2020 Proposed Operations and Maintenance and Capital Budgets

Milwaukee Metropolitan Sewerage District

Milwaukee Metropolitan Sewerage District
2020 Budget

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Recent District Awards and Honors

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

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 Budget Presentation Award

PRESENTED TO

Milwaukee Metropolitan Sewerage District

Wisconsin

For the Fiscal Year Beginning

January 1, 2019

Christopher P. Morrill

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, 2019. 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.


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September 9, 2019

Commissioners:

I am pleased to submit the Milwaukee Metropolitan Sewerage District's 2020 Operations & Maintenance and Capital Budgets. The primary purpose of this budget document is to provide information about financial and operational planning through both of its budgets. As such, the document discusses both 2020 revenues and expenditures and longer-term initiatives. The budget provides direction for management and staff. Budget staff monitor the effectiveness of the budget throughout the year and provide status reports on a quarterly basis.

In addition to financial information, the budgets also document policies and priorities of MMSD as well as its recently approved 2019-2021 strategic plan. During 2018, the District undertook a strategic planning process with internal staff and external stakeholders and did an in-depth evaluation of ten trends including population, political environment, regulations, workforce, technology, one water management, customer expectations, financial constraints, energy/reuse, and the District's risk profile. This evaluation led to the identification and prioritization of goals, and the team created a framework with goals in the areas of financial strength, infrastructure management, climate resilience, watershed cooperation, public engagement and awareness, workforce excellence, and internal communication and collaboration. Staff will be working to improve its performance management system related to the new strategic plan.

The process also included a review and update to its vision, mission and values statements:

MMSD Vision

MMSD envisions a healthier, cleaner, resilient region.

MMSD Mission

MMSD protects public health and the environment through world-class, cost-effective water resource management, leadership, and partnership.

MMSD Values

Stewardship, Integrity, Quality, Collaboration, Diversity, Innovation

The following pages of the budget provide a roadmap to both high-level and detailed budgetary information in 2020. Both budgets were prepared to meet the objectives of the Commission in terms of affordability to customers.

In the Operations and Maintenance budget, the 2020 user charge billings increase 2.5% compared to a projected 4% in the prior year's forecast. The 2.5% increase is achieved in part by the return of a significant surplus from the 2018 budget.

In the capital budget, the tax levy for 2020 is increased 1.75% compared to a 4% increase that was projected for 2020 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 net impact is an increase of $74.1 million in District GO Bonds and Clean Water Fund Loan Program proceeds and a net $69.9 million in expenditures were increased over six years as part of the long-range financing plan.

The budgets continue to fund the critical needs of existing system infrastructure and ensure permit compliance, and the 2020 budget will likely be the final budget before the 2050 Facilities Plan is completed. The financial planning process creates a framework to accommodate the expenditure needs that will be identified as we move forward. In addition, the 2020 budgets expand upon the District's goal of creating synergies between grey and green infrastructure by increasing the funding available to eligible municipalities in its Green Solutions program.

Throughout the 2020 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, and many budgeted initiatives included in the division or project sections.

Highlights of the 2020 Capital Budget

The 2020 Capital Budget is $227.1 million. The 2020 tax levy increases 1.75% from the 2019 level. This compares to a 4% increase projected for 2020 one year ago. The long-range financing plan includes a tax levy increase of 4% for each year from 2021 through 2025. 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: $13.2 million
- Basin H MIS PCB Remediation and Rehab
- Interplant Sludge Pipeline Improvements
- Dyer Burner Conversion to Landfill Gas
- Western Milwaukee Flood Management
- Kinnickinnic River Flood Management
- Green Solutions

The District's 2020 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 2020 long-range financing plan, debt outstanding was at the highest level in

2018 at 1.35%, 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 great majority of capital expenditures are rehabilitation, replacement or improvement of existing District facilities and infrastructure, at over $436.8 million over the six-year plan. This is followed by extensive expenditures planned for watercourse and flood management improvements at $177.2 million. The District also funds various capital programs that provide unique funding mechanisms to partner with municipalities served to lower overall system costs. Finally, as noted earlier, the District's 2050 Facilities Plan and Green Infrastructure Plan are underway and will have significant impact on future budgets once the recommendations are finalized. The details of all capital projects can be found within the capital account sections of the capital budget.

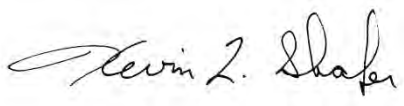
Highlights of the 2020 Operations & Maintenance Budget

The 2020 Operations & Maintenance (O&M) Budget expenditures total $111.0 million. In the O&M Budget, the 2020 user charge billings increase is 2.5%, which is what was projected as the user charges billings increase in the forecast in the 2019 budget. Overall expenditures are increasing 7.0%, or $7.1 million. A significant portion of the increase relates to construction costs for Basin H PCB rehabilitation and Interplant pipeline cleaning costs, as well as ensuring adequate funding for machinery and equipment replacement that does not meet the capital budget funding criteria.

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 2020 O&M Budget is projected to be $10.4 million, an 4% increase from the 2019 O&M Budget. The District's projected revenue from interest income is $1 million, matching the 2019 budgeted level, and revenue from Other Income increases $2.2 million from the 2019 budgeted level to $3.0 million – primarily due to insurance reimbursements from Basin H PCB rehabilitation project. The District also administers two cost recovery programs: the Industrial Waste Pretreatment Program (IWPP) projected at $1.0 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 2020, the $5.2 million surplus from the 2018 budget is returned.

In closing, while 2020 will be a bridge to the future, aggressive implementation of existing projects and programs is essential. The District's 2020 budgets accomplish this by supporting operational needs, providing needed capital improvements, promoting new initiatives, and continuing strong financial management. The District looks forward to partnering with others in the region 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"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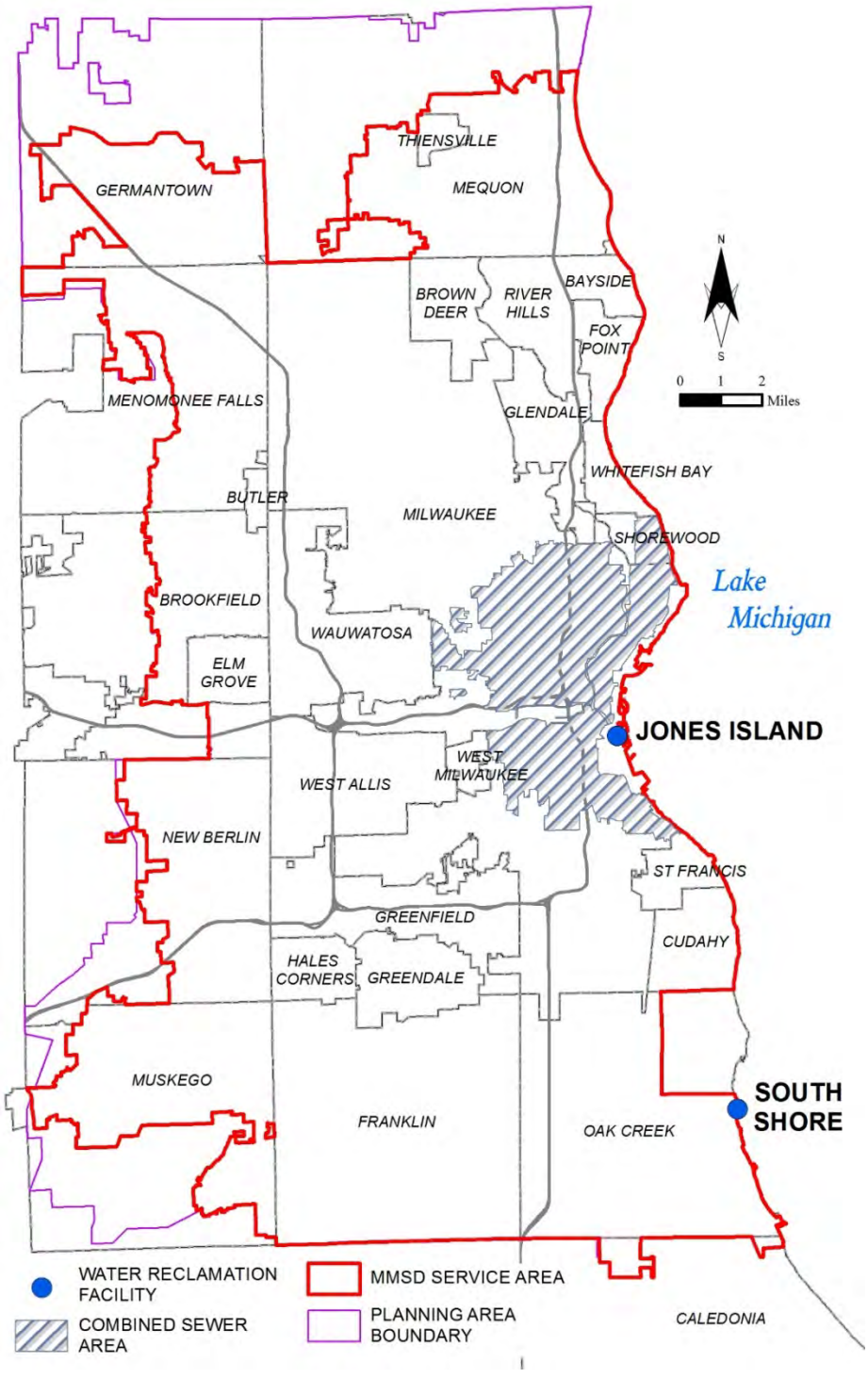
Background, Statistical and Supplemental Information



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 31st 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.

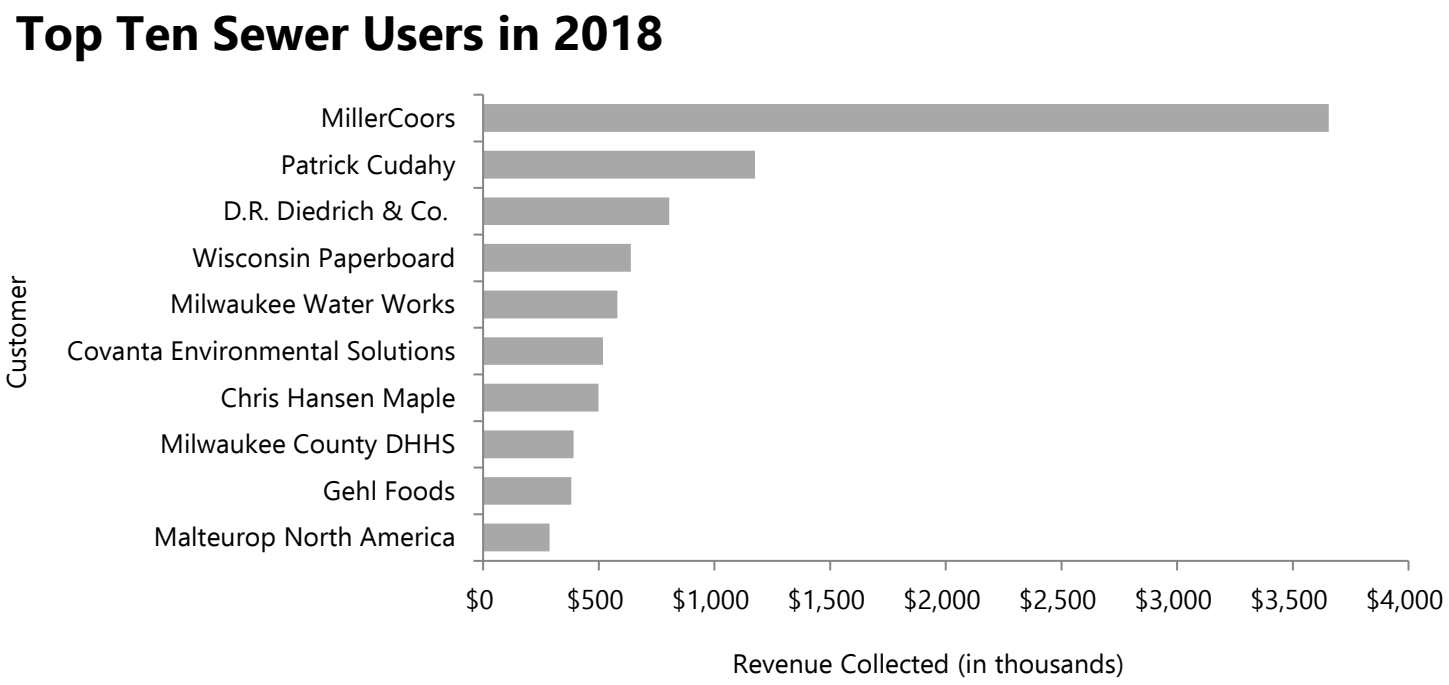
The Commission has two standing committees: the Policy, Finance and Personnel Committee and the Operations Committee. In general, the Policy, Finance and Personnel Committee has jurisdiction over establishment of District policy, financial planning, budget recommendations, award of contracts not related 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, and the extension agreement will begin in 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.

Funding the Operating Budget

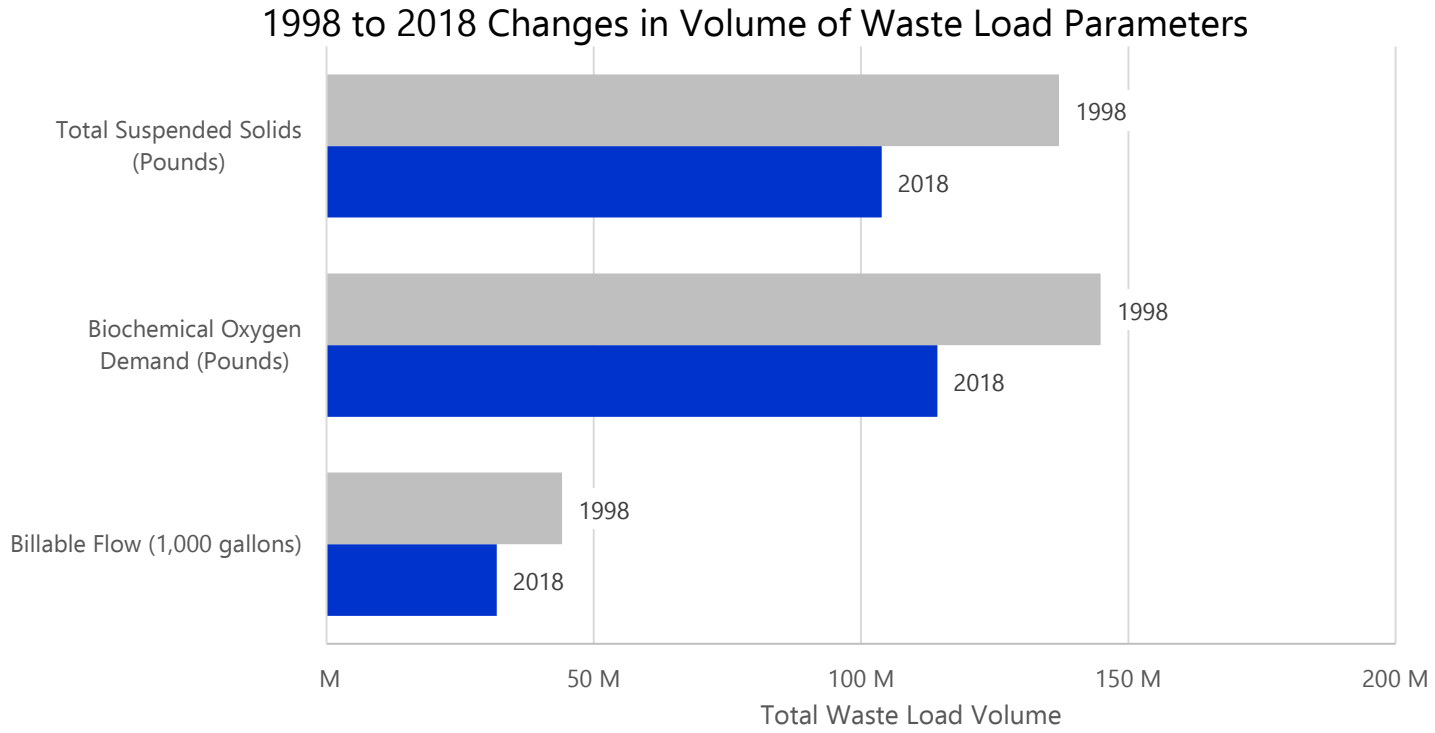
District operating expenses are primarily recovered from District customers through a sewer service charge. The sewer service charge is billed to each municipality within the District's service area based on waste strength, flow volume, and the number of connections. The Environmental Protection Agency (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 2018 by revenue collected.



Source: 2018 Comprehensive Annual Financial Report

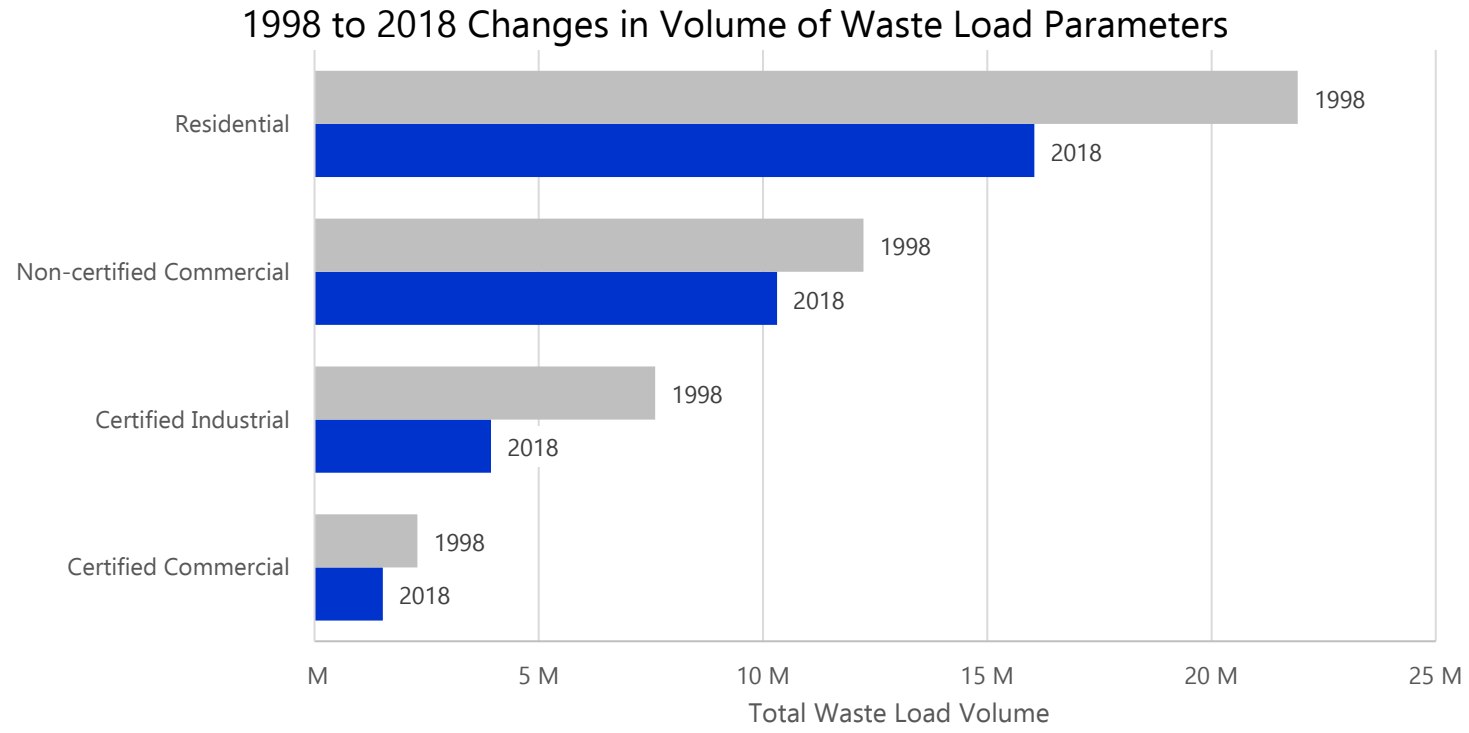
Waste Loads and the Customer Base

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 1998, the District has seen an overall drop in the volume of TSS, BOD, and billable flow. Using waste load data reported in the 2018 Comprehensive Annual Financial Report (CAFR), from 1998 to 2018, the waste load parameters show a 24 percent decline in TSS, a 21 percent decline in BOD, and a 28 percent decline in flow among all customers.



Source: 2018 Comprehensive Annual Financial Report

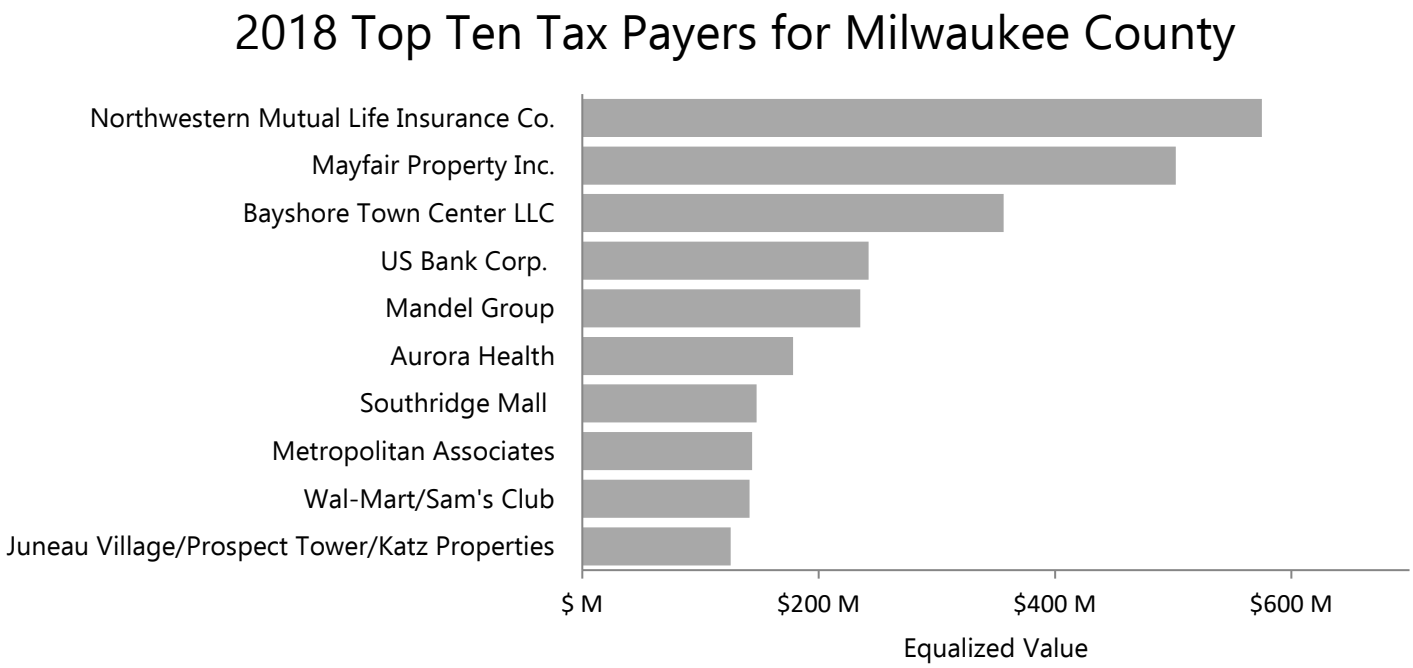
The billing parameters from each of the four customer classes: residential, non-certified commercial, certified industrial, and certified commercial has continued to decline over the last two decades.



