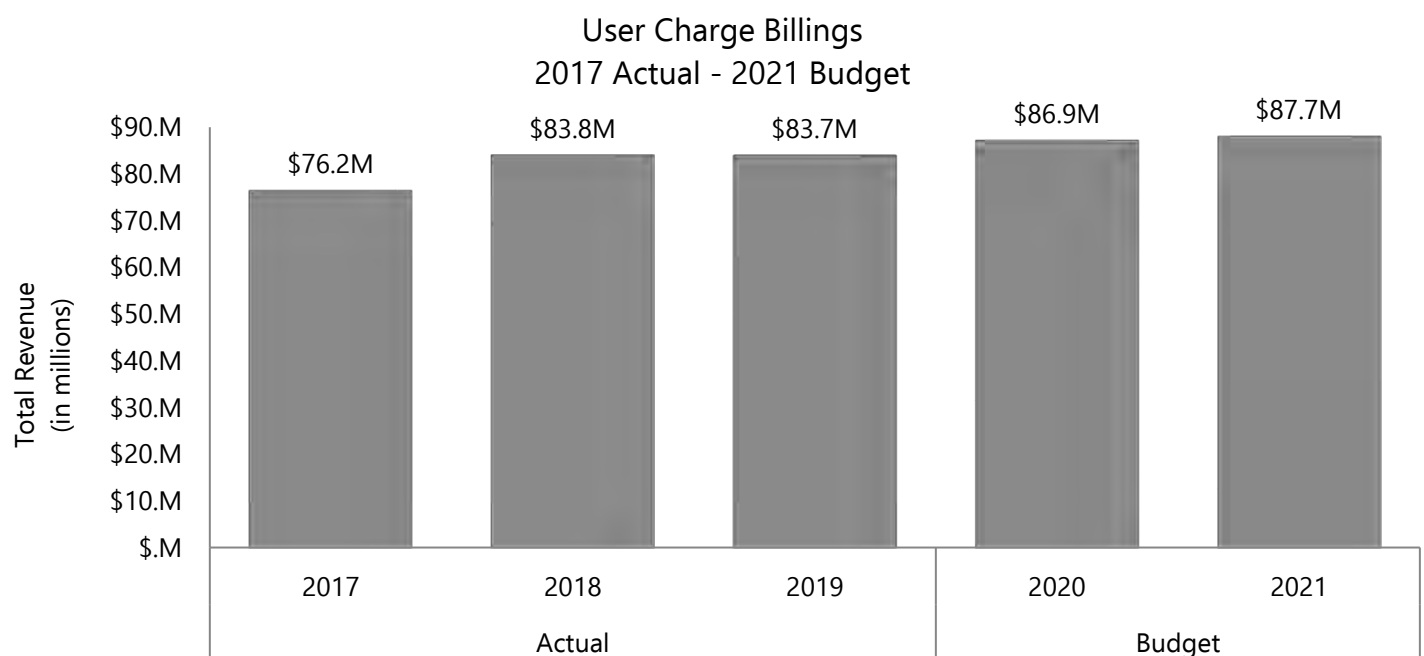
User charge billings are the primary source of revenue for the District's operating budget. The District bills each of the 28 municipalities within its service area based on waste strength, quantity, and number of connections of its users. The municipalities, in turn, directly bill their residential, 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's user charge system has been approved by the Environmental Protection Agency and the Wisconsin Department of Natural Resources. Such approval is a condition for grants and loans from these agencies.

In 2021, the District budget includes a 1.0 percent increase over the 2020 budgeted user charge billings.

### How Rates Are Set

Sewer user charge rates are developed annually as part of O&M Budget preparation. As the Executive Director's proposed O&M Budget is prepared, Finance staff determine proposed sewer user charge rates in accordance with District Rules and Regulations as described in the Cost Recovery Procedures Manual. The user charge billing system allocates the total user charge billings to municipalities in proportion to each user's contribution to total wastewater loading into the conveyance system. This allocation is based on total waste load received and four billing parameters: Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), billable flow, and connections. Over the last two decades, there has been a significant decline in total waste load, largely due to the loss of industrial users and the increase in water conservation efforts by residential and industrial users. Each municipality's bill reflects the amount due from each user class – residential, commercial and industrial.

An Ad Hoc User Charge Committee meets to review the proposed user charge rates and recommends rates for adoption by the Commission. The District's Commission approves an O&M Budget in October and user charge rates in November, to be reflected in municipal billings for the following fiscal year, beginning in January.





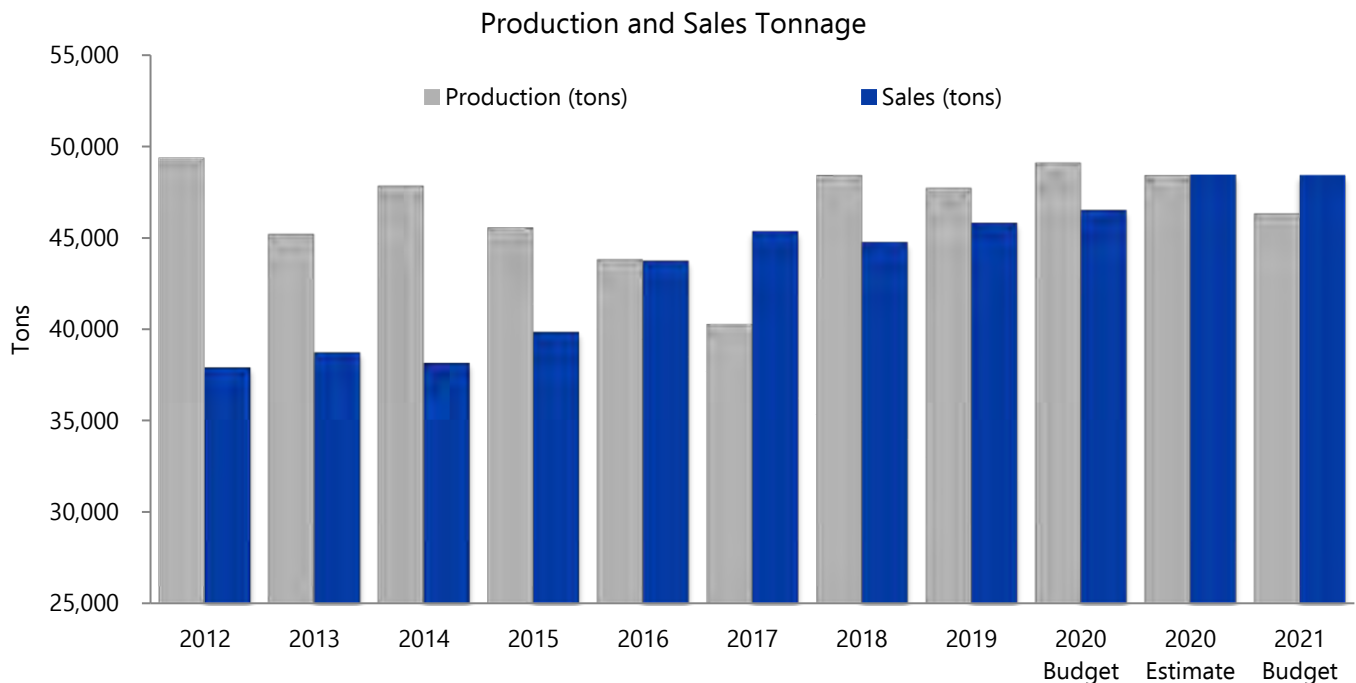
## Milorganite® Sales (Net)

Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Milorganite® Sales	\$11,851,432	\$10,400,000	\$11,925,375	\$11,850,000	\$1,450,000	13.9%



Milorganite® is a premier organic fertilizer on the market offering a line of all-natural, pesticide-free products. Milorganite® production is currently the most cost-effective solution for disposal of biosolids from the wastewater treatment process at the Jones Island and South Shore Water Reclamation Facilities. The Milorganite® market consists of a professional class of customers, including golf courses around the country, and a retail class of customers, including popular “big box” and warehouse stores that sell to homeowners and gardeners. To address the needs of each market, Milorganite® fertilizer comes in several particle size formulations, including Greens Grade and Classic, and is sold in a variety of packaging sizes to accommodate the needs of both professional golf courses and residential gardeners.

In 2021, the budgeted net Milorganite® revenue is \$11.8 million. In 2021, the budgeted weighted-average net sales price per ton including discounts and agriculture application is \$244.83, an increase from \$223.66 in the 2020 Budget. The actual average sale price may be higher or lower than the budgeted price depending on actual product sales. Sales in 2021 are estimated to be approximately 48,400 tons. The following chart provides a historical perspective of production and sales tonnage of Milorganite®.



To dispose of product that does not meet specifications, or when the District has excess product, the District has entered into agreement with several agricultural distributors to place product in non-competitive markets.

## Interest Income

Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Interest Income	\$1,146,310	\$1,000,000	\$500,000	\$500,000	(\$500,000)	-50.0%

Total Interest Income projected for the 2021 O&M Budget is \$500,000, which represents a 50 percent change from the 2020 budgeted level. An average interest rate of 1 percent on approximately \$50 million in investments is projected for 2021.

The Federal Open Market Committee (FOMC) voted to hold the current Fed Funds target rate on June 10, 2020, and issued the following statement: "The Federal Reserve is committed to using its full range of tools to support the U.S. economy in this challenging time, thereby promoting its maximum employment and price stability goals. The coronavirus outbreak is causing tremendous human and economic hardship across the United States and around the world. The virus and the measures taken to protect public health have induced sharp declines in economic activity and a surge in job losses. Weaker demand and significantly lower oil prices are holding down consumer price inflation. Financial conditions have improved, in part reflecting policy measures to support the economy and the flow of credit to U.S. households and businesses. The ongoing public health crisis will weigh heavily on economic activity, employment, and inflation in the near term, and poses considerable risks to the economic outlook over the medium term. In light of these developments, the Committee decided to maintain the target range for the federal funds rate at 0 to 1/4 percent. The Committee expects to maintain this target range until it is confident that the economy has weathered recent events and is on track to achieve its maximum employment and price stability goals."

Staff will continue to explore ways to maximize the yield on District's investments without increasing the risk on these investments or significantly reducing their liquidity.

## Other Income

Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Other Income	\$918,750	\$3,043,895	\$960,358	\$735,000	(\$2,308,895)	-75.9%

Other Income is budgeted at \$735,000 in the 2021 Budget. Other Income includes the following sources of funds: District lease revenue, contributions from Veolia Water Milwaukee for Material Capital Repairs and Replacements, reimbursements from Veolia Water Milwaukee for laboratory services, gain or loss from sale of fixed assets, grants, insurance premium refunds, claims and settlements, and miscellaneous. Other income decreases \$2,308,895 or 75.9 percent from the 2020 budgeted level, because the 2020 budget included a one-time assumption of \$2,000,000 in insurance claim reimbursements. The project that will receive insurance reimbursements scope qualifies for capital funding; therefore, the expenses and reimbursements in 2020 will be included in the capital budget, not the O&M budget.

Per the User Charge and Industrial Waste Pretreatment Program (IWPP) Rate and Cost Allocation Study completed in 2000, the procedure for reducing revenue requirements to be recovered through user charges includes pro-rating Interest and non-specific Other Income to Flow, BOD, TSS, and Connections cost parameters and watercourse maintenance costs and IWPP costs. The proration is based on the percent of each parameter's total costs to the total costs assigned to these cost parameters.



## Household Hazardous Waste Collection Program

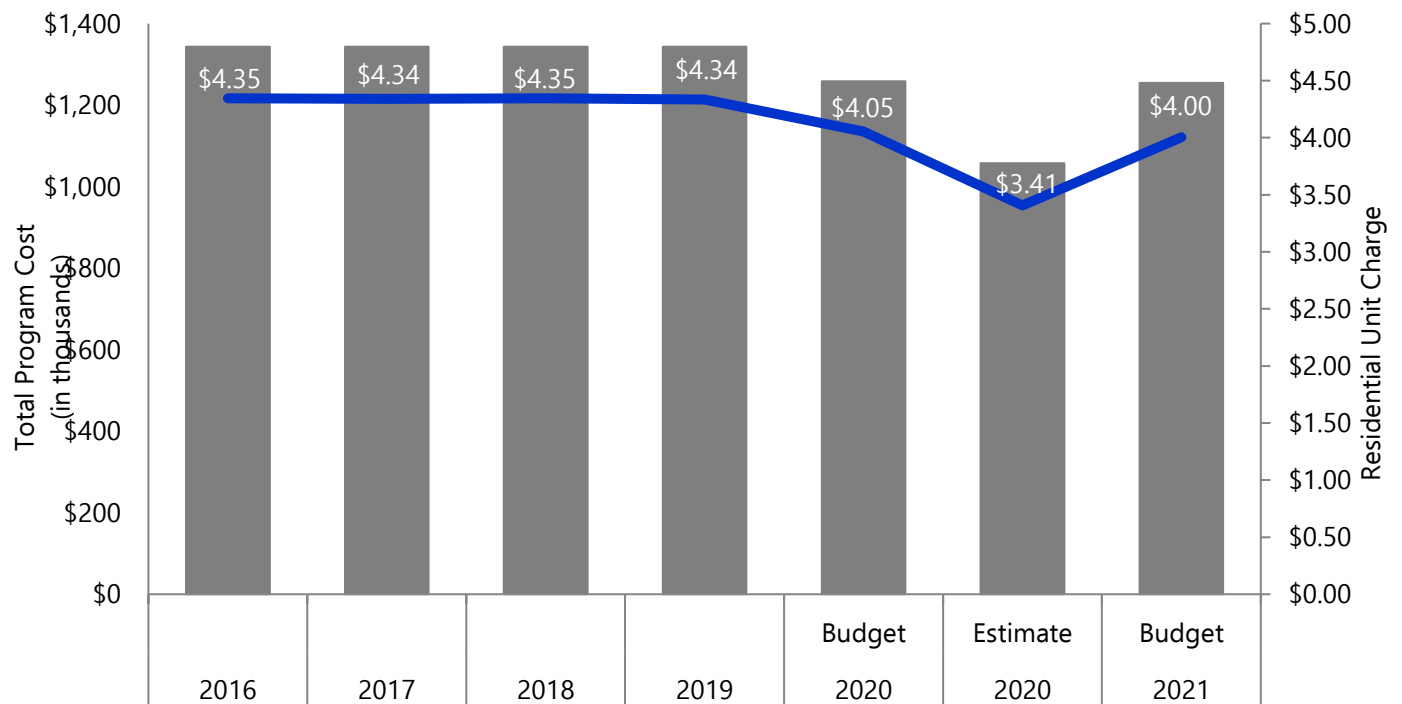
Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Household Hazardous Waste Collection Program	\$1,343,659	\$1,258,850	\$1,057,850	\$1,254,471	(\$4,380)	-0.3%

The Household Hazardous Waste (HHW) collection program was created in 1996, in conjunction with the Intergovernmental Cooperation Council to fulfill the public need for proper household hazardous waste collection and disposal. Properly disposing of hazardous wastes through the program benefits both water quality and overall public health.

The HHW Program is a cost-recovery program for District residents. Charges to participating communities for the Household Hazardous Waste program produce revenues. Charges for 2021 will be based on actual 2021 expenditures and billed to communities in spring of 2022. Program costs are determined by both the volume of waste collected and the type of waste, as more toxic substances are more expensive to dispose of.

The following graph illustrates historical trends of the program.

**Total Program Costs & Residential Unit Charge**



The 2021 Household Hazardous Waste program total revenue is projected to be \$1,254,471 a decrease of 0.3 percent from the 2020 budgeted level. The estimated cost per residential unit is \$4.00 which is a \$0.05 decrease from the 2020 budgeted level.

## Industrial Waste Pretreatment Program

Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Industrial Waste Pretreatment Program	\$1,103,972	\$1,026,310	\$1,129,530	\$1,108,669	\$82,359	8.0%

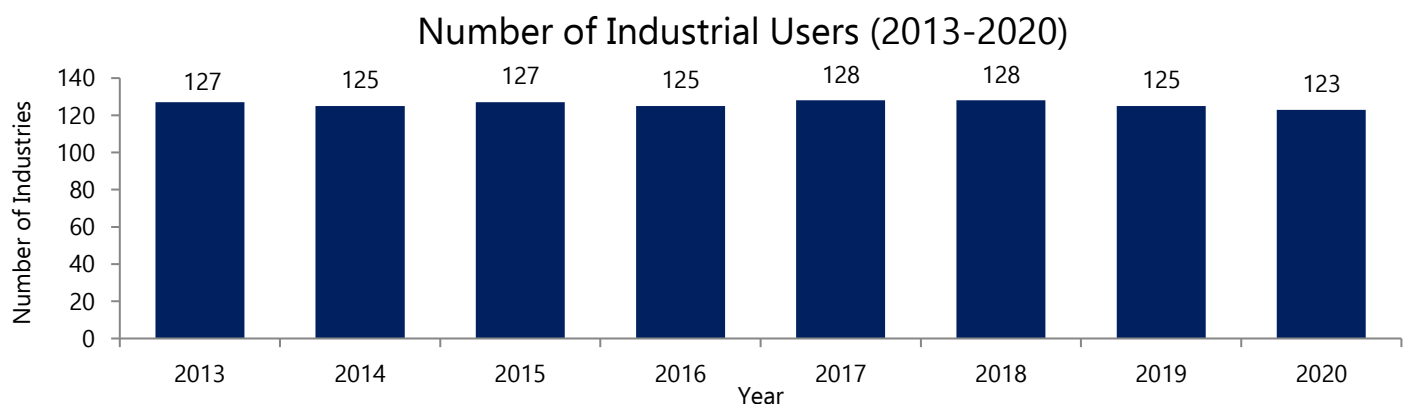
The Industrial Waste Pretreatment Program (IWPP) protects the effluent wastewater and biosolids products by prohibiting or limiting the discharge of certain pollutants. The District's Wisconsin Pollutant Discharge Elimination System (WPDES) permit requires that the District implement the IWPP. The Department of Natural Resources originally approved the District's program in 1983. The District enforces both local limits which are self-imposed by the District, and federal standards, which are limits established for various categories of industry by the U.S. Environmental Protection Agency. The program also ensures that industrial users pay user charges in proportion to their use of the sewerage system.

The IWPP is a cost recovery program, wherein revenues reflect actual expenditures. Three types of activities generate IWPP expenses: program administration, sampling and monitoring, and laboratory analysis. Program administration includes time spent by Industrial Waste Engineers developing policies and rules, drafting permits, inspecting facilities, analyzing regulatory and user charge data, taking enforcement action, providing technical assistance, and preparing reports. Sampling and monitoring costs include the cost of time spent by the staff in collecting data and monitoring pollutants. Laboratory analysis costs include the costs of testing the sample for its chemical make-up.

The Cost Recovery Procedures Manual annually establishes industrial surcharges and fees for sample collection and analysis. A portion of budgeted interest and other income is applied to the gross budgeted level and reduces the amount to be recovered. These rates are used as a basis of making revenue estimates for laboratory services incurred as part of the Industrial Waste Pretreatment Program.

The number and complexity of significant industrial users are the dominant factors affecting IWPP costs. As the local economy evolves away from large-scale manufacturing, both the number and complexity of significant industrial users decreases. As seen in the graph below, since 2012 the number of significant industries has held fairly constant.

In the 2021 O&M Budget, gross IWPP revenue is estimated to increase 8.0 percent to \$1,108,699 because of the amount of District staff labor spent on the program.



# Reserves

The District has two reserves for its Operations and Maintenance Budget: the User Charge Stabilization Fund and the Equipment Replacement Fund. The use of reserves helps to reduce or mitigate volatility in the District's primary O&M revenue source, the user charge billings. The use of reserves is analyzed in each budget year. Moreover, there could be years in which the District needs to contribute to the reserve funds to ensure that they comply with policy.

## Equipment Replacement Fund

Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Equipment Replacement Fund						
Applied (or Contribution)	(\$308,802)	(\$300,000)	(\$300,000)	(\$110,000)	\$190,000	-63.3%

The Equipment Replacement Fund (ERF) is a state-mandated reserve that is equal to 5 percent of the value of equipment owned by the District (Wisconsin Administrative Code, section NR-128.03 (18)). The District periodically conducts a fixed asset study that reviews all of the machinery and equipment with a value of \$25,000 or greater and a service life of between 10 and 20 years. The total value of machinery and equipment from this study set the initial net asset value of the equipment replacement fund. Each year, the value of assets within the ERF changes due to projects that are completed resulting in new assets that meet the criteria and therefore increase the ERF or existing assets are decommissioned that decrease the value of assets within the ERF.

On January 1, 2020, the value of assets within the ERF is \$308.8 million, and the required restricted fund balance is \$15.4 million. The District anticipates a \$15.7 million balance at year-end 2020.

As capital projects are completed, it is estimated the minimum required balance will increase. In 2021, the District includes a \$110,000 contribution to the ERF to remain in compliance with the 5 percent limit.

Applying reserves allows the increase to user charge billings to be lowered in a given year, while contributing to those funds is in effect an expenditure and would require additional user charge billings. An evaluation of the ERF will be undertaken to determine whether reductions could be made to avoid future contributions.

## IWPP Stabilization Fund

Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
IWPP Stabilization Fund						
Applied (or Contribution)	\$59,000	\$0	\$0	\$0	\$0	-

The District has an IWPP Stabilization Fund used to stabilize IWPP rates. In 2021, the District does not apply or make a contribution of the funds.

## User Charge Stabilization Fund

Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
User Charge Stabilization Fund Applied (or Contribution)	\$0	\$2,500,000	\$2,500,000	\$500,000	(\$2,000,000)	-80.0%

The District Commission established the User Charge Stabilization Fund in 1998 to help the District avoid large increases or decreases in the User Charge billings.

Commission policy requires that the fund balance be no less than 2.5 percent of the current year's revenues. The District anticipates making withdrawing \$500,000 from the fund in 2021. The projected balance as of 1/1/2021 is \$11.8 million and the expected balance as of 12/31/2021 is \$11.3 million, both of which exceed the required minimum balance.

Applying reserves allows the increase to user charge billings to be lowered in a given year, while contributing to those funds is in effect an expenditure and would require additional user charge billings.

### User Charge Stabilization Fund Summary

Balance of Fund as of 1/1/2020	\$14,276,953
2020 Net Withdrawal/(Contributions)	\$2,500,000
2020 Estimated Balance as of 12/31/2020	\$11,776,953
Balance of Fund as of 1/1/2021	\$11,776,953
2021 Net Withdrawal/(Contributions)	\$500,000
<b>Anticipated Balance as of 12/31/2021</b>	<b>\$11,276,953</b>
Minimum Required per Commission Policy	\$2,668,735
Remaining Available Fund Balance	\$8,608,218

## Surplus Returned

Source of Funds	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Surplus Returned	\$6,027,340	\$5,221,920	\$5,221,920	\$3,136,432	(\$2,085,488)	-39.9%

The Operations & Maintenance Budgets are set for a one-year period. In any given year, the actual expenditures and revenues likely will vary somewhat from the budgeted amounts. This variance could be due to work or project timing, expenditures that are deemed unnecessary during the year, unanticipated pricing changes, revenues that either exceed or fail to meet expectations, or an unused unallocated reserve. At the end of the year, the favorable and unfavorable variances are accumulated into a funding surplus or deficit. If there is a budget surplus, those funds are either carried forward by Commission action into the next budget year, or they are applied as a source of funds to a future budget year, as follows.

In compliance with 40 CFR 35.929-2 (b) for application of surplus/deficit, the District determines the surplus or deficit attributable to each sewer user charge billing parameter (Flow, BOD, TSS, Connections) at the end of each fiscal year. The surplus or deficit is applied to user charge billing rates in the budget two years after the fiscal year that created it, in compliance with federal and state regulations.

In the 2021 budget, the District returns the 2019 surplus, or \$3,136,432. The surplus is \$2,085,488 less than that applied to the 2020 budget, resulting in a 39.9 percent decrease from the 2020 budgeted level.

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# Commission

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## Division Summary

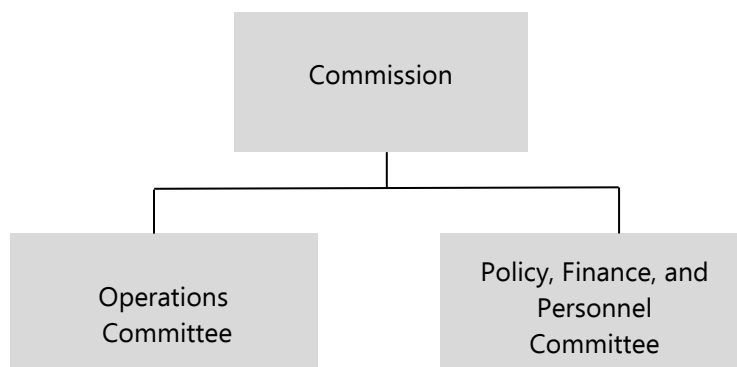
The Commission is the governing body and establishes District policies in compliance with statutory responsibility. The Commission directs and controls budgetary, administrative, procedural, operational, and informational support for the District.

## BACKGROUND AND OVERVIEW

The Commission is comprised of 11 members: seven appointed by the Mayor of the City of Milwaukee, subject to Common Council confirmation; and four appointed by the MMSD Executive Council of the Intergovernmental Cooperation Council (ICC), which is comprised of chief elected officers of the cities and villages in the District other than the City of Milwaukee. From the City of Milwaukee, three are elected officials and each serve a one-year term. The other four members are citizen appointees from Milwaukee, and each serve a three-year term. The four Commission members from the ICC include three elected officials and one citizen; all four ICC-appointed members serve a three-year term. No Commissioner may serve more than nine consecutive years.

The Commission is charged with the responsibility of establishing policies for the District. The Commission consists of two standing committees: the Policy, Finance and Personnel Committee and the Operations Committee. Matters discussed by the committees include financial planning, budget recommendations, reporting and audits, personnel matters and labor relations, legal and legislation, public information policies, collection/treatment/disposal compliance, industrial development and pretreatment, and the award of contracts.

In support of the 2035 Vision, the Commission sets policy direction to ensure that the District practices integrated watershed management, reduces its greenhouse gas emissions and plays a leading role in mitigating the potential impacts of climate change.



## DIVISION STAFFING

Position Title	2019 Budget	2020 Budget	2021 Budget
Commissioners	11.0	11.0	11.0
<b>Total Positions</b>	<b>11.0</b>	<b>11.0</b>	<b>11.0</b>

Note, Commissioners are not included in the District's FTE count.

### ACCOMPLISHMENTS

- Timely prepared and distributed agendas and minutes for Committee and Commission meetings

Through formal meetings, the Commission hears requests from staff, individual residents, and interest groups on a number of issues. They then must make decisions that best respond to the community's needs and support the District's vision. The Commission provides the leadership to deliver important services that protect public health and support the vitality of the area's waterways.

### 2019-2021 Strategic Plan Vision:

**MMSD envisions a healthier, cleaner, resilient region.**



Thanks to the Commission's leadership and direction, in 2019, the District once again received the NACWA Peak Performance Award for the commitment, innovation and achievements in the clean water industry.

In 2020, the Commission adopted revisions to the Flood Risk Reduction Policy. The revised Policy formalizes that watercourse management plan development will consider climate change in the development of alternatives to reduce future flood risks. The Policy emphasizes the District will develop flood risk reduction projects to achieve other benefits, such as reduced risks to public health and safety, improved opportunity for access to and use of riparian areas and green infrastructure through stakeholder input.



This work supports SDG #13.

## SUMMARY OF OPERATING EXPENDITURES

Commission	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Fixed Assets	-	-	-	-	-	0.0%
Personal Services	115,837	119,207	119,207	119,207	-	0.0%
Contractual Services	91,062	111,775	111,082	111,775	-	0.0%
Materials & Supplies	298	1,600	200	900	(700)	-43.8%
<b>Gross Division Total</b>	<b>\$207,197</b>	<b>\$232,582</b>	<b>\$230,489</b>	<b>\$231,882</b>	<b>(\$700)</b>	<b>-0.3%</b>
Charges to Capital	-	-	-	-	-	0.0%
<b>Net Division Total</b>	<b>\$207,197</b>	<b>\$232,582</b>	<b>\$230,489</b>	<b>\$231,882</b>	<b>(\$700)</b>	<b>-0.3%</b>

### BUDGET COMMENTS

- Contractual services budget includes funding for Commissioners to travel to meetings, graphic printing services, publishing official notices, the District's annual financial audit, and transcription services.
- The Materials and Supplies budget is reduced to reflect the actual level of spending.



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# Office of the Executive Director

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## Division Summary

The Executive Director is appointed by the Milwaukee Metropolitan Sewerage District Commission and serves as the District's Chief Executive Officer. The Executive Director provides organizational leadership to implement Commission policies that ensure the District meets its customers' needs in a cost-effective manner.

### THE OFFICE OF THE EXECUTIVE DIRECTOR:

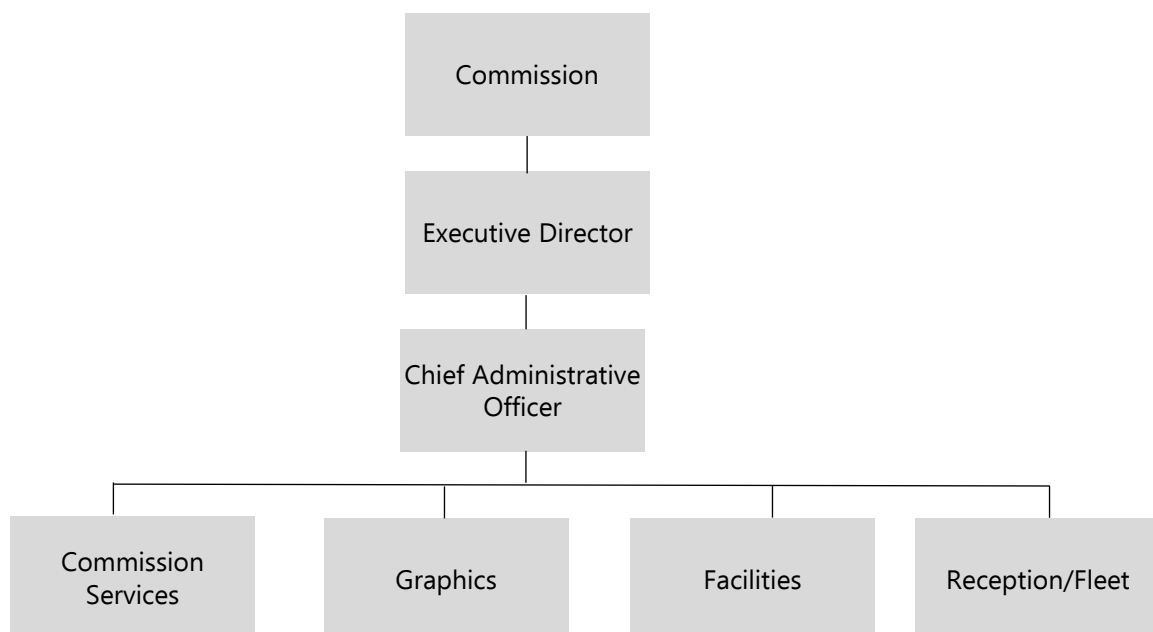
Provides organizational leadership for the division and District. The cost center oversees general administration of District business, including reception services, fleet services, and graphic design services.

**COMMISSION SERVICES:** Supports the activities of the Commission and ensures proper, timely receipt and dissemination of official documents of the District.

**GRAPHICS:** Provides high quality graphics arts materials for District projects and programs.

**FACILITIES MANAGEMENT:** Helps provide a clean and safe work environment. The cost center also manages the District's mail and Headquarters building's heating, ventilation, air conditioning, electrical services and plumbing. The cost center maintains the Headquarters buildings and grounds and focuses on environmentally-friendly, energy-efficient, sustainable, and cost-effective ways of operating the District's facilities. The cost center also manages the District's fleet.

**RECEPTION/FLEET:** Ensures visitors and calls are managed efficiently. Manages the District's fleet, including coordinating service, procuring new vehicles, and providing staff training on fleet usage.



## DIVISION STAFFING

Position Title	2019 Budget	2020 Budget	2021 Budget
<b>Office of the Executive Director</b>			
Executive Director	1.0	1.0	1.0
Senior Project Manager II	1.0	1.0	1.0
Senior Project Manager	1.0	0.0	1.0
Chief Administrative Officer / Commission			
Secretary	1.0	1.0	1.0
Graphics Designer	2.0	2.0	2.0
Administrative Assistant	1.0	1.0	1.0
Receptionist	0.0	1.0	1.0
<b>Human Resources</b>			
Human Resources Manager	1.0	0.0	0.0
Senior Human Resources Generalist	1.0	0.0	0.0
Human Resources Generalist	1.0	0.0	0.0
Human Resources Coordinator	1.0	0.0	0.0
<b>Facilities Management</b>			
Facilities Supervisor	1.0	1.0	1.0
Facilities Technician II	2.0	2.0	1.0
Facilities Technician I	1.0	1.0	2.0
<b>Total Positions</b>	<b>15.0</b>	<b>11.0</b>	<b>12.0</b>

### ACCOMPLISHMENTS

- Participated in the Milwaukee area equity task force
- Successfully installed a backup laboratory generator. This unit will safeguard the District's laboratory processes necessary to meet the District's permit and protect the District's IT infrastructure
- Upgraded the Headquarters and Laboratory HVAC systems, including a plasma air cleaning system, hospital grade air filters, and lighting systems, all in efforts to protect staff and visitors from COVID-19

The District's 2019-2021 Strategic Plan mission states: **"MMSD protects public health and the environment through world-class cost-effective water resource management, leadership, and partnership"** The Division supports the goals of the plan as well as Effective Utility Management described in the *Ten Attributes of Effectively Managed Utility* by recruiting, developing, and retaining a workforce that is motivated and adaptive, and establishing a participatory, collaborative organization dedicated to innovation.

The 2019-2021 Strategic Plan recognizes that essential to our success is our commitment to:

- ✓Stewardship
- ✓Integrity
- ✓Quality
- ✓Collaboration
- ✓Diversity
- ✓Innovation

### NEW INITIATIVES

- Implementing the 2019-2021 Strategic Plan
- Carrying out the Community Platform
- Identify solutions to fish passage, habitat improvements, and sediment accumulation issues for a Milwaukee Estuary Area of Concern

## SUMMARY OF OPERATING EXPENDITURES

Office of the Executive Director Division	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
USES - OPERATING EXPENSES						
Executive Director	1,041,618	1,012,056	1,047,092	1,199,579	187,523	18.5%
Human Resources	921,480	-	-	-	-	0%
Facilities Management	1,103,418	1,220,946	1,013,716	1,065,725	(155,221)	-12.7%
<b>Gross Division Total</b>	<b>\$3,066,516</b>	<b>\$2,233,002</b>	<b>\$2,060,808</b>	<b>\$2,265,304</b>	<b>\$32,302</b>	<b>1.4%</b>
Charges to Capital	(292,524)	(266,376)	(286,563)	(479,787)	(213,411)	80.1%
<b>Net Division Total</b>	<b>\$2,773,992</b>	<b>\$1,966,626</b>	<b>\$1,774,245</b>	<b>\$1,785,517</b>	<b>(\$181,109)</b>	<b>-9.2%</b>
USES BY EXPENDITURE TYPE						
Fixed Assets	22,639	-	-	-	-	0.0%
Personal Services	1,765,294	972,803	1,003,294	1,069,636	96,832	10.0%
Contractual Services	1,146,985	1,125,099	926,150	1,041,994	(83,105)	-7.4%
Materials & Supplies	131,598	135,100	131,364	153,675	18,575	13.7%
<b>Gross Division Total</b>	<b>\$3,066,516</b>	<b>\$2,233,002</b>	<b>\$2,060,808</b>	<b>\$2,265,304</b>	<b>\$32,302</b>	<b>1.4%</b>
Charges to Capital	(292,524)	(266,376)	(286,563)	(479,787)	(213,411)	80.1%
<b>Net Division Total</b>	<b>\$2,773,992</b>	<b>\$1,966,626</b>	<b>\$1,774,245</b>	<b>\$1,785,517</b>	<b>(\$181,109)</b>	<b>-9.2%</b>

Note, in 2020, the Human Resources cost center and its budget moved to the Finance division.

### BUDGET COMMENTS

- In the 2021 Budget, the Facilities cost center budget is reduced by 12.7 percent because of a one-time large expense project in the 2020 budget.
- In mid-2020, one Senior Project Manager position is created in the Office of the Executive Director cost center. The position will help with developing solutions to fish passage, habitat improvements and sediment accumulation in the Milwaukee River.
- The Materials and Supplies budget increases 13.7 percent to include additional funding for low-flow toilets, faucets, and showerheads to be distributed as part of the Community Platform.



The Executive Director provides leadership and direction for the District in pursuing projects that support the UN SDGs.

### GOALS

- Providing world-class leadership in water resource management
- Provide leadership and direction in achieving the 2035 Vision and 2019-2021 Strategic Plan.
- Manage headquarters and laboratory assets to optimal performance.
- Implement process improvements within Graphics, Reception, and Fleet Service areas.

### CHALLENGES

- Coordinating with other water industry groups to develop the future water industry workforce
- Practicing innovation with financial constraints

## WORKLOAD INDICATORS

	2019 Actual	2020 Estimate	2021 Target
Number of graphics services requests	597	370	600
Number of facilities maintenance requests	877	626	750



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# Legal Services

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## Division Summary

The purpose of the Legal Services Division is to provide legal advice, strategy, and support to the Commission, Executive Director, and District staff to enable legally sound governmental and business decisions and their effective implementation.

**Legal Services** The division was created by the Milwaukee Metropolitan Sewerage District Commission in 1978. The Division conducts all of the District's legal business and provides specialized legal expertise in the District's major areas of operations, including environmental, construction and contract, government finance, municipal relations, and human resources. The Division provides ongoing support to District operations by advising the Commission, Executive Director, and staff on programs and policies to ensure that District operations are consistent with legal requirements. The Division also represents the District in all litigation and claims by or against the District, either as primary legal counsel or in overseeing outside legal counsel. Each matter is assigned to a specific staff attorney to assess possible District liability, preserve evidence, identify witnesses, and provide ongoing claim monitoring activities. During the risk identification process, the Legal Services Division provides advice to the Commission and District management regarding the alternative courses of action. The Legal Services Division also provides timely advice and opinions to support District business operations and to avoid legal problems. This includes legal review and input for water and air pollution permits, compliance reporting, planning reports, and contract drafting.

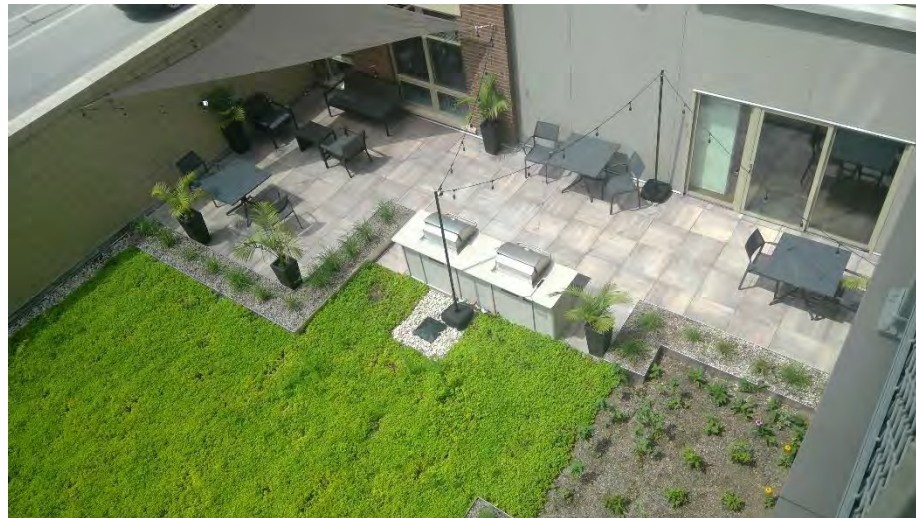


# DIVISION STAFFING

Position Title	2019 Budget	2020 Budget	2021 Budget
Director of Legal Services	1.0	1.0	1.0
Senior Staff Attorney	2.0	2.0	2.0
Staff Attorney	2.0	1.0	1.0
Paralegal Administrator	1.0	1.0	1.0
Administrative Assistant	1.0	1.0	1.0
<b>Total Positions</b>	<b>7.0</b>	<b>6.0</b>	<b>6.0</b>

Note, in the 2019 budget, the Records Management cost center moved to the Information Technology Services division.

The Legal Department prepares and negotiates all complex contracts for the District, including the Operations and Maintenance Agreement with Veolia Water Milwaukee, LLC and the extended warranty/maintenance agreement with Solar Turbines. In 2020, a major initiative was negotiation of the Fresh Coast Protection Partnership Agreement which is providing an alternative delivery mechanism at a per gallon price for green infrastructure in the region over a three-year period.



Large-scale green infrastructure, like this apartment building green roof, require an easement in order for the District to provide partner funding. The Legal Services group plays an important role in [navigating the easement process](#).

## ACCOMPLISHMENTS

- Supported renewal of the operations permit for Jones Island under the Clean Air Act, in addition to continuing support of the construction permits needed for individual projects that involve emission sources.
- Advised on the Burnham Canal Wetland Project regarding legal real estate issues such as easements and permitting and counseled on the remedial action in the western portion of the canal.

## NEW INITIATIVES

- Creation of a community benefits program to solicit consultants who share a strong commitment to community interests and corporate social responsibility.
- Provide legal advice to staff regarding the implementation of Private Property Inflow and Infiltration Program as a method to reduce the risk of basement backups and overflows.



# SUMMARY OF OPERATING EXPENDITURES

Legal Services Division	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
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## USES - OPERATING EXPENSES

Legal Services	1,036,707	966,258	780,314	920,454	(45,804)	-4.7%
<b>Gross Division Total</b>	<b>\$1,036,707</b>	<b>\$966,258</b>	<b>\$780,314</b>	<b>\$920,454</b>	<b>(\$45,804)</b>	<b>-4.7%</b>
Charges to Capital	(266,843)	(225,345)	(343,442)	(274,964)	(49,619)	22.0%
<b>Net Division Total</b>	<b>\$769,864</b>	<b>\$740,913</b>	<b>\$436,872</b>	<b>\$645,489</b>	<b>(\$95,424)</b>	<b>-12.9%</b>

## USES BY EXPENDITURE TYPE

Fixed Assets	-	-	-	-	-	0.0%
Personal Services	662,547	750,383	637,639	674,094	(76,289)	-10.2%
Contractual Services	357,225	184,775	112,175	215,260	30,485	16.5%
Materials & Supplies	16,935	31,100	30,500	31,100	-	0.0%
<b>Gross Division Total</b>	<b>\$1,036,707</b>	<b>\$966,258</b>	<b>\$780,314</b>	<b>\$920,454</b>	<b>(\$45,804)</b>	<b>-4.7%</b>
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## BUDGET COMMENTS

- The Personal Services expenditures budget decreases in 2021 due to the actual positions filled and recent retirements.
- Contractual Services includes outside counsel, experts, and lobbying, funding for legal research providers, memberships, subscriptions and dues. The line increases by 16.5 percent in 2021 due to an increase in the budget for outside experts.
- Charges to capital increase in the 2021 based off of the number and complexity of capital projects and contracts needing legal review.

## GOALS

- Ensure timely and correct legal advice to enable staff to achieve 100% compliance with regulations and O&M contract.
- Continue to provide legal counsel and representation to minimize claims and litigation; and to prevail in litigation matters where District is involved.

## WORKLOAD INDICATORS

	2019 Actual	2020 Estimate	2021 Target
Resolve outstanding claims as quickly and cost effectively as possible	100%	100%	100%
Settlements are resolved for amounts that do not exceed the District's exposure or that adequately recover damages	100%	100%	100%
Review replies to requests for open records	100%	100%	100%
Provide regulatory guidance for Milorganite® and all permit matters	100%	100%	100%

## CHALLENGES

- Monitoring regulatory actions and providing ongoing advice regarding PFAS compounds, a pollutant of new concern.
- Navigating complex real estate transactions.



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# Finance and Human Resources

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## Division Summary

The District is committed to providing quality services in the most cost-effective manner. The Division provides financial management and financial analysis necessary for efficient operations and prudent decision making. To that end, Finance staff are involved in major organizational decisions the District undertakes by analyzing the cost and benefit of each option being considered. Human Resources are also managed in the Finance Division.

### BUDGET PREPARATION AND ADMINISTRATION:

Development of the annual Capital and Operations & Maintenance Budgets based on review and prioritization of all budget requests, related to contract operations, and from asset management; financial analysis of new programs or changes, recommendation on expenditures and revenues for the upcoming year to achieve organizational goals; monitoring budget variances and recommending strategies for issues and communicating status throughout the given budget year.

**FINANCIAL PLANNING:** Preparation and management of both Capital and Operations & Maintenance forecasts of future years' revenues and expenditures; development and analysis of revenue and expenditure assumptions for out-year projections, scenario analysis for various initiatives and programs to determine the impact on the financial plan.

**PERFORMANCE MANAGEMENT SYSTEM:** Develop and maintain the District's organizational performance management system with performance metrics tied to the Strategic Plan, performance indicators from core operations, related benchmarks, and trend analysis on various organizational goals and performance. Goals are set annually, tracked throughout the year, and annual performance is reported to the Commission.

**TREASURY AND CASH MANAGEMENT:** Oversight of all treasury and cash management activities and strategies to ensure compliance with statutes, Commission policy, the greatest rate of return allowable, as well as the lowest cost of transactions.

**DEBT MANAGEMENT:** Planning of all General Obligation and Clean Water Fund Program loan debt issuances, any special circumstance debt financing, and administration of related debt service payments.

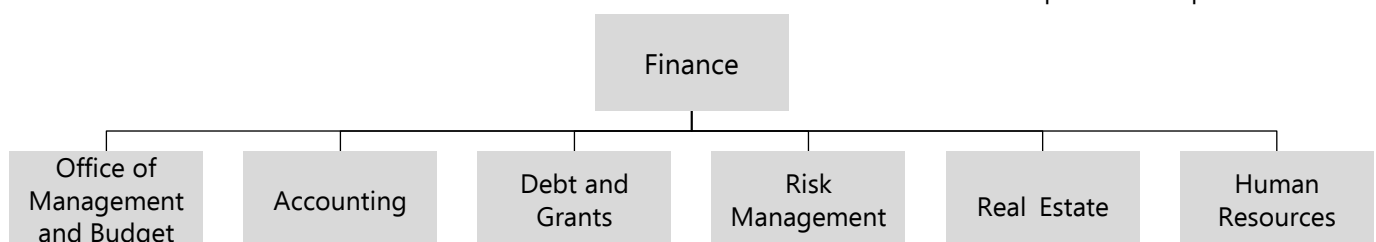
**ACCOUNTING, FINANCIAL REPORTING, BILLINGS, AND PAYROLL:** Administration of the user charge billings system that assigns charges to customers, and creates all billings for tax levy, non-member charges, and other District programs. Management of payroll and accounting transactions including accounts payable, accounts receivable, inter-fund and general ledger. Monthly financial reporting and preparation of the annual financial report.

**GRANTS MANAGEMENT:** Administration of all grants and reimbursements to ensure properly documented compliance as well as timely receipt of funds.

**RISK MANAGEMENT:** Management of the risks of accidental loss associated with property, liability and workers compensation exposures. Risk management includes safety, security and insurance coverage for all District construction and operations activities.

**REAL ESTATE:** Administration of the District's real estate transactions including land and easement acquisitions, facility leases, and management of existing property rights.

**HUMAN RESOURCES:** Manages employee benefits, compensation, labor relations, recruitment, affirmative action and diversity, unemployment compensation, work-study, organizational training and development, and other human resource policies and procedures.



# DIVISION STAFFING

Position Title	2019 Budget	2020 Budget	2021 Budget
<b>Finance</b>			
Director of Finance / Treasurer	1.0	1.0	1.0
Deputy Director of Finance	1.0	1.0	1.0
Controller	1.0	1.0	1.0
Supervisor of Revenue and Fixed Assets	1.0	1.0	1.0
Supervisor of Payroll and Accounts Payable	1.0	1.0	1.0
Risk Manager	1.0	1.0	1.0
Real Estate Specialist	1.0	1.0	1.0
Safety Advisor	1.0	1.0	1.0
Management and Budget Analyst III	2.0	2.0	2.0
Audit and Loan Administrator	1.0	1.0	1.0
Real Estate Generalist	1.0	1.0	1.0
Accountant	1.0	1.0	1.0
Payroll Specialist	1.0	1.0	1.0
Safety and Risk Management Specialist	1.0	1.0	1.0
Account Specialist	3.0	3.0	3.0
Administrative Assistant	1.0	1.0	1.0
<b>Human Resources</b>			
Human Resources Manager	0.0	1.0	1.0
Senior Human Resources Generalist	0.0	1.0	1.0
Human Resources Generalist	0.0	1.0	1.0
Human Resources Coordinator	0.0	1.0	1.0
<b>Total Positions</b>	<b>19.0</b>	<b>23.0</b>	<b>23.0</b>

## ACCOMPLISHMENTS

- In 2020, the District was the fourth in the country and the second wastewater treatment agency to issue a Certified Climate Bond
- 2019 Financial Statements received an unqualified opinion from the District's auditors
- Received the Government Finance Officers Association Certificate of Achievement for Excellence in Financial Reporting and Distinguished Budget Presentation Award.
- Human Resources began evaluation of policy changes and implemented an update for Ban the Box, including Ban the Box on recruitment, and is preparing a plan to implement a Diversity and Inclusion program



In 2020, the District was the fourth in the country and the second wastewater treatment agency to issue a Certified Climate Bond

The Finance division helps mobilize resources and budget for initiatives that support the UN SDGs. The Budget Office also helps track the District's performance in achieving the goals.



## NEW INITIATIVES

- Implement new enterprise resource planning software system
- Explore subsidized interest Clean Water Fund Loan financing for green infrastructure

## SUMMARY OF OPERATING EXPENDITURES

	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Finance and HR Division						
USES - OPERATING EXPENSES						
Human Resources	2,557,843	2,817,336	2,914,070	\$3,179,812	362,476	12.9%
Finance	-	1,024,406	673,160	1,031,764	7,358	0.7%
<b>Gross Division Total</b>	<b>\$2,557,843</b>	<b>\$3,841,743</b>	<b>\$3,587,230</b>	<b>\$4,211,576</b>	<b>\$369,833</b>	<b>9.6%</b>
Charges to Capital	(570,551)	(512,239)	(881,822)	(587,997)	(75,758)	14.8%
<b>Net Division Total</b>	<b>\$1,987,292</b>	<b>\$3,329,504</b>	<b>\$2,705,408</b>	<b>\$3,623,579</b>	<b>\$294,076</b>	<b>8.8%</b>
USES BY EXPENDITURE TYPE						
Fixed Assets	-	-	-	-	-	0.0%
Personal Services	1,645,122	2,676,773	2,226,863	2,707,616	30,843	1.2%
Contractual Services	896,257	1,139,670	1,338,667	1,478,110	338,440	29.7%
Materials & Supplies	16,464	25,300	21,700	25,850	550	2.2%
<b>Gross Division Total</b>	<b>\$2,557,843</b>	<b>\$3,841,743</b>	<b>\$3,587,230</b>	<b>\$4,211,576</b>	<b>\$369,833</b>	<b>9.6%</b>
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Note, in the 2019 budget Human Resources was included in the Office of the Executive Director division.

### BUDGET COMMENTS

- In the 2021 Budget, Personal Services increases due to budgeted salary increases.
- Contractual Services increases to provide additional safety training and lines of insurance as well as Human Resources initiatives such as a benefit consultant and compensation study.
- The Materials and Supplies budget is similar to the 2020 budget level.
- The Charges to Capital budget increases over the 2020 budgeted level with the staff time to implement the new enterprise resource planning software.

### WORKLOAD INDICATORS

	2019 Actual	2020 Estimate	2021 Target
Bond ratings - Fitch ratings	AAA	AAA	AAA
Bond ratings - Moody's Investors Service	Aa1	Aa1	Aa1
Bond ratings - Standard & Poor's	AA+	AA+	AA+
% of operating reserve that meets or exceeds level set by policy	100%	100%	100%
# of significant internal control deficiencies or material weaknesses from internal audit	0	0	0
Receive GFOA Distinguished Budget Award	Yes	Yes	Yes
Total Budgeted FTE	226	234	238
New Hire Opportunities	19	12	10
% of minority employees	18%	19%	19%
% of female employees	42%	42%	42%

### GOALS

- Maintain, implement and enhance the long-range financing plan
- Maximize outside funding opportunities
- Continue to minimize cost of risk
- Expand workload and performance measures reporting and alignment with the District's strategic goals and budget process
- Produce transparent financial reporting
- Maintain strong internal controls over financial reporting
- Continue to expand on District policies to provide a diverse and inclusive work environment for all staff
- Continue to implement robust wellness programs and look for ways to minimize the cost of health care benefits

### CHALLENGES

- Service affordability
- Aging infrastructure
- Balancing concerns of both member and non-member communities
- Educating employees to become informed healthcare consumers



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# Technical Services

## Division Summary

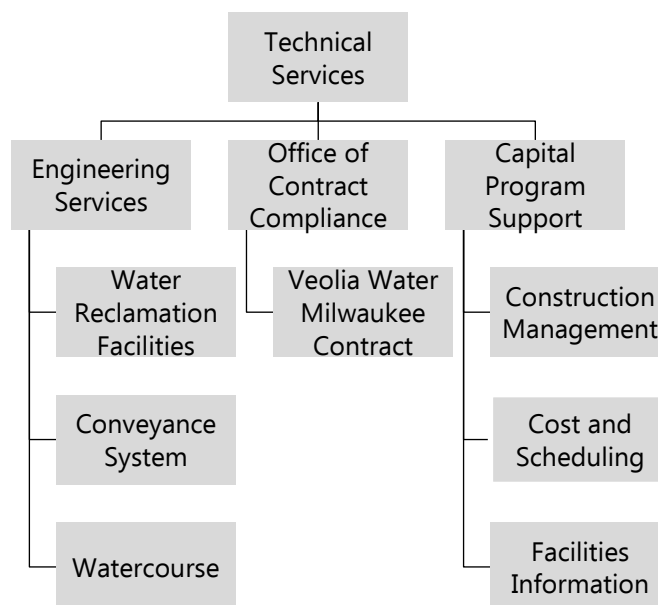
The mission of the Technical Services Division (TSD) is to protect the environment and promote public health and safety by providing for flood mitigation, wastewater conveyance, and wastewater treatment through the following: managing the engineering, design and construction of capital and major asset repair and replacement projects and contracts; overseeing contracts to operate and maintain the District's watercourse, conveyance, landfill gas pipeline, and water reclamation facilities; managing all District capital projects within the District's project management system; and providing a variety of capital project and asset support functions, including construction management, geographic and building information management system and surveying services. Capital projects are typically identified in the District's facilities plans, Watercourse System Improvement Plans, from Veolia Water Milwaukee requests for capital improvements or asset repair and replacements.

### OFFICE OF CONTRACT COMPLIANCE:

Oversees contract operations of the District's wastewater reclamation facilities, conveyance system, and landfill gas supply and pipeline. They also work on power supply and energy management, including working with We Energies and purchasing natural gas hedges. Staff also develops and manages less complex repair and replacement projects.

**ENGINEERING SERVICES:** Oversees design and engineering services of capital upgrades, including rehabilitation of existing and additions to District facilities. Most work is related to the water reclamation facilities, conveyance system, and watercourse system. In addition, this cost center manages all watercourse planning and maintenance contracts.

**CAPITAL PROGRAM SUPPORT:** Manages the development and administration of the Division's Capital Improvement Program, including forecasting project costs and schedules throughout the District's six-year planning horizon and beyond. The cost center provides construction management and contract administration services for Capital and O&M funded contracts, and oversees the District's geographic and facilities information systems programs. Finally, the cost center protects underground District assets throughout the District's service area via participation in the Diggers Hotline one-call system and provides surveying services for a variety of District functions including capital projects, asset protection, real estate and GIS.



# DIVISION STAFFING

Position Title	2019 Budget	2020 Budget	2021 Budget
<b>Engineering Services</b>			
Engineering Design Manager	1.0	1.0	1.0
Section Manager	3.0	3.0	3.0
Senior Project Manager II	2.0	2.0	2.0
Senior Project Manager - Electrical	1.0	1.0	1.0
Senior Project Manager	11.0	10.0	10.0
Project Manager-Electrical Engineer	0.0	0.0	1.0
Project Manager	0.0	1.0	3.0
Administrative Coordinator	1.0	1.0	1.0
Technical Services Coordinator	1.0	1.0	1.0
<b>Capital Program Support</b>			
Director of Technical Services	1.0	1.0	1.0
Capital Program Support Manager	1.0	1.0	1.0
Construction Support Manager	1.0	1.0	1.0
Construction Field Manager	1.0	1.0	1.0
Surveying Services Supervisor / Sr Project Mgr	1.0	1.0	1.0
GIS Supervisor	1.0	1.0	1.0
Senior Project Manager	3.0	3.0	4.0
Project Controls Supervisor	1.0	1.0	1.0
GIS Solution Administrator	1.0	1.0	1.0
Project Engineer	2.0	2.0	2.0
Project Controls Analyst	1.0	1.0	1.0
Administrative Assistant	1.0	1.0	1.0
Senior GIS Data Coordinator	1.0	1.0	1.0
Project Surveyor	4.0	4.0	4.0
GIS Data Coordinator	2.0	2.0	2.0
CAD Administrator	1.0	1.0	1.0
Project Controls Specialist	1.0	1.0	1.0
Engineering Aide	10.0	9.0	8.0
Survey Technician	1.0	1.0	1.0
GIS Specialist	1.0	1.0	1.0
CAD Specialist	1.0	1.0	1.0
<b>Office of Contract Compliance</b>			
Manager of Contract Compliance	1.0	1.0	1.0
Contract Compliance Assistant Manager	1.0	1.0	1.0
Contract Compliance Administrator	3.0	3.0	3.0
Project Manager	0.0	1.0	1.0
Project Engineer	3.0	3.0	3.0
Administrative Coordinator - Office of Contract Compliance	1.0	1.0	1.0
<b>Total Positions</b>	<b>66.0</b>	<b>66.0</b>	<b>69.0</b>

## ACCOMPLISHMENTS

- 17 capital projects have reached substantial completion, including a major flood management improvement project in Pulaski Park and modifications to the wharf wall on the site of MMSD HQ.
- Progress on one project now allows for the District to begin to utilize landfill gas to directly heat-dry biosolids and produce Milorganite®

## NEW INITIATIVES

- Begin design of relocating a combined sewer overflow that is needed for the Milwaukee River Area of Concern initiative
- Identify and implement ways to reduce the time necessary to construct major capital repair & replacement projects



The division's work on projects at the water reclamation facilities, conveyance system, and watercourses support the SDGs #6, 7, and 14.

## SUMMARY OF OPERATING EXPENDITURES

Technical Services Division	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
USES - OPERATING EXPENSES						
Engineering Services	2,927,832	6,904,804	3,196,223	3,213,652	(3,691,152)	-53.5%
Capital Program Support	3,135,285	3,371,982	3,174,716	3,397,818	25,836	0.8%
Office of Contract Compliance	68,812,130	67,344,879	67,440,250	69,440,483	2,095,604	3.1%
<b>Gross Division Total</b>	<b>\$74,875,247</b>	<b>\$77,621,664</b>	<b>\$73,811,189</b>	<b>\$76,051,953</b>	<b>(\$1,569,712)</b>	<b>-2.0%</b>
Charges to Capital	(5,746,974)	(5,834,315)	(6,899,786)	(6,506,596)	(672,281)	11.5%
<b>Net Division Total</b>	<b>\$69,128,273</b>	<b>\$71,787,349</b>	<b>\$66,911,403</b>	<b>\$69,545,357</b>	<b>(\$2,241,993)</b>	<b>-3.1%</b>
USES BY EXPENDITURE TYPE						
Fixed Assets	913,785	940,000	1,830,851	872,259	(67,741)	-7.2%
Personal Services	5,695,220	6,044,328	6,059,604	6,309,366	265,037	4.4%
Contractual Services	68,218,935	70,595,236	65,871,177	68,833,818	(1,761,418)	-2.5%
Materials & Supplies	47,307	42,100	49,556	36,510	(5,590)	-13.3%
<b>Gross Division Total</b>	<b>\$74,875,247</b>	<b>\$77,621,664</b>	<b>\$73,811,189</b>	<b>\$76,051,953</b>	<b>(\$1,569,712)</b>	<b>-2.0%</b>
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### BUDGET COMMENTS

- The fixed assets budget decreases 7.2 percent from the 2020 budget and includes funding for eight vehicles and replacement equipment for the water reclamation facilities.
- During 2020, the Engineering Services cost center added one Project Manager and one Senior Project Manager position to aid in succession planning for pending retirements. In 2021, one additional Project Manager position is added to provide support for the Watercourse section. The Capital Program Support cost center eliminated one vacant Engineering Aide position and is filling the position as a Senior Project Manager – Resident Engineer to help with construction projects.
- The Contractual Services line includes the operating contract with Veolia Water Milwaukee, which totals \$50.0 million. In the 2020 budget, the construction costs for Basin H PCB remediation and the IPS pipeline cleaning projects qualified for O&M funding. Upon further review, the projects qualify for capital funding, therefore, the Contractual Services line decreases by 2.5 percent.
- Charges to capital increase by \$672,281, resulting in a decrease to the O&M Budget, from the 2020 budgeted level based on the anticipated workload of capital projects.

### GOALS

- Improve accuracy of capital project schedule performance and expenditure estimates
- Reduce the backlog of major capital repair and replacement projects
- In cooperation with Veolia Water Milwaukee, identify ways to ensure consistent performance of the South Shore Water Reclamation Facility

### WORKLOAD INDICATORS

	2019 Actual	2020 Estimate	2021 Target
Achieve 3.5 or greater CMAR score for JI	3.91	3.50	4.0
Achieve 3.5 or greater CMAR score for SS	3.59	3.50	4.0
O&M expenditures stay within budget	100%	99%	100%
Capital expenditures stay within budget	100%	100%	100%
Total Digger's Hotline tickets assessed	21,586	25,000	25,000
Digger's Hotline requests processed by WI	100%	100%	100%
State Statute timelines			
% Wastewater captured & treated	98.4%	99.3%	100%

### CHALLENGES

- Continued impact of COVID 19 on the District, consultants, and contractors
- Retirement of highly experienced staff On-going challenges associate with South Shore Water Reclamation Facility performance



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# Planning, Research & Sustainability

## Division Summary

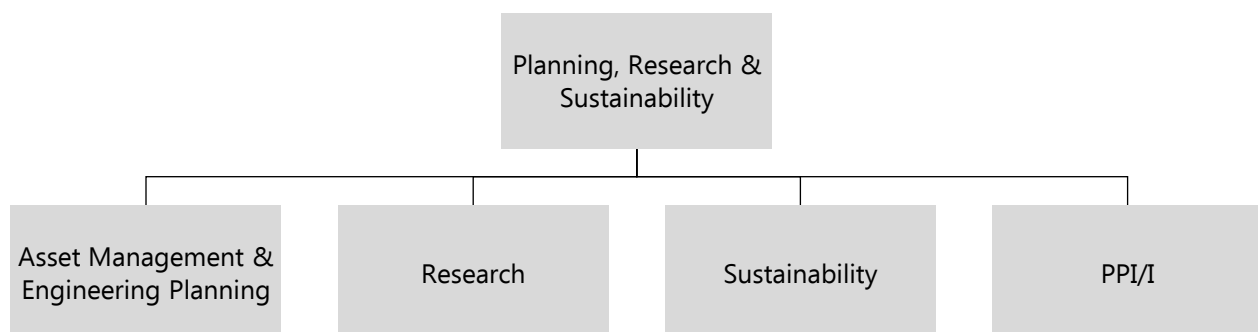
The Division conducts long-range, system-level facilities planning; analyzes potential alternatives for improving the District's capital projects, existing facilities, programs and operating procedures. The Division also manages District assets to provide defined levels of service at the lowest life-cycle costs while maintaining an acceptable level of risk. The Division oversees research that benefits and advances decision-making. Finally, the Division works to move the District toward sustainability in all facets of the District's operations by optimizing the use of green infrastructure, furthering renewable, recyclable, eco-friendly materials, and reducing energy consumption and emissions from fossil fuels.

**PLANNING:** The Planning group leads the District's long-range efforts to forecast future needs. It also serves as the main point of contact for municipalities, and manages the District's sewer design rules and the surface water & stormwater rule. Planning supports other Divisions and District-wide decision-making with: future development forecasting; data gathering; system modeling; and root-cause analysis. The District's facilities planning effort to be finalized in late 2020 considered full build-out of the planning area.

**ASSET MANAGEMENT:** The District's Asset Management Program is part of Planning's efforts to manage infrastructure, facilities, equipment and other assets to achieve organizational objectives. Asset management aims to: use assets to provide defined levels of service; maintain a level of risk acceptable to the organization; and achieve service level and risk objectives at the lowest life-cycle cost. Asset management analyzes business processes, data, information systems and organizational resources in planning, design, construction, operations, and maintenance.

**RESEARCH:** The research group works with industry partners and universities to conduct sound research to maximize operating efficiencies, reduce the District's carbon footprint and energy consumption, identify renewable energy opportunities, implement new, more efficient technologies, and mitigate threats to current District operations.

**SUSTAINABILITY:** In addition to meeting regulatory requirements, the District is committed to implementing sustainable practices that have a positive impact on the environment. Since 2010, the Planning, Research & Sustainability Division has led the District's efforts to achieve sustainability in all facets of the District's operations by optimizing the use of renewable, recyclable, and eco-friendly materials, implementing green infrastructure, reducing energy consumption and emissions from fossil fuels, and otherwise leading efforts to attain the 2035 Vision.



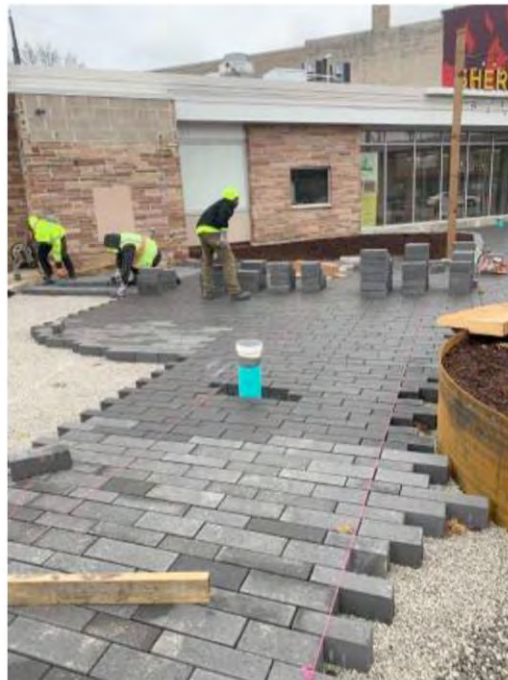
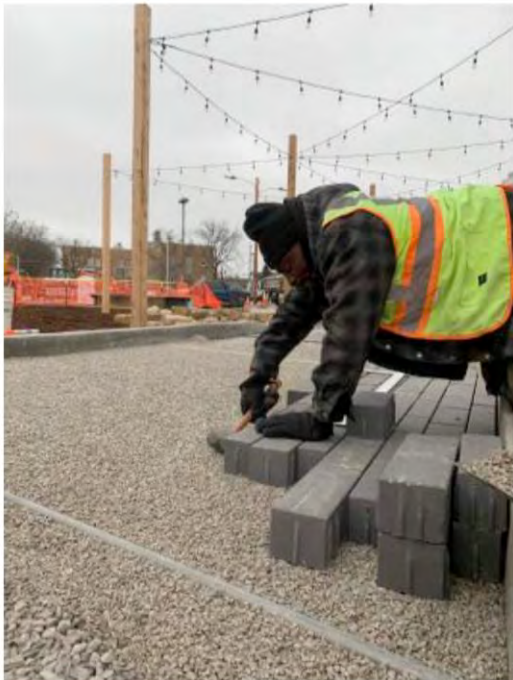


## DIVISION STAFFING

Position Title	2019 Budget	2020 Budget	2021 Budget
Director of Planning, Research, and Sustainability	1.0	1.0	1.0
Manager of Engineering Planning	1.0	1.0	1.0
Plants Program Manager	1.0	1.0	1.0
Asset Management Program Director	1.0	1.0	1.0
Manager of Sustainability	1.0	1.0	1.0
Senior Project Manager II	1.0	1.0	2.0
Environmental Research Manager	1.0	1.0	1.0
Senior Project Manager	3.0	5.0	4.0
Senior Project Planner	0.0	1.0	2.0
Senior Project Manager - Non-PE	2.0	2.0	2.0
Hydraulic Modeler & Analyst II	1.0	0.0	0.0
Project Manager	4.0	3.0	3.0
Project Engineer	1.0	1.0	1.0
Asset Management Analyst II	2.0	1.0	1.0
Asset Management Analyst	0.0	2.0	2.0
Neighborhood Outreach Coordinator	1.0	1.0	0.0
Quality Assurance Inspector	1.0	1.0	1.0
Administrative Coordinator	1.0	1.0	1.0
<b>Total Positions</b>	<b>23.0</b>	<b>25.0</b>	<b>25.0</b>

## ACCOMPLISHMENTS

- Awarded over \$3.2 Million in Green Infrastructure Partnership Program
- Initiated the Fresh Coast Protection Partnership with the private sector to strategically and cost-effectively build 8.45M gallons of new GI
- Experienced record high resident participation in the Glendale Green Summer GI program
- Added 387 acres of permanent conservation easements to the Working Soils® program for priority environmental corridors in the Milwaukee River watershed to help manage risk of flooding
- Showcased by American Chemical Society: MMSD research on using grit from water reclamation to repair street potholes



New porous pavement is installed on a redevelopment project, Sherman Phoenix.

## NEW INITIATIVES

- New green infrastructure maintenance program
- Partnering with other organizations to provide green infrastructure workshops
- New green infrastructure strategic implementation initiative
- Implementing the 2050 Facilities Plan
- Creating a master model for the water reclamation facilities
- New PPI/I residential program
- Energy Plan Update for MMSD facilities



## SUMMARY OF OPERATING EXPENDITURES

Planning, Research & Sustainability Division	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Fixed Assets	-	-	-	-	-	0.0%
Personal Services	2,095,282	2,230,125	2,239,366	2,459,409	229,284	10.3%
Contractual Services	2,676,444	2,925,501	2,156,902	2,926,124	623	0.0%
Materials & Supplies	113,771	93,100	151,700	72,200	(20,900)	-22.4%
<b>Gross Division Total</b>	<b>\$4,885,497</b>	<b>\$5,248,726</b>	<b>\$4,547,968</b>	<b>\$5,457,733</b>	<b>\$209,007</b>	<b>4.0%</b>
Charges to Capital	(1,934,435)	(2,051,971)	(2,419,463)	(2,399,830)	(347,858)	17.0%
<b>Net Division Total</b>	<b>\$2,951,062</b>	<b>\$3,196,755</b>	<b>\$2,128,505</b>	<b>\$3,057,903</b>	<b>(\$138,852)</b>	<b>-4.3%</b>

### BUDGET COMMENTS

- In mid-2020, one Senior Project Manager is promoted to Senior Project Manager II, and the Neighborhood Outreach Coordinator position is filled as a Project Manager.
- The Contractual Services line includes increased funding for the construction phase of the lighting upgrade at the hazardous locations in Jones Island and South Shore. The project will replace old inefficient lighting with new energy efficient technology.
- The Contractual Services line includes funding for the Fresh Coast Ambassador program, a conservation educational program that was previously funded in the Procurement and Supplier Development cost center.
- The Contractual Services line includes funding for an outside consultant to develop and implement an Asset Management Plan.
- The materials and supplies line includes decreased funding for rain barrels based on existing inventory.



The division works to move the District toward sustainability in all facets of the District's operations, supporting the SDGs #7 and 13.

#### GOALS

- Gain public adoption of green infrastructure
- Advance a robust, innovative asset management system
- Implement relevant tasks from the Regional Resilience Plan
- Complete the new Energy Plan to identify strategies to reduce energy use and emissions

### WORKLOAD INDICATORS

	2019 Actual	2020 Estimate	2021 Target
Submit all division-related WDNR reports in a timely fashion	Yes	Yes	Yes
Total gallons of green infrastructure installed	3.1M	3.0M	5.0M
Total customers at the Fresh Coast Resource Center	3,536	2,500	4,000
Percent of capital budget spent on research	0.3%	1.0%	1.0%
Percent of stormwater plan review completed within 10 days of first submittal, within 20 days of resubmittal	100%	100%	100%
Percent of sewer plans reviewed within 60 days	100%	100%	100%

#### CHALLENGES

- When we make plans, how do we engage the public in relevant ways?
- Additional regulatory requirements from the new WPDES permit
- Maintaining productive relationships with both member and non-member communities
- Monitoring growth and change in the service area



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# Water Quality Protection

## Division Summary

The Division monitors point and non-point source pollution, conveyance system performance, industry compliance with local, state and federal pretreatment requirements, and water quality in Lake Michigan and local rivers. This Division also provides laboratory services to meet the needs of the District. The Division contains five functional groups: Central Laboratory, Conveyance System Monitoring, Field Monitoring, Industrial Waste Pretreatment Program (IWPP), and Freshwater Resources Monitoring.

**CENTRAL LABORATORY** - The laboratory provides quality analytical services to meet the District's needs for environmental, product and process testing. Operating 365 days/year, it supports plant operations, the District's permit under the Wisconsin Pollution Discharge Elimination Systems (WPDES), the Industrial Waste Pretreatment Program (IWPP), Freshwater Resources Monitoring, Planning, Milorganite® marketing, and District projects. The laboratory is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certified by the Wisconsin Department of Natural Resources and the Wisconsin Department of Agriculture, Trade and Consumer Protection.

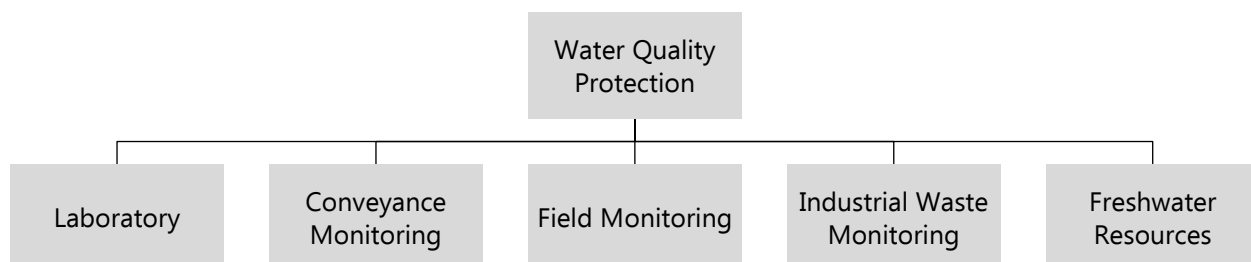
**CONVEYANCE SYSTEM MONITORING** - The District has over 400 various sensors, gauges and meters that are temporarily or permanently installed throughout the service area to measure levels, flows, rain, toxic gases and a variety of other parameters. These generate the data that the District needs for operations, planning and regulatory reporting. This group is responsible for ensuring the quality of that data as well as the analysis and reporting of that for a variety of purposes. The team provides retrieval and quality review of monitoring data from the water reclamation facilities as well as the conveyance system for internal and external customers.

**FIELD MONITORING** - This group supports the District's need for sample collection, field measurements and flow monitoring in the conveyance system and industrial settings. Their duties include installation, inspection, calibration and

maintenance of select monitoring equipment. They are the field support for the IWPP, including sampling, pH, flow and other field measurements, and support with investigations and inspections.

**INDUSTRIAL WASTE PRETREATMENT** - This group is responsible for implementation and enforcement of the point source pollution control standards through the mandated Industrial Waste Pretreatment and Mercury Reduction Programs. Their responsibilities include inspection of all 125+ industrial facilities on an annual basis and they play an important part in education of those and other industries about pollution prevention, District and other regulatory requirements and programs. This group is also responsible for the administration of the user charge verification and billing activities.

**FRESHWATER RESOURCES MONITORING** - This group makes field measurements and collects surface water samples from nearly 100 locations throughout the Milwaukee area watersheds. They are responsible for reviewing and analyzing over 125,000 laboratory-generated results as well as millions of field data measurements from boat surveys and real time water quality monitoring stations. The team prepares regulatory and program specific reports regarding this data. The water quality data are used to assess the impact of the conveyance system, treatment plant operations and District projects on local waterways. It is also uploaded to EPA, USGS and state-run databases so that it is accessible and used for regulatory and educational purposes by anyone who needs them.



# DIVISION STAFFING

Position Title	2019 Budget	2020 Budget	2021 Budget
<b>Industrial Waste, Freshwater Resources &amp; Conveyance Monitoring</b>			
Director of Water Quality Protection	1.0	1.0	1.0
Water Resources Program Manager	1.0	1.0	1.0
General Supervisor of Field Monitoring	2.0	2.0	2.0
Freshwater Resources Monitoring Supervisor	1.0	1.0	1.0
Conveyance Systems Data Supervisor	1.0	1.0	1.0
Senior Industrial Waste Engineer	1.0	1.0	1.0
Industrial Waste Pretreatment Coordinator	1.0	1.0	1.0
Water Resources Specialist	4.0	4.0	4.0
Monitoring/Sampling Specialist	8.0	8.0	8.0
System Monitoring Data Analyst	3.0	3.0	3.0
Monitoring/Sampling Shop & Field Technician	1.0	1.0	1.0
Monitoring/Sampling Technician	14.0	14.0	14.0
Administrative Coordinator	1.0	1.0	1.0
<b>Laboratory</b>			
Laboratory Manager	1.0	1.0	1.0
Laboratory Team Supervisor	2.0	2.0	2.0
Laboratory Project Manager	1.0	1.0	1.0
Quality Assurance Specialist	1.0	1.0	1.0
Laboratory Microbiologist	1.0	1.0	1.0
Laboratory Chemist	3.0	3.0	3.0
LIMS Systems/Database Analyst	1.0	1.0	1.0
Laboratory Technician	11.0	11.0	11.0
Administrative Assistant	1.0	1.0	1.0
Laboratory Helper	1.0	1.0	1.0
<b>Total Positions</b>	<b>62.0</b>	<b>62.0</b>	<b>62.0</b>



The division collects, analyzes, and reports important water quality data to ensure the District is meeting its permit requirements. The work supports the SDGs #6 and 14.

The District's water quality sampling boat, the Pelagos.



## ACCOMPLISHMENTS

- With COVID-19 crisis, all areas incorporated new procedures to allow them to continue to provide necessary services while maintaining social distancing and work in a safe manner.
- The Freshwater Resources Monitoring group implemented the use of electronic notebooks for field measurements and observations, enabling direct data entry and improving efficiency.
- IWPP staff developed and got WDNR approval for virtual inspections of industries for 2020 – brought about by concerns due to COVID-19
- The lab acquired a new BOD machine to improve the efficiency and keep current on technology in that area.
- The Industrial Waste Pretreatment Program reached out to over 500 local dentists to ensure that they meet the requirements of the Federal Dental Amalgam Rule.

## NEW INITIATIVES

- New WPDES permit requirements
- Dental Amalgam Federal rule changes to the District's discharge rule
- Proceed with permitted groundwater well abandonment
- Replace the ORP boat

# SUMMARY OF OPERATING EXPENDITURES

Water Quality Protection Division	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
USES - OPERATING EXPENSES						
Central Laboratory	2,472,208	2,687,736	2,620,543	2,645,002	(42,733)	-1.6%
Industrial Waste & Conveyance Monitoring	4,137,809	3,994,192	3,798,797	3,933,623	(60,569)	-1.5%
<b>Gross Division Total</b>	<b>\$6,610,017</b>	<b>\$6,681,928</b>	<b>\$6,419,340</b>	<b>\$6,578,626</b>	<b>(\$103,302)</b>	<b>-1.5%</b>
Charges to Capital	(2,094,391)	(1,807,342)	(2,162,898)	(1,907,814)	(100,472)	5.6%
<b>Net Division Total</b>	<b>\$4,515,626</b>	<b>\$4,874,586</b>	<b>\$4,256,442</b>	<b>\$4,670,812</b>	<b>(\$203,774)</b>	<b>-4.2%</b>
USES BY EXPENDITURE TYPE						
Fixed Assets	240,681	159,000	123,523	143,500	(15,500)	-9.7%
Personal Services	4,751,115	5,013,756	4,948,951	5,018,558	4,802	0.1%
Contractual Services	555,473	491,498	410,240	444,814	(46,684)	-9.5%
Materials & Supplies	1,062,748	1,017,674	936,626	971,754	(45,921)	-4.5%
<b>Gross Division Total</b>	<b>\$6,610,017</b>	<b>\$6,681,928</b>	<b>\$6,419,340</b>	<b>\$6,578,626</b>	<b>(\$103,302)</b>	<b>-1.5%</b>
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## BUDGET COMMENTS

- Fixed assets includes funding for a TOC analyzer, block digester, laboratory grade refrigerator, an autochemistry dishwasher, a spectrophotometer, and replacing a fume hood for the Lab. The decrease in the fixed assets budget is due to a one-time purchase of a pole camera in 2020.
- Contractual Services are decreasing from the 2020 budget after the completion of one-time projects. In 2021, the division will continue to contract for services as needed to maintain and repair groundwater monitoring wells, rain gauges, and other metering equipment.
- The Materials and Supplies line decreases by 4.5 percent due to the existing inventory in vehicle and marine supplies.
- Charges to Capital increases 5.6 percent based on the actual experience in 2019 and 2020.

## WORKLOAD INDICATORS

	2019 Actual	2020 Estimate	2021 Target
Number of survey days for freshwater quality monitoring completed	83	40*	82
Number of days of the skimmer on the water	122	85*	110
Compliance with DNR reporting requirements for complete and timely submittals	100%	100%	100%
Laboratory analyses meet regulatory-driven hold time requirements.	100%	100%	100%
Related permit data are subjected to an internal review within the constraints of permit deadlines, including the investigation of outlier data.	100%	100%	100%

\*Season limited due to COVID-19

## GOALS

- Train and succession plan to ensure workforce stability.
- Improve collaboration and communication between functional groups and with other divisions.
- Update Groundwater Monitoring Operation Plan and modify procedures.
- The Lab will implement the use of electronic notebooks and improve their system of measurement traceability with current technology.

## CHALLENGES

- Responding to the monitoring requirements for emerging contaminants such as PFAS.
- Ensuring health and safety in operations with regard to COVID 19
- More labor-intensive regulatory reporting requirements



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# Community Outreach & Business Engagement

## Division Summary

The Community Outreach and Business Engagement division is responsible for providing a host of oversight and support functions aimed at maximizing the use of District resources, while adhering to statutory, Commission, and administrative policies in carrying out District business. Community Outreach and Business Engagement provides procurement services, workforce and business development, public information and outreach, and marketing of Milorganite®. The Community Outreach and Business Engagement Division develops and maintains strategically effective relationships with a broad range of publics, including customers, stakeholders, governments, news and social media, youth education, related organizations and employees.

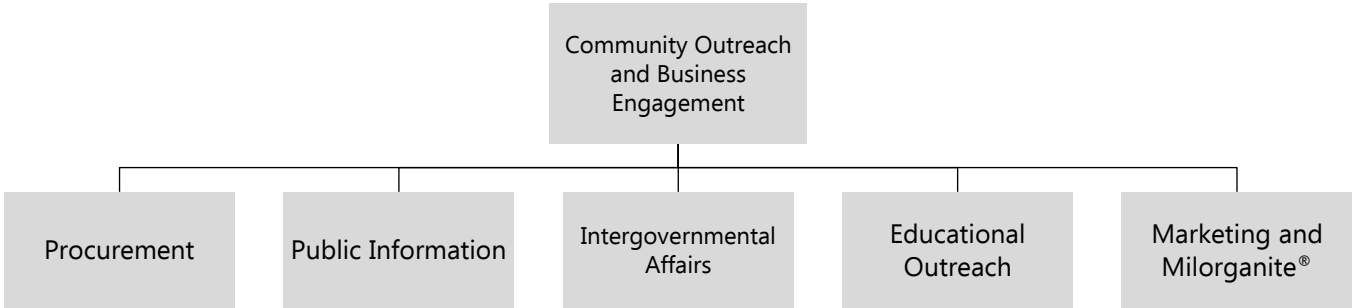
### PROCUREMENT AND SUPPLIER

**DEVELOPMENT:** Serves as the contracting authority of the District. The cost center conducts open, fair, and timely procurement processes founded upon the best practices in public purchasing. Additionally, the cost center is responsible for managing the Small, Women, Minority, and Veteran-owned Business Enterprises (SWMBE) program, and the Workforce and Business Development Resource program.

### PUBLIC INFORMATION, INTERGOVERNMENTAL AFFAIRS, AND EDUCATIONAL OUTREACH:

Creates and distributes timely, accurate and relevant information to the public and other audiences. The cost center manages the Household Hazardous Waste Collection Program, which helps minimize storm water pollution. The cost center also oversees the Greenseams® program that protects natural land to manage water where it falls.

**MARKETING AND MILORGANITE®:** Manages the Milorganite® program through coordination of its sales and marketing activities in an increasingly competitive fertilizer market.



## DIVISION STAFFING

Position Title	2019 Budget	2020 Budget	2021 Budget
<b>Procurement &amp; Supplier Development</b>			
Deputy Director of Community Outreach & Business Engagement	1.0	1.0	1.0
Procurement Supervisor	1.0	0.0	0.0
Supplier Diversity Specialist	2.0	2.0	2.0
Procurement Specialist	2.0	3.0	2.0
Administrative Assistant LTE	1.0	0.0	1.0
<b>Public Info., Intergov. Affairs, &amp; Educ. Outreach</b>			
Intergovernmental Coordinator	1.0	1.0	1.0
Public Information Manager	1.0	1.0	1.0
Program Manager - Greenseams®	1.0	1.0	1.0
Outreach Program Coordinator	3.0	2.0	2.0
<b>Marketing &amp; Milorganite®</b>			
Director of Community Outreach and Business Engagement	1.0	1.0	1.0
Operations Manager	1.0	1.0	1.0
Marketing Manager	1.0	1.0	1.0
Digital Marketing Specialist	0.0	1.0	1.0
Strategic Accounts Specialist	1.0	1.0	1.0
Customer Services Coordinator	2.0	2.0	2.0
<b>Total Positions</b>	<b>19.0</b>	<b>18.0</b>	<b>18.0</b>

## ACCOMPLISHMENTS

- Collected and disposed of over 1.1 million pounds of household hazardous waste
- Continued the Adopt-a-River program
- Social media followers are up 66% over the 2019 level
- Record Milorganite® net revenue in 2019 at \$11.8M

## NEW INITIATIVES

- Engaging the community through the Community Advisory Team
- Increased social media presence
- Internal training for outreach
- Launch Freshcoast Guardians Campaign as the region's *One Water* initiative



District outreach includes tours of the Jones Island Water Reclamation Facility.

## SUMMARY OF OPERATING EXPENDITURES

Community Outreach & Business Engagement Division	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
USES - OPERATING EXPENSES						
Procurement and Supplier Development	689,583	676,278	589,550	571,144	(105,133)	-15.5%
Public Info/Intergovt Affairs / Educational Outreach	2,125,850	2,051,696	1,756,844	2,034,138	(17,558)	-0.9%
Marketing & Milorganite®	4,044,104	4,117,329	4,897,653	4,524,147	406,818	9.9%
<b>Gross Division Total</b>	<b>\$6,859,537</b>	<b>\$6,845,302</b>	<b>\$7,244,047</b>	<b>\$7,129,429</b>	<b>\$284,127</b>	<b>4.2%</b>
Charges to Capital	(401,547)	(397,182)	(666,373)	(421,195)	(24,013)	6.0%
<b>Net Division Total</b>	<b>\$6,457,990</b>	<b>\$6,448,120</b>	<b>\$6,577,674</b>	<b>\$6,708,234</b>	<b>\$260,114</b>	<b>4.0%</b>
USES BY EXPENDITURE TYPE						
Fixed Assets	-	-	-	-	-	0.0%
Personal Services	1,502,171	1,617,182	1,549,655	1,675,205	58,023	3.6%
Contractual Services	4,586,884	4,492,483	4,775,709	4,556,958	64,475	1.4%
Materials & Supplies	770,482	735,637	918,683	897,266	161,629	22.0%
<b>Gross Division Total</b>	<b>\$6,859,537</b>	<b>\$6,845,302</b>	<b>\$7,244,047</b>	<b>\$7,129,429</b>	<b>\$284,127</b>	<b>4.2%</b>
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### BUDGET COMMENTS

- In the Procurement and Supplier Diversity cost center, the Procurement and Supplier Development Manager position is retitled Deputy Director of Community Outreach and Business Engagement. One Procurement Specialist is filled as an Administrative Assistant Limited Term Employee.
- In 2021, the Marketing and Milorganite® budget increases 9.9 percent with an increase for advertising, packaging supplies, and an outside contract for packaging Milorganite® product.
- The Materials and Supplies line increases 22 percent due to the increase in packaging supplies for Milorganite®.

### WORKLOAD INDICATORS

	2019 Actual	2020 Estimate	2021 Target
Average number of suppliers responding to competitive solicitations	2	2	2
Small, women-owned, and minority-owned business enterprise participation	34%	22%	20%
% of spending in the local sanitary sewer service area	53%	52%	45%
Social Media Subscribers	70,254	84,305	101,165
# of students in the environmental education outreach program	5,400	2,000	5,000
Total Milorganite® revenue	\$11.8M	\$11.9M	\$11.8M
Total Milorganite® tons sold	45,796	46,000	46,000
Greenseams® acres acquired	371	450	100

### GOALS

- Improve Milorganite® packaging to increase service levels
- Increase the impact of Greenseams® program through the development of new acquisition strategies
- Increase workforce development opportunities through additional apprenticeship programming
- Decrease the purchase order processing cycle time and cost

### CHALLENGES

- Producing Milorganite® in an increasingly regulated market
- Decentralized internal communication functions impact extent and quality of external communications



**PARTNERS FOR A CLEANER ENVIRONMENT**

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# Information Technology Services

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## Division Summary

The Division conducts all of the District's information technology business including telecommunications and provides specialized expertise to assist in many of the District's major areas of operations, including environmental monitoring, construction and contracts, government finance, procurement, human resources and records.

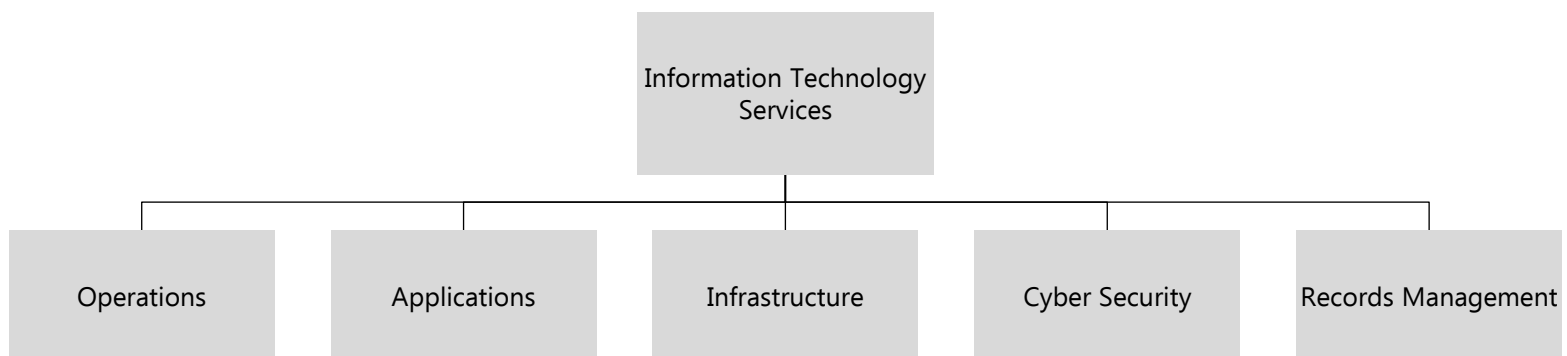
**OPERATIONS:** The technical staff support the Districts computer, mobile, printing, phones, backup and patching services. They respond to technical support incidents and service requests ensuring District employees and contractors are able to meet their own obligations.

**APPLICATIONS:** The Division ensures data integrity within District supported applications and acts as a main support channel to external supported applications such as software as service.

**INFRASTRUCTURE:** The District's back-end infrastructure consists of these services: Networking, WIFI, Servers, Database, Data Storage, Telecommunication and Wireless Communications (SCADA). The Division leverages District services to ensure technology infrastructure remains as uninterrupted as possible.

**CYBER SECURITY:** Cyber security is a top concern for the Division with continuous monitoring of the District's technology infrastructure for security threats. They collaborate with Risk Management to assess threats and provide cyber security expertise to the rest of the District.

**RECORDS MANAGEMENT:** The Records Management Department's mission is to develop, implement, and manage a district-wide, comprehensive, integrated, systematic Records Management Program designed to comply with Wisconsin Public Records laws. The Records Management Program focuses on the preservation of the District's official records and informational assets (both paper and electronic) by providing direction, to all divisions and departments, for the management, access, retention, storage, protection, and disposition of those assets.





# DIVISION STAFFING

Position Title	2019 Budget	2020 Budget	2021 Budget
<b>Information Technology Systems</b>			
Director of Information Systems	1.0	1.0	1.0
IT Infrastructure Supervisor	1.0	1.0	1.0
Application Development Supervisor	1.0	1.0	1.0
IT Operations Supervisor	1.0	1.0	1.0
IT Security Engineer	1.0	1.0	1.0
Infrastructure Analyst	1.0	1.0	1.0
Senior Systems Analyst	4.0	4.0	4.0
Senior Data Warehouse Analyst	1.0	1.0	1.0
IT Senior Infrastructure Analyst	1.0	1.0	1.0
Asset Management Database Coordinator	1.0	0.0	0.0
IT Senior Operations Analyst	1.0	1.0	1.0
Network Specialist	1.0	1.0	1.0
Systems Analyst	1.0	2.0	2.0
IT Operations Analyst	0.0	1.0	1.0
Web Applications and Site Developer	1.0	1.0	1.0
IT Operations Technician	3.0	2.0	2.0
<b>Records Management</b>			
Information Governance Manager	1.0	1.0	1.0
Records Information Management Technician	2.0	2.0	2.0
<b>Total Positions</b>	<b>23.0</b>	<b>23.0</b>	<b>23.0</b>

## ACCOMPLISHMENTS

- Mitel Voice & Collaboration system completed, enabling remote call management & work from home requirements
- Updated the District administrative policy related to handling sensitive information including personally identifiable information
- Developed server/computer patching baseline metrics
- Migrated Hach WIMS database from Oracle to SQL
- Replaced firewalls at HQ enabling work from home
- Implemented a security information and event management tool to track and coordinate security events



## NEW INITIATIVES

- Coordinate & implement Oracle ERP/HCM system
- Work with District staff to clean the MMSD Share location & store records appropriately
- Redesign the SQL environment
- Enhance the District's collaboration tools utilizing Microsoft 365- Planner, Teams, Yammer
- Upgrade & expand the Wi-Fi network at HQ/Lab
- Review system logging levels to address security related events



## SUMMARY OF OPERATING EXPENDITURES

Information Technology Services Division	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
USES - OPERATING EXPENSES						
Information Services	4,111,705	4,328,251	4,660,457	4,615,945	287,695	6.6%
Records Management	295,294	313,522	304,572	321,956	8,433	2.7%
<b>Gross Division Total</b>	<b>\$4,406,999</b>	<b>\$4,641,773</b>	<b>\$4,965,029</b>	<b>\$4,937,901</b>	<b>\$296,128</b>	<b>6.4%</b>
Charges to Capital	(76,403)	(307,587)	(147,853)	(147,873)	159,715	-51.9%
<b>Net Division Total</b>	<b>\$4,330,596</b>	<b>\$4,334,186</b>	<b>\$4,817,176</b>	<b>\$4,790,029</b>	<b>\$455,843</b>	<b>10.5%</b>
USES BY EXPENDITURE TYPE						
Fixed Assets	-	-	-	-	-	-
Personal Services	1,951,689	2,106,007	2,105,423	2,141,389	35,382	1.7%
Contractual Services	2,150,754	2,192,016	2,524,242	2,500,821	308,805	14.1%
Materials & Supplies	304,556	343,750	335,364	295,691	(48,059)	-14.0%
<b>Gross Division Total</b>	<b>\$4,406,999</b>	<b>\$4,641,773</b>	<b>\$4,965,029</b>	<b>\$4,937,901</b>	<b>\$296,128</b>	<b>6.4%</b>
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### BUDGET COMMENTS

- The Personal Services account increases due to salary increases.
- The \$2,500,821 for Contractual Services funds software licenses and maintenance, software consultants, and hardware maintenance. Funding is also included for the offsite storage of physical records. The increase is due to the new software agreement for the District's Oracle financial system.
- The \$295,691 in Materials and Supplies includes funding for new and replacement hardware and software purchases, including replacing the storage array network at the District's recovery site, and staff desktops, laptops, and smartphones. The decrease from the 2020 budgeted level is due to one-time expenditures in 2020 that are not needed in 2021.
- In 2021, the Charges to Capital are for the anticipated staff time spent on implementing the new financial system. The decrease from the 2020 budgeted level is due to the actual experience in 2020.

### GOALS

- Review District's cloud strategy & develop a pilot program
- Update the District's Commission policy for records retention & implement destruction of District emails
- Use SysAid for asset inventory to manage computer hardware & software items
- Maintain 99.1% uptime for all network & server resources
- Improve current & implement additional security controls towards a targeted security profile

### CHALLENGES

- Cyber Security awareness training for all staff
- Discover, identify and catalog District data to ensure District records are stored in appropriate repositories
- Maintain IT partnerships with each division to provide value in support of the MMSD mission
- Ensure staff remain engaged & trained to keep up with technology changes

## WORKLOAD INDICATORS

	2019 Actual	2020 Estimate	2021 Target
Software and hardware replacement schedules are updated annually	100%	100%	100%
Annually evaluate how new software systems interact with existing software systems	100%	100%	100%



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# Other Expenditures

## Fringe Benefits

The fringe benefits accounts cover the cost of providing insurance benefits to active employees including medical, dental, vision, life, and disability insurance, unemployment and workers' compensation, Social Security and Medicare, as well as the City of Milwaukee's Employee Retirement System contributions. Retiree benefits funded through the fringe benefit account include health and life insurance.

	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Retirement System Contribution	\$1,571,289	\$4,016,159	\$1,639,776	\$1,639,776	(\$2,376,383)	-59.2%
Group Health Insurance	3,311,081	3,500,000	3,230,812	3,424,662	(75,338)	-2.2%
Group Life Insurance	314,904	300,000	329,262	300,000	0	0.0%
Worker's Compensation Insurance	91,229	120,000	82,505	120,000	0	0.0%
Social Security	1,473,513	1,491,599	1,501,608	1,520,474	28,876	1.9%
Unemployment Comp. Insurance	0	10,000	1,707	10,000	0	0.0%
Group Dental Insurance	183,397	200,000	161,650	200,000	0	0.0%
Disability Insurance	43,920	50,000	44,550	50,000	0	0.0%
Active Employee Subtotal	\$6,989,333	\$9,687,757	\$6,991,870	\$7,264,912	(\$2,422,845)	-25.0%
Group Health Insurance - Retiree	5,586,715	5,800,000	5,309,524	5,628,094	(171,906)	-3.0%
Group Life Insurance - Retiree	227,381	265,000	238,532	265,000	0	0.0%
Retiree Subtotal	\$5,814,096	\$6,065,000	\$5,548,056	\$5,893,094	(\$171,906)	-2.8%
<b>Fringe Benefit Total</b>	<b>\$12,803,429</b>	<b>\$15,752,757</b>	<b>\$12,539,926</b>	<b>\$13,158,007</b>	<b>(\$2,594,751)</b>	<b>-16.5%</b>

### RETIREMENT SYSTEM CONTRIBUTION

The District is a member agency of the City of Milwaukee Employee's Retirement System (CMERS). CMERS is funded through two methods: employer contributions and member (employee) contributions. In 2013, CMERS adopted a policy for the employer contributions to create a budget stabilization method of funding. The contribution policy requires that employers make contributions to the system based on a set percent of payroll for a five-year period regardless of any individual year's performance. This allows predictability for budgeting for all agencies participating in the retirement system. The first five-year period concluded in 2018, and a new five-year contribution level was evaluated and set through 2023, and for the District the rate is 8.77 percent of payroll. Looking forward, CMERS has indicated that there might be additional plan changes beginning with the next five-year window. The District will also make payment to CMERS for former District staff who transitioned first to the UWS contract and are still employed with Veolia Water until their retirement. In addition to the employer contribution, District staff make member contributions through payroll deductions. For all staff hired before 1/1/2014, the deduction is 5.5 percent of payroll. For staff hired on or after 1/1/2014, the deduction is 4 percent; the change relates to plan design changes adopted by CMERS beginning 1/1/2014.

### HEALTH CARE

The District is self-funded for active and some retiree health care. The cost of health care is offset by active and some retiree contributions. In order to protect the District from volatile expenditures related to catastrophic claims, the District subscribes to a stop loss policy that takes effect after \$150,000 has been paid in claims for a single member. Since 2005, the District has averaged just over two members reaching the stop loss threshold each year. The rising cost of healthcare remains a key challenge for the District's budget. The District's ongoing review with health benefit consultants and the continuance of an employee wellness program have helped to curtail some of the costs, keeping the medical plan cost relatively stable.

**Active Employees** The 2021 budgeted level is budgeted \$75,338 lower than the 2020 budget level after considering the 2019 actual expenditures and the 2020 year-end projection. District employees contribute to their premium equivalent

contribution for healthcare, which decreases the amount the District pays per active employee. The 2021 budget proposes no changes from the 2020 level; employees with the District's single coverage plan contribute \$100 per month towards their health insurance and employees with the family coverage plan contribute \$270 per month towards their health insurance. As in the past, the District will continue to offer employees a wellness credit for participating in the wellness program.

**Retirees** The District funds its retiree healthcare obligation on a pay as you go basis. The 2021 budgeted level is \$171,906 lower than the 2020 budgeted level after considering the past actual experience and the 2020 year-end projection.

#### OTHER FRINGE BENEFITS

The District also offers dental insurance, life insurance, and disability insurance to its employees. The District also has workers compensation and unemployment insurance policies. The 2021 budget is relatively similar to the 2020 budgeted level.

**WELLNESS COMMITTEE** Rising health care costs have prompted many organizations to look for new ways to lower expenses. One way to lower costs is to improve the health of the District's workers. Healthy people cost less, are more productive, and contribute more to the District's performance. Workplace wellness programs offer ways to help people get healthy and stay healthy. The Wellness Committee helps individuals practice healthy lifestyles and change unhealthy habits to reduce their risks of developing high-cost health problems.



The goal of a workplace wellness program is to encourage employees and their families to adopt and practice healthy lifestyles to improve their physical and mental well-being. The goal is achieved by making the work environment a place where:

- Healthy behaviors are promoted, encouraged and supported
- Employees have easy access to programs to help them make better lifestyle choices
- Employees have the opportunity to practice healthy lifestyle behaviors

In 2019, the District introduced Go365®, an employee wellness program powered by Humana. The program incentivizes employees to take a greater stake in their health by giving them the tools and support they need. The program offers resources for employees dealing with everyday stressors like financial, family, and emotional concerns.

## Charges to Capital

Charges to capital reflect adjustments to cost center operating expenses, including indirect charges and laboratory charges for work performed for capital projects and facilities planning purposes, and expenditures under the Veolia Water Milwaukee operating contract that relate to the Capital Improvement Program. These accounts are designed to offset operating expenses and appropriately transfer the expenses. In 2021, charges to capital increase 7.0 percent from the 2020 level.

	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020 Budget
Direct Charges to Capital	(4,414,057)	(4,386,043)	(5,447,043)	(4,966,521)	(580,478)	13.2%
Indirect Charges to Capital	(9,285,056)	(10,166,319)	(11,101,338)	(10,652,085)	(485,766)	4.8%
Charges to Veolia	(158,652)	(200,000)	(200,000)	(200,000)	-	0.0%
Charges to Capital – Other	(387,782)	(468,000)	(387,782)	(468,000)	-	0.0%
<b>Charges to Capital - Total</b>	<b>(14,245,547)</b>	<b>(15,220,362)</b>	<b>(17,136,163)</b>	<b>(16,286,606)</b>	<b>1,066,244)</b>	<b>7.0%</b>

**DIRECT CHARGES TO CAPITAL** From 2020 to 2021, direct charges to capital increase by 13.2 percent, which includes more work qualifying for capital and salaries increasing. Direct charges relate to District labor hours associated with work on capital projects.

**INDIRECT CHARGES TO CAPITAL** The District's indirect rate assigns costs chargeable to capital projects and allocates indirect costs on the basis of direct salaries and wages. Indirect costs are costs that are not identified specifically with a particular unit process or final cost objective, including administrative support costs and fringe benefits. The final capital projects indirect cost rate is audited each year by the District's outside auditor and a carry-forward adjustment is made for any surplus or deficit of funds recovered from the indirect cost rate.

**CHARGES TO CAPITAL - VEOLIA** In 2021, Veolia will continue to work on a number of District projects and charge its staff time to the Capital Budget. Charges to Capital - Veolia are budgeted at the same level as in 2020.

**CHARGES TO CAPITAL - OTHER** These costs include lab analyses for capital projects. The District projects a similar workload in 2021 from the 2020 level.

## Unallocated Reserve

The Unallocated Reserve fund provides a reserve for unanticipated or increased expenses that may arise during the year. The District's Commission must authorize the use of funds from the Unallocated Reserve. Once approved, funds are then transferred from the Unallocated Reserve to specific cost center line item accounts rather than being expended directly.

	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2019 Budget
Budgeted Unallocated Reserve	\$0	\$2,176,906	\$0	\$2,093,125	(\$83,781)	-3.8%

The 2021 budgeted level is approximately 2.0 percent of net division expenditures, complying with policy requiring the Unallocated Reserve to be budgeted between 2.0 percent and 3.5 percent of net division expenditures.



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## Capital Budget

The Capital Budget funds the District's investment in long-term assets supporting the District's mission to cost-effectively protect the quality of the region's water resources.

### Capital Improvement Program and the Long-Range Financing Plan

Expenditures funded through the Capital Budget are typically for multi-year projects; therefore, planning is a critical facet of the District's capital budgeting process. As such, the District prepares a Capital Improvement Program (CIP) to ensure that the District appropriately plans for future capital needs. The CIP includes all known projects and identifies their start and end-dates by phase. As new projects are identified each year, they are included in the CIP. Depending on priorities and financial constraints, projects in the CIP may be advanced or delayed to meet objectives. Projects included in the CIP are primarily identified through the District facilities plans, watercourse and flood management, asset management and annual requests, and cost reimbursement capital programs. These are described below.

**2020 FACILITIES PLAN – ADAPTIVE IMPLEMENTATION SCHEDULE** In 2007, the District completed a ten-year facilities plan to address future population, land use, and wastewater asset needs within the District's service area, using the watershed approach, to identify capital improvements necessary for wastewater, conveyance, treatment, and watercourse and flood management needs through 2020. The adaptive plan process allows for revised recommendations should greater growth than anticipated occur.

**WATERCOURSE AND FLOOD MANAGEMENT** There are six watersheds within the District's service area: the Kinnickinnic River, Lake Michigan Tributary Drainage, the Menomonee River, the Milwaukee River, Oak Creek, and the Root River. The District has discretionary authority to perform flood mitigation on these waterways. This work includes rehabilitation and removal of concrete, lowering floodplains and widening of channels for flood management purposes, and construction of detention basins, pumping stations, and levees.

**ASSET MANAGEMENT AND ANNUAL REQUESTS** Each year as new issues are identified by the District, new projects may be added to the CIP.

**COST REIMBURSEMENT CAPITAL PROGRAMS** The District administers several capital programs that provide funding for municipal work that benefits the District's system, some of which include municipal cost reimbursement programs.

Projects in the CIP reflect current cost and scope estimates as of a point in time in the individual project's life cycle. The current cost estimate for individual projects is expressed in the budget-year dollars.

### Long-Range Financing Plan

The long-range financing plan approved by the Commission identifies the level of funding from each source for capital expenditures for the period 2021 through 2026. The District's long-range financing plan uses projections that are preliminary and may 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, the current projections will be sufficient to allow the District to meet its mandates and fulfill its statutory requirements.

The following objectives are the cornerstone of the District's long-range financing plan:

- 25 percent average cash financing of project expenditures over the six-year financing plan
- Outstanding debt no more than 2.5 percent of equalized property value
- Consistency with the implementation of current approved facility plan

The 2021 long-range financing plan estimates \$857,746,000 in project expenditures and \$633,409,000 in debt service expenditures for a combined total of \$1,491,154,000 in capital expenditures from 2021 through 2026.

## 2021 Capital Budget

### Revenues/Funding

The main sources of revenue for the capital program are the tax levy and ad valorem-based billings to non-member communities. The 2021 Capital Budget includes a tax levy increase of 1.0 percent as compared to a 4.0 percent increase projected in the long-range financing plan in the 2020 Capital Budget. In addition, the District receives funding through low-interest Clean Water Fund Program (CWFP) loans and issues its own general obligation bonds to finance capital expenditures. In 2021, debt financing provides 35.3 percent of overall funding of capital project expenditures. Other sources of funds include federal and state aid, interest income, and the use of available funds on hand.

The property tax rate for the 2021 Capital Budget is \$1.58 per thousand dollars of equalized valuation. Equalized values for the District are 5.24 percent in 2021 and averages 2.0 percent for the remaining years in the six-year plan. For nonmember communities, equalized values are projected to increase 2.95 percent in 2021 and 3.4 percent thereafter.

### Expenditures/Disbursements

The District has four capital expenditure accounts: Water Reclamation Facilities, Conveyance Facilities, Watercourse and Flood Management, and Other Projects and Programs. In the 2021 Capital Budget, Water Reclamation Facilities and Conveyance Facilities comprise 20.1 percent and 7.4 percent, respectively, of the budget. Watercourse and Flood Management projects total 6.7 percent of expenditures, and Other Projects and Programs total 14.4 percent of expenditures.

The largest portion of the District's capital disbursement in the six-year plan is for debt service payments. In the 2021 Capital Budget and debt service payments are 51.3 percent of expenditures and disbursement.

For further detail on the District's capital expenditures and disbursements, please see the Uses of Funds section of this Capital Summary, each capital account section, and the Debt Service section.

## Impact on the Operating Budget

The District undertakes life-cycle costing in the analysis of capital projects. This includes identifying, when possible, what the change in O&M costs will be following the completion of each capital project. These analyses are useful not only for decision-making to select the lowest life-cycle cost option among competing alternatives, but also for properly forecasting expenditure changes to be included in future O&M budgets. Operating and maintenance costs should be carefully considered in deciding which projects move forward in the CIP.

The majority of the District's CIP is focused on the improvement, replacement, or a rehabilitation or of existing water reclamation and conveyance infrastructure rather than the construction of new facilities to expand capacity. As such, it is often the case that replacements do not result in changes from the current level of budgeted O&M expenditures. In project summaries, the O&M impact will be stated as "no significant impact".

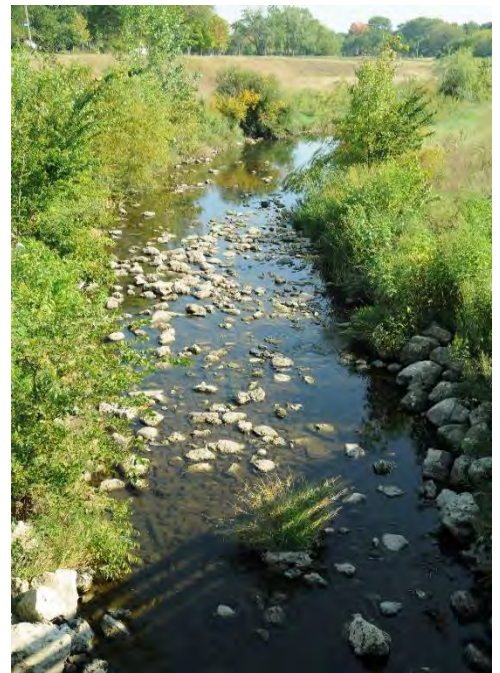
When the District CIP undertakes new initiatives or new technologies, it is more likely to result in new O&M expenditures or incremental changes to ongoing O&M expenditures. Sometimes the project could result in avoided costs or savings, such as the Landfill Gas Project. In CIP project summaries, the O&M impact section will describe the changed condition, start date, and annual budget impact.

In addition, the District's capital budget includes capital programs which support the District's capital infrastructure and mission through improvements to municipal or privately-owned infrastructure. In such cases, the District's capital expenditures would generally not result in changes to the current level of O&M expenditures (as the resulting improvements are not operated or maintained by the District) but instead help to preserve the capacity and long-term cost-effective operation of the District's system.

## Highlights of the 2021 Capital Budget

The highlights of the 2021 Capital Budget and long-range financing plan include:

- Rehabilitation and replacement of existing facilities
  - Drying and Dewatering Facilities
  - Basin H MIS PCB Remediation and Rehab
  - Interplant Sludge Pipeline Improvements
- Construct Electrical Upgrades for the JIWRP Preliminary Treatment System
- Watercourse
  - Western Milwaukee
  - Kinnickinnic River Projects
  - Burnham Canal
- Fresh Coast Solutions – Phase 2
- Green Solutions
- Impact of Lake Levels on MMSD Assets
- Fresh Coast Fresh Start



## Guide to the 2021 Capital Budget

The 2021 Capital Budget is divided into seven sections: Summary, Capital Sources of Funds, Water Reclamation Facilities, Conveyance, Watercourse and Flood Management, Other Projects and Programs, and Debt Service. The Summary section provides an overview of Capital Budget sources and uses of funds and discusses how capital project estimates are made and refined during the life-cycle of a capital project. Sources of Funds provides additional detail on each source and related budget assumptions. The following four sections organize the capital accounts and describe all projects funded in 2021, as well as any changes in project scope or total project cost from the 2020 Adopted Capital Budget. In the 2021 Capital Budget, the estimated cost of each project is expressed in current dollars. An escalation factor of 2.0 percent for future years cost is included in a separate capital project account. The final section provides information on the District's debt obligations and debt service payments.

## 2021 Capital Budget Summary of Revenues and Expenditures (in thousands)

	2019 Actual	2020 Adopted Budget	2020 Estimate	2021 Capital Budget	Change from 2020 Budget	% Change from 2020 Budget
<b>Revenues</b>						
Tax Levy	\$100,101	\$101,853	\$101,854	\$102,873	\$1,020	1.0%
Non-member Communities	29,992	28,419	27,395	27,686	(733)	-2.6%
Interest and Other Income	4,959	2,526	4,383	119	(2,408)	-95.3%
Federal and State Aid	4,182	2,419	1,580	3,730	1,311	54.2%
CWFL Loans	17,202	49,024	15,313	37,437	(11,587)	-23.6%
District Bonds and Notes	-	80,000	145,313	46,000	46,000	-42.5%
<b>Total Revenues</b>	<b>156,436</b>	<b>264,241</b>	<b>295,838</b>	<b>217,845</b>	<b>(46,396)</b>	<b>-17.6%</b>
<b>Available Funds</b>						
Use of (Additions to) Available Funds	42,300	(37,093)	(33,853)	288	37,381	-100.8%
<b>Total Revenues and Available Funds</b>	<b>\$198,736</b>	<b>\$207,549</b>	<b>\$261,985</b>	<b>\$218,133</b>	<b>(\$9,015)</b>	<b>-4.0%</b>
<b>Expenditures</b>						
<b>Capital Program Group</b>						
Water Reclamation Facilities	38,155	50,509	64,555	43,850	(6,659)	-13.2%
Conveyance Facilities	5,641	13,045	10,733	16,118	3,072	23.6%
Watercourse and Flood Management	21,753	16,977	19,452	14,712	(2,265)	-13.3%
Other Projects	24,591	34,992	31,824	31,452	(3,540)	-10.1%
<b>Total Capital Program Group Expenses</b>	<b>90,140</b>	<b>115,523</b>	<b>126,565</b>	<b>106,131</b>	<b>(9,391)</b>	<b>-8.1%</b>
<b>Debt Services Payments</b>						
From Tax Levy and Available Funds	102,203	105,302	129,098	106,359	1,057	1.0%
Reserved in Debt Service Fund	6,393	6,323	6,323	5,643	(680)	-10.7%
<b>Debt Service</b>	<b>108,596</b>	<b>111,625</b>	<b>135,421</b>	<b>112,002</b>	<b>377</b>	<b>0.34%</b>
<b>Total Expenditures</b>	<b>\$198,736</b>	<b>\$227,149</b>	<b>\$261,985</b>	<b>\$218,133</b>	<b>(\$9,015)</b>	<b>-4.0%</b>
<b>Tax Rate per \$1,000 of Equalized Value</b>	<b>\$1.73</b>	<b>\$1.65</b>	<b>\$1.65</b>	<b>\$1.58</b>	<b>(\$0.07)</b>	<b>-4.0%</b>

Note: The sum of rounded components may not equal the total due to rounding. 2020 Estimate is as of Q2.



# 2021 Capital Budget

## Long-Range Financing Plan

(Dollars in thousands)

	Estimate 2020	Six-Year Capital Improvements Program						Six-Year Total
		2021	2022	2023	2024	2025	2026	
<b>Beginning balance</b>	\$46,050	\$79,903	\$79,615	\$72,032	\$115,934	\$84,549	\$85,575	
<b>Add</b>								
Tax levy	\$101,854	\$102,873	\$106,987	\$111,267	\$115,718	\$120,346	\$125,160	\$682,351
Non-member Billings	\$27,395	\$27,686	\$24,152	\$27,350	\$30,441	\$28,613	\$32,234	\$170,475
Interest & other	\$4,383	\$119	\$119	\$108	\$173	\$126	\$128	\$771
Federal and State Aid	\$1,580	\$3,730	\$2,238	\$2,328	\$2,421	\$2,518	\$2,618	\$15,853
CWF Loans	\$15,313	\$37,437	\$70,964	\$70,308	\$58,681	\$88,086	\$54,270	\$379,745
District Bonds/Notes	\$145,313	\$46,000	\$40,000	\$80,000	0	\$40,000	\$40,000	\$246,000
<b>Total revenues</b>	<b>\$295,838</b>	<b>\$217,845</b>	<b>\$244,459</b>	<b>\$291,361</b>	<b>\$207,432</b>	<b>\$279,688</b>	<b>\$254,410</b>	<b>\$1,495,195</b>
<b>Use of (Additions to)</b>								
available funds	(\$33,853)	\$288	\$7,583	(\$43,903)	\$31,385	(\$1,026)	\$1,632	(\$4,041)
	<b>\$261,985</b>	<b>\$218,133</b>	<b>\$252,042</b>	<b>\$247,458</b>	<b>\$238,817</b>	<b>\$278,662</b>	<b>\$256,041</b>	<b>\$1,491,154</b>
<b>Less</b>								
Water Reclamation Facilities	\$64,555	\$43,850	\$47,226	\$48,857	\$53,016	\$62,044	\$62,313	\$317,307
Conveyance Facilities	\$10,733	\$16,118	\$36,589	\$33,006	\$17,506	\$33,172	\$11,916	\$148,306
Watercourse & Flood Mgmt	\$19,452	\$14,712	\$26,575	\$28,401	\$31,873	\$41,251	\$42,558	\$185,369
Other Projects/Programs	\$31,824	\$31,452	\$45,661	\$39,865	\$29,909	\$33,011	\$26,867	\$206,763
<b>Projects / Programs</b>	<b>\$126,564</b>	<b>\$106,131</b>	<b>\$156,051</b>	<b>\$150,128</b>	<b>\$132,304</b>	<b>\$169,478</b>	<b>\$143,654</b>	<b>\$857,746</b>
Existing GO debt service	\$61,721	\$38,887	\$30,680	\$25,286	\$26,806	\$26,877	\$26,882	\$175,418
Existing CWFL debt service	\$72,008	\$70,199	\$56,507	\$55,001	\$54,075	\$51,822	\$46,889	\$334,493
Other Debt Service	\$1,692	\$1,691	\$1,691	\$1,691	\$1,690	\$1,690	\$1,689	\$10,142
Future CWFL Debt Service	0	\$385	\$3,052	\$7,494	\$11,780	\$15,803	\$20,952	\$59,465
Future GO debt service	0	\$840	\$4,061	\$7,858	\$12,163	\$12,993	\$15,975	\$53,890
<b>Debt service</b>	<b>\$135,421</b>	<b>\$112,002</b>	<b>\$95,992</b>	<b>\$97,330</b>	<b>\$106,514</b>	<b>\$109,184</b>	<b>\$112,387</b>	<b>\$633,409</b>
<b>Total uses</b>	<b>\$261,985</b>	<b>\$218,133</b>	<b>\$252,042</b>	<b>\$247,458</b>	<b>\$238,817</b>	<b>\$278,662</b>	<b>\$256,041</b>	<b>\$1,491,154</b>
<b>Ending balance</b>	\$79,903	\$79,615	\$72,032	\$115,934	\$84,549	\$85,575	\$83,944	
<b>Tax rate / \$1000</b>	\$1.65	\$1.58	\$1.61	\$1.64	\$1.67	\$1.71	\$1.74	
<b>% Change in Tax Levy</b>	0.0%	1.00%	4.0%	4.0%	4.0%	4.0%	4.0%	
<b>Annual % cash financing</b>	0%	21%	30%	0%	56%	24%	34%	27.05%
<b>G.O. debt at year-end</b>	\$788,095	\$776,527	\$813,356	\$891,093	\$870,849	\$916,910	\$927,408	
<b>Debt as % of Eq. Value</b>	1.20%	1.11%	1.14%	1.23%	1.17%	1.21%	1.20%	

### Notes

1. 2020 beginning balance is net of \$38.0M reserved for municipal capital reimbursement programs: Private Property I/I and Green Solutions.
2. Tax levy growth limited to 1.00% for 2021 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.
3. Change in District equalized value determined in 2020 for use in 2021 is 5.24% and averages 2.0% thereafter; and non-member determined in 2020 for use in 2021 is at an average of 2.95% and averages 3.4% thereafter.
4. Investment of available funds at 0.15% interest rate.
5. Future District bond issues structured as 20-year level debt service at 3.65% in 2021 and increasing to 4.15% through 2026.
6. Future Clean Water Fund Loan debt service assumed at 55% of District bond rate, or 2.01% to 2.28% from 2021 through 2026.

# Uses of Funds

The Capital Budget funds capital expenditures and disbursements in four project-related capital expenditure accounts and debt service. The District defines a capital expenditure and disbursement as the costs of acquiring, purchasing, adding to, leasing, planning, designing, constructing, extending, and improving all or any part of a sewerage system and of paying principal, interest or premiums on any indebtedness incurred for these purposes. In 2021, the District plans to spend \$106.1 million on capital projects. This represents an 8.1 percent decrease from the 2020 budgeted level of \$115.5 million. Of the total 2021 capital budget, the District will spend \$43.9 million on Water Reclamation Facilities; \$16.1 million on Conveyance Projects; \$14.7 million on Watercourse and Flood Management Projects; and \$31.5 million on Other Projects and Programs. Debt service for principal and interest payments on District bonds and State Clean Water Fund Program loans increases by 0.3 percent from 2020 budgeted level, to \$112.0 million.

## Capital Projects and Capital Programs

Capital projects include any of several activities which are integrally related to and may result directly in the creation of or modifications to a District asset. Such activities include, but are not limited to, feasibility studies, facilities planning studies, engineering and design studies and plans, and actual construction. A single project may consist of one or more of these activities and may or may not include construction.

A capital program, on the other hand, is a program that provides funding to the municipalities the District serves so that the municipality may do work that is mutually beneficial to both entities. The District administers several capital programs that provide funding for municipal work that benefits the District’s system, some of which include municipal cost reimbursement programs.

**Project Identification** In the past the District used Primavera Project Management software to plan and track the progress of the Capital Improvement Program. Currently a project is underway to move to a new subscription-based software solution. Both systems make use of a project numbering system, and these project numbers are used throughout the budget. In order to facilitate the use of the new software some existing projects have been renumbered and are identified as such in the project descriptions.

**Project Descriptions** For each project with anticipated expenditures in 2021, there is a description included in this document. Each of these projects also includes a table with summary information indicating the start and finish dates. Note that these dates represent the achievement of a major milestone, such as substantial completion, and funds may be included after these dates for close-out or other activities.

**Inflation and Cost Estimates** All projects listed in the 2021 Capital Budget reflect current (2020) dollars, with an escalation factor of 2 percent. The total project cost includes all estimated costs for activities to complete a single project. Depending on the total project cost, the inflationary impact may appear as a significant dollar increase. Inflation assumptions are included as a capital expenditure for each capital account in the years 2021-2026 to provide a reflection of overall expenditures to be financed in the out-years of the long-range financing plan. The methodology used is seventy-five percent of projected increases in the Consumer Price Index, although comparisons were made to other indices including the Engineering News-Record index for construction costs. This approach recognizes that a significant amount of project expenditures are committed in prior years. Moreover, project scope and schedule changes in out-years allow a degree of flexibility in the estimates. The 2021 Capital Budget includes each capital project’s total project cost in a table with each project description. The policy provides emphasis on project expenditure control for the total project cost. Projects in the financing plan have been included based on current cost and scope estimates. As these projects progress through their project life cycle, refinements are made to cost and scope.

An individual project’s total project cost may also increase as inflationary impacts are accounted for in future budget requests. A project’s stage in its life cycle will determine the impact of inflation. As an example, a project that is under construction has an inflation factor built into the construction contract, whereas a project under design will likely have cost increases solely associated with inflation of labor and material costs. The overall cost of the Capital Improvement Program will not be impacted by this annual adjustment, as noted above, inflation is accounted for in total in each capital account, not by project. The current stage of a project within its life cycle is indicated by a basis of estimate. Each project in the Capital Improvement Program uses a basis of estimate, as defined below.