Source: 2018 Comprehensive Annual Financial Report

Funding the Capital Budget

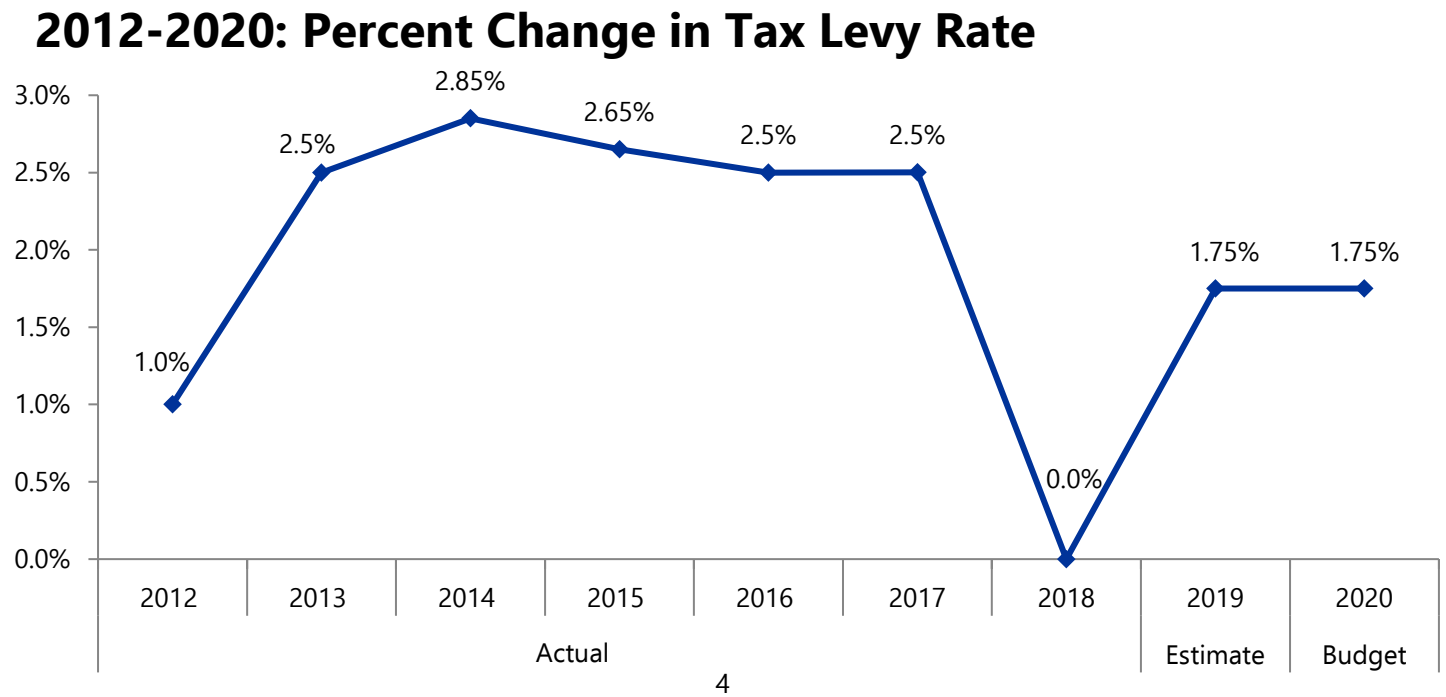
The District finances its capital budget through an ad valorem tax upon the taxable property within the District's boundary. In addition to debt service, the tax levy primarily funds acquisition and improvement of land, property or facilities to enhance sewerage services to the District's service area.



Source: 2018 Comprehensive Annual Financial Report

In general, a tax levy requires a two-thirds vote of all District Commissioners and is uniformly levied based on equalized value. The following chart shows the change in tax levy rate from 2012 to the 2020 budget.
If resolutions authorizing full funding of the local share of the District's Capital Budget are not adopted by the Commission by October 15 of any year, then the Commission may, by simple majority, raise up to $40 million by direct tax levy in addition to any amount required to meet the District's general obligation indebtedness.

Wisconsin statutes authorize the District to finance capital improvements through the issuance of debt including general obligation bonds or notes, bond anticipation notes, and revenue anticipation notes. Issuance of bonds and notes requires a vote of two-thirds of all Commissioners. However, a vote of three-fourths of all Commissioners is required for emergency borrowing.



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 2019 to-date, the District captured and treated 99.4% of wastewater before returning it to the waterways.

Year	Percent captured and treated
2019 to-date	99.4%
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%
2008	95.1%

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	Milwaukee-Racine
2017-2018 (1st half)	2.1%	
2016-2017	2.1%	2.0%

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 2017, the national CPI increased 2.1 percent over 2016, and in Milwaukee CPI increased 2.0 percent. National CPI for the first half of 2018 is has increased 2.1 percent over the first half of 2017. Both the national and the state economy show signs of improvement through improved consumer spending, a recovering housing sector, and healthy exports growth.

Employment Cost Index

Year	US
2017-2018 (1st half)	2.7%
2016-2017	2.5%

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.

Construction Cost Index and Building Cost Index

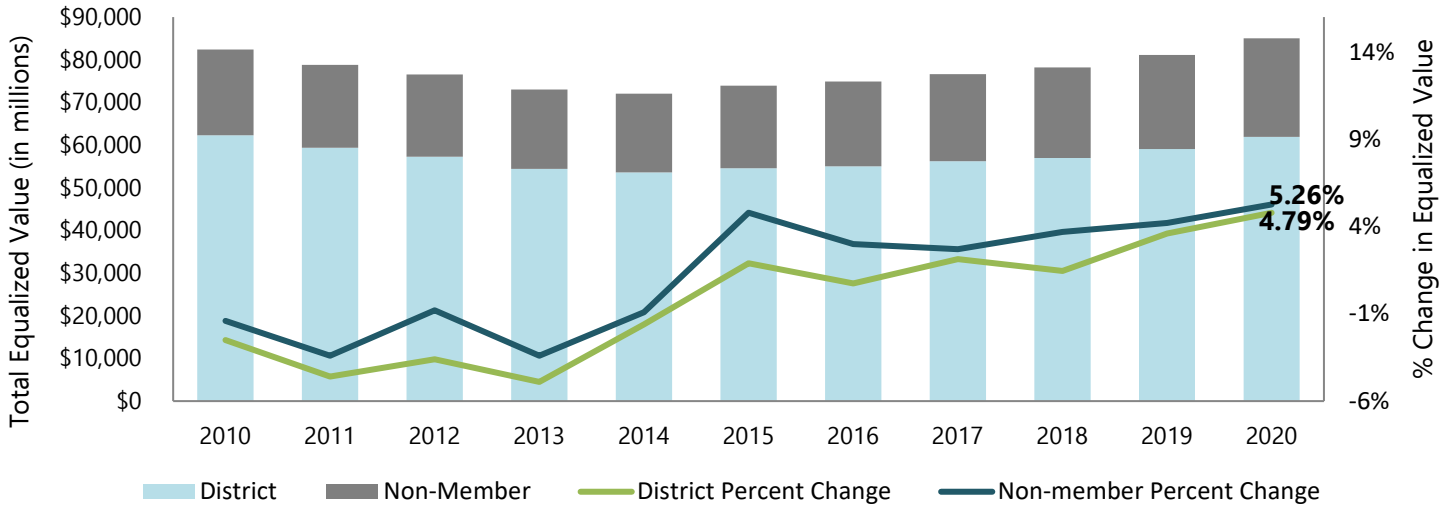
Year	Average CCI	Average BCI
2017	3.9%	3.5%
2016	2.3%	3.0%
2015	2.3%	2.4%

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 2019 rose 4.2 percent. However, home sales fell 5 percent in the second quarter of 2019, compared to the second quarter of 2018. In Milwaukee County, sales prices average $196,166 for the second quarter.[1]

2010-2020: 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 2020, the total equalized values in the District's service area are estimated to increase approximately 4.8 percent for member communities and increase 5.3 percent for non-member communities.

Unemployment Rate

Annual Unemployment Rate

Year	US	WI	Milwaukee-Waukesha-West Allis MSA
2019 First Half	3.7%	2.9%	3.2%
2018	3.9%	3.0%	3.2%
2017	4.4%	3.3%	3.5%

Source: For national, Wisconsin, and Milwaukee-Waukesha-West Allis MSA data: U.S. Bureau of Labor Statistics (July 2019).

Statewide, the non-seasonally adjusted unemployment rate in July 2019 is 2.9 percent, down from 3.0 percent in 2018. Wisconsin's unemployment rate has been consistently below the national rate since 2008. According to the Wisconsin Department of Revenue, the unemployment rate is expected to stay around 2.9 percent between 2019 and 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, Wisconsin, and the Milwaukee Area.

Personal Income Percent Change (Annual)

Year	US	WI	Milwaukee-Waukesha-West Allis
2019 Q2	4.5%	1.8%	Unavailable
2018	4.4%	4.0%	Unavailable
2017	4.6%	3.6%	1.4%

Source: US Bureau of Economic Analysis

According to the Wisconsin Department of Revenue, wages and salaries grew 3.9 percent in 2018 in Wisconsin and 4.5 percent nationwide. Wisconsin's forecast calls for an average wage growth of 4 percent in 2019 and over the next three years, compared to an average 4.5 percent nationwide.

[1] Williams, Nick. "GMAR: Home sales slow down, Milwaukee market nearing a slowdown." *Milwaukee Business Journal Sentinel,* 15 July 2019.

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.

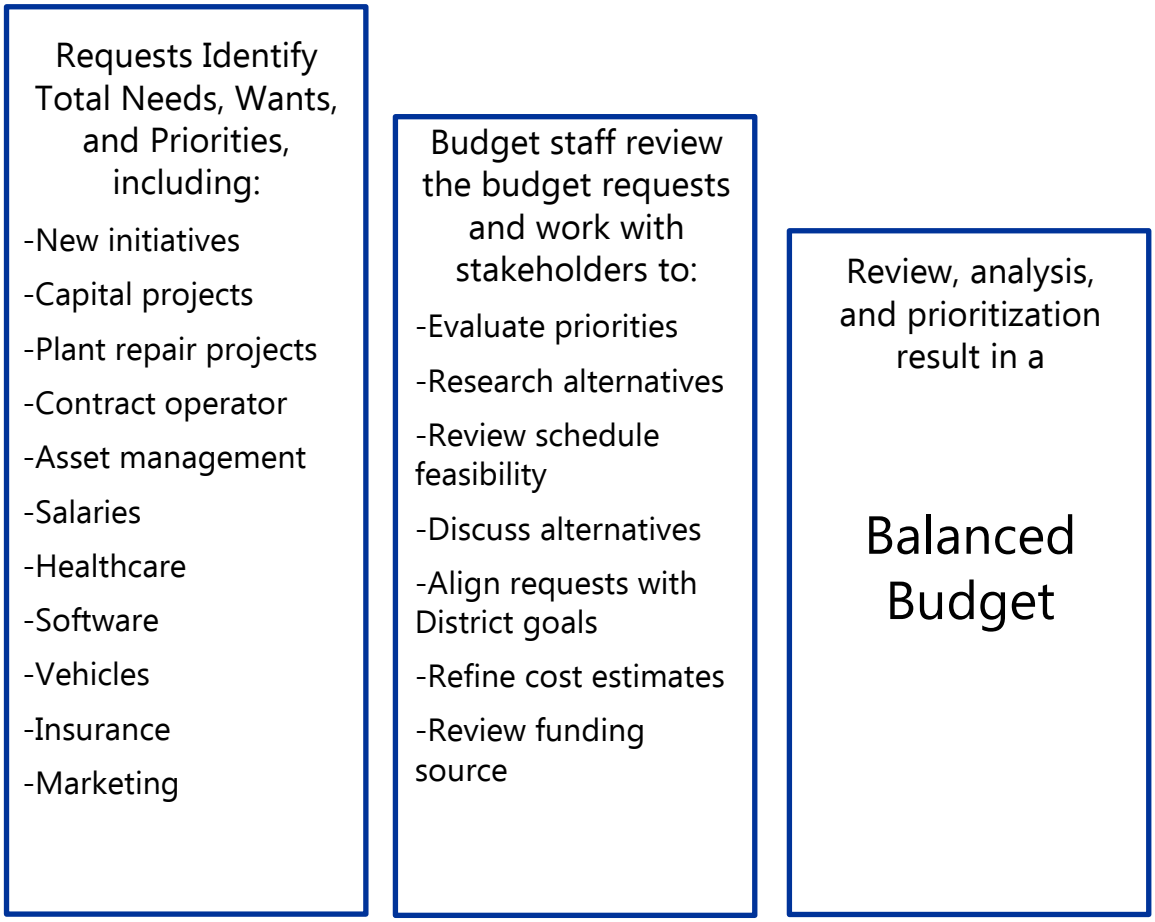
	Top Ten Management Characteristics		District Performance
1	An established rainy day/budget stabilization reserve.	✓	• The District maintains two reserve funds: the User Charge Stabilization Fund and the Equipment Replacement Fund
2	Regular economic and revenue reviews to identify shortfalls early.	✓	• Cost center managers review monthly variance reports • Quarterly variance reviews are prepared and discussed for both the O&M and Capital Budgets • Quarterly financial statements are prepared and distributed
3	Prioritized spending plans and established contingency plans for operating budgets.	✓	• Annual budget process prioritizes needs. • Annual operating contingency established through the Unallocated Reserve.
4	A formalized capital improvement plan in order to assess future infrastructure requirements.	✓	• Annual budget includes a six-year capital improvement program, including a long-range financing plan.
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.	✓	• Financial statements are presented on the accrual basis of accounting. • Expenses are recorded when liabilities are incurred. • Since 1993, the District has recorded and disclosed its unfunded obligations for retiree health and life insurance.
6	A debt affordability model in place to evaluate future debt profile.	✓	• 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. • No more than 15 percent of its outstanding general obligation bonds are in variable rate form. • Advance refunding for economic savings is undertaken only when net present value savings of at least two percent of refunded debt can be achieved.
7	A pay-as-you-go financing strategy as part of the operating and capital budget.	✓	• Capital Budget complies with a 25 percent cash financing objective. • The District has never issued debt to fund its O&M expenditures.
8	A multiyear financial plan in place that considers the affordability of actions or plans before they are part of the annual budget.	✓	• The Capital Budget includes a Long-Range Financing Plan. • Budget staff prepare a six-year forecast of revenues and expenditures for internal decision making.
9	Effective management and information systems.	✓	• The District uses an integrated core financials management system and other program-specific systems that capture and report critical operating information.
10	A well-defined and coordinated economic development strategy.	✓	• 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. • The District's user charge and tax rates are competitive on a national basis. • The District fully supports its Small, Women-, and Minority Owned Business Enterprise procurement policy. • The District provides and Workforce and Business Development Resource Program. • The District uses a local workforce preference policy whenever applicable.

Financial Planning

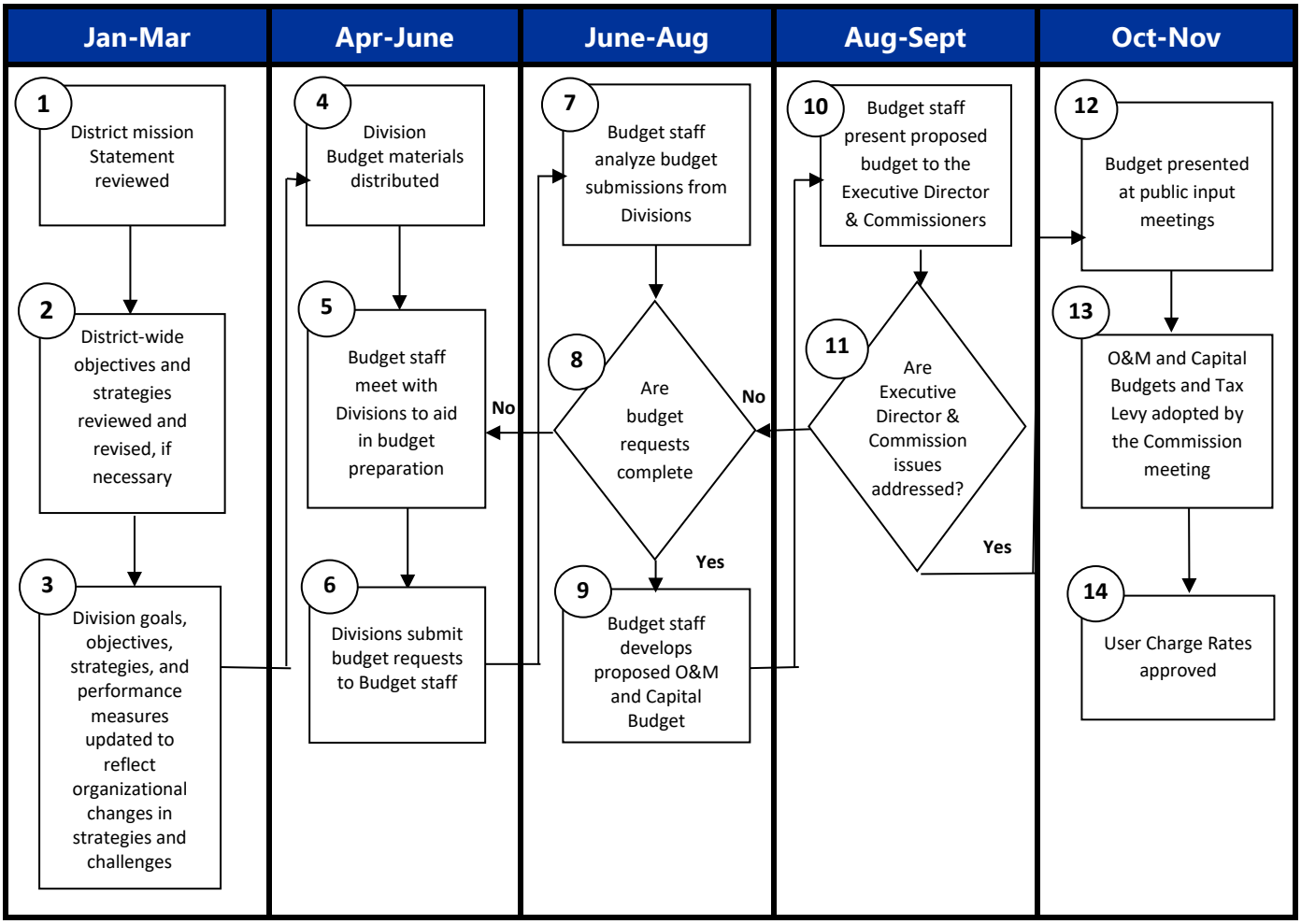
Just as strategic planning identifies objectives and strategies, financial planning identifies financing scenarios and alternatives for the strategic programs and other action items. A long-term forecast is prepared for both the Operations and Maintenance (O&M) and the Capital Budgets.