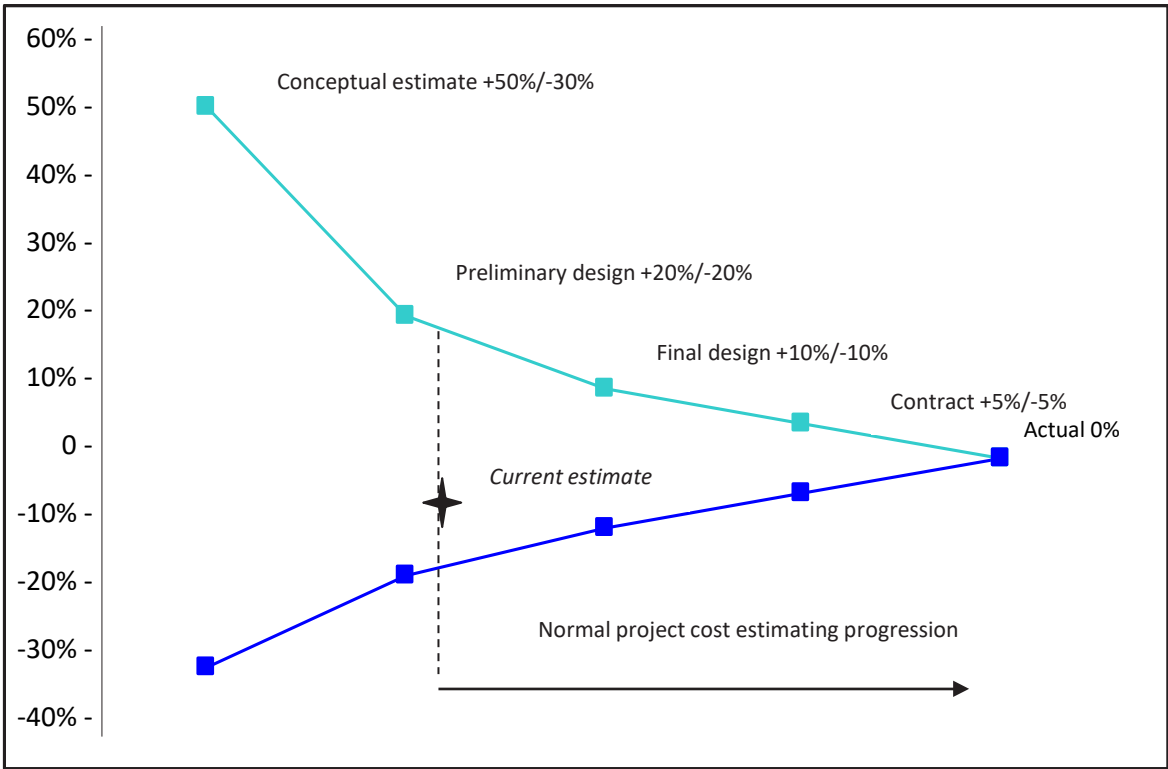
- CE – Conceptual Estimate
- IP – In Progress Estimate
- PE – Preliminary Engineering Estimate
- BE – Bid / Award Estimate
- DE – Design Estimate



As projects move through the project life-cycle, cost estimates become more refined. Cost estimates for capital projects can change dramatically for a variety of reasons. A project may be conceived in a facilities plan or by District staff with an initial cost estimate. As the project is further defined, the cost estimate may change as refinements are made, actual quantities of materials needed for the project are determined, and site conditions are more thoroughly investigated. Even after construction contracts are awarded actual construction costs may change through contract modifications for differing site conditions, contaminated soils, and field conditions that are different than anticipated in the design. Industry standards for a conceptual estimate, for example, indicate that the final construction amount may be 50 percent higher or 30 percent lower than the estimate. As the project is more developed, the cost estimates become more accurate. After the construction award is made, the average project's final cost may be between plus or minus 5 percent of the original estimated total project cost, including the amount of the construction contract award.

## Project Life Cycle Impact on Total Project Cost Estimate

### Expenditure Estimate Phase Fluctuation

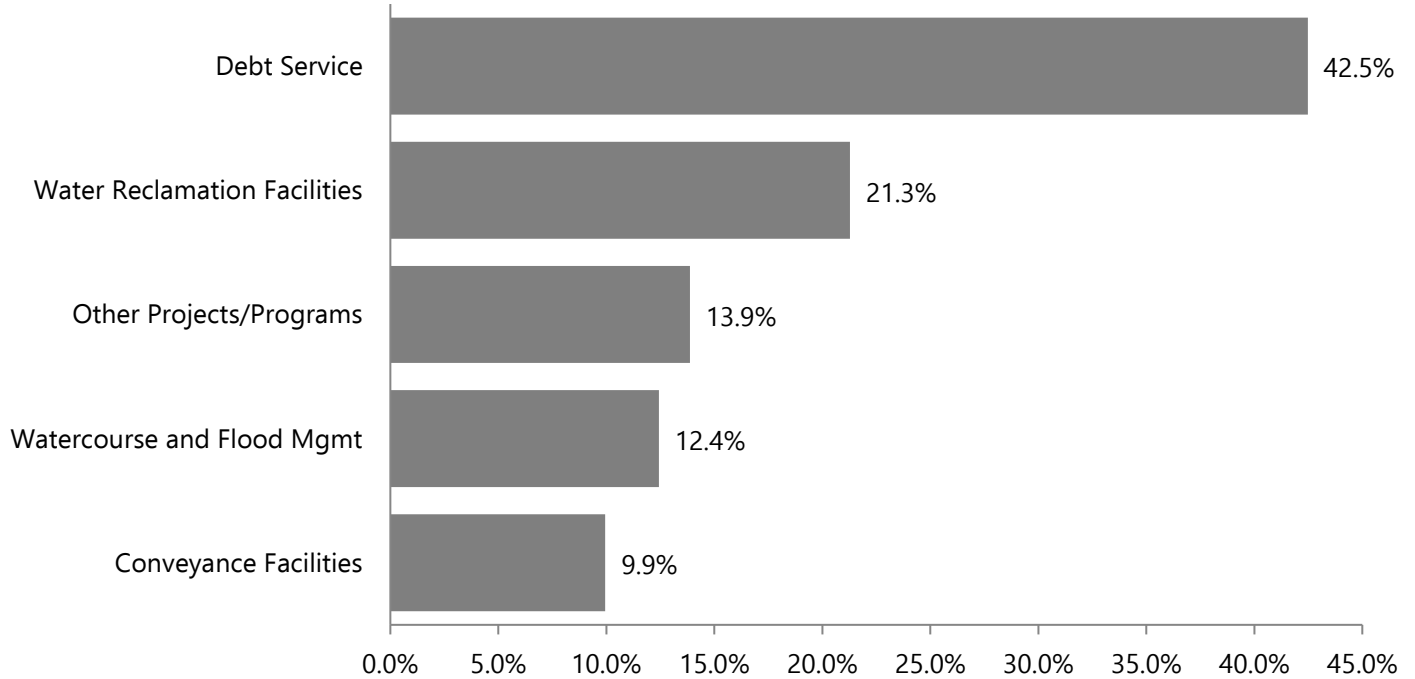


### Debt Service

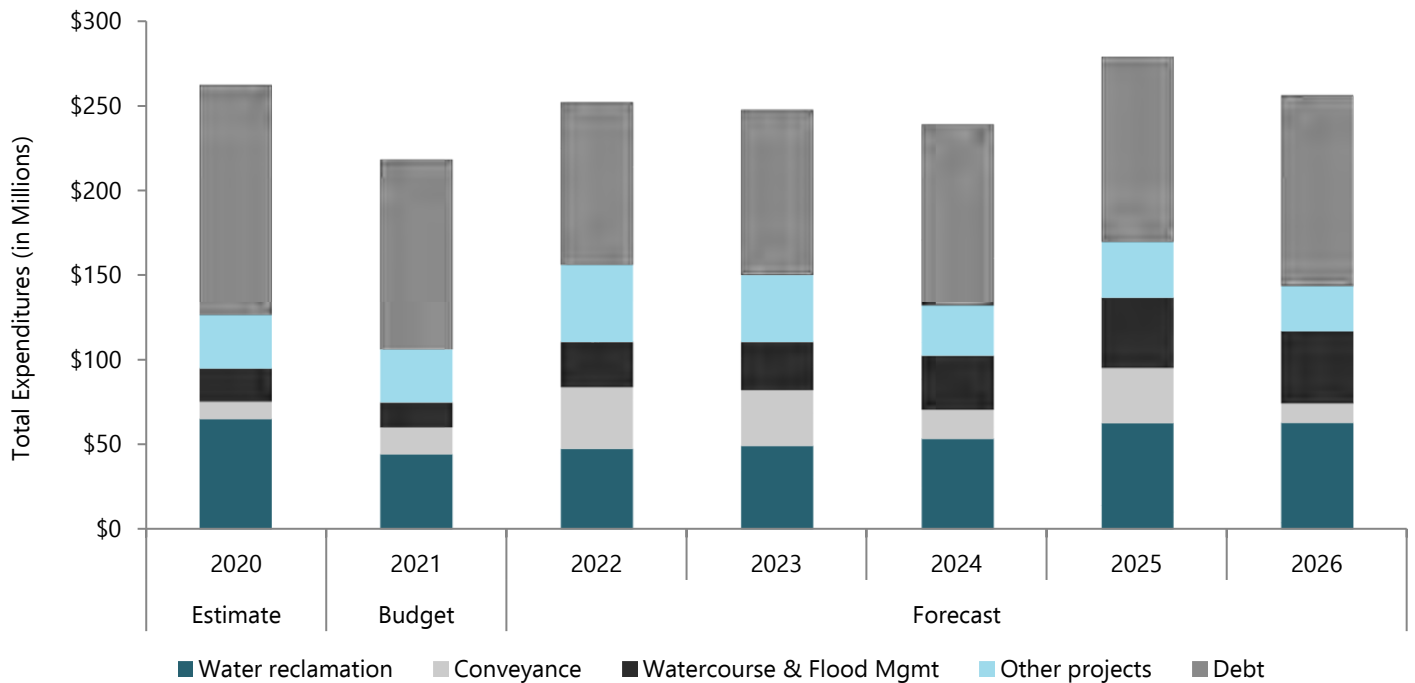
For each District-issued general obligation bonds, notes, or low-interest loan from the Clean Water Fund Program, State law requires the District to levy an irrepealable, direct annual tax in an amount sufficient to pay the principal and interest on the bonds, notes, or loans for the following year. The tax levy needed to fund the debt service may be reduced in any year by the amount of any surplus money in the Debt Service Fund available to pay debt service. Gross debt service to be paid in 2021 is estimated to be \$112.0 million.

For more information about Debt service, please refer to the *Debt Service* section in the Capital Budget.

**Total Uses of Funds**  
**2021 – 2026 Capital Improvement Program**  
**\$1,491,154,000**



**2020-2026: Capital Improvement Program**  
**Expenditures and Disbursements**



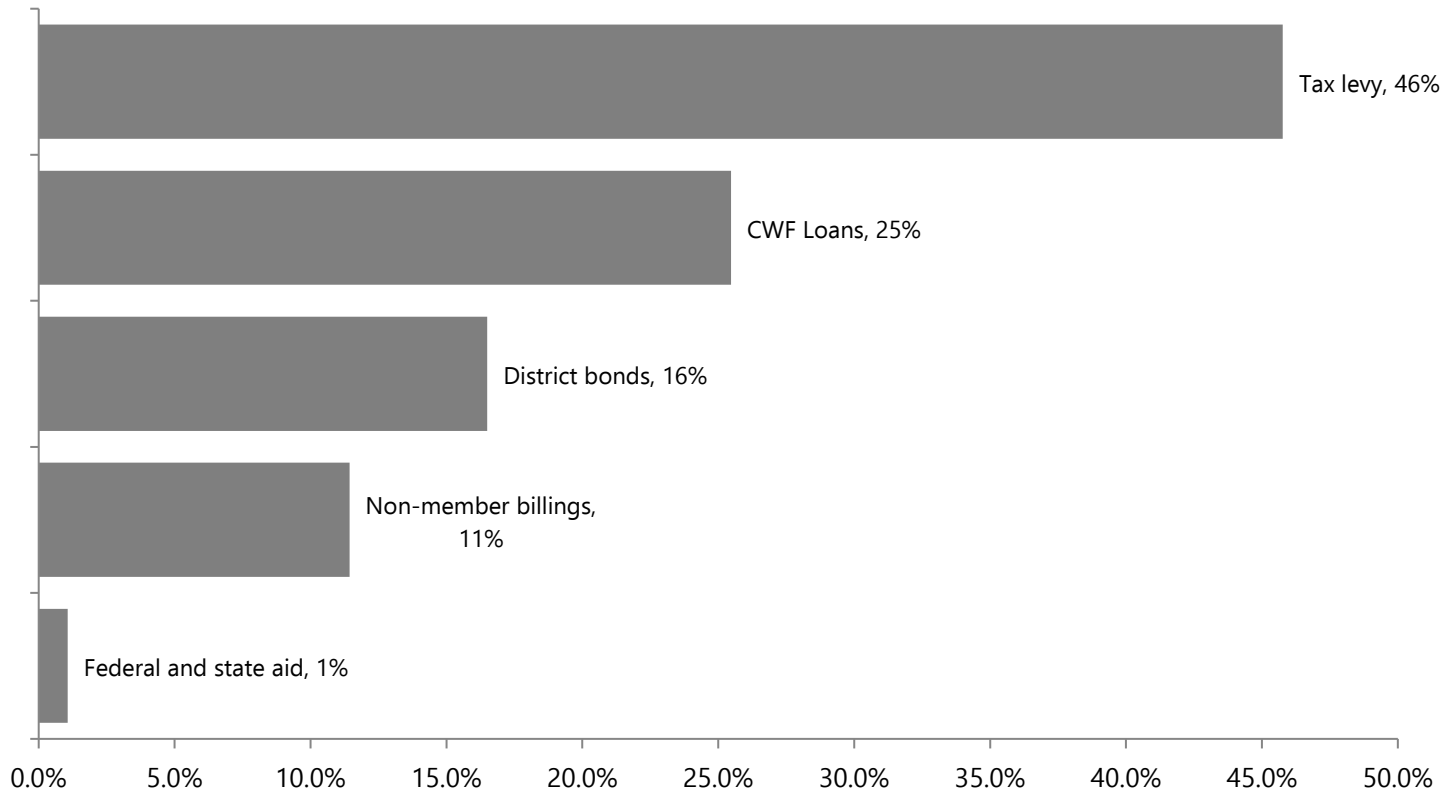
# Capital Sources of Funds/Revenues

The District uses a variety of sources to fund the capital program with an objective 25 percent average cash financing of project expenditures over the six-year financing plan, and outstanding debt no more than 2.5 percent of equalized property value for member communities.

The District's primary source of revenue is the tax levy. Other sources of funding and revenue for the Capital Budget include:

- Non-member billings
- Federal and State Aid
- Interest and other income
- Loans
- Bonds
- Debt Service Sinking Fund and Other Available Funds

## Total Sources of Funds 2021 – 2026 Long-Range Financing Plan \$1,491,154,000



## Tax Levy

Source of Funds (in thousands)	2019 Actual	2020 Budget	2020 Estimate	<b>2021 Budget</b>	Change from 2020 Budget	% Change from 2020
Tax Levy	\$100,101	\$101,853	\$101,854	\$102,873	\$1,019	1.0%

The tax levy is the main source of revenue for the capital program and is used to finance the acquisition, extension, planning, design, construction, adding to or improvement of land, waters, property, or facilities for sewerage purposes, and to pay principal and interest on bonds, notes, or loans as provided in the fiscal year capital budget. The tax is levied upon all taxable property in the District (as equalized for State purposes), pursuant to Sec. 200.55(6), Stats., a non-repealable, direct annual tax in an amount sufficient to pay the principal of and interest on the District-issued bond or notes or low-interest loans from the Clean Water Fund Program for the following year. The District's tax levy is carried on to the tax roll of each city, town, or village wholly or partially within the boundaries of the District and collected in addition to all other taxes and in the same manner and at the same time, all as provided by law and in addition to all other State taxes. In any given year, the amount of any surplus funds in the Debt Service Fund available to pay debt service is used to reduce the tax levy.

In 2021, the tax levy is \$102.9 million, a 1.0% increase from the 2020 budgeted level. The tax levy results in a tax rate of \$1.58; a decrease of \$0.07 per \$1,000 of equalized value from \$1.65 per \$1,000 for 2020. The decrease in the tax rate is driven by changes in District equalized value, primarily in the City of Milwaukee that had an increase of greater than 9% in 2020.

## Non-member Billings

Source of Funds (in thousands)	2019 Actual	2020 Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020
Non-member billings	\$29,992	\$28,419	\$27,395	\$27,686	(\$733)	-2.6%

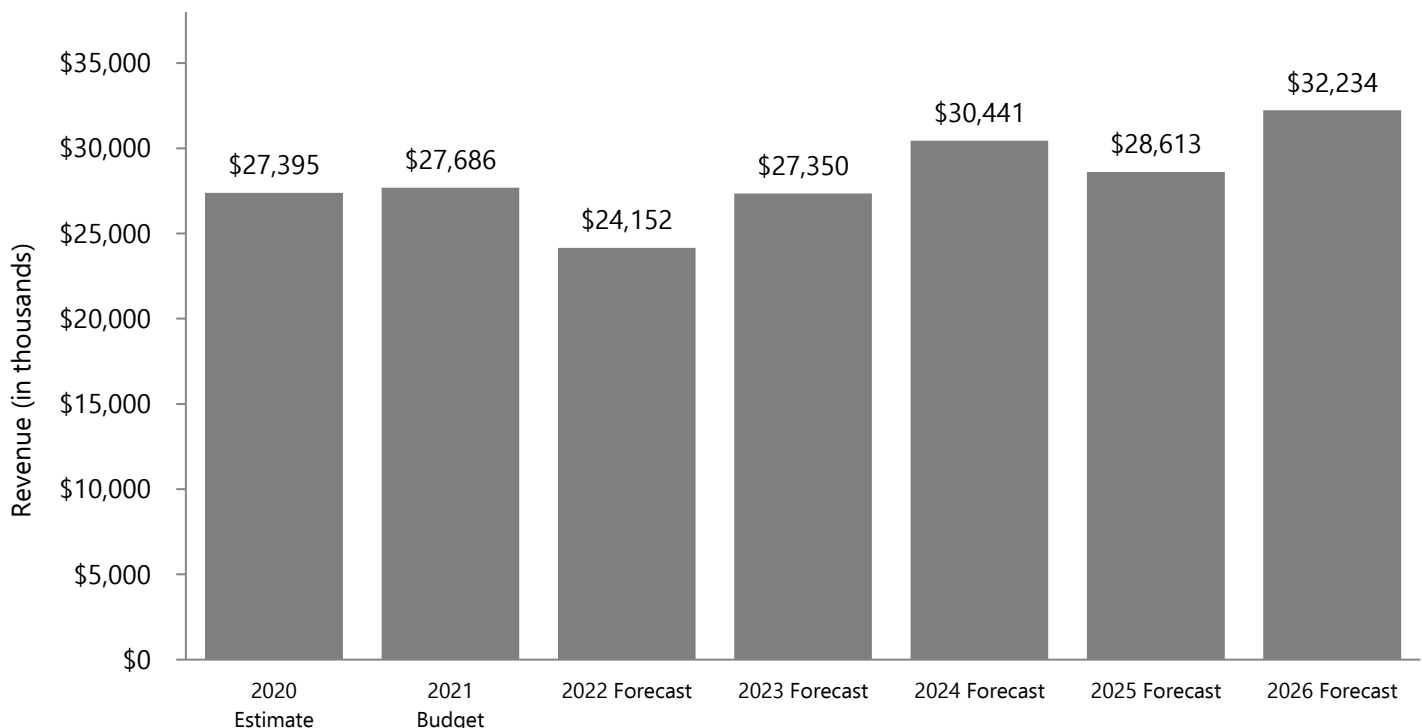
Non-member billings come from ten communities outside the District's legal boundary but within the District's service area. Non-member communities are billed a capital charge in place of levying a property tax. Non-member communities receive a billing rate credit for watercourse and flood management projects to which those communities are not tributary. In September 2017, the Commission approved a policy change to allow financial billing credits to non-member communities that opt out of the District's green infrastructure (GI) program.

In 2021, non-member billings are budgeted at approximately \$27.7 million, a decrease of \$733,000 or 2.6 percent from the 2020 budgeted level.

Non-member communities receive a billing rate credit for watercourse and flood management expenditures to which those communities are not tributary. Nine municipalities have opted out of District green infrastructure programs, and if a municipality elects that option then green infrastructure expenditures are not done in that municipality and it also receives a green infrastructure credit. Once a non-member municipality opts out of the District's green infrastructure initiatives and requests the green infrastructure credit, it will remain in effect until the non-member municipality requests to opt back in. On an annual basis a non-member municipality may elect to opt back in. Once a municipality opts back in, it cannot opt back out in future years.

The chart below shows non-member billings and the impact of the watercourse credit and green infrastructure credit estimate. As watercourse expenditures on non-tributary watercourses or green infrastructure program expenditures increase, the estimated credit also increases. Watercourse expenditures are forecast to increase in 2022-2026. See *Watercourse and Flood Management* and *Other Projects* capital account sections for further detail.

## 2020 - 2026 Non-member billings revenue



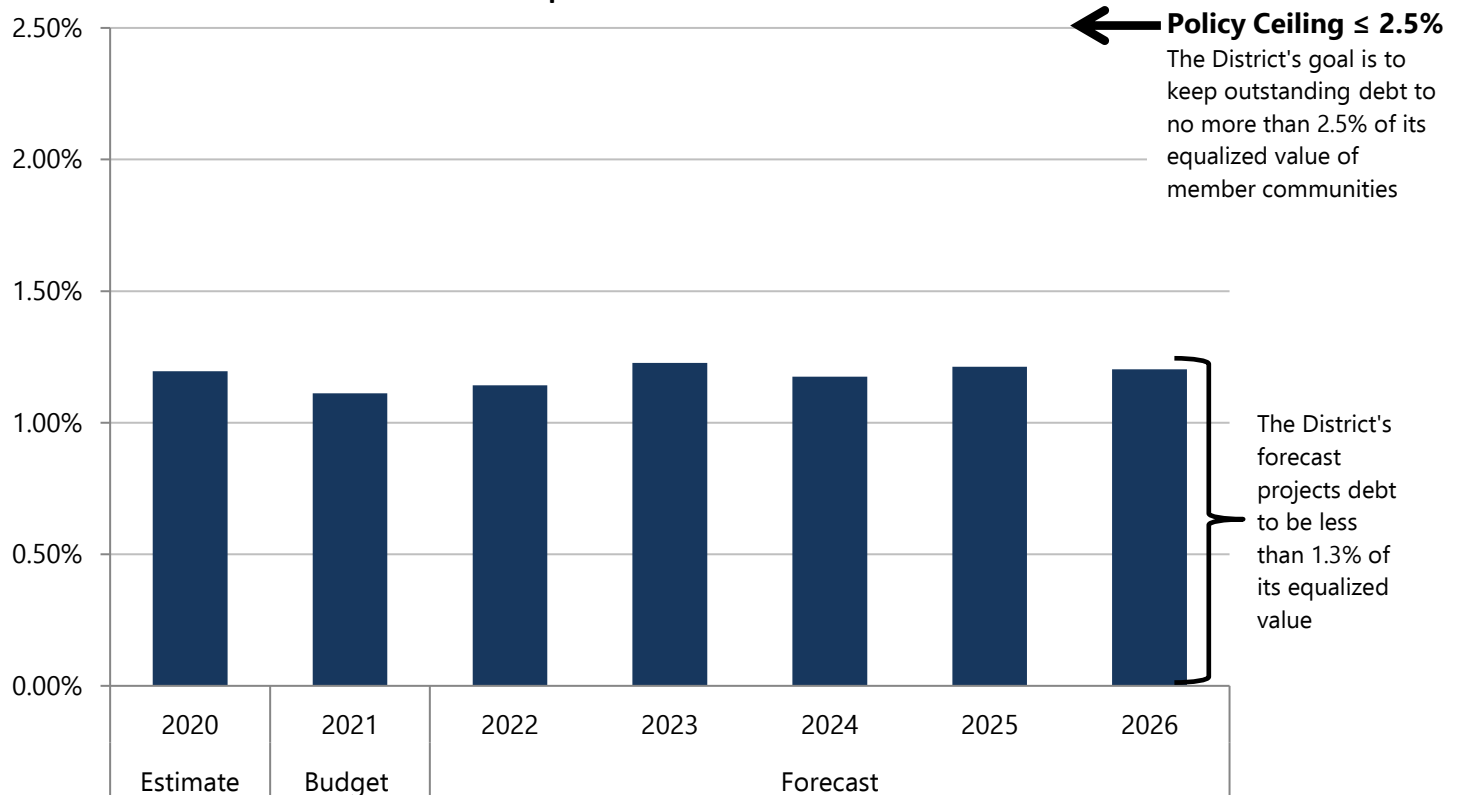
## District Bonds & Notes

Source of Funds (in thousands)	2019 Actual	2020 Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020
District Bonds & Notes	\$0	\$80,000	\$145,313	\$46,000	(\$34,000)	-42.5%

Per Commission Policy 1-73.18, Debt Policy, the District intends to keep outstanding general obligation debt to 50 percent of the limit prescribed by the State of Wisconsin Statute, Section 67.03 which has a limit of 5 percent of the equalized valuation of the taxable property within the District. Also, the District shall maintain debt funding levels consistent with its credit objectives and long-range financing plan. The District typically issues 20-year, level payment, long-term debt in the form of its own general obligation bonds or notes.

In 2021, the District plans to issue \$46 million in new bonds and an additional \$200 million from 2022 through 2026.

## 2020-2026: Debt as a % of Equalized Value



## Loans

Source of Funds (in thousands)	2019 Actual	2020 Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020
Loans	\$17,202	\$49,024	\$15,313	\$37,437	(\$11,587)	-23.6%

Debt sold directly to the State of Wisconsin will be used when the District undertakes capital projects that are eligible to receive below-market rate loans from the State of Wisconsin Clean Water Fund Program, established under section 144.21 and 144.2415 of Wisconsin Statutes, that provides low-interest loans for the construction of wastewater treatment works, non-point source pollution projects and estuary projects. In addition, and situationally contingent, the District may use other sources of loans that may provide zero or reduced-rate benefits for certain projects, such as energy efficiencies.

In 2021, the District expects to receive approximately \$37.4 million from State Clean Water Fund Program loans to fund capital projects and an additional \$342.3 million from 2022 through 2026.



## Interest and Other Income

Source of Funds (in thousands)	2019 Actual	2020 Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020
Interest and Other	\$4,959	\$2,526	\$4,383	\$119	(\$2,408)	-95.3%

The District earns interest by investing its available cash balance. Per Commission Policy 1-73.17, Investment Policy, the District may invest funds in accordance with all District policies, State statutes, and Federal regulations to achieve preservation of capital and protection of investment principal, sufficient liquidity levels, appropriate levels of diversification, and attachment of a market rate of return no less than the Local Government Investment Pool Fund. The investment of available funds is budgeted at .15 percent.

Other income may include revenues from the sale of capital assets, or project-specific payments from private or public sources.

## Federal and State Aid and Grants

Source of Funds (in thousands)	2019 Actual	2020 Budget	2020 Estimate	2021 Budget	Change from 2020 Budget	% Change from 2020
Federal and State Aid and Grants	\$4,182	\$2,419	\$1,580	\$3,730	\$1,311	54.2%

The District seeks grant opportunities from a variety of federal and state sources to fund capital projects.

In 2021, the District expects to receive approximately \$1.7 million in state aid for tax exempt computers and personal property tax exemption and \$1.5 million in federal grants.

## Debt Service Sinking Funds

In accordance with section 67.11 (1) of the Wisconsin Statutes the District is required to establish and maintain a debt service fund for the payment of principal and interest on bonds and notes used in financing its capital improvements program. The District maintains a separate account for each of its own outstanding debt issues and one account for debt obtained through the State of Wisconsin Clean Water Fund Loan Program.

Annually, State law requires the District to levy an irrevocable tax sufficient in amount to pay the principal and interest on the debt as it comes due in the following year. Taxes collected from this levy are placed into the debt service fund account and used to pay the annual debt service. The required tax levy may be abated, or reduced, in any year by the fund balance available in the Debt Service Fund. Earnings from the investments in the debt service fund accounts, remain, until used, a part of the debt service fund accounts.

Money shall not be withdrawn from a debt service fund and used for any purpose other than the purpose for which the fund was created until that purpose has been accomplished. After all of the outstanding debt has been paid and retired, any balance in any debt service fund account may be transferred out and used as directed by the Commission.

The source of funds for the District's Debt Service Fund are as follows:

- funds raised by taxation for the purpose of making principal and interest payments on District obligations,
- the premium on District issued bonds/notes that have been sold above par value and accrued interest,
- all moneys accruing to the borrowed money fund which are not needed, and which obviously cannot be needed for the purpose for which the money was borrowed,
- funds from working capital for the purpose of abating the annual tax levy for purposes of the subsequent fiscal year. State law requires the District to levy an irrevocable, direct annual tax in an amount sufficient to pay the principal of and interest on the bonds or notes for the following year for each District-issued bond or low interest loan from the Clean Water Fund Program. The required tax levy may be abated by the transfer of working capital or reduced, in any year by the surplus fund balance available in the Debt Service Fund.

Gross debt service to be paid in 2021 for tax supported obligations is estimated to be \$110,310,882. Gross debt service is reduced by estimated surplus funds in the Debt Service Fund, resulting in net debt service of \$108,515,882. The requested transfer of \$5,643,342 from working capital to the Debt Service Fund would further reduce net debt service and the required tax levy to \$102,872,540, which is a 1.00% increase from last year's levy.

### Calculation of Transfer from Working Capital to Debt Service Fund to Fund General Obligation Debt Service

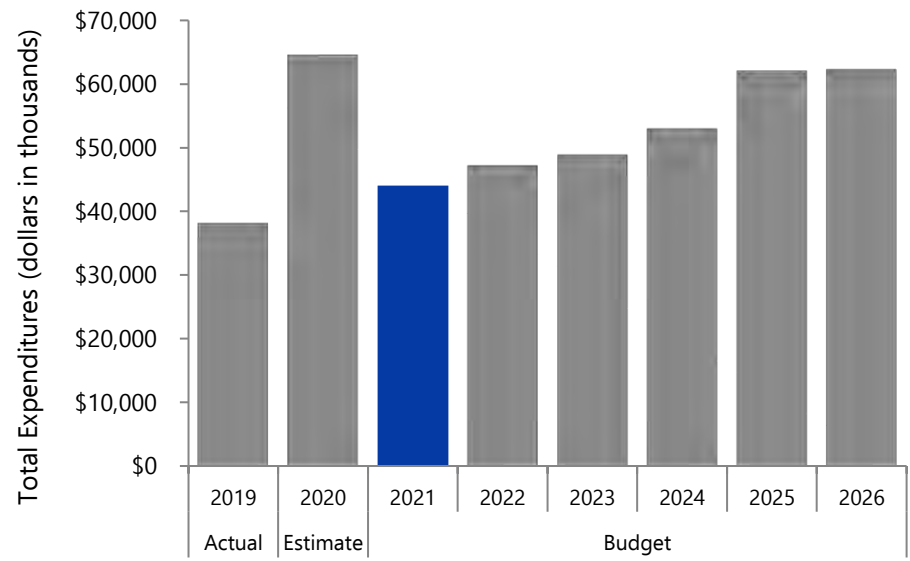
		Less Surplus in Debt Service Fund	Net Debt Service
	Gross Debt Service		
District General Obligation Bonds and Notes	\$39,726,997	\$1,595,000	\$38,131,997
New Clean Water Fund Loans	\$70,198,885	\$200,000	\$69,998,885
	<u>\$385,000</u>	<u>\$0</u>	<u>\$3,850,000</u>
Subtotal	<u>\$70,583,885</u>	<u>\$200,000</u>	<u>\$73,848,885</u>
Total Debt Service Sinking Fund	\$110,310,882	<u>\$1,795,000</u>	\$108,515,882
Intergovernmental Loan - Ryan Creek*	\$1,691,399		
Total Debt Service	<b><u>\$112,002,281</u></b>		
Less Tax Levy (1.00% increase from prior year)			<u>\$102,872,540</u>
Transfer from Working Capital			<u>\$5,643,342</u>

\*This loan is not secured with pledge of tax levy



# Water Reclamation Facilities

Water Reclamation Facilities



The District operates two water reclamation facilities through a contract with Veolia Water Milwaukee. The facilities provide sewage treatment services for 18 cities and villages within the District’s legal boundary and to all or parts of 10 municipalities outside Milwaukee County.

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## Jones Island Water Reclamation Facility

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Located on a peninsula in the Milwaukee harbor, the Jones Island Water Reclamation Facility 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. The plant was originally constructed in 1925, with a capacity of 85 million gallons per day (MGD). After expansions in 1935 and 1952, the treatment capacity increased to 200 MGD. With the completion of the Water Pollution Abatement Program (WPAP) in 1994, the daily maximum design flow at Jones Island for full secondary treatment is 300 MGD. The peak (hourly) design capacity for full secondary treatment is approximately 330 MGD; but the facility can convey and treat 390 MGD when process blending is implemented. Average daily flows to the plant from 2015-2019 are approximately 105 MGD.

Wastewater treatment at Jones Island consists of primary treatment, secondary treatment, advanced treatment, and solids processing. In the primary treatment phase, wastewater is held in large circular tanks called clarifiers to allow heavier solids to settle to the bottom and lighter solids to float to the top. Primary solids are sent via the interplant solids pipeline to South Shore for anaerobic digestion. After primary treatment, the water flows to the secondary or biological activated sludge process that uses bacteria and other microorganisms to consume soluble pollutants in the water. The wastewater then flows to the secondary clarifiers where the biosolids are removed for the production of Milorganite®, an organic fertilizer. In the advanced treatment process, clear water is chlorinated to kill any harmful bacteria. Before being discharged to Lake Michigan, any remaining chlorine is removed by adding a neutralizing chemical to ensure no fish toxicity.

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## South Shore Water Reclamation Facility

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Located to the south of Jones Island in Oak Creek, the South Shore Water Reclamation Facility 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, advanced treatment involving phosphorus removal and nitrification to remove ammonia. The design capacity of South Shore is 265 MGD Maximum Day and 300 MGD Peak Hour. Current average daily flows to the plant are approximately 97 MGD, mostly from the southern and western portions of the District service area. Sludge generated by the South Shore treatment process is either pumped via the interplant solids pipeline to Jones Island for processing into Milorganite® or sent to digesters at South Shore for anaerobic digestion. The digestion process destroys up to 50 percent of the solids and produces methane gas used to provide electricity for the plant.

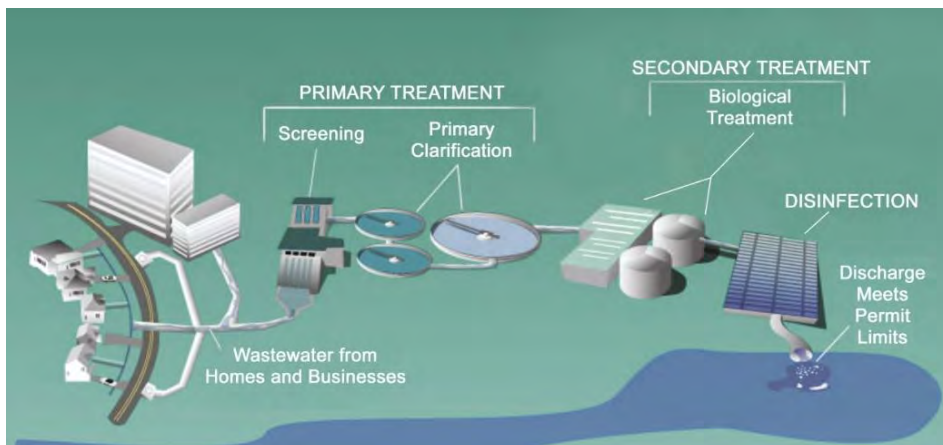
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## Interplant & Landfill Gas Pipelines

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An interplant solids pipeline connects the Jones Island and South Shore Water Reclamation Facilities. The landfill gas pipeline is responsible for transporting landfill gas from its source to the Jones Island Facility for use. The use of landfill gas is in place of natural gas and provides the District reductions in the emissions of greenhouse gases.

The 2021 Capital Budget includes \$43.9 million for work on various water reclamation facility projects. Please refer to project detail on the following pages for information on each project's purpose, scope, cost estimate and impact on the O&M budget.



Water Reclamation Process

source: EPA

# Jones Island Water Reclamation Facility

## Primary Treatment

Primary treatment at Jones Island involves preliminary and primary treatment of incoming wastewater. Preliminary treatment removes large and untreatable material such as wood, rags, sand, and grit. Next, the preliminary-treated water is collected in large tanks, called primary clarifiers, which allows heavier solids to settle to the bottom of the tanks and lighter solids to float to the top. The goal of the process is to effectively remove material that can damage downstream equipment and solids that cannot be treated biologically.

ID #:	Name:	Phase	Start	Finish	Cost
J01013	Preliminary Facility Electrical Upgrade	Design	Feb-19	Nov-20	\$606,095
		Construction	Apr-21	Jul-23	\$6,494,662
		Post-Constr.	Aug-23	Jan-24	\$6,253
		Total			\$7,107,010
		Previously Approved Total			\$7,107,010
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to design and construct electrical system upgrades to replace the existing systems in the preliminary treatment facility due to updated design standards. This project will replace electrical equipment in facility that is over 30 years old and is nearing the end of its useful service life; and replace all building lighting with light emitting diode (LED) technology to save energy. The project scope includes upgrades to the Influent Wet Well Area, Influent Operating Area, Low Level Pump Drive Area, Ramp Area, High Level Pump Drive Area and Screenings Area. The total project cost was updated in February 2020 by Commission Action 20-015-2. There is no change in total project cost. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J01019	JI Force Main Assessment	Prelimin. Eng	Apr-17	May-21	\$737,061
		Total			\$737,061
		Previously Approved Total			\$737,061
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to ensure integrity of a critical force main utilized to convey inline storage system discharge to the JIWRf. The project scope includes an engineering analysis of the existing condition of the 72-inch ductile iron force main via accurate and comprehensive measurement of the current pipe wall thickness and an assessment of the rates of corrosion along with recommendation of corrective actions as necessary. There is no change in total project cost. No significant operating budget impact is expected.



<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J01021	Grit Basin Equipment Replacement	Prelimin. Eng	Jul-18	Dec-18	\$73,223
		Design	Dec-18	Jul-19	\$265,352
		Construction	Sep-19	Sep-21	\$2,434,088
		Post-Constr.	Oct-21	Jan-22	\$5,337
		Total			\$2,778,000
		Previously Approved Total			\$2,685,154
		Increase/(Decrease)			\$92,846

### Project Description

The purpose of this project is to improve the preliminary treatment process of grit removal. Grit such as sand and gravel, which if not removed from the wastewater, can cause excessive wear on downstream process equipment. A total of six grit basins collect and remove grit from the wastewater by settling the grit to the bottom of the basin, then pumping the grit from the basin for processing and offsite disposal. The scope of the project will replace the grit mechanism in each basin which have experienced significant corrosion and wear. Replacements at each grit basin include a drive tube, suction tube, drive system, and controls. In addition, this project includes grit pump improvements at all six grit basins to reduce downtime and improve reliability. The change in total project cost is due to updated labor cost estimates. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J01024	Harbor Siphon Structures & Adjacent Asset Modifications	Design	Mar-19	Jun-19	\$847,526
		Construction	Sep-19	Apr-21	\$18,684,224
		Post-Constr.	Jul-21	Oct-21	\$21,250
		Total			\$19,553,000
		Previously Approved Total			\$14,437,045
		Increase/(Decrease)			\$5,115,955

### Project Description

The purpose of this project is to restore the structural integrity of the Harbor Siphon structures, associated utilities, and the Inline Storage System (ISS) Force Main. The scope of the project includes investigation, design and construction to mitigate impacts from settlement associated with the Harbor Siphons. Scope includes excavating existing sewers and ISS Force Main, installation of internal pipe seals at leaking joints, and installing piles and structural steel to support structures, sewers, and the ISS Force Main. The increase in total project cost is for the additional estimated effort to complete the utility realignment and structure improvements. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J01025	High- & Low-Level Screw Pump Replacement	Design	Mar-19	Jun-19	\$38,585
		Construction	Sep-19	Apr-21	\$2,937,603
		Post-Constr.	Jul-21	Oct-21	\$5,387
		Total			\$2,981,575
		Previously Approved Total			\$3,123,574
		Increase/(Decrease)			(\$141,999)

### Project Description

The purpose of this project is to ensure the integrity and capacity of the Jones Island influent pumping system. Influent capacity constraints impact the ability to meet the District's WPDES overflow goals and potentially permit limits. The project scope includes design and construction for the removal and replacement of all four low level screw pumps and four of the five high level screw pumps (one high level screw pump was recently removed and replaced), including upper and lower bearings. The change in total project cost is due to updated construction and labor cost estimates. No significant operating budget impact is expected.



<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J01027	Primary Clarification, Sludge, and Scum Piping	Design	Jan-20	Mar-22	\$306,110
		Total			\$306,110
		Previously Approved Total			\$306,110
		Increase/(Decrease)			\$0

#### Project Description

The purpose of this project is to provide recommended improvements to the primary clarification system. The performance of this system directly impacts the performance of secondary treatment and the District's ability to meet our WPDES permit. The scope of this project includes a planning level analysis of the primary clarification system with recommendations on design and construction. There is no change in total project cost. The project may reduce energy costs from the operating budget, because the project may increase renewable energy production and reduce landfill waste.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J01028	Primary Clarifier Drive Improvements	Design	Apr-20	Aug-21	\$257,000
		Construction	Nov-21	Feb-24	\$1,305,000
		Post-Constr.	Mar-24	Jul-24	\$7,500
		Total			\$1,569,500
		Previously Approved Total			\$1,509,500
		Increase/(Decrease)			\$60,000

#### Project Description

The purpose of this project is to improve the reliability of the primary clarification equipment by preventing waste water intrusion into the drive mechanism or oil wash-out which both lead to premature drive failure. The project scope includes design and construction for the rehabilitation or replacement of the primary clarifier drive mechanisms for the eight primary clarifiers at the JIWRP. The scope includes raising the drive mechanisms, clarifier bridge and associated equipment approximately 12 inches. The change in total project cost is due to updated cost estimates. No significant operating budget impact is expected.

# Jones Island Water Reclamation Facility

## Secondary Treatment

After the solids are removed in Primary Treatment, wastewater flows to the secondary or biological activated sludge process. In this process, primary treated effluent and return activated sludge are mixed (mixed liquor), and large amounts of air are pumped into this mixture to permit bacteria and other microorganisms to consume soluble oxygen-demanding pollutants in the water. The pollutants are broken down to mainly cell mass, carbon dioxide and water. This mixed liquor is then routed through the secondary settling basins where the biological solids settle.

ID #:	Name:	Phase	Start	Finish	Cost
J02012	Aeration System Diffusers Replacement	Prelimin. Eng	Jun-15	Oct-20	\$82,896
		Design	Apr-22	Apr-24	\$328,222
		Construction	Oct-22	Nov-23	\$911,725
		Post-Constr.	Oct-25	Jan-26	\$6,096
		Total			\$1,328,939
		Previously Approved Total			\$3,732,595
		Increase/(Decrease)			(\$2,403,656)

### Project Description

The purpose of this project is to improve the efficiency of the JI aeration system by reducing overall air requirements while maintaining adequate mixing and treatment. The project scope consists of the design and construction of improvements to reduce energy consumption in the aeration system. Improvements may include modifications to the diffusers in the aerated channels and aeration basins, addition of dissolved oxygen and/or ammonia probes for automated air flow control, or other types of changes to reduce energy usage. The decrease in total project cost is based on findings and updated estimates from the project's preliminary engineering phase. This project is expected to reduce operating budget costs because of the reduced energy usage.



This project supports the UN SDG #7.

ID #:	Name:	Phase	Start	Finish	Cost
J02015	Aeration Basin Concrete Rehabilitation	Design	Mar-20	Jul-21	\$344,935
		Construction	Oct-21	Nov-23	\$4,196,515
		Post-Constr.	Dec-23	Apr-24	\$9,550
		Total			\$4,551,000
		Previously Approved Total			\$4,478,576
		Increase/(Decrease)			\$72,424

### Project Description

The purpose of this project is to extend the life of the aeration basins, increase worker safety, reduce the risk of air diffuser damage due to falling concrete, and to rehabilitate deteriorating assets. The scope of this project includes design and construction to rehabilitate the deteriorating concrete walkways, interior areas (walls and floors), and concrete that supports the handrails of the walkways of Jones Island East Plant Aeration Basins 1, 2, 3, 4, 5, 8, 16, and 19. Rehabilitation consists of concrete surface and crack repairs, steel reinforcement repair/replacement, removing deteriorated portions of the concrete walls, and constructing in-kind replacement. The project will reuse the existing handrail. The increase in total project cost is due to refined construction cost estimates. No significant operating budget impact is expected.

# Jones Island Water Reclamation Facility

## Advanced Treatment

The biologically treated water enters the final treatment process in preparation for discharge into Lake Michigan. During this process, sodium hypochlorite is used to disinfect the water. Disinfection is the selective destruction of disease-causing organisms including bacteria, viruses, and amoebic cysts. After chlorination, sodium bisulfite is fed into the waste stream to remove any chlorine residuals. Chlorine removal is necessary to ensure fully treated water is not toxic to fish. This fully treated wastewater, or plant effluent, is discharged into Lake Michigan.

There are no active projects in 2021.

# Jones Island Water Reclamation Facility

## Solids Processing

Biosolids are removed in the primary and secondary clarifiers and must be further processed and disposed of for beneficial reuse. The Jones Island Dewatering & Drying (D&D) Facility uses a state-of-the-art process for waste solids to produce an environmentally safe fertilizer, Milorganite®, which is marketed for public use. Milorganite® is composed of a blend of biosolids (sludge) from both Water Reclamation Facilities.

The solids processing includes these individual processes necessary for Milorganite®: blending, thickening, dewatering, drying, warehousing, and shipping. Blending is the process of mixing the biosolids from different sources to form a uniform consistency for the downstream thickening units. Thickening and dewatering both minimize the moisture content of the biosolids. After dewatering, biosolids are dried in a rotary drying unit. The dried biosolids go through a screening process to size the product to Milorganite® specifications. The Milorganite® is then stored in silos before shipping to customers or to the contracted packaging facility. Much like any production process, there are leftover materials or scrap. The leftover dried sludge from the production of Milorganite® must be disposed of or reused.

ID #:	Name:	Phase	Start	Finish	Cost
J04035	Greens Grade Train Replacement and Redundant Train Evaluation	Design	Jun-18	Nov-19	\$826,324
		Construction	Feb-20	Apr-22	\$4,546,075
		Post-Constr.	Jun-22	Jun-23	\$15,602
		Total			\$5,388,001
		Previously Approved Total			\$5,387,386
		Increase/(Decrease)			\$615

## Project Description

The purpose of this project is to address Milorganite® Greens Grade classification and Product Train equipment that has reached the end of its useful life and in need of replacement; and to provide a reliable Greens Grade classification system, with redundancy as necessary, to meet supply needs. Greens Grade is a finer sized product screened from the Classic sized product. The scope is to design and construct replacement Greens Grade classification and Product Train equipment. An engineering analysis determined the Greens Grade screening should be moved from the first floor to a higher floor to provide capital and energy savings. The increase in total project cost is de minimus. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J04037	Thickened Sludge Improvements	Prelimin. Eng	Oct-15	Feb-16	\$3,913
		Design	Jun-18	Nov-22	\$625,674
		Construction	Jul-20	Jul-24	\$2,288,413
		Total			\$2,918,000
		Previously Approved Total			\$1,515,062
		Increase/(Decrease)			\$1,402,938

### Project Description

The purpose of this project is to identify and implement sludge thickening improvements to achieve improved percent total solids blended sludge feed to the belt filter presses (BFPs) in the D&D facility, thereby reducing the heat energy required to produce Milorganite®. The project will also improve the reliability of pumping thickened activated sludge (TAS) to the blended sludge tank feeding the BFPs. Project scope includes procurement of fifth TAS pump as a spare, replacing the existing TAS pump flow meters with larger flow meters to reduce the pump discharge pressure, and evaluation of options to add a fifth, permanent TAS pump and a fifth gravity belt thickener (GBT) at JIWRP. Design and construction of the permanent, fifth TAS pump and GBT is included in the project scope, as long as the evaluation proves it is cost-effective. The project will also evaluate options for blending TAS, waste activated and digested sludges to create a thickened sludge to pump directly to the blended sludge tank feeding the BFPs. Finally, the project will evaluate polymer system and storage capacity improvements for the GBTs. The change in total project cost is due to increased labor and construction cost estimates. No significant operating budget impact is expected.

The main goal of sludge thickening is to reduce the sludge volume by removing as much water content as possible.

ID #:	Name:	Phase	Start	Finish	Cost
J04038	D&D Dryers Guillotine Gate Replacement	Design	Sep-19	Mar-21	\$450,219
		Construction	Jun-21	Sep-22	\$4,064,289
		Post-Constr.	Oct-22	Apr-23	\$11,846
		Total			\$4,526,354
		Previously Approved Total			\$3,576,157
		Increase/(Decrease)			\$950,197

### Project Description

The purpose of the project is to replace aged equipment associated with the dryer waste heat isolation gates and supply valves at the D&D facility. The gates and supply valves isolate and modulate the waste heat supplied to the dryers. The project scope includes the design and construction of the replacement of the twelve waste heat supply valves and twelve isolation gates. The increase in total project cost is due to the addition of three isolation gates to the project scope. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J04046	D&D ID Fan Energy Conservation	Design	Nov-16	Jul-18	\$204,337
		Construction	Sep-18	Dec-20	\$1,248,405
		Post-Constr.	Dec-20	Apr-21	\$5,385
		Total			\$1,458,126
		Previously Approved Total			\$1,458,127
		Increase/(Decrease)			(\$1)

### Project Description

The D&D Facility is equipped with 12 large rotary dryers that heat dry dewatered biosolids to produce Milorganite®. Each dryer is equipped with a dedicated fan, with the purpose to provide the energy necessary to move the dryer exhaust gas through the dryer exhaust system and maintain a negative pressure in the dryer. The purpose of this project is to realize electrical energy savings by adding a variable frequency drive (VFD) at each dryer fan. Adding a VFD will provide for the ability to control the speed, volume, and pressure output of each fan to match system needs, resulting in reduced energy consumption. The project will also replace the dryer fan motors. The existing motors driving the fans have been in continuous service for over 20 years and are not compatible with VFDs. The decrease in total project cost is de minimus. The project is expected to have a positive operating budget impact of approximately \$87,000 annually due to the increased energy efficiency.



This project supports the UN SDG #7.

ID #:	Name:	Phase	Start	Finish	Cost
J04050	Dryer Feed and Discharge Screw Replacement	Design	Jul-16	Sep-17	\$310,638
		Construction	Jan-18	Feb-21	\$4,958,585
		Post-Constr.	Mar-21	Apr-21	\$21,620
		Total			\$5,290,843
		Previously Approved Total			\$5,290,844
		Increase/(Decrease)			(\$1)

### Project Description

The purpose of this project is to improve the efficiency and reliability of biosolid processing equipment to allow the equipment to work at the designed capacity and ensure maximum production of Milorganite®. The current equipment has reached the end of its useful life. The unreliability of the current equipment has begun to negatively impact Milorganite® production. The scope of the project includes replacing the dryer mixer feed screw conveyors, rehabbing dryer feed screw conveyors, replacing dryer discharge screw conveyors, and replacing the dryer recycle feed screw conveyors. The change in total project cost is de minimus. No significant operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
J04052	Milorganite® Facilities Improvements Phase IV	Design	Jul-16	Apr-18	\$508,881
		Construction	Jun-18	May-21	\$5,500,076
		Post-Constr.	May-21	Jun-21	\$15,000
		Total			\$6,023,957
		Previously Approved Total			\$6,123,115
		Increase/(Decrease)			(\$99,158)

### Project Description

The purpose of this project is to improve the efficiency and reliability of biosolid processing. Equipment that is operating in poor condition reduces the facility's capacity to transport biosolids efficiently, which affects Milorganite® production. The scope of the project includes design and construction for the removal and replacement of product transfer equipment and associated components in the Jones Island Dewatering and Drying Facility (Building No. 258) and Milorganite® Storage Facility (Building No. 259). The increase in total project cost is due to refined cost estimates as related to project scope changes. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04060	Sludge Cake Transport & Feed Conveyors Replacement	Design	Feb-18	Jul-19	\$543,465
		Construction	Oct-19	Jan-23	\$3,846,840
		Post-Constr.	Feb-23	Jul-23	\$13,694
		Total			\$4,404,000
		Previously Approved Total			\$7,900,984
		Increase/(Decrease)			(3,496,984)

### Project Description

The purpose of this project is to improve the reliability of solids processing equipment in the D&D Facility and minimize dryer outages. The project's scope includes replacing six sludge cake transport belt conveyors, six sludge cake feed belt conveyors, belt wash water pumps, and other associated equipment. All of the belt conveyors, originally installed in 1992, have ongoing issues with corrosion and worn belt scrapers, belts, rollers, bearings, and pulleys. Continued reliability of sludge cake handling equipment is critical to allow the processing and removal of solids from the plant treatment process. Unreliable sludge cake conveying equipment increases the risk of safety incidents due to dryers quickly heating up, the risk of increased cost of processing solids, and risks to permit compliance. The project will also replace equipment to improve the ability to measure the amount of sludge cake entering the dryers. The project scope includes modification of the dryer product temperature control system to incorporate the sludge cake measurement system. The decrease in total project cost is due to refined construction cost estimates. Operating budget impacts will take the form of corrective and preventative maintenance savings which, since 2009, have totaled approximately \$440,000.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04061	D&D PLC 5 Upgrades	Design	Feb-19	Nov-20	\$704,266
		Construction	Sep-19	Nov-24	\$7,183,773
		Post-Constr.	Jan-25	Jun-25	\$10,000
		Total			\$7,898,039
		Previously Approved Total			\$7,533,027
		Increase/(Decrease)			\$365,012

### Project Description

The purpose of this programmable logic controller (PLC) replacement project is to maintain control system reliability and to avoid equipment downtime in the D&D Facility. This will allow for continued processing of biosolids, which is critical to meeting permit conditions. The original equipment manufacturer no longer provides replacement parts for the existing PLC equipment. Therefore, replacement parts are limited on the open market and are costly to procure. The scope of the project includes replacement of 66 Allen-Bradley PLC-5s in the D&D Facility with newer model PLCs. Associated hardware that is compatible with the new control platform will also be replaced including alarm annunciators, I/O modules, loop controllers, communication modules, network connections, racks, and power supplies. Specific work tasks include procuring the PLC hardware, programming the new PLCs, installing the hardware, and on-site commissioning of the new control platform. The functionality of the existing control platform will be replicated in the new platform, with some safety-related enhancements. The change in total project cost is due to increased labor, consultant and construction cost estimates. The operating budget components total \$182,000.



<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04064	Chaff System Improvements	Prelimin. Eng	May-20	Apr-21	\$395,624
		Design	Feb-22	Jun-23	\$1,233,471
		Construction	Sep-23	Sep-25	\$12,634,406
		Post-Constr.	Nov-25	May-26	\$5,743
		Total			\$14,269,244
		Previously Approved Total			\$13,829,233
		Increase/(Decrease)			\$440,011

### Project Description

The purpose of this project is to ensure reliable bio-solids processing and Milorganite® production capabilities, to improve the reliability of air pollution control equipment on each dryer, minimize dryer outages, and maintain compliance with the air permit. The project purpose is also to maintain a safe environment in the dryer building by replacing equipment responsible for removing particulate matter and dust from the dryer exhaust stream. The scope of this project includes the assessment for replacement of several pieces of equipment within the dust containment systems. The increase in total project cost is due to inflation. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04065	D&D First Stage Classification Equipment Replacement	Design	Jul-18	Nov-19	\$587,485
		Construction	Feb-20	Apr-22	\$6,756,601
		Post-Constr.	May-22	Aug-22	\$5,654
		Total			\$7,349,740
		Previously Approved Total			\$7,348,3509
		Increase/(Decrease)			\$1,3909)

### Project Description

The purpose of this project is to ensure reliability of first stage classification equipment. The project scope includes design and construction of replacement equipment. The first stage classification system includes the equipment that classifies Milorganite® based on the diameter of the bead size that is developed in the dryer process. Oversized product is milled down and returned to the dryers. Undersized product must be sent back to the dryers to grow larger bead sizes. The first stage classification equipment is the only method by which undersized and oversized bead sizes are separated from the Classic sized product. The total project cost was updated in February 2020 via Commission Action. The change in total project cost is de minimus. The project may have a positive impact on the operating budget as this project may lead to increased Milorganite® production, resulting in increased sales and higher revenues.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04066	Milorganite® Dust Suppressant System Upgrades	Design	Jul-19	Feb-20	\$124,065
		Construction	Jun-20	Nov-21	\$857,874
		Post-Constr.	Jan-22	May-22	\$9,061
		Total			\$991,000
		Previously Approved Total			\$922,629
		Increase/(Decrease)			\$68,371

### Project Description

The purpose of this project is to upgrade the mineral oil dust suppressant system at the Milorganite® Storage Facility loadout area, which reduces the dust emitted from the product during transport, packaging and handling. The project scope will replace and upgrade the existing dust suppressant system which also includes relocating the new system indoors, providing a spill containment area, replacing the existing storage tank, providing related electrical and control upgrades, and replacing gear pumps, strainers, heaters, and piping. The total project cost was updated in June 2020 by Commission Action 20-085-6. The change in total project cost due to increased labor and consultant cost estimates. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04067	D&D South Cake Loadout System	Planning	Mar-18	May-18	\$1,911
		Design	Apr-18	Dec-19	\$112,866
		Construction	Feb-20	Apr-21	\$707,971
		Post-Constr.	Apr-21	Jul-21	\$5,461
		Total			\$828,209
		Previously Approved Total			\$828,209
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to provide a means for continued processing of all biosolids through the D&D Facility, if long term dryer outages are encountered. The current loadout chute on the north side of the building is not capable of handling all biosolids, so the additional loadout chute on the south side of the building will enable processing of all biosolids. The project scope includes design and construction of new belt filter press (BFP) cake conveyers and diversion chutes in the southwest corner of the 2<sup>nd</sup> floor of the D&D Building. There is no change in total project cost. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04068	E/B Tank Odor Removal	Design	Mar-18	Feb-19	\$190,118
		Construction	Jul-18	Jul-20	\$675,907
		Post-Constr.	Oct-20	Dec-20	\$11,876
		Total			\$877,901
		Previously Approved Total			\$877,900
		Increase/(Decrease)			\$1

### Project Description

The purpose of this project is to reduce Jones Island Water Reclamation Facility odor sources by restoring the Equalization and Blend (E/B) tanks odor air piping and control system. The scope of this project will design and install replacements to odorous air piping and valves in the E/B facility that have failed or reached the end of their useful service life. Replacements are designed for a 20-year life. This project returns the existing activated carbon odor control unit to service to remove odors. This project is expected to increase the annual Operations and Maintenance cost to provide and maintain activated carbon media in the odor control system. The change in total project cost is de minimus.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04070	Milorganite® Facilities Improvements Phase V	Design	Apr-19	Mar-23	\$428,653
		Construction	Jun-19	Oct-23	\$1,164,448
		Post-Constr.	Oct-23	Oct-23	\$5,899
		Total			\$1,599,000
		Previously Approved Total			\$1,545,554
		Increase/(Decrease)			\$53,446

### Project Description

To be sold as a commercial fertilizer, Milorganite® must meet standards set forth by regulatory agencies, including the United States Environmental Protection Agency (USEPA), the Wisconsin State Department of Natural Resources (WDNR), and other state regulatory agencies. These standards include utilizing a method that demonstrates pathogen destruction. The USEPA and WDNR, while indicating that Milorganite® is a safe product, identified some concerns regarding the District's current method for demonstrating compliance with certain technical regulatory standards. The purpose of this project is to demonstrate to regulatory agencies satisfaction that the District meets these technical standards, while continuing to make the same safe Milorganite® product. The project scope includes design and construction of the following:

- Upgrade diversion and isolation gates that are part of the Milorganite® production processes.
- Modify existing conveyors to reduce heat loss, add heat, or a combination of both.
- Provide new primary and redundant temperature probes at each dryer drum to measure and record Milorganite® production temperatures.
- New equipment, or modifications to existing equipment, to reduce moisture present in the Milorganite® production processes.
- New control strategies, programming and applications engineering as needed to maintain and demonstrate continuous compliance.
- Other improvements needed to maintain Milorganite® production and compliance with regulatory requirements.

The change in total project cost is due to increased labor, consultant and construction cost estimates. The impact on the operating budget is approximately \$6,000 annually for replacement of temperature probe thermowells and batteries.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04072	Milo Transport and Silo Storage Equipment Replacement	Design	Apr-20	Nov-21	\$711,625
		Construction	Mar-22	Apr-24	\$4,936,342
		Post-Constr.	Jun-24	Sep-24	\$7,433
		Total			\$5,655,400
		Previously Approved Total			\$5,793,440
		Increase/(Decrease)			(\$138,040)

### Project Description

The purpose of this project is to ensure the reliability and efficiency of Milorganite® conveyance and storage equipment in the D&D and Milorganite® Storage facilities. The existing equipment is original to the buildings and was identified during the 2018 D&D Equipment Assessment Meetings with VWM as needing replacement within four years for D&D and within five years for the silos. Continued operation of D&D processing facility is key to biosolids disposal. The scope of this project includes preliminary design (alternative analysis), final design, and construction for replacement of the following: two product weigh belts and weigh scales; two product bucket elevators; two product storage transfer conveyors; two product storage feed conveyors; all associated inlet and discharge chutes, dust collection plenums, ductwork, and slide gates; four product transporters; four day tank cone liners; the dense phase transport system between D&D and Milorganite® Storage including all dense phase pneumatic piping, two compressors, 14 silo fill valves, 14 silo purge valves, 14 silo dust valves, seven transport diverter valves; and in the silos, 14 temperature probes, 14 level probes, two purge fans, 14 draw-off valves and 14 vibrators. The change in total project cost is due to increased labor, consultant and construction cost estimates. The project may have a positive impact on the operating budget as this project may lead to increased Milorganite® production, resulting in increased sales and higher revenues.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04073	D&D Dust Collection System	Prelimin. Eng	Nov-19	Apr-21	\$498,000
		Total			\$498,000
		Previously Approved Total			\$498,000
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project includes addressing the under-performing dust collection system within the D&D facility. Veolia and the Office of Contract Compliance have noted several areas in which inadequate dust collection is hindering the operation of the D&D facility. The dust collection system is existing to the building. As new equipment is installed, the need for modification of the dust system is required to maintain optimal performance. The deliverable of this project will be a dust model in which modification to the system can be modeled prior to implementation. This is a new project. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04074	Milorganite® Packaging Facility	Prelimin. Eng	Oct-19	Mar-21	\$485,968
		Design	May-21	Aug-22	\$1,154,024
		Construction	Nov-22	Jun-24	\$22,174,655
		Post-Constr.	Jun-24	Dec-24	\$10,353
		Total			\$23,825,000
		Previously Approved Total			\$23,767,640
		Increase/(Decrease)			\$57,360

### Project Description

The purpose of this project is to provide a new Milorganite® Packaging Facility where the space and operations are directly controlled by the District for the packaging and distribution of Milorganite®. The scope of this project includes site analysis, building design and construction, as well as packaging equipment procurement and installation. The change in total project cost is due to increased labor and consultant cost estimates. The project may impact the operating budget by reducing the cost to package Milorganite®.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J04075	D&D Belt Filter Press Overhauls	Design	Nov-20	May-21	\$102,000
		Construction	May-21	Oct-23	\$2,310,000
		Post-Constr.	Oct-23	Jan-24	\$5,500
		Total			\$2,417,500
		Previously Approved Total			\$0
		Increase/(Decrease)			\$2,417,500

### Project Description

The purpose of this project is to ensure the reliability and capacity of the D&D facility by overhauling the belt filter presses which dewater sludge before it passes to the dryers. The scope of this project includes major overhauls of 23 of the 24 belt filter presses because one press was overhauled previously under a separate contract managed by Veolia. The scope also includes the following work on each of the 24 belt filter presses: local control panel upgrades, replacement of worn components of the polymer system, removal of surface corrosion and recoating of sludge feed and discharge piping, repair of damaged structural steel supporting the press, and recoating the structural steel with paint. This is a new project. The overhauls, pipe recoating, and steel repair/recoating will be expensed to the O&M budget for a cost of \$6,480,000.

## General Projects

Projects grouped into this category are projects that do not fit into the other water reclamation processes. The types of projects can be associated with:

**ENERGY DISTRIBUTION** – electrical generation and distribution, hot water and steam generation, and distribution and process air generation

**BUILDINGS AND GROUNDS IMPROVEMENTS** – capital improvements to non-process buildings and other improvements such as roads and utilities

**NONSPECIFIC** Instrumentation and Control

**COSTS ASSOCIATED** with litigation for non-current capital projects

**ALL OTHER** nonspecific items

ID #:	Name:		Cost
J06056	Turbine Extended Service Agreement	Total	\$14,661,332
		Previously Approved Total	\$14,661,332
		Increase/(Decrease)	\$0

### Project Description

The purpose of this project is to improve the reliability of the plant electrical system and minimize the financial impact associated with landfill gas turbine outages. The scope of this project is the capital portion, 75 percent of costs, of a ten-year contract with Solar Turbines Inc., which will complete engine and major engine component replacement on the District's three landfill gas turbines. The landfill gas turbines are designed to provide power for the plant electrical system and minimize the amount of power purchased from We Energies providing District rate payers a significant annual savings. The change in total project cost is due to the extension of the Agreement from October of 2023 to September of 2024. The O&M portion of the agreement covers: 1) routine maintenance, washing, and inspection services; 2) remote monitoring of engine operating parameters and diagnostic evaluation of the parameters to detect abnormal conditions and address them early; 3) repairs and parts replacement; 4) unlimited unscheduled visits; and 5) unlimited technical support.

ID #:	Name:	Phase	Start	Finish	Cost
J06061	Dryer Conversion for Additional LFG	Prelimin. Eng	Jan-14	Mar-17	\$293,743
		Design	Oct-15	May-18	\$943,747
		Construction	May-19	Apr-22	\$6,487,848
		Post-Constr.	May-22	Oct-22	\$7,700
		Total			\$7,733,038
		Previously Approved Total			\$7,594,095
		Increase/(Decrease)			\$138,943

### Project Description

The purpose of this project is to reduce energy costs and help the District achieve its 2035 Vision for energy independence. The project scope includes design and construction to convert four Milorganite® dryer burners to use landfill gas (LFG) as well as natural gas (NG) and replace NG control valves and NG burner equipment on the other eight dryers not converted to also use LFG. Project scope includes a new combustion controls for all twelve dryers, including new programmable logic controllers and operator interface panels. The project also will help ensure compliance with meeting Class A biosolids/WPDES permit and air permit requirements through changes to the Milorganite® product temperature monitoring system. The change in total project cost is due to increased consultant and construction cost estimates. The project is expected to reduced energy costs in the operating budget with the increased use of landfill gas, a lower-cost fuel option.



This project supports the UN SDG #7.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06066	Power System Improvements	Prelimin. Eng	May-14	Jun-19	\$446,952
		Design	May-19	Sep-20	\$172,627
		Construction	Oct-17	Aug-22	\$1,396,551
		Post-Constr.	Sep-22	May-23	\$7,500
		Total			\$2,023,630
		Previously Approved Total			\$2,023,630
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to improve the overall reliability and safety of the JIWRP power supply. There have been instances of faults or abnormalities in the power distribution system, which have caused major power outages in the plant, leading to disruptions in the treatment process. Unplanned power outages hold risks of permit violations, plant upsets, and multiple safety risks. The project scope includes design and construction for replacement of protective relays in switchgear lineups in buildings 286, 263, and 289. It is expected that the replacement relays will extend the useful life of the plant power distribution by at least 20 years. The project scope includes design and construction of a connection between the Solar turbine black start generator and the powerhouse and GE turbine gas compressors. The total project cost was updated in April 2020 by Commission Action 20-048-4. There is no change in total project cost. The operating budget impact is not known at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06069	JI Building Roof Replacement - Phase 3	Design	Feb-18	Jun-19	\$353,652
		Construction	Sep-19	Dec-20	\$2,594,265
		Post-Constr.	Jan-21	Mar-21	\$5,097
		Total			\$2,953,014
		Previously Approved Total			\$2,953,177
		Increase/(Decrease)			(\$163)

### Project Description

The purpose of this project is to restore the life expectancy of roofs at the Jones Island Water Reclamation Facility and ensure on-going protection of buildings and their internal assets from precipitation. The project scope includes roof inspections, roof assessments, developing bid documents and construction of rehabilitation and/or replacement for roofs on Buildings 243, 245, 247, 256, 257, 263, 268 and 289. The impact on the operating budget is unknown at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Cost</b>
J06073	Harbor Siphons Area Settlement Mitigation	Construction	\$156,605
		Post-Constr.	\$5,000
		Total	\$161,605
		Previously Approved Total	\$131,033
		Increase/(Decrease)	\$30,572

### Project Description

The purpose of this project is to mitigate issues associated with settlement in the area of the former Harbor Siphons project on Jones Island. Thawing of a freeze wall installed on Jones Island to facilitate construction of the Harbor Siphons project (C07010) is expected to be ongoing for the next 20+ years. Thawing of the freeze wall is causing settlement of District assets in the immediate project area and beyond. The scope of this project is to mitigate settlement issues as they arise. This includes mitigating electrical duct bank settlement issues as well as additional funding to mitigate as of yet unknown asset settlement which is expected to occur in the future. The increase in total project cost is due to additional labor needed to administer the project. The impact on the operating budget is unknown at this time.



<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06075	2018 JI Capital Equipment Rehabilitation/Replacement	Construction	Dec-17	Dec-24	\$15,628,145
		Total			\$15,628,145
		Previously Approved Total			\$8,004,741
		Increase/(Decrease)			\$7,623,404

### Project Description

The purpose of this project is to provide a mechanism to replace and purchase various minor rolling stock and equipment at Jones Island that meet the criteria for capital budget financing but do not require extensive cost and schedule management. The project scope will vary each year as existing projects are completed, and new projects are added. Currently active or anticipated spending includes several equipment replacements within the Dewatering and Drying Building as well as turbine building control room switchgear replacement. The change in total project cost is de minimus. No impact on the operating budget is anticipated.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06076	Turbine Waste Heat Expansion Joint 12 & 13 Replacement	Design	Mar-18	Dec-18	\$100,900
		Construction	Feb-19	Oct-19	\$525,193
		Post-Constr.	Nov-19	Nov-21	\$80,907
		Total			\$707,000
		Previously Approved Total			\$634,350
		Increase/(Decrease)			\$72,650

### Project Description

The purpose of this project is to ensure the integrity and reliability of the waste heat system between the JI WRF gas turbines and the Milorganite® dryers. The scope of this project includes replacing two waste heat expansion joints and modifying duct supports adjacent to the new expansion joints to allow the duct to expand and contract consistently when it heats or cools. Expansion joint failure creates a safety issue and requires that the waste heat system be shut down until repairs are made. The change in total project cost is due to increased consultant and construction cost estimates. No impact on the operating budget is anticipated.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06078	JI WRF Odor Assessment	Planning	Jul-18	Apr-21	\$550,000
		Total			\$550,000
		Previously Approved Total			\$550,000
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to address odor issues at the JI WRF. The project includes air sampling and determining the source of the odors in order to develop capital improvements to reduce or eliminate odors. The 2050FP provided a list of potential projects to reduce odors, this project is using field data to prioritize the list of projects. There is no change in total project cost. No impact on the operating budget is anticipated.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06081	JI WRF Phase 1 MCC Replacements	Design	Sep-20	Aug-22	\$584,759
		Construction	Dec-22	Sep-24	\$4,482,361
		Post-Constr.	Sep-24	Dec-24	\$7,171
		Total			\$5,074,290
		Previously Approved Total			\$5,074,290
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to replace the obsolete electrical equipment with new equipment to reduce the risk of failure and power outages at Jones Island WRF. The equipment included in the scope of this project is more than 30 years old and has reached or exceeded the expected useful service life. The equipment age and limited availability or lack of replacement parts puts these MCCs at an increased risk of power supply failure. The scope of this project will replace 24 Motor Control Centers (MCCs), Load Center Unit Substation - Powerhouse (LCUS-P), and the GE Turbine Gas Compressor Motor Control Substation. Some MCCs will be replaced with new MCCs, while others will be replaced with new switchboards as the existing MCCs no longer contain any starters or other motor control equipment. The change in total project cost is de minimus. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06082	Flood Resiliency Improvements	Prelimin. Eng	Apr-20	Dec-20	\$85,000
		Design	Aug-21	Jul-22	\$215,000
		Construction	Nov-22	Mar-24	\$1,195,000
		Post-Constr.	Mar-24	Jun-24	\$5,000
		Total			\$1,500,000
		Previously Approved Total			\$1,500,000
		Increase/(Decrease)			\$0

### Project Description

The purpose of the project is to reduce risk of damage to Jones Island WRF assets and ensure worker access and safety within Jones Island WRF as a result of lake/river flooding. The scope of the project generally consists of the following: Design and construction of temporary flood barriers to address low water entry points at two doors and one garage door all located on the southwest of the Chemical Unloading Facility. These barriers will prevent flood water from entering these buildings. Design and construction of an estimated 10 backflow prevention devices on storm sewers that discharge into Lake Michigan or the Kinnickinnic River. These will prevent storm surges from backflowing into the JIWRf grounds. Preliminary engineering, design and construction to evaluate and restore a failed joint on the underground plant effluent outfall channel underneath a roadway just northeast of the Effluent Pump Station. Preliminary engineering, design and construction to mitigate flood water infiltration in to the underground gallery access just north of the Chemical Unloading Facility. This new project was created by Commission Action in March 2020. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06083	HVAC System Improvements - Bldgs. 234, 235, 243, & 256	Design	Jul-21	Aug-22	\$285,000
		Construction	Oct-22	Nov-23	\$1,548,100
		Post-Constr.	Jan-24	May-24	\$13,900
		Total			\$1,847,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$1,847,000

### Project Description

The purpose of this project is to ensure Buildings 234, 235, 243 and 256 have heating, ventilation and air conditioning (HVAC) systems that adequately heat, condition, and ventilate these buildings. The existing HVAC assets have reached the end of their useful service life and have recurring operational issues. The project scope includes design and construction to replace HVAC the equipment in the buildings. The design will evaluate the HVAC demands in each building to confirm the replacement equipment is sized appropriately. This is a new project. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06084	W3 &W4 System Modifications	Design	Jan-21	Dec-21	\$90,600
		Construction	Mar-22	Jun-23	\$365,400
		Post-Constr.	Jul-23	Dec-23	\$600
		Total			\$456,600
		Previously Approved Total			\$0
		Increase/(Decrease)			\$456,600

### Project Description

The purpose of the project is to maintain the supply of non-contact cooling water (NCCW) for the Powerhouse and Landfill Gas Turbine Facilities, so as to ensure proper operation and viability of the District's energy production facilities. The project will design and construct improvements to eliminate river water as a source of NCCW and only use plant effluent water (W3) as a source of NCCW for the Powerhouse and Landfill Gas Turbine Facilities. The improvements include abandoning or removing the cooling water pumps in the North Utility Pump Station (NUPS); improve the connection supplying W3 to the NCCW system; and provide piping to return NCCW to the secondary effluent channels. River water will continue to be used for fire protection purposes. This is a new project. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06085	Administrative/Maintenance Space Planning Analysis	Planning	Apr-21	Jul-23	\$750,000
		Total			\$750,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$750,000

#### Project Description

The purpose of this project is to create a capital investment plan for aging buildings at JIWRP such that the repair and replacement of these buildings can be done in an efficient manner. This project will provide a comprehensive plan for the administrative facilities at JIWRP that takes into consideration the holistic needs of the facility will provide the best-value investment as opposed to replacing buildings due to condition alone. This is a new project. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
J06089	Flow Meter Replacement	Design	Nov-20	Aug-21	\$105,000
		Construction	Nov-21	Aug-22	\$2,239,000
		Post-Constr.	Aug-22	Oct-22	\$5,000
		Total			\$2,349,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$2,349,000

#### Project Description

The purpose of this project is to ensure reliable availability of flow data used for regulatory reporting and process purposes by providing new, updated, reliable equipment. The scope includes replacing the nine flow meters located in large diameter pipes that have been in service for 25 to 30 years and have reached the end of their service lives. Seven of the flow meters are already magnetic flow meters that will be replaced in kind. The other two are clamp-on flow meters that will be upgraded to magnetic flow meters to improve accuracy and reliability. The flow meters have procurement periods of approximately six months each and significant plant capacity reductions will be required to install each meter. This is a new project. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Cost</b>
J99003	Operator Contribution to CIP	Six-Year Forecast Total
		Total
		\$250,000
		\$250,000

#### Project Description

The operating contract with VWM includes provisions for VWM to participate in current and planned District capital projects. The scope of this project includes VWM work in reviewing the annual capital budget, reviewing and creating requests for new projects, attending meetings, and participation in the implementation of capital projects. Operator Contribution to Capital Improvement Program accounts do not have an approved total project cost. The 2021 expenditures are budgeted at \$50,000; the six-year long-range financing plan includes \$250,000. No significant operating budget impact is expected.

# South Shore Water Reclamation Facility

## Primary Treatment

Primary treatment involves preliminary and primary treatment of influent flows. Preliminary treatment removes large and untreatable material such as wood, rags, sand, and grit. Primary treatment then collects the preliminary-treated water in large tanks, called clarifiers, to allow heavier solids to settle to the bottom of the tanks and lighter solids to float to the top. The goal of the process is to effectively remove material that can damage downstream equipment and most solids that cannot be treated biologically.

ID #:	Name:	Phase	Start	Finish	Cost
S01013	Primary Clarifier Rehabilitation	Design	Feb-21	Sep-22	\$1,356,988
		Construction	Dec-22	Jun-27	\$13,986,087
		Post-Constr.	Aug-27	Dec-27	\$18,270
		Total			\$15,361,345
		Previously Approved Total			\$14,561,344
		Increase/(Decrease)			\$800,001

### Project Description

The purpose of this project is to replace the primary clarification system for Primary clarifiers 1-16 to maximize BOD and TSS removal. The Scope of the project includes Design and Construction of a reliable primary clarification systems capable of enhanced removal of organic matter from the influent. The Design phase will investigate alternatives including Chemically Enhanced Primary Treatment. The scope includes replacement of the sludge and scum collectors, scum pumps, sludge pumps, associated electrical equipment and deteriorated concrete structures. The change in total project cost is due to refined cost estimates. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
S01015	Grit Equipment Replacement	Design	Sep-20	Mar-23	\$672,212
		Construction	Jul-23	Dec-25	\$4,788,458
		Post-Constr.	Mar-26	Jan-27	\$27,330
		Total			\$5,488,000
		Previously Approved Total			\$3,527,001
		Increase/(Decrease)			\$1,960,999

### Project Description

The purpose of this project is to ensure the integrity and capacity of the preliminary treatment grit handling process by replacing deteriorating assets. The project scope includes design and construction of the grit handling system replacement at the Preliminary Treatment Facility. The scope includes replacement of the following equipment: seven screenings washer systems, seven grit belt conveyors, two grit screenings conveyors, one belt screenings conveyor, six grit slurry cups, and two winches for the grit load out containers. During preliminary design, the capacity of the replacement handling equipment will be confirmed based on operating history, information from the blending capacity analysis performed under project S02008 and near-term recommendations from the 2050 Facilities Plan. The change in total project cost is due to increased labor, consultant and construction cost estimates. No significant operating budget impact is expected.

# South Shore Water Reclamation Facility

## Secondary Treatment

After removal of the solids, the primary-treated water flows to the secondary or biological activated sludge process. This process, called aeration, pumps large amounts of air into the water to permit bacteria and other microorganisms to consume soluble oxygen-demanding pollutants in the aerated water. The pollutants are broken down to mainly cell mass, carbon dioxide, and water. Prior to the introduction of air, an iron salt (pickle liquor or ferric chloride) is added to the water for phosphorus removal. The biologically treated flow is again routed through the secondary clarifier settling basins where the biological solids and the phosphorus precipitate settle and the liquid overflows to the next water reclamation process.

ID #:	Name:	Phase	Start	Finish	Cost
S02008	SS Capacity Improvements	Planning	Mar-10	Dec-10	\$13,200
		Prelimin. Eng	Feb-12	Jul-17	\$1,690,969
		Design	Oct-16	Dec-20	\$798,339
		Construction	May-19	Aug-24	\$4,914,733
		Post-Constr.	Sep-24	Sep-25	\$21,760
		Total			\$7,439,001
		Previously Approved Total			\$6,632,294
		Increase/(Decrease)			\$806,707

### Project Description

The purpose of this project is to cost-effectively increase the capacity of SS to reduce the risk of sanitary sewer overflows (SSOs), combined sewer overflows (CSOs), and basement backups. The scope includes completing the preliminary engineering work of the preliminary and secondary hydraulic improvement projects recommended in the SS Capacity Analysis report (S06014). The scope includes design and construction of clarifier skirt and baffle modifications in all the front secondary clarifiers, leveling and replacing front secondary clarifier weirs, aeration basin modifications, and other secondary treatment improvements. The scope includes preliminary engineering, design and construction of improvements to increase hydraulic capacity through Preliminary and Primary Treatment up to 375 MGD, with all units in service. The increase in total project cost is due to updated labor and construction cost estimates. Additional operating and maintenance costs related to the new instruments to monitor conditions in one secondary clarifier began in 2019 and will be approximately \$2,500 per year.



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
S02013	Aeration Galleries RAS Header Piping Rehab	Design	Feb-16	Feb-20	\$609,756
		Construction	Oct-17	Jul-23	\$6,798,242
		Post-Constr.	Sep-23	Mar-24	\$6,506
		Total			\$7,414,504
		Previously Approved Total			\$7,413,448
		Increase/(Decrease)			\$1,056

### Project Description

The purpose of this project is to ensure the integrity of the secondary treatment process by replacing return activated sludge (RAS) piping to the aeration basins. The project scope is to design, and construct replacement RAS suction and discharge header piping located in Aeration Buildings 316 and 317, branch piping, fittings, and components between the RAS discharge header and each of the 28 aeration basins. Due to age and corrosion, sections of piping and components have required significant corrective action. If RAS piping and components are unable to provide service to the aeration basins, then plant capacity will be reduced, which may result in permit violations. Leakage into open gallery areas could result in worker safety issues. The project scope includes addition of two RAS pumps for system redundancy. The project also includes the replacement of two existing RAS suction header isolation valves. The change in total project cost is de minimus. No significant operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
S02015	Aeration Basin Diffuser Replacement	Planning	Nov-19	Feb-20	\$37,887
		Design	Jul-20	Aug-22	\$1,333,729
		Construction	Jan-23	Sep-26	\$23,544,405
		Post-Constr.	Jan-27	Jun-27	\$16,978
		Total			\$24,933,000
		Previously Approved Total			\$26,939,646
		Increase/(Decrease)			(\$2,006,646)

### Project Description

The purpose of this project is to replace the diffusers and piping as the equipment reaches the end of its useful service life such that South Shore WRF may continue to aerobically treat wastewater. The project scope includes design and construction for the removal and replacement of the aeration diffusers and piping in all twenty-eight (28) aeration basins. This includes removal of existing ceramic plate containers and diffusers, removal of the existing membrane diffusers, and the construction of a new membrane diffuser system. The decrease in total project cost is due to refined cost estimates. The impact on the operating budget is unknown.



This project supports the UN SDG #6 and 7.

ID #:	Name:	Phase	Start	Finish	Cost
S02017	Process Air Header Improvements	Prelimin. Eng	Apr-20	Jan-21	\$250,000
		Total			\$250,000
		Previously Approved Total			\$250,000
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to help ensure the integrity of the SSWRF aeration system. A loss of the aeration system, which is an integral part of the activated sludge process, can impact plant capacity and effluent quality and the ability to meet the District's WPDES effluent permit limits. The project scope provides preliminary engineering to investigate replacement of the discharge pipe branches from the Blower Generator Building to the 90-inch air header, including alternatives for replacement pipe materials and an evaluation to minimize impacts to plant operations. The scope will also evaluate the best means and methods to obtain a condition assessment of the 90-inch air header with an estimate of remaining useful life. The evaluation will consider non-destructive assessment methods and ways to minimize impacts to plant operations. Additional project phases will be defined based on the outcomes of the preliminary engineering phase. This project was created in March 2020 by Commission Action 20-039-3. There is no change in total project cost. No significant operating budget impact is anticipated.



# South Shore Water Reclamation Facility

## Advanced Treatment

The biologically treated wastewater enters the final treatment process in preparation for discharge into Lake Michigan. Here, sodium hypochlorite is used to disinfect the treated water. Disinfection is the selective destruction of disease-causing organisms including bacteria, viruses, and amoebic cysts. After chlorination, sodium bisulfite is mixed with the chlorine treated water to remove any chlorine residuals. Removal of chlorine is necessary to ensure no fish toxicity. The water reclamation process is complete, and the fully treated water meets all U.S. Environmental Protection Agency and Wisconsin Department of Natural Resources requirements. Plant effluent is then discharged into Lake Michigan.

ID #:	Name:	Phase	Start	Finish	Cost
S03003	Post-Secondary Capacity Improvements	Design	Sep-16	Nov-20	\$1,042,893
		Construction	May-20	Dec-21	\$1,617,325
		Post-Constr.	Dec-21	Nov-22	\$29,782
		Total			\$2,690,000
		Previously Approved Total			\$2,642,674
		Increase/(Decrease)			\$47,326

### Project Description

The purpose of this project is to increase the capacity of the SSWRF to reduce the risk of SSOs, CSOs, and basement backups. The scope includes preliminary design of hydraulic capacity improvements for the post-secondary processes as recommended by a preliminary engineering study completed under Project S02008; design and construction of disinfection system improvements to pumps, piping and mixing; and preliminary evaluation, design and construction of disinfection system improvements to blend primary effluent with secondary effluent. The total project cost was updated in May 2020 by Commission Action 20-073-5. The increase in total project cost is due to updated labor cost estimates. Increases to the operating budget, not expected to be incurred until 2022, include costs for chemical and energy for flows over 300 MGD. However, these could potentially be offset in operating cost decreases due to improved chemical mixing strategies.



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
S03004	Effluent Pump MCC and VFD Upgrade	Design	May-20	Jun-21	\$162,355
		Construction	Sep-21	Sep-22	\$935,224
		Post-Constr.	Nov-22	Jan-23	\$2,421
		Total			\$1,100,000
		Previously Approved Total			\$992,541
		Increase/(Decrease)			\$107,459

### Project Description

The purpose of this project is to replace the obsolete motor control centers (MCCs) and soft starts (RVSS) in the Effluent Pump Station with new equipment to reduce the risk of a plant capacity reduction due to loss of effluent pumping capacity. The MCCs included in the scope of this project have exceeded their expected useful service life. The equipment age and limited availability or lack of replacement parts puts these MCCs at an increased risk of power supply failure. The reduced voltage soft starters have been problematic to maintain, and replacement is justified. Replacing these soft starts with VFDs will allow all effluent pumps to run at variable speed, will provide operational flexibility to balance run hours, and will reduce the number of pump starts and stops when plant flows change. The project scope includes design and construction for the replacement of two MCCs and three RVSS. The scope also includes design and construction of a vestibule to separate the Effluent Pump Station from the SSWRF utility tunnel system. Vestibule separation will change the Effluent Pump Station and electrical room rating from "Class I, Division 2" to "Unclassified" per NFPA 820. The increase in total project cost is due to updated labor, design and construction cost estimates. No significant operating budget impact is anticipated.

# South Shore Water Reclamation Facility

## Solids Processing

The waste activated sludge from South Shore's secondary clarifiers is pumped to dissolved air flotation thickening, and then to Jones Island for Milorganite® production. Biosolids from the primary clarifiers are pumped to the anaerobic digesters. Anaerobic digestion is used to stabilize the biological activity and reduce the biosolids volume. The volatile organics in the bio-solids are converted to gas by bacteria that live and grow in the anaerobic environment and destroy up to 30 percent of the solids. Gas produced by this process fuels engines and heats the digesters. Once treated, the stabilized solids are either sent to JI or conditioned with chemicals and thickened with a centrifuge or gravity belt thickener. The thickened sludge may be pumped to Jones Island for Milorganite® production or dewatered into a filter cake and is disposed of in a licensed landfill.

ID #:	Name:	Phase	Start	Finish	Cost
S04012	Plate and Frame Press Upgrade	Design	Aug-18	Mar-19	\$24,920
		Construction	Jun-19	Oct-21	\$758,809
		Post-Constr.	Nov-21	Jul-22	\$7,126
		Total			\$790,855
		Previously Approved Total			\$767,855
		Increase/(Decrease)			\$23,000

### Project Description

The purpose of this project is to upgrade the plate and frame press control system to provide safe and reliable dewatering at the intended design capacity, to protect MMSD assets, and to improve operational efficiency. The SSWRF plate and frame presses serve as a back-up solids dewatering system in the event the Dewatering and Drying Facility at JIWRf is not available to process biosolids. The total project cost increase is due to refined construction cost estimates. No significant operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
S04030	Aeration Basin Concrete Rehab - Phase 3	Design	Jul-18	Sep-19	\$222,897
		Construction	Dec-19	Oct-21	\$2,360,111
		Post-Constr.	Nov-21	Apr-22	\$5,645
		Total			\$2,588,653
		Previously Approved Total			\$2,586,156
		Increase/(Decrease)			\$2,496

### Project Description

The purpose of this project is to extend the life of the aeration basins, increase worker safety, and reduce the risk of air diffuser damage due to falling concrete. The concrete has significant spalling as a result from freeze thaw cycles during the winter months. This spalling has structurally compromised the cast-in-place guard railing around the basins. The scope consists of design and construction of removal and replacement of the top portion of the concrete walls on aeration basins 12, 14, 16, 21, 23 and 26. The scope also includes the removal of existing hand railing and painting the hand railing. The hand railing will include a kickplate for safety and will be bolted down. Electrical conduits and associated conductors that are embedded in the concrete walls will be replaced as needed. This project scope also includes improved access to the primary effluent channel to provide plant maintenance staff safe access to the channel for cleaning purposes. The change in total project cost is de minimus. No operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
S04033	Aeration Basin Concrete Rehab - Phase 4	Design	Jun-22	Jun-23	\$280,000
		Construction	Sep-23	Apr-25	\$2,237,000
		Post-Constr.	May-25	Oct-25	\$6,000
		Total			\$2,523,000
		Previously Approved Total			\$2,417,612
		Increase/(Decrease)			\$105,388

### Project Description

The purpose of this project is to extend the life of the aeration basins, increase worker safety, and reduce risk of air diffuser damage due to falling concrete. The concrete for these basins has spalling as a result from freeze thaw cycles during the winter months. While the spalling has not structurally compromised the cast-in-place guard railing around the basins, work is planned to address the deterioration prior to the concrete becoming a hazard. The scope consists of design and construction of removal and replacement of the top portion of the concrete walls on aeration basins 10, 11, 19, 20 and 25. The scope also includes the removal of existing hand railing, and either re-galvanizing existing hand railing or replacing existing with aluminum hand railing. The hand railing will include a kickplate for safety and will be bolted down. Electrical conduits and associated conductors that are embedded in the concrete walls will be replaced as needed. The changes to total project are due to inflation. No significant operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
S04034	High Strength Waste Mixing Improvements	Design	Jan-22	Mar-23	\$68,017
		Construction	Jul-23	Sep-24	\$282,059
		Post-Constr.	Nov-24	Mar-25	\$5,943
		Total			\$356,019
		Previously Approved Total			\$352,805
		Increase/(Decrease)			\$3,214

### Project Description

The purpose of this project is to reduce energy costs and help the District achieve energy independence. The project scope consists of design and construction of improvements to the high strength waste (HSW) mixing system. The improvements will allow the district to effectively process a wider range of HSW materials. The increase in total project cost is due to inflation. The project is anticipating a positive budget impact due to the revenue that could be gained from tipping fees and increased energy production.

ID #:	Name:	Phase	Start	Finish	Cost
S04035	Digester 6 & 8 Mixer Replacement	Design	Oct-18	Feb-20	\$149,514
		Construction	Jun-20	Jun-22	\$3,085,861
		Post-Constr.	Aug-22	May-23	\$11,212
		Total			\$3,246,587
		Previously Approved Total			\$2,695,066
		Increase/(Decrease)			\$551,521

### Project Description

The purpose of this project is to replace eight mixers in anaerobic digesters 6 and 8 at SSWRF and complete all associated work to ensure adequate mixing. The project scope includes replacement of the digester mixers with linear motion mixers, installation of two new pressure relief/flare arrestor valves, removal and disposal of sludge, cleaning, and related structural, mechanical, electrical and control work. The increase in total project cost is due to updated labor, consultant and construction cost estimates. No impact to the operating budget is anticipated.



This project supports the UN SDG #7.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
S04036	Bldg. 383 HVAC Replacement	Design	Jan-20	Aug-20	\$141,341
		Construction	Nov-20	Aug-21	\$583,917
		Post-Constr.	Sep-21	Dec-21	\$9,902
		Total			\$735,160
		Previously Approved Total			\$526,103
		Increase/(Decrease)			\$209,057

### Project Description

The purpose of this project is to replace the existing HVAC system, fire alarm system, and acoustical drop ceiling in the Agri-Life Operations Building of the South Shore WRF. The project scope includes design and construction for the removal and replacement of the HVAC and fire alarm systems and acoustical drop ceiling at the Agri-Life Operations Building (Building 383) of the South Shore WRF. The design phase will evaluate alternatives to improve the efficiency of the HVAC controls, provide improved HVAC level of service, reduce energy usage, and provide a fire alarm system with the appropriate level of fire protection for the building. The increase in total project cost is due to additional design and construction scope and costs to replace the acoustical drop ceiling and fire alarm system and increased consultant construction cost estimates. This project is expected to reduce operating budget costs because of the reduced energy usage.

## General Projects

Projects grouped into this category are projects that do not fit into the other reclamation facility processes. The types of projects can be associated with:

**ENERGY DISTRIBUTION** – electrical generation and distribution, hot water and steam generation and distribution, digester gas distribution, and process air generation

**BUILDINGS AND GROUNDS IMPROVEMENTS** – capital improvements to non-process buildings and other improvements such as roads and utilities

**NONSPECIFIC** Instrumentation and Control

**COSTS ASSOCIATED** with litigation with non-current capital projects

**ALL OTHER** nonspecific items

Projects included in the budget in this area will improve operations, most notably in the upgrade of the instrumentation and control equipment that will help better control the water reclamation process and make use of existing capacity.

ID #:	Name:	Phase	Start	Finish	Cost
S06019	Replace W3 Flushing Water Pumps	Design	Feb-15	Feb-18	\$284,634
		Construction	May-18	Oct-20	\$1,034,669
		Post-Constr.	Apr-20	Jul-21	\$50,914
		Total			\$1,370,217
		Previously Approved Total			\$1,444,107
		Increase/(Decrease)			(\$73,890)

### Project Description

The purpose of this project is to ensure the reliability of the South Shore W3 water system. The project scope is to design, construct, and install the replacement of eight W3 water pumps. The W3 water system is non-potable water used in the treatment process for cooling water, maintenance, and chemical dilution. The scope includes separating the fire protection water service in the preliminary treatment facility from the process water to be in conformance with plumbing code, and evaluation of fire protection flow rate requirements. The change in total project cost is due to construction being completed under budget. The project may result in increased energy efficiency, which would reduce the cost of energy in the operating budget.

ID #:	Name:	Phase	Start	Finish	Cost
S06027	Tunnels Concrete Rehabilitation	Design	Jan-16	Aug-19	\$382,917
		Construction	Nov-18	Jan-22	\$3,630,008
		Post-Constr.	Jan-22	Jul-22	\$11,000
		Total			\$4,023,925
		Previously Approved Total			\$4,023,925
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to rehabilitate the condition of the deteriorated SSWRF tunnels and conduits within to ensure effective and efficient plant operations. These tunnels, constructed in the 1960s and the 1980s, house all of the process, utility piping, electrical power distribution, and control wiring for the lower portion of SS. Water infiltration into these tunnels damage the assets housed within, damage the tunnel itself, and can cause employee safety issues. Damage to the assets within the tunnel can lead to process outages, inefficient operations, and ineffective wastewater treatment. The total project cost was updated in July 2020 via Commission Action. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
S06034	Building Roof Replacement Phase III	Design	Feb-18	Jun-19	\$208,400
		Construction	Sep-19	Jun-20	\$2,075,761
		Post-Constr.	Aug-20	Feb-21	\$5,128
		Total			\$2,289,289
		Previously Approved Total			\$2,289,444
		Increase/(Decrease)			(\$155)

#### Project Description

The purpose of this project is to restore the life expectancy of roofs at the South Shore Water Reclamation Facility and ensure on-going protection of buildings and their internal assets from precipitation. The project scope includes roof inspections, roof assessments, developing bid documents and construction of rehabilitation and/or replacement for roofs on Buildings 358, 360, 380 and 381. The change in total project cost is de minimus. The impact on the operating budget is unknown at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
S06038	2018 SS Capital Equipment Rehabilitation/Replacement	Construction	Jan-18	Dec-24	\$18,199,556
		Total			\$18,199,556
		Previously Approved Total			\$8,407,092
		Increase/(Decrease)			\$9,792,464

#### Project Description

The purpose of this project is to provide a mechanism to replace and purchase various minor rolling stock and equipment at South Shore that meet the criteria for capital budget financing but do not require extensive cost and schedule management. The project scope will vary each year as existing projects are completed, and new projects are added. The total project cost increase is due to budgeting for additional equipment rehabilitation/replacement up through 2024. The operating budget impact is not known at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
S06039	Building Roof Replacement Phase IV	Design	Jul-18	Oct-19	\$223,069
		Construction	Feb-20	Jan-21	\$937,302
		Post-Constr.	Feb-21	May-21	\$5,129
		Total			\$1,165,500
		Previously Approved Total			\$1,288,415
		Increase/(Decrease)			(\$122,915)

#### Project Description

The purpose of this project is to review roof conditions and subsequently recommend and preform replacements at SS. The scope of the project includes a site inspection, condition assessment and recommendations for the four roofs to be replaced (Buildings S326, S340, S356, and S357). The project will then proceed with developing bid documents and with construction of the roof replacements. The total project cost was updated in February 2020 via Commission Action. The decrease in total project cost reflects actual construction bid received and a reduction in District effort to complete the project. No significant operating budget impact is expected.



<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
S06047	Protective Relay Synchronization	Design	Sep-21	Jan-23	\$123,000
		Construction	Apr-23	Oct-24	\$287,000
		Post-Constr.	Nov-24	Jan-25	\$300
		Total			\$410,300
		Previously Approved Total			\$0
		Increase/(Decrease)			\$410,300

### Project Description

The purpose of this project is to improve the reliability of the power distribution system at SSWRF. This project will improve the efficiency of data collection and analysis when an electrical event occurs on the main power distribution system at South Shore WRF. The project scope includes design and construction of new satellite antennas, remote telemetry units, real-time automation controllers and a computer workstation for synchronization and data logging. This is a new project. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Cost</b>
S99003	Operator Contribution to CIP	Six-Year Forecast Total
		\$200,000
		Total
		\$250,000

### Project Description

The operating contract with VWM includes provisions for VWM to participate in current and planned District capital projects. The scope of this project includes VWM work in reviewing the annual capital budget, reviewing and creating requests for new projects, attending meetings, and participation in the implementation of capital projects. Operator Contribution to Capital Improvement Program accounts do not have an approved total project cost. The 2021 expenditures are budgeted at \$50,000; the six-year long-range financing plan includes \$200,000. No significant operating budget impact is expected.

# Interplant Pipeline

A 12-mile pipeline that connects the Jones Island and South Shore water reclamation facilities allows the transfer of sludge between the water reclamation facilities. This interplant pipeline aids in the production of Milorganite® because waste activated sludge and digested sludge can be conveyed to Jones Island where Milorganite® is produced. The primary sludge from Jones Island can be either sent to digestion or to South Shore solids handling facilities then to either farm fields or sanitary landfills for final disposal outside of the plant.

ID #:	Name:	Phase	Start	Finish	Cost
P01005	Interplant Pipeline Improvements - Phase II	Design	Apr-16	Sep-21	\$2,101,235
		Construction	Feb-17	Feb-24	\$26,601,466
		Post-Constr.	Apr-24	Oct-24	\$7,592
		Total			\$28,710,293
		Previously Approved Total			\$22,545,260
		Increase/(Decrease)			\$6,165,033

## Project Description

The interplant solids (IPS) system consists of two pump stations and four pipelines that allows transfer of solids between Jones Island and South Shore for the purpose of maximizing Milorganite® production, bio-gas production and other bio-solids environmentally sustainable recycling methods. The purpose of this project is to ensure capacity and operational flexibility for solids transfer between Jones Island and South Shore for maximizing Milorganite® and digester gas production. The IPS system is over 20 years old and much of its support equipment has reached the end of its useful life. This project will replace key system components such as pumps, motors, variable frequency drives, magnetic flow meters, valves, and piping at the Jones Island Pump Station, the South Shore Pump Station and the piping valve vaults located between the two facilities. The project will also restore the cathodic protection system for the IPS pipelines along their entire length between the two water reclamation facilities. Cathodic protection is used to minimize corrosion of buried infrastructure. The project will also restore capacity and reduce energy consumption of the IPS system by increasing the pump capacity and reducing the pump pressure by cleaning and pigging the IPS pipelines. The increase in total project cost reflects increased construction cost estimates. No operating budget impact is anticipated at this time.

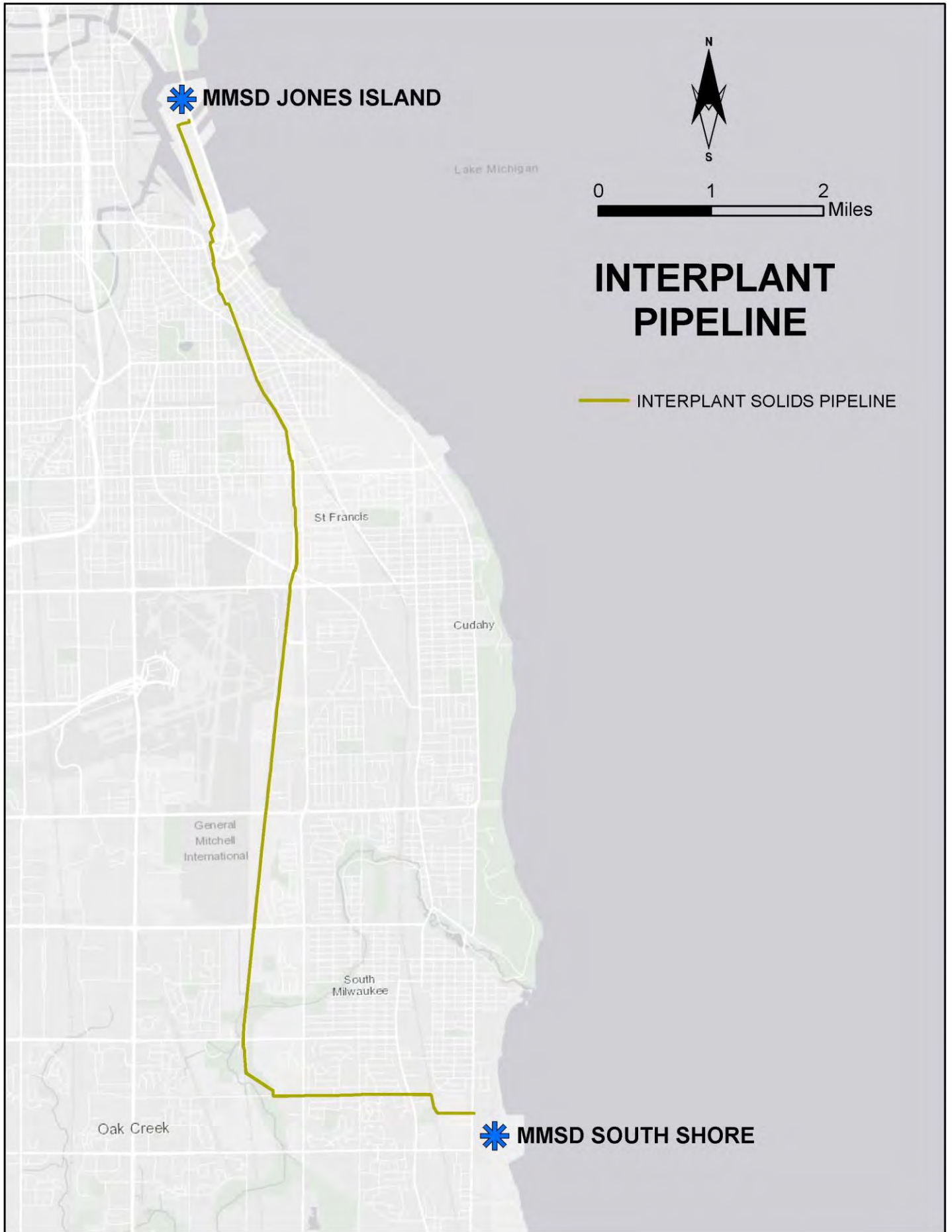


This project supports the UN SDG #7.

ID #:	Name:	Phase	Start	Finish	Cost
P01006	Replace IPS Pipes within South Shore WRF Property	Design	Feb-19	Apr-20	\$424,676
		Construction	Sep-20	Jan-23	\$6,369,430
		Post-Constr.	Mar-23	Sep-23	\$9,494
		Total			\$6,803,600
		Previously Approved Total			\$6,803,600
		Increase/(Decrease)			\$0

## Project Description

The purpose of the project is to ensure the continued use of the Interplant Solids Pipeline on the South Shore Water Reclamation Facility property. The Interplant Solids Pipeline at SSWRF has experienced several breaks in recent years due to severe external corrosion. Replacement of the pipelines is necessary to reduce the risk and frequency of pipeline breaks. The project scope includes design and construction to replace the pipelines. The total project cost was increased by Commission action in September 2020. No operating budget impact is anticipated at this time.



# Landfill Gas Pipeline

ID #:	Name:	Phase	Start	Finish	Cost
P02003	LFG Pipeline Pigging Station	Prelimin. Eng	Jan-16	Feb-18	\$202,009
		Design	May-18	Aug-19	\$237,810
		Construction	Nov-19	Oct-20	\$2,092,139
		Post-Constr.	Nov-20	Apr-21	\$8,814
		Total			\$2,540,772
		Previously Approved Total			\$2,540,891
		Increase/(Decrease)			(\$119)

## Project Description

The purpose is to have the ability to inspect and maintain the 16" diameter landfill gas pipeline using a permanent pigging station, which is required by the Wisconsin Public Service Commission. The scope of the project is to design and construct an above-ground two-way pigging station for the junction of the 16" diameter steel landfill gas pipeline and the 16" diameter HDPE pipeline located at East College Avenue. The new pigging station will replace the existing below ground temporary pigging station. The total project cost was updated in June 2020 via Commission Action. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
P02004	Landfill Gas System - Metro Landfill	Design	Jul-16	Apr-26	\$1,191,981
		Construction	Sep-26	Dec-27	\$11,865,766
		Post-Constr.	Jan-20	Oct-28	\$13,253
		Total			\$13,071,000
		Previously Approved Total			\$12,509,854
		Increase/(Decrease)			\$561,146

## Project Description

The purpose of the project is to treat gas from the Waste Management Metro Landfill and deliver it to the District's landfill gas (LFG) pipeline for use at Jones Island WRF. LFG is a source of energy for producing electricity for plant purposes and heat to produce Milorganite® at JIWRf. LFG is a renewable fuel, and its use at Jones Island in place of natural gas results in operational cost savings and an overall reduction in greenhouse gases. The project scope will design and construct new LFG treatment and conveyance facilities at Waste Management Metro Landfill. The increase in total project cost is due to refined cost estimates. The project is expected to have a positive operating budget impact due to lower costs than natural gas.



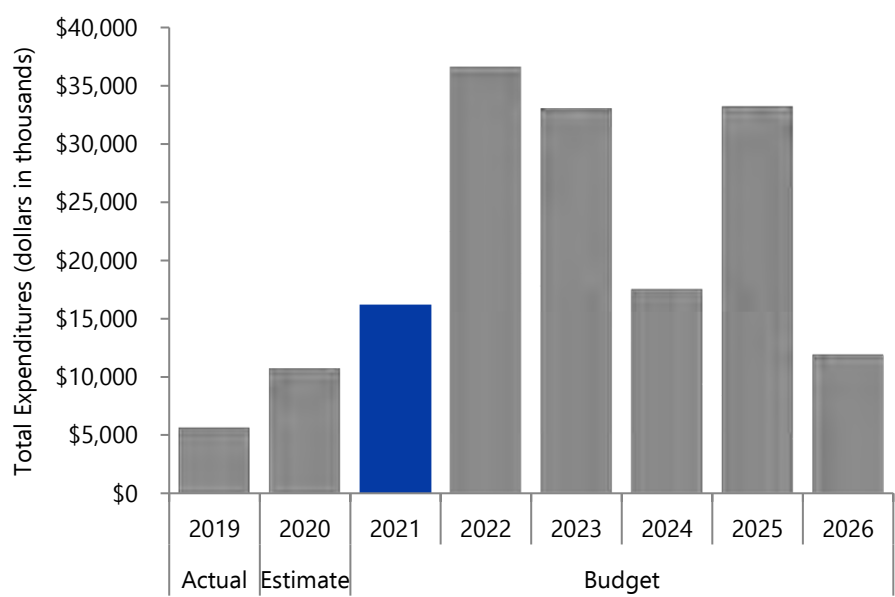
This project supports the UN SDG #7.





# Conveyance Facilities

Conveyance Facilities



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. The local sewer systems are operated and maintained by governments within the District and those contracted 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. The budget divides the District’s conveyance system into three components: the Metropolitan Interceptor Sewer System, the Inline Storage System, and the Central Control System.

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## Metropolitan Interceptor Sewer System

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The District's Metropolitan Interceptor Sewer (MIS) system, a network of sanitary sewers, is operated and maintained through a contract with Veolia Water Milwaukee (VWM). 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 South Shore Water Reclamation Facilities.

The MIS system is divided into seven 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 MIS 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 can also be diverted between the subsystems for conveyance to either Jones Island or South Shore. Moreover, flows can be diverted to the Inline Storage System, a large storage facility underground. Diversion of flow between subsystems is accomplished by manually operating gates and flow diversion devices or by operator initiation from the District's Central Control System.

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### Inline Storage System

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The Inline Storage System (ISS), or Deep Tunnel System, consists of 21.4 miles of tunnels 300 feet underground and can store up to 432 million gallons of wastewater. The cornerstone of the Water Pollution Abatement Program (WPAP), the ISS became fully operational in 1994. The Northwest Side Relief Sewer (NWSRS) went on-line in early 2006. This storage tunnel is 7.1 miles long, 20 feet in diameter and adds 89 million gallons of storage capacity to the existing system, for a total of 494 million gallons. The ISS and NWSRS store peak wastewater flows that temporarily exceed the capacity of either the Water Reclamation Facilities or the MIS system. The system is designed to substantially reduce the number of bypasses and the discharge of untreated or partially treated wastewater into Lake Michigan and area streams.

During wet weather periods, the MIS system surcharges when the hydraulic capacity of the system has been reached. When this happens, pressure causes the flow to seek a free outfall. Under the original MIS system design, this outfall (also referred to as an overflow) flowed into area rivers and Lake Michigan. Since completion of the WPAP, when the system becomes surcharged the near-surface collector system conveys excess flows to the ISS via a series of 24 drop shafts. The ISS system was designed to eliminate overflows from the separated sewer area and to greatly reduce overflows in the combined sewer area. The ISS was designed to capture most, but not all, of the flows caused by extreme wet weather events.

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### Central Control System

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Using continuous and intermittent monitors, flows within the MIS system and the local sewer system are monitored. Continuous monitors are permanently installed in over 300 locations and primarily use a wireless communication system to transmit data back to the District's Central Control System. Intermittent monitors are temporarily installed and rely on field crews to retrieve the data.

Along with monitoring flow data, the Central Control System allows remote operation of the conveyance system. A single operator can divert flow from one subsystem to another, from one water reclamation facility to another or to the ISS. The goal of the Central Control System is to ensure that water reclamation facility and conveyance capacity is utilized in the most efficient manner.

The 2021 Capital Budget includes \$16.1 million for work on various conveyance projects. Please refer to project detail on the following pages for information on the project purpose, scope, cost estimate and impact on the O&M budget.



## Subsystem 1 – South Shore Main Branch

### Metropolitan Interceptor Sewer System

Subsystem 1 is located in the southern part of Milwaukee County. While some areas of Subsystem 1 can be diverted to either the Jones Island or South Shore Water Reclamation Facilities, a majority of flows are tributary to South Shore. Municipalities that discharge to Subsystem 1 are the cities of Cudahy, Franklin, Greenfield, Milwaukee, Oak Creek, St. Francis, and West Allis, and Village of West Milwaukee.

ID #:	Name:	Phase	Start	Finish	Cost
C01006	150" MIS Preliminary Engineering	Prelimin. Eng	Feb-20	Jul-22	\$1,400,858
		Total			\$1,400,858
		Previously Approved Total			\$974,858
		Increase/(Decrease)			\$426,000

#### Project Description

The purpose of this project is to assess the condition of the 144-inch and 150-inch monolithic concrete sewers that drain to the South Shore Water Reclamation Facility. This assessment is the first step in the reconstruction or rehabilitation of the sewers. The scope of this project includes multiple assessments of the pipe condition and sedimentation within the pipe. The assessment will determine the structural condition of the pipe, risk for collapse, and recommend whether rehabilitation or reconstruction is needed. The increase in total project is due to additional scope that was added to the contract for additional analyses and the costs for condition assessment have increased. No impact on the operating budget is anticipated.

## Subsystem 2 – Southwest Branch

### Metropolitan Interceptor Sewer System

Subsystem 2 is located on the south side of the planning area and its flows are tributary to South Shore. The communities discharging to this subsystem are the cities of Franklin, Greenfield, Milwaukee, Muskego, New Berlin, Oak Creek and West Allis, the villages of Caledonia, Greendale, and Hales Corners.

ID #:	Name:	Phase	Start	Finish	Cost
C02009	Hydrogen Sulfide & Odor Mitigation Study	Planning	Jan-19	Sep-20	\$430,866
		Prelimin. Eng	Jul-20	Dec-21	\$130,654
		Design	Dec-21	Jun-22	\$187,625
		Construction	Sep-22	Jan-23	\$516,162
		Post-Constr.	Feb-23	Jun-23	\$5,674
		Total			\$1,270,981
		Previously Approved Total			\$1,272,591
		Increase/(Decrease)			(\$1,610)

#### Project Description

The purpose of this project is to reduce the odors and hydrogen sulfide levels in the Southwest Interceptor and develop a protocol for hydrogen sulfide (H<sub>2</sub>S) issues throughout the MIS system. The scope consists of the recommendations for H<sub>2</sub>S mitigation in the Southwest Interceptor and other MIS to reduce odors, corrosion, and potential health risks due to hydrogen sulfide gas production. The project includes an analysis of H<sub>2</sub>S and its impact on the MIS. The change in total project cost is de minimus. No impact on operating budget anticipated.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
C02010	Force Main Franklin Muskego Rehabilitation Project	Prelimin. Eng	Nov-19	Dec-21	\$767,741
		Design	May-22	Jul-23	\$405,000
		Construction	Nov-23	Feb-25	\$1,647,500
		Post-Constr.	Mar-25	Jul-25	\$15,000
		Total			\$2,835,241
		Previously Approved Total			\$1,248,086
		Increase/(Decrease)			\$1,587,155

### Project Description

The purpose of this project is to provide for continued and reliable services of the Franklin/Muskego force main by extending its useful life. The scope of this project includes preliminary engineering, design and construction of rehabilitation and replacement of the Franklin/Muskego Force Main to address corrosion issues. The preliminary engineering phase will complete investigative digs where sections of the force main will be excavated, removed and replaced at locations of pipe anomalies identified during a previous nondestructive investigation. The change in total project is due to revised cost estimates. No impact to the operating budget is anticipated.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
C02011	Force Main Greenfield Park Rehabilitation Project	Design	Apr-19	Mar-20	\$363,347
		Construction	Jun-20	Jun-21	\$1,991,469
		Post-Constr.	Jul-21	Aug-21	\$12,510
		Total			\$2,367,326
		Previously Approved Total			\$2,367,506
		Increase/(Decrease)			(\$180)

### Project Description

The purpose of this project is to address the rehabilitation, replacement, and long-term monitoring plan for the Greenfield Park Force Main based on the final recommendations from project C02008. Several locations of the Greenfield Park Force Main pipe have been identified that may have an accelerated corrosion rate. This project is to identify potential issues and prevent any leaks and consequently SSOs that may occur if issues are not addressed. The total project cost was amended by Commission Action in June 2020. The change in total project is de minimis. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
C02012	10th Avenue MIS Lateral Reconstruction	Design	Apr-19	Jan-21	\$24,488
		Construction	Feb-21	Jul-21	\$78,358
		Post-Constr.	Aug-21	Aug-21	\$5,690
		Total			\$108,536
		Previously Approved Total			\$98,958
		Increase/(Decrease)			\$9,578

### Project Description

The purpose of this project is to restore City of Oak Creek lateral and sewer crossings to their original alignments after sagging after the installation of a District interceptor sewer. The scope is to restore the five 6-inch lateral crossings and one 8-inch City of Oak Creek sewer crossing over an MIS to their original vertical alignments. The current sewers have sags in them, which was caused by construction methods and settlement in previous years. The change in total project cost is de minimus. There is no anticipated impact on the operating budget.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
C02013	Oak Creek Southwest MIS Extension	Planning	Mar-22	Mar-23	\$427,000
		Design	Sep-23	May-24	\$797,000
		Construction	Sep-24	Apr-26	\$13,587,000
		Post-Constr.	May-26	Aug-26	\$8,000
		Total			\$14,819,000
		Previously Approved Total			\$14,529,000
		Increase/(Decrease)			\$290,000

### Project Description

The purpose of this project is to provide sanitary sewer service to undeveloped areas of the sanitary sewer service area (SSSA) as requested by the City of Oak Creek and the City of Franklin. The project scope includes the preliminary engineering, design and construction of a new Metropolitan Interceptor Sewer (MIS) in S 27th Street, from the end of the existing MIS at W. Oakwood Road, south to the Racine County line. Project includes provisions for future local sewer connections. Preliminary Engineering phase will investigate alignments, materials, site geology and construction methods. Pipe size to be determined by the District based on projected future flows. The change in total project cost is due to inflation. The impact to the operating budget is unknown at this time.

## Subsystem 3 – Northwest Branch

### Metropolitan Interceptor Sewer System

Subsystem 3, serving the western part of the service area can have most of its flow diverted to either water reclamation facility. A small portion of the area is tributary to South Shore only. Municipalities that discharge to Subsystem 3 are the cities of Brookfield, Mequon, Milwaukee, New Berlin, Wauwatosa, and West Allis; and the villages of Butler, Elm Grove, Germantown, and Menomonee Falls.

There are no active projects for this subsystem in 2021.

## Subsystem 4 – Northeast Branch

### Metropolitan Interceptor Sewer System

Subsystem 4 is located in the central and northeast parts of the planning area. Some flows in Subsystem 4 can be diverted to either water reclamation facility. Flow that cannot be diverted is tributary to South Shore. Municipalities served by Subsystem 4 are the cities of Glendale, Mequon, Milwaukee, Wauwatosa and West Allis; and the villages of Bayside, Brown Deer, Fox Point, River Hills, and Thiensville.

ID #:	Name:	Phase	Start	Finish	Cost
C04010	Mill/Green Bay/Green Tree MIS Relief	Planning	Jan-16	Jun-19	\$1,345,031
		Design	Jul-20	Nov-22	\$2,129,585
		Construction	May-23	Jan-26	\$47,498,352
		Post-Constr.	Jan-26	Oct-26	\$64,000
		Total			\$51,036,968
		Previously Approved Total			\$52,510,327
		Increase/(Decrease)			(\$1,473,359)

#### Project Description

The purpose of this project is to reduce the risk of SSOs and provide conveyance relief to the 72-inch MIS from West Green Tree Road and North River Road at Bypass Structure BS0404 to West Mill Road and North Sydney Place at Diversion Chamber DC0409. In both 2014 and 2015, overflows occurred at BS0404 while the ISS was available for inflows from this area. The overflows are an indication that enough development has occurred to cause a need for conveyance enhancement or relief of the 72-inch MIS downstream of BS0404. The scope of this project includes a hydraulic evaluation to determine a solution that will address the 72-inch MIS, as well as other known conveyance issues on the northeast side of the District's service area. Cost estimates for this project were based on conveyance relief for 8,300 linear feet of 48-inch sewer and twelve manholes with depths between 20 and 50 feet. The decrease in total project cost is due to removing Intergovernmental Cooperation Agreement expenses from the project. No significant operating budget impact is expected.



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
C04013	Brown Deer Road Sewer	Design	Sep-20	Oct-21	\$319,728
		Construction	Feb-22	Jan-23	\$1,793,807
		Post-Constr.	Mar-23	May-23	\$11,236
		Total			\$2,124,771
		Previously Approved Total			\$2,353,986
		Increase/(Decrease)			(\$229,215)

#### Project Description

The purpose of this project is to reduce the risk of basement backups in the Village of Bayside by replacing a deep and undersized MIS that experiences frequent surcharging. The scope of the project includes the design and construction of approximately 600 feet of new 24-inch sanitary sewer, abandonment of approximately 600 feet of existing 15-inch PVC MIS, reconnecting sewer laterals serving three houses along the south side of East Brown Deer Road, two new cast-in-place manholes, and one new monitoring manhole for installation of MS0440. All properties served by the Brown Deer Road Sewer are in the Village of Bayside. Upon completion of this project, ownership of the sewer will be transferred to the Village of Bayside. The decrease in total project is due to the actual consultant contract being less than what was budgeted in the 2020 Budget. It is anticipated that this project will decrease maintenance costs for the District once the ownership of the sewer transfers to the Village of Bayside.

# Subsystem 5 – North Side High Level Branch

## Metropolitan Interceptor Sewer System

Subsystem 5 is located in the northeastern part of Milwaukee County. Most of this subsystem's flows are tributary to Jones Island. Flow from River Hills and portions of Glendale can be diverted to South Shore. Municipalities discharging within Subsystem 5 are the cities of Glendale, Mequon, and Milwaukee; and the villages of Brown Deer, River Hills, Shorewood, and Whitefish Bay.

ID #:	Name:	Phase	Start	Finish	Cost
C05041	CMIS - Basin H PCB Remediation and Rehabilitation (C016)	Design	Jan-06	Oct-22	\$1,753,606
		Construction	Nov-06	Mar-25	\$10,550,268
		Post-Constr.	Jan-24	May-24	\$39,174
		Total			\$12,343,049
		Previously Approved Total			\$7,538,283
		Increase/(Decrease)			\$4,804,765

### Project Description

The purpose of the project is to reduce the risk of a sanitary sewer overflow due to the failure of the Basin H MIS and provide a cost-effective service life of an additional 50 years or more. The project scope is to design and implement rehabilitation of the MIS located in Basin "H" of the Central MIS sewer system. The MIS runs roughly adjacent to the Milwaukee River from Auer Avenue to Hampton Avenue northward and from Auer Avenue to Milwaukee Street southward. This project includes removing poly chlorinated biphenyl (PCB) contaminants, installing joint seals and repairing longitudinal cracks in pipe segments, and rehabilitating manholes to provide additional 50-years of service life. The increase in total project cost is due to expenses previously budgeted in the O&M budget being re-evaluated and qualifying for capital funding. There is no operating budget impact expected.



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
C05051	Edgewood MIS Extension	Prelimin. Eng	Jan-17	May-18	\$46,280
		Design	May-19	Mar-21	\$1,088,952
		Construction	Sep-21	Mar-23	\$16,403,062
		Post-Constr.	May-23	Sep-23	\$11,743
		Total			\$17,550,037
		Previously Approved Total			\$11,549,137
		Increase/(Decrease)			\$6,000,900

### Project Description

The purpose of the project is to improve the hydraulic condition at the connection between the local sewer and the District facilities. This improvement will reduce the likelihood of basement backups in the Village of Shorewood and City of Milwaukee. The project scope will construct approximately 2,250 feet of 72-inch near surface collector sewer in East Edgewood Ave., including diversion and manhole structures, and green infrastructure in Shorewood's River Park. The increase in total project cost is due to increased project scope and revised cost estimates. The project may result in additional maintenance costs with additional sewer, diversion, and manhole structures to maintain.

ID #:	Name:	Phase	Start	Finish	Cost
C05053	River Road MIS & Glendale Sewer	Prelimin. Eng	Jun-20	Jan-22	\$891,946
		Design	Jan-26	Jul-27	\$2,619,036
		Construction	Dec-27	Nov-30	\$56,946,000
		Post-Constr.	Jan-31	Jul-31	\$11,000
		Total			\$60,467,982
		Previously Approved Total			\$17,725,981
		Increase/(Decrease)			\$42,742,001

### Project Description

The purpose of this project is to improve the hydraulic capacity of the District's North Shore MIS by replacing the Milwaukee River MIS north of Green Tree Road with the proposed River Road MIS. The existing Milwaukee River MIS surcharges and reaches critical elevations during large rain events and has led to overflows at the Range Line Road Pump Station. The project scope includes gaining access to segments of the existing Milwaukee River MIS to perform a CCTV investigation, an evaluation of alternatives to improve hydraulic capacity, and to improve access and replace aged infrastructure. The change in total project cost is due to the additional expense to construct 11,800 feet of 42- to 48-inch MIS in River Road. No significant operating budget impact is expected from this project.



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
C05055	BS0503 Facility Upgrades	Planning	Dec-18	Jan-20	\$129,670
		Design	Nov-20	Nov-21	\$1,008,761
		Construction	Mar-22	Mar-23	\$12,885,000
		Post-Constr.	Mar-23	Jun-23	\$11,000
		Total			\$14,034,431
		Previously Approved Total			\$138,431
		Increase/(Decrease)			\$13,896,000

### Project Description

The purpose of this project is to reduce the risk of SSOs at BS0503 which is located at 35<sup>th</sup> Street and Roosevelt. The project scope includes a planning study to determine improvements that will reduce wastewater levels in the MIS in the vicinity of BS0503, review and design of the final recommendation from the planning study, and construction of the final design. The change in total project cost is due to the additional expense to micro-tunnel 3,685 feet of 24- and 48-inch MIS, construct various local sewers and manholes, and abandonment of 6,750 feet of 42-inch MIS and BS0503. No significant operating budget impact is expected from this project.