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
Thursday, April 11, 2019	11:30 a.m.	Budget Kick-Off
Friday, May 24, 2019	5:00 p.m.	Budget Requests Due
Throughout May and June		Staff analyze requests and begin to develop long-range financing plan and forecast
Monday, June 24, 2019	9:00 a.m.	Capital and Operations & Maintenance Budget update to Commission
Monday, July 22, 2019	9:00 a.m.	Capital and Operations & Maintenance Budget update to Commission
Friday, September 6, 2019	9:00 a.m.	Distribute Budget to Commissioners
Monday, September 23, 2019	6:00 p.m.	Public Hearing on Budgets
Monday, October 7, 2019	5:00 p.m.	Budget Amendments Due
Monday, October 14, 2019	8:30 a.m.	Public Hearing on Budgets
TBD	TBD	User Charge Ad Hoc Committee meets
Monday, October 28, 2019	9:00 a.m.	Commission Adopts Budgets & Tax Levy Adopted
TBD	TBD	User Charge Billing Rates Set

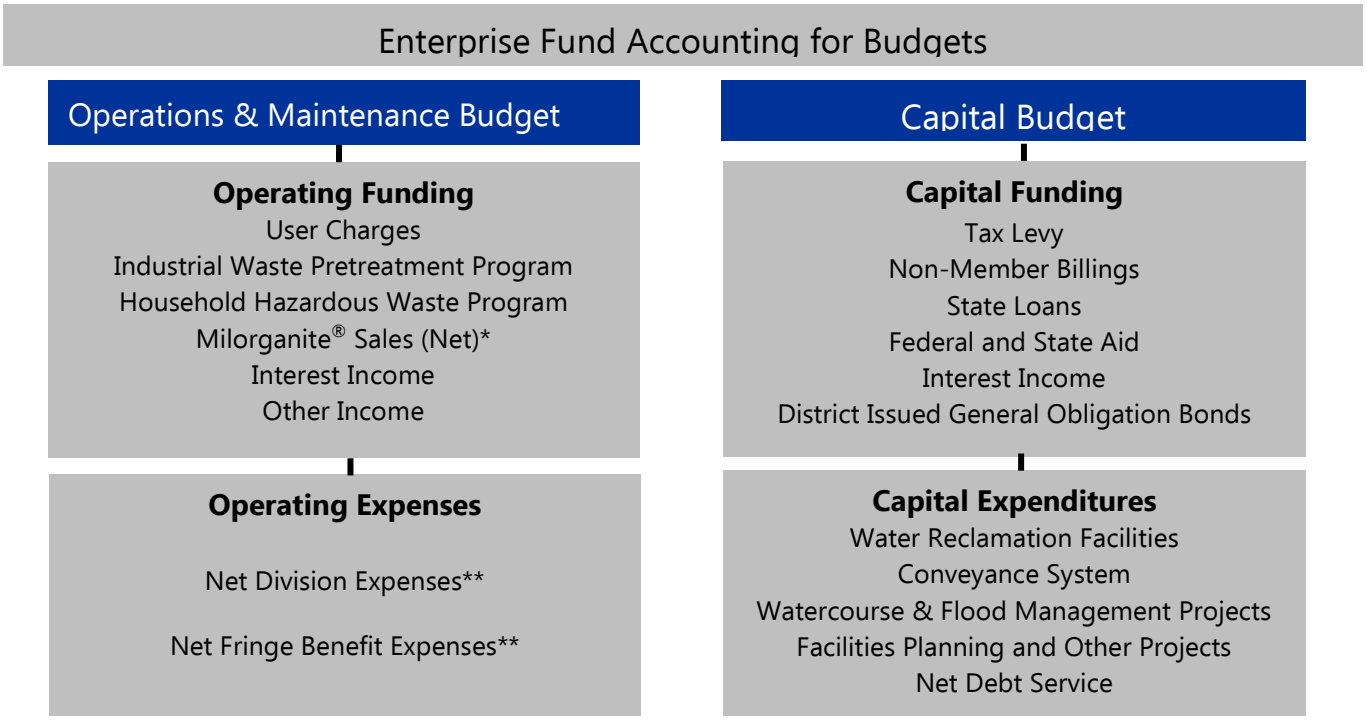
District Fund Structure

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 funds. As it does not use governmental funds, there is no fund balance as this term does not apply to enterprise funds. The equity of full-accrual statements, as an enterprise fund, is referred to as net assets, or per GASB 63, Net Position.

The District's net position consists of investment in capital assets, along with restricted and unrestricted balances. 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.



** 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® 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.

2020 Combined Summary of Revenues and Expenditures

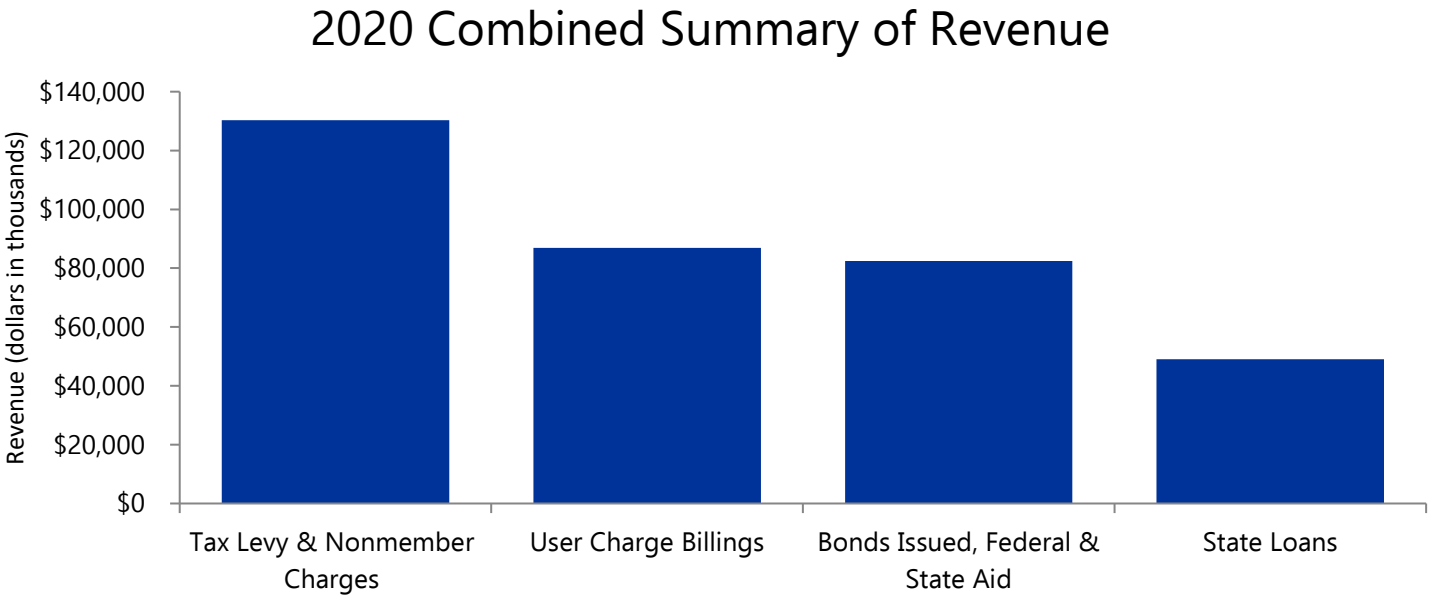
(Dollars in Thousands)

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Adopted Budget	% Change from 2019 Adopted
Operations & Maintenance						
User Charge Billings	$82,799	$84,771	$84,771	$86,871	$2,100	2.5%
Milorganite® Sales (Net)	10,313	10,000	10,400	10,400	400	4.0%
All Other Operating Income	5,301	4,135	4,217	6,329	2,194	53.1%
User Charge Stabilization Fund Applied (or Contribution)	(2,465)	0	0	2,500	2,500	-
Equipment Replacement Fund Applied (or Contribution)	(415)	(300)	(300)	(300)	0	0.0%
IWPP Fund Applied (or Contribution)	0	59	0	0	(59)	-100.0%
Surplus Applied	7,466	6,027	6,027	5,222	(805)	-13.4%
Total Operations & Maintenance Funding	102,999	104,693	105,115	111,022	6,330	6.0%
Capital						
Tax Levy	98,380	100,102	100,102	101,853	1,751	1.75%
Non-member Billings	30,669	30,146	29,992	28,419	(1,727)	-5.7%
Federal and State Aid	2,871	1,631	4,107	2,419	788	48.3%
State Loans	19,735	31,514	31,514	49,024	17,510	55.6%
Interest and Other Income	4,081	1,249	4,073	2,526	1,277	102.2%
District Bonds	0	0	0	80,000	80,000	-
Use of (Additions to) Available Funds	18,616	37,733	42,624	(37,093)	(74,826)	-198.3%
Total Capital Funding	174,352	202,374	212,412	227,148	24,774	12.2%
Total Funding	**$277,352**	**$307,067**	**$317,528**	**$338,170**	**$31,104**	**10.1%**
Expenditures						
Operations & Maintenance						
Net Division Expenditures	$87,405	$89,966	$92,534	$96,911	$6,944	7.7%
Net Fringe Benefit Expenditures	10,372	11,726	11,568	11,935	209	1.8%
Unallocated Reserve	0	3,000	0	2,177	(823)	-27.4%
Total Operations & Maintenance Expenditures	$97,778	$104,693	$104,102	$111,022	$6,330	6.0%
Capital						
Water Reclamation Facilities	29,805	44,898	47,042	50,509	5,611	12.5%
Conveyance Facilities	5,310	8,055	7,462	13,045	4,990	62.0%
Watercourse & Flood Mgmt Projects	12,310	14,534	26,220	16,977	2,443	16.8%
Other Projects & Programs	15,391	25,388	22,500	34,992	9,604	37.8%
Debt Service	111,536	109,499	109,188	111,625	2,126	1.9%
Total Capital Expenditures	174,352	202,374	212,412	227,148	24,774	12.2%
Total Expenditures	**$272,130**	**$307,067**	**$316,515**	**$338,170**	**$31,104**	**10.1%**

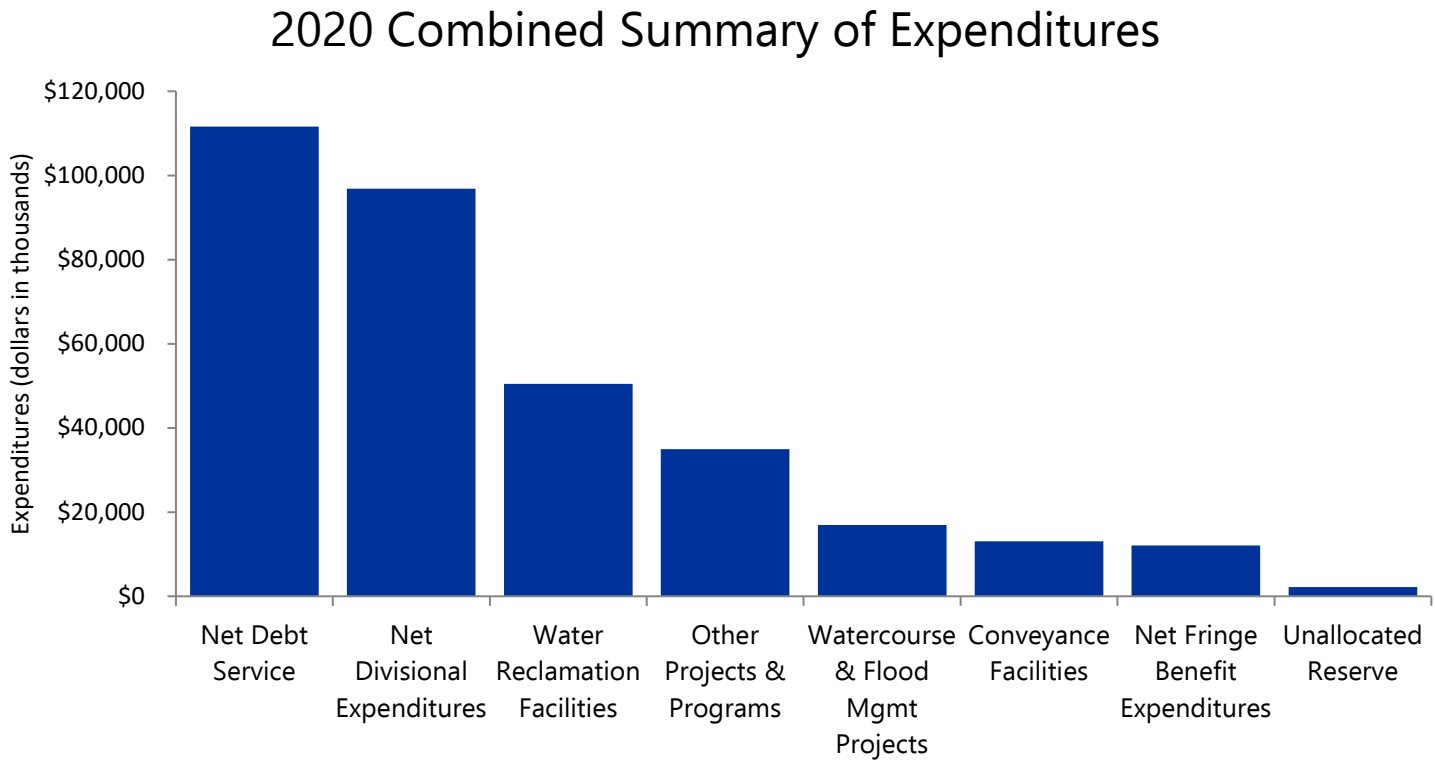
2019 estimate is as of second quarter 2019.

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

The District's 2020 combined budget totals approximately $338.2 million. As seen in the following chart, the primary sources of funds in the 2020 combined budgets are the tax levy, non-member billings, and user charge billings.



On the expenditure side, the Capital Budget again comprises the majority of the 2020 combined budget with net debt service, water reclamation facilities, conveyance, watercourse and flood management, and other projects and programs project expenditures totaling 67.2 percent. The net divisional and fringe benefit expenditures, which include operations of the District facilities, are 32.8 percent of the combined expenditures.



2020 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 2020 O&M Budget, the District anticipates $111.0 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 2018 surplus, and the use of reserves. The primary source of revenue for O&M expenditures is the user charge billings. In 2020, user charge billings are budgeted at $86.9 million, a 2.5 percent increase from the 2019 budget.

In the 2020 O&M Budget, total revenue increases $6.3 million or 6.0 percent from the 2019 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 43.7 percent of the 2020 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 9.5 percent of the O&M Budget.

Total expenditures are increasing 7.0 percent over the 2019 budgeted level, with the bulk of the increase attributable to additional projects in the Technical Services division.

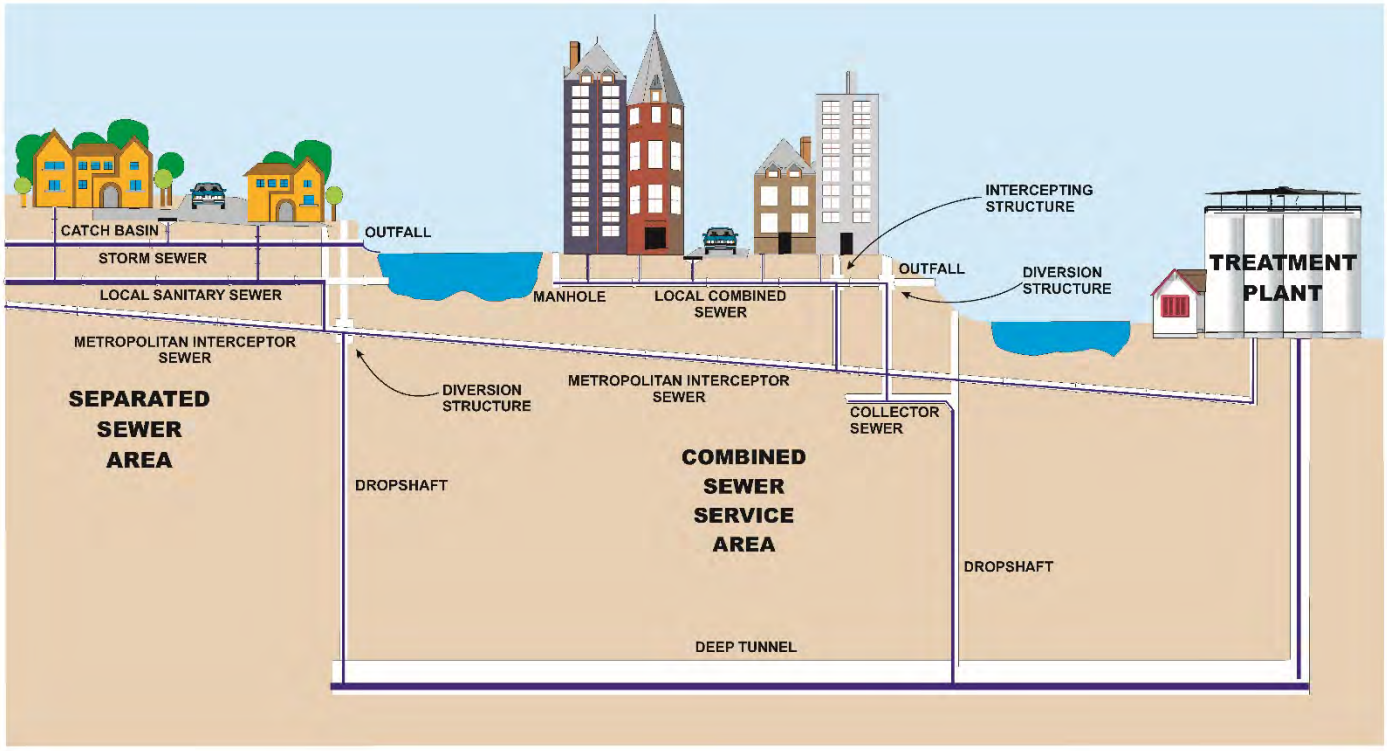
Capital Expenditures Impact on the Operating Budget

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.

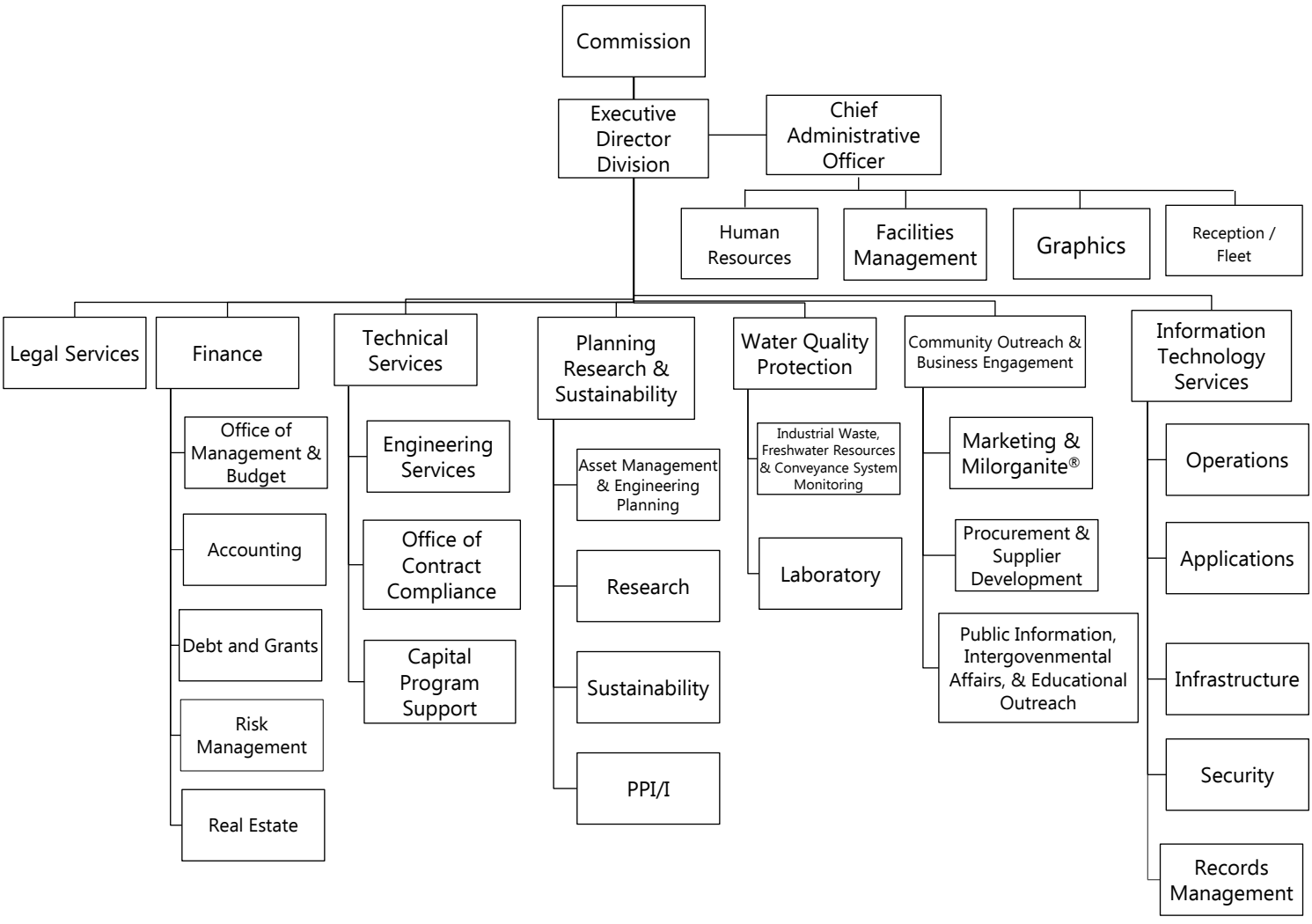
Guide to the 2020 O&M Budget

Concluding the O&M Summary are a series of charts and graphs providing an overview of the 2020 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 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.



Milwaukee Metropolitan Sewerage District Organizational Chart

Below is the District's organization chart with position counts for each cost center. The following pages offer additional detail on changes to authorized staffing by division; each division's narrative also includes a detailed explanation to personnel costs and changes.



Summary of Authorized Staffing by Division

Divisions	2018 Budget	2019 Budget	2020 Budget	Change from 2019
Commission	**0**	**0**	**0**	**0**
Office of the Executive Director[1]	5	7	7	0
Human Resources	4	4	4	0
Facilities	4	4	4	0
Executive Director	**13**	**15**	**15**	**0**
Information Technology Services	20	20	20	0
Records	0	3	3	0
Information Technology Services	**20**	**23**	**23**	**0**
Legal Services[2]	7	7	6	(1)
Records	4	0	0	0
Legal Services	**12**	**7**	**6**	**(1)**
Finance	20	19	19	0
Finance	**19**	**19**	**19**	**0**
Office of Contract Compliance[3]	8	9	10	1
Capital Program Support	41	38	38	0
Engineering Services	21	20	20	0
Technical Services	**70**	**67**	**68**	**1**
Planning, Research & Sustainability[4]	21	23	24	1
Planning, Research & Sustainability	**21**	**23**	**24**	**1**
Industrial Waste & Conveyance Monitoring	39	39	39	0
Central Laboratory	22	23	23	0
Water Quality Protection	**61**	**62**	**62**	**0**
Marketing and Milorganite®[5]	6	6	7	1
Procurement & Supplier Development[6]	8	7	6	(1)
Public Information, Intergov. Affairs, and Educational Outreach[7]	7	6	5	(1)
Community Outreach & Business Engagement	**21**	**19**	**18**	**(1)**
Total District	**237**	**235**	**235**	**0**

Note: Commissioners are not included in this table

Explanation of Changes to Divisions and Authorized Staffing

1. In the 2020 budget, one vacant Senior Fellow – Treasurer position is eliminated. One new Receptionist position is created. Beginning in 2020, the Chief Administrative Officer will also oversee the Human Resources cost center.