This project supports the UN SDG #6.



# Subsystem 6 – South Side High Level Branch

## Metropolitan Interceptor Sewer System

Subsystem 6 is located in the southern half of Milwaukee County. Some areas of Subsystem 6 can be diverted to either the Jones Island or South Shore Water Reclamation Facilities. Some areas are tributary only to Jones Island and some only to South Shore. Municipalities that discharge to Subsystem 6 are the cities of Cudahy, Greenfield, Milwaukee, St. Francis, and West Allis, and the Village of West Milwaukee.

ID #:	Name:	Phase	Start	Finish	Cost
C06022	Conveyance Structures Improvements	Design	Mar-20	Jan-21	\$163,089
		Construction	Apr-21	Jan-22	\$852,868
		Post-Constr.	Mar-22	Jul-22	\$14,043
		Total			\$1,030,000
		Previously Approved Total			\$326,968
		Increase/(Decrease)			\$703,032

### Project Description

The purpose of the project is to provide reliable conveyance system operations, including flow diversions during various flow conditions and as needed for maintenance or construction activities, by rehabilitating and improving three underground flow control structures. These improvements will extend the useful service life of structures 60801 and 60803. The project scope includes evaluation, design and construction to rehabilitate and improve two maintenance gate structures: structure 60803, located in S 7th St and W Scott St, and structure 60801, located in S 4th St and W Scott St. Additionally, the project scope includes evaluation, design and construction to lower the concrete weir in structure 85048, 13th and Clybourn, and install a stop log system. For structures 60803 and 60801, the Design phase includes evaluating the current condition of the structures and the flow control gates and their associated mechanical components, will evaluate alternatives and develop a recommended plan to extend the useful life of the structures and improving the reliability and effectiveness of the flow control gates. In addition, the Design phase will evaluate alternatives and perform design to improve interior access to the flow control gates by positioning manholes in better locations and adding new access hatches. The Construction phase will implement the selected rehabilitation, replacement and improvement plans. For structure 85048, the design phase includes evaluating the current condition of the structure and existing concrete weir for modifications, evaluation and design to lower the existing concrete weir, and design a stop log system. Finally, the Design phase will evaluate and perform design to improve access to the stop log system by a new access hatch. Construction phase will implement the selected improvement plans. The change in total project cost is due to the addition of modifications to structure 85048 and improved access to structures 60801 and 60803. No significant operating budget impact is expected from this project.

ID #:	Name:	Phase	Start	Finish	Cost
C06023	VA Grounds MIS Relocation	Design	May-21	Jun-22	\$342,100
		Construction	Nov-22	Jan-24	\$2,227,300
		Post-Constr.	Mar-24	Jun-24	\$16,200
		Total			\$2,585,600
		Previously Approved Total			\$0
		Increase/(Decrease)			\$2,585,600

### Project Description

The proposed construction of a new sewer will ensure reliable conveyance of wastewater through the VA Center grounds. The project scope includes design and construction of approximately 900 feet of 30-inch diameter MIS in a new alignment. This new MIS will replace an existing 24-inch diameter MIS. The scope also includes the abandonment of approximately 600 feet of the existing MIS. This is a new project. The operating budget impact is not known at this time.

## Subsystem 7 – Low Level Branch

### Metropolitan Interceptor Sewer System

Subsystem 7 in the east central portion of Milwaukee County consists of the combined sewer service area of Milwaukee and some scattered separate sanitary sewer areas surrounding it. These flows are tributary to Jones Island only. The Municipalities discharging to Subsystem 7 are the cities of Milwaukee and St. Francis and the Village of West Milwaukee.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
C07036	Siphons Improvements	Prelimin. Eng	Sep-20	Apr-22	\$1,900,761
		Total			\$1,900,761
		Previously Approved Total			\$1,900,761
		Increase/(Decrease)			\$0

#### Project Description

The purpose of this project is to determine which siphons need to be replaced or have a major rehabilitation. The project scope includes an investigation of pipe wall thickness, assessment of rates of corrosion or other forms of degradation of pipe strength, and recommendations of rehabilitation solutions to be implemented. Many of the siphons are 70 to 90 years old and consist of concrete or cast-iron pipe. There is no change in total project cost. The operating budget impact is not known at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
C07037	South Shore Force Main Assessment	Prelimin. Eng	Aug-17	May-21	\$989,422
		Total			\$989,422
		Previously Approved Total			\$989,424
		Increase/(Decrease)			(\$2)

#### Project Description

The purpose of this project is to investigate the South Shore Force Main pipe to determine the risk of leaks leading to a sewerage overflow and it is part of a capital planning effort that will identify capital improvements to the SS Force Main. The project scope includes preliminary engineering of the force main including capacity review non-destructive review of the condition of the pipe and design of the required inspection of the pipe based on the analysis. The project will provide the location of potential corrosion along the force main pipe alignment as well as a prioritization of the anomalies observed. The change in total project cost is de minimus. The operating budget impact is not known at this time.

# General Interceptor Sewer System

## Metropolitan Interceptor Sewer System

Projects grouped in this category are projects that benefit the overall Interceptor Sewer System or cannot be attributed to a single subsystem.

ID #:	Name:	Phase	Start	Finish	Cost
C98044	MIS Abandonment	Design	Sept-14	Jan-23	\$47,313
		Construction	Sept-14	Dec-22	\$1,377,051
		Total			\$1,424,364
		Previously Approved Total			\$1,183,864
		Increase/(Decrease)			\$240,500

### Project Description

The purpose of this project is to reduce the total length of sewers that the District is responsible for by abandoning sewers that are no longer necessary. Abandoning unnecessary MIS segments reduces I/I into the District's system, maintenance costs associated with these sewers, and the likelihood of overflows. This project consists of sewer abandonments in multiple locations including:

- In North Sherman, north of Dean;
- Along and under the Menomonee River near 84<sup>th</sup> Street (extended);
- In Oregon (Menomonee Special wood sewer) from Water Street to 5<sup>th</sup> Street;
- In West Dickinson;
- West Center St;
- 1<sup>st</sup>/Water/Seeboth;
- Kinnickinnic River Parkway;

The reconstruction costs associated with the abandonments and the locations qualify the work to be funded as part of the capital budget. The project is expected to have a positive operating budget impact as reducing the amount of I/I that must be treated as well as reducing the amount of sewer that requires periodic maintenance costs should reduce O&M costs.

ID #:	Name:	Phase	Start	Finish	Cost
C98047	Access Hatch Covers	Design	Dec-12	Dec-12	\$73,124
		Construction	Jan-13	Dec-22	\$3,526,876
		Total			\$3,600,000
		Previously Approved Total			\$3,233,545
		Increase/(Decrease)			\$366,455

### Project Description

The purpose of this project is to improve the reliability of conveyance facility assets. The project scope is to design and construct replacement access hatch covers throughout the conveyance system. Hatch covers are typically installed along with new sewers for the purpose of providing ongoing access to conveyance facilities for the purpose of maintenance and monitoring. The useful life of a hatch cover is typically less than the typical sewer and thus requires a more frequent replacement schedule. The change in total project cost is due added structures identified for need improvements, additional labor to implement additional improvements, and additional construction costs required to complete on construction contracts. The operating budget impact is not known at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
C98052	Miscellaneous Sewer Rehab	Design	Mar-21	Mar-24	\$111,894
		Construction	Sep-24	Jan-25	\$322,035
		Post-Constr.	Mar-25	Jul-25	\$4,990
		Total			\$438,919
		Previously Approved Total			\$438,919
		Increase/(Decrease)			\$0

### Project Description

Approximately 75 miles of MIS have been identified that currently function primarily as local municipal sewer. Discussions with the appropriate municipalities regarding the transfer of these sewers from the District to the local municipality are ongoing. Bringing these sewer segments up to at least a National Association of Sewer Service Companies (NASSCO) 3 rating would allow the municipality some assurance that the segments should have at least another 20 years of service life. This is one of the conditions needed to obtain municipal approval of the transfer of these sewers from the District to the municipality. The scope includes addressing all identified NASSCO 4 and 5 defects in the segments of MIS that may have ownership transferred to a local municipality. This effort is being coordinated with the District's Asset Management Program (AMP). When sewers receive condition ratings of 4 or 5, the AMP develops plans to rehabilitate or replace the sewers. There is no change in total project cost. As specifically identified, future costs will be added to the project. The project is expected to have a positive operating budget impact as the reduction in inspection, operation, maintenance, and replacement/lining of facilities are no longer needed.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
C98055	Conveyance Equipment Replacement	Planning	Jun-19	Dec-24	\$3,104,861
		Total			\$3,104,861
		Previously Approved Total			\$600,000
		Increase/(Decrease)			\$2,504,861

### Project Description

The purpose of the project is to provide budgeted funding for conveyance system equipment replacements. Project scope is variable and is based on the need for conveyance system equipment replacements that arise. Projects are generally replacement in nature and do not need significant design that would cause the work to be managed as a stand-alone project. Total project cost increase is due to budgeting for additional equipment rehabilitation/replacement up through 2024. No significant operating budget impact is expected from this project.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
C98056	Conveyance System Modeling Software Improvements	Planning	Jan-18	Nov-23	\$2,676,810
		Total			\$2,676,810
		Previously Approved Total			\$2,512,559
		Increase/(Decrease)			\$164,251

### Project Description

The purpose of this project is a system-wide calibration of sewer flows in the conveyance system and conveyance model improvements. It will also include an evaluation of the I/I and conveyance capacity verification from the 2050 FP. New models will need to be developed or existing models will need to be improved to incorporate more flexibility and functionality, removing dependence on additional programs to represent the MMSD ISS operating strategy. The increase in total project cost is due to additional scope and modelling efforts. Those included expansion of a scatterplot tool to be used to analyze metersheds in wet weather and additional modeling tasks. One task (annual model maintenance) under this project will be funded by the O&M budget and are not included in the capital costs. The tasks began in 2018 and will be incurred through the end of the project.

ID #:	Name:	Phase	Start	Finish	Cost
C98060	SSO Elimination Study	Planning	Nov-19	May-21	\$138,810
		Total			\$138,810
		Previously Approved Total			\$138,810
		Increase/(Decrease)			\$0

### Project Description

The purpose of this new project is to eliminate sanitary sewer outfalls to meet the District's 2035 Vision and to comply with the Wisconsin Pollutant Discharge Elimination System permit which does not allow sanitary sewer overflows. The scope of this project includes a planning study to analyze the District's system without sanitary sewer outfalls and determine where flow can be redirected and diverted. There is no change in total project cost. No significant operating budget impact is expected from this project.



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
C98061	Assess Condition of CSO Piping	Planning	Apr-21	Sep-21	\$97,000
		Total			\$97,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$97,000

### Project Description

The purpose of this new project is to develop condition assessments for MMSD's CSO outfalls. This scope includes a planning study to prioritize the 114 active CSO outfall sites and the evaluation of the outfall sites to be assessed for rehabilitation or reconstruction. This is a new project. The operating budget impact is unknown at this time.

ID #:	Name:	Cost
C99002	Operator Contribution to CIP	\$300,000
	Six-Year Forecast Total	

### Project Description

The operating contract with VWM includes provisions for VWM to participate on current and planned District capital projects. The scope of this project includes VWM work in reviewing the annual Capital Budget, reviewing and creating requests for new projects, attending meetings, and participation in the implementation of capital projects. Operator Contribution to CIP accounts do not have an approved total project cost. The 2021 expenditures are budgeted at \$50,000; the six-year long-range financing plan includes \$300,000. No significant operating budget impact is expected from this project.

ID #:	Name:	Cost
C99004	Allowance for DOT Reimbursements	\$1,641,714
	Six-Year Forecast Total	\$1,641,714
	Total	\$1,641,714
	Previously Approved Total	\$1,891,714
	Increase/(Decrease)	(\$250,000)

### Project Description

This project represents the District's share of costs associated with WisDOT relocation of MMSD assets located within WisDOT right-of-way in the Zoo Interchange Project. This account has \$200,000 in 2021 and \$1,641,714 in the six-year forecast. The increase in total project cost is due to additional anticipated asset relocation projects in the future. No significant operating budget impact is expected from this project.

# Inline Storage System

## Combined Sewer Overflow Structures

Combined Sewer Overflow (CSO) Structures are used when flows exceed storage, conveyance, and treatment system capacity. When the system is filled to capacity, it is designed to overflow into Milwaukee-area rivers and Lake Michigan. Therefore, these structures only become necessary in an extreme wet weather event. During such an event, rainwater enters the system at a greater rate than the system design. To avoid an immediate public health issue of wastewater in basements and system damage, excess flows are allowed to discharge from the Inline Storage System and the MIS system via the CSO Structures.

ID #:	Name:	Phase	Start	Finish	Cost
I03008	CSO102 Rehabilitation - Humboldt	Planning	Jul-14	Nov-15	\$25,799
		Design	May-19	Oct-20	\$310,865
		Construction	Jan-21	Nov-21	\$915,000
		Post-Constr.	Dec-21	May-22	\$6,400
		Total			\$1,258,064
		Previously Approved Total			\$1,333,845
		Increase/(Decrease)			(\$75,781)

### Project Description

The purpose of this project is to extend the useful life of District conveyance assets. The project scope includes the design and construction of rehabilitating 250 linear foot of 72-inch cast-in-place concrete pipe combined sewer outfall that discharges to the Milwaukee River near Humboldt Avenue. A condition assessment identified significant cracking, numerous holes with soil visible, and significant infiltration. The change in total project cost is due to current cost estimates for construction being lower than original estimates. No significant impact on operating budget is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
I03011	Outfall Backflow Prevention	Design	Nov-19	Jan-21	\$163,548
		Construction	Apr-21	Jan-22	\$819,470
		Post-Constr.	Feb-22	May-22	\$8,200
		Total			\$991,218
		Previously Approved Total			\$991,218
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to prevent river water from entering the Inline Storage System (ISS) and Metropolitan Interceptor Sewer (MIS), which will reduce energy costs, overflow, and the risk of basement backups. Historic river level gauge monitoring conducted by MMSD and lake level monitoring conducted by the Army Corps of Engineers (ACOE) show rising elevations of the Milwaukee River, Lake Michigan, and estuary. These rising water elevations have the potential to allow flow over existing stop planks within six combined sewer overflow (CSO) structures and ultimately the ISS. The project scope includes design and construction of backflow prevention devices, sewer facility abandonment, and outfall improvements at CSO locations to prevent river water from entering MMSD's sewer systems. There is no change in total project cost. The project may reduce energy costs with the reduced risk of river water entering the ISS.



This project supports the UN SDG #6.



ID #:	Name:	Phase	Start	Finish	Cost
I05002	Combined Sewer Outfall 195 Relocation	Design	Jun-21	Jun-22	\$408,000
		Construction	Oct-22	Jul-23	\$3,080,100
		Post-Constr.	Sep-23	Jan-24	\$13,000
		Total			\$3,501,100
		Previously Approved Total			\$0
		Increase/(Decrease)			\$3,501,100

### Project Description

The purpose of the project is to relocate the existing Combined Sewer Outfall (CSO) 195 so the City of Milwaukee can build a new Dredged Material Management Facility as part of the EPA Milwaukee Estuary Area of Concern project. The scope of this project includes the design and construction of approximately 1,530 feet of double 78-inch by 90-inch box combined sewer, one manhole and the associated outfall, and the design and construction for abandoning approximately 1,000 feet of double 78-inch by 90-inch box combined sewer, an existing manhole and CSO 195. This is a new project. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
I06001	NS12 Collector System Improvements	Prelimin. Eng	Jan-16	Apr-17	\$172,509
		Design	Jun-17	Sep-20	\$1,674,906
		Construction	Sep-21	Aug-23	\$20,475,833
		Post-Constr.	Aug-23	Feb-24	\$18,300
		Total			\$22,341,548
		Previously Approved Total			\$18,420,664
		Increase/(Decrease)			\$3,920,884

### Project Description

The purpose of this project is to reduce the risk of combined sewer overflows (CSO) and wastewater discharged to grade, all related to the NS12 collector system. The improvements were recommended as part of the root cause analysis for CSO145. This project will help prevent future unintended CSOs and surface flooding as a result of blown manhole covers. The scope of this project will include the construction of two new structures and various manholes, 2,589 feet of 84-inch pipe in tunnel, 528 feet of 10-foot by 6-foot box culvert, and level and flow monitoring equipment. The increase in total project cost is due to an increase in the construction cost estimate. No significant operating budget impact is expected from this project.



This project supports the UN SDG #6.

# Central Control System

## Conveyance System Central Control

The Central Control System allows remote operation of the conveyance system. The system design and operation are focused on maximizing the effectiveness and efficiency of storing and conveying wastewater to the Water Reclamation Facilities to avoid surcharging. A single operator uses incoming flow data and software-produced data to determine if flow should be diverted from one Metropolitan Interceptor Sewer (MIS) subsystem to another or to the ISS.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
K01012	Conveyance SCADA Upgrade	Prelimin. Eng	Nov-13	Jan-15	\$112,212
		Design	Jun-15	Mar-18	\$1,464,784
		Construction	Mar-16	Nov-21	\$6,498,199
		Post-Constr.	Nov-21	May-22	\$10,000
		Total			\$8,085,195
		Previously Approved Total			\$8,085,694
		Increase/(Decrease)			(\$499)

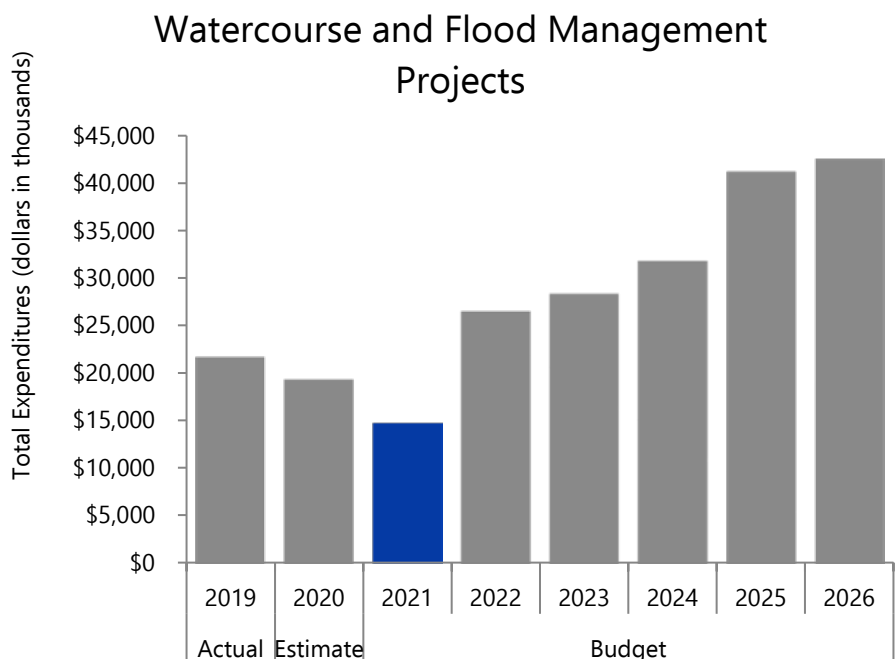
## Project Description

The purpose of this project is to upgrade the Conveyance Supervisory Control and Data Acquisition (SCADA) communication system that has reached the end of its useful service life. This project will provide a more reliable, flexible, and expandable system with lower life cycle cost. SCADA system operation is critical to properly operate the conveyance system and to reduce the risk of overflows and basement backups. The project scope is to evaluate alternatives, design, and construct the replacement SCADA system. The Conveyance SCADA system allows a single operator to use incoming flow data and software-produced data to determine if flow should be diverted from one MIS subsystem to another or to the ISS. The change in total project cost is de minimus. The operating budget impact is not known at this time.



# Watercourse and Flood Management

There are six watersheds within the District's service area: Kinnickinnic River, Lake Michigan Tributary Drainage, Menomonee River, Milwaukee River, Oak Creek, and Root River. The District has discretionary authority to maintain these waterways. In the past, work has included: rehabilitation and removal of concrete, removal of sediment and flow-imposing objects, and widening floodplains for flood management purposes.





Flooding and erosion of these watercourses threaten public health and private property. Consequently, there is significant public interest in flood management and abatement. Because watershed boundaries do not necessarily follow municipal boundaries, reducing the risk of flooding requires looking at the watershed as a whole, including the complete river system and its tributaries.

The District is responsible for reducing the risk of flooding for two reasons. First, managing flooding promotes efficient use of the sewerage system by reducing infiltration and inflow. Second, a regional government is the most appropriate entity to address watershed issues that involve multiple municipalities. A watershed is an area of land where all of the water, on the surface and underground, drains to a common place such as a lake, river, or ocean. The District's authority to reduce the risk of flooding is in Wis. Stats., sec. 200.31(1).

In the mid-1980s, the District requested that the Southeastern Wisconsin Regional Planning Commission (SEWRPC) recommend watercourses for District action. In response, SEWRPC prepared both a policy plan and a system plan. Considerations favoring District action were (1) the watershed included multiple municipalities, (2) the watershed had a potential for significant harm from the regional flood, and (3) the watershed had a history of investment by the District's predecessors. The goal was to separate issues that should be addressed locally from issues that needed regional action. In 2001, the District codified the recommendations in MMSD Rules, Chapter 13. Chapter 13 lists the watercourses where the District may take action. Municipalities may petition the District's Commission to add watercourses to the list. District action is discretionary and limited to abating the most severe floods. Listing does not guarantee any particular level of protection. Notably, municipalities are responsible for abating smaller floods and flooding associated with watercourses that are not listed.

In 1998, the District and local municipalities began the planning process for the development of an updated Watercourse System Management Plan. Flood abatement alternatives have been developed for each of the six watersheds. Phase I of the planning process incorporated the results of past planning efforts such as the 1990 Watercourse System Plan developed by the SEWRPC as well as new technical information on land use, peak stormwater flows, estimated damages, and other hydrologic and hydraulic information.

The process has solicited input from affected municipalities and other stakeholders, including the Wisconsin Department of Natural Resources (WDNR), the Wisconsin Department of Transportation, Milwaukee County, SEWRPC, and environmental groups. Meetings with stakeholders in each watershed focused on data gathering, problem identification, and the development and prioritization of potential structural and nonstructural alternatives for flood management. Phase I was completed in 2000. Phase II of the process has allowed area residents to comment on the design and location of recommended structural and nonstructural flood management measures.

In addition, the District established a Watercourse Policy Advisory Group to recommend policy on the District's responsibility relating to flood management. Recommendations were reported to and approved by the Commission in April 1998 regarding the relationship between municipal stormwater management and District flood management activities, funding responsibilities, procedures for project prioritization, and policies for potential interim projects and riparian management.

The 2021 Capital Budget includes \$14.7 million for work on various watercourse projects. Please refer to project detail on the following pages for information on each project's purpose, scope, cost estimate, and impact on the O&M budget.

Most projects in the Watercourse and Flood Management section of the capital budget support the SDGs # 6 and 14. The icons highlight the projects that directly state the purpose of the project is to improve water quality or habitat.

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Because watersheds  
boundaries do not  
necessarily follow  
municipal boundaries,  
reducing the risk of  
flooding requires  
looking at the  
watershed as a whole.

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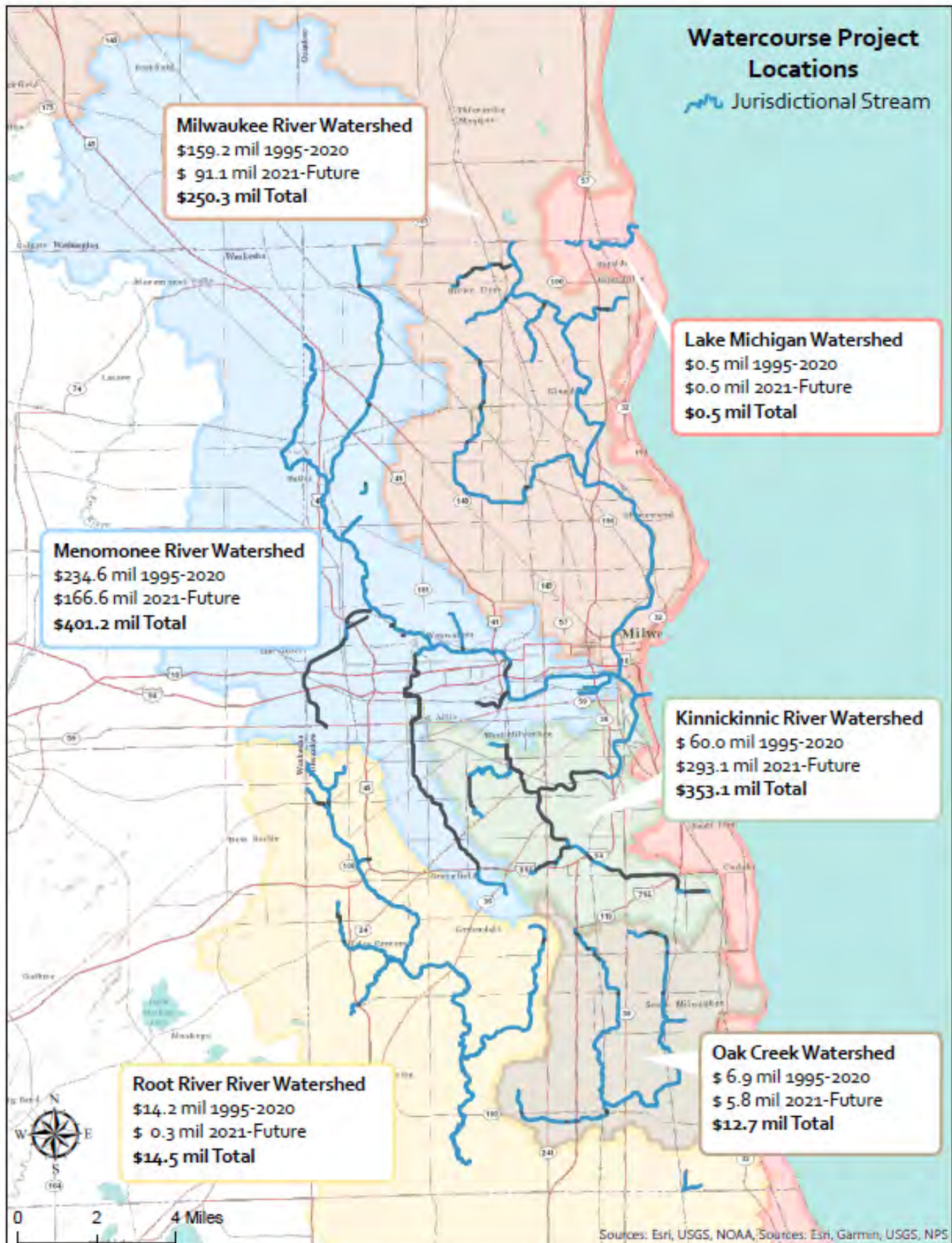


The District has spent approximately \$475.3 million since 1995 on removing structures from the floodplain and concrete on District-owned concrete-lined channels. The District plans to spend another \$556.9 million in order to make the watersheds safer and to reduce the risk of flooding. Below is a table showing the District's involvement on each of the six watersheds.

Watershed	1995-2020			2021 - Future		
	Spending (in millions)	# of structures no longer in the floodplain	Miles of concrete lined channel removed	Spending (in millions)	# of structures remaining in the floodplain	Miles of concrete lined channel to be removed
Milwaukee River	\$159.2	2,098	2	\$91.1	395	0
Lake Michigan	\$0.5	0	0	\$0.0	58	0
Menomonee River	\$234.6	277	2	\$166.6	127	10
Kinnickinnic River	\$60.0	52	0	\$293.1	666	8
Root River	\$14.2	98	0	\$0.3	14	0
Oak Creek	\$6.9	10	0	\$5.8	3	0
<b>Total</b>	<b>\$475.3</b>	<b>2,535</b>	<b>4</b>	<b>\$556.9</b>	<b>1,263</b>	<b>19</b>

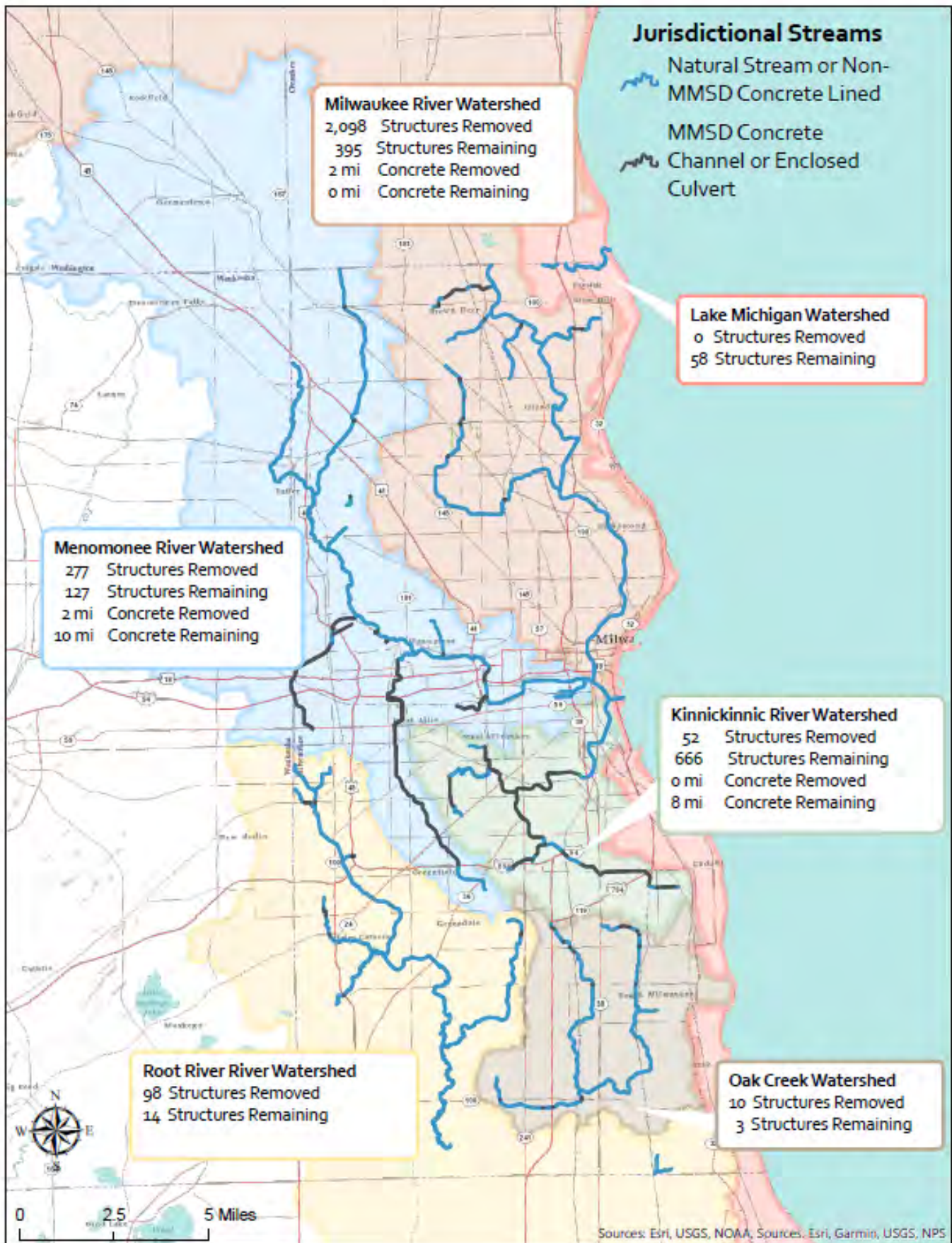


**1995 – Future:** Total District spending on flood management and concrete removal by watershed





**1995-Future:** Number of structures removed by watershed.



# Milwaukee River Watershed

The Milwaukee River Watershed drains an area of about 700 square miles within Fond du Lac, Dodge, Sheboygan, Ozaukee, Washington, and Milwaukee counties. The Milwaukee River is nearly 100 miles in length, although only a small portion of the mainstream is under District jurisdiction. Approximately 25 percent of the watershed is developed, mainly within Milwaukee County. Preliminary engineering estimates 400 structures are within the one percent annual probability floodplain of the Milwaukee River mainstem and tributaries as detailed below.

The 13-mile portion of the mainstem of the Milwaukee River which is under District jurisdiction includes the reach from the Milwaukee County boundary at County Line Road downstream to the former North Avenue Dam located 1,000 feet south of East North Avenue. Preliminary engineering estimates 386 structures remain within the one percent annual probability floodplain on the Milwaukee River mainstem.

The District also has jurisdiction over the following tributaries of the Milwaukee River:

- Lincoln Creek, which is approximately nine miles long, drains 20 square miles and is located in the City of Milwaukee, the Village of Brown Deer, and the City of Glendale. An estimated 2,025 structures are no longer within the one percent annual probability floodplain with completion of the Lincoln Creek project in 2002.
- Southbranch Creek, which drains an area of approximately three-square miles. About 54 percent is within the Village of Brown Deer, 44 percent is within the City of Milwaukee, and 2 percent is within the Village of River Hills. Since the District completed flood management projects within this watershed, there are no structures within the one percent annual probability floodplain.
- Indian Creek, which drains an area of about three-square miles. Approximately 6 percent is within the City of Glendale, 12 percent is within the Village of Bayside, 47 percent is within the Village of Fox Point, and 35 percent is within the Village of River Hills. Since the completion of the flood management projects within this watershed, there are no structures within the one percent annual probability floodplain.
- Beaver Creek, which drains an area of about four-square miles. Approximately 43 percent of the area is within the City of Milwaukee and 57 percent is within the Village of Brown Deer. There is an estimated 1 structure within the one percent annual probability floodplain.
- Brown Deer Park Creek, which drains an area of about two square miles. Approximately 71 percent is within the City of Milwaukee, 14 percent is within the City of Glendale, and 15 percent is within the Village of Brown Deer. There is an estimated one structure within the one percent annual probability floodplain.





ID #:	Name:	Phase	Start	Finish	Cost
W10001	Milwaukee River Flood Mgt	Planning	Mar-04	Feb-26	\$758,487
		Prelimin. Eng	Jan-27	Dec-32	\$49,126,097
		Total			\$49,884,584
		Previously Approved Total			\$48,900,919
		Increase/(Decrease)			\$983,665

### Project Description

The purpose of this project is to reduce the risk of flooding to structures along the Milwaukee River within the District's jurisdiction. The project scope consists of planning and engineering to develop and implement flood risk reduction in jurisdictional areas of the Milwaukee River in Milwaukee County. The current project costs reflect the flood risk reduction for approximately 387 remaining structures by floodproofing, elevation, or acquisition. The increase in total project cost is due to inflation. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
W10002	Estabrook Dam Removal	Design	Oct-16	Aug-17	\$763,205
		Construction	Dec-17	Jul-18	\$1,469,096
		Post-Constr.	Nov-18	Oct-21	\$337,700
		Total			\$2,570,001
		Previously Approved Total			\$2,380,000
		Increase/(Decrease)			\$190,001

### Project Description

The purpose of this project is to provide the benefits of flood risk reduction for at least 75 structures located in the floodplain, and to improve water quality, habitat, fish passage, river aesthetics and reduce sediment accumulation by removing the Estabrook Dam. The Estabrook Dam (Dam) was located 1,500 feet downstream of the Port Washington Road Bridge. It created an impoundment of approximately 100 acres stretching two miles upstream. The Dam was in a deteriorated condition and was under orders by the Wisconsin Department of Natural Resources (WDNR) to be either repaired or removed. The project scope consisted of complete removal of the dam. The dam was removed in 2018. The change in total project cost is due to added labor and expenses needed to complete the floodplain mapping submittal to FEMA and approved post construction change orders to the construction contract in 2020. The Estabrook Dam Removal project received up to \$2.3 million in grants including \$2 million from Wisconsin Department of Natural Resources (WDNR) which is funded through then EPA Great Lakes Restoration Initiative program, \$250,000 from the Fund for Lake Michigan, and \$50,000 from the WDNR Municipal Dam Grant Program. No significant operating budget impact is expected.



This project supports the UN SDGs #6 and 14.

ID #:	Name:	Phase	Start	Finish	Cost
W10004	Milwaukee River Planning Study – Capitol to Bender	Planning	Nov-17	Jan-20	\$163,368
		Design	Nov-20	Feb-22	\$1,562,060
		Total			\$1,725,428
		Previously Approved Total			\$890,390
		Increase/(Decrease)			\$835,038

### Project Description

The purpose of this project is to identify solutions to fish passage, recreational low-flow issues, and sediment accumulation for the area of the Milwaukee River between Capitol Drive and Silver Spring Drive. The project scope includes preliminary engineering and design conducted to meet WDNR Milwaukee Estuary Area of Concern (AOC) metrics for delisting. The District's role will be to assist with data collection/inventory, work with external organizations and the public to develop alternatives and develop contract documents of a recommended plan. The increase in total project cost is due to an agreement on the funding of the work by WDNR for the District implementation of the AOC projects. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
W11030	E - North 30th Street Corridor Wet Weather Relief - East	Design	Jun-14	Oct-16	\$3,726,475
		Construction	Mar-16	Jan-19	\$11,084,548
		Post-Constr.	Jan-19	Jan-24	\$350,906
		Total			\$15,161,929
		Previously Approved Total			\$15,161,929
		Increase/(Decrease)			\$0

### Project Description

The purpose of the project is to reduce recurring property and economic damage incurred in the North 30th Street Industrial Corridor due to limitations in District owned combined sewer and City of Milwaukee owned stormwater conveyance capacity during the one percent annual probability storm event. The project will also reduce sewer overflows that result from the limited stormwater conveyance capacity. The project scope is to design and construct two of three planned stormwater detention basins along the 4200 and 4400 blocks of N. 30th Street in the City of Milwaukee, the related piping connecting the basins in N. 30th Street, and discharge piping to existing storm infrastructure in W. Roosevelt Drive and N. 27th Street. The basins ultimately drain to Lincoln Creek. Total storage is currently estimated to be 40 million gallons. The 30th Street Industrial Corridor has reported over \$30 million in damage from previous storms. The City is sharing the cost of the project. There is no change in total project cost. The operating budget impact is not known at this time.

Once the project is complete, the basins are estimated to store **40 million gallons.**



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
W11031	W - North 30th Street Corridor Wet Weather Relief - West	Design	Oct-15	Feb-24	\$7,122,941
		Construction	Jun-16	Jun-29	\$35,633,136
		Post-Constr.	Apr-18	Aug-34	\$371,841
		Total			\$43,127,918
		Previously Approved Total			\$43,127,917
		Increase/(Decrease)			\$1

### Project Description

The purpose of the project is to reduce recurring property and economic damage incurred in the North 30th Street Industrial Corridor due to limitations in District owned combined sewer and City of Milwaukee owned stormwater conveyance capacity. The project will also reduce sewer overflows that result from the limited stormwater conveyance capacity. The project scope will construct the third of three planned stormwater basins and conveyance system improvements west of the railroad tracks on the former Bee Bus Lines property. Design and construction of the west stormwater basin as well as conveyance piping to the basin and discharge piping to Lincoln Creek is planned to occur in 2021-25 (Phase 2). Phase 2 will also include collaborative construction with the City of Milwaukee of a fourth stormwater basin at 3100 W. Capitol Dr. and stormwater conveyance from the railroad underpass located between N. 31st St. and N. 35th St. on W. Capitol Drive. The change in total project cost is de minimus. The operating budget impact is not known at this time.



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
W13002	Indian Creek Improvements	Planning	Oct-16	Aug-22	\$179,950
		Prelimin. Eng	Jan-23	Jun-24	\$127,086
		Total			\$307,036
		Previously Approved Total			\$304,253
		Increase/(Decrease)			\$2,783

### Project Description

The purpose of the project is to perform planning and preliminary engineering to develop alternatives to reduce the risk of flooding along Indian Creek. The project scope includes geomorphic and sediment analyses as well as a study to reduce flood risk. The change in total project cost is de minimus. No operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
W15001	Beaver Creek Flood Management	Prelimin. Eng	Jan-20	Dec-21	\$444,563
		Design	Jul-21	Nov-23	\$2,645,437
		Total			\$3,090,000
		Previously Approved Total			\$3,158,948
		Increase/(Decrease)			(\$68,948)

### Project Description

The purpose of this project is to reduce risk to structures within the Beaver Creek floodplain and develop flood risk reduction recommendations for those structures. The project scope includes preliminary engineering and design phases to reduce flood risk to 11 structures within the Beaver Creek floodplain, a tributary to the Milwaukee River. Flood risk has been reduced on one of the 11 structures to date. MMSD will provide technical support and review to the Village of Brown Deer, who is likely to lead the majority of the flood risk reduction efforts. These efforts could include daylighting Beaver Creek where it is in a culvert under a privately-owned commercial parking, or voluntary floodproofing or voluntary acquisition and building removal. The decrease in total project cost is due to updated voluntary acquisition cost estimate. The operating budget impact is unknown at this time.



This project supports the UN SDG #6.

# Menomonee River Watershed

The Menomonee River Watershed drains an area of approximately 136 square miles. Communities in this watershed include the cities of Brookfield, Greenfield, Mequon, Milwaukee, New Berlin, Wauwatosa, West Allis and the villages of Butler, Elm Grove, Germantown, Greendale, Menomonee Falls, and West Milwaukee. Most of the lower two-thirds of the watershed are nearly fully developed in Milwaukee, Wauwatosa, West Allis, Elm Grove, and Brookfield. Significant developable land still exists in Mequon, Menomonee Falls, and Germantown. Major tributaries to the Menomonee River within Milwaukee County include Underwood Creek, Honey Creek, Grantosa Creek, Little Menomonee River, Woods Creek, South Branch of Underwood Creek, and Schoonmaker Creek. There are an estimated 127 structures within the one percent annual probability floodplain. Completed projects have removed 277 structures from the one percent annual probability floodplain.

ID #:	Name:	Phase	Start	Finish	Cost
W20023	Phase II Menomonee River Stream Mgt	Design	Dec-12	Aug-14	\$221,938
		Construction	Oct-14	Aug-16	\$2,790,773
		Post-Constr.	Sep-16	Jun-21	\$137,356
		Total			\$3,150,067
		Previously Approved Total			\$3,150,067
		Increase/(Decrease)			\$0

## Project Description

The purpose of this project is to improve aquatic habitat, reduce public safety risk, and replace deteriorating assets. The project scope is to design and construct replacing the concrete channel liner with a more natural channel for approximately 2,600 linear feet of channel. The concrete channel liner was approaching its estimated life expectancy and needed to be replaced. USACE financed 65 percent of the project costs, up to a maximum contribution of \$5 million. There is no change in total project cost. No operating budget impact is anticipated.



This project supports the UN SDG #14.

ID #:	Name:	Phase	Start	Finish	Cost
W20027	Western Milwaukee Phase 2A	Design	Apr-14	Nov-14	\$579,044
		Construction	Feb-15	Dec-15	\$1,500,561
		Post-Constr.	May-16	Jun-21	\$84,790
		Total			\$2,164,395
		Previously Approved Total			\$2,164,464
		Increase/(Decrease)			(\$69)

## Project Description

The purpose of this project, along with project W20017, W20028, and W20029, is to protect an estimated 62 structures from the one percent annual probability floodplain along the Menomonee River in the Western Milwaukee corridor. These projects are a component of the Phase II Watercourse Management Plan for the Menomonee River Watershed, which revealed overbank flooding in the vicinity of West State Street on the west side of Milwaukee. The project scope is to design and construct a floodplain levee and daylight the culvert containing Schoonmaker Creek on the old Sears Warehouse property. The floodplain levee will be constructed along State Street and will tie into the Hart Park levee previously constructed by the District. Daylighting the culvert and excavation of the Sears property will lower the floodplain. The combination of these activities will remove six properties from the one percent annual probability floodplain. The decrease in total project cost is de minimus. No operating budget impact is anticipated.



<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W20028	Western Milwaukee Phase 2B	Design	Oct-17	Aug-21	\$7,245,741
		Construction	Nov-20	Sep-25	\$22,336,478
		Post-Constr.	Dec-24	Apr-30	\$1,017,197
		Total			\$30,599,416
		Previously Approved Total			\$30,277,061
		Increase/(Decrease)			\$322,355

### Project Description

The purpose of this project, along with project W20017, W20028, and W20029, is to protect an estimated 62 structures from the one percent annual probability floodplain along the Menomonee River in the Western Milwaukee corridor. These projects are a component of the Phase II Watercourse Management Plan for the Menomonee River Watershed, which identified overbank flooding in the vicinity of West State Street on the west side of Milwaukee. This project will complete the levee system in the corridor that starts just east of Hart Park at West State Street at the upstream end and extends east to US Highway 175. The project scope is to design and construct a continuation of the floodplain levee and floodwall along West State Street, east from the N. 59th and State Pump Station to the USH 175 overpass. Approximately 2,000 feet of earthen levee and 1,200 feet of floodwall will be designed and constructed under this project, as well as 5,100 feet of storm sewer in size up to 72" diameter. A levee accreditation review of the entire Menomonee River levee system from Hart Park to the Phase 2 levee on the former Central Ready Mixed site will be completed in conjunction with W20033. The increase in total project cost is due updated construction cost estimates. Additional O&M funding will be required for vegetation maintenance after the five-year maintenance schedule post-construction (estimated as 2026) occurs. This project will add additional levee and floodwall lengths to the District's infrastructure which will require inspection and maintenance, starting no earlier than 2023.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W20029	Western Milwaukee Real Estate & Environmental Assessment	Design	Apr-14	Nov-14	\$7,466,573
		Construction	Feb-15	Dec-15	\$7,215
		Post-Constr.	May-16	Jun-21	\$3,038
		Total			\$7,476,826
		Previously Approved Total			\$10,989,011
		Increase/(Decrease)			(\$3,512,185)

### Project Description

The purpose of the project, along with project W20017, W20027, and W20028, is to protect an estimated 62 structures from the one percent annual probability floodplain along the Menomonee River in the Western Milwaukee corridor. These projects are a component of the Phase II Watercourse Management Plan for the Menomonee River Watershed, which revealed overbank flooding in the vicinity of West State Street on the west side of Milwaukee. The project scope is to support to the Western Milwaukee and Hart Park projects, both of which provide protection for impacted structures from the one percent probability flood along the Menomonee River. The Commission approved the latest version of an acquisition plat in July 2019. The scope also includes demolition of structures purchased as part of the property rights acquisition. The decrease in total project cost is due to no longer voluntarily floodproofing a municipal structure at the request of the municipality. No operating budget impact is anticipated.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W20031	Menomonee River Estuary Study	Planning	Oct-15	Jun-21	\$304,079
		Total			\$304,079
		Previously Approved Total			\$284,553
		Increase/(Decrease)			\$19,526

### Project Description

The purpose of the project is to identify structures at risk of flooding and means to mitigate those risks for structures in the Menomonee River floodplain in the area shown on the map below. This project scope consists of a planning study to obtain recommended alternatives to reduce flood risk in the Menomonee River Estuary downstream of Canal Street between North 27th Street and W. Emmber lane (east of North 16th Street), and continued management of the project while the Conditional Letter of Map Revision (CLOMR) and subsequent Letter of Map Revision (LOMR) completed under W20028 which is under FEMA review. The increase in total project cost reflects continued labor to support the CLOMR/LOMR process currently under FEMA review and an updated Menomonee River Watercourse Management Plan for the proposed changes in the Menomonee River Estuary floodplain. No operating budget impact is anticipated.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W20033	Menomonee River Levee System	Prelimin. Eng	Nov-20	Mar-22	\$1,270,000
	Accreditation	Design	Sep-22	Jun-22	\$2,325,000
		Total			\$3,595,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$3,595,000

### Project Description

The purpose of the project is to obtain FEMA levee system accreditation by demonstrating that the 44 CFR 65.10 levee requirements are met for the Hart Park/Western Milwaukee levee system along the Menomonee River. The project also includes review of 44 CFR 65.10 levee system criteria for the Valley Park levee for consistency and update if needed because some of these criteria are new since the Valley Park levee system was accredited. The project consists of levee system study to evaluate the levee against 44 CFR 65.10 levee criteria. The project will then design the improvements that will be identified in the study, and construct identified improvements. The project will also create other supporting documents required under 44 CFR 65.10, such as an Operations & Maintenance Plan and an Emergency Preparedness Plan. The project will also provide levee inspection and review of construction standards/proposed projects that could impact the levee in an effort to document the review process of construction requests impacting the levee which will support long term protection of the levee and on-going levee accreditation documentation. The project will develop, submit, and follow up with FEMA through the FEMA levee accreditation submittal, review, and approval process. This is a new project. No operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
W21006	Phase II - Underwood Creek Reach 1, Phase II - CR	Design	Sep-13	Dec-16	\$1,286,297
		Construction	May-16	Oct-18	\$5,734,582
		Post-Constr.	Oct-18	Feb-24	\$253,428
		Total			\$7,274,307
		Previously Approved Total			\$7,213,183
		Increase/(Decrease)			\$61,124

### Project Description

The purpose of the project is to reduce public safety risk, provide wetland mitigation, improve aquatic habitat, and to satisfy WDNR and USACE requirements for the Milwaukee County Grounds Floodwater Management Facility project. The project scope includes the design and construction of removing approximately 4,400 linear feet of concrete channel liner on Underwood Creek from Canadian Pacific Railway Bridge to the confluence with the Menomonee River, and replacing it with a bioengineered channel. The project will construct a series of pools and riffles in a low-flow channel to enhance the natural functions of Underwood Creek. The project also includes reconstructing channel in areas where the

riparian floodplain was lowered to recreate a more aesthetic and natural watercourse corridor. The project maintains the current level of flood management. The District will partner with USACE who will finance 65 percent of the project costs, up to a maximum contribution of \$10 million. The change in total project cost is due to additional unforeseen post-construction costs. In the first five years after construction is complete, the contractor is responsible for vegetation maintenance and establishment; after the fifth year, the District is responsible for maintaining the grounds which will impact the operating budget.

Bioengineering is the combination of biological, mechanical, and ecological concepts to control erosion and stabilize soil through the use of vegetation or a combination of vegetation and constructed materials.



This project supports the UN SDG #14.

ID #:	Name:	Phase	Start	Finish	Cost
W21007	Underwood Creek Reach 2 - CR	Prelimin. Eng	Jan-15	May-28	\$6,171,339
		Design	Sep-28	Nov-29	\$1,221,810
		Construction	Feb-30	Apr-33	\$14,142,296
		Post-Constr.	May-33	Apr-38	\$64,557
		Total			\$21,600,002
		Previously Approved Total			\$21,000,000
		Increase/(Decrease)			\$600,002

### Project Description

The purpose of this project is to reduce public safety risk and improve aquatic habitat of segments of the Underwood Creek upstream of Mayfair Road to approximately the Milwaukee/Waukesha County line. The project scope includes a feasibility study of 6,700 lineal feet of Underwood Creek that will recommend how to best remove the concrete channel lining and rehabilitate the area. This project will provide the District with a data-intensive study of this segment of the streams with 50 percent of the cost covered by the USACE. Additionally, it is the first necessary step in the determination of whether there is federal interest in the project. If this is the case, then the USACE will provide 65 percent of the total project design and construction costs for the Underwood Creek Reach 2 project. The change in total project cost is due to inflation adjustments to the construction cost estimate. No significant operating budget impact is expected.



This project supports the UN SDG #14.

ID #:	Name:	Phase	Start	Finish	Cost
W24004	Honey Creek Reach 4 - CR	Prelimin. Eng	Nov-20	Nov-25	\$352,015
		Design	Apr-26	Jun-27	\$1,338,614
		Construction	Oct-27	Nov-30	\$10,705,533
		Post-Constr.	Dec-30	Jan-36	\$18,253
		Total			\$12,414,415
		Previously Approved Total			\$12,158,646
		Increase/(Decrease)			\$255,769

### Project Description

The purpose of the project is to improve public safety (reduce risk of drowning), improve aquatic and riparian habitat conditions, and restore the expected life of approximately 5,000 feet of Honey Creek from W. Arthur upstream to W. Oklahoma Avenue. The project scope includes concrete removal and naturalized channel restoration of approximately 5,000 feet of Honey Creek from W. Arthur upstream to W. Oklahoma Avenue. The scope also includes an evaluation of the use of the trash rack over the entrance to the underground portion of Honey Creek in McCarty Park and development of alternatives for reducing the risk of flooding to surrounding residential structures potentially caused by a partially or fully blocked rack, as well as an update to the current emergency response protocol for when the rack becomes blocked. The change in the total project cost is due to the addition of scope related to developing alternatives to reduce the risk of flooding around the trash rack.

ID #:	Name:	Phase	Start	Finish	Cost
W24005	Honey Creek Watercourse Mgmt. Plan & BMPs	Prelimin. Eng	Dec-09	Apr-21	\$326,894
		Total			\$326,894
		Previously Approved Total			\$326,011
		Increase/(Decrease)			\$883

### Project Description

The purpose of the project is to identify any structures along Honey Creek that may be at risk of flooding and to restore the channel to a more natural condition. This project scope consists of updating an existing planning study to incorporate recently revised SEWRPC floodplain maps. This updated planning study will identify flooding areas within the District's jurisdiction, provide a recommended alternative that will remove approximately 12 structures from the floodplain and incorporate channel rehabilitation, and perform a construction cost estimate of the recommended alternative. The change in total project cost is de minimus. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
W24007	Honey Creek Reach 2 - CR	Design	Nov-22	Nov-26	\$407,923
		Construction	Feb-27	Jul-30	\$14,437,128
		Post-Constr.	Aug-30	Dec-35	\$88,569
		Total			\$14,933,620
		Previously Approved Total			\$14,950,025
		Increase/(Decrease)			(\$16,405)

### Project Description

The purpose of this project is to improve the aquatic habitat of Honey Creek Reach 2 and improve safety by slowing down the flow velocities during extreme rain events. The concrete channel liner within the project reach was installed in 1967, and is approaching the end of its useful life. The project scope includes replacing approximately 3,900 linear feet of the District-owned concrete lined channel from W. Wisconsin Avenue upstream to W. Fairview Avenue extended with a more naturalized channel. It also includes 4,700 feet of channel from Wisconsin Avenue downstream to the Menomonee River which contains 1,050 feet of County-owned concrete lined channel between Currie Avenue and Wisconsin Avenue. This is a USACE Partnership project with the Feasibility Phase located in Project W24006. The change in total project is due to refined labor cost estimates. Any impacts on the operating budget are expected to begin in 2023, and would be ongoing site maintenance costs.



This project supports the UN SDG #14.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W24010	State Fair Culvert Preliminary Engineering	Prelimin. Eng	May-20	Jul-21	\$243,813
		Total			\$243,813
		Previously Approved Total			\$243,813
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to determine methods to extend the expected service life of the culverts which carry Honey Creek under State Fair Park. The scope of this project includes conducting a preliminary engineering analysis to develop alternatives for rehabilitating the culverts to extend the useful life. There is no change in total project cost. This project will have no direct operating budget impact but resulting projects could result in reduced maintenance costs for repairs to deteriorating corrugated metal pipes.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W28001	Schoonmaker Creek	Planning	Dec-13	Mar-21	\$294,248
		Prelimin. Eng	Feb-26	May-28	\$770,808
		Design	Oct-29	May-31	\$1,143,335
		Construction	Sep-31	Sep-33	\$8,410,540
		Post-Constr.	Nov-33	Jan-35	\$113,442
		Total			\$10,732,373
		Previously Approved Total			\$10,548,730
		Increase/(Decrease)			\$183,643

### Project Description

The purpose of the project is to reduce the risk of flooding for structures and roadways within the Schoonmaker Creek watershed. The District assumed jurisdiction of Schoonmaker Creek for flood abatement purposes. Forty-six structures are within the one percent annual probability floodplain. The project scope is to evaluate and recommend solutions to resolve stormwater drainage issues and out of bank flooding that can be implemented by the municipalities and the District, and the design and construction of the recommended solution. The change in total project cost is due to inflation. There is no anticipated operating budget impact.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W28002	Daylighting Schoonmaker Creek	Construction	Apr-15	Dec-15	\$4,900,839
		Post-Constr.	May-16	Jun-21	\$233,368
		Total			\$5,134,207
		Previously Approved Total			\$5,134,238
		Increase/(Decrease)			(\$31)

### Project Description

The purpose of the project is to reduce the number of flooded structures in the Menomonee River watershed. The project scope includes Schoonmaker Creek daylighting. Major elements of the project include the construction of approximately 1,000 feet of earthen levee; removal of approximately 500 feet of concrete box culvert conveying Schoonmaker Creek; channel construction; 110 feet of two-cell box culvert construction and outfall with flap gates; Menomonee River bank reconstruction; grading, topsoil, planting of vegetation and vegetation maintenance. The decrease in total project cost is de minimus. No significant operating budget impact is expected.

Daylighting is the redirection of a stream into an above-ground channel, with the goal of restoring a stream of water to a more natural state.

ID #:	Name:	Phase	Start	Finish	Cost
W29002	Burnham Canal	Design	Jul-12	Mar-25	\$799,824
		Construction	Mar-21	Oct-26	\$6,877,149
		Post-Constr.	Oct-26	Nov-31	\$254,143
		Total			\$7,931,116
		Previously Approved Total			\$7,871,769
		Increase/(Decrease)			\$59,347

## Project Description

The purpose of this project is to transform the Burnham Canal into a wetland to reduce the risk of exposure to existing contaminated sediments, improve aquatic and wildlife habitat, improve water quality, and provide recreational and educational opportunities. The scope consists of filling the Burnham Canal (from the I-43/I-94 overpass to the west end of the canal) to cap existing contaminated sediments and restore 6.7 acres of wetlands. The west half of the canal is a Superfund site due to contaminated sediments, and Miller Compressing Co. (MCC) is the responsible party. The USEPA has issued a Record of Decision for MCC to install a cap over the contaminated sediment. The District and MCC are developing an updated agreement whereby MCC would install the cap as well as the additional material to create the wetland base between S. 11th Street and the west end of the canal. The project design was performed by USACE with funding for the local cost share provided by the Fund for Lake Michigan. The District worked with WDNR to obtain GLRI funding from USEPA for the

construction of the base of the wetland east of S. 11<sup>th</sup>

Street and in September 2018 the WDNR received \$4 million in grant funding for the project. The WDNR and the District have entered into an agreement to use the funding to pay the District's labor and expenses necessary to construct the wetland base. The District and WDNR will continue to work to secure USEPA funding for the final construction of the wetland. The increase in total project cost is due to inflation. Once the project is complete, ongoing monitoring of the cap functionality and wetland maintenance will be funded from the O&M budget.

## Project benefits include:

- improving public awareness of the functions and values of wetlands in an area where wetlands are absent
- improving fish and wildlife habitat,
- improving access for recreation and education



This project supports the UN SDG #14.



## Root River Watershed

The Root River Watershed drains an area of about 197 square miles. Approximately 72 square miles are within the District and District service area. There are 59 square miles within Milwaukee County, 32 are within the City of Franklin, six within the City of Greenfield, one within the City of Milwaukee, eight within the City of Oak Creek, three within the City of West Allis, five within the Village of Greendale, and three within the Village of Hales Corners. There are 13 square miles within Waukesha County, nine within the City of New Berlin and four within the City of Muskego. According to 1990 SEWRPC land use data, approximately 80 percent of the upper watershed located within Milwaukee County and Waukesha County is currently developed, with significant developable land remaining in the communities of Franklin, Oak Creek, New Berlin, and Muskego. There are an estimated 16 structures currently identified as remaining within the one percent probability floodplain. Completed projects have removed 98 structures from the one percent probability floodplain.

There are no active projects in 2021.

## Kinnickinnic River Watershed

The Kinnickinnic (KK) River Watershed drains an area of about 26 square miles. There are six major streams in the watershed, all of which are under District jurisdiction: the KK River, Lyons Park Creek, Wilson Park Creek, South 43rd Street Ditch, Villa Mann Creek, and Villa Mann Creek Tributary. The watershed has a significant number of miles of concrete lined channels and there are an estimated 666 structures within the one percent annual probability floodplain. Completed projects have removed 52 structures from the one percent annual probability floodplain. Projects funded in 2021 will help reduce the risk of flooding to properties in the KK River Watershed.

ID #:	Name:	Phase	Start	Finish	Cost
W40002	KK River Real Estate Decon./Demo. & Pulaski Park	Prelimin. Eng	Oct-06	Jun-24	\$8,483,678
		Design	Jul-14	Feb-18	\$14,847,045
		Construction	May-18	Sep-20	\$14,855,850
		Post-Constr.	Sep-20	Sep-26	\$393,050
		Total			\$38,579,624
		Previously Approved Total			\$36,329,624
		Increase/(Decrease)			\$2,250,000

### Project Description

The purpose of this project is to reduce the flood risk for approximately 300 structures located in the one percent annual probability floodplain between S. 6<sup>th</sup> Street and S. 16<sup>th</sup> Street and improve public safety and aquatic and riparian habitat along 1,700 feet of the Kinnickinnic River within Pulaski Park. The project scope includes the acquisition and removal of 83 residential structures between S. 6<sup>th</sup> Street and S. 16<sup>th</sup> Street. The property is needed to widen the channel cross section from 60 ft. to 200 ft. The wider channel will improve the passage of flood flows through this section and reduce the risk of flooding to the 300 homes and businesses within the adjacent neighborhood. The design and construction of the reconstructed channel as well as associated bridge and utility work is included in the project scope for W40012. The project scope also includes replacing the concrete lined channel in Pulaski Park with a more naturalized channel design and providing flood storage. Both the channel and the flood storage will be constructed within Milwaukee County's Pulaski Park. The District and County have developed an agreement for the project. As part of the agreement, the District will replace park features impacted by the reconstruction of the KK River channel and flood storage areas. These include a pedestrian bridge, basketball courts, playground, trails, and other natural areas. The project scope includes the design and construction of these improvements. The increase in total project cost is due to construction contract change orders and additional District labor costs for the KK River Reach 2 – Pulaski Park, contract W40002C01. Impacts to the operating budget will be minimal. The O&M cost to currently maintain the concrete channel will be slightly reduced with the future maintenance of the natural riparian vegetation.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W40007	KK River Reach 3 - CR	Prelimin. Eng	Nov-12	Apr-29	\$883,809
		Design	Aug-29	Oct-30	\$994,572
		Construction	Feb-31	Aug-32	\$12,327,842
		Post-Constr.	Sep-32	Sep-37	\$144,504
		Total			\$14,350,727
		Previously Approved Total			\$14,100,860
		Increase/(Decrease)			\$249,867

### Project Description

The purpose of this project is to reduce flood risk on the Kinnickinnic (KK) River for St. Luke's Hospital and over 20 structures located in the 1 percent annual probability floodplain in the vicinity of S. 31<sup>st</sup> Street and W. Manitoba Ave. The project scope is to remove concrete channel lining and replace it with natural channel design and increase the hydraulic capacity of the W. KK River Parkway Bridge east of S. 31<sup>st</sup> Street. The concrete lining is 50 years old and is reaching the end of its useful life. For the channel naturalization work, the District will partner with USACE who will finance 65 percent of the project costs, up to a maximum contribution of \$10 million. The increase in total project cost is primarily due to inflation. The operating budget impact is not known at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W40009	Jackson Park	Design	Dec-18	Dec-23	\$9,762,570
		Construction	Oct-22	Mar-26	\$34,775,913
		Post-Constr.	Apr-26	Apr-31	\$271,446
		Total			\$44,809,929
		Previously Approved Total			\$49,229,272
		Increase/(Decrease)			(\$4,419,343)

### Project Description

The purpose of this project is to reduce flood risk on the KK River as well as mitigate increased flood flows from proposed recommendations for the KK River (W40002), Lyons Park Creek (W41001), and the S. 43<sup>rd</sup> Street Ditch (W42003) projects. Over 350 residential and commercial structures are in the one percent annual probability floodplain within the project areas. The project's purpose also improves public safety and aquatic and riparian habitat conditions. The project scope consists of acquiring the property at 2425 S. 35<sup>th</sup> Street from We Energies and 3460 W. Leeds Place from Dion-Simon Investments, relocating the businesses and removing the structures from the property; creating flood storage on the KK River within Milwaukee County's Jackson Park and newly acquired parcel at 3460 W. Leeds Place by lowering and reshaping parkland and recreational fields north of the KK River Parkway and dredging the lagoon to lower the water surface elevation; incorporating improvements and/or additional park assets to compensate the County for the park area and assets impacted as part of this project, and replacing the concrete channel lining (1,400 feet) and enclosed culverts (700 feet) with a naturalized channel within Jackson Park. Constructing flood storage on the property purchased from We Energies is included in project W42003 – 43<sup>rd</sup> Street Ditch. The District and Milwaukee County entered into an agreement in May 2020 which defines the improvements the District will construct in Jackson Park. A portion of the costs for disposing of excess soils from the project are included in project W40017 – KK River Soil Disposal Site. The change in total project cost is primarily due to an increase in the construction cost estimate and additional business relocation costs for 3460 W. Leeds Place. These costs increases were offset by moving \$6 million in soils disposal costs to project W40017. Impacts to the operating budget will be minimal. The O&M cost to currently maintain the concrete channel will be slightly reduced with the future maintenance of the natural riparian vegetation.