2. In the 2020 budget, one vacant authorized but unfunded Staff Attorney position is eliminated.

3. In 2019, one Project Manager position is created mid-year by the Executive Director.

4. In 2019, one Asset Management Analyst position is created mid-year by the Executive Director.

5. In 2019, one vacant authorized Administrative Assistant position in the Procurement and Supplier Development cost center is filled as a Digital Marketing Specialist position in the Marketing and Milorganite® cost center.

6. In 2019, one vacant authorized Administrative Assistant position in the Procurement and Supplier Development cost center is filled as a Digital Marketing Specialist position in the Marketing and Milorganite® cost center.

7. In the 2020 Budget, one vacant Outreach Coordinator – Limited Term Employee that was created in the 2019 budget to help with grant-funded work is eliminated.

As position duties change, Human Resources has a process to review and recommend changes. Any changes to positions are approved by the Policy, Finance and Personnel Committee of the Commission.

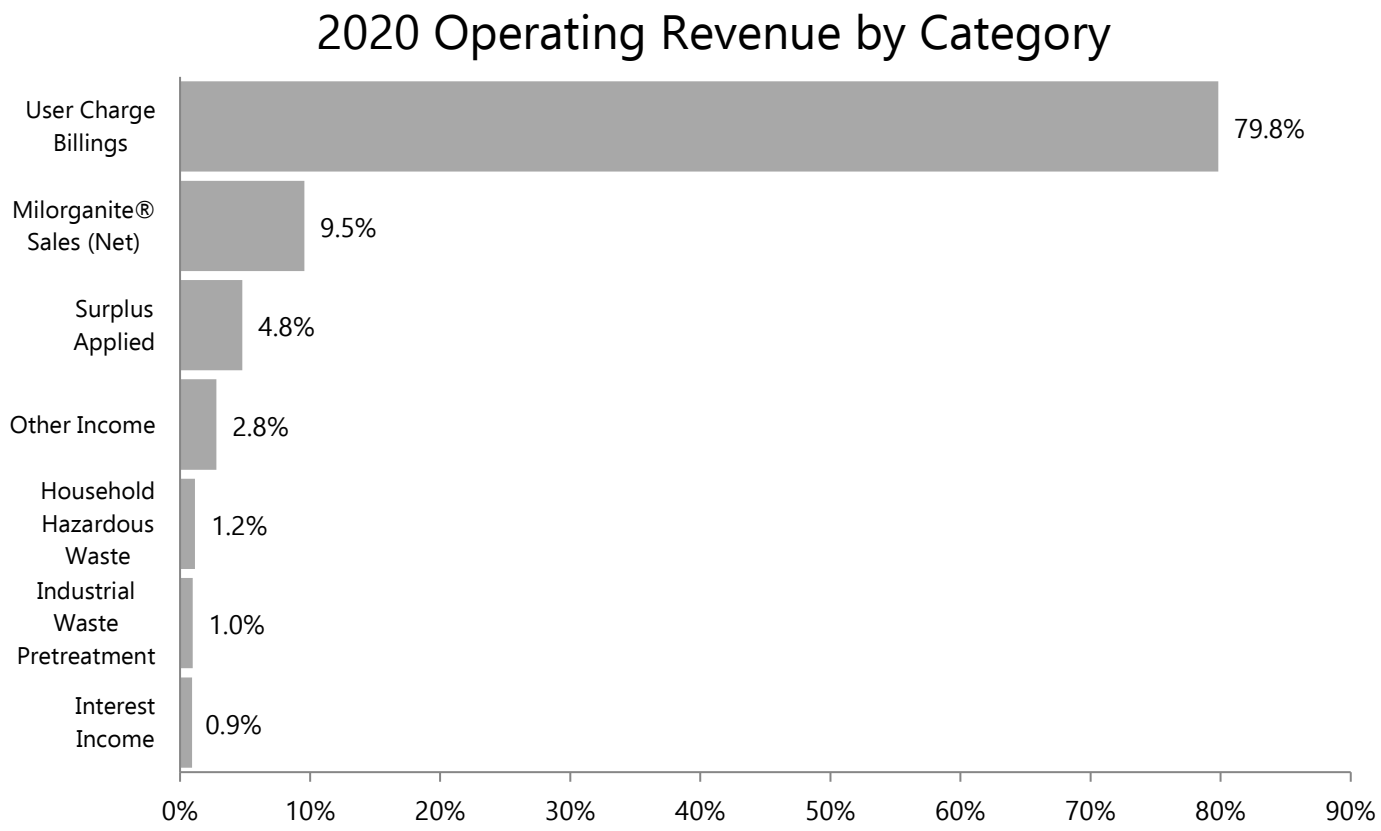
Summer intern students install a rain garden to manage water where it falls.

2020 O&M Revenues and Expenditures

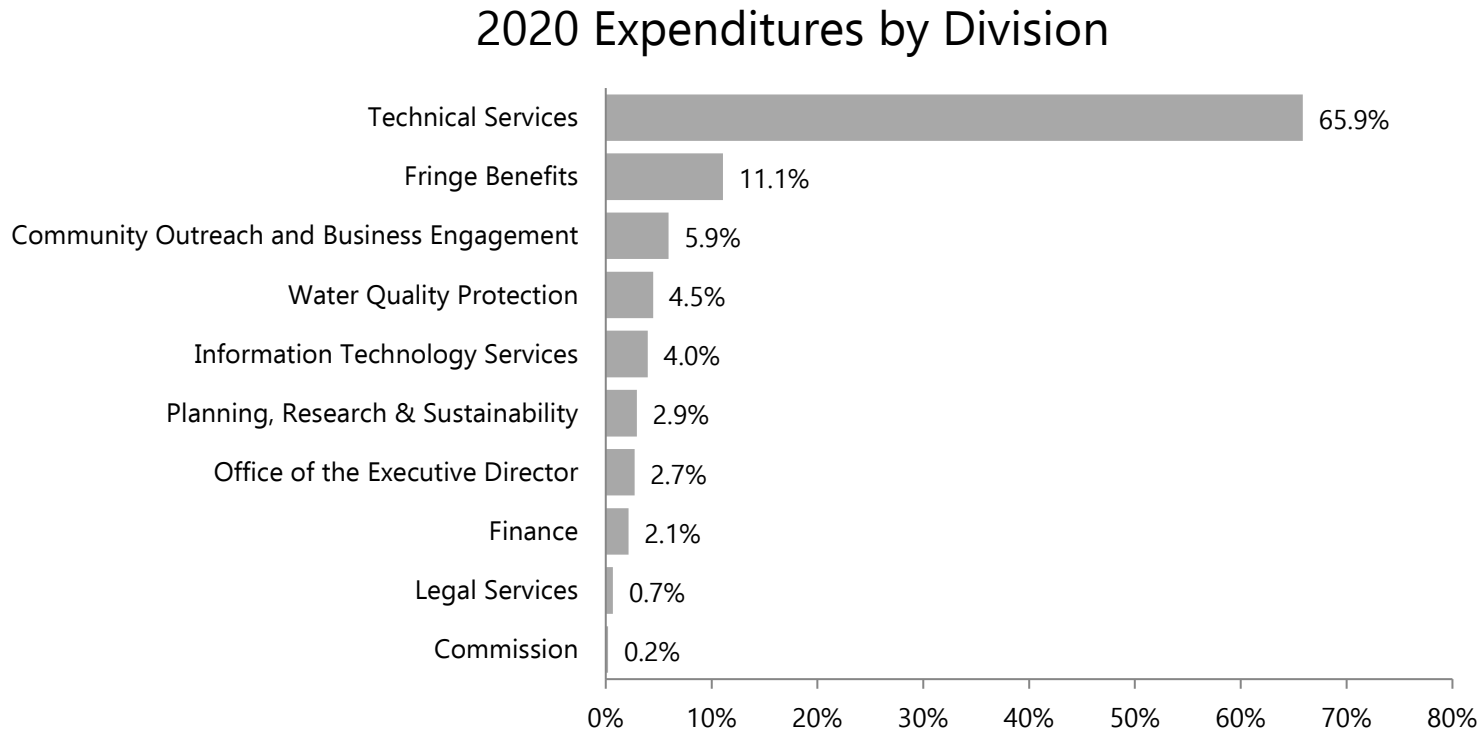
	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Adopted Budget	% Change from 2019 Adopted Budget
Revenues						
User Charge Billings	$82,799,206	$84,771,281	$84,771,281	$86,871,306	$2,100,025	2.5%
Milorganite® Sales (Net)	10,312,904	10,000,000	10,400,000	10,400,000	400,000	4.0%
Interest Income	905,297	1,000,000	1,000,000	1,000,000	0	0.0%
Other Income	2,230,307	865,945	947,676	3,043,895	2,177,950	251.5%
Household Hazardous Waste	1,189,912	1,231,951	1,231,951	1,258,850	26,899	2.2%
Industrial Waste Pretreatment	975,658	1,037,000	1,037,000	1,026,310	(10,689)	-1.0%
Total Operating Revenue	98,413,284	98,906,177	99,387,908	103,600,361	4,694,184	4.7%
Reserves and Surplus						
Equipment Replacement Fund Applied (or Contribution)	(414,710)	(300,000)	(300,000)	(300,000)	0	0.0%
User Charge Stabilization Fund Applied (or Contribution)	(2,465,000)	0	0	2,500,000	2,500,000	-
IWPP Stabilization Fund Applied	0	59,000	59,000	0	(59,000)	-100.0%
Surplus or Deficit Applied	7,465,849	6,027,340	6,027,340	5,221,920	(805,420)	-13.4%
Total Reserves and Surplus	4,586,139	5,786,340	5,786,340	7,421,920	1,635,580	28.3%
Total Funding	**$102,999,423**	**$104,692,517**	**$105,174,248**	**$111,022,281**	**$6,329,764**	**6.0%**
Expenditures						
Divisions						
Commission	204,899	236,282	188,709	232,582	(3,700)	-1.6%
Office of the Executive Director	2,655,406	3,157,588	3,090,392	3,257,408	99,820	3.2%
Information Technology Services	4,165,533	4,915,969	4,334,186	4,641,773	(274,196)	-5.6%
Legal Services	1,125,121	895,012	864,012	966,258	71,246	8.0%
Finance	2,649,693	2,731,956	2,660,412	2,817,336	85,380	3.1%
Technical Services	70,153,747	69,965,341	73,622,595	77,621,664	7,656,323	10.9%
Planning, Research & Sustainability	4,723,018	4,291,123	4,541,579	5,248,726	957,603	22.3%
Water Quality Protection	5,930,013	6,823,795	6,823,200	6,681,928	(141,867)	-2.1%
Community Outreach and Business Engagement	6,294,644	7,063,211	6,758,029	6,845,302	(217,909)	-3.1%
Fringe Benefits	13,924,615	15,215,820	15,128,805	15,752,757	536,937	3.5%
Charges to Capital	(14,049,179)	(13,603,582)	(14,534,421)	(15,220,362)	(1,616,780)	11.9%
Net Division Expenditures	$97,777,510	$101,692,517	$103,477,498	$108,845,374	$7,152,858	7.0%
Unallocated Reserve	0	3,000,000	0	2,176,907	(823,093)	-27.4%
Total Expenditures	**$97,777,510**	**$104,692,517**	**$103,477,498**	**$111,022,281**	**$6,329,765**	**6.0%**

2019 Estimate is as of Q2 2019. Note, totals may not appear to add due to rounding.

The District's 2020 O&M Budget totals approximately $111.0 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 2018. Additional details on the revenues by category may be found in the *Sources of Funds* section.



On the expenditure side, the Technical Services Division accounts for 65.9 percent of the 2020 O&M Budget. The Technical Services Division includes the Veolia Water Milwaukee contract for operations and maintenance of the District and reclamation facilities.

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Sources of Funds

In 2020, the District's estimated revenue is $111.0 million compared to the 2019 budgeted level of $104.7 million. The $6.3 million increase represents a 6.0 percent increase from the 2019 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 2020 O&M Budget.

2020 Funding Summary

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
User Charge Billings	$82,799,206	$84,771,281	$84,771,281	$86,871,306	$2,100,025	2.5%
Milorganite® Sales (Net)	10,312,904	10,000,000	10,400,000	10,400,000	400,000	4.0%
Interest Income	905,297	1,000,000	1,000,000	1,000,000	0	0.0%
Other Income	2,230,307	865,945	947,676	3,043,895	2,177,950	251.5%
Household Hazardous Waste	1,189,912	1,231,951	1,231,951	1,258,850	26,899	2.2%
Industrial Waste Pretreatment	975,658	1,037,000	1,037,000	1,026,310	(10,689)	-1.0%
Total Operating Revenues	$98,413,284	$98,906,177	$99,387,908	$103,600,361	$4,694,184	4.7%
Equipment Replacement Fund	(414,710)	(300,000)	(300,000)	(300,000)	0	0.0%
User Charge Stabilization Fund	(2,465,000)	0	0	2,500,000	2,500,000	100.0%
IWPP Stabilization Fund Applied	0	59,000	59,000	0	(59,000)	-100.0%
Surplus or Deficit Applied	7,465,849	6,027,340	6,027,340	5,221,920	(805,420)	-13.4%
Total Reserves and Surplus	$4,586,139	$5,786,340	$5,786,340	$7,421,920	$1,635,580	28.3%
Total Funding	**$102,999,423**	**$104,692,517**	**$105,174,248**	**$111,022,281**	**$6,329,764**	**6.0%**

Note, totals may not add due to rounding. 2019 estimate is as of Q2 2019.

User Charge Billings

Source of Funds	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
User Charge Billings	$82,799,206	$84,771,281	$84,771,281	$86,871,306	$2,100,025	2.5%

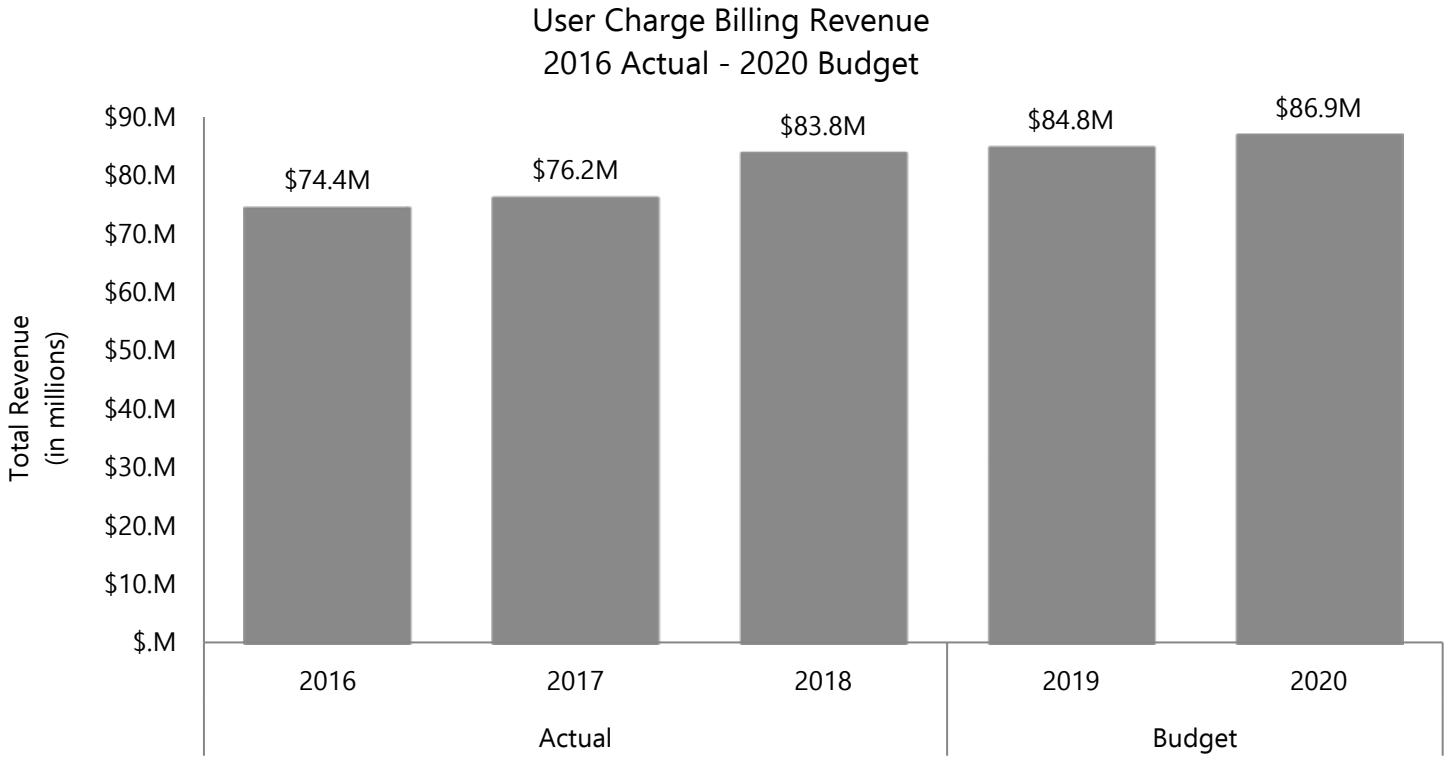
User charge billings are the primary source of revenue for the District's operating budget. The District bills each of the 28 municipalities within its service area based on waste strength, quantity, and number of connections of its users. The municipalities, in turn, directly bill their residential, 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 2020, the District budget includes a 2.5 percent increase over the 2019 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.

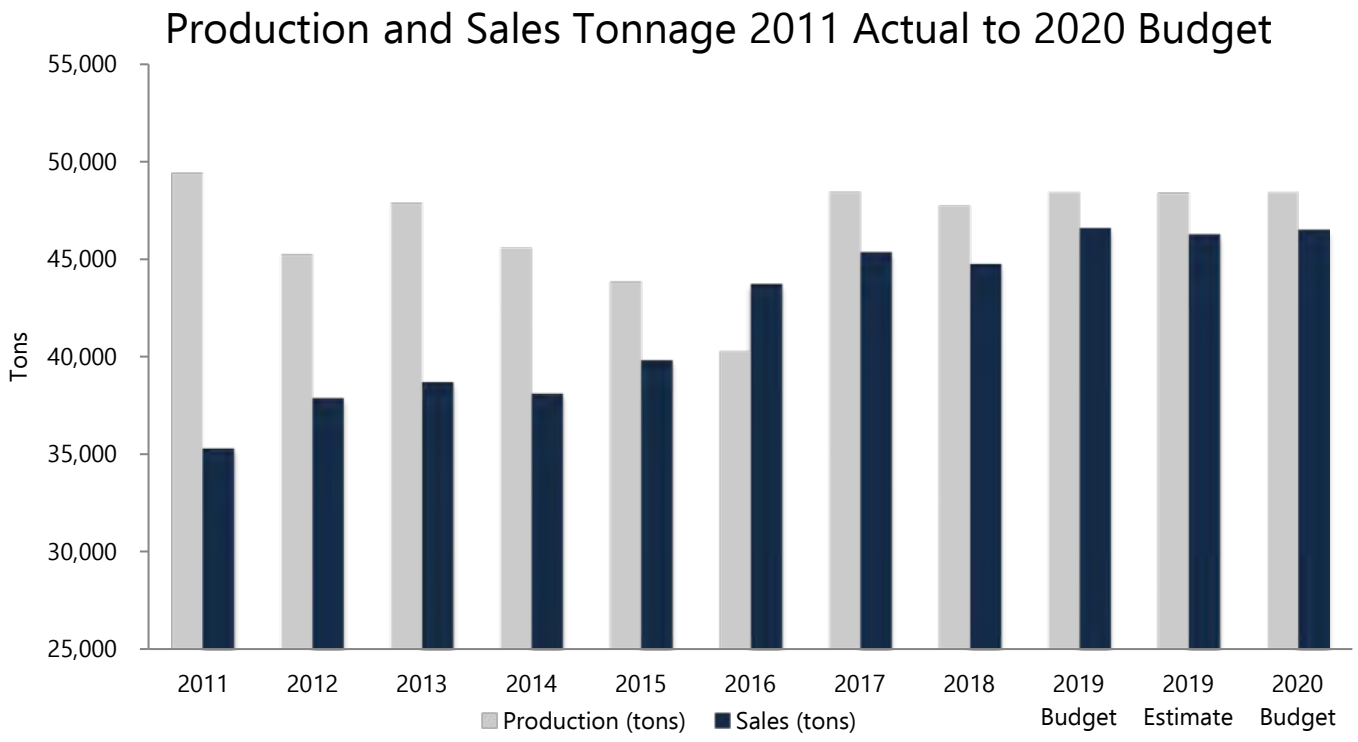


Milorganite® Sales (Net)

Source of Funds	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Milorganite® Sales	10,312,904	10,000,000	10,400,000	10,400,000	400,000	4.0%

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 2020, the budgeted net Milorganite® revenue is $10.4 million. In 2020, the budgeted weighted-average net sales price per ton including discounts and agriculture application is $223.66, an increase from $218.34 in the 2019 Budget. The actual average sale price may be higher or lower than the budgeted price depending on actual product sales. Sales in 2020 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	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Interest Income	905,297	1,000,000	1,000,000	1,000,000	0	0.0%

Total Interest Income projected for the 2020 O&M Budget is $1,000,000, which represents a zero percent change from the 2019 budgeted level. An average interest rate of 2 percent on approximately $50 million in investments is projected for 2020.

Currently, as the District's long-term investments mature, reinvestment opportunities are available at interest rates that are consistent with the low rates in the previous year. These low rates are a result of efforts by the Federal Reserve to help improve the economy.

Other Income

Source of Funds	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Other Income	2,230,307	865,945	947,676	3,043,895	2,177,950	251.5%

Other Income is budgeted at $3,043,895 in the 2020 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 increases $2,177,950 or 251.5 percent from the 2019 budgeted level, because the 2020 budget includes a one-time assumption of $2,000,000 in insurance claim reimbursements.

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.

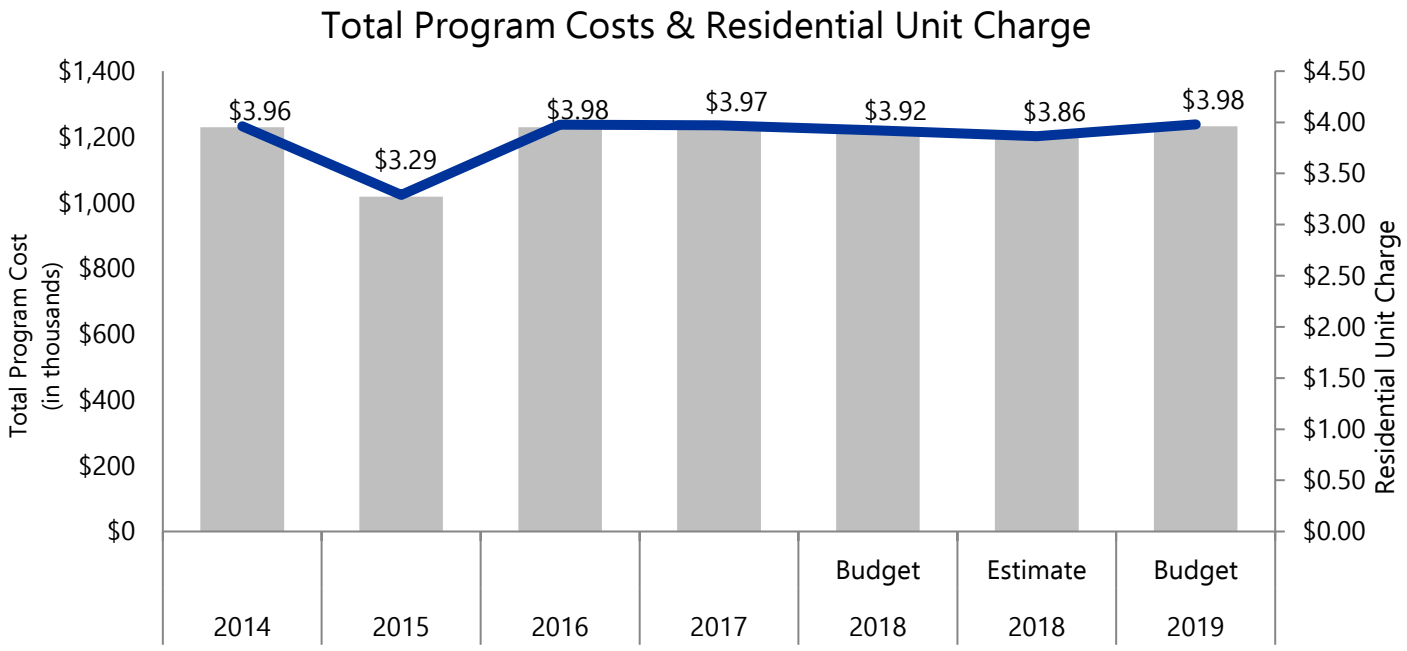
Household Hazardous Waste Collection Program

Source of Funds	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Household Hazardous Waste Collection Program	1,189,912	1,231,951	1,231,951	1,258,850	26,899	2.2%

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 2020 will be based on actual 2020 expenditures and billed to communities in spring of 2021. 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.



The 2020 Household Hazardous Waste program total revenue is projected to be $1,258,850, an increase of 2.2 percent from the 2019 budgeted level. The estimated cost per residential unit is $4.05 which is a $0.07 increase from the 2019 budgeted level.

Industrial Waste Pretreatment Program

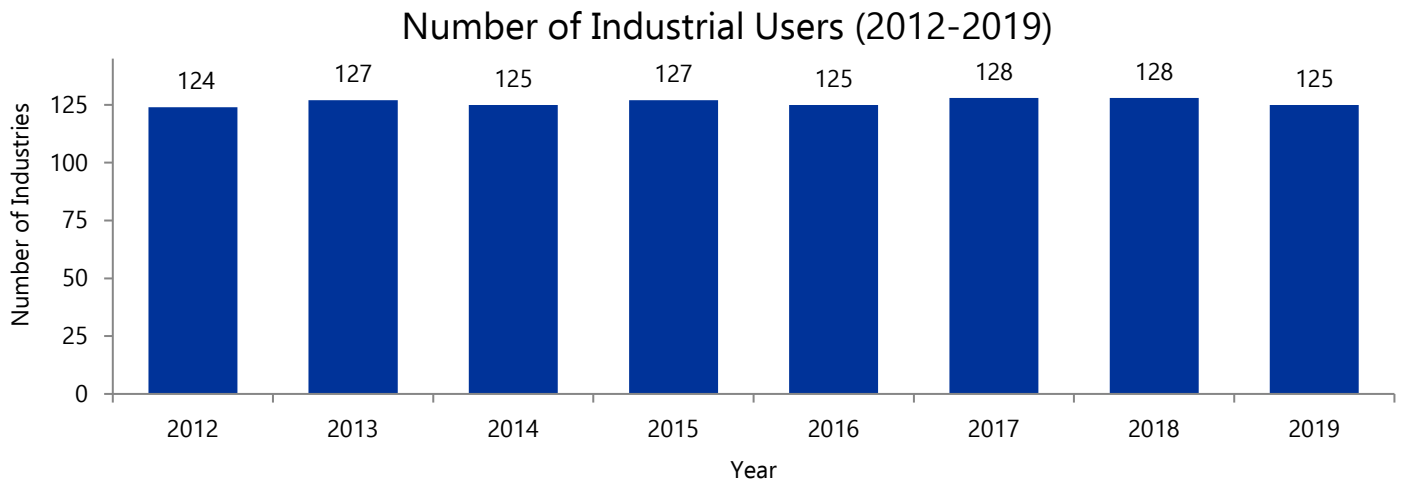
Source of Funds	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Industrial Waste Pretreatment Program	975,658	1,037,000	1,037,000	1,026,310	(10,689)	-1.0%

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 2020 O&M Budget, gross IWPP revenue is estimated to decrease 1.0 percent to $1,026,310, 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	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Equipment Replacement Fund Applied (or Contribution)	(414,710)	(300,000)	(300,000)	(300,000)	0	0.0%

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, 2019, the value of assets within the ERF is $299.2 million, and the required restricted fund balance is $15.0 million. The District anticipates a $15.1 million balance at year-end 2018.

As capital projects are completed, it is estimated the minimum required balance will increase. In 2020, the District includes a $300,000 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	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
IWPP Stabilization Fund Applied (or Contribution)	0	59,000	59,000	0	(59,000)	-100.0%

The District has an IWPP Stabilization Fund used to stabilize IWPP rates. In 2020, the District does not apply or make a contribution of the funds.

User Charge Stabilization Fund

Source of Funds	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
User Charge Stabilization Fund Applied (or Contribution)	(2,465,000)	0	0	2,500,000	2,500,000	100.0%

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 no changes to the user charge stabilization fund in 2019. The projected balance as of 1/1/2020 is $14.3 million and the expected balance as of 12/31/2020 is $9.0 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 1/1/2019	$14,276,953
2019 Net Contributions	$0
2019 Estimated Balance as of 12/31/2019	$14,276,953
Balance of Fund as of 1/1/2020	$14,276,953
2020 Net Contributions	($2,500,000)
Anticipated Balance as of 12/31/2020	**$11,776,953**
Minimum Required per Commission Policy	$2,766,140
Remaining Available Fund Balance	$9,010,813

Surplus Returned

Source of Funds	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Surplus Returned	7,465,849	6,027,340	6,027,340	5,221,920	(805,420)	-13.4%

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 2020 budget, the District returns the 2018 surplus, or $5,221,920. The surplus is $805,420 less than that applied to the 2019 budget, resulting in a 13.4 percent decrease from the 2019 budgeted level.

Commission

Division Summary

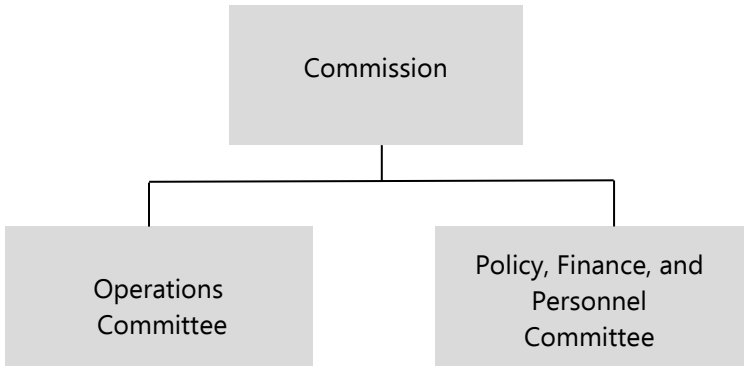
The Commission is the governing body and establishes District policies in compliance with statutory responsibility. The Commission directs and controls budgetary, administrative, procedural, operational, and informational support for the District.

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	2018 Budget	2019 Budget	2020 Budget
Commissioners	11.0	11.0	11.0
Total Positions	**11.0**	**11.0**	**11.0**

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 2018, the District once again received the NACWA Peak Performance Awards for the commitment, innovation and achievements in the clean water industry.

SUMMARY OF OPERATING EXPENDITURES

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Fixed Assets	-	-	-	-	-	0.0%
Personal Services	109,509	119,207	100,000	119,207	-	0.0%
Contractual Services	94,465	114,475	87,609	111,775	(2,700)	-2.4%
Materials & Supplies	925	2,600	1,100	1,600	(1,000)	-38.5%
Gross Division Total	**$204,899**	**$236,282**	**$188,709**	**$232,582**	**($3,700)**	**-1.6%**
Charges to Capital	-	-	-	-	-	-
Net Division Total	**$204,899**	**$236,282**	**$188,709**	**$232,582**	**($3,700)**	**-1.6%**

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.

Office of the Executive Director

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.

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

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.

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: Ensures visitors and calls are managed efficiently.

DIVISION STAFFING

Position Title	2018 Budget	2019 Budget	2020 Budget
Office of the Executive Director			
Executive Director	1.0	1.0	1.0
Senior Project Manager II	2.0	1.0	1.0
Senior Fellow - Finance	0.0	1.0	0.0
Chief Administrative Officer / Commission Secretary	1.0	1.0	1.0
Senior Project Manager - Non. PE	1.0	0.0	0.0
Graphics Designer	0.0	2.0	2.0
Administrative Assistant	0.0	1.0	1.0
Receptionist	0.0	0.0	1.0
Human Resources			
Human Resources Manager	1.0	1.0	1.0
Senior Human Resources Generalist	1.0	1.0	1.0
Human Resources Generalist	1.0	1.0	1.0
Human Resources Coordinator	1.0	1.0	1.0
Facilities Management			
Facilities Supervisor	1.0	1.0	1.0
Facilities Technician II	2.0	2.0	2.0
Facilities Technician I	1.0	1.0	1.0
Total Positions	**13.0**	**15.0**	**15.0**

ACCOMPLISHMENTS

- Completed the HQ and Lab building roof repairs.
- Replaced the Liebert HVAC unit for cooling the data center.
- Implemented new operating procedures in Reception and Fleet Services to improve efficiencies.
- Transitioned Graphics Services requests to the District's centralized service request system.
- Participated in the Milwaukee area equity task force.
- Health appraisals included employee spouses to assess and teach healthy lifestyle choices.
- Hosted 34 work study students.
- Onboarded 13 new employees.

In 2018, the District completed its 2019-2021 Strategic Plan. The Plan's 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 ✓Collaboration
✓Integrity ✓Diversity
✓Quality ✓Innovation

NEW INITIATIVES

- Implementing the 2019-2021 Strategic Plan
- Sidewalk improvements at the headquarters campus.

SUMMARY OF OPERATING EXPENDITURES

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
USES - OPERATING EXPENSES						
Executive Director	753,810	1,045,320	1,028,653	1,012,056	(33,264)	-3.2%
Human Resources	868,496	1,002,831	1,014,743	1,024,406	21,575	2.2%
Facilities Management	1,033,100	1,109,437	1,047,595	1,220,946	111,509	10.1%
Gross Division Total	**$2,655,406**	**$3,157,588**	**$3,090,991**	**$3,257,408**	**$99,820**	**3.2%**
Charges to Capital	(329,924)	(285,300)	(302,358)	(301,376)	(16,076)	5.6%
Net Division Total	**$2,325,482**	**$2,872,288**	**$2,788,633**	**$2,956,032**	**$83,744**	**2.9%**
USES BY EXPENDITURE TYPE						
Fixed Assets	-	-	22,639	-	-	0.0%
Personal Services	1,439,042	1,879,168	1,881,311	1,903,559	24,392	1.3%
Contractual Services	1,106,702	1,126,526	1,051,457	1,211,749	85,223	7.6%
Materials & Supplies	109,662	151,895	135,584	142,100	(9,795)	-6.4%
Gross Division Total	**$2,655,406**	**$3,157,588**	**$3,090,991**	**$3,257,408**	**$99,820**	**3.2%**
Charges to Capital	(329,924)	(285,300)	(302,358)	(301,376)	(16,076)	5.6%
Net Division Total	**$2,325,482**	**$2,872,288**	**$2,788,633**	**$2,956,032**	**$83,744**	**2.9%**

BUDGET COMMENTS

- One new Receptionist position is created in the Office of the Executive Director cost center. The increase in headcount is offset by the elimination of the vacant Senior Fellow – Treasurer position.
- The Facilities Management cost center budget is increasing 10.1 percent in order to complete additional projects at the headquarters campus including sidewalk repairs along the wharf wall.

WORKLOAD INDICATORS

	2018 Actual	2019 Estimate	2020 Target
Total Budgeted FTE	234	234	235
New Hire Opportunities	12	12	10
% of minority employees	19%	19%	19%
% of female employees	40%	40%	40%
Number of graphics services requests	698	597	700
Number of facilities maintenance requests	760	775	775

GOALS

- Providing world-class leadership in water resource management
- Provide leadership and direction in achieving the 2035 Vision and 2019-2021 Strategic Plan
- Increase workplace diversity through targeted recruitment efforts
- Ensure workforce stability through training and development
- Increase employee engagement
- Manage headquarters and laboratory assets to optimal performance
- Implement process improvements within Graphics, Reception, and Fleet Service areas.

CHALLENGES

- How do we replace veteran staff when they retire?
- Educating employees to become informed healthcare consumers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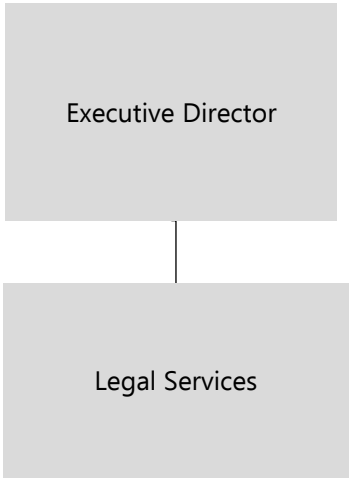
Legal Services

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	2018 Budget	2019 Budget	2020 Budget
Director of Legal Services	1.0	1.0	1.0
Senior Staff Attorney	2.0	2.0	2.0
Staff Attorney	2.0	2.0	1.0
Paralegal Administrator	1.0	1.0	1.0
Administrative Assistant	1.0	1.0	1.0
Information Governance Manager	1.0	0.0	0.0
Records Information Management Technician	3.0	0.0	0.0
Total Positions	**11.0**	**7.0**	**6.0**

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

The District owns and operates over 300 miles of MIS. The MIS system collects and transports wastewater to either the Jones Island or the South Shore Water Reclamation Facility (JIWRF and SSWRF). The Basin H MIS consists of one contiguous sanitary interceptor sewer that intercepts and conveys dry weather wastewater flows and wet weather flows from combined sewers in the City of Milwaukee and the Village of Shorewood. In 2007, as the District was preparing to rehabilitate the Basin H MIS, the District found a high level of PCBs in the MIS. To perform the contracted sewer rehabilitation, it would have been necessary to clean the sewer; however, given the presence of PCBs in the sewers, standard sewer cleaning would pose a significant risk of contaminating downstream systems, including JIWRF. Therefore, the District decided to cancel the sewer rehabilitation contract, and worked with USEPA to develop a risk-based work plan to remediate the most contaminated sewers. **The Legal Services group was instrumental in developing the risk-based work plan.**

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 and securing the easement process**.

ACCOMPLISHMENTS

- Assisted in the preparation and submittal of the District's Risk Based Work Plan to remove PCB contaminated sediments in the Basin H area, which was approved by US EPA, resulting in significant cost savings to MMSD; and continues to obtain insurance reimbursement for cleanup costs.
- Provided ongoing legal advice to staff regarding requirements for the necessary acquisition of property interests in green infrastructure projects and participated in the development of a funding plan needed to meet the stormwater retention goal of the District's 2035 Vision.

NEW INITIATIVES

- Provide ongoing advice to maximize insurance coverage for the emergency work to stabilize the Harbor Siphons
- Represent MMSD interests in the We Energies rate review proceeding before the Wisconsin Public Service Commission

SUMMARY OF OPERATING EXPENDITURES

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
USES - OPERATING EXPENSES						
Legal Services	836,448	895,012	864,012	966,258	71,246	8.0%
Records Management	288,673	-	-	-	-	-
Gross Division Total	$1,125,121	$895,012	$864,012	$966,258	$71,246	8.0%
Charges to Capital	(246,652)	(216,226)	(263,011)	(225,345)	(9,119)	4.2%
Net Division Total	**$878,469**	**$678,787**	**$601,001**	**$740,913**	**$62,127**	**9.2%**
USES BY EXPENDITURE TYPE						
Fixed Assets	-	-	-	-	-	0.0%
Personal Services	900,282	719,787	719,787	750,383	30,596	4.3%
Contractual Services	188,565	173,025	113,125	184,775	11,750	6.8%
Materials & Supplies	36,274	2,200	31,100	31,100	28,900	1313.6%
Gross Division Total	**$1,125,121**	**$895,012**	**$864,012**	**$966,258**	**$71,246**	**8.0%**
Charges to Capital	(246,652)	(216,226)	(250,994)	(225,345)	(9,119)	4.2%
Net Division Total	**$878,469**	**$678,787**	**$601,001**	**$740,913**	**$62,127**	**9.2%**

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

BUDGET COMMENTS

- In the 2020 budget, on vacant Staff Attorney position is eliminated.
- Funding in contractual services includes outside counsel, experts, and lobbying. Contract services also includes funding for legal research providers, membership subscriptions and dues.
- The 2019 budget for Materials and Supplies mistakenly excluded the annual books and supplies budget purchases. In 2020, the budget includes the correct amount, causing the 1313 percent increase.
- The 2020 budgeted level for charges to capital decreases by $10,349 from the 2019 budgeted level, resulting in an increase to the O&M budget, due to a reduced number of capital projects requiring legal review.

WORKLOAD INDICATORS

	2018 Actual	2019 Estimate	2020 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%

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

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

Division Summary

The District is committed to providing quality services in the most cost-effective manner. The Finance 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.

BUDGET PREPARATION AND ADMINISTRATION: Development of the annual Capital and Operations & Maintenance Budgets based on review and prioritization of all District organizational budget requests from divisions, 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 or budgeted initiatives, 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.

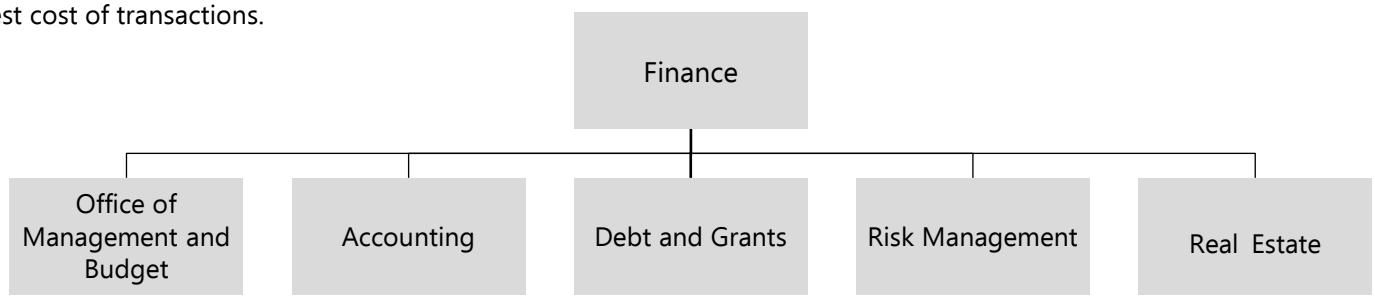
DEBT MANAGEMENT: Planning of all General Obligation and Clean Water Fund Program loan debt issuances, any special circumstance debt financing, and administration of related debt service payments.

ACCOUNTING, FINANCIAL REPORTING, BILLINGS, AND PAYROLL: Administration of the user charge billings system that assigns charges to customers, as well as 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.



DIVISION STAFFING

Position Title	2018 Budget	2019 Budget	2020 Budget
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	2.0	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
Total Positions	**20.0**	**19.0**	**19.0**

In 2018, the Finance division led the effort to create the District's new 2019-2021 Strategic Plan with the objectives of the Ten Attributes of an Effectively Managed Utility and Five Keys to Management Success – known as Effective Utility Management and seen on the right, in mind.

ACCOMPLISHMENTS

- 2018 Financial Statements received an unqualified opinion from the District's auditors
- Revised several Commission and Administrative policies improving internal controls and risk management.
- Received the Government Finance Officers Association Certificate of Achievement for Excellence in Financial Reporting and Distinguished Budget Presentation Award.

NEW INITIATIVES

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

SUMMARY OF OPERATING EXPENDITURES

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Fixed Assets	-	-	-	-	-	0.0%
Personal Services	1,615,827	1,675,846	1,675,846	1,746,017	70,171	4.2%
Contractual Services	1,010,604	1,036,885	970,770	1,053,020	16,135	1.6%
Materials & Supplies	23,262	19,225	13,796	18,300	(925)	-4.8%
Gross Division Total	**$2,649,693**	**$2,731,956**	**$2,660,412**	**$2,817,336**	**$85,380**	**3.1%**
Charges to Capital	(504,829)	(451,875)	(562,747)	(477,239)	(25,364)	5.6%
Net Division Total	**$2,144,864**	**$2,280,081**	**$2,097,665**	**$2,340,097**	**$60,016**	**2.6%**

BUDGET COMMENTS

- Personal services budget increases for salary adjustments.
- Contractual services increases to provide additional safety training and lines of insurance.