ID #:	Name:	Phase	Start	Finish	Cost
W40010	KK River Watershed	Prelimin. Eng	Jul-17	Jul-24	\$4,819,722
		Total			\$4,819,722
		Previously Approved Total			\$4,535,501
		Increase/(Decrease)			\$284,221

### Project Description

The purpose of this project is to refine recommendations that are ultimately expected to reduce flood risk to over 660 residential and commercial structures located in the one percent annual probability floodplain. The project scope consists of two preliminary engineering studies. The first preliminary engineering study refines the Kinnickinnic River Watershed Flood Management Plan recommendations for Jackson Park and the 43<sup>rd</sup> Street Ditch. The second preliminary engineering study refines the Kinnickinnic River Watershed Flood Management Plan recommendations on Wilson Park Creek (except between W. Layton Avenue and the Canadian Pacific Railway located east of South 13<sup>th</sup> Street), Villa Mann Creek and Lyons Park Creek. The increase in total project cost is due to inflation and additional District labor costs. The impact on the operating budget is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
W40011	KK River I-94 to Becher	Prelimin. Eng	Jun-14	Mar-21	\$447,051
		Design	Aug-25	Feb-27	\$1,226,758
		Construction	Jun-27	Jul-30	\$17,047,015
		Post-Constr.	Aug-30	Aug-35	\$283,510
		Total			\$19,004,334
		Previously Approved Total			\$18,646,148
		Increase/(Decrease)			\$358,186

### Project Description

The purpose of the project is to reduce the flood risk for 27 commercial, industrial, and residential structures located in the updated one percent annual probability floodplain. The project will also improve water quality and aquatic and riparian habitat conditions within a degraded section of the KK River between the I-94/43 Freeway Overpass and West Becher Street. The latter is a recommended project in the WDNR's Remedial Action Plan (2016) to remove the Area of Concern designation from the Milwaukee Estuary. The District performed the KK River I-94 to Becher Street Feasibility Study through a grant funded by the National Oceanic and Atmospheric Association's Great Lakes Habitat Program to define the project scope for improving the water quality and habitat conditions. The project scope includes improving the ability of the river to support habitat, providing supplemental oxygen, improving the quality of the adjacent land by removing invasive species, and increasing the hydraulic capacity at the S. 1<sup>st</sup> Street, W. Lincoln Avenue, and W. Becher Street bridges to mitigate floodplain impacts. The WDNR received funding from the USEPA and developed an agreement with the District to utilize the funding to implement the first phase of the feasibility study recommendations. The first phase included the construction of habitat features, removal of invasive species and conducting an aeration pilot study. The District and WDNR will seek additional funding to cover all District labor and expenses for the design and construction of the remaining feasibility study recommendations. The first phase of this work was budgeted under the operating budget as the District will not be constructing assets to be owned by the District. Following the completion of the flood management study, the District will evaluate whether future phases of the work are completed under the operating or capital budgets. The increase in total project cost is due to inflation.



This project supports the UN SDGs #6 and 14.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W40012	KK River - 6th to 16th St.	Design	Mar-21	Jun-23	\$4,382,113
		Construction	Sep-23	May-27	\$39,066,143
		Post-Constr.	May-27	Nov-32	\$267,185
		Total			\$43,715,441
		Previously Approved Total			\$45,837,728
		Increase/(Decrease)			(\$2,122,287)

### Project Description

The purpose of the project is to reduce flood risk on the KK River for approximately 300 residential and commercial structures located in the one percent annual probability floodplain between S. 6th Street and S. 16th Street. The project also improves public safety (i.e. reduce drowning risk) and improves aquatic and riparian habitat conditions. The project scope consists of widening the channel corridor from a width of 60 feet to approximately 200 feet within the project area to improve the passage of flood flows. Acquisition and removal of 83 homes and modifications to City bridges and utilities are required to create the wider channel section. The project also replaces over 4,000 linear feet of District-owned concrete channel lining with a more naturalized channel between S. 6th Street to S. 16th Street. The acquisition and removal of the structures between S. 6th Street and S. 16th Street is managed under W40002. The decrease in total project cost is due to refined cost estimates for labor and inflation. The impact on the operating budget would take effect five years after construction is complete and the vegetation is established.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W40016	KK River Sewer Modifications	Design	Jan-19	Mar-21	\$389,170
		Construction	Jul-21	May-22	\$3,930,477
		Post-Constr.	Jun-22	Nov-22	\$12,083
		Total			\$4,331,730
		Previously Approved Total			\$3,724,621
		Increase/(Decrease)			\$607,109

### Project Description

The purpose of this project is to eliminate conflicts with an existing City of Milwaukee combined sewer in S. 8th Street. Conflicts with existing sewer needs to be removed before improvements can be made to the KK River Channel under District project W40012, KK River S 6th Street to S. 16th Street. The scope of this project includes design and construction of a new Intercepting Structure, approximately 1,240 feet of 24-inch diameter dry weather sewer, approximately 125 feet of 18-inch combined sewer, approximately 39 feet of City of Milwaukee 12-inch combined sewer and the abandonment of an existing siphon and miscellaneous structures and sewers. The increase in total project cost is due to an updated construction cost estimate and change orders for the consultant's contract. The new 24-inch diameter MIS and associated structures will be new District assets and need to be maintained beginning in mid-2022.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W40017	KK River Soil Disposal Site	Construction	Dec-21	Dec-23	\$12,050,000
		Total			\$12,050,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$12,050,000

### Project Description

The purpose of this project is to provide a secure, relatively low-cost option to dispose of soils from watercourse projects primarily on the KK River. The scope of this project consists of developing an agreement with the WDNR to procure space for 300,000 cubic yards of soil disposal space at a new soil disposal site along the lakefront. This is a new project. No significant operating budget impact is expected.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W41001	KK River Flood Management - Lyons Creek	Prelimin. Eng	Jan-11	Oct-23	\$442,543
		Design	May-03	Oct-25	\$938,018
		Construction	Sep-26	May-28	\$13,551,307
		Post-Constr.	May-28	May-33	\$139,923
		Total			\$15,071,791
		Previously Approved Total			\$14,807,870
		Increase/(Decrease)			\$263,921

### Project Description

The purpose of the project is to reduce flood risk on the Lyons Park Creek for 66 residential and commercial structures located in the one percent annual probability floodplain and reduce roadway flood depths on two major arterial roads: W. Oklahoma Avenue and S. 60<sup>th</sup> Street. The project scope consists of increasing the culvert capacity under S. 57<sup>th</sup> St, W. Stack Drive and W. Cleveland, adding two bypass culverts under Oklahoma Ave, and removing approximately 3,000 linear feet of concrete channel lining and replacing it with a lowered floodplain and naturalized channel. The US Army Corps of Engineers (USACE) will perform a feasibility study under the USACE's Section 206 program to determine if there is a federal interest. USACE and District will enter into a partnership agreement to perform feasibility study. The District will fund 50 percent of the feasibility study costs that exceed \$100,000. USACE plans to start the study in 2020. If USACE and District move forward with this project, USACE would fund 65 percent of the design and construction cost. The increase in total project cost is due to inflation. There is no operating budget impact.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W41003	Lyons Park Creek Streambank Stabilization	Design	Aug-18	Jul-20	\$202,119
		Construction	Oct-20	Jan-21	\$583,005
		Post-Constr.	Feb-21	Apr-23	\$27,520
		Total			\$812,644
		Previously Approved Total			\$640,679
		Increase/(Decrease)			\$171,965

### Project Description

The purpose of this project is to make needed improvements to a streambank segment on District owned riparian land to Lyons Park Creek, tributary to the Kinnickinnic River in the City of Milwaukee at the upstream jurisdictional limit of Lyons Park Creek (W. Forest Home Avenue and W. Morgan Avenue). An approximate 100-foot streambank segment on this District-owned land is eroding. This erosion has resulted in undermining of and damage to a City of Milwaukee alley, and the creek is encroaching upon an adjacent residential property. The increase in total project cost is due to revised cost estimates. The District will be responsible for maintaining the vegetation once the project is complete; the maintenance will be funded from the operating budget.

ID #:	Name:	Phase	Start	Finish	Cost
W42003	43rd Street Ditch Reach 1 - CR	Design	May-21	Jan-23	\$1,495,761
		Construction	Apr-23	Mar-26	\$27,144,847
		Post-Constr.	Apr-26	May-31	\$117,444
		Total			\$28,758,052
		Previously Approved Total			\$28,234,580
		Increase/(Decrease)			\$523,472

### Project Description

The purpose of the project is to reduce flood risk on the 43rd Street Ditch for nine commercial structures located in the one percent annual probability floodplain and reduce roadway flood depths at the intersection of two major arterial roads: W. Lincoln Avenue and S. 43rd Street. The project will also provide flood storage to reduce flood risk downstream on the Kinnickinnic (KK) River where over 300 residential and commercial structures are located in the one percent annual probability floodplain. The project also improves aquatic and riparian habitat conditions along 600 feet of concrete lined channel. The project scope consists of: replacing 700 linear feet of degraded corrugated metal pipe culvert in 43rd Street and Lincoln Ave with a larger reinforced concrete box culvert; removing approximately 600 linear feet of concrete channel lining and replacing it with a lowered floodplain and naturalized channel; creating a flood storage detention basin on District owned property at 2425 S. 35th Street; building a diversion structure on the 43rd Street ditch and pipes or open channel between 43rd Street Ditch and 2425 S. 35th Street to divert flood flows from the 43rd Street Ditch to the detention basin; installing an outlet pipe under the Union Pacific Railroad between the detention basin and the KK River. The change in total project cost is due to inflation. Maintenance costs are expected to begin in 2031.



This project supports the UN SDG #14.

ID #:	Name:	Phase	Start	Finish	Cost
W45002	Wilson Park Creek Reach 3 - CR	Prelimin. Eng	Sep-08	Nov-18	\$1,946,311
		Design	Sep-18	Jan-24	\$3,043,905
		Construction	Sep-21	Jan-26	\$26,093,251
		Post-Constr.	Dec-23	Mar-31	\$463,702
		Total			\$31,547,169
		Previously Approved Total			\$30,111,892
		Increase/(Decrease)			\$1,435,277

### Project Description

The purpose of the project is to reduce flood risk on Wilson Park Creek in the vicinity of S. 6th Street and W. Armour Avenue for over 60 residential and commercial structures located in the one percent annual probability floodplain. The project will improve public safety, reduce flood related health risks, and improve aquatic and riparian habitat. The project also replaces 2,800 linear feet of concrete channel lining with a more naturalized channel. The concrete lining is a District asset that was installed in the 1960s and is reaching the end of its useful life. The project scope consists of: constructing a 190-acre-foot (62 MG) flood storage basin in open land behind the Central Steel & Wire facilities; increasing the capacity of the culverts at S. 5th Street and at S. 6th Street; removing the concrete channel lining and replacing it with a natural channel design; and reconstructing 2,200 feet of non-concrete lined stream channel to increase flood storage and improve the stream and riparian habitat. The increase in total project cost is due to updated cost estimates. No significant operating budget impact is expected.



This project supports the UN SDG #14.



# Oak Creek Watershed

The Oak Creek Watershed drains an area of about 28 square miles. Approximately 64 percent of the area is within the City of Oak Creek, 9 percent in the City of Franklin, 4 percent in the City of Cudahy, 10 percent in the City of Milwaukee, 1 percent in the City of Greenfield, and 12 percent in the City of South Milwaukee. An estimated 13 structures are within the one percent annual probability floodplain with all but three structures already removed through voluntary acquisition.

ID #:	Name:	Phase	Start	Finish	Cost
W50005	Oak Creek Flood Management - Floodproofing/Acquisition	Planning	Apr-09	Dec-20	\$324,782
		Design	Oct-12	Dec-27	\$8,294,075
		Total			\$8,618,857
		Previously Approved Total			\$8,372,091
		Increase/(Decrease)			\$246,766

## Project Description

The purpose of this project is to reduce the risk of flood damage to six structures within the one percent probability floodplain. The project scope consists of the design and construction of voluntary floodproofing or voluntary acquisition of the remaining structures including two commercial structures and one residential structure. The increase in total project cost is due to updated construction costs. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
W50006	Oak Creek Watershed Restoration Plan	Planning	Oct-15	May-22	\$342,897
		Total			\$342,897
		Previously Approved Total			\$343,396
		Increase/(Decrease)			(\$499)

## Project Description

The purpose of this project is to conduct a study to yield data needed to plan and implement future improvements to the watershed area. The project scope will be to support SEWRPC to develop a restoration plan for the Oak Creek watershed. It will focus on areas such as water quality, recreational access and use, habitat conditions, and targeted stormwater drainage and flooding issues. The decrease in total project is de minimus. The operating budget impact is not known at this time.

# Lake Michigan Drainage Watershed

The only tributary in the Lake Michigan Drainage area under District jurisdiction is Fish Creek that drains an area of about five square miles. Approximately 55 percent is within the City of Mequon, 25 percent is within the Village of Bayside, and 20 percent is within the Village of River Hills. An estimated eight structures are within the one percent probability floodplain.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
W61002	Fish Creek Flood Acquisitions	Planning	Jun-20	Jan-24	\$119,184
		Total			\$119,184
		Previously Approved Total			\$119,060
		Increase/(Decrease)			\$124

## Project Description

The purpose of this project is to reduce flood risk to structures located in the one percent annual probability floodplain on Fish Creek and the Fish Creek Tributary. Seven residential structures were identified within the draft one percent annual probability floodplain along the mainstem of Fish Creek. The scope of this project is to perform a planning study to develop a project recommendation for reducing the flood risk to the identified structures. The increase in total project cost is de minimus. The operating budget impact is not known at this time.

# General Watercourse Projects

Projects grouped into this category are projects that do not fit into the various watersheds. The types of projects can be associated with various studies for planning future watercourse projects; projects that protect or restore natural drainage to prevent future flooding; all other nonspecific items. Projects funded in 2021 will also identify and map floodplains.

ID #:	Name:	Phase	Start	Finish	Cost
W91001	Phase II Corridor & SEWRPC Studies	Planning	Dec-99	Jan-01	\$36,431
		Prelimin. Eng	Mar-01	Dec-23	\$2,756,544
		Design	Dec-99	Apr-00	\$14,023
		Total			\$2,806,998
		Previously Approved Total			\$2,783,814
		Increase/(Decrease)			\$23,184

## Project Description

The purpose of this project is to develop tools that will assist the District in removing structures from the one percent probability floodplain. The project scope consists of developing a Corridor Study involving compilation of historic and existing inventory information on all the major streams within the District's Service Area. The floodplain mapping is used by District staff and municipalities as they plan projects and reduce flood risk. The maps will assist in identifying flooding problem areas within Milwaukee County and will help in setting funding priorities. The project is being completed by SEWRPC staff. The change in total project cost is de minimus. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
W97003	GMRCPP - Great Milwaukee Regional Conservation Partnership Program	Planning	Jan-15	Dec-21	\$4,999,707
		Total			\$4,999,707
		Previously Approved Total			\$4,993,915
		Increase/(Decrease)			\$5,792

## Project Description

The purpose of this project is to work with agricultural producers and landowners to place voluntary easements on undeveloped, privately owned properties along streams, shorelines and wetlands in areas expected to have major growth in the next 20 years. This limited-time, innovative flood management program permanently protects key lands containing water-absorbing soils. The Milwaukee River Watershed Conservation Partnership (MRWCP) was awarded U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Regional Conservation Partnership Program cost-share allocations of \$1.5 million for the Milwaukee River Watershed. Through collaboration with MRWCP project partners, MMSD's Working Soils® Program will support the acquisition of eight agricultural easements across 800 acres. The District anticipates receiving \$1 million from NRCS as cost-share reimbursement after the District has paid for each easement in full. The increase in total project cost is de minimus. Because these properties remain privately owned, there is no impact on the operating budget.



This project supports the UN SDG #15.

ID #:	Name:		Cost
W97004	Greenseams® Phase 2	Six-Year Forecast Total	\$7,200,000

### Project Description

The purpose of this project is to purchase and restore lands with water absorbing hydric soils which help to manage stormwater reducing the risk of future flooding problems. Benefits of this program include protecting natural wetlands, riparian corridors, and wooded properties as a cost-effective way to keep water on the land where it falls as well as conserving the natural functionality of wetlands and floodplains to help to ensure that the District's capital investments in flood management do not become overtaken, ineffective, and obsolete. There are multiple secondary benefits such as replenishing aquifers, preserving wildlife habitat, contributing to air and water quality, and preserving diversity of native species.



This project supports the UN SDG #15.

The project scope is to acquire land intended to assist in the prevention of future flooding issues in four of Milwaukee's watersheds and includes the purchase of linkages or gaps within existing corridors protecting linear greenways along or tributary to jurisdictional waterways. The District either purchases or acquires conservation easements for privately owned parcels consisting of hydric soils in order to prevent these environmentally important properties from being developed. The project, which includes the Menomonee River, Root River, Oak Creek, and Milwaukee River watersheds will support activities to research, identify, acquire, maintain, preserve, and defend natural flood storage on lands within the greater Milwaukee metropolitan area. Since the program began, a total of 4,185 acres have been preserved. The District works collaboratively with non-profits, land trusts, governmental agencies, and municipal staff to identify properties in high priority areas, pool resources together, and to contact landowners. Some of these partners are able to own and become the steward of these properties, saving the District time and maintenance costs.

The Greenseams® Program is a capital program and does not have an approved total project cost. The 2021 expenditures are budgeted at \$1.2 million; the six-year long-range financing plan includes \$7.2 million. In terms of operating budget impact, Greenseams® is a capital program which supports the District's capital infrastructure by reducing the risk of flooding and keeping excess water out of the District's conveyance system. Consequently, the District's capital expenditures on the program generally do not result in significant changes to the current level of O&M expenditures as properties are often transferred from the District to local governments or land trusts to own and manage. When transferring properties, the District always obtains a permanent conservation easement to ensure that they continue to help reduce flood risk and preserve the capacity and long-term cost-effective operation of the District's system in perpetuity.

ID #:	Name:	Phase	Start	Finish	Cost
W97005	Working Soils and MRWCP 2021-2026	Planning	Jan-21	Dec-26	\$7,545,000
		Total			\$7,545,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$7,545,000

### Project Description

In April 2020, the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Regional Conservation Partnership Program awarded the District and partners a second cost-share allocation of \$7.5 million to continue and scale watershed conservation work through 2026. The purpose of this project is to continue the Working Soils® Program and collaborative work initiated in 2016 (in project W97003). In collaborative cooperation with the Milwaukee River Watershed Conservation Partners (MRWCP), MMSD's Working Soils® Program will support the acquisition of approximately 15 agricultural easements across 1500 acres by 2026. The District anticipates receiving \$4 million from NRCS as cost-share reimbursement after the District has paid for each easement. The MMSD Working Soils® Program staff work with agricultural landowners to place voluntary, permanent easements on undeveloped, private properties along streams, and wetlands in areas expected to have major growth in the next 20 years. This flood management program helps to build and connect priority environmental corridors, while permanently protect the District's Greenseams Program® investments: the hydric lands containing water-absorbing soils. This is a new project, building off of W97003, the previous MMSD Working Soils® five-year project. Because the Working Soils® agricultural conservation easements remain privately owned, managed, there is no impact on the operating budget.



This project supports the UN SDG #15.



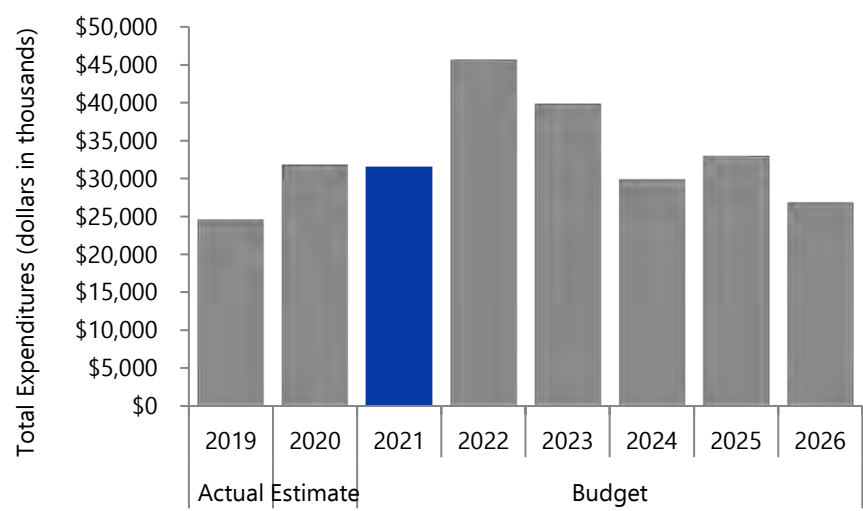
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# Other Projects and Programs

Other Projects



Other Projects is a budgetary grouping of projects that supports overall District planning, management, and infrastructure assets and investments. These projects typically precede design and construction work, providing a solid foundation for future projects in the Water Reclamation Facilities, Conveyance Facilities, and Watercourse Projects capital program groups.

The 2021 Capital Budget includes \$31.5 million for work on Other Projects. Please refer to project detail on the following pages for information on each project’s purpose, scope, cost forecast, and impact on the O&M budget.

# Facilities Management

Facilities Management capital projects are those projects that are related to providing structural upgrades or replacements at District headquarters, Central Laboratory, and other land and building assets.

ID #:	Name:	Phase	Start	Finish	Cost
M01007	KK River Flushing Station Improvements	Planning	Jan-11	Oct-15	\$597,657
		Prelimin. Eng	Jun-21	Aug-22	\$3,660,544
		Design	Jun-24	Feb-26	\$1,725,088
		Construction	Jul-26	Oct-28	\$10,553,963
		Post-Constr.	Jan-29	Aug-29	\$128,736
		Total			\$16,665,989
		Previously Approved Total			\$15,865,989
		Increase/(Decrease)			\$800,000

## Project Description

The purpose of this project is to determine if the Kinnickinnic River Flushing Station and associated flushing tunnel should be maintained or demolished. The scope of the overall project includes a planning evaluation to maintain or demolish the Flushing Station and associated flushing tunnel, and an evaluation of using the tunnel as CSO storage. Detailed design and construction is also included in the project and will be based on both recommendations from the planning level evaluation and from recommendations by the 2050 Facilities Plan. Project scope includes planning, preliminary engineering, design, construction, and post-construction for the structural rehabilitation of 7,200 feet of 144" diameter, 18" thick brick pipeline and construction of flow control structures. The increase in total project cost is due to additional design, construction, and labor costs to abandon the flushing station. The project may result in decreased maintenance costs with the abandonment of the station.

ID #:	Name:	Phase	Start	Finish	Cost
M01029	HQ Wharf Wall System Restoration	Planning	Nov-16	Dec-17	\$167,427
		Design	Jul-18	Sep-19	\$220,944
		Construction	Dec-19	Aug-20	\$1,303,890
		Post-Constr.	Sep-20	Jan-21	\$8,990
		Total			\$1,701,251
		Previously Approved Total			\$1,642,474
		Increase/(Decrease)			\$58,777

## Project Description

The purpose of the project is to ensure the long-term stability of the remaining areas of wharf wall on District HQ property. The scope of the project includes rehabilitation of the wharf wall's structural support systems and associated site restoration. The increase in total project cost is due to construction costs being higher than initially budgeted. No significant impact to the operating budget is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
M01032	N. 44th Street Property Restoration (Miller Park Area)	Design	Jan-19	Dec-21	\$488,679
		Construction	Apr-22	Nov-23	\$1,638,355
		Post-Constr.	Dec-23	Dec-26	\$72,966
		Total			\$2,200,000
		Previously Approved Total			\$2,200,000
		Increase/(Decrease)			\$0

## Project Description

The purpose of this project is to rehabilitate an existing MMSD property adjacent to the Menomonee River, returning it to a more natural state, thus improving riparian habitat. The scope of the project included a previous demolition of an aging District building removed in 2019, future remediation of environmental contamination issues and riparian habitat improvements. There is no change in total project cost. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
M01034	HQ Parking Lot Solar Powered Electric Vehicle Charging Stations	Design	Jan-20	Nov-20	\$89,685
		Construction	Mar-21	Apr-21	\$416,781
		Post-Constr.	Jun-21	Jul-21	\$3,442
		Total			\$509,908
		Previously Approved Total			\$675,908
		Increase/(Decrease)			(\$166,000)

### Project Description

The purpose of this project is to implement a solar powered system to charge the District's electric vehicles. This project will help the District increase its energy efficiency, increase the generation of renewable energy, reduce greenhouse gas emissions at its facilities, and help to meet the 2035 Vision. The decrease in total project cost is due to reduced construction costs recommended after the completion of the preliminary design phase. The project may result in additional maintenance costs as the District will have to maintain the new stations.



This project supports the UN SDG #13.

ID #:	Name:	Phase	Start	Finish	Cost
M01037	HQ and Lab Facility Improvements	Planning	Jan-21	Oct-25	\$3,936,363
		Total			\$3,936,363
		Previously Approved Total			\$3,044,110
		Increase/(Decrease)			\$892,253

### Project Description

The purpose of this project is to address several capital improvements needed at the District's headquarters and laboratory buildings. Due to the age of the buildings, some structures and equipment need to be replaced, because continued maintenance is not as effective as replacement. In 2020, the project included funding for a generator for the laboratory building and disconnecting and removing the exhaust hoods on the laboratory building. In 2021, planned capital improvements to the buildings and grounds include replacing the laboratory loading docks to make them code compliant and improve safety, replacing pavement and sidewalks throughout the campus, upgrading the pH monitoring and discharge system in the laboratory, replacing flooring on multiple floors of the headquarters building, adding a battery backup system for the headquarters' HVAC system and phased monitoring alarm system for HVAC pumps throughout both buildings. The change in total project cost is due to the increased scope. The new equipment may result in reduced maintenance costs.

ID #:	Name:	Phase	Start	Finish	Cost
M01040	13th Street Upgrades	Design	Jul-20	Dec-19	\$300,000
		Construction	Nov-20	Mar-21	\$795,219
		Post-Constr.	Apr-21	Aug-21	\$12,500
		Total			\$1,107,719
		Previously Approved Total			\$168,219
		Increase/(Decrease)			\$939,500

### Project Description

The purpose of this project is to help the District meet its 2035 Vision goals. The scope of this project includes upgrading the S. 13<sup>th</sup> Street facility heating, ventilation, and air conditioning (HVAC) equipment to be more energy efficient. The project scope was moved from project M01026 and changed from completing a combined cooling, heat, and power (CCHP) system to HVAC upgrades and replacing the building's roof. The increase in total project cost is due to the new scope of the upgrades. The project will also incorporate energy efficient lighting upgrades that will be funded from the operating budget.



This project supports the UN SDG #13.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M01042	District Rolling Stock	Construction	Jun-20	Dec-22	\$910,000
		Total			\$910,000
		Previously Approved Total			\$110,000
		Increase/(Decrease)			\$800,000

### Project Description

The purpose of this project is to replace multiple vehicles for District operations at the Jones Island and South Shore Water Reclamation Facilities, for field monitoring work, and overall District operations. The District owns a variety of vehicles, many of which qualify for capital funding. The project was created by Commission action in June 2020 with a total project cost of \$110,000. The increase in total project cost is due to additional funding in the six-year forecast for additional vehicle replacement. Vehicles are maintained as part of the Veolia operating contract.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M01043	KK River Trash Wheel - Drive Access	Design	Nov-20	Mar-21	\$36,000
		Construction	Apr-21	May-21	\$66,000
		Total			\$102,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$102,000

### Project Description

The purpose of this project is to support the removal of river debris by allowing access to District property for storage and removal by others of collected floating debris as well as providing winter storage space of the trash wheel. The scope of the work includes design and construction of an approximately 100 foot driveway access and a concrete pad from the entrance drive on MMSD property at 2122 S. 4th Street to the Kinnickinnic River. This will allow removal of floating debris collected by the operation of a trash wheel owned and operated by others in the Kinnickinnic River. The driveway may result in additional maintenance costs as the District will be responsible for maintaining the driveway.



## Facilities Planning

Facilities Planning is an ongoing process addressing all District facilities. The process includes: 1) evaluation of data reflective of system conditions before and after major system upgrades to validate the performance expectations of previous facility improvements, 2) data collection to provide a consistent time series of data adequate for evaluation of system performance, and 3) modeling and evaluation of the real-time operation of the systems constructed under a Facilities Plan. Ultimately, recommendations made under a facilities plan must be evaluated on an on-going basis to determine if and when facilities plan-identified projects should be built as planned and timed. In the future, asset management will be instrumental in determining how and when facilities plan-recommended projects are designed and constructed.

The District's capital improvement program is primarily driven by a facilities plan that is formalized and published roughly every ten years. Once the plan is approved, staff routinely analyze and evaluate the plan to ensure that the recommendations and projects are current. The development of the plan requires ongoing data collection and analysis as well as staff resources. Activities funded in the 2021 Capital Budget will identify and plan future improvements to District facilities.

ID #:	Name:	Phase	Start	Finish	Cost
M03029	Water Quality Studies	Planning	Apr-06	Apr-21	\$5,896,310
		Total			\$5,896,310
		Previously Approved Total			\$5,896,310
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to fund research for improving water quality in the Greater Milwaukee Watersheds. The studies are a resource for the continued evaluation and implementation of the District's 2020 FP and 2050 FP. The studies are designed to answer specific questions or needs of the District as they pertain to planning and capital improvement requirements, and to help the District stay in front of new technologies that can save money and increase efficiencies. There is no change in total project cost. Studies not meeting capital funding criteria are funded in the O&M budget.



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
M03037	2050 Facilities Planning - Ultimate Build-out	Planning	Oct-13	May-21	\$12,805,769
		Total			\$12,805,769
		Previously Approved Total			\$12,805,850
		Increase/(Decrease)			(\$81)

### Project Description

The purpose of this project is to ensure the District facilities will address future needs in a sustainable and cost-effective manner that meets regulatory requirements. The project scope covers the District's facilities to meet the Clean Water Act, permit requirements, 2035 Vision goals, and ultimate build out of the District's planning area. This effort uses an asset management format and will result in a facilities plan (FP) consisting of four asset management plans for treatment, conveyance, watercourse, and green infrastructure. This effort is required to update and replace the 2020 FP and to remain in compliance with NR110. The original project schedule has been delayed due to additional time required to obtain and develop population and land use data from MMSD customer municipalities, as well as due to the complexities of integrating the project's foundations with asset management planning. Scope changes involve various system modeling analyses requiring additional model runs, additional evaluations for green infrastructure analysis, updated asset data, and separation of the project from asset management planning. The increase in total project cost is de minimus. There is no anticipated impact on the operating budget.

ID #:	Name:	Phase	Start	Finish	Cost
M03051	Alternative Energy Planning	Planning	Jun-10	Dec-22	\$504,462
		Total			\$504,462
		Previously Approved Total			\$504,463
		Increase/(Decrease)			(\$1)

### Project Description

The purpose of this project is to evaluate alternative and renewable sources of energy for operations at District facilities, consistent with the District's 2035 Vision to pursue a higher percentage generation and use of renewable sources of energy. The project scope includes the evaluation of energy sources including but not limited to wind, solar, and sewer thermal projects. The change in total project cost is de minimus. The operating budget impact is not known at this time.



This project supports the UN SDG #13.

ID #:	Name:	Phase	Start	Finish	Cost
M03088	Corridor Study, Phase 5	Planning	Dec-15	Apr-21	\$2,418,608
		Total			\$2,418,608
		Previously Approved Total			\$2,418,608
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to provide valuable information and baseline data, most recently of the Milwaukee Estuary, which the MMSD Commission approved for MMSD watercourse jurisdiction. The data provide input to the 2050 Facilities Plan as well. The project scope is a cooperative water quality research effort between MMSD and the United States Geological Survey that will continue to expand research from previous phases and respond to new areas of interest as identified by regulation, facilities planning, and Executive Director requests. Phase 5 focuses on ecology, restoration evaluation, micro plastics, trace organics, optical properties of water, pathogens, water quality trends, alternative deicers, polycyclic aromatic hydrocarbons, streamflow gauging, and other needs identified as the study progresses. There is no change in total project cost. The operating budget impact is not known at this time.



This project supports the UN SDG #6.

ID #:	Name:	Phase	Start	Finish	Cost
M03091	Ad Hoc Water Quality Studies 2017-2021	Planning	Jan-17	Sep-25	\$2,742,343
		Total			\$2,742,343
		Previously Approved Total			\$1,492,343
		Increase/(Decrease)			\$1,250,000

### Project Description

The purpose of this project is a continuation of M03029 Ad Hoc Water Quality Studies under a new capital project number for operational efficiencies. Research projects identified from issuing RFPs are prioritized on how they will benefit the District's 2035 Vision, strategic plan, facilities plan, and operational needs. The increase in total project cost is due to scope change to include a full-scale deployment of artificial intelligence solution at the water reclamation facilities, scale-up the piloting efforts for biogas upgrading, and to assess other technology evaluation opportunities. At the time of the award, the capital versus O&M funding criteria are reviewed, and if the study does not qualify for capital funding, then it is funded from the operating budget.



This project supports the UN SDG #6.



<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03098	Monitoring for Capital Project Development and Support	Planning	Jan-18	Dec-26	\$22,565,244
		Total			\$22,565,244
		Previously Approved Total			\$15,744,521
		Increase/(Decrease)			\$6,820,723

### Project Description

The purpose of this project is to provide the data and analyses that the District currently uses for the capital improvement program and facilities planning improvements. The project is an ongoing project and the increase in total project cost is due to the addition of another year of efforts. There is no impact on the operating budget.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03102	Biosolids Advanced Facility Planning	Planning	Jan-18	Apr-21	\$782,020
		Total			\$782,020
		Previously Approved Total			\$782,022
		Increase/(Decrease)			(\$2)

### Project Description

The purpose of this project is to determine facilities or capital improvements needed for biosolids management. The project scope includes the development of business case evaluations for biosolids management alternatives to address deficiencies in unit processes with respect to existing and future conditions and operational risks. The change in total project cost is de minimus. The operating budget impact is not known at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03107	WRF Master Model	Planning	Jan-21	Jan-22	\$200,000
		Total			\$200,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$200,000

### Project Description

The purpose of this project is to build a water reclamation facility process model to provide a tool for the District's use to support research, pilots, and capital projects. The project goals are to identify hydraulic improvements and treatment alternatives to reliably meet current and future hydraulic and biological treatment capacity needs for the current and expected future regulatory requirements. This evaluation will be conducted through a combination of flow monitoring, physical survey, hydraulic assessment, and unit process assessment, including substantial efforts in biological system modeling and capacity assessments using customized and calibrated models. The project will create an updated computer model used to evaluate system components, identify potential future reclaimed water users and projected demands, identify areas needing improvements, provide preliminary design parameters for capital improvement projects needed for the reclaimed water system, and apportion the estimated costs over the next twenty years for the projected improvements. These recommended improvements address system capacity, system delivery pressure, storage, and disposal requirements needed to optimize reclaimed water availability. The process model will enable the District to conduct holistic evaluations of process changes to support decision making, identify unintended consequences, and to reduce the overall cost to the District associated with modelling. This is a new project. The impact on the operating budget is unknown.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03108	Impact of Water Levels on MMSD Assets	Planning	Nov-20	Oct-22	\$1,123,500
		Total			\$1,123,500
		Previously Approved Total			\$0
		Increase/(Decrease)			\$1,123,500

### Project Description

The purpose of this project is to determine the effects of high and low water surface elevations (lake and river) on MMSD WRF and Conveyance assets and plan for asset protection from adverse effects. This is a new project. The impact on the operating budget is unknown.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03109	Energy Plan for MMSD Facilities	Planning	May-20	Feb-22	\$800,000
		Total			\$800,000
		Previously Approved Total			\$800,000
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to provide an update to the comprehensive plan for MMSD to meet the Energy Goals in the 2035 Vision and the UN SDGs. While analyzing our current energy portfolio, the update will provide recommendations for new and improved assets/operation strategies to meet the energy goals. It is expected that a variety of recommendations will be rolled out to create new energy capital projects and to require energy conservation and efficiency in non-energy projects. The project was created by Commission action in April 2020 and there is no change in total project from this approved amount. The impact on the operating budget is unknown at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03110	NFPA 820 WRF Evaluation	Planning	Apr-21	Sep-22	\$440,300
		Total			\$440,300
		Previously Approved Total			\$0
		Increase/(Decrease)			\$440,300

### Project Description

The purpose of this project is to determine how to bring District WRF buildings into compliance with state statutes or NFPA 820, and to determine the actual impact of the tunnel connectivity to the NFPA classifications for various buildings. This planning study will build on the 2011 NFPA Compliance Study and develop project costs for cost-effective methods for bringing critical facilities into compliance with either NFPA 820 or Wisconsin State Statutes for protection from explosion due to hazards in wastewater treatment processes. The study will also look at building connectivity to the tunnels and the ratings of connected buildings to the tunnels. This is a new project. No impact on the operating budget is anticipated.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03111	Corridor Study Phase VI	Planning	Nov-20	Dec-25	\$3,815,163
		Total			\$3,815,163
		Previously Approved Total			\$0
		Increase/(Decrease)			\$3,815,163

### Project Description

The Corridor Study - Phase VI is a cooperative water quality research effort between MMSD and the United States Geological Survey (USGS) that will continue to expand research from previous phases and respond to new areas of interest as identified by regulation, facilities planning, and Executive Director requests. The proposed phase VI will focus on ecology, restoration evaluation, stream health, PAH trends in stream sediment, streamflow, enhanced coordination for public outreach, PFAS surveillance, green infrastructure, microplastics, trace organics, optical properties of water, pathogens, water quality trends, nutrient trends, and other needs identified as the study progresses. This is a new project. The impact on the operating budget is unknown at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03112	Instrumentation & Control Planning	Planning	Sep-21	Jan-24	\$985,000
		Total			\$985,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$985,000

### Project Description

The purpose of this project is to develop a plan to maintain and improve the reliability, functionality and security of the District's instrumentation, control and physical site security equipment. The scope will provide a comprehensive long-term instrumentation and controls improvement plan for the Jones Island WRF, South Shore WRF, and Conveyance instrumentation and control systems. The scope includes developing a long-term vision and objectives for these systems through the year 2035. This is a new project. The impact on the operating budget is unknown at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03113	WRF Disinfection Assessment (JI and SS)	Planning	Oct-20	Dec-21	\$200,000
		Total			\$200,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$200,000

### Project Description

The purpose of this project is to produce disinfection control curves to meet the upcoming E.Coli limits and to determine if additional capital projects need to be executed to those limites. The scope of the project is to build upon the information from the 2050 Facilities Plan to assess the ability of JIWRF and SSWRF to achieve the new E.Coli effluent permit limits by analyzing process data for the past five years and compiling the information into a recommendation memo. The findings will be used to develop a disinfection pilot to be implemented at both JI and SS to further develop log-inactivation curves for each WRF with the use of sodium hypochlorite. The major goals of this phase are to: determine if the E.Coli permit limits can be achieved by using sodium hypochlorite; estimate the incremental increase in the operating expense of sodium hypochlorite and sodium bisulfite based on the data analysis and pilot; clarify the compliance schedule applicable to each WRF; if necessary, provide short-term recommendations to ensure permit compliance through modification of the chlorination/dechlorination systems; if necessary, identify the need for a disinfection technology evaluation to identify sustainable disinfection alternatives; if necessary, create new projects for JI and SS. This is a new project. The impact on the operating budget is unknown at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M03114	Discovery World Water Exhibit	Planning	Jan-21	Dec-22	\$450,000
		Total			\$450,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$450,000

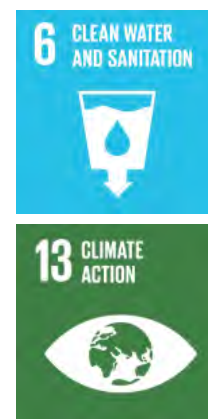
### Project Description

The purpose of this project is to provide funding for the science and environmental exhibits and programs which will enhance the general public's knowledge on a variety of issues including the sewer system and how people can manage water where it falls. The project scope is to provide funding for the exhibit. This is a new project. No operating budget impact is anticipated.

ID #:	Name:		Cost
M10003	PPI/I Phase 2	Six Year Forecast Total	\$25,000,000

### Project Description

The purpose of this project is to provide a funding mechanism for municipalities to complete project work intended to reduce the risk of basement backups, SSOs, and CSOs. This project scope provides funding to municipalities for planning, design, investigation, and construction of projects intended to reduce infiltration and inflow (I/I) on private property. Expenses for actual work to reduce I/I implemented by the municipalities that is consistent and compliant with the 2011-2020 District Policy will be reimbursed through this project to the limits of the municipal allocations according to the Policy. Annual reimbursement for the Private Property I/I (PP I/I) program is based on the preceding year's equalized value of each municipality. PP I/I is a capital program and does not have an approved total project cost. Projects awarded in 2021 and beyond will be funded through project M10005. There is no operating budget impact



This project supports the UN SDGs #6 and 13.

ID #:	Name:	Phase	Start	Finish	Cost
M10004	PPI/I Implementation Phase 2 (Labor)	Prelimin. Eng	Jan-18	Dec-26	\$8,730,143
		Construction	Jul-20	Oct-26	\$1,370,093
		Post-Constr.	Oct-26	Jan-27	\$7,821
		Total			\$10,108,057
		Previously Approved Total			\$4,959,089
		Increase/(Decrease)			\$5,148,968

### Project Description

The purpose of this project is to work in conjunction with project M10003 (and M10005) to provide a funding mechanism for the inspection, engineering, and public information and education outreach associated with Private Property Infiltration and Inflow (I/I) reduction. This project scope provides for District work and associated costs for research of existing programs and policies related to publicly funded Private Property I/I (PP I/I) programs and creation of policy and guideline documents for use in District administration and management of the District PP I/I program. The project also provides for District staff and contracted consultant services for guidance to the member municipalities to create their individual programs. The project provides for District staff and consultant services in administrative, management, District-level public involvement, and continuing research for the municipal PP I/I activities funded through M10003. The project scope shifted from M03063 in order for the project to be managed in the new capital program management software. The increase in total project cost is due to extending the project budget through the six-year long-range financing plan and adding staff time to implement the new individual residential property owner participation component. There is no operating budget impact.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M10005	Post 2050 FP PP/II Approach	Planning	Jan-21	Oct-25	\$30,000,000
		Total			\$30,000,000
		Previously Approved Total			\$4,500,000
		Increase/(Decrease)			\$25,500,000

### Project Description

The purpose of this project is to provide a funding mechanism for municipalities to complete project work intended to reduce the risk of basement backups, SSOs, and CSOs. This project scope provides funding to municipalities for planning, design, investigation, and construction of projects intended to reduce infiltration and inflow (I/I) on private property. Expenses for actual work to reduce I/I implemented by the municipalities that is consistent and compliant with the District Policy as revised in April 2020 and effective January 1, 2021, will be reimbursed through this project to the limits of the cumulative municipal allocations. Program annual municipal allocations for the Private Property I/I (PP I/I) program are based on the preceding year's equalized value of each municipality. PP I/I is a capital program and does not have an approved total project cost. Projects awarded in 2021 will draw from the capital program reserve; the six-year long-range financing plan includes \$25 million transferred from project M10003 that expires December 31, 2020. There is no operating budget impact.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M10006	PPII Research and Development	Prelimin. Eng	Jan-21	Feb-22	\$159,657
		Design	Feb-22	Jun-22	\$891,204
		Construction	Nov-22	Nov-27	\$2,111,640
		Post-Constr.	Nov-27	Dec-32	\$374,444
		Total			\$3,536,946
		Previously Approved Total			\$2,444,205
		Increase/(Decrease)			\$1,092,741

### Project Description

The purpose of this project is to identify, develop, and implement new means and methods for implementing private property infiltration and inflow projects. The first ten years (2011-2020) of the PPII Program have demonstrated that the District is in the best position from the perspectives of Program risk, oversight, and experience to research and evaluate new products and strategies for investigation, design, and construction of I/I reduction projects on private property. The project provides for District staff and contracted consultant services to research existing products and methods used in other programs nationally and globally but not yet tried here. Solutions will also be sought out for issues and challenges that have arisen through the District program for which there appears to be no existing product or strategy for. New products and strategies will be developed for more efficiently and effectively identifying and prioritizing I/I sources on private property and new products will be evaluated for the potential to reduce I/I at the lowest feasible unit cost. Once a product or strategy has been determined to be technically sound, the District staff and contracted consultant will implement the products and/or solutions on a trial basis prior to implementing Program wide. The change in total project cost is due to extending the project schedule through the six-year planning window and the associated construction expenses. There is no operating budget impact.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M10007	PPII Residential	Planning	Jan-21	Oct-25	\$6,300,000
		Total			\$6,300,000
		Previously Approved Total			\$0
		Increase/(Decrease)			\$6,300,000

### Project Description

This purpose of this project will be to provide funding for the Annual Residential Property Funding Allocation (ARFA) to the residents of the 28 municipalities within the MMSD service area. The ARFA is the partition of funds from the total PPII Program annual budget that is allocated to a municipality in any given year for work on individual residential properties initiated by the property owner, contracted by the property owner with a contractor selected from the ARFA Contractor List following the guidelines set forth by the PPII 2.0 Policy. Disbursements will be made by the District to the authorized contractor from the corresponding municipality account for work completed according to the terms of the contract between the District and the authorized contractor. This project will aide in reducing the risk of basement backups and system overflows by reducing inflow and infiltration from private properties, thereby reducing demand on the plant and the collection systems. A reduction in clear water that enters the collection system from private property will reduce the amount of flow that must be conveyed, stored, and treated by the District. The ARFA program will provide residents of the 28 municipalities serviced by MMSD an option to implement corrective action to reduce private property inflow and infiltration from their property without being within a municipality's chosen project area. This is a new project. There is no operating budget impact.



# Workforce & Business Development Resource Program

<b>ID #:</b>	<b>Name:</b>	<b>Cost</b>
M04002	Workforce & Business Development Resource Program 2017-2022	Six Year Forecast Total \$3,000,000

## Project Description

The Workforce & Business Development Resource Program consists of four program components: pre-apprenticeship training and placement, consulting and construction management training, business development training, and the Regional Internships in Science and Engineering (RISE) program for college students. The scope will continue to integrate this program with the long-term needs of the District's six-year Capital Improvement Program. The Workforce & Business Development Resource Program does not have an approved total project cost. The 2021 expenditures are budgeted at \$500,000; the six-year long-range financing plan includes \$3 million. The Workforce and Business Development Resource Program is a capital program which supports the District's Capital Improvement Program by training and developing the local workforce so that they are better able to compete for and succeed as prime and sub-contractors on the District's construction and engineering projects. No significant operating budget impact is expected.

# Information Technology Systems

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M06011	Information Technology Software Systems	Planning	Jan-16	Dec-21	\$1,102,435
		Total			\$1,102,435
		Previously Approved Total			\$814,674
		Increase/(Decrease)			\$287,761

## Project Description

The purpose of this project is to fund the acquisition of new software systems. The projects includes systems as identified annually based on changing conditions, changing needs, and the rapid pace of technology change. The increase in total project cost is due to the addition of the WIFI upgrade and an upgrade to the security system. The increased demand for WIFI speed is increasing to support mobility and WIFI enabled devices. The WIFI project will increase coverage, reduce the need to upgrade the wired cabling systems, reduce the time to change office design and improve staff technology capabilities. The core infrastructure for security cameras and badge readers is at the end of its useful life. The two systems do not interact with each other and the software systems to manage them is outdated, thus compromising the cyber security. The project will replace old analog or low resolution cameras with hi-def cameras and integrate the badge readers into a single management system, saving administrative training, time and software licensing. The operating budget impact is not known at this time.

<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
M06016	ERP Implementation	Planning	Feb-20	Nov-22	\$6,253,261
		Total			\$6,253,261
		Previously Approved Total			\$5,000,000
		Increase/(Decrease)			\$1,253,261

## Project Description

The purpose of this project is to procure and implement a new enterprise resource management (ERP) system for the District. During 2019 District staff worked with a consultant to map internal business processes, a full requirements specifications list, and develop a request for proposal. The project scope is to select an implementation consultant and system to implement beginning in 2020. District staff selected the Oracle system for human capital management and enterprise resource management and implementation began in March of 2020. The change in total project cost is due to the addition of a fixed asset inventory and internal staff time required. The operating budget impact will be the annual licensing fee for the Oracle software and the Maverick training software which total \$432k.

# Financial Planning

ID #:	Name:		Cost
M07002	Financial Planning 2017-2022	Six Year Forecast Total	\$2,588,691

## Project Description

The purpose of this project is to reduce the cost of debt issuance for the capital budget through:

- Favorable bond ratings,
- An appropriate mix of borrowing and cash financing, with at least 25 percent cash financing of project expenditures over the six-year plan,
- Below-market rate loans from the State Clean Water Fund Program, and
- Capture of grant funds.

The project scope aims at specialized financial planning services to support the District's objective of limiting the proportion of the regional economy needed to finance capital projects. The 2019 Capital Budget will fund financial planning efforts performed by internal staff and outside consultants as the District prepares for a competitive bond sale, grant and loan applications and reimbursement requests, and lobbies for favorable funding legislation. The 2020 Capital Budget includes the six-year long-range financing plan to the year 2026, reflecting implementation of projects included in the District's 2020 Facilities Plan. Financial planning provides funding for internal staff time and outside professional services necessary to obtain financing for capital projects, including:

- Bond Counsel
- Escrow Trustee
- Lobbying Activities for Grant Legislation & Award Arbitrage Rebate Calculation
- Financial Advisor
- Rating Agencies
- Clean Water Fund Program Application & Closeout
- Bond Registrar
- Grant Applications

The financial planning account does not have an approved total project cost because it is an ongoing capital project support program. The 2021 expenditures are budgeted at \$181,383; the six-year long-range financing plan includes \$2,588,691. There is no significant operating budget impact.

# Risk Management Program

ID #:	Name:		Cost
M09002	Risk Management for Capital Program	Six Year Forecast Total	\$6,362,747

## Project Description

The purpose of the program seeks to reduce the risk of losses associated with the District's Capital Improvement Program. The program scope of the District's Risk Management Program includes the following elements:

- Contractual requirements with consultants and contractors to ensure specified amounts and types of insurance coverage for each design and construction contract. The District has contracted with its insurance broker to monitor compliance with contract insurance requirements.
- The purchase of insurance by the District to address the potential for losses in excess of limits required from contractors and consultants, including professional liability insurance and environmental liability insurance.
- Construction safety program, including construction contractor requirements and oversight by District staff and safety professionals.
- A District Consultant Activity Review Committee to identify, analyze, and determine costs of incidences of deficient work products prepared by consultants.

The Risk Management for Capital Program does not have an approved total project cost because it is an ongoing construction support program. The 2021 expenditures are budgeted at \$937,720; the six-year long-range financing plan includes \$6,362,747. Costs of the Risk Management Program are allocated to capital projects on the basis of construction contract expenditures. There is no significant operating budget impact.

## General Other Projects

<b>ID #:</b>	<b>Name:</b>		<b>Cost</b>
M99001	Allowance for Cost & Schedule Changes	Six Year Forecast Total	\$11,882,422

### Project Description

The purpose of this account is to provide a source of funds to address unanticipated contract changes and changes in project cash flows. By planning for the payment of these expenditures, this account supports the District's goal of maintaining a stable tax rate over the planning horizon. Commission policy requires the Allowance for Cost and Schedule Changes to be funded at no less than two percent and no greater than five percent of capital expenditures. The Allowance for Cost and Schedule Changes in the six-year plan is budgeted at two percent per year. Allowance accounts do not have an approved total project cost. The long-range financing plan includes \$11.9 million with \$1,652,303 budgeted for 2021. There is no significant operating budget impact.

# Green Infrastructure Projects

ID #:	Name:	Phase	Start	Finish	Cost
G98002	Fresh Coast Green Solutions Phase 2	Planning	Dec-17	Dec-23	\$3,240,578
		Total			\$3,240,578
		Previously Approved Total			\$3,029,205
		Increase/(Decrease)			\$211,373

## Project Description

The purpose of this project is to plan, design, and provide related support for individual capital-eligible green infrastructure strategies and wider implementations that help to keep stormwater out of the combined and separate sewer systems, reducing the volume and frequency of combined and sanitary sewer overflows and basement backups during significant storms and helping to improve water quality. The project will work in conjunction with key District 2035 Vision and Strategic Plan initiatives, as well as the Private Property Infiltration and Inflow (PP I/I) Reduction project. The change in total project cost is due to an increase in scope to include more green infrastructure on the MMSD Headquarters Campus in conjunction with a parking lot resurfacing project. The operating budget impact is not known at this time.



This project supports the UN SDGs #6, 13 and 15.

ID #:	Name:	Phase	Start	Finish	Cost
G98004	Fresh Coast Implementation Phase 2	Planning	Jan-18	Dec-26	\$17,455,653
		Total			\$17,455,653
		Previously Approved Total			\$14,885,327
		Increase/(Decrease)			\$0

## Project Description

The purpose of this project is to provide stormwater capture and infiltration at aggressive, targeted levels, keeping stormwater out of sanitary and combined sewers and reducing the risk of basement backups. The green infrastructure installations completed through this project will be large scale, cost more than \$25,000, have a minimum of a ten-year easement, and demonstrate progress toward implementing the MMSD's Regional Green Infrastructure Plan (RGIP). Green infrastructure installations implemented through this project are consistent with the District's 2035 Vision. The scope of the project is to provide capital-eligible projects with cost-share partnership funding. The increase in total project cost is due to the additional years 2025 and 2026 added to the project. The operating budget impact is not known at this time.



This project supports the UN SDGs #6, 13 and 15.

ID #:	Name:		Cost
G98005	Green Solutions Phase 2	Six Year Forecast Total	\$30,000,000

### Project Description

The purpose of this project is to help the District meet its new 2019 Wisconsin Pollutant Discharge Elimination System (WPDES) permit goal to capture 50 million gallons of stormwater over five years via green infrastructure by incentivizing municipalities within the District to implement green infrastructure. The project scope is to provide a funding mechanism to municipalities for green infrastructure projects with a minimum value of \$25,000 within the District GI service area that elect to continue in the green infrastructure program. The funding is annually allocated to those municipalities based on equalized value. The project is also consistent with the District's 2035 Vision and Regional Green Infrastructure Plan. Green Solutions is a capital program and does not have a total project cost. The 2021 budget includes \$5 million and the six-year forecast includes \$30 million. The District's capital expenditures on the program do not result in an operating budget impact as the resulting improvements are not operated or maintained by the District, but instead help to preserve the capacity and long-term cost-effective operation of the District's system.



This project supports the UN SDGs #6, 13 and 15.

ID #:	Name:	Phase	Start	Finish	Cost
G98011	Alternative Project Delivery / Community-Based GI	Planning	Apr-19	Mar-23	\$20,630,500
		Total			\$20,630,500
		Previously Approved Total			\$20,000,000
		Increase/(Decrease)			\$630,500

### Project Description

The purpose of this project is to pilot an approach to meet the 2035 Vision and Regional Green Infrastructure Plan goals of installing 740 million gallons of GI capture capacity within the District's service area. Additionally, the District's WPDES permit GI goal is to achieve an additional 50 million gallons of GI capacity in the MMSD service area by 2024. The project scope includes planning, design, construction, and maintenance of green infrastructure within the MMSD's GI service area. Through this project a consultant will develop a plan of approach to scale up green infrastructure implementation within the combined and separated sewer areas. This project will result in building 8.45 million gallons or more of green infrastructure. The change in total project cost is due to funding for project planning to be added into the contract cost for construction.



This project supports the UN SDGs #6, 13 and 15.



<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
G98012	Urban Tree System to Address Climate Change	Planning	May-20	Jun-22	\$588,397
		Post-Constr.	Aug-22	Apr-24	\$12,065
		Total			\$600,462
		Previously Approved Total			\$600,462
		Increase/(Decrease)			\$0

### Project Description

The purpose of this project is to achieve the goals of the District's 2035 Vision by planting stormwater trees to provide stormwater management, create urban tree canopies, reduce the urban heat island effect, and sequester carbon to offset greenhouse gas emissions from the District's activities. The scope of this project is to install stormwater trees and route urban stormwater runoff from the public right of way onto District property. There is no change in total project cost. The impact on the operating budget is that the District will have additional green infrastructure to maintain.



<b>ID #:</b>	<b>Name:</b>	<b>Phase</b>	<b>Start</b>	<b>Finish</b>	<b>Cost</b>
G98013	National Fish & Wildlife Foundation Funding Partnership	Planning	Feb-20	Dec-24	\$1,292,643
		Total			\$1,342,624
		Previously Approved Total			\$1,342,624
		Increase/(Decrease)			(\$49,981)

### Project Description

The purpose of this project is to meet the District's 2035 Vision while leveraging external funding to implement green infrastructure (GI). The project scope includes developing a multi-year partnership with the National Fish and Wildlife Foundation (NFWF) to fund and accelerate the implementation of large-scale GI within the District's GI Service Area by leveraging funds from multiple NGOs and Foundations to implement GI. The decrease in total project cost is due to refined cost estimates. There is no significant operating budget impact.



ID #:	Name:	Phase	Start	Finish	Cost
G98015	Strategic GI Implementation	Planning	Jul-19	Dec-25	\$5,915,197
		Total			\$5,915,197
		Previously Approved Total			\$905,500
		Increase/(Decrease)			\$5,009,697

### Project Description

The purpose of this project is to meet the District's 2035 Vision goals. This project will build on the strategies and process used to develop the "Maximizing Stormwater Capture Using Green Infrastructure in the Combined Sewer Service Area:

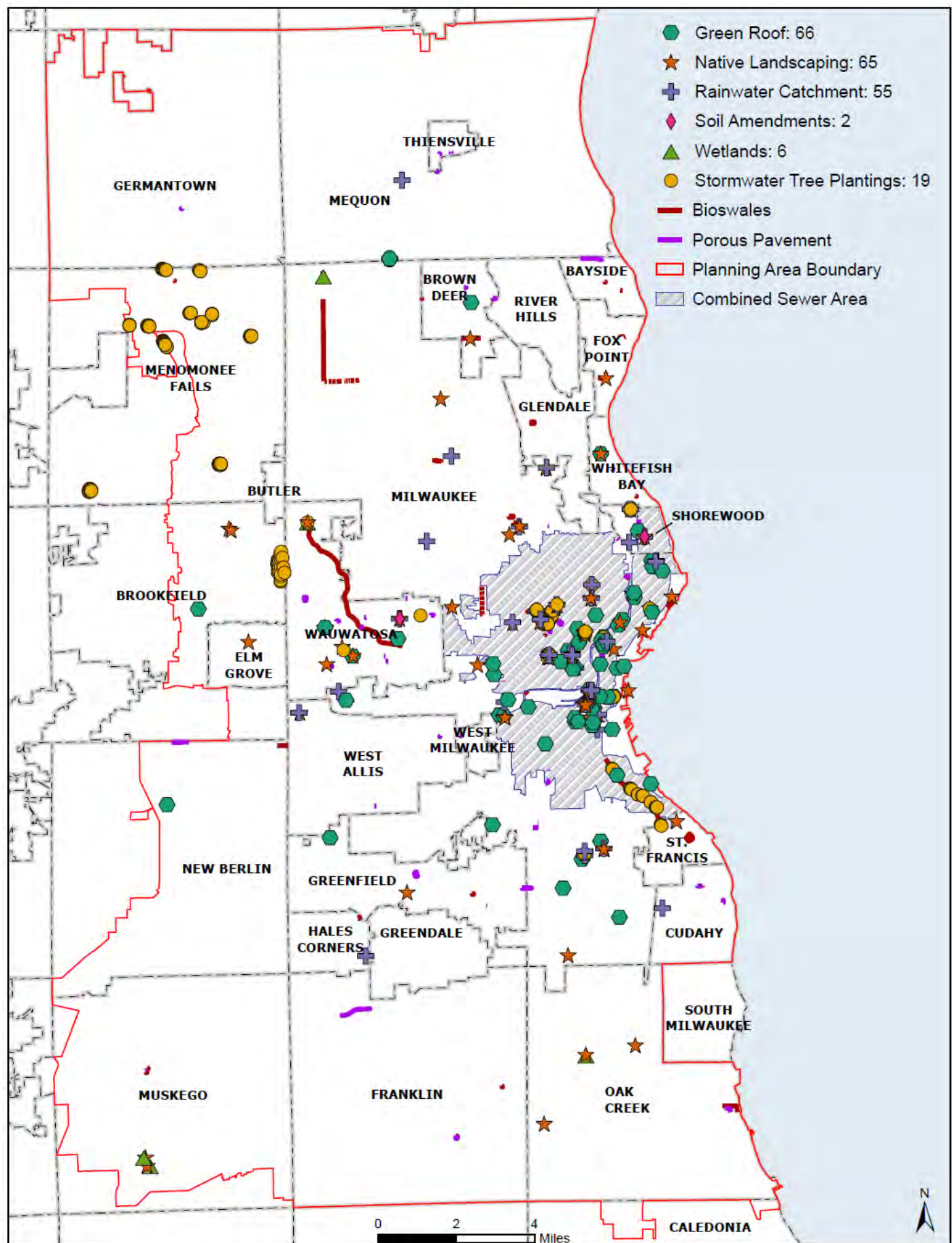
Implementation Plan 2020". This green infrastructure work will look to strategically implement green infrastructure in the District's service area while also addressing risks identified in the Regional Resilience Plan. Factors that will be considered during project development include: investments in vulnerable communities that result in additional co-benefits; investments in priority sub-drainage basins as identified in the Regional Green Infrastructure Plan; project implementation from recommended projects in the "Maximizing Stormwater Capture Using Green Infrastructure in the Combined Sewer Service Area: Implementation Plan 2020"; priority sub-drainage

basins in the Kinnickinnic River Watershed as identified in the Kinnickinnic River Watershed Green Infrastructure Plan; project locations that can leverage a previous District investment; and investments in areas that have been determined to have high TMDL loading. This project is renamed from the 2020 budget project "USACE GI Combined Sewer Service Area Plan". The increase in total project cost is due to additional scope and an additional three years of funding. The project may increase maintenance costs if the project results in more District-owned GI to maintain.



This project supports the UN SDGs #6, 13 and 15.

## District Green Infrastructure







# Debt Service

The Wisconsin State Statutes allow the District to finance capital improvements through the issuance of debt instruments, including general obligation bonds and notes; bond anticipation notes; and revenue bonds and notes. Issuance of bonds and notes require a vote of at least two-thirds of all Commissioners except in the case of emergency borrowing which requires a vote of three-fourths of all Commissioners.

The debt financing strategy focuses on managing the District's debt capacity, operating the District in a fiscally prudent manner, and contributing to the stability and growth of the region's tax base and customer base, by maintaining or improving the District's bond rating.

The District's debt policy seeks to ensure the maintenance of sound debt position and the protection of the District's credit quality. The District's debt policy provides an appropriate balance between establishing limits on the debt program and providing sufficient flexibility to respond to unforeseen circumstances and new opportunities. Key limits in the debt policy include:

- The District's intent to keep outstanding general obligation debt to no more than 2.5 percent of its equalized property value of member communities.
- The District's intent to cash finance at least 25 percent of project expenditures over the six-year financing plan.
- No more than 15 percent of its outstanding general obligation bonds in variable rate form.
- Advance refunding for economic savings to be undertaken only when net present value savings of at least 2 percent.

In 2020, the District was the fourth in the country and the second wastewater treatment agency to issue a Certified Climate Bond. In acknowledgement of its financial management and planning strength, the District continues to receive strong credit ratings. In July 2020, Standard & Poor's Ratings Services affirmed the District's AA+ credit rating with a stable outlook. The rating report cited the District's large, diversified, and growing property tax base, sound financial management, strong liquidity, and rapid debt amortization in affirming the AA+ rating which has remained unchanged since 1997. Also, in July 2020, Moody's Investors Service affirmed its credit rating Aa1. Moody's report noted that the District's Aa1 rating reflects "financial operations are strong, supported by proactive management and unlimited revenue raising flexibility." Since July 2007, Fitch Ratings has rated the District as a AAA credit, most recently affirming the AAA rating in July 2020.



As of August 31, 2020, the District has \$807.9 million of general obligation debt outstanding.

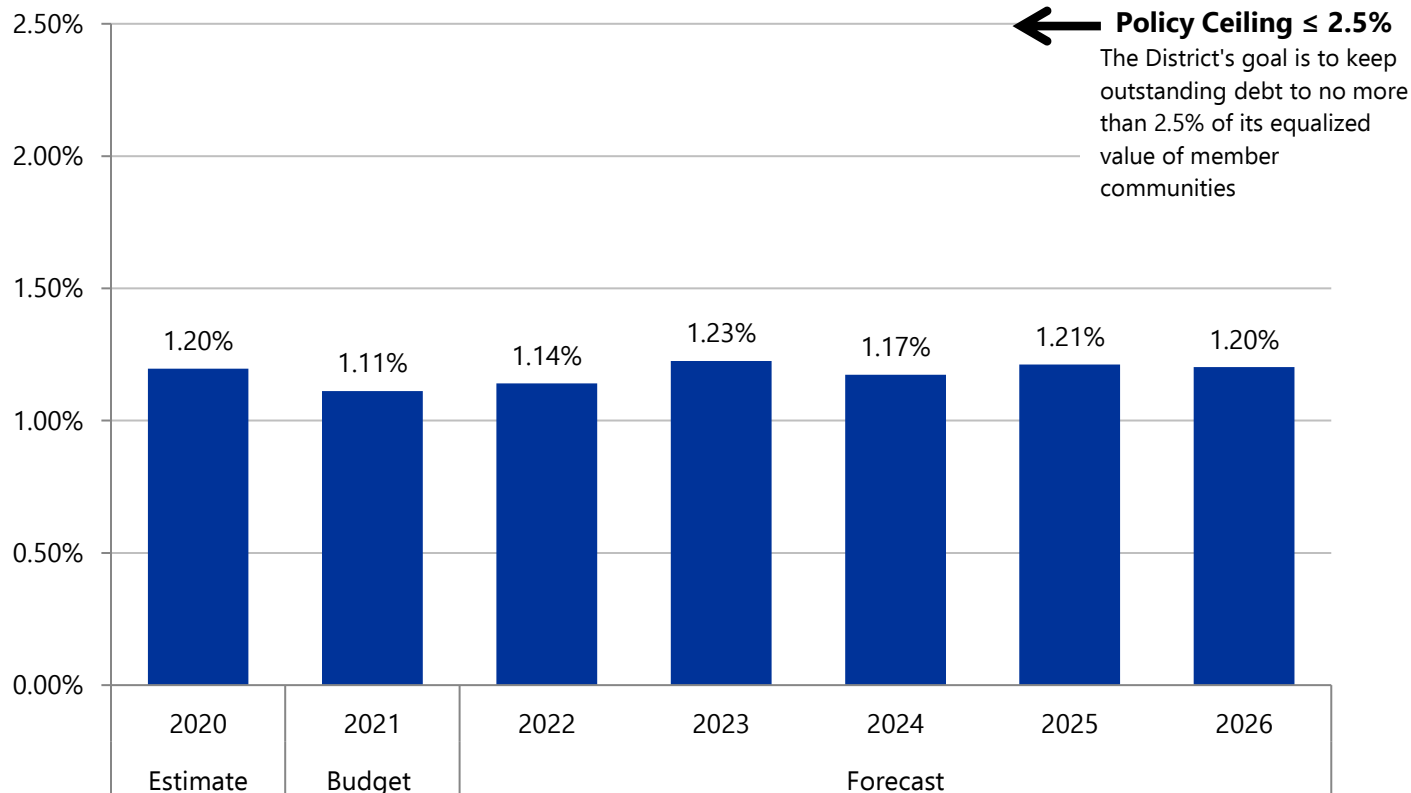
	Principal Amount (\$0)	True Interest Cost (%)
District Bonds	\$370.4	0.718 - 4.244%
Clean Water Fund Program Loans	\$437.5	1.760 - 4.953%
<b>Total</b>	<b>\$807.9</b>	

The District is subject to a statutory debt limit of 5% of equalized value in the Wisconsin Statutes Section 67.03 but District policy further limits this to 2.5%. The District's performance is well below the legal and self-imposed limits.

2020 Equalized Valuation (Estimate)	\$65,909,579,500	100.00%
Statutory Debt Limit Rate		5.00%
Statutory Debt Limit	\$3,295,478,975	
General Obligation Debt Outstanding at August 31, 2020	\$807,893,306	1.23%
Legal Debt Margin	\$2,487,585,669	

The District's Long-Range Financing Plan includes the estimate for outstanding debt at year-end 2020 at \$788.1 million and 1.20% of equalized value, rather than the current level as shown on the prior page. As seen in the table below, the District achieves its goals in each year of the plan.

## 2020-2026: Debt as a % of Equalized Value



Debt service schedules for the District's existing debt and projected debt, are summarized in the table below, and as indicated in the Long-Range Financing Plan on page 83. Total debt service payments in 2021 are budgeted at \$112.0 million, of which \$1.7 million is for an Intergovernmental Loan not secured by a pledge of tax levy. \$110.3 million is for debt service on District general obligation bonds and Clean Water Fund Loan program, both of which are secured by a pledge of tax levy. In 2021, the tax levy of \$102.9 million does not fully cover the \$110.3 million debt service, and to abate the tax levy, \$5.6 million is transferred to the Debt Service Sinking Fund of \$1.8 million. In 2021, the District plans to issue \$46.0 million of general obligation debt and plans to receive an additional \$37.4 million in low-interest loan funds from the State of Wisconsin Clean Water Fund Program.

### Debt Service Schedules

All Amounts in \$ Thousands

	2020	2021	2022	2023	2024	2025	2026	2020-26 Six Year Total
	Estimate	Budget	Forecast	Forecast	Forecast	Forecast	Forecast	
District Bonds	\$61,721	\$39,726	\$34,741	\$33,144	\$38,969	\$39,869	\$42,858	\$229,308
CWFP Loans	72,008	70,584	59,560	62,495	65,854	67,625	67,840	393,958
Intergovt. Loan	1,692	1,691	1,691	1,691	1,690	1,690	1,689	10,142
<b>Total Debt Service</b>	<b>\$135,421</b>	<b>\$112,002</b>	<b>\$95,992</b>	<b>\$97,330</b>	<b>\$106,514</b>	<b>\$109,184</b>	<b>\$112,387</b>	<b>\$633,409</b>

NOTE: Totals may not add due to rounding.

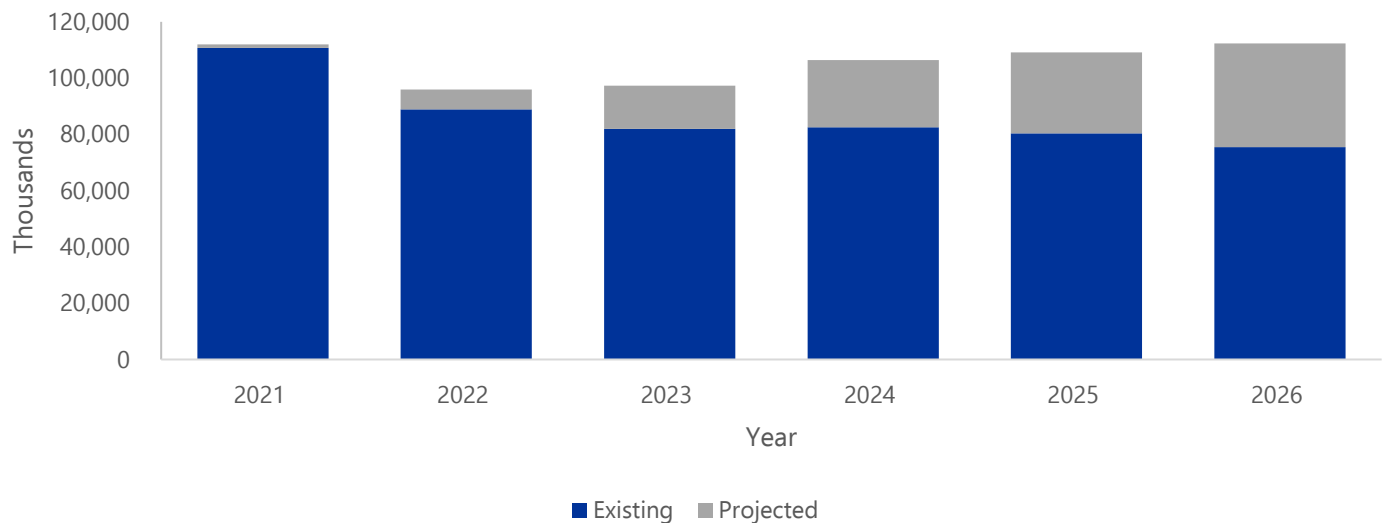


## District General Obligation Bonds

District bonds supplement other revenue sources to fund the Capital Improvement Program. District bonds are used primarily to finance projects with a total project cost less than \$2 million dollars and projects in the Watercourse/Flood Management capital account or other capital studies which are not eligible for a Clean Water Fund Loan or Clean Water Fund Loan rate subsidy. The District has historically issued 20-year bonds and planned bonds assume a 20-year issuance.

The chart below depicts total debt service payments further broken down by existing debt service and the incremental projected debt service for any new debt beginning in 2021, as anticipated in the Long-Range Financing Plan.

2021 - 2026 General Obligation Debt Service



This project represents the budget year's repayment obligation of this funding. Timely principal and interest payments are critical in maintaining the District's bond rating. This project funds payments to holders of District bonds for principal and interest coming due in 2021. Five District-issued general obligation bond series are currently outstanding. The District typically finances a major portion of its Capital Improvement Program with 20-year, level payment, long-term debt in the form of either its own general obligation bonds or low-interest Clean Water Fund Program loans from the State of Wisconsin.

In 2021, the District plans to issue a 20-year general obligation bond with a face value of \$46,000,000. The true interest cost of this issue is estimated to be 3.65%. The proceeds will be used to finance one year of capital project spending that cannot be or is not efficient to finance through the Clean Water Fund Loan program.

Budgeted debt service in 2021 for District-issued general obligation bonds is as follows:

**District Bonds 2021 Net Debt Service**

All Amounts in Thousands

Series	Gross Debt Service	Less: Debt Service Fud	Net Debt Service
2005A	\$12,642	\$95	\$12,547
2015A	\$7,986	\$20	\$7,966
2015C	\$5,270	\$10	\$5,260
2017A	\$5,274	\$5	\$5,269
2020A	\$5,265	\$5	\$5,260
2020D	\$2,450	\$1,460	\$990
New Bond	\$840	\$0	\$840
Total	\$39,727	\$1,595	\$38,132

NOTE: Totals may not add due to rounding - \*Net Debt Service may differ from actual debt service payments due to interest earned on unused bond proceeds, premiums proceeds, premiums received, or discounts provided.

Estimated debt service requirements in the six-year plan for District-issued bonds, including \$229.3 million of new bonds projected to be issued through 2026 are as follows:

**District Bonds Debt Service Schedule**

All Amounts in Thousands

Year	Total
2021	\$39,726
2022	\$34,741
2023	\$33,144
2024	\$38,969
2025	\$39,869
2026	\$42,858
Total	\$229,308

NOTE: Totals may not add due to rounding. - \*Net Debt Service may differ from actual debt service payments due to interest earned on unused bond proceeds, premiums received, or discounts provided.

## Clean Water Fund Program Loans

Clean Water Fund Program loans are a funding source for most major conveyance and water reclamation facility capital projects. This project represents the budget year's repayment obligation of this funding to the State of Wisconsin. Timely principal and interest payments are critical in maintaining the District's bond rating.

The Clean Water Fund Program, established under section 144.21 and 144.2415 of Wisconsin Statutes, provides low-interest loans for the construction of wastewater treatment works, non-point source pollution projects and estuary projects, for which the program provides a subsidized interest rate that is currently 55% of a published State of Wisconsin general obligation rate. Each loan is for a period of 20 years with principal payment beginning within 12 months after the expected date of project completion.

Since the beginning of the loan program in 1991, the District has received 135 loan awards totaling \$1.386 billion at interest rates ranging from 1.760 to 4.953 percent. Projects for compliance maintenance receiving State fiscal year 2021 funding are eligible for loans at 55 percent of the Clean Water Fund Program market interest rate. This project provides payments to the State of Wisconsin in 2021 for financial assistance received under the Clean Water Fund Program.

### 2021 Clean Water Fund Program

All Amounts in Thousands

Gross Debt Service	\$70,584
Less Debt Service Fund	\$200
Total	\$70,384

\*Net Debt Service may differ from actual debt service payments due to interest earned on unused bond proceeds, premiums received, or discounts provided.

In 2021, the District expects to receive \$37.4 million in project expense reimbursements from low-interest, 20-year loans from the Clean Water Fund Program. Estimated debt service requirements for Clean Water Fund Program loans, including disbursements from new loans projected to be received through 2026 are as follows:

### Clean Water Fund Program Debt Service Schedule

All Amounts in Thousands

Year	Total
2021	\$70,584
2022	\$59,560
2023	\$62,495
2024	\$65,854
2025	\$67,625
2026	\$67,840
Total	\$393,958

NOTE: Totals may not add due to rounding.

Net Debt Service may differ from actual debt service payments due to interest earned on unused bond proceeds, premiums received, or discounts provided.

## Intergovernmental Loan

In 2010, the District entered into an Intergovernmental Cooperation Agreement with the City of Franklin to design, construct, and finance the Ryan Creek Interceptor which will ultimately become an asset of the District. The City of Franklin has received a Clean Water Fund Program loan of \$24.6 million at 2.46 percent for the project.

The District's obligation is to make payments to the City of Franklin, beginning in 2015, which will equal the total principal and interest on the CWF loan. The CWF loan will be paid off in 2031. Ownership of the Ryan Creek Interceptor will transfer to the District at that time. No significant operating budget impact is expected. Debt service payments to the City of Franklin are as follows:

### Intergovernmental Loan with City of Franklin

All Amounts in Thousands

<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
Prior	8,309	4,321	12,629
2021	1,307	385	1,691
2022	1,339	352	1,691
2023	1,372	319	1,691
2024	1,406	285	1,690
2025	1,440	250	1,690
2026	1,476	214	1,689
2027-2031	<u>7,941</u>	<u>498</u>	<u>8,440</u>
Total	<u>\$24,589</u>	<u>\$6,623</u>	<u>\$31,211</u>

NOTE: Totals may not add due to rounding

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# Glossary of Acronyms and Terms

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AMP	Asset Management Program
ACE	Army Corps of Engineers
BOD	Biochemical Oxygen Demand
BMPs	Best Management Practices
CAFR	Comprehensive Annual Financial Report
CIP	Capital Improvements Program
CMOM	Capacity, Maintenance, Operation and Management
CNG	Compressed Natural Gas
CSO	Combined Sewer Overflow
D&D	Drying and Dewatering Facility
DNR	Department of Natural Resources
EPA	United States Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GAAP	Generally Accepted Accounting Principals
GFOA	Government Finance Officers Association
GI	Green Infrastructure
GIS	Geographic Information System
GBT	Gravity Belt Thickener
H <sub>2</sub> S	Hydrogen Sulfide
HHW	Household Hazardous Waste
I/I	Infiltration and Inflow
I&C	Instrumentation and Control System
IPS	Interplant Solids System
ISS	Inline Storage System (Deep Tunnel)
IWPP	Industrial Waste Pretreatment Program
LEED	Leadership in Energy and Environmental Design
LFG	Landfill Gas
LID	Low Impact Development
LIMS	Laboratory Information Management Systems
MBE	Minority Business Enterprise
MCRR	Material Capital Repair and Replacement
MGD	Million Gallons per Day
MIS	Metropolitan Interceptor Sewer System
MMSD	Milwaukee Metropolitan Sewerage District
NACWA	National Association of Clean Water Agencies

NRCS	Natural Resources Conservation Service
NS	North Shore Interceptor
NPDES	National Pollution Discharge Elimination System
NWSRS	Northwest Side Relief Sewer
PCB	Poly Chlorinated Biphenyl
PPII	Private Property Infiltration and Inflow
QA/QC	Quality Assurance and Quality Control
RAS	Return Activated Sludge
SEWRPC	Southeastern Wisconsin Regional Planning Commission
SSO	Sanitary Sewer Overflow
SWMBE	Small, Women-, or Minority-Owned Business Enterprise
SWWT	Southeastern Wisconsin Watershed Trust
TAT	Technical Advisory Team
TAS	Thickened Activated Sludge
TMDL	Total Maximum Daily Loads
TSS	Total Suspended Solids
USACE	United States Army Corps of Engineers
VFD	Variable Frequency Drive
VWM	Veolia Water Milwaukee
WAS	Waste Activated Sludge
WDNR	Wisconsin Department of Natural Resources
WII	Water Impact Index
WisDOT	Wisconsin Department of Transportation
WPAP	Water Pollution Abatement Program
WPDES	Wisconsin Pollutant Discharge Elimination Systems
WRF	Water Reclamation Facilities



**Abatement:** The measures taken to reduce or eliminate pollution or the tax levy.

**Acre-Foot:** A term used in measuring the volume of water that is equal to the quantity of water required to cover 1 acre, 1 foot deep; 43,560 cubic feet. Storage volumes are usually expressed in acre-feet.

**Accrual Basis of Accounting:** A method of accounting in which revenues are recorded when measurable and earned, and expenses are recognized when a good or service is used.

**Activated Sludge (AS):** The interaction of microorganisms, wastes, and oxygen to form sludge. Activation takes place during the aeration process.

**Activated Sludge Process:** A biological process that removes pollutants by breaking down organic matter in raw sewage and converting it into sludge. AS process is the form of secondary treatment used by the District.

**Ad Valorem Tax:** A tax levied according to the value of the property, merchandise, etc., being taxed.

**Agri-Life®:** An anaerobically digested, organic sludge formerly produced at the South Shore Water Reclamation Facility. It is injected into farmland as a soil conditioner and is also reprocessed into Milorganite®.

**Anaerobic Digestion:** The process by which sludge is stabilized by biological action in a temperature-controlled, oxygen-free (anaerobic) environment (digesters). The stabilized sludge is injected into farmland as a soil conditioner (Agri-Life®). The digester gas resulting from the biological action provides energy to run the South Shore plant.

**Appropriation:** A sum of money or total of assets devoted to a special purpose.

**Average Flow:** Average quantity of wastewater entering the treatment system over a given period of time.

**Balanced Budget:** A budget in which current revenues equal current expenditures.

**Biochemical Oxygen Demand (BOD):** A measure of the amount of oxygen used up in the anaerobic decomposition of organic matter. The BOD test utilizes the oxygen from air dissolved in water and reflects treatability or stage of decomposition. It gives a direct measurement of the strength of wastewater, usually expressed in mg/l (milligrams per liter).

**Bio-swale:** Landscape designed to remove silt and pollution from surface runoff water.

**Bond:** A written promise to repay debt on a specific date in the future, along with payment of a specified amount of interest at predetermined intervals while the debt is outstanding.

**Bypass:** A flow relief device by which sanitary sewers, intercepting sewers or main sewers can discharge a portion or all of their flow, by gravity, into a receiving body of surface water to alleviate surcharging of intercepting or main sewers.

**Capacity assurance, Maintenance, Operation and Management (CMOM):** A program where the District works with the 28 communities in its service area to control the degradation of the sewer systems and curtail infiltration and inflow.

**Capital Budget:** A planned schedule of projects that acquire or improve land, waters, property or facilities to enhance sewerage services in the District's service area.

**Capital Expenditure:** The costs of acquiring, purchasing, adding to, leasing, planning, designing, constructing, extending, and improving all or any part of a sewerage system and of paying principal, interest or premiums on any indebtedness incurred for these purposes. To be a capital expenditure project costs must be greater than or equal to \$25,000, with a service life of ten or more years and must represent an identifiable addition to facilities or extend the service life of existing facilities. Equipment replacement costs must be greater than or equal to \$25,000 and a service life greater than 20 years.

**Capital Improvements Program (CIP):** A long-range plan of the District for the construction rehabilitation and replacement of the District-owned and operated infrastructure.

**Channelization:** The artificial enlargement or realignment of a stream channel.

**Chlorination:** Chlorine is added to the reclamation facility effluent before it is discharged into Lake Michigan to kill most of the bacteria.

**Clean Water Fund Loan:** This program provides low-interest loans for the construction of wastewater treatment facilities, nonpoint source pollution projects, and estuary projects.

**Clearwater:** Water entering the sanitary sewer system through infiltration or inflow. It reduces the sewer system capacity to carry sanitary sewage.

**Coarse Screening:** First step in preliminary treatment, which removes debris from the wastewater by screening.

**Collection and Transportation System:** A series of sewers, manholes, pumping facilities, and force mains, which carry wastewater from residences, commercial establishments, public buildings, institutions, and industrial plants. It terminates at a reclamation facility. Bypasses are considered a part of this system.

**Collector Sewers:** That portion of the collection and transportation system, which gathers wastewater from individual buildings and transports it through a network of sanitary sewers to interceptor sewers.

**Combined Sewers:** Sewers that carry both, sewage and stormwater runoff.

**Compressed Natural Gas (CNG):** A fossil fuel substitute for gasoline, Diesel fuel, and propane. CNG is an alternative to gasoline that is made by compressing natural gas to less than 1 percent of its volume at standard atmospheric pressure. It consists mostly of methane, and is odorless, colorless, and tasteless. It is drawn from domestically drilled natural gas wells or in conjunction with crude oil production.

**Conveyance System:** The system of sewers designed and operated to intercept and carry sewage from local government collection systems to the water reclamation facility.

**Datalogger:** An electronic device that records data over time or in relation to location. The District uses dataloggers to collect continuous groundwater level measurements at 30 minute increments.

**Debt Service:** Payments of interest and principal on bonds or other long-term borrowing.

**Deep Tunnel:** A major project of the Water Pollution Abatement Program that consisted of constructing 28.5 miles of tunnels 300 feet underground and designed to minimize sewer overflows. (Also see Inline Storage System)

**Depreciation:** A measure of the decrease in value of an asset over a specific period of time.

**Design Flow:** Average quantity of wastewater, which a water reclamation facility is designed to handle, expressed in millions of gallons per day (MGD).

**Dewatering:** Any process that removes water from sludge, i.e., vacuum filtering, centrifuging, decanting, heat-drying, etc. The term is also used to describe the removal of groundwater during sewer construction projects.

**Dissolved Oxygen:** Oxygen dissolved in water (as opposed to gaseous oxygen which occurs in water only as bubbles), available for respiration by most aquatic organisms.

**District:** The area that is provided water reclamation services by the Milwaukee Metropolitan Sewerage District.

**Drop Shaft:** A vertical shaft used to get wastewater from the surface to the Inline Storage System.

**Dryer Cyclone:** The Dryer Cyclone is a piece of equipment used as part of the Milorganite® process to remove dust particles from the dryer exhaust.

**Easements:** A right to obtain access to property; can be temporary or permanent.

**Effluent Discharge:** (1) A liquid which flows out of a containing space; (2) Sewage, water or other liquid, partially or completely treated, or in its natural state, flowing out of a reservoir, basin or reclamation facility, or part thereof.

**Effluent Limitations:** The maximum amount of a pollutant that a point source may discharge into a water body. They may allow some or no discharge at all, depending on the specific pollutant to be controlled and the water quality standards established for the receiving waters.

**Enterprise Fund:** Utilized to account for operations that are financed and operated in a manner similar to private sector enterprises where the cost of providing services to the general public is recovered primarily through user charges.

**Environmental Assessment:** The aspect of the facility planning process and resulting report analyzing environmental, social, and economic implications of the proposed alternatives.

**Environmental Protection Agency (EPA):** The federal agency responsible for regulating water quality and the Federal Clean Water Act.

**Equipment Replacement Fund:** In accordance with Wisconsin Department of Natural Resources requirements, a reserve fund established by the District equal to 5 percent of the asset value of District equipment with a value over \$25,000 and useful life between 10 and 20 years.

**Extraterritorial Communities:** Communities outside the Milwaukee Metropolitan Sewerage District boundaries that receive contracted service from the District.

**Fecal Coliforms:** Euteric bacteria, primarily *Eschericia coli*, found in fecal matter and used as indicators of the presence of pathogenic bacteria.

**Filter Cake:** Sludge that has been dewatered in the vacuum filters and is ready for heat drying into Milorganite®; it has a water content of 86 percent and looks like wet cardboard.

**Fine Screening:** Final step of preliminary treatment at Jones Island, which removes fine particles and debris such as hair and cigarette butts not caught in coarse screening.

**Fiscal Year:** The time period designated by the District signifying the beginning and ending period for recording financial transactions.

**Floodplain:** Land which may be covered by flood water during the 1% annual probability flood event. It includes the floodway and the floodfringe, and may include other designated floodplain areas for regulatory purposes.

**Floodwall:** A concrete or masonry embankment built to restrain the flow of water of a river bank and protect land from flooding.

**Full-time Equivalent:** A unit that indicates the workload of an employed person (or student) in a way that makes workloads or class loads comparable across various contexts.

**Fund:** A sum of money or other resources whose principal or interest is set apart for a specific objective.

**Fund Balance:** The difference between a fund's assets and its liabilities. Portions of the fund balance may be reserved for various purposes, such as contingencies or encumbrances.

**Geographic Information System (GIS):** An organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information.

**Green Infrastructure:** An adaptable term used to describe an array of products, technologies, and practices that use natural systems – or engineered systems that mimic natural processes – to enhance overall environmental quality and provide utility services. As a general principal, Green Infrastructure techniques use soils and vegetation to infiltrate, evapotranspire, and recycle stormwater runoff.

**Green alleys, streets, and parking lots:** Green alleys, streets and parking lots are typically in the public right-of-way and can provide a combination of different benefits designed to channel, infiltrate and evapotranspire rainwater. They include permeable pavement, sidewalk planters, landscaped medians and bio-swales, inlet restrictors, greenways and trees, and can also take advantage of recycled materials.

**Green Roofs:** Green roofs (also known as eco-roofs) are either partially or completely planted with vegetation growing in soil (or a growing medium) to hold rainwater. They can be planted in waterproof trays or on top of a waterproof barrier, and can be intensive (like a rooftop park) or extensive (relatively lightweight). They function for stormwater management purposes when they are lush and green as well as when they are dormant.

**Greenways:** Greenways include riparian and non-riparian buffer zones and strips that store and drain stormwater runoff into the ground naturally. As vegetated strips that help to infiltrate and evapotranspire both rainwater and snow melt, they can be placed along bike paths, sidewalks, riverbanks, and streets. They can be planted in native vegetation, in mowed grass, and as gardens.

**Heat Drying:** Final step in the production of Milorganite®. Rotary drum dryers tumble-dry filter cake into a dry granular product that can be packaged. Heat drying destroys pathogens in the sludge (filter cake).

**Hydrogen Sulfide:** A colorless gas with the characteristic foul odor of rotten eggs. It is heavier than air, very poisonous, corrosive, flammable, and explosive. It results from the bacterial breakdown of organic matter in the absence of oxygen, such as in sewers.

**Impervious Areas:** Any pavement or structural element including, but not limited to, roofs and paved roads, driveways, and parking lots, that prevents rain, surface water runoff, or melting snow from infiltrating into the ground below. Lack of infiltration can increase surface runoff and contribute to flood risk and pollutant transport.

**Industrial Cost Recovery:** A provision in the 1972 Federal Water Pollution Control Act (FWPCA) that requires industries to pay back to the federal government the extra capital costs that their discharges impose on municipal treatment plants. (The 1977 Clean Water Act established an 18-month moratorium on Industrial Cost Recovery).

**Infiltration/Inflow (I/I):** Total quantity of water entering a sewer system. Infiltration means entry through such sources as defective pipes, pipe joints, connections or manhole walls. Inflow signifies discharge into the sewer system through service connections from such sources as area or foundation drainage, springs and swamps, storm waters, street wash waters, or sewers.

**Influent:** The wastewater entering the reclamation facility.

**Inline Storage System (ISS):** The Inline Storage System (ISS) provides relief to the Metropolitan Interceptor Sewer (MIS) system during extreme wet weather periods by allowing excess flows from the MIS to be diverted to the ISS in both the separate sewer area and the combined sewer service areas. The excess flow is stored in the ISS until reclamation facility capacity is available. (Also see Deep Tunnel)

**Instrumentation & Control (I&C):** Equipment used to monitor and control wastewater treatment processes such as flows, dissolved oxygen levels, valve positions, and equipment operations.

**Interceptor:** A sewer that carries sanitary waste that is built by the District. These are large sewers that collect wastewater from local trunk sewers and convey it to the water reclamation facility.

**Intergovernmental Cooperation Council (ICC):** Comprises 19 communities located within Milwaukee County. The mayors and village presidents meet on a monthly basis to discuss topics of common interest and regional concern.

**Laboratory Information Management System (LIMS):** An automated system used by the District's Central Laboratory, Industrial Waste and Water Quality Research departments to manage data including test scheduling, case log-in, worksheets, instrument interfaces, reporting, research, test results, and dispersion of the results to designated areas.

**Lateral:** That part of the horizontal piping of a drainage system which extends from the end of a building drain and which receives the building discharge and conveys it to the sewer system.

**Lift Station:** A facility in a sewer system consisting of a receiving chamber, pumping equipment, and associated drive and control devices which collect and lift wastewater to a higher elevation when the continuance of the sewer at reasonable slopes would involve excessive trench depths; or that collects and raises wastewater through the use of force mains from areas too low to drain into available sewers.

**Milwaukee 7 (M7):** Milwaukee 7, launched in September 2005, was formed to create a regional, cooperative economic development platform for the seven counties of southeastern Wisconsin: Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington and Waukesha. Its mission is to attract, retain and grow diverse businesses and talent.

**Metropolitan Interceptor Sewers (MIS):** Portion of the collection and transportation system, which receives wastewater from collector sewers from conveyance to the point of treatment and are owned and maintained by the Milwaukee Metropolitan Sewerage District. An interceptor sewer is designed to have a limited number of connections for receiving wastewater from the collector sewer system.

**Milorganite®:** An organic nitrogen fertilizer (6-2-0) produced from waste-activated sludge at the Jones Island plant that is an excellent lawn and turf, non-burning, slow release fertilizer.

**Minority Business Enterprise:** An independent business concern that is at least 51 percent owned and controlled by minority members, that has undergone a pre-certification process that enables it to receive enhanced consideration on bids and proposals it submits to MMSD.

**Native Landscaping:** The use of native plant species that can tolerate the drought and flooding cycles of an area. Native plants are those that evolved in a particular area and are adapted to local climate conditions.

**Nonpoint Source Pollutants:** Pollutants which do not enter the water from any discernible, confined and discrete conveyance but rather wash off, run off or seep from broad areas of land.

**North Shore Interceptor (NS):** That portion of the Inline Storage System that connects to the Crosstown Interceptor and proceeds north to West Hampton and then west to North 51<sup>st</sup> Street. Other drop shafts (NS 4, 5, 12, etc.) connect to the NS.

NS – 4, 5, 12, etc.: Drop shafts connecting to North Shore Interceptor.

**Operations and Maintenance (O&M) Budget:** Annual budget for activities related to controlling, operating, managing, and maintaining the sewerage system.

**Overflow:** A flow relief device by which sanitary sewers, intercepting sewers or main sewers can discharge a portion or all of their flow, by gravity, into a receiving body of surface water to alleviate surcharging of intercepting or main sewers.

**Peak Flow:** The maximum volume of effluent expected to enter a treatment system over a given time period. Treatment systems are designed based on an estimate of the rate of peak flow to average flow for different segments of the system.

**Phosphorus Removal:** Excess phosphorus in Lake Michigan can kill off fish life by stimulating the growth of excess algae. A small amount of iron sulfate (pickle liquor) is added to the wastewater. The iron combines chemically with the phosphorus and settles into the sludge that is removed.

**Pickle Liquor (Iron Sulfate):** A chemical waste from local industries that is used to remove phosphorus from wastewater.

**Point Source Pollutants:** Those that enter the water from any discernible, confined, and discrete conveyance such as a sewer pipe, culvert, tunnel, or other channel.

**Pollution Prevention Initiative (P2):** Within the Industrial Waste Pretreatment Program, a point source control system that involves the elimination of hazardous material inputs, improvements to in-production processes, and the “closed looping” of residual streams.

**Porous Pavement:** porous pavement can reduce and infiltrate surface runoff through its permeable surface into a stone or filter media below. Runoff then percolates into the ground, is conveyed offsite as part of a stormwater system, or is collected and contained for future use. Porous pavement can be asphalt, concrete or pavers, but differs from traditional pavement because it excludes fine material and instead provides pore spaces that store and pass water.

**Preliminary Treatment:** The first stage of wastewater treatment that removes debris, sand, grit, and fine particles through use of bar screens, grit changes, and sedimentation tanks.

**Pretreatment:** Any process used by local industries to reduce pollution load before wastewater is introduced into a main sewer system or delivered to a reclamation facility.

**Primary Treatment:** The process following preliminary treatment at the reclamation facilities that allows solids to settle, thicken, and be removed. Primary effluent goes on to secondary treatment. The sludge is removed for processing by anaerobic digestion.

**Pumping Station:** A relatively large sewage pumping installation designed not only to lift sewage to a higher elevation but also to convey it through force mains to gravity flow points located relatively long distances from the pumping station.

**Rain Barrel:** A barrel that collects and stores rainwater from a rooftop to use later for lawn and garden watering.

**Rain Gardens:** Gardens that are watered by collected or pooled stormwater runoff, slowly infiltrating it into the ground along root pathways. They are typically planted with wildflowers and deep-rooted native vegetation, which helps infiltrate rain channeled to them from roofs, driveways, yards and other impervious surfaces.

**Rainwater Harvesting:** Rainwater harvesting encompasses the capture and storage of rainwater. It also includes the ability to reuse stored rainwater for appropriate uses, primarily gardening and lawn watering. Harvesting not only includes the collection systems, but also the rain barrels and cisterns used to store the water.

**Red Circle Rate:** A pay rate that is above the maximum range assigned to the job grade. Employees are usually not eligible for additional pay increases until the range maximums exceed the individual pay rate.

**Relief Sewer:** A sewer added to convey projected flow in excess of the flow that the existing sewer can effectively carry.

**Sanitary Sewers:** Sewers that are designed to carry only domestic or commercial sewage.

**Secondary Treatment:** Biologically removes dissolved solids and pollutants from the water by means of the activated sludge process.

**Separated Sewer:** A sewer system where sanitary sewers carry domestic and commercial sewerage and stormwater is carried in a separate sewer.



**Service Area:** The area served by the District's wastewater treatment system.

**Sewage:** Sewage refers to the wastewater flow from residential, commercial, and industrial establishments, which flows through the pipes to a reclamation facility.

**Sewerage:** Sewerage refers to the system of sewers and physical facilities employed to transport, treat, and discharge sewage.

**Sinking Fund:** A fund used solely for paying debt service on general obligation bonds or notes. General obligation bonds and notes include a pledge of tax levies to be deposited into a debt service sinking fund as provided in Section 67.11 of Wisconsin Statutes. Any interest earned on monies placed in the sinking fund stays within the fund.

**Siphon:** A tube through which a liquid is lifted over an elevation by the pressure of atmosphere and is then emptied at a lower level.

**Sludge:** The accumulated settled solids deposited from sewage or industrial wastes, raw or treated, in tanks and basins, and containing more or less water forming a semi-liquid mass.

**Small Business Enterprise (SBE):** Those businesses that adhere to guidelines of U.S. Small Business Administration that are afforded special opportunities, when feasible.

**Solids:** The particulates contained in, or removed from wastewater (debris, sand and grit, sludge). Also, a synonym for sludge in cases where it can be reused in some beneficial way, i.e., Milorganite®, Agri-Life®.

**Solids Processing:** After secondary treatment, the solids (sludge) are processed prior to being recycled. At Jones Island, the processing involves vacuum filtering (dewatering) and heat drying into Milorganite®. At South Shore, the solids (sludge) are anaerobically digested into Agri-Life®.

**Solids Utilization:** Solids that can be recycled. At Jones Island, solids are converted into Milorganite®; at South Shore into Agri-Life®.

**Southeastern Wisconsin Regional Planning Commission (SEWRPC):** The advisory regional plan commission serving Milwaukee, Ozaukee, Racine, Kenosha, Washington, Walworth, and Waukesha counties. The commission is made up of 21 Commissioners, three from each of the seven counties. SEWRPC is not a state agency. It is responsible for producing the Area-wide Water Quality Management Plan.

**Southeastern Wisconsin Watershed Trust (SWWT):** This is a voluntary, non-taxing partnership of independent government units, special purpose districts, other organizations, and individuals to achieve cooperation and collaboration within Greater Milwaukee Watersheds.

**Storm Sewer:** A conduit that collects and transports rain and snow runoff back to the surface water. In a separate sewerage system, storm sewers are entirely separate from those carrying domestic and commercial wastewater.

**Stormwater Best Management Practices (BMPs):** Any practices that reduce the adverse impacts of stormwater runoff.

**Stormwater Rule:** A region-wide effort to manage future flooding in southeastern Wisconsin that will manage the volume and rate of stormwater runoff from new development and redevelopment so that peak flows in a watershed do not increase downstream flooding.

**Stormwater Trees:** Stormwater trees can hold rainwater on their leaves and branches, infiltrate it into the ground, absorb it through root systems and evapotranspire it to the atmosphere.

**SWOT Analysis:** A strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a plan. It involves specifying the project's objective and identifying the internal and external factors that will help or inhibit achieving that objective.

**Technical Advisory Team (TAT):** A cooperative effort with District staff and members of the 28 communities served by the District. The group also includes representatives of the realtors and builders associations, the Wisconsin Department of Natural Resources, Milwaukee County, and the Southeastern Wisconsin Regional Planning Commission. Provides advisory level input for the development of the 2020 Facilities Plan and other MMSD projects, programs and initiatives.

**Total Suspended Solids (TSS):** Small particles of solids pollutants in sewage that contribute to turbidity and that resist separation by conventional wastewater treatment means.



**2020 Facilities Plan:** A plan that identifies system capital improvements necessary for wastewater, conveyance, treatment, and watercourse management needs through 2020.

**2050 Facilities Plan:** A plan that identifies system capital improvements necessary for wastewater, conveyance, treatment, and watercourse management needs through 2050.

**User Charges:** Fees levied upon residential, commercial, and industrial users of a wastewater treatment system based upon the volume and characteristics of the waste.

**User Class Codes:** Certified Commercial; Non-Certified Industrial; Certified Industrial; Waste Strength Certified Industrial. These codes are used in compiling information for a pretreatment program for the industrial user.

**Waste Activated Sludge (WAS):** Settled, activated sludge that is not returned to the process to “seed” incoming wastewater but is drawn off “wasted.” At Jones Island, WAS is heat dried to produce Milorganite®.

**Waste Load Allocations:** Distribution of total “pollutant load” permitted on a particular water body among the various dischargers to that water body.

**Watercourse System Maintenance Plan:** System-wide plan that will monitor all watercourses within District jurisdiction to: (1) provide coordination on elements of maintenance; (2) establish a single agenda; and (3) promote safe and environmentally secure watercourses. Monitoring will be conducted on a cyclical basis, following a significant flow, and following receipt of a request. Determination will be made if action is required and, if so, who the responsible party is to undertake the action.

**Water Impact Index (WII):** An interactive tool that is used to quantify the impact of both water quality and water quantity.

**Water Pollution Abatement Program (WPAP):** A major program from 1977 to 1996 that repaired and expanded the entire metropolitan area wastewater conveyance and treatment system.

**Watershed:** The contributing land area confined by topographic divides that drain into a lake or river. Also called catchment area, drainage area, or river basin, and expressed in acres or square miles.

**Wetlands:** Areas that have soils that are inundated or saturated for part of the year or for the entire year, and are also known as bogs, marshes, and swamps. Under federal definition, the inundation or saturation of soil in a wetland is at a frequency and duration to sufficiently support a prevalence of vegetation typically adapted for life in saturated soils. Wetlands allow rainwater to pool and slowly infiltrate into the ground, but are also seeps that provide water at the ground surface.

**Wisconsin Pollution Discharge Elimination System (WPDES):** Used by the DNR to regulate sewers and wastewater treatment plants.

**Woman-owned Business Enterprise:** A business that is 51% owned, operated or controlled by women.

**Working Capital:** The capital of an organization that is used in its day-to-day trading operations, calculated as the current assets minus the current liabilities.



# Pay Grades and Compensation

All staff positions are classified by a pay grade in the table below. Pay grade assignments consider the job content and skill set needed for each job classification. The District strives to maintain a skilled and competitive workforce; thus, the District also considers the local market data and pay rates when determining pay grades.

Prior to May 1, 2016, the District had one bargaining unit, AFSCME Local 366. The Wisconsin Employment Relations Commission (WERC) made permanent the rule requiring unions to annually recertify their status as the representative for general municipal employees. In 2016, Local 366 members voted not to request a vote for recertification. Effective May 1, 2016, MMSD employees represented by ASFCME Local 366 became non-represented employees.

In 2017, the Commission approved a single compensation plan that covers all classifications of positions at the District, with pay grades ranging from pay grade 4 to pay grade 21. As recommended by the District's compensation consultant, Carlson Dettmann, the 2021 Operations & Maintenance Budget applies a structural adjustment as of 1/1/21 of 1.5 percent and a 1.5 percent merit based on satisfactory or above performance.

## 2021 Pay Grades 4-21

Pay Grade	Minimum	Midpoint	Maximum
21	\$204,575.94	\$240,728.51	\$288,895.86
20	\$169,181.05	\$199,055.63	\$238,888.41
19	\$148,074.01	\$174,160.15	\$209,013.83
18	\$135,518.03	\$159,439.34	\$191,370.51
17	\$124,044.46	\$145,909.19	\$175,134.32
16	\$113,653.30	\$133,677.93	\$160,413.51
15	\$104,019.83	\$122,420.84	\$146,883.36
14	\$95,360.53	\$112,246.16	\$134,652.10
13	\$87,567.16	\$103,045.66	\$123,611.49
12	\$80,531.48	\$94,711.08	\$113,653.30
11	\$74,037.01	\$87,134.20	\$104,561.03
10	\$68,191.98	\$80,206.76	\$96,226.46
9	\$62,779.92	\$73,820.52	\$88,541.33
8	\$57,909.06	\$68,083.74	\$81,722.13
7	\$53,471.17	\$62,888.16	\$75,444.14
6	\$42,971.77	\$50,548.66	\$60,615.09
5	\$37,343.23	\$43,945.94	\$52,713.48
4	\$32,472.37	\$38,209.16	\$45,894.28



**PARTNERS FOR A CLEANER ENVIRONMENT**

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# Budget Policies

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## Annual Budget

**Fiscal Year:** The fiscal year of the Milwaukee Metropolitan Sewerage District begins on January 1 of each year and ends on December 31 of that year. The fiscal year is both the accounting and the budget year.

**Enterprise Fund:** The District prepares its financial statements on an enterprise fund basis. Generally Accepted Accounting Principles (GAAP) require state and local governments to use the enterprise fund to account for “business-type activities” – activities similar to those found in the private sector. Business-type activities include services primarily funded through user charges. The National Council of General Accounting Standards (NCGAS) defines the purpose of enterprise funds as: “...to account for operations (a) that are financed and operated in a manner similar to private business enterprises —where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges; or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes.”

Within the Enterprise Fund, District expenditures are funded within two adopted budgets: an Operations & Maintenance Budget and a Capital Budget. The O&M Budget and the Capital Budget are funded differently.

**Balanced Budget:** It is required that the Milwaukee Metropolitan Sewerage District annually adopt a balanced budget in which District revenues and other sources of funds equal District expenditures and other uses in both the operating and capital budgets for the fiscal year. The District achieves this for the Operations & Maintenance Budget by offsetting total division expenditures and all other operating expenditures with funds from user charge billings, the User Charge Stabilization Fund, budget surpluses applied, and any other operating income. The District’s Capital Budget achieves this by offsetting total project expenditures and net debt service with tax levy income, non-member billings, use of available funds on hand, and all other capital income.

## Budget Adoption

The Executive Director, with approval of the Policy, Finance, and Personnel Committee, shall establish a calendar for public hearings and the Commission’s review of the proposed budget. A summary of the proposed budget is made available for public inspection at least 15 days prior to the public hearing. (Commission Policy 1-15.01)

**Operations & Maintenance Budget:** The Executive Director shall present annually a recommended detailed budget of operating and maintenance expenditures and estimated revenue for the ensuing calendar year. These recommendations will be presented to the Policy, Finance, and Personnel Committee which will review and make recommendations to the Commission for adoption. Commission action is required to authorize the adoption of the annual Operations & Maintenance Budget (majority vote) (Commission Policy 1-15.01).

**Capital Budget** The Executive Director shall annually submit to the Commission the following:

- A. **Total Project Costs** – A list of all projects new to the current budget year with the estimated costs to complete each project, as well as a list of all existing projects that have changes in previously granted total project cost. Commission action on the Total Project Costs is the policy setting mechanism, not an authorization to expend funds.
- B. **Capital Budget** – The annual financing plan for the current year’s anticipated capital account expenditures. Commission action on the Capital Budget sets the level of taxing and other sources of funds for the current year’s capital expenditures and authorizes staff to expend funds for the current year.
- C. **Long-Range Financing Plan** – The six-year plan identifies anticipated sources of funds for anticipated capital expenditures in each year of the six-year plan. It will also include a summary of actual revenues and expenditures for the preceding calendar year and an estimate of revenues and expenditures based on the first six months (or most current actual data) for the current calendar year. Commission action on the Capital Financing Plan approves the financial plan for out-years capital financing and capital expenditures for the planning purposes only; it does not set the level of taxing and other sources of funds or capital expenditures in subsequent years. (Commission Policy 1-15.02)

Commission action is required to authorize the adoption of the annual Capital Budget (majority vote). (Commission Policy 1-15.02)

The Commission has the authority to amend both the Executive Director's Operations & Maintenance and Capital Budgets at adoption. (Commission Policy 1-15.09)

## Budget Amendments

**New Projects:** Commission action is required to authorize the addition of a new project not authorized in the adopted annual Capital Budget. The resolution presented to the Commission for approval must describe the project, identify the estimated amounts to be spent in the current year and over the life of the project, and identify the amounts to be transferred from other project(s) or from working capital to fund the new project. If funds are transferred between projects within the same project group (capital account) without increasing total authorized spending in that account, then a simple majority vote is required. If funds are transferred between project groups (capital accounts), or from working capital, then a two-thirds vote is required in accordance with state law. (Commission Policy 1-15.02)

**Carryovers:** Carryover of unexpended funds authorized in the Operations & Maintenance Budget to the next fiscal year is permitted with the approval of the Commission as an amendment to the Budget. The Executive Director shall present annually in March a list of funds budgeted in the previous fiscal year recommended for a carryover to the next fiscal year. The list shall include the following information: cost center, account, dollar amount recommended for carryover, purpose of expenditure, summary explanation of reason(s) funds remain unexpended, and summary of continuing need for goods or services to be procured. Operations & Maintenance funds may not be carried over more than one fiscal year. (Commission Policy 1-15.04)

## Budget Transfers

The Office of Management & Budget will maintain both the Operations & Maintenance and Capital Budgets by monitoring expenditure levels and evaluating requests for all budget transfers to ensure compliance with Commission policies.

**Operations & Maintenance Budget:** The Executive Director shall ensure that the annual expenditures of each of the operating divisions do not exceed the total funds budgeted for that division. When it is apparent that the total division budget for any of the divisions will be exceeded, a request for a fund transfer shall be brought to the Commission prior to an overrun. The total division budget for a division includes all monies budgeted for all cost centers within that division. Budget overruns in one division may not be used to offset overruns in another division without approval of the Commission. (Commission Policy 1-15.01)

**Capital Budget:** Commission action (two-thirds vote) is required to authorize the approval of amendments increasing the total authorized annual spending in the Capital Budget. (Commission Policy 1-15.02)

Within the limits of authority delegated by this or other Commission policy or action, the Executive Director may, without further Commission approval during the budget year, execute contract amendments and adjust project allocations within a single capital account to fund such amendments and to respond to actual project cash flows, provided that total spending in the affected capital account, as approved by the Commission, is not exceeded. (Commission Policy 1-15.02).

## Budget Reserves

**Operating Reserves:** Operating reserves are funds that have been segregated to meet legal requirements and/or have been segregated at the discretion of the Commission and are available only to the Operations & Maintenance Budget. (Commission Policy 1-15.08)

**Equipment Replacement Fund:** In accordance with the Wisconsin Administrative Code section NR-128.03 (18), the District is required to maintain an Equipment Replacement Fund (ERF) that will be funded specifically from user charges. User charges collected for the ERF are required to be maintained in a separate and distinct fund. The ERF will be used to fund replacement equipment and maintained at a level no less than five percent of the historical cost of all equipment with a cost greater than \$25,000 and a service life greater than 10 years and up to 20 years.

**User Charge Stabilization Fund:** The User Charge Stabilization Fund (UCSF) was created after 1998, by the Commission to reserve some of the savings realized from the operation and maintenance contract with the first operating contract with the former provider United Water Services, for distribution to customers of the District in future years. The UCSF is maintained as a separate and distinct fund, and, within the fund, the balance is classified by the District's four user charge billing parameters. Interest earned on the savings is to remain in the fund. In accordance with the District's objective of



maintaining stable user charge billings, the UCSF will be maintained at a level no less than 2.5 percent of the current year's revenues (refer to policy 1-15-08). Contributions to and withdrawals from the fund may be made by Commission action through the annual budget process.

**Capital Reserves:** Capital Reserves are funds that have been segregated to meet legal requirements and/or have been segregated at the discretion of the Commission and are available only to the Capital Budget. (Commission Policy 1-15.08)

**Debt Service Funds:** In accordance with section 67.11(1) of the Wisconsin Statutes, the District is required to establish and maintain a debt service fund for the payment of principal and interest on bonds and notes used in financing its capital improvement program. The District maintains a separate account for each of its own outstanding debt issues and one account for debt obtained through the State of Wisconsin Clean Water Fund Loan Program.

Annually, the District will levy an irrepealably tax sufficient to pay the principal and interest on the debt as it comes due in the following year. Taxes collected from this levy are placed into the debt service fund account and used to pay the annual debt service. Earnings from the investments in the debt service fund accounts remain until used as part of the debt service fund accounts.

Money shall not be withdrawn from a debt service fund and used for any purpose other than the purpose for which the fund was created until that purpose has been accomplished. After all the outstanding debt has been paid and retired, any balance in any debt service fund account may be transferred out and used as directed by the Commission. (Commission Policy 1-15.08)

### Working Capital

The District needs unreserved cash balances as working capital to pay routine and non-routine operating and capital expenses. Annually as part of the determination of user charge billings and capital funding, the District will assess and budget as necessary any adjustments to the specific working capital levels, considering fund balances, investments, and cash flow requirements.

**Operating:** The District shall attempt to maintain a working capital balance between 60 to 90 days of expenditures with a target of 75 days. (Commission Policy 1-15.08)

**Capital:** The District shall attempt to maintain a working capital balance between 90 to 150 days of expenditures with a target of at least 90 days. (Commission Policy 1-15.08)

### Contingency Accounts

Contingency accounts in both the Operations & Maintenance and Capital Budgets are used to ensure that adequate funds are available for unforeseen circumstances.

**Operating:** The District shall annually fund an Unallocated Reserve. Recommended changes regarding contingency accounts allow funding at a level within a range between 2.0 percent and 3.5 percent of net division expenditures. (Commission Policy 1-15.08)

**Capital:** To ensure that there are adequate funds for cost and schedule changes, unforeseen projects, and other unexpected circumstances, the Capital Budget shall fund an Allowance for Cost and Schedule Changes maintained within a range between 2.0 percent and 5.0 percent of the current year's total budgeted project expenditures.

### One-Time Revenues

One-time revenues are those funds that cannot be relied upon to fund the continuing operations or capital expenditures of the District. They may be used to fund non-continuing expenses, such as litigation, the study of new cost-saving initiatives, to fund reserves, or the achievement of targeted working capital balance. (Commission Policy 1-15.08)

### Debt

**Limitations:** Per Commission Policy 1-73.18, the District intends to keep outstanding general obligation debt within 50 percent (2.5 percent) of the limit prescribed by law (5 percent) and at levels consistent with its credit objectives and long-range financing plan goal of 25 percent cash financing. Annual debt service requirements anticipated in the long-range plan are funded from the tax levy and other revenues, including available funds on hand.

**Types:** The District has authority under Section 200.55 of the Wisconsin Statutes to finance capital improvements through the issuance of debt instruments, including:

- General obligation bonds and promissory notes;
- Bond anticipation notes; and
- Revenue obligation bonds and notes

Even though the District also has authority to issue revenue obligations, the District shall issue general obligation bonds and notes to finance the capital improvements program, unless staff can demonstrate to the Commission that other, statutorily authorized debt instruments provide the District with a financial advantage.

**Maturity of Debt:** Staff shall utilize the following considerations in structuring debt maturities:

- long-range financing objectives;
- the useful life of the project assets to be financed; and
- a fair allocation of project costs to current and future customers benefiting from the project.

**Fixed and Variable Rate Debt:** The District intends to issue debt on a fixed-rate basis. Staff, however, may propose that the District issue securities that pay a variable rate of interest determined in accordance with a pre-determined formula or that results from a periodic remarketing of the securities, consistent with State law and covenants of pre-existing bonds, and depending on market conditions. The District will have no more than 15 percent of its outstanding general obligation bonds in variable-rate form.

**Credit Objectives:** The District will seek to maintain or improve its current credit rating with Moody's Investors Service (Aa1), Standard & Poor's (AA+), and Fitch Investors Service (AAA). The District will strive to maintain good relations with the rating agencies, routinely communicating with the rating agencies and keeping them informed of significant developments that could affect the District's credit rating.

In order to achieve its credit rating objective, the District recognizes the need to integrate debt policy with its six-year capital improvements program and long-range financing plan. The District will also consider the debt issuance plans of other governmental units located within the District's boundary as provided in Section 200.55 (7) of the Wisconsin Statutes.

The following objectives for the District's capital improvement program and financing plan will be used to maintain debt service requirements at affordable levels and enhance the credit quality of the District:

- An average of at least 25 percent of project expenditures shall be cash financed over the six-year financing plan.
- Changes to the annual tax levy throughout the long-range plan shall be limited to amounts that are necessary, affordable, and allow for tax levy stability into the future.
- Responsible drawdown of accumulated reserve funds in a manner that does not cause destabilizing annual fluctuations in the tax levy.
- Flexibility to fund future expenditures necessary to fulfill the District's responsibilities.

**Approval of Sale:** Commission approval of the debt sale shall comply with the affirmative vote requirements of Section 200.27 (2) of the Wisconsin Statutes and Commission Policy 1-15.02, "Capital Budget."

**Selection of Outside Financial Consultants:** The Controller shall be responsible for establishing a solicitation and selection process for securing outside professional services necessary to develop and implement the District's debt program. Selection of outside financial advisors, bond counsel, and underwriters and other service providers will comply with District procurement policies and state law. Section 200.57 (2) of the Wisconsin Statutes requires the Commission to attempt to ensure that 5 percent of the total funds expended for financial advisory services and investment analysis shall be expended for the services of minority financial advisors.

**Refundings:** Periodic reviews of outstanding debt will be undertaken to determine refunding opportunities. Refunding will be considered (within federal tax law constraints) if and when there is a net economic benefit of the refunding or the refunding is essential in order to update covenants essential to operations and management.

In general, advance refundings for economic savings will be considered when net present value (NPV) savings of at least 2 percent of the refunded debt can be achieved. Current refundings that produce NPV savings of less than 2 percent will be considered on a case-by-case basis. Advance refundings with less than 2 percent savings may be considered when the Commission determines that there is a compelling public policy or long-range financing policy objective.