WORKLOAD INDICATORS

	2018 Actual	2019 Estimate	2020 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

GOALS

- Maintain, implement and enhance the long-range financial 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 work on fixed asset physical inventory

CHALLENGES

- Service affordability
- Aging infrastructure
- Balancing concerns of both member and non-member communities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Technical Services

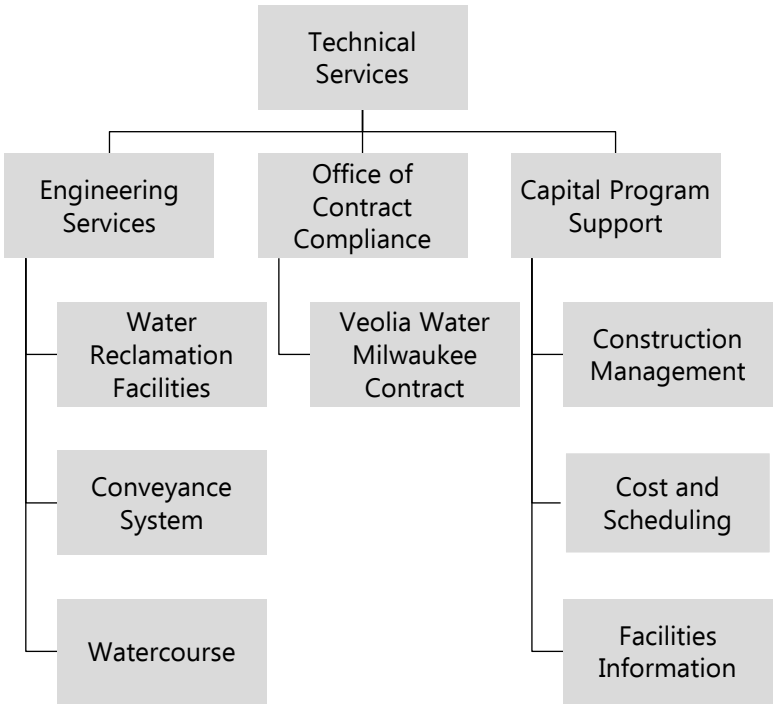
Division Summary

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 managing the design and construction of capital projects. The Division also manages contracts to operate and maintain the District's watercourse, conveyance, landfill gas pipeline, and water reclamation facilities. The Technical Services Division has primary responsibility for the development, implementation, and management of most of the District's capital improvement program. The Division provides oversight and management of the contracts that operate and maintain the District's water reclamation facilities, conveyance system, watercourse system, and landfill gas pipeline. Specifically related to this objective are capital projects from the 2020 Facilities Plan, Veolia Water Milwaukee (VWM) contract, and Watercourse System Improvement Plans.

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	2018 Budget	2019 Budget	2020 Budget
Engineering Services			
Engineering Design Manager	1.0	1.0	1.0
Section Manager	3.0	3.0	3.0
Senior Project Manager II	1.0	1.0	2.0
Senior Project Manager - Electrical	1.0	1.0	1.0
Senior Project Manager	11.0	11.0	10.0
Project Manager - Electrical	1.0	1.0	1.0
Project Manager	0.0	0.0	1.0
Project Engineer	1.0	0.0	0.0
Administrative Coordinator	0.0	1.0	1.0
Technical Services Coordinator	1.0	1.0	1.0
Administrative Assistant	1.0	0.0	0.0
Capital Program Support			
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
Senior Project Manager II	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	4.0	4.0	3.0
Project Controls Supervisor	1.0	1.0	1.0
GIS Analyst	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 Coordinator	1.0	1.0	1.0
Project Controls Specialist	1.0	1.0	1.0
Engineering Aide	14.0	10.0	10.0
Survey Technician	0.0	1.0	1.0
GIS Technician	1.0	1.0	1.0
CAD Technician	1.0	1.0	1.0
Office of Contract Compliance			
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	0.0	1.0
Project Engineer	2.0	3.0	3.0
Administrative Coordinator - Office of Contract Compliance	1.0	1.0	1.0
Total Positions	**70.0**	**67.0**	**68.0**

ACCOMPLISHMENTS

- Anticipated to reach substantial completion on 13 Projects including the SS Medium Voltage Switchgear, JI Gaseous Fire Suppression Systems, and JI Turbine Waste Heat Expansion Joint 12 & 13 Replacement projects.
- 2019 capital project total costs stayed within budget

NEW INITIATIVES

- Initiate engineering on a new Milorganite® Packaging Facility
- Perform alternatives analysis for improvements to reduce the risk of sanitary sewer overflows and basement backups in areas of Brown Deer, River Hills and Glendale served by the existing Milwaukee River MIS
- Evaluate and implement business process improvements

SUMMARY OF OPERATING EXPENDITURES

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
USES - OPERATING EXPENSES						
Engineering Services	3,246,825	2,689,886	3,132,211	6,904,804	4,214,918	156.7%
Capital Program Support	2,915,688	3,257,093	3,084,981	3,371,982	114,888	3.5%
Office of Contract Compliance	63,841,234	64,018,362	67,405,403	67,344,879	3,326,516	5.2%
Gross Division Total	**$70,003,747**	**$69,965,342**	**$73,622,595**	**$77,621,664**	**$7,656,323**	**10.9%**
Charges to Capital	(5,388,762)	(5,412,207)	(5,697,816)	(5,834,315)	(422,108)	7.8%
Net Division Total	**$64,614,985**	**$64,553,134**	**$67,924,779**	**$71,787,349**	**$7,234,215**	**11.2%**
USES BY EXPENDITURE TYPE						
Fixed Assets	604,058	595,100	1,059,815	940,000	344,900	58.0%
Personal Services	5,491,241	5,808,283	5,618,066	6,044,328	236,045	4.1%
Contractual Services	63,323,467	63,527,958	66,910,671	70,595,236	7,067,278	11.1%
Materials & Supplies	584,981	34,000	34,043	42,100	8,100	23.8%
Gross Division Total	**$70,003,747**	**$69,965,342**	**$73,622,595**	**$77,621,664**	**$7,656,323**	**10.9%**
Charges to Capital	(5,388,762)	(5,412,207)	(5,697,816)	(5,834,315)	(422,108)	7.8%
Net Division Total	**$64,614,985**	**$64,553,134**	**$67,924,779**	**$71,787,349**	**$7,234,215**	**11.2%**

BUDGET COMMENTS

- Fixed assets increases 58 percent over the 2019 budget and includes funding for 18 vehicles, survey equipment and replacement equipment for the water reclamation facilities.
- During 2019, one additional Project Manager position was added to the Office of Contract Compliance.
- The operating contract with Veolia Water Milwaukee totals $48.7 million. The increase in contractual services is primarily due to design and construction costs for Basin H PCB remediation, which will be offset by insurance reimbursements.
- Charges to capital increase by $422,108, resulting in a decrease to the O&M Budget, from the 2019 budgeted level based on the anticipated workload of capital projects.

WORKLOAD INDICATORS

	2018 Actual	2019 Estimate	2020 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	23,262	24,014	24,790
Digger's Hotline requests processed by WI State Statute timelines	100%	100%	100%
% Wastewater captured & treated	98.4%	100%	100%

GOALS

- Exceed regulatory requirements
- Complete and implement high priority capital projects
- Reduce the number of structures in the floodplain

CHALLENGES

- Additional regulatory requirements from the new WPDES permit
- Increased challenges associated with South Shore Water Reclamation Facility performance.
- Delayed real estate transactions slow project advancement

The CMAR is a self-evaluation tool that evaluates the wastewater treatment system for problems or deficiencies; it evaluates the treatment system performance in different categories. Each water reclamation facility and associated conveyance system receives a score from 0 to 4, with 4 being the highest score.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Planning, Research & Sustainability

Division Summary

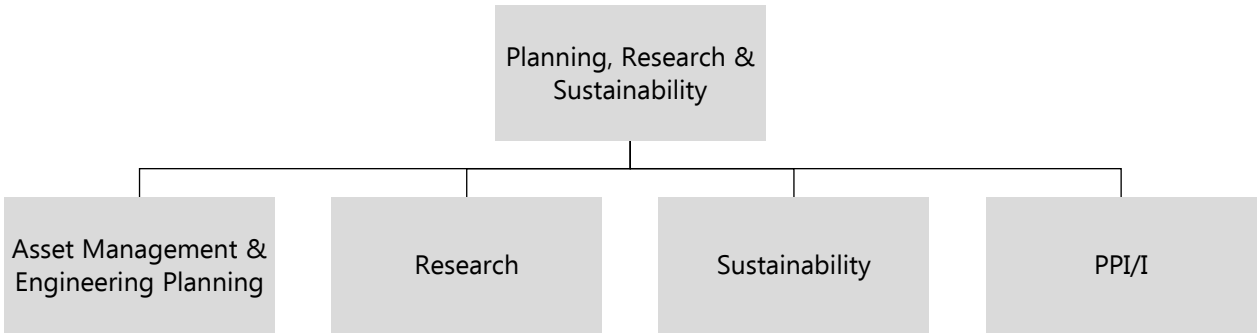
The Division conducts long-range, system-level facilities planning; analyzes potential alternatives for improving the District's capital projects, existing facilities, programs and operating procedures. The Division also manages District assets to provide defined levels of service at the lowest life-cycle 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 current facilities planning effort is considering full build-out of the planning area using a ground-breaking asset management approach.

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, reducing energy consumption and emissions from fossil fuels, and otherwise leading efforts to attain the 2035 Vision.



DIVISION STAFFING

Position Title	2018 Budget	2019 Budget	2020 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	0.0	1.0	1.0
Senior Project Manager II	1.0	1.0	1.0
Environmental Research Manager	1.0	1.0	1.0
Senior Project Manager	2.0	3.0	4.0
Senior Project Planner	0.0	0.0	1.0
Senior Project Manager - Non-PE	1.0	2.0	2.0
Hydraulic Modeler & Analyst II	1.0	1.0	0.0
Project Manager	5.0	4.0	3.0
Project Engineer	1.0	1.0	1.0
Asset Management Analyst II	2.0	2.0	1.0
Asset Management Analyst	0.0	0.0	2.0
Neighborhood Outreach Coordinator	1.0	1.0	1.0
Quality Assurance Inspector	1.0	1.0	1.0
Administrative Coordinator	1.0	1.0	1.0
Total Positions	**21.0**	**23.0**	**24.0**

ACCOMPLISHMENTS

- Awarded over $2.1 Million in Green Infrastructure Partnership Program
- Partnered with the City of Milwaukee to complete the City of Milwaukee Green Infrastructure Plan
- Continued progress on the PPI/I program
- MMSD Municipal Portal serves as a single-point for all submittals and municipal information
- Scope 5 energy and greenhouse gas tracking system completion

Volunteers help install at cistern at Alice's Garden as part of the District's green solutions program.

NEW INITIATIVES

- New strategic plan for the Fresh Coast Resource Center
- Stormwater tree program
- Adopting the Resilience Plan
- Adopting the 2050 Facilities Plan
- Odor assessment study
- Implementing new modeling software for the conveyance system

SUMMARY OF OPERATING EXPENDITURES

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Fixed Assets	-	-	-	-	-	0.0%
Personal Services	1,776,166	2,124,485	2,124,485	2,230,125	105,640	5.0%
Contractual Services	2,718,049	2,093,538	2,306,638	2,925,501	831,963	39.7%
Materials & Supplies	18,803	73,100	110,456	93,100	20,000	27.4%
Gross Division Total	**$4,513,018**	**$4,291,123**	**$4,541,579**	**$5,248,726**	**$957,603**	**22.3%**
Charges to Capital	(1,715,556)	(1,806,162)	(1,946,320)	(2,051,971)	(245,809)	13.6%
Net Division Total	**$2,797,462**	**$2,484,961**	**$2,595,259**	**$3,196,755**	**$711,794**	**28.6%**

BUDGET COMMENTS

- Added an Asset Management Analyst in mid-2019 to help with the workload.
- 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.
- Funding for a stormwater tree project.
- Funding for creating an Asset Management Plan Development and Implementation.
- Additional funding for materials and supplies as the rain barrel program funding moves into the division from the Community Outreach & Business Engagement division.

GOALS

- Gain public adoption of green infrastructure
- Advance a robust, innovative asset management system
- Implement relevant tasks from the Regional Resilience Plan
- Implement the use of Scope 5 energy and emissions tracking database

WORKLOAD INDICATORS

	2018 Actual	2019 Estimate	2020 Target
Submit all division-related WDNR reports in a timely fashion	Yes	Yes	Yes
Total gallons of green infrastructure installed	3.8M	5.0M	10.0M
Total customers at the Fresh Coast Resource Center	1,300	1,400	1,500
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, 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, and Freshwater Resources Monitoring.

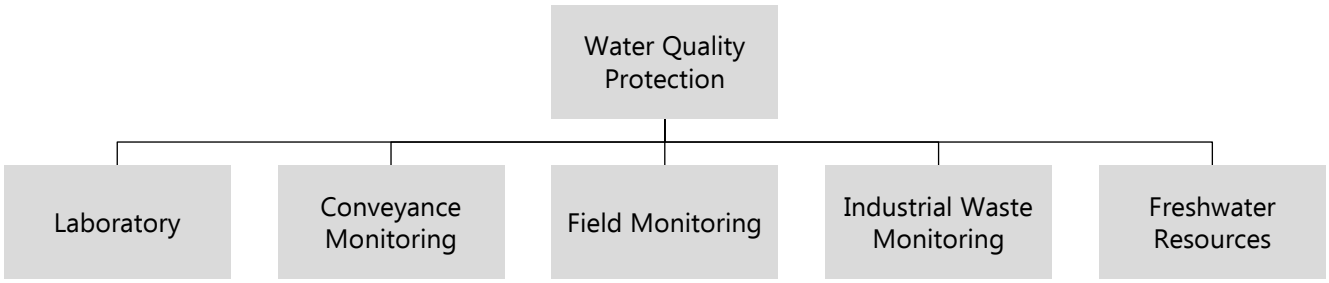
CENTRAL LABORATORY - The laboratory provides quality analytical services to meet the District's needs for environmental, product and process testing. It supports the District's permit under the Wisconsin Pollution Discharge Elimination Systems (WPDES), the Industrial Waste Pretreatment Program (IWPP), Freshwater Resources Monitoring, Planning, Milorganite® marketing, plant operations and District projects. The laboratory is accredited to perform regulatory environmental compliance testing and is the only municipal laboratory in the state accredited under the National Environmental Laboratory Accreditation Program (NELAP). The laboratory also holds certification from 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. This group is responsible for analyzing and reporting the data as well as regulatory reporting of conveyance and groundwater data. This group is also responsible for retrieval and quality review of monitoring data from the water reclamation treatment 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.

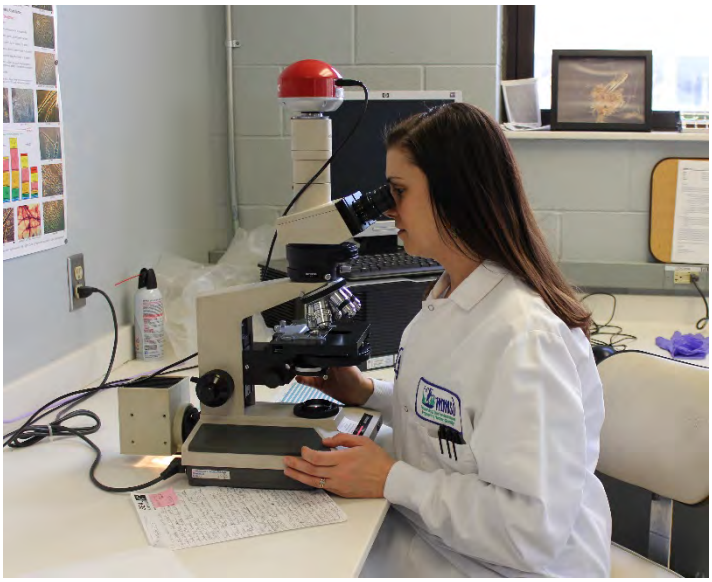
INDUSTRIAL WASTE PRETREATMENT – This group is responsible for implementation and enforcement of the point source pollution control standards through the mandated Industrial Waste Pretreatment and Mercury Reduction Programs. They work primarily with industries; however, for mercury reduction, the engineers also work with dental offices, schools, and health care facilities. 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 the preparation of 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.



DIVISION STAFFING

Position Title	2018 Budget	2019 Budget	2020 Budget
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	2.0	2.0	2.0
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
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	10.0	11.0	11.0
Administrative Assistant	1.0	1.0	1.0
Laboratory Helper	1.0	1.0	1.0
Total Positions	**61.0**	**62.0**	**62.0**



ACCOMPLISHMENTS

- Expanded efforts at outreach to increase awareness of Surface Water Quality Monitoring program.
- The lab implemented the use of electronic notebooks at some work stations, enabling direct data entry at the bench and improving efficiency.
- Implemented new WPDES permit requirements including significant changes in groundwater monitoring program, pathogen monitoring for biosolids, addition of arsenic monitoring in effluent and source water and electronic data reporting requirements.
- The Industrial Waste Pretreatment Program reached out to over 500 local dentists to inform them of the requirements of the Federal Dental Amalgam Rule. Staff prepared an application and information that is required for all dentists who perform amalgam work. These applications must be received, processed and verified by the 2020 deadline.

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

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
USES - OPERATING EXPENSES						
Central Laboratory	2,456,517	2,562,642	2,558,125	2,687,736	125,094	4.9%
Industrial Waste & Conveyance Monitoring	3,473,496	4,261,152	4,265,075	3,994,192	(266,960)	-6.3%
Gross Division Total	**$5,930,013**	**$6,823,794**	**$6,823,200**	**$6,681,928**	**($141,866)**	**-2.1%**
Charges to Capital	(1,945,845)	(1,591,382)	(1,798,506)	(1,807,342)	(215,960)	13.6%
Net Division Total	**$3,984,168**	**$5,232,412**	**$5,024,694**	**$4,874,586**	**($357,826)**	**-6.8%**
USES BY EXPENDITURE TYPE						
Fixed Assets	185,073	218,000	233,733	159,000	(59,000)	-27.1%
Personal Services	4,613,623	4,871,131	4,826,298	5,013,756	142,625	2.9%
Contractual Services	368,308	600,755	626,201	491,498	(109,257)	-18.2%
Materials & Supplies	763,009	1,133,909	1,136,968	1,017,674	(116,234)	-10.3%
Gross Division Total	**$5,930,013**	**$6,823,794**	**$6,823,200**	**$6,681,928**	**($141,866)**	**-2.1%**
Charges to Capital	(1,945,845)	(1,591,382)	(1,798,506)	(1,807,342)	(215,960)	13.6%
Net Division Total	**$3,984,168**	**$5,232,412**	**$5,024,694**	**$4,874,586**	**($357,826)**	**-6.8%**

BUDGET COMMENTS

- Fixed assets includes funding for a TOC analyzer, block digestor, laboratory grade refrigerator, an autochemistry dishwasher, a muffle furnace, and replacing a fume hood for the Lab.
- Contractual services are decreasing from the 2019 budget after the completion of one-time projects. In 2020, the division will continue to contract for maintenance on groundwater metering wells and other metering equipment.
- Materials and supplies funding decreases after all of the monitoring modems were replaced in 2018 and 2019.
- Charges to capital are increasing 13.6 percent due to additional projects requiring monitoring staff time.

WORKLOAD INDICATORS

	2018 Actual	2019 Estimate	2020 Target
Number of survey days for freshwater quality monitoring completed	83	83	82
Number of days of the skimmer on the water	111	110	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%

GOALS

- Train and succession plan to ensure workforce stability.
- Improve collaboration and communication between functional groups and with other divisions.
- Complete requirements for Dental Amalgam Rule by October 2020.
- Rewrite Groundwater Monitoring Plan and modify procedures and monitoring strategy to meet that.

CHALLENGES

- Responding to the monitoring requirements for emerging contaminants such as PFAS.
- 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®, procurement services. 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, the Workforce and Business Development Resource program, and the District fleet.

PUBLIC INFORMATION, INTERGOVERNMENTAL AFFAIRS, AND EDUCATIONAL OUTREACH: Creates and distributes timely, accurate and relevant information to the public and other audiences. Finally, the cost center manages the Household Hazardous Waste Collection Program, which help minimize storm water pollution.

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	2018 Budget	2019 Budget	2020 Budget
Procurement & Supplier Development			
Procurement and Business Development Manager	1.0	1.0	1.0
Procurement Supervisor	1.0	1.0	0.0
SWMBE Coordinator	2.0	2.0	2.0
Procurement Specialist	2.0	2.0	3.0
Administrative Coordinator / Procurement	1.0	1.0	0.0
Receptionist	1.0	0.0	0.0
Public Info., Intergov. Affairs, & Educ. Outreach			
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	2.0	3.0	2.0
Graphics Designer	2.0	0.0	0.0
Marketing & Milorganite®			
Director of Community Outreach and Business Engagement	1.0	1.0	1.0
Sales and Marketing Manager	1.0	0.0	0.0
Operations Manager	1.0	1.0	1.0
Marketing Manager	1.0	1.0	1.0
Digital Marketing Specialist	0.0	0.0	1.0
Strategic Accounts Specialist	0.0	1.0	1.0
Customer Services Coordinator	2.0	2.0	2.0
Total Positions	**21.0**	**19.0**	**18.0**

District outreach includes hosting Washington High School students for career day.