**PARTNERS FOR A CLEANER ENVIRONMENT**

		Prior	2020 Estimate	2021 Budget
<b>Water Reclamation Facilities</b>		<b>\$89,433,102</b>	<b>\$64,555,111</b>	<b>\$43,850,369</b>
<b>Jones Island</b>		<b>\$53,731,428</b>	<b>\$39,355,918</b>	<b>\$22,037,964</b>
<b>Primary Treatment</b>		<b>\$11,473,300</b>	<b>\$14,755,205</b>	<b>\$2,533,288</b>
J01013	Preliminary Facility Electrical Upgrade	\$139,656	\$469,002	\$314,805
J01019	JI Force Main Assessment	\$168,347	\$323,040	\$245,508
J01021	Grit Basin Equipment Replacement	\$400,481	\$2,093,735	\$275,052
J01024	Harbor Siphon Structures & Adjacent Asset Modifications	\$9,744,487	\$9,773,584	\$34,929
J01025	High & Low Level Screw Pump Replacement	\$152,912	\$1,514,461	\$1,313,855
J01026	Primary Clarifier 2 & 8 Withdrawal Piping Replacement	\$864,712	\$335,288	\$0
J01027	Primary Clarification, Sludge and Scum Pumping	\$0	\$116,217	\$189,669
J01028	Primary Clarifier Drive Improvements	\$2,705	\$129,878	\$159,469
<b>Secondary Treatment</b>		<b>\$1,783,112</b>	<b>\$428,763</b>	<b>\$284,652</b>
J02012	Aeration System Diffusers Replacement	\$50,049	\$77,039	\$94,095
J02013	East Plant RAS Header and Pump Replacement	\$1,730,490	\$174,246	\$0
J02015	Aeration Basin Concrete Rehabilitation	\$2,574	\$177,478	\$190,557
<b>Solids Processing</b>		<b>\$14,160,295</b>	<b>\$10,705,496</b>	<b>\$12,457,739</b>
J04035	Greens Grade Train Replacement and Redundant Train Evaluation	\$839,114	\$1,394,632	\$2,340,329
J04037	Thickened Sludge Improvements	\$238,259	\$446,599	\$133,723
J04038	D&D Dryers Guillotine Gate Replacement	\$121,459	\$266,076	\$1,462,317
J04046	D&D ID Fan Energy Conservation	\$1,040,362	\$412,997	\$4,767
J04050	Dryer Feed and Discharge Screw Replacement	\$4,618,769	\$582,890	\$87,685
J04052	Milorganite Facilities Improvements Phase IV	\$4,646,676	\$1,011,072	\$366,209
J04057	Dryer Exhaust Duct Header Replacement	\$18,617	\$217,845	\$0
J04060	Sludge Cake Transport & Feed Conveyors Replacement	\$532,150	\$1,013,764	\$885,152
J04061	D&D PLC 5 Upgrades	\$403,266	\$676,165	\$829,686
J04064	Chaff System Improvements	\$48,561	\$184,647	\$218,901
J04065	D&D First Stage Classification Equipment Replacement	\$582,620	\$1,993,203	\$3,667,123
J04066	Milorganite Dust Suppressant System Upgrades	\$100,475	\$491,340	\$386,031
J04067	D&D South Cake Loadout System	\$111,053	\$624,262	\$92,895
J04068	E/B Tank Odor Removal	\$611,519	\$261,033	\$4,263
J04070	Milorganite Facilities Improvements Phase V	\$236,569	\$265,402	\$123,542
J04072	Milo Transport and Silo Storage Equipment Replacement	\$2,734	\$211,669	\$523,589
J04073	D&D Dust Collection System	\$0	\$270,567	\$227,433
J04074	Milorganite Packaging Facility	\$8,094	\$350,542	\$767,608
J04075	Dewatering & Drying Belt Filter Press Overhauls at JI WRF	\$0	\$30,790	\$336,486
<b>General Jones Island</b>		<b>\$26,314,720</b>	<b>\$13,466,454</b>	<b>\$6,762,285</b>
J06032	JI Geotechnical Structural Analysis	\$556,865	\$163	\$0
J06050	JI I&C Improvements	\$1,669,168	\$65,239	\$0
J06054	ISS Crane Rehabilitation	\$1,550,674	\$40,618	\$0
J06056	Turbine Extended Service Agreement	\$7,829,501	\$1,326,784	\$1,379,855
J06061	Dryer Conversion for Additional LFG	\$2,596,124	\$4,084,308	\$1,021,278
J06064	Gaseous Fire Suppression Systems	\$852,244	\$77,801	\$0
J06065	Rolling Stock & Other Equipment	\$7,075,695	\$394,226	\$0
J06066	Power System Improvements	\$601,367	\$377,021	\$983,502
J06068	JI & SS Network Optimizations	\$545,015	\$276,691	\$0
J06069	JI Building Roof Replacement - Phase 3	\$379,103	\$2,509,166	\$64,745
J06073	Harbor Siphons Area Settlement Mitigation	\$52,885	\$14,585	\$18,794
J06075	2018 JI Capital Equipment Rehabilitation/Replacement	\$2,067,996	\$3,525,305	\$2,366,601
J06076	Turbine Waste Heat Expansion Joint 12 & 13 Replacement	\$538,083	\$123,467	\$45,450
J06078	JI WRF Odor Assessment	\$0	\$408,776	\$141,224
J06081	JI WRF Phase 1 MCC Replacements	\$0	\$98,046	\$251,509
J06082	Flood Resiliency Improvements	\$0	\$57,264	\$46,571
J06083	HVAC System Improvements - Bldgs 234, 235, 243, & 256	\$0	\$10,847	\$132,093
J06084	W3 &W4 System Modifications	\$0	\$4,370	\$44,318
J06085	Administrative/Maintenance Space Planning Analysis	\$0	\$0	\$80,696
J06086	Building Roof Replacement Phase 4	\$0	\$0	\$0
J06087	2025-2029 JI Capital Equipment Replacement	\$0	\$0	\$0
J06089	Flow Meter Replacement	\$0	\$21,776	\$135,650
J99003	Operator Contribution to CIP	\$0	\$50,000	\$50,000

2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Future Forecast	Total	Project Number
\$47,225,919	\$48,857,343	\$53,016,240	\$62,043,751	\$62,313,050	\$24,549,705	\$369,030,506	
\$29,326,682	\$30,387,532	\$25,107,598	\$34,302,502	\$31,173,013	\$15,295,043	\$227,963,567	
\$6,896,013	\$557,492	\$16,959	\$0	\$0	\$0	\$36,232,256	
\$6,035,935	\$146,904	\$709	\$0	\$0	\$0	\$7,107,010	J01013
\$166	\$0	\$0	\$0	\$0	\$0	\$737,061	J01019
\$8,731	\$0	\$0	\$0	\$0	\$0	\$2,778,000	J01021
\$0	\$0	\$0	\$0	\$0	\$0	\$19,553,000	J01024
\$347	\$0	\$0	\$0	\$0	\$0	\$2,981,575	J01025
\$0	\$0	\$0	\$0	\$0	\$0	\$1,200,000	J01026
\$224	\$0	\$0	\$0	\$0	\$0	\$306,110	J01027
\$850,610	\$410,588	\$16,249	\$0	\$0	\$0	\$1,569,500	J01028
\$1,940,072	\$2,610,392	\$191,651	\$544,381	\$1,651	\$0	\$7,784,675	
\$136,213	\$269,744	\$155,767	\$544,381	\$1,651	\$0	\$1,328,939	J02012
\$0	\$0	\$0	\$0	\$0	\$0	\$1,904,736	J02013
\$1,803,859	\$2,340,648	\$35,884	\$0	\$0	\$0	\$4,551,000	J02015
\$12,396,442	\$17,709,402	\$10,016,515	\$4,109,240	\$13,465,120	\$5,333,226	\$100,353,477	
\$783,055	\$30,871	\$0	\$0	\$0	\$0	\$5,388,001	J04035
\$65,327	\$1,259,477	\$774,616	\$0	\$0	\$0	\$2,918,000	J04037
\$2,669,126	\$7,376	\$0	\$0	\$0	\$0	\$4,526,354	J04038
\$0	\$0	\$0	\$0	\$0	\$0	\$1,458,126	J04046
\$1,499	\$0	\$0	\$0	\$0	\$0	\$5,290,843	J04050
\$0	\$0	\$0	\$0	\$0	\$0	\$6,023,957	J04052
\$3,755	\$43,603	\$43,603	\$13,444	\$0	\$3,794,296	\$4,135,162	J04057
\$1,958,193	\$14,741	\$0	\$0	\$0	\$0	\$4,404,000	J04060
\$2,307,875	\$2,015,181	\$1,655,866	\$10,000	\$0	\$0	\$7,898,039	J04061
\$384,428	\$2,221,622	\$7,121,239	\$4,085,796	\$4,050	\$0	\$14,269,244	J04064
\$1,106,794	\$0	\$0	\$0	\$0	\$0	\$7,349,740	J04065
\$13,154	\$0	\$0	\$0	\$0	\$0	\$991,000	J04066
\$0	\$0	\$0	\$0	\$0	\$0	\$828,209	J04067
\$1,086	\$0	\$0	\$0	\$0	\$0	\$877,901	J04068
\$634,666	\$338,821	\$0	\$0	\$0	\$0	\$1,599,000	J04070
\$613,068	\$4,247,709	\$56,631	\$0	\$0	\$0	\$5,655,400	J04072
\$0	\$0	\$0	\$0	\$0	\$0	\$498,000	J04073
\$665,241	\$6,670,389	\$363,126	\$0	\$13,461,070	\$1,538,930	\$23,825,000	J04074
\$1,189,177	\$859,612	\$1,435	\$0	\$0	\$0	\$2,417,500	J04075
\$7,519,121	\$8,330,261	\$7,434,324	\$2,036,588	\$1,767,588	\$9,961,816	\$83,593,159	
\$0	\$0	\$0	\$0	\$0	\$938,605	\$1,495,634	J06032
\$0	\$0	\$0	\$0	\$0	\$0	\$1,734,407	J06050
\$0	\$0	\$0	\$0	\$0	\$0	\$1,591,292	J06054
\$1,435,049	\$1,492,451	\$1,197,692	\$0	\$0	\$0	\$14,661,332	J06056
\$31,328	\$0	\$0	\$0	\$0	\$0	\$7,733,038	J06061
\$0	\$0	\$0	\$0	\$0	\$0	\$930,045	J06064
\$0	\$0	\$0	\$0	\$0	\$0	\$7,469,921	J06065
\$57,380	\$4,360	\$0	\$0	\$0	\$0	\$2,023,630	J06066
\$0	\$0	\$0	\$0	\$0	\$0	\$821,706	J06068
\$0	\$0	\$0	\$0	\$0	\$0	\$2,953,014	J06069
\$18,645	\$18,631	\$18,657	\$13,653	\$5,755	\$0	\$161,605	J06073
\$2,500,000	\$2,500,000	\$2,668,243	\$0	\$0	\$0	\$15,628,145	J06075
\$0	\$0	\$0	\$0	\$0	\$0	\$707,000	J06076
\$0	\$0	\$0	\$0	\$0	\$0	\$550,000	J06078
\$286,676	\$1,080,896	\$3,357,164	\$0	\$0	\$0	\$5,074,290	J06081
\$191,625	\$1,162,811	\$41,729	\$0	\$0	\$0	\$1,500,000	J06082
\$173,318	\$1,516,842	\$13,900	\$0	\$0	\$0	\$1,847,000	J06083
\$318,628	\$89,284	\$0	\$0	\$0	\$0	\$456,600	J06084
\$264,900	\$403,524	\$880	\$0	\$0	\$0	\$750,000	J06085
\$0	\$11,462	\$86,059	\$240,262	\$17,717	\$0	\$355,500	J06086
\$0	\$0	\$0	\$1,732,673	\$1,744,116	\$9,023,211	\$12,500,000	J06087
\$2,191,573	\$0	\$0	\$0	\$0	\$0	\$2,349,000	J06089
\$50,000	\$50,000	\$50,000	\$50,000	\$0	\$0	\$300,000	J99003

		Prior	2020 Estimate	2021 Budget
<b>South Shore</b>		<b>\$27,740,034</b>	<b>\$15,943,661</b>	<b>\$12,753,628</b>
<b>Primary Treatment</b>		<b>\$392,418</b>	<b>\$507,449</b>	<b>\$852,683</b>
S01009	Scum System Improvements	\$382,908	\$358,184	\$0
S01013	Primary Clarifier Rehabilitation	\$9,510	\$46,946	\$402,958
S01015	Grit Equipment Replacement	\$0	\$102,319	\$449,725
<b>Secondary Treatment</b>		<b>\$5,763,411</b>	<b>\$2,895,565</b>	<b>\$1,959,851</b>
S02008	SS Capacity Improvements	\$2,702,033	\$809,276	\$47,414
S02012	Biological Phosphorous Removal	\$324,624	\$0	\$0
S02013	Aeration Galleries RAS Header Piping Rehab	\$2,713,406	\$1,626,529	\$1,189,395
S02014	Secondary Clarifier Idling Control	\$23,348	\$16	\$0
S02015	Aeration Basin Diffuser Replacement	\$0	\$362,000	\$570,786
S02017	Process Air Header Improvements	\$0	\$97,744	\$152,256
<b>Advanced Treatment</b>		<b>\$1,025,921</b>	<b>\$717,056</b>	<b>\$1,117,260</b>
S03003	Post-Secondary Capacity Improvements	\$1,025,623	\$641,198	\$978,317
S03004	Effluent Pump MCC and VFD Upgrade	\$298	\$75,858	\$138,943
<b>Solids Processing</b>		<b>\$5,474,475</b>	<b>\$2,585,190</b>	<b>\$3,601,557</b>
S04010	Thickening Process Capacity Enhancements	\$149,204	(\$177)	\$0
S04012	Plate and Frame Press Upgrade	\$58,450	\$549,107	\$173,945
S04029	Digester Mixing II	\$0	\$0	\$0
S04030	Aeration Basin Concrete Rehab - Phase III	\$240,995	\$1,283,484	\$1,059,617
S04031	Digester Gas Treatment System	\$4,927,284	\$72,596	\$214
S04033	Aeration Basin Concrete Rehab - Phase IV	\$0	\$0	\$14,792
S04034	High Strength Waste Mixing Improvements	\$0	\$0	\$11,107
S04035	Digester 6 & 8 Mixer Replacement	\$97,141	\$520,308	\$1,767,997
S04036	Bldg. 383 HVAC Replacement	\$1,402	\$159,873	\$573,886
<b>General South Shore</b>		<b>\$15,083,809</b>	<b>\$9,238,401</b>	<b>\$5,222,277</b>
S06019	Replace W3 Flushing Water Pumps	\$1,317,301	\$26,651	\$26,265
S06022	Building 326 Site Improvements	\$561,769	\$24,719	\$408
S06027	Tunnels Concrete Rehabilitation	\$2,597,027	\$947,215	\$426,226
S06028	Central Control Building H2S Removal System	\$1,380,143	\$45,283	\$100
S06029	Med Voltage Switchgear Replacement	\$3,687,672	\$318,625	\$0
S06033	Upgrade Medium & Low Voltage MCC's	\$3,243,045	\$155,552	\$0
S06034	Building Roof Replacement Phase III	\$224,901	\$2,019,166	\$45,222
S06036	Gas Compressor 5 DG Enhancements	\$146,529	\$21,772	\$0
S06038	2018 SS Capital Equipment Rehabilitation/Replacement	\$1,426,163	\$4,473,393	\$4,600,757
S06039	Building Roof Replacement Phase IV	\$168,035	\$929,647	\$67,818
S06040	SS Network Optimization	\$252,567	\$191,245	\$0
S06043	SS Buffer Zone	\$78,657	\$35,132	\$0
S06047	Protective Relay Synchronization	\$0	\$1	\$5,481
S06048	Building Roof Replacment Phase 5	\$0	\$0	\$0
S06049	2025-2029 SS Capital Equipment Replacement	\$0	\$0	\$0
S99003	Operator Contribution to CIP	\$0	\$50,000	\$50,000
<b>Interplant Pipeline</b>		<b>\$7,961,640</b>	<b>\$9,255,532</b>	<b>\$9,058,777</b>
<b>Interplant Pipeline</b>		<b>\$7,312,993</b>	<b>\$7,785,348</b>	<b>\$8,424,364</b>
P01005	Interplant Pipeline Improvements - Phase II	\$7,172,984	\$7,448,163	\$4,757,844
P01006	Replace IPS Pipes within South Shore WRF Property	\$140,009	\$337,185	\$3,666,520
<b>Energy Pipeline</b>		<b>\$648,647</b>	<b>\$1,470,184</b>	<b>\$634,413</b>
P02003	LFG Pipeline Pigging Station	\$456,414	\$1,463,303	\$621,055
P02004	Landfill Gas System - Metro Landfill	\$192,233	\$6,881	\$13,358
<b>General Reclamation Facility Projects</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Allowance for Plant Rehabilitation</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
J99001	Allowance for Plant Rehabilitation	\$0	\$0	\$0
J99004	Allowance for D&D Rehabilitation	\$0	\$0	\$0
S99001	Allowance for Plant Rehabilitation	\$0	\$0	\$0
<b>Inflation</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
J99005	Inflation	\$0	\$0	\$0
S99004	Inflation	\$0	\$0	\$0
P99002	Inflation	\$0	\$0	\$0



2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Future Forecast	Total	Project Number
<b>\$9,424,489</b>	<b>\$15,224,434</b>	<b>\$27,268,384</b>	<b>\$27,726,790</b>	<b>\$31,125,289</b>	<b>\$9,254,663</b>	<b>\$141,066,939</b>	
<b>\$1,074,580</b>	<b>\$3,250,913</b>	<b>\$6,606,440</b>	<b>\$4,294,991</b>	<b>\$3,142,010</b>	<b>\$1,468,954</b>	<b>\$21,590,437</b>	
\$0	\$0	\$0	\$0	\$0	\$0	\$741,092	S01009
\$954,411	\$3,104,830	\$3,129,528	\$3,129,528	\$3,117,109	\$1,466,525	\$15,361,345	S01013
\$120,169	\$146,083	\$3,476,912	\$1,165,463	\$24,901	\$2,429	\$5,488,000	S01015
<b>\$3,153,088</b>	<b>\$7,748,923</b>	<b>\$7,289,299</b>	<b>\$5,955,657</b>	<b>\$5,922,061</b>	<b>\$219,274</b>	<b>\$40,907,129</b>	
\$1,419,373	\$1,462,213	\$979,917	\$18,775	\$0	\$0	\$7,439,001	S02008
\$0	\$0	\$0	\$0	\$0	\$0	\$324,624	S02012
\$1,190,019	\$692,828	\$2,327	\$0	\$0	\$0	\$7,414,504	S02013
\$14,457	\$108,365	\$384,994	\$14,820	\$0	\$0	\$546,000	S02014
\$529,239	\$5,485,517	\$5,922,061	\$5,922,061	\$5,922,061	\$219,274	\$24,933,000	S02015
\$0	\$0	\$0	\$0	\$0	\$0	\$250,000	S02017
<b>\$928,291</b>	<b>\$1,472</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,790,000</b>	
\$44,292	\$570	\$0	\$0	\$0	\$0	\$2,690,000	S03003
\$883,999	\$902	\$0	\$0	\$0	\$0	\$1,100,000	S03004
<b>\$1,286,238</b>	<b>\$884,161</b>	<b>\$3,789,538</b>	<b>\$1,315,514</b>	<b>\$3,525,310</b>	<b>\$8,384</b>	<b>\$22,470,368</b>	
\$165,706	\$437,149	\$1,374,969	\$484,149	\$0	\$0	\$2,611,000	S04010
\$7,804	\$1,549	\$0	\$0	\$0	\$0	\$790,855	S04012
\$0	\$203,587	\$159,340	\$722,379	\$3,525,310	\$8,384	\$4,619,000	S04029
\$4,557	\$0	\$0	\$0	\$0	\$0	\$2,588,653	S04030
\$0	\$0	\$0	\$0	\$0	\$0	\$5,000,094	S04031
\$215,093	\$161,001	\$2,037,919	\$94,196	\$0	\$0	\$2,523,000	S04033
\$48,474	\$64,339	\$217,309	\$14,790	\$0	\$0	\$356,019	S04034
\$844,604	\$16,537	\$0	\$0	\$0	\$0	\$3,246,587	S04035
\$0	\$0	\$0	\$0	\$0	\$0	\$735,160	S04036
<b>\$2,982,292</b>	<b>\$3,338,965</b>	<b>\$9,583,107</b>	<b>\$16,160,628</b>	<b>\$18,535,907</b>	<b>\$7,558,051</b>	<b>\$52,309,005</b>	
\$0	\$0	\$0	\$0	\$0	\$0	\$1,370,217	S06019
\$0	\$0	\$0	\$0	\$0	\$0	\$586,896	S06022
\$19,048	\$1,830	\$1,845	\$1,845	\$1,838	\$27,051	\$4,023,925	S06027
\$0	\$0	\$0	\$0	\$0	\$0	\$1,425,526	S06028
\$0	\$0	\$0	\$0	\$0	\$0	\$4,006,297	S06029
\$0	\$0	\$0	\$0	\$0	\$0	\$3,398,597	S06033
\$0	\$0	\$0	\$0	\$0	\$0	\$2,289,289	S06034
\$0	\$0	\$0	\$0	\$0	\$0	\$168,301	S06036
\$2,500,000	\$2,500,000	\$2,668,243	\$0	\$0	\$31,000	\$18,199,556	S06038
\$0	\$0	\$0	\$0	\$0	\$0	\$1,165,500	S06039
\$0	\$0	\$0	\$0	\$0	\$0	\$443,812	S06040
\$0	\$0	\$0	\$0	\$0	\$0	\$113,789	S06043
\$228,450	\$174,277	\$2,092	(\$0)	\$0	\$0	\$410,300	S06047
\$0	\$21,675	\$288,150	\$1,547,261	\$99,913	\$0	\$1,957,000	S06048
\$0	\$0	\$0	\$2,500,000	\$2,500,000	\$7,500,000	\$12,500,000	S06049
\$50,000	\$50,000	\$50,000	\$0	\$0	\$0	\$250,000	S99003
<b>\$8,474,749</b>	<b>\$3,245,376</b>	<b>\$640,259</b>	<b>\$14,459</b>	<b>\$14,748</b>	<b>\$12,791,738</b>	<b>\$51,457,279</b>	
<b>\$8,295,219</b>	<b>\$3,105,997</b>	<b>\$589,972</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$35,513,893</b>	
\$5,669,051	\$3,072,279	\$589,972	\$0	\$0	\$0	\$28,710,293	P01005
\$2,626,168	\$33,718	\$0	\$0	\$0	\$0	\$6,803,600	P01006
<b>\$13,358</b>	<b>\$13,358</b>	<b>\$13,358</b>	<b>\$13,358</b>	<b>\$13,358</b>	<b>\$12,791,738</b>	<b>\$15,611,772</b>	
\$0	\$0	\$0	\$0	\$0	\$0	\$2,540,772	P02003
\$13,358	\$13,358	\$13,358	\$13,358	\$13,358	\$12,791,738	\$13,071,000	P02004
<b>\$925,998</b>	<b>\$1,897,190</b>	<b>\$14,057,853</b>	<b>\$39,724,915</b>	<b>\$31,874,201</b>	<b>\$0</b>	<b>\$16,480,158</b>	
<b>\$0</b>	<b>\$0</b>	<b>\$11,000,000</b>	<b>\$35,000,000</b>	<b>\$26,000,000</b>	<b>\$0</b>	<b>\$72,000,000</b>	
\$0	\$0	\$3,000,000	\$15,000,000	\$3,000,000	\$0	\$21,000,000	J99001
\$0	\$0	\$3,000,000	\$10,000,000	\$10,000,000	\$0	\$23,000,000	J99004
\$0	\$0	\$5,000,000	\$10,000,000	\$13,000,000	\$0	\$28,000,000	S99001
<b>\$925,998</b>	<b>\$1,897,190</b>	<b>\$3,057,853</b>	<b>\$4,724,915</b>	<b>\$5,874,201</b>	<b>\$0</b>	<b>\$16,480,158</b>	
\$575,033	\$1,179,985	\$1,448,148	\$2,612,292	\$2,938,655	\$0	\$8,754,113	J99005
\$184,794	\$591,183	\$1,572,777	\$2,111,522	\$2,934,156	\$0	\$7,394,432	S99004
\$166,172	\$126,022	\$36,929	\$1,101	\$1,390	\$0	\$331,614	P99002

		Prior	2020 Estimate	2021 Budget
<b>Conveyance</b>		<b>\$17,855,622</b>	<b>\$10,733,383</b>	<b>\$16,117,691</b>
<b>Metropolitan Interceptor Sewer</b>		<b>\$8,638,848</b>	<b>\$8,959,022</b>	<b>\$10,702,567</b>
<b>Subsystem 1 - Branch</b>		<b>\$0</b>	<b>\$126,851</b>	<b>\$1,267,885</b>
C01006	150" MIS Preliminary Engineering	\$0	\$126,851	\$1,267,885
<b>Subsystem 2 - Southwest Branch</b>		<b>\$381,567</b>	<b>\$2,561,885</b>	<b>\$883,190</b>
C02009	Hydrogen Sulfide & Odor Mitigation Study	\$191,810	\$352,259	\$26,728
C02010	Force Main Franklin Muskego Rehabilitation Project	\$0	\$120,608	\$654,431
C02011	Force Main Greenfield Park Rehabilitation Project	\$176,528	\$2,077,759	\$113,039
C02012	10th Avenue MIS Lateral Reconstruction	\$13,229	\$11,259	\$84,048
C02013	Oak Creek Southwest MIS Extension	\$0	\$0	\$4,944
<b>Subsystem 4 - Northeast Branch</b>		<b>\$1,596,909</b>	<b>\$558,947</b>	<b>\$1,035,561</b>
C04005	Martha Washington/Highlands MIS Rehab	\$147,912	\$0	\$0
C04010	Mill/Green Bay/Green Tree MIS Relief	\$1,448,997	\$422,510	\$865,923
C04013	Brown Deer Road Sewer	\$0	\$136,437	\$169,637
<b>Subsystem 5 - North Side High Relief</b>		<b>\$3,233,214</b>	<b>\$1,429,312</b>	<b>\$2,543,982</b>
C05041	CMIS - Basin H PCB Remediation and Rehabilitation (C016)	\$2,721,884	\$565,578	\$89,775
C05051	Edgewood MIS Extension	\$326,728	\$529,968	\$1,778,795
C05053	River Road MIS & Glendale Sewer	\$60,548	\$40,419	\$239,447
C05055	BS0503 Facility Upgrades	\$124,054	\$223,703	\$435,610
C05057	I-43 MIS Improvements	\$0	\$69,644	\$356
<b>Subsystem 6 - South Side High Relief</b>		<b>\$1,514</b>	<b>\$173,021</b>	<b>\$1,008,268</b>
C06022	Conveyance Structures Improvements	\$1,514	\$161,575	\$828,730
C06023	VA Grounds MIS Relocation	\$0	\$11,445	\$179,538
<b>Subsystem 7 - Low Level</b>		<b>\$144,379</b>	<b>\$920,520</b>	<b>\$1,460,254</b>
C07035	Mitchell Park PCB Sewer Improvements	\$0	\$0	\$0
C07036	Siphons Improvements	\$0	\$402,171	\$1,133,560
C07037	South Shore Force Main Assessment	\$144,379	\$518,349	\$326,694
<b>General Interceptor Sewer System</b>		<b>\$3,281,265</b>	<b>\$3,188,486</b>	<b>\$2,503,428</b>
C98044	MIS Abandonment	\$863,372	\$554,813	\$6,179
C98047	Access Hatch Covers	\$1,410,997	\$1,080,101	\$504,197
C98048	Gravity Overflow Conversion to Pump Overflow	\$57,936	\$0	\$0
C98052	Miscellaneous Sewer Rehab	\$18,458	\$548	\$31,712
C98055	Conveyance Equipment Replacement	\$80,143	\$395,460	\$1,429,258
C98056	Conveyance System Modeling Software Improvements	\$850,359	\$1,019,393	\$434,443
C98060	SSO Elimination Study	\$0	\$138,171	\$639
C98061	Assess Condition of CSO Piping	\$0	\$0	\$97,000
C98062	2025-2029 Conveyance Capital Equipment Replacement	\$0	\$0	\$0
<b>Inline Storage System</b>		<b>\$1,122,215</b>	<b>\$804,259</b>	<b>\$4,967,651</b>
<b>CSO Structures</b>		<b>\$1,122,215</b>	<b>\$804,259</b>	<b>\$4,967,651</b>
I03008	CSO102 Rehabilitation - Humbolt	\$125,159	\$222,123	\$904,621
I03011	Outfall Backflow Prevention	\$1,037	\$155,574	\$801,326
I05002	CSO 195 Relocation	\$0	\$36,907	\$225,198
I06001	NS12 Collector System Improvements	\$996,019	\$389,654	\$3,036,506
<b>General Control System</b>		<b>\$7,160,506</b>	<b>\$720,102</b>	<b>\$197,472</b>
<b>Conveyance System Central Control</b>		<b>\$7,160,506</b>	<b>\$720,102</b>	<b>\$197,472</b>
K01012	Conveyance SCADA Upgrade	\$7,160,506	\$720,102	\$197,472
<b>General Conveyance</b>		<b>\$934,053</b>	<b>\$250,000</b>	<b>\$250,000</b>
<b>General Conveyance</b>		<b>\$0</b>	<b>\$50,000</b>	<b>\$50,000</b>
C99002	Operator Contribution to CIP	\$0	\$50,000	\$50,000
<b>Allowance for Conveyance</b>		<b>\$934,053</b>	<b>\$200,000</b>	<b>\$200,000</b>
C99001	Allowance for Future Conveyance Rehab Projects	\$0	\$0	\$0
C99004	Allowance for DOT Reimbursements	\$934,053	\$200,000	\$200,000
<b>Inflation</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
C99003	Inflation	\$0	\$0	\$0

2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Future Forecast	Total	Project Number
\$36,589,184	\$33,005,676	\$17,505,746	\$33,171,741	\$11,916,407	\$93,851,880	\$270,747,328	
\$24,413,117	\$21,677,360	\$14,338,772	\$28,595,561	\$4,793,057	\$93,851,880	\$215,970,183	
\$6,122	\$0	\$0	\$0	\$0	\$0	\$1,400,858	
\$6,122	\$0	\$0	\$0	\$0	\$0	\$1,400,858	C01006
\$1,212,205	\$959,979	\$1,901,063	\$13,361,653	\$130,113	\$9,428	\$21,401,084	
\$585,553	\$104,963	\$80	\$80	\$80	\$9,428	\$1,270,981	C02009
\$204,596	\$245,211	\$1,573,589	\$36,806	\$0	\$0	\$2,835,241	C02010
\$0	\$0	\$0	\$0	\$0	\$0	\$2,367,326	C02011
\$0	\$0	\$0	\$0	\$0	\$0	\$108,536	C02012
\$422,056	\$609,805	\$327,395	\$13,324,767	\$130,033	\$0	\$14,819,000	C02013
\$1,954,325	\$981,657	\$10,655,250	\$13,692,879	\$2,834,124	\$25,036,523	\$58,346,174	
\$0	\$0	\$0	\$0	\$0	\$5,036,523	\$5,184,435	C04005
\$737,185	\$380,099	\$10,655,250	\$13,692,879	\$2,834,124	\$20,000,000	\$51,036,968	C04010
\$1,217,139	\$601,558	\$0	\$0	\$0	\$0	\$2,124,771	C04013
\$19,640,669	\$16,798,111	\$981,164	\$902,381	\$1,257,965	\$57,678,701	\$104,465,499	
\$2,758,011	\$5,035,308	\$881,554	\$290,940	\$0	\$0	\$12,343,049	C05041
\$10,873,217	\$4,041,329	\$0	\$0	\$0	\$0	\$17,550,037	C05051
\$240,404	\$239,447	\$99,610	\$611,441	\$1,257,965	\$57,678,701	\$60,467,982	C05053
\$5,769,037	\$7,482,027	\$0	\$0	\$0	\$0	\$14,034,431	C05055
\$0	\$0	\$0	\$0	\$0	\$0	\$70,000	C05057
\$191,637	\$2,224,389	\$16,772	\$0	\$0	\$0	\$3,615,600	
\$38,181	\$0	\$0	\$0	\$0	\$0	\$1,030,000	C06022
\$153,456	\$2,224,389	\$16,772	\$0	\$0	\$0	\$2,585,600	C06023
\$365,030	\$0	\$0	\$0	\$0	\$3,583,499	\$6,473,682	
\$0	\$0	\$0	\$0	\$0	\$3,583,499	\$3,583,499	C07035
\$365,030	\$0	\$0	\$0	\$0	\$0	\$1,900,761	C07036
\$0	\$0	\$0	\$0	\$0	\$0	\$989,422	C07037
\$1,043,128	\$713,224	\$784,523	\$638,648	\$570,855	\$7,543,729	\$20,267,287	
\$0	\$0	\$0	\$0	\$0	\$0	\$1,424,364	C98044
\$445,447	\$159,258	\$0	\$0	\$0	\$0	\$3,600,000	C98047
\$0	\$0	\$63,205	\$150,798	\$170,855	\$6,343,729	\$6,786,523	C98048
\$31,901	\$25,826	\$242,624	\$87,850	\$0	\$0	\$438,919	C98052
\$400,000	\$400,000	\$400,000	\$0	\$0	\$0	\$3,104,861	C98055
\$165,780	\$128,140	\$78,694	\$0	\$0	\$0	\$2,676,810	C98056
\$0	\$0	\$0	\$0	\$0	\$0	\$138,810	C98060
\$0	\$0	\$0	\$0	\$0	\$0	\$97,000	C98061
\$0	\$0	\$0	\$400,000	\$400,000	\$1,200,000	\$2,000,000	C98062
\$11,201,518	\$9,946,665	\$49,622	\$0	\$0	\$0	\$28,091,930	
\$11,201,518	\$9,946,665	\$49,622	\$0	\$0	\$0	\$28,091,930	
\$6,161	\$0	\$0	\$0	\$0	\$0	\$1,258,064	I03008
\$33,281	\$0	\$0	\$0	\$0	\$0	\$991,218	I03011
\$215,552	\$2,978,986	\$44,456	\$0	\$0	\$0	\$3,501,100	I05002
\$10,946,524	\$6,967,679	\$5,166	\$0	\$0	\$0	\$22,341,548	I06001
\$7,115	\$0	\$0	\$0	\$0	\$0	\$8,085,195	
\$7,115	\$0	\$0	\$0	\$0	\$0	\$8,085,195	
\$7,115	\$0	\$0	\$0	\$0	\$0	\$8,085,195	K01012
\$967,435	\$1,381,651	\$3,117,352	\$4,576,180	\$7,123,350	\$0	\$18,600,020	
\$50,000	\$50,000	\$50,000	\$50,000	\$0	\$0	\$300,000	
\$50,000	\$50,000	\$50,000	\$50,000	\$0	\$0	\$300,000	C99002
\$200,000	\$50,000	\$2,057,661	\$2,000,000	\$6,000,000	\$0	\$11,641,714	
\$0	\$0	\$2,000,000	\$2,000,000	\$6,000,000	\$0	\$10,000,000	C99001
\$200,000	\$50,000	\$57,661	\$0	\$0	\$0	\$1,641,714	C99004
\$717,435	\$1,281,651	\$1,009,691	\$2,526,180	\$1,123,350	\$0	\$6,658,306	
\$717,435	\$1,281,651	\$1,009,691	\$2,526,180	\$1,123,350	\$0	\$6,658,306	C99003

		Prior	2020 Estimate	2021 Budget
<b>Watercourse and Flood Management</b>		<b>\$112,207,234</b>	<b>\$19,451,934</b>	<b>\$14,711,887</b>
<b>Milwaukee River Watershed</b>		<b>\$24,335,023</b>	<b>\$755,422</b>	<b>\$1,426,772</b>
<b>Milwaukee River</b>		<b>\$2,724,644</b>	<b>\$436,561</b>	<b>\$646,627</b>
W10001	Milwaukee River Flood Mgt	\$307,317	\$58,950	\$87,046
W10002	Estabrook Dam Removal	\$2,253,959	\$171,668	\$144,374
W10004	Milwaukee River Planning Study – Capitol to Bender	\$163,368	\$205,943	\$415,207
<b>Lincoln Creek</b>		<b>\$21,514,880</b>	<b>\$285,861</b>	<b>\$610,752</b>
W11030	E - North 30th Street Corridor Wet Weather Relief - East	\$14,892,023	\$25,956	\$73,264
W11031	W - North 30th Street Corridor Wet Weather Relief - West	\$6,622,857	\$259,905	\$537,488
<b>Indian Creek</b>		<b>\$95,499</b>	<b>\$1,018</b>	<b>\$614</b>
W13002	Indian Creek Improvements	\$95,499	\$1,018	\$614
<b>Beaver Creek</b>		<b>\$0</b>	<b>\$31,982</b>	<b>\$168,779</b>
W15001	Beaver Creek Flood Management	\$0	\$31,982	\$168,779
<b>Milwaukee River Lake Estuary</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
W16001	Milwaukee River Lake Estuary Study	\$0	\$0	\$0
<b>Menomonee River Watershed</b>		<b>\$24,117,747</b>	<b>\$2,925,780</b>	<b>\$5,761,591</b>
<b>Menomonee River - Main Stem</b>		<b>\$9,815,698</b>	<b>\$2,455,607</b>	<b>\$4,246,114</b>
W20018	Concordia Avenue	\$732,147	\$14,461	\$0
W20023	Phase II Menomonee River Stream Mgt	\$3,101,233	\$30,129	\$18,705
W20027	Western Milwaukee Phase 2A	\$2,136,712	\$14,597	\$12,528
W20028	Western Milwaukee Phase 2B	\$2,916,514	\$2,303,273	\$2,934,730
W20029	Western Milwaukee Real Estate & Environmental Assessment	\$641,177	\$77,345	\$4,034
W20031	Memonomee River Estuary Study	\$287,915	\$9,152	\$7,012
W20033	Menomonee River Levee System Accreditation	\$0	\$6,650	\$1,269,105
<b>Underwood Creek</b>		<b>\$7,911,458</b>	<b>\$137,959</b>	<b>\$34,128</b>
W21006	Phase II - Underwood Creek Reach 1, Phase II - CR	\$7,091,285	\$116,962	\$21,400
W21007	Underwood Creek Reach 2 - CR	\$820,173	\$20,997	\$12,728
<b>South Branch Underwood Creek</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
W22001	Underwood Creek S. Branch, Reach 1 - CR	\$0	\$0	\$0
W22002	Underwood Creek S. Branch, Reach 2 - CR	\$0	\$0	\$0
<b>Honey Creek</b>		<b>\$779,051</b>	<b>\$103,892</b>	<b>\$282,623</b>
W24002	Honey Creek Reach 6 - CR	\$0	\$0	\$0
W24003	Honey Creek Reach 5 - CR	\$0	\$0	\$0
W24004	Honey Creek Reach 4 - CR	\$0	\$3,687	\$24,256
W24005	Honey Creek Watercourse Mgmt. Plan & BMPs	\$245,284	\$25,508	\$44,708
W24006	Honey Creek USACE Habitat Improvement Feasibility Study	\$533,767	\$41,233	\$0
W24007	Honey Creek Reach 2 - CR	\$0	\$810	\$2,500
W24010	State Fair Culvert Preliminary Engineering	\$0	\$32,654	\$211,159
<b>Schoonmaker Creek</b>		<b>\$5,307,406</b>	<b>\$82,562</b>	<b>\$37,702</b>
W28001	Schoonmaker Creek	\$246,620	\$43,555	\$4,011
W28002	Daylighting Schoonmaker Creek	\$5,060,786	\$39,007	\$33,691
<b>Menomonee River Lake Estuary</b>		<b>\$304,134</b>	<b>\$145,760</b>	<b>\$1,161,024</b>
W29001	Menomonee River Lake Estuary Study	\$0	\$0	\$0
W29002	Burnham Canal	\$304,134	\$145,760	\$1,161,024
<b>Root River Watershed</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Root River West Branch</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
W34002	Phase 2 Root River W. Branch Flood Management Study	\$0	\$0	\$0
<b>Whitnall Park Creek</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
W35003	Lower Whitnall Park Creek Flood Mgt II	\$0	\$0	\$0
<b>Hale Creek</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
W39002	Hale Creek Flood Management	\$0	\$0	\$0

2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Future Forecast	Total	Project Number
\$26,574,935	\$28,400,880	\$31,873,072	\$41,250,998	\$42,557,715	\$436,728,064	\$753,756,718	
\$2,948,508	\$2,036,323	\$3,938,111	\$8,807,547	\$7,047,393	\$64,916,417	\$116,211,516	
\$1,020,030	\$218,573	\$46,264	\$46,116	\$519,358	\$48,521,840	\$54,180,013	
\$79,120	\$218,573	\$46,264	\$46,116	\$519,358	\$48,521,840	\$49,884,584	W10001
\$0	\$0	\$0	\$0	\$0	\$0	\$2,570,001	W10002
\$940,910	\$0	\$0	\$0	\$0	\$0	\$1,725,428	W10004
\$600,466	\$565,882	\$3,643,463	\$8,685,306	\$6,358,436	\$16,024,801	\$58,289,847	
\$73,557	\$72,547	\$16,309	\$8,273	\$0	\$0	\$15,161,929	W11030
\$526,909	\$493,335	\$3,627,154	\$8,677,033	\$6,358,436	\$16,024,801	\$43,127,918	W11031
\$82,819	\$84,960	\$42,126	\$0	\$0	\$0	\$307,036	
\$82,819	\$84,960	\$42,126	\$0	\$0	\$0	\$307,036	W13002
\$1,185,911	\$987,252	\$100,576	\$76,125	\$169,599	\$369,776	\$3,090,000	
\$1,185,911	\$987,252	\$100,576	\$76,125	\$169,599	\$369,776	\$3,090,000	W15001
\$59,282	\$179,656	\$105,682	\$0	\$0	\$0	\$344,620	
\$59,282	\$179,656	\$105,682	\$0	\$0	\$0	\$344,620	W16001
\$7,434,609	\$3,746,251	\$3,451,454	\$3,539,126	\$5,739,123	\$136,917,048	\$193,632,729	
\$4,328,890	\$3,348,499	\$3,065,830	\$2,277,152	\$2,719,323	\$20,117,101	\$52,374,214	
\$0	\$0	\$24,682	\$96,969	\$272,838	\$3,943,334	\$5,084,431	W20018
\$0	\$0	\$0	\$0	\$0	\$0	\$3,150,067	W20023
\$311	\$247	\$0	\$0	\$0	\$0	\$2,164,395	W20027
\$2,132,106	\$3,221,375	\$3,039,574	\$2,178,894	\$200,386	\$11,672,564	\$30,599,416	W20028
\$2,228	\$1,877	\$1,574	\$1,289	\$2,246,099	\$4,501,203	\$7,476,826	W20029
\$0	\$0	\$0	\$0	\$0	\$0	\$304,079	W20031
\$2,194,245	\$125,000	\$0	\$0	\$0	\$0	\$3,595,000	W20033
\$34,265	\$32,281	\$15,238	\$12,537	\$12,235	\$20,684,208	\$28,874,309	
\$21,486	\$19,967	\$2,954	\$253	\$0	\$0	\$7,274,307	W21006
\$12,779	\$12,314	\$12,284	\$12,284	\$12,235	\$20,684,208	\$21,600,002	W21007
\$0	\$0	\$0	\$0	\$0	\$32,068,043	\$32,068,043	
\$0	\$0	\$0	\$0	\$0	\$17,969,900	\$17,969,900	W22001
\$0	\$0	\$0	\$0	\$0	\$14,098,143	\$14,098,143	W22002
\$53,707	\$212,588	\$217,031	\$240,794	\$1,219,278	\$53,366,375	\$56,475,339	
\$0	\$0	\$0	\$17,943	\$214,463	\$12,690,021	\$12,922,427	W24002
\$0	\$0	\$0	\$0	\$19,459	\$15,039,711	\$15,059,170	W24003
\$39,531	\$201,477	\$83,064	\$85,146	\$866,308	\$11,110,946	\$12,414,415	W24004
\$11,394	\$0	\$0	\$0	\$0	\$0	\$326,894	W24005
\$0	\$0	\$0	\$0	\$0	\$0	\$575,000	W24006
\$2,782	\$11,111	\$133,967	\$137,705	\$119,048	\$14,525,697	\$14,933,620	W24007
\$0	\$0	\$0	\$0	\$0	\$0	\$243,813	W24010
\$518	\$267	\$0	\$0	\$50,748	\$10,387,377	\$15,866,580	
\$62	\$0	\$0	\$0	\$50,748	\$10,387,377	\$10,732,373	W28001
\$456	\$267	\$0	\$0	\$0	\$0	\$5,134,207	W28002
\$3,017,229	\$152,616	\$153,355	\$1,008,643	\$1,737,539	\$293,944	\$7,974,244	
\$0	\$0	\$0	\$36,826	\$6,302	\$0	\$43,128	W29001
\$3,017,229	\$152,616	\$153,355	\$971,817	\$1,731,237	\$293,944	\$7,931,116	W29002
\$0	\$0	\$0	\$245,803	\$61,362	\$0	\$307,165	
\$0	\$0	\$0	\$38,764	\$11,789	\$0	\$50,553	
\$0	\$0	\$0	\$38,764	\$11,789	\$0	\$50,553	W34002
\$0	\$0	\$0	\$79,687	\$37,950	\$0	\$117,637	
\$0	\$0	\$0	\$79,687	\$37,950	\$0	\$117,637	W35003
\$0	\$0	\$0	\$127,352	\$11,623	\$0	\$138,975	
\$0	\$0	\$0	\$127,352	\$11,623	\$0	\$138,975	W39002

		Prior	2020 Estimate	2021 Budget
<b>Kinnickinnic River Watershed</b>		<b>\$49,573,239</b>	<b>\$9,160,844</b>	<b>\$4,077,628</b>
<b>Kinnickinnic River</b>		<b>\$46,257,718</b>	<b>\$7,693,988</b>	<b>\$3,657,558</b>
W40002	KK River Real Estate Decon./Demo. & Pulaski Park	\$31,792,165	\$5,530,646	\$366,208
W40007	KK River Reach 3 - CR	\$348,255	\$514,816	\$20,738
W40008	KK River S. 6th to S. Chase Flood Mgt	\$5,708,959	\$20,934	\$0
W40009	Jackson Park	\$6,322,102	\$329,469	\$1,081,249
W40010	KK River Watershed	\$1,494,331	\$984,854	\$474,021
W40011	KK River I-94 to Becher	\$376,498	\$51,196	\$19,357
W40012	KK River - 6th to 16th St.	\$96,160	\$62,032	\$351,428
W40013	KK River - Railroad to 27th St.	\$0	\$0	\$0
W40014	KK River - 43rd St. Bridge Replacement	\$0	\$0	\$0
W40016	KK River Sewer Modifications	\$119,248	\$200,041	\$1,194,890
W40017	KK River Soil Disposal Site	\$0	\$0	\$149,668
<b>Lyons Creek</b>		<b>\$370,874</b>	<b>\$711,052</b>	<b>\$77,070</b>
W41001	KK River Flood Management - Lyons Creek (W026)	\$317,287	\$43,181	\$1,160
W41003	Lyons Park Creek Streambank Stabilization	\$53,587	\$667,871	\$75,910
<b>43rd Street Ditch Creek</b>		<b>\$0</b>	<b>\$0</b>	<b>\$151,155</b>
W42003	43rd Street Ditch Reach 1 - CR	\$0	\$0	\$151,155
<b>Villa Mann Creek</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
W43003	Villa Mann Creek Tributary Culvert Improvement	\$0	\$0	\$0
<b>Wilson Park Creek</b>		<b>\$2,944,647</b>	<b>\$755,804</b>	<b>\$191,845</b>
W45002	Wilson Park Creek Reach 3 - CR	\$2,944,647	\$755,804	\$191,845
W45003	Wilson Park Creek Reach 2 - CR	\$0	\$0	\$0
W45004	Wilson Park Creek Reach 4 - CR	\$0	\$0	\$0
W45005	Wilson Park	\$0	\$0	\$0
<b>Oak Creek Watershed</b>		<b>\$2,869,353</b>	<b>\$326,358</b>	<b>\$32,842</b>
<b>Oak Creek - Main Stem</b>		<b>\$2,869,353</b>	<b>\$326,358</b>	<b>\$32,842</b>
W50005	Oak Creek Flood Management - Floodproofing/Acquisition	\$2,577,245	\$310,602	\$9,669
W50006	Oak Creek Watershed Restoration Plan	\$292,108	\$15,756	\$23,173
<b>Lake Michigan Drainage Watershed</b>		<b>\$950</b>	<b>\$472</b>	<b>\$54,234</b>
<b>Fish Creek</b>		<b>\$950</b>	<b>\$472</b>	<b>\$54,234</b>
W61002	Fish Creek Flood Acquisitions	\$950	\$472	\$54,234
<b>General Watercourse Projects</b>		<b>\$11,310,922</b>	<b>\$6,283,058</b>	<b>\$3,358,820</b>
<b>System Improvement Plan - Phase II</b>		<b>\$2,762,691</b>	<b>(\$17,559)</b>	<b>\$21,005</b>
W91001	Phase II Corridor & SEWRPC Studies	\$2,762,691	(\$17,559)	\$21,005
<b>General Watercourse Projects</b>		<b>\$8,548,231</b>	<b>\$6,300,617</b>	<b>\$3,337,815</b>
W96001	Fresh Coast Implementation	\$4,125,384	\$3,079,830	\$5,700
W97003	GMRCPP - Great Milwaukee Regional Conservation Partnership Program	\$2,089,325	\$2,020,787	\$883,077
W97004	Greenseams Phase 2	\$2,333,522	\$1,200,000	\$1,200,000
W97005	Working Soils and MRWCP 2021-2026	\$0	\$0	\$1,249,038
<b>Inflation</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
W99002	Inflation	\$0	\$0	\$0



2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Future Forecast	Total	Project Number
<b>\$13,130,031</b>	<b>\$18,997,712</b>	<b>\$20,174,269</b>	<b>\$23,052,060</b>	<b>\$20,397,263</b>	<b>\$232,047,364</b>	<b>\$390,610,410</b>	
<b>\$11,211,087</b>	<b>\$12,863,542</b>	<b>\$9,195,667</b>	<b>\$11,977,025</b>	<b>\$14,097,200</b>	<b>\$103,056,812</b>	<b>\$220,010,597</b>	
\$328,476	\$321,448	\$124,866	\$91,233	\$24,582	\$0	\$38,579,624	W40002
\$0	\$0	\$0	\$0	\$0	\$13,466,918	\$14,350,727	W40007
\$0	\$0	\$0	\$0	\$0	\$0	\$5,729,893	W40008
\$2,728,997	\$2,200,324	\$2,620,398	\$3,615,468	\$1,681,697	\$24,230,225	\$44,809,929	W40009
\$194,707	\$916,562	\$755,247	\$0	\$0	\$0	\$4,819,722	W40010
\$0	\$0	\$0	\$43,728	\$1,088,475	\$17,425,080	\$19,004,334	W40011
\$1,104,386	\$2,589,538	\$4,784,296	\$4,796,630	\$4,749,818	\$25,181,153	\$43,715,441	W40012
\$68,676	\$903,631	\$910,860	\$3,297,254	\$6,354,020	\$18,605,180	\$30,139,621	W40013
\$0	\$0	\$0	\$132,712	\$198,608	\$2,148,256	\$2,479,576	W40014
\$2,817,551	\$0	\$0	\$0	\$0	\$0	\$4,331,730	W40016
\$3,968,293	\$5,932,039	\$0	\$0	\$0	\$2,000,000	\$12,050,000	W40017
<b>\$34,497</b>	<b>\$30,458</b>	<b>\$536,742</b>	<b>\$432,512</b>	<b>\$2,389,683</b>	<b>\$11,301,547</b>	<b>\$15,884,435</b>	
\$20,795	\$28,884	\$536,742	\$432,512	\$2,389,683	\$11,301,547	\$15,071,791	W41001
\$13,702	\$1,574	\$0	\$0	\$0	\$0	\$812,644	W41003
<b>\$1,210,502</b>	<b>\$4,473,031</b>	<b>\$7,521,483</b>	<b>\$5,521,483</b>	<b>\$1,780,027</b>	<b>\$8,100,371</b>	<b>\$28,758,052</b>	
\$1,210,502	\$4,473,031	\$7,521,483	\$5,521,483	\$1,780,027	\$8,100,371	\$28,758,052	W42003
<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,767,098</b>	<b>\$3,767,098</b>	
\$0	\$0	\$0	\$0	\$0	\$3,767,098	\$3,767,098	W43003
<b>\$673,945</b>	<b>\$1,630,681</b>	<b>\$2,920,377</b>	<b>\$5,121,040</b>	<b>\$2,130,353</b>	<b>\$105,821,536</b>	<b>\$122,190,228</b>	
\$673,945	\$1,630,681	\$2,483,112	\$2,417,667	\$164,661	\$20,284,807	\$31,547,169	W45002
\$0	\$0	\$0	\$1,325,987	\$1,320,726	\$40,064,464	\$42,711,177	W45003
\$0	\$0	\$0	\$0	\$0	\$9,128,140	\$9,128,140	W45004
\$0	\$0	\$437,265	\$1,377,386	\$644,966	\$36,344,125	\$38,803,742	W45005
<b>\$18,269</b>	<b>\$10,804</b>	<b>\$9,586</b>	<b>\$5,807</b>	<b>\$2,841,500</b>	<b>\$2,847,235</b>	<b>\$8,961,754</b>	
<b>\$18,269</b>	<b>\$10,804</b>	<b>\$9,586</b>	<b>\$5,807</b>	<b>\$2,841,500</b>	<b>\$2,847,235</b>	<b>\$8,961,754</b>	
\$9,147	\$9,089	\$8,563	\$5,807	\$2,841,500	\$2,847,235	\$8,618,857	W50005
\$9,122	\$1,715	\$1,023	\$0	\$0	\$0	\$342,897	W50006
<b>\$34,177</b>	<b>\$27,482</b>	<b>\$1,869</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$119,184</b>	
<b>\$34,177</b>	<b>\$27,482</b>	<b>\$1,869</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$119,184</b>	
\$34,177	\$27,482	\$1,869	\$0	\$0	\$0	\$119,184	W61002
<b>\$3,009,341</b>	<b>\$3,582,308</b>	<b>\$4,297,783</b>	<b>\$5,600,655</b>	<b>\$6,471,074</b>	<b>\$0</b>	<b>\$43,913,960</b>	
<b>\$20,353</b>	<b>\$20,272</b>	<b>\$226</b>	<b>\$10</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,806,998</b>	
\$20,353	\$20,272	\$226	\$10	\$0	\$0	\$2,806,998	W91001
<b>\$2,467,910</b>	<b>\$2,459,195</b>	<b>\$2,459,192</b>	<b>\$2,459,192</b>	<b>\$2,459,193</b>	<b>\$0</b>	<b>\$30,491,346</b>	
\$2,200	\$3	\$0	\$0	\$0	\$0	\$7,213,117	W96001
\$6,518	\$0	\$0	\$0	\$0	\$0	\$4,999,707	W97003
\$1,200,000	\$1,200,000	\$1,200,000	\$1,200,000	\$1,200,000	\$0	\$10,733,522	W97004
\$1,259,192	\$1,259,192	\$1,259,192	\$1,259,192	\$1,259,193	\$0	\$7,545,000	W97005
<b>\$521,077</b>	<b>\$1,102,841</b>	<b>\$1,838,364</b>	<b>\$3,141,452</b>	<b>\$4,011,881</b>	<b>\$0</b>	<b>\$10,615,616</b>	
\$521,077	\$1,102,841	\$1,838,364	\$3,141,452	\$4,011,881	\$0	\$10,615,616	W99002

		Prior	2020 Estimate	2021 Budget
<b>Other Projects</b>		<b>\$57,303,812</b>	<b>\$31,823,874</b>	<b>\$31,451,541</b>
<b>Green Infrastructure</b>		<b>\$5,350,095</b>	<b>\$8,105,290</b>	<b>\$10,438,826</b>
G98002	Fresh Coast Green Solutions Phase 2	\$845,640	\$529,054	\$667,672
G98004	Fresh Coast Implementation Phase 2	\$2,084,732	\$485,595	\$1,900,000
G98005	Green Solutions Phase 2 (formerly M10002)	\$2,366,229	\$6,299,268	\$5,000,000
G98011	Alternative Project Delivery / Community-Based GI	\$0	\$125,719	\$992,717
G98012	Urban Tree System to Address Climate Change	\$0	\$57,176	\$312,178
G98013	National Fish & Wildlife Foundation Funding Partnership	\$0	\$421,388	\$419,272
G98015	Strategic GI Implementation	\$53,494	\$187,090	\$1,146,987
<b>Facilities Planning</b>		<b>\$38,519,969</b>	<b>\$7,755,532</b>	<b>\$10,712,057</b>
<b>Facilities Improvements</b>		<b>\$4,780,143</b>	<b>\$3,427,628</b>	<b>\$2,964,587</b>
M01007	KK River Flushing Station Improvements	\$597,657	\$0	\$201,918
M01023	Wharf Wall Improvements	\$1,610,431	\$0	\$0
M01029	HQ Wharf Wall System Restoration	\$399,162	\$1,266,848	\$35,241
M01032	N. 44th Street Property Restoration (Miller Park Area)	\$168,285	\$41,709	\$63,077
M01033	4044 N. 31st Street Demolition/Deconstruction	\$974,809	(\$5,507)	\$0
M01034	HQ Parking Lot Solar Powered Electric Vehicle Charging Stations	\$11,541	\$49,781	\$432,324
M01037	HQ and Lab Facility Improvements	\$1,017,673	\$1,240,000	\$1,153,690
M01038	Water Quality Equipment Procurement	\$0	\$294,000	\$0
M01040	13th Street Upgrades	\$585	\$407,216	\$699,918
M01042	District Rolling Stock	\$0	\$110,000	\$300,000
M01043	KK River Trash Wheel - Drive Access	\$0	\$23,581	\$78,419
<b>Continuous Facilities Planning</b>		<b>\$22,404,191</b>	<b>\$2,971,908</b>	<b>\$7,633,331</b>
M03029	Water Quality Studies	\$5,848,306	\$44,621	\$3,098
M03051	Alternative Energy Planning	\$392,953	\$43,734	\$37,923
M03059	TMDL Studies	\$2,648,983	\$202,479	\$0
M03076	Green Solutions for Separate Infrastructure & Sewers	\$6,779,165	(\$154,872)	\$0
M03088	Corridor Study, Phase 5	\$1,379,730	\$440,729	\$380,502
M03091	Ad Hoc Water Quality Studies 2017-2021	\$143,668	\$253,132	\$1,568,940
M03098	Monitoring for Capital Project Development and Support	\$5,127,786	\$1,460,515	\$2,692,807
M03102	Biosolids Advanced Facility Planning	\$83,600	\$466,893	\$231,527
M03107	WRF Master Model	\$0	\$0	\$34,979
M03108	Impact of Water Levels on MMSD Assets	\$0	\$106,924	\$490,083
M03109	Energy Plan for MMSD Facilities	\$0	\$79,014	\$696,222
M03110	NFPA 820 WRF Evaluation	\$0	\$0	\$84,488
M03111	Corridor Study Phase VI	\$0	\$8,696	\$1,008,070
M03112	Instrumentation & Control Planning	\$0	\$0	\$39
M03113	WRF Disinfection Assessment (JI and SS)	\$0	\$20,043	\$179,957
M03114	Discovery World Water Exhibit	\$0	\$0	\$224,696
<b>2050 Facilities Planning</b>		<b>\$11,335,635</b>	<b>\$1,355,995</b>	<b>\$114,139</b>
M03037	2050 Facilities Planning - Ultimate Build-out	\$11,335,635	\$1,355,995	\$114,139
<b>Capital Reimbursement Programs</b>		<b>\$7,073,214</b>	<b>\$6,369,277</b>	<b>\$3,623,470</b>
M10003	PPI/I Phase 2	\$5,696,345	\$5,000,000	\$0
M10004	PPI/I Implementation Phase 2 (Labor)	\$1,376,869	\$1,369,277	\$1,960,017
M10005	Post 2050 FP PP/II Approach	\$0	\$0	\$40
M10006	PPII Research and Development	\$0	\$0	\$363,413
M10007	PPII Residential	\$0	\$0	\$1,300,000
<b>Workforce &amp; Business Development Resource Programs</b>		<b>\$833,831</b>	<b>\$513,659</b>	<b>\$630,913</b>
M04002	WDTP 2017 - 2022	\$833,831	\$500,000	\$500,000
M04003	Fresh Coast Fresh Start	\$0	\$13,659	\$130,913
<b>Financial Planning</b>		<b>\$1,234,722</b>	<b>\$330,863</b>	<b>\$181,383</b>
M07002	Financial Planning 2017 - 2022	\$1,234,722	\$330,863	\$181,383
<b>Risk Management</b>		<b>\$1,956,369</b>	<b>\$968,159</b>	<b>\$937,720</b>
M09002	Risk Management Program	\$1,956,369	\$968,159	\$937,720
<b>General Other Projects</b>		<b>\$2,335,612</b>	<b>\$7,781,095</b>	<b>\$4,927,170</b>
<b>Information Technology Improvements</b>		<b>\$2,335,612</b>	<b>\$3,185,378</b>	<b>\$3,224,867</b>
M06011	Information Technology Software Systems	\$847,435	\$0	\$325,000
M06013	Capital Program Management System	\$1,488,177	\$4,475	\$0
M06016	ERP Implementation	\$0	\$3,180,903	\$2,899,867
<b>Allowance</b>		<b>\$0</b>	<b>\$4,545,717</b>	<b>\$1,652,303</b>
M99001	Allowance for Cost & Schedule Changes (M999)	\$0	\$4,545,717	\$1,652,303
<b>General</b>		<b>\$0</b>	<b>\$50,000</b>	<b>\$50,000</b>
M99002	Operator Contribution to CIP	\$0	\$50,000	\$50,000
<b>Inflation</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
M99003	Inflation	\$0	\$0	\$0

2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Future Forecast	Total	Project Number
\$45,660,639	\$39,864,531	\$29,908,742	\$33,011,163	\$26,866,574	\$21,455,259	\$317,346,135	
\$22,200,020	\$15,548,361	\$8,410,576	\$10,712,036	\$7,035,326	\$46,119	\$87,846,649	
\$729,605	\$426,669	\$41,938	\$0	\$0	\$0	\$3,240,578	G98002
\$1,900,000	\$2,200,000	\$2,200,000	\$4,650,000	\$2,035,326	\$0	\$17,455,653	G98004
\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$46,119	\$38,711,616	G98005
\$12,776,872	\$6,735,192	\$0	\$0	\$0	\$0	\$20,630,500	G98011
\$219,073	\$12,031	\$4	\$0	\$0	\$0	\$600,462	G98012
\$419,272	\$19,272	\$13,437	\$0	\$0	\$0	\$1,292,643	G98013
\$1,155,197	\$1,155,197	\$1,155,197	\$1,062,036	\$0	\$0	\$5,915,197	G98015
\$8,744,286	\$7,167,337	\$4,027,266	\$4,870,862	\$3,044,819	\$10,369,252	\$95,211,380	
\$3,136,857	\$2,808,728	\$648,714	\$1,403,955	\$467,318	\$10,369,032	\$30,006,962	
\$2,178,382	\$1,171,787	\$524,571	\$1,279,812	\$343,404	\$10,368,458	\$16,665,989	M01007
\$0	\$0	\$0	\$0	\$0	\$0	\$1,610,431	M01023
\$0	\$0	\$0	\$0	\$0	\$0	\$1,701,251	M01029
\$827,213	\$1,026,941	\$24,143	\$24,143	\$23,914	\$574	\$2,199,999	M01032
\$0	\$0	\$0	\$0	\$0	\$0	\$969,302	M01033
\$16,262	\$0	\$0	\$0	\$0	\$0	\$509,908	M01034
\$15,000	\$510,000	\$0	\$0	\$0	\$0	\$3,936,363	M01037
\$0	\$0	\$0	\$0	\$0	\$0	\$294,000	M01038
\$0	\$0	\$0	\$0	\$0	\$0	\$1,107,719	M01040
\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$0	\$910,000	M01042
\$0	\$0	\$0	\$0	\$0	\$0	\$102,000	M01043
\$5,607,429	\$4,358,609	\$3,378,552	\$3,466,907	\$2,577,501	\$220	\$52,398,649	
\$229	\$0	\$0	\$0	\$0	\$0	\$5,896,254	M03029
\$23,787	\$6,065	\$0	\$0	\$0	\$0	\$504,462	M03051
\$0	\$0	\$0	\$0	\$0	\$0	\$2,851,462	M03059
\$0	\$0	\$0	\$0	\$0	\$0	\$6,624,293	M03076
\$217,647	\$0	\$0	\$0	\$0	\$0	\$2,418,608	M03088
\$507,943	\$109,204	\$119,377	\$40,079	\$0	\$0	\$2,742,343	M03091
\$2,693,578	\$2,692,807	\$2,690,971	\$2,630,057	\$2,576,503	\$220	\$22,565,244	M03098
\$0	\$0	\$0	\$0	\$0	\$0	\$782,020	M03102
\$159,236	\$5,785	\$0	\$0	\$0	\$0	\$200,000	M03107
\$526,493	\$0	\$0	\$0	\$0	\$0	\$1,123,500	M03108
\$24,763	\$0	\$0	\$0	\$0	\$0	\$800,000	M03109
\$355,812	\$0	\$0	\$0	\$0	\$0	\$440,300	M03110
\$624,965	\$816,374	\$559,288	\$796,771	\$998	\$0	\$3,815,163	M03111
\$247,671	\$728,374	\$8,916	\$0	\$0	\$0	\$985,000	M03112
\$0	\$0	\$0	\$0	\$0	\$0	\$200,000	M03113
\$225,304	\$0	\$0	\$0	\$0	\$0	\$450,000	M03114
\$0	\$0	\$0	\$0	\$0	\$0	\$12,805,769	
\$0	\$0	\$0	\$0	\$0	\$0	\$12,805,769	M03037
\$9,281,277	\$11,786,066	\$12,209,690	\$12,110,383	\$12,148,082	\$11,039,889	\$85,641,348	
\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$0	\$35,696,345	M10003
\$1,678,277	\$1,014,847	\$928,962	\$868,296	\$839,338	\$72,174	\$10,108,057	M10004
\$1,288,233	\$4,489,965	\$4,876,515	\$4,907,600	\$4,890,545	\$9,547,104	\$30,000,000	M10005
\$314,767	\$609,005	\$514,127	\$443,189	\$528,896	\$763,550	\$3,536,946	M10006
\$1,000,000	\$672,249	\$890,087	\$891,299	\$889,304	\$657,061	\$6,300,000	M10007
\$850,266	\$505,161	\$500,000	\$500,000	\$500,000	\$0	\$4,833,831	
\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$0	\$4,333,831	M04002
\$350,266	\$5,161	\$0	\$0	\$0	\$0	\$500,000	M04003
\$330,541	\$180,755	\$330,154	\$273	\$0	\$0	\$2,588,691	
\$330,541	\$180,755	\$330,154	\$273	\$0	\$0	\$2,588,691	M07002
\$823,188	\$789,043	\$820,695	\$67,573	\$0	\$0	\$6,362,747	
\$823,188	\$789,043	\$820,695	\$67,573	\$0	\$0	\$6,362,747	M09002
\$3,431,062	\$3,887,808	\$3,610,361	\$4,750,036	\$4,138,346	\$0	\$34,861,489	
\$172,491	\$0	\$0	\$0	\$0	\$0	\$8,918,348	
\$0	\$0	\$0	\$0	\$0	\$0	\$1,172,435	M06011
\$0	\$0	\$0	\$0	\$0	\$0	\$1,492,652	M06013
\$172,491	\$0	\$0	\$0	\$0	\$0	\$6,253,261	M06016
\$2,313,264	\$2,289,819	\$1,835,295	\$2,186,085	\$1,605,656	\$0	\$16,428,139	
\$2,313,264	\$2,289,819	\$1,835,295	\$2,186,085	\$1,605,656	\$0	\$16,428,139	M99001
\$50,000	\$50,000	\$50,000	\$50,000	\$0	\$0	\$300,000	
\$50,000	\$50,000	\$50,000	\$50,000	\$0	\$0	\$300,000	M99002
\$895,307	\$1,547,988	\$1,725,066	\$2,513,951	\$2,532,690	\$0	\$9,215,003	
\$895,307	\$1,547,988	\$1,725,066	\$2,513,951	\$2,532,690	\$0	\$9,215,003	M99003