ACCOMPLISHMENTS

- Collected and disposed of over 1.1 million pounds of household hazardous waste
- Hosted the annual supplier diversity symposium
- Continued the Adopt-a-River program
- Social media followers are up 257% over the 2018 level
- Hosted Teachers Day to provide professional education credits to area K-12 teachers

NEW INITIATIVES

- Increased social media presence
- Internal training for outreach
- Emerging contaminants study for Milorganite®
- Updating educational materials at Discovery World
- Initiate discussions with outside agencies to explore the expansion of the Ambassador Program

SUMMARY OF OPERATING EXPENDITURES

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
USES - OPERATING EXPENSES						
Procurement and Supplier Development	657,602	608,246	717,068	676,278	68,032	11.2%
Public Info/Intergovt Affairs / Educational Outreach	2,098,000	2,181,203	2,196,889	2,051,696	(129,507)	-5.9%
Marketing & Milorganite®	3,539,042	4,273,763	3,833,932	4,117,329	(156,434)	-3.7%
Gross Division Total	**$6,294,644**	**$7,063,211**	**$6,747,888**	**$6,845,302**	**(217,909)**	**-3.1%**
Charges to Capital	(365,061)	(347,760)	(364,691)	(397,182)	(49,422)	14.2%
Net Division Total	**$5,929,583**	**$6,715,451**	**$6,383,197**	**$6,448,120**	**($267,331)**	**-4.0%**
USES BY EXPENDITURE TYPE						
Fixed Assets	33,401	-	-	0	-	0.0%
Personal Services	1,714,677	1,651,174	1,497,919	1,617,182	(33,992)	-2.1%
Contractual Services	3,844,937	4,651,903	4,550,672	4,492,483	(159,420)	-3.4%
Materials & Supplies	701,629	760,134	699,297	735,637	(24,497)	-3.2%
Gross Division Total	**$6,294,644**	**$7,063,211**	**$6,747,888**	**$6,845,302**	**($217,909)**	**-3.1%**
Charges to Capital	(365,061)	(347,760)	(364,691)	(397,182)	(49,422)	14.2%
Net Division Total	**$5,929,583**	**$6,715,451**	**$6,383,197**	**$6,448,120**	**($267,331)**	**-4.0%**

BUDGET COMMENTS

- In mid-2019, the Marketing and Milorganite® cost center brought on a Digital Marketing Specialist to help with writing and managing content for the District's many social media platforms.
- One vacant Outreach Coordinator Limited Term Employee is eliminated in the Public Information, Intergovernmental Affairs and Educational Outreach cost center and the workload is absorbed with outside temporary administrative help.
- In the Procurement and Supplier Diversity cost center, one vacant Procurement Supervisor position is filled as a Procurement Specialist.
- Fuel for the fleet is budgeted in the Facilities Management cost center beginning in 2019.

GOALS

- Better integrate all forms of communication to deepen relationships with targeted audiences
- Improve the organization's capacity to use social media platforms
- Utilize the relationship management software to improve relationships with targeted audiences

CHALLENGES

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

WORKLOAD INDICATORS

	2018 Actual	2019 Estimate	2020 Target
Small business enterprise participation	10.8%	6.3%	5%
Women-owned business enterprise participation	4.9%	2.2%	2%
Minority-owned business enterprise participation	11.2%	10.8%	13%
Total Milorganite® revenue	$10.3M	$10.4M	$10.4M
Total Milorganite® tons sold	45,349	43,392	43,392
Greenseams® acres acquired	64	50	283


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Information Technology Services

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.

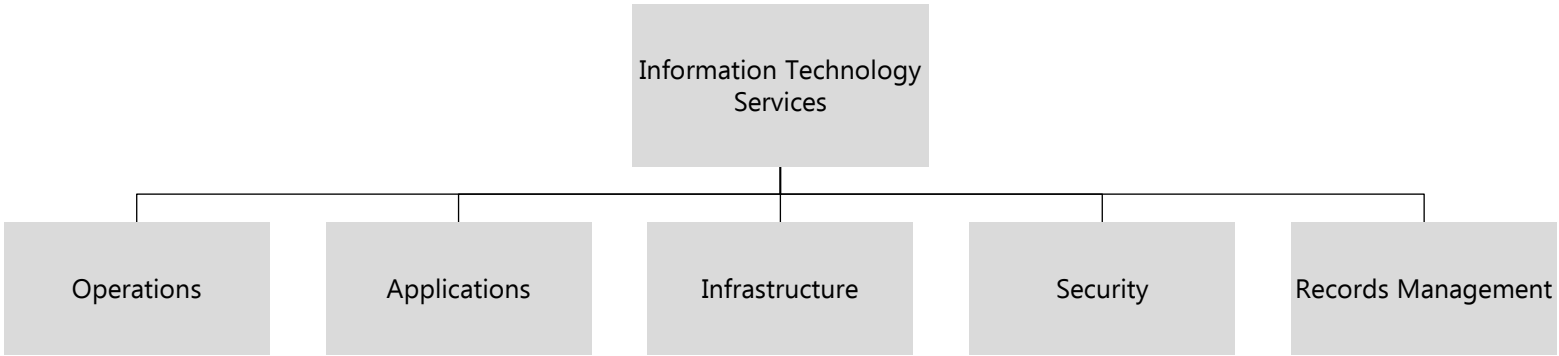
OPERATIONS: The technical staff support the Districts computer, mobile, printing, phones, backup and patching services. They respond to technical support incidents and service requests ensuring District employees and contractors are able to meet their own obligations.

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.

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	2018 Budget	2019 Budget	2020 Budget
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	5.0	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	1.0	0.0
IT Senior Operations Analyst	1.0	1.0	1.0
Network Specialist	1.0	1.0	1.0
Systems Analyst	0.0	1.0	2.0
IT Operations Analyst	0.0	0.0	1.0
Web Applications and Site Developer	1.0	1.0	1.0
IT Operations Technician	3.0	3.0	2.0
Information Governance Manager	0.0	1.0	1.0
Records Information Management Technician	0.0	2.0	2.0
Total Positions	**20.0**	**23.0**	**23.0**

ACCOMPLISHMENTS

- Deployed a new Communications and Collaboration Infrastructure
- Enhanced MMSD's Rain Gauge Data with Date selection option
- Jones Island Fiber Network upgrade
- Migrated to 'District Central' from SharePoint 2016
- Windows 10 Upgrades on all District Computers
- Real Estate Application Upgrade
- Deployed SysAid Service Requests to Facilities, Human Resources & Graphics

NEW INITIATIVES

- Service Architecture and Governance to map technologies relationship and dependencies
- Technology Dashboard showing Security, Infrastructure and Application Health and Performance allowing District staff to see real time availability
- Assist with implementation of an Enterprise Resource Planning (ERP) solution, incorporating Financials, Human Resources Management, Procurement, Fixed Assets and other services into a common platform

SUMMARY OF OPERATING EXPENDITURES

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
USES - OPERATING EXPENSES						
Information Services	4,165,533	4,610,688	4,654,202	4,328,251	(282,438)	-6.1%
Records Management	-	305,281	304,683	313,522	8,242	1002.0%
Gross Division Total	**$4,165,533**	**$4,915,969**	**$4,958,885**	**$4,641,773**	**($274,196)**	**-5.6%**
Charges to Capital	(9,827)	(27,914)	(50,679)	(307,587)	(279,674)	100.0%
Net Division Total	**$4,155,706**	**$4,888,055**	**$4,908,206**	**$4,334,186**	**($553,870)**	**-11.3%**
USES BY EXPENDITURE TYPE						
Fixed Assets	-	-	-	-	-	0.0%
Personal Services	1,709,353	2,032,293	1,988,798	2,106,007	73,714	3.6%
Contractual Services	1,892,881	2,368,644	2,455,010	2,192,016	(176,628)	-7.5%
Materials & Supplies	563,299	515,032	515,077	343,750	(171,282)	-33.3%
Gross Division Total	**$4,165,533**	**$4,915,969**	**$4,958,885**	**$4,641,773**	**($274,196)**	**-5.6%**
Charges to Capital	(9,827)	(27,914)	(50,679)	(307,587)	(279,674)	1002.0%
Net Division Total	**$4,155,706**	**$4,888,055**	**$4,908,206**	**$4,334,186**	**($553,870)**	**-11.3%**

Note, prior to 2018, the Information Technology Services was budgeted in the Office of the Executive Director division. Beginning in 2019, the Records Management cost center is budgeted in the Information Technology division rather than the Legal Services division.

BUDGET COMMENTS

- The Personnel Services account increases due to salary increases.
- The $2,192,016 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 decrease is due to the discontinuation of unused software maintenance contracts and a decrease in telephone services costs.
- The $343,750 in materials and supplies includes funding for new and replacement hardware and software purchases, including replacing the storage aray network at District headquarters, and staff desktops, laptops, and smartphones.
- In 2020, the charges to capital budget increases (a greater credit to the Operations and Maintenance budget) over the 2019 budgeted level due to the anticipated staff time spent on implementing the new financial system.

GOALS

- Cyber security education for all employees
- Upgrade the financial system and voice infrastructure; both solutions will improve collaboration, data sharing and reduce complexity.

CHALLENGES

- Managing cyber security risks and continued implementation of measures recommended from the security assessment
- Implement a data architecture and governance strategy to improve data sharing, collaboration and e-records management.

WORKLOAD INDICATORS

	2018 Actual	2019 Estimate	2020 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.

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Retirement System Contribution	$3,420,265	$3,450,000	$3,526,159	$4,016,159	$566,159	16.4%
Group Health Insurance	2,911,747	3,404,169	3,574,647	3,500,000	95,831	2.8%
Group Life Insurance	278,901	302,830	317,014	300,000	(2,830)	-0.9%
Worker's Compensation Insurance	55,488	120,000	99,416	120,000	0	0.0%
Social Security	1,399,825	1,442,775	1,491,599	1,491,599	48,824	3.4%
Unemployment Compensation Insurance	21,891	10,000	0	10,000	0	0.0%
Group Dental Insurance	191,509	238,210	183,331	200,000	(38,210)	-16.0%
Disability Insurance	42,168	50,000	43,855	50,000	0	0.0%
Active Employee Subtotal	$8,321,794	$9,017,983	$9,236,021	$9,687,757	$669,774	7.4%
Group Health Insurance - Retiree	5,399,615	5,926,685	5,657,748	5,800,000	(126,685)	-2.1%
Group Life Insurance - Retiree	203,206	271,152	235,036	265,000	(6,152)	-2.3%
Retiree Subtotal	$5,602,821	$6,197,837	$5,892,784	$6,065,000	($132,837)	-2.1%
Fringe Benefit Total	**$13,924,615**	**$15,215,820**	**$15,128,805**	**$15,262,757**	**$46,938**	**0.3%**

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 policy for the employer contributions to create a budget stabilization method of funding. The change requires that employers make contributions to the system for a five-year period based on a set percent of payroll regardless of any individual year's funding ratio, versus doing an annual review of funding status compared to funding thresholds as was done in the past. This allows predictability for budgeting for all agencies participating in the retirement system. The first five-year period will conclude in 2018. In 2019, the rate is 8.77 percent of payroll. 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. The 2019 estimate also assumes an expense to ensure the District's obligation is fully funded.

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.

Active Employees The 2020 budgeted level is budgeted $95,831 higher than the 2019 budget level after considering the 2018 actual expenditures and the 2019 year-end projection. In the 2020 budget, the District includes an increase to the employee's premium equivalent contribution for healthcare, which will decrease the amount the District pays per active employee. Beginning in 2020, employees with the District's single coverage plan will contribute $100 per month towards their health insurance and employees with the family coverage plan will contribute $270 per month towards their health

insurance. In 2020, the District is revamping its wellness program to a more robust initiative. The District will continue to offer employees a wellness credit for participating in the wellness program. In 2020, the credit is increasing from $25 to $35 per month.

Retirees The District funds its retiree healthcare obligation on a pay as you go basis. The 2020 budgeted level is $126,685 lower than the 2019 budgeted level after considering the past three-year actual experience and the 2019 year-end projection.

OTHER FRINGE BENEFITS

In 2020, active employee dental insurance decreases 16 percent based off of the 2019 year-end projection. Life insurance is budgeted based off of the premium the District pays on both active employee salaries and retiree salaries. The 2020 budget is relatively similar to the 2019 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

The Wellness Committee supported employees in running the Run 4 Water MKE 5K charity run/walk.

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 2020, charges to capital increase 11.7 percent from the 2019 level.

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Direct Charges to Capital	(4,156,421)	(3,904,353)	(4,360,284)	(4,386,043)	(481,690)	12.3%
Indirect Charges to Capital	(9,166,934)	(9,056,242)	(9,779,544)	(10,166,319)	(1,110,076)	12.3%
Charges to Veolia	(295,262)	(200,000)	(74,180)	(200,000)	-	0.0%
Charges to Capital – Other	(430,562)	(468,000)	(320,192)	(468,000)	-	0.0%
Charges to Capital - Total	**(14,049,179)**	**(13,628,596)**	**(14,534,200)**	**(15,220,362)**	**(1,591,766)**	**11.7%**

DIRECT CHARGES TO CAPITAL From 2019 to 2020, direct charges to capital increase by 12.3 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 2020, 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 2019.

CHARGES TO CAPITAL - OTHER These costs include lab analyses for capital projects. The District projects a similar workload in 2020 from the 2019 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.

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019 Budget
Budgeted Unallocated Reserve	$0	$3,000,000	$0	$2,176,907	($823,093)	-27.4%

The 2020 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 2020 through 2025. 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 2020 long-range financing plan estimates $853,318,000 in project expenditures and $656,428,000 in debt service expenditures for a combined total of $1,509,745,000 in capital expenditures from 2020 through 2025.

2020 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 2020 Capital Budget includes a tax levy increase of 1.75 percent as compared to a 4.0 percent increase projected in the long-range financing plan in the 2019 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 2020, debt financing provides 21.3 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 2020 Capital Budget is $1.65 per thousand dollars of equalized valuation. Equalized values for District is 4.8 percent in 2020 and averages 2.5 percent for the remaining years in the six-year plan. For nonmember communities, equalized values are projected to increase 5.26 percent in 2020 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 2020 Capital Budget, Water Reclamation Facilities and Conveyance Facilities comprise 22.2 percent and 5.7 percent, respectively, of the budget. Watercourse and Flood Management projects total 7.5 percent of expenditures, and Other Projects and Programs total 15.4 percent of expenditures.

The largest portion of the District's capital disbursement in the six-year plan is for debt service payments. In the 2020 Capital Budget and debt service payments are 49.1 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 2020 Capital Budget

The highlights of the 2019 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
  - JI & SS Building Roof Replacements
- Landfill Gas
  - Dryer burner conversion to landfill gas
  - LFG Pipeline Pigging Station
- Watercourse
  - Western Milwaukee
  - Kinnickinnic River Projects
- 2050 Facilities Plan Completion
- Fresh Coast Solutions – Phase 2
- Green Solutions

Guide to the 2020 Capital Budget

The 2020 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 2019, as well as any changes in project scope or total project cost from the 2019 Adopted Capital Budget. In the 2020 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.

2020 Capital Budget Summary of Revenues and Expenditures (in thousands)

	2018 Actual	2019 Adopted Budget	2019 Estimate	2020 Capital Budget	Change from 2019 Budget	% Change from 2019 Budget
Revenues						
Tax Levy	98,380	100,102	100,102	101,853	1,751	1.75%
Non-member Communities	30,669	30,146	29,992	28,419	(1,727)	-5.7%
Interest and Other Income	4,081	1,249	4,073	2,526	1,277	102.2%
Federal and State Aid	2,871	1,631	4,107	2,419	788	48.3%
CWFL Loans	19,735	31,514	22,297	49,024	17,510	55.6%
District Bonds and Notes	-	0	0	80,000	80,000	0.0%
Total Revenues	**155,736**	**164,642**	**160,571**	**264,241**	**99,599**	**60.5%**
Available Funds						
Use of (Additions to) Available Funds	18,616	37,733	48,322	(37,093)	(74,826)	-198.3%
Total Revenues and Available Funds	**$174,352**	**$202,375**	**$208,893**	**$227,148**	**$24,773**	**12.2%**
Expenditures						
Capital Program Group						
Water Reclamation Facilities	29,805	44,898	46,832	50,509	5,611	12.5%
Conveyance Facilities	5,310	8,055	7,462	13,045	4,990	62.0%
Watercourse and Flood Management Projects	12,310	14,534	26,220	16,977	2,443	16.8%
Other Projects	15,391	25,388	19,190	34,992	9,604	37.8%
Total Capital Program Group Expenses	**62,816**	**92,875**	**99,705**	**115,523**	**22,648**	**24.4%**
Debt Services Payments						
From Tax Levy and Available Funds	85,221	103,106	102,795	105,713	2,607	2.5%
Reserved in Debt Service Fund	26,315	6,393	6,393	5,912	(481)	-7.5%
Debt Service	**111,536**	**109,499**	**109,188**	**111,625**	**2,126**	**1.94%**
Total Expenditures	**$174,352**	**$202,375**	**$208,893**	**$227,148**	**$24,773**	**12.2%**
Tax Rate per $1,000 of Equalized Value	**$1.73**	**$1.69**	**$1.69**	**$1.65**	**($0.04)**	**-2.9%**

Note: The sum of rounded components may not equal the total due to rounding. 2019 Estimate is as of Q2.

2020 Capital Budget

Long-Range Financing Plan

(Dollars in thousands)

	Estimate	Six-Year Capital Improvements Program						Six-Year
	2019	2020	2021	2022	2023	2024	2025	Total
Beginning balance	$131,910	$41,704	$78,797	$32,155	$79,269	$43,227	$88,851	
Add								
Tax levy	100,102	$101,853	$105,928	$110,165	$114,571	$119,154	$123,920	$675,591
Non-member Billings	29,992	$28,419	$28,780	$27,026	$29,047	$31,890	$37,456	$182,618
Interest & other	4,073	$2,526	$2,370	$1,207	$2,321	$1,401	$2,481	$12,305
Federal and State Aid	4,107	$2,419	$2,479	$2,414	$2,511	$2,611	$5,550	$17,984
CWF Loans	22,297	$49,024	$65,587	$61,170	$71,678	$81,274	$69,599	$398,333
District Bonds/Notes	0	$80,000	$0	$94,000	$0	$69,000	$0	$243,000
Total revenues	**$160,571**	**$264,241**	**$205,143**	**$295,982**	**$220,129**	**$305,330**	**$239,006**	**$1,529,831**
Use of (Additions to)								
available funds	48,322	($37,093)	$46,642	($47,114)	$36,042	($45,624)	$27,063	($20,084)
Total sources	**$208,893**	**$227,148**	**$251,785**	**$248,867**	**$256,171**	**$259,706**	**$266,069**	**$1,509,746**
Less								
Water Reclamation Facilities	46,832	$50,509	$50,136	$47,146	$48,856	$54,594	$61,755	$312,997
Conveyance Facilities	7,462	$13,045	$28,476	$25,249	$30,657	$32,556	$33,555	$163,538
Watercourse & Flood Mgmt	26,220	$16,977	$27,671	$36,847	$37,143	$36,606	$31,987	$187,232
Other Projects/Programs	19,190	$34,992	$29,236	$38,418	$35,970	$27,284	$23,651	$189,551
Projects / Programs	**$99,705**	**$115,523**	**$135,519**	**$147,661**	**$152,626**	**$151,041**	**$150,948**	**$853,318**
Existing GO debt service	35,104	$34,931	$34,984	$27,601	$22,424	$22,425	$22,449	$164,814
Existing CWFL debt service	72,392	$73,042	$70,181	$56,493	$54,986	$54,060	$51,807	$360,568
Other Debt Service	1,692	$1,692	$1,691	$1,691	$1,691	$1,690	$1,690	$10,145
Future CWFL Debt Service	0	$501	$3,704	$7,766	$11,730	$16,343	$21,317	$61,360
Future GO debt service	0	$1,460	$5,706	$7,656	$12,714	$14,146	$17,859	$59,541
Debt service	**$109,188**	**$111,625**	**$116,266**	**$101,206**	**$103,545**	**$108,664**	**$115,121**	**$656,428**
Total uses	**$208,893**	**$227,074**	**$243,657**	**$244,891**	**$247,635**	**$234,959**	**$234,342**	**$1,509,746**
Ending balance	$83,588	$78,797	$32,155	$79,269	$43,227	$88,851	$61,788	
Tax rate / $1000	$1.69	$1.65	$1.68	$1.71	$1.74	$1.78	$1.81	
% Change in Tax Levy	0.0%	1.75%	4.0%	4.0%	4.0%	4.0%	4.0%	
Annual % cash financing	0%	-12%	52%	-5%	53%	1%	54%	25.0%
G.O. debt at year-end	$736,625	$779,129	$753,730	$833,782	$829,308	$899,363	$883,223	
Debt as % of Eq. Value	1.22%	1.23%	1.17%	1.27%	1.24%	1.32%	1.27%	

Notes

1. 2020 beginning balance is net of $42.2M reserved for municipal capital reimbursement programs: Private Property I/I and Green Solutions.
2. Tax levy growth limited to 1.75% for 2020 and 4% thereafter. To achieve tax rates shown, available working capital is placed in a debt service fund to abate the tax levy as necessary.
3. Change in District equalized value determined in 2019 for use in 2020 is 4.8% and averages 2.5% thereafter; and non-member in 2019 for use in 2020 is at an average 5.26% and 3.4% thereafter.
4. Investment of available funds at 2.5% interest rate.
5. Future District bond issues structured as 20-year level debt service at 3.65% in 2020 and increasing to 4.15% through 2024.
6. Future Clean Water Fund Loan debt service assumed at 55% of District bond rate, or 2.01% to 2.28% from 2020 through 2025.

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 2020, the District plans to spend $115.5 million on capital projects. This represents a 24.4 percent increase from the 2019 budgeted level of $92.8 million. Of the total 2020 capital budget, the District will spend $50.5 million on Water Reclamation Facilities; $13.0 million on Conveyance Projects; $17.0 million on Watercourse and Flood Management Projects; and $35.0 million on Other Projects and Programs. Debt service for principal and interest payments on District bonds and State Clean Water Fund Program loans decreases by 1.4 percent from 2019 budgeted level, to $111.6 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 2018, 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.

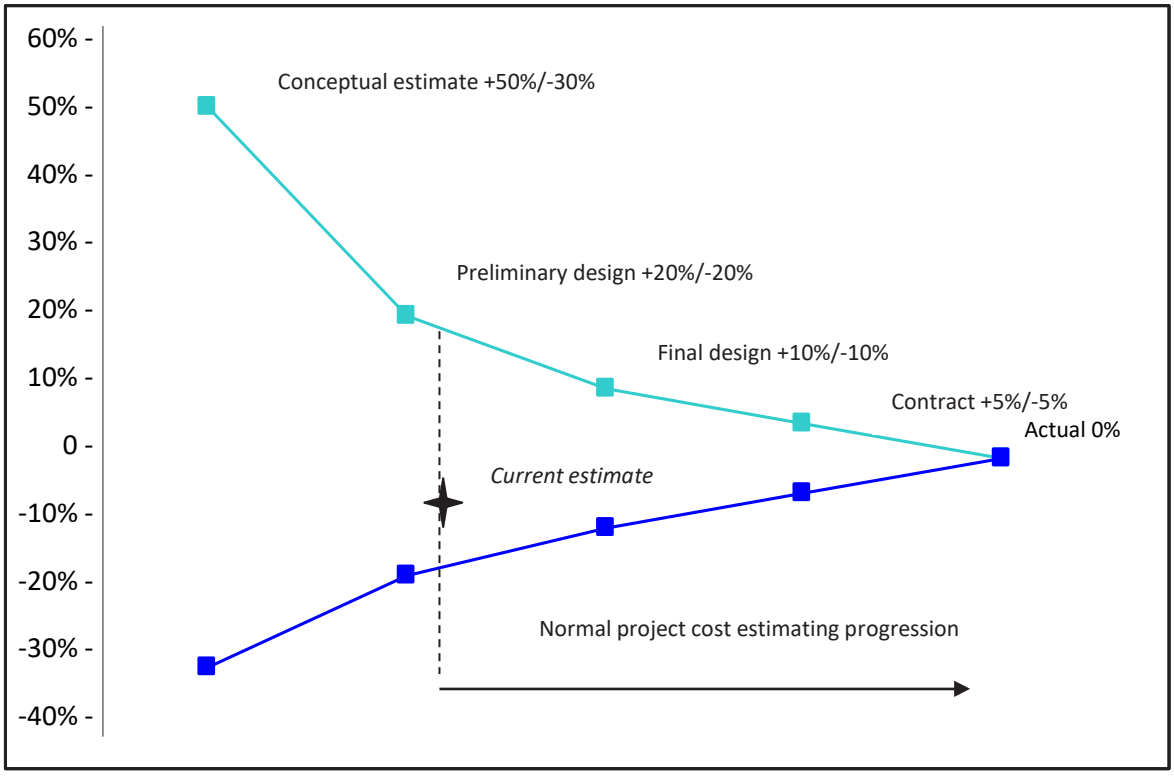
Inflation and Cost Estimates All projects listed in the 2020 Capital Budget reflect current (2019) dollars, with an escalation factor of 3.5 percent. The total project cost includes all estimated costs for activities to complete a single project. Depending on the total project cost, the inflationary impact may appear as a significant dollar increase. Inflation assumptions are included as a capital expenditure for each capital account in the years 2020-2025 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 2019 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 that 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

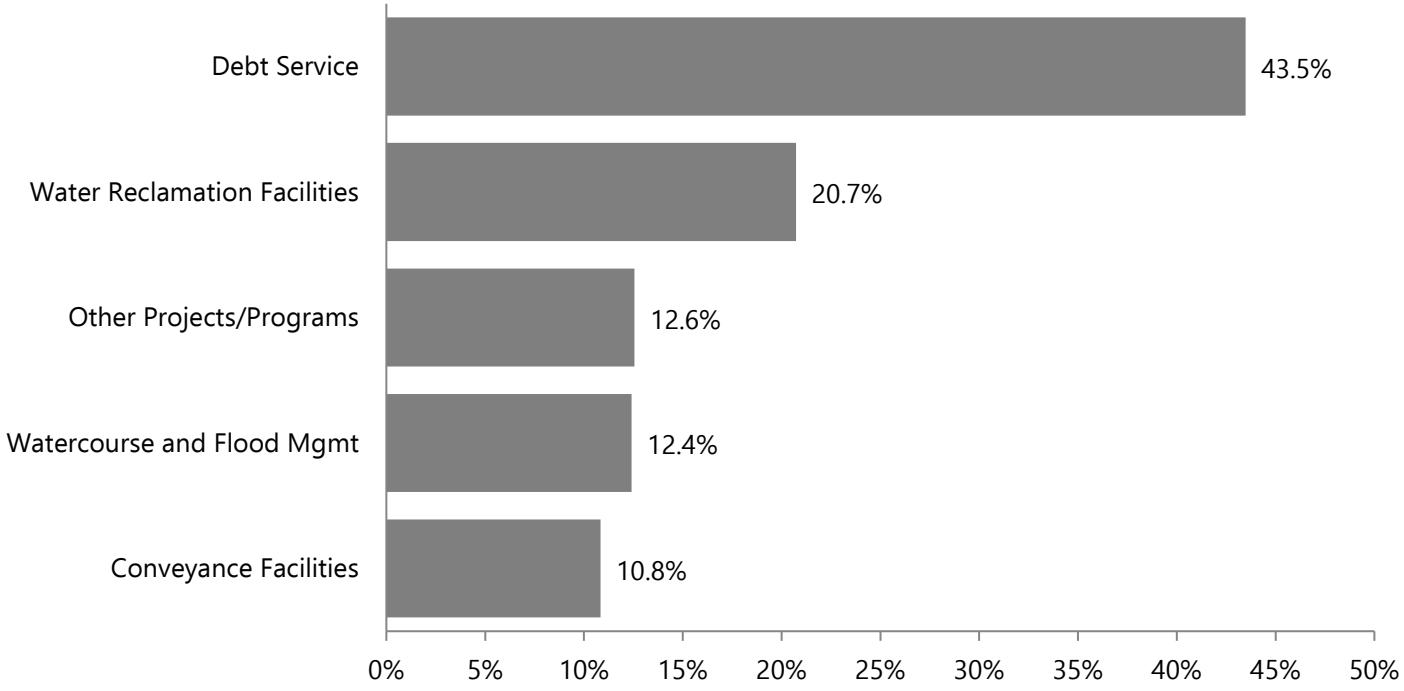


Debt Service

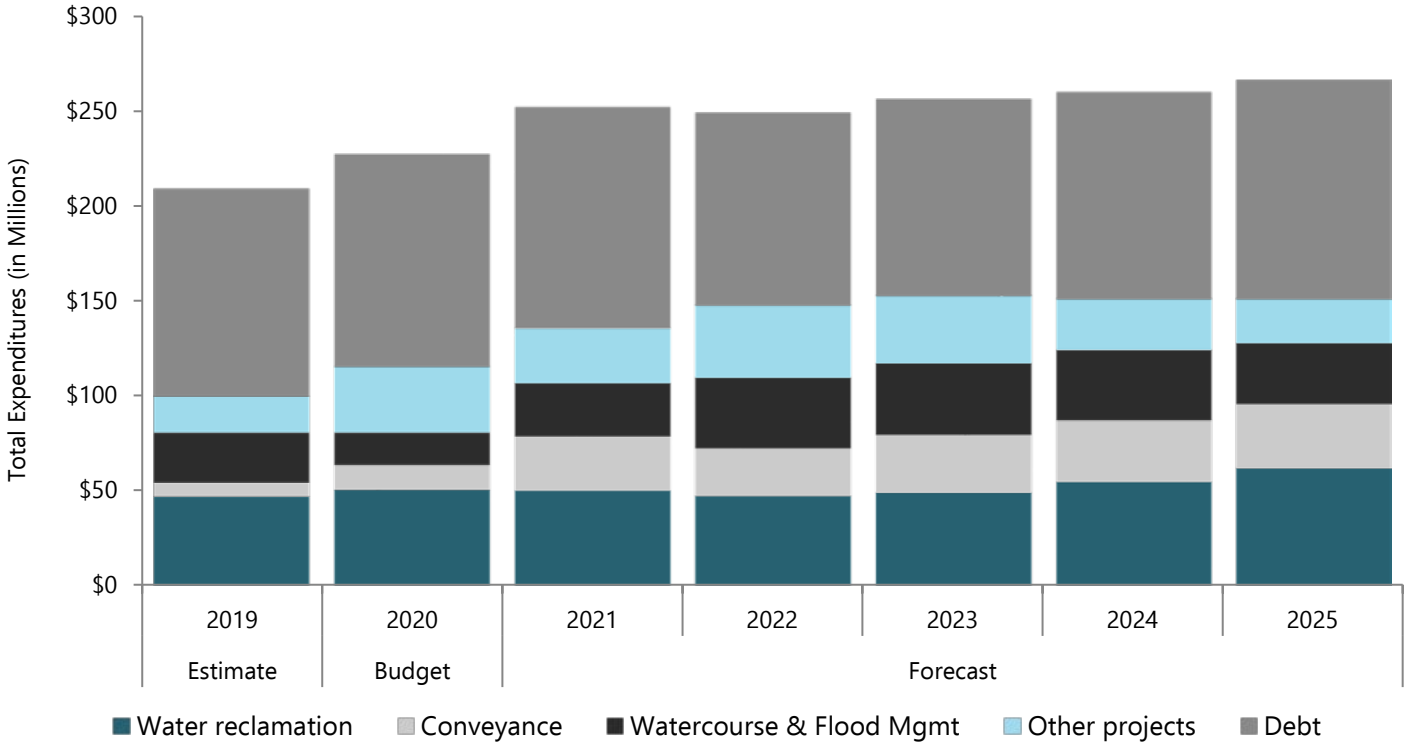
For each District-issued general obligation bonds, notes, or low-interest loan from the Clean Water Fund Program, State law requires the District to levy an irrepealable, direct annual tax in an amount sufficient to pay the principal and interest on the bonds, notes, or loans for the following year. 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 2020 is estimated to be $111.6 million, all of which is for tax supported obligations.

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

Total Uses of Funds
2020 – 2025 Capital Improvement Program
$1,509,746,000



2019-2025: Capital Improvement Program Expenditures and Disbursements



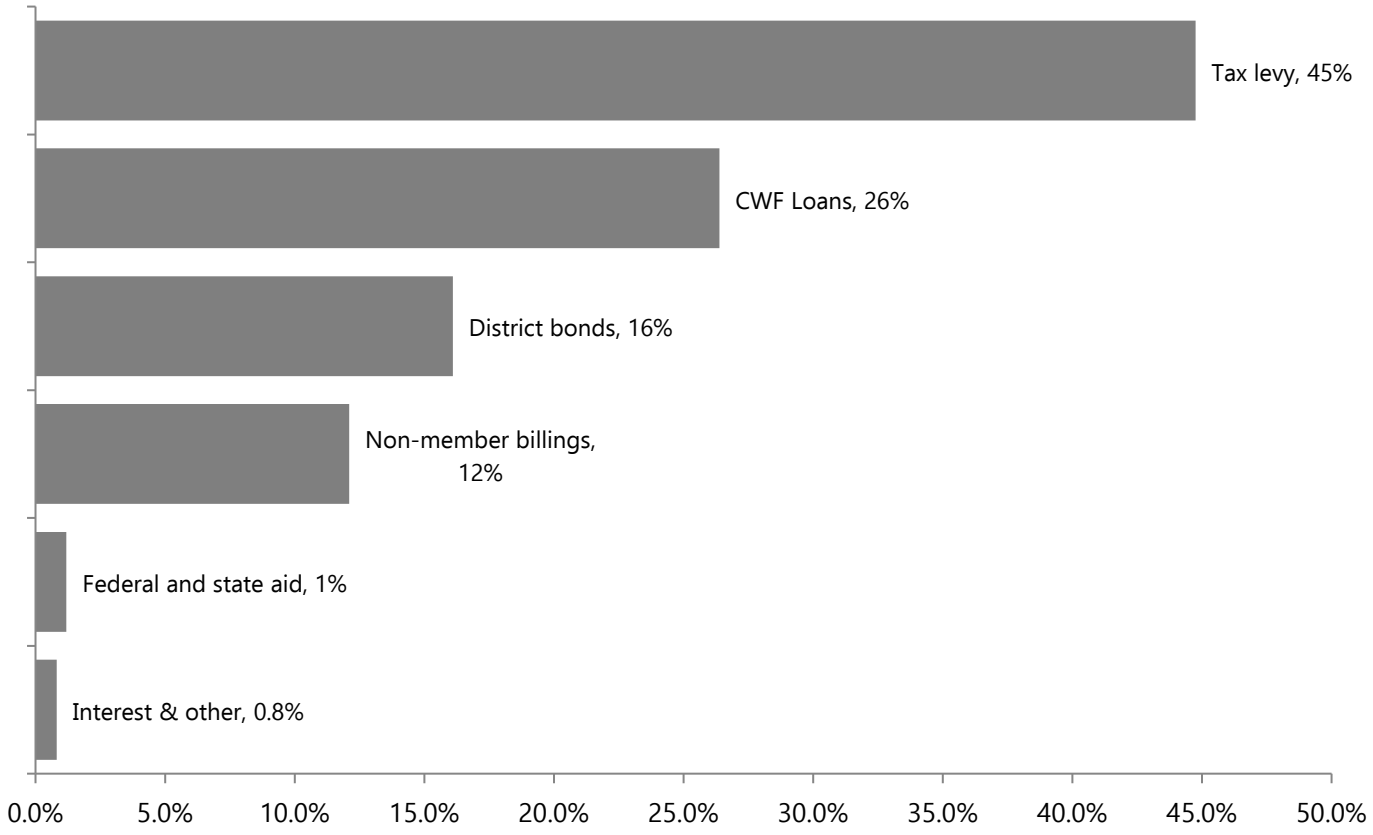
Capital Sources of Funds/Revenues

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
2020 – 2025 Long-Range Financing Plan
$1,509,746,000

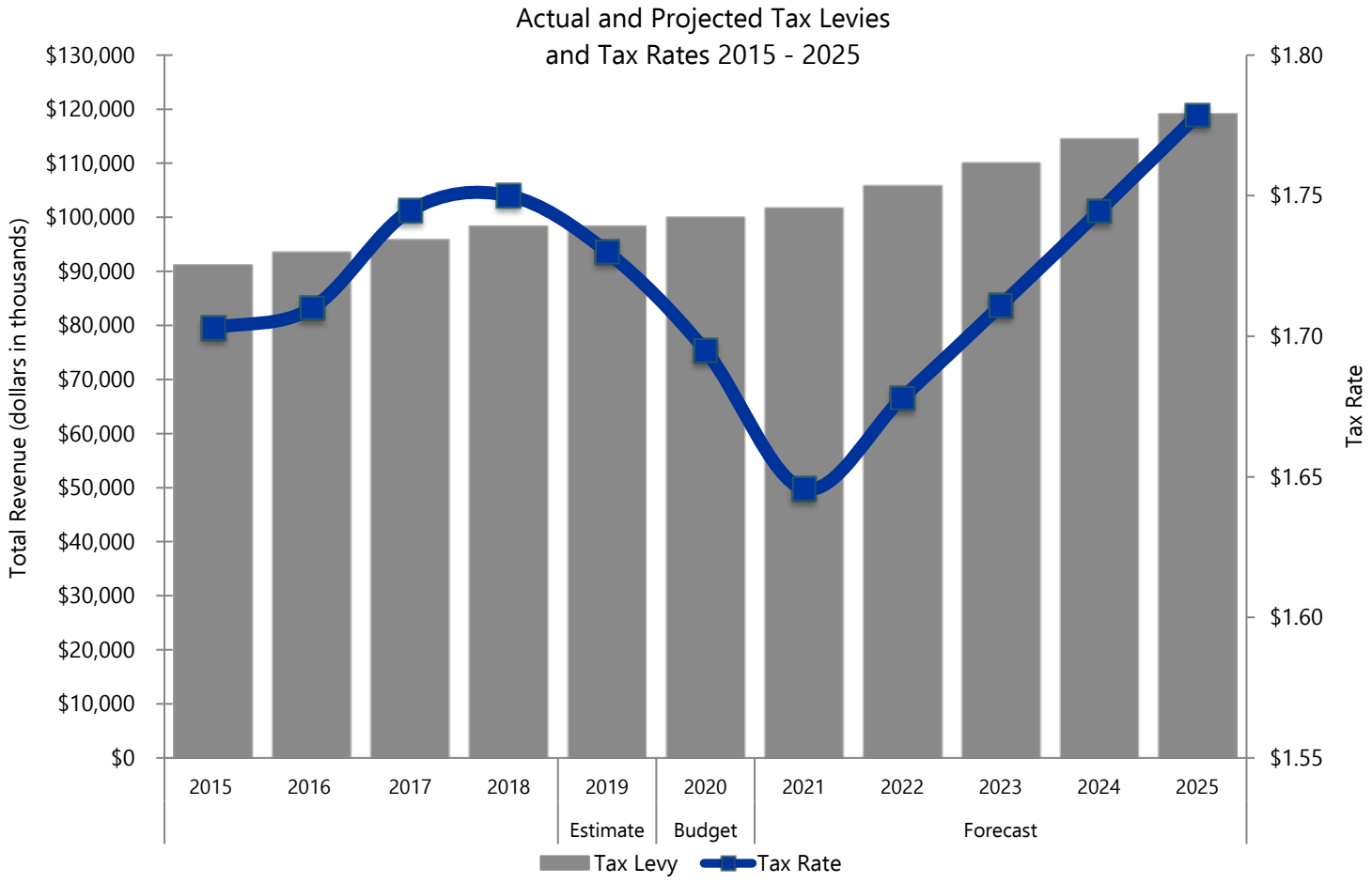


Tax Levy

Source of Funds (in thousands)	2018 Actual	2019 Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019
Tax Levy	$98,380	$100,102	$100,102	$101,853	$1,751	1.75%

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 2020, the tax levy is $101.9 million, a 1.75% increase from the 2019 budgeted level. The tax levy results in a tax rate of $1.65; a decrease of $0.04 per $1,000 of equalized value from $1.69 per $1,000 for 2019.



Non-member Billings

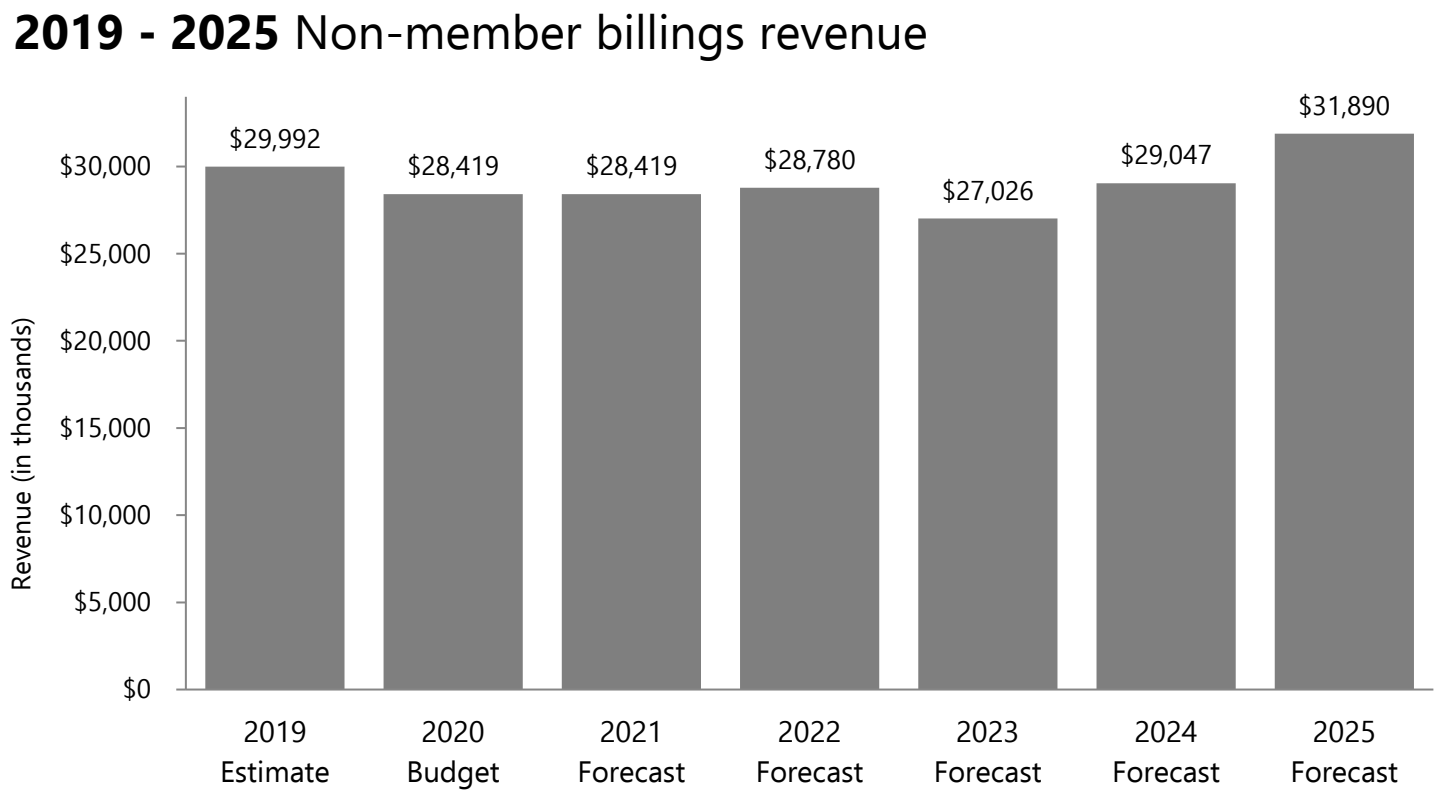
Source of Funds (in thousands)	2018 Actual	2019 Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019
Non-member billings	$30,669	$30,146	$29,992	$28,419	($1,727)	-5.7%

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 2020, non-member billings are budgeted at approximately $28.4 million, a decrease of $1.7 Million or 5.7 percent from the 2019 budgeted level.

Non-member communities receive a billing rate credit for watercourse and flood management expenditures to which those communities are not tributary. Beginning in 2018, eight 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 2021-2025. See *Watercourse and Flood Management* and *Other Projects* capital account sections for further detail.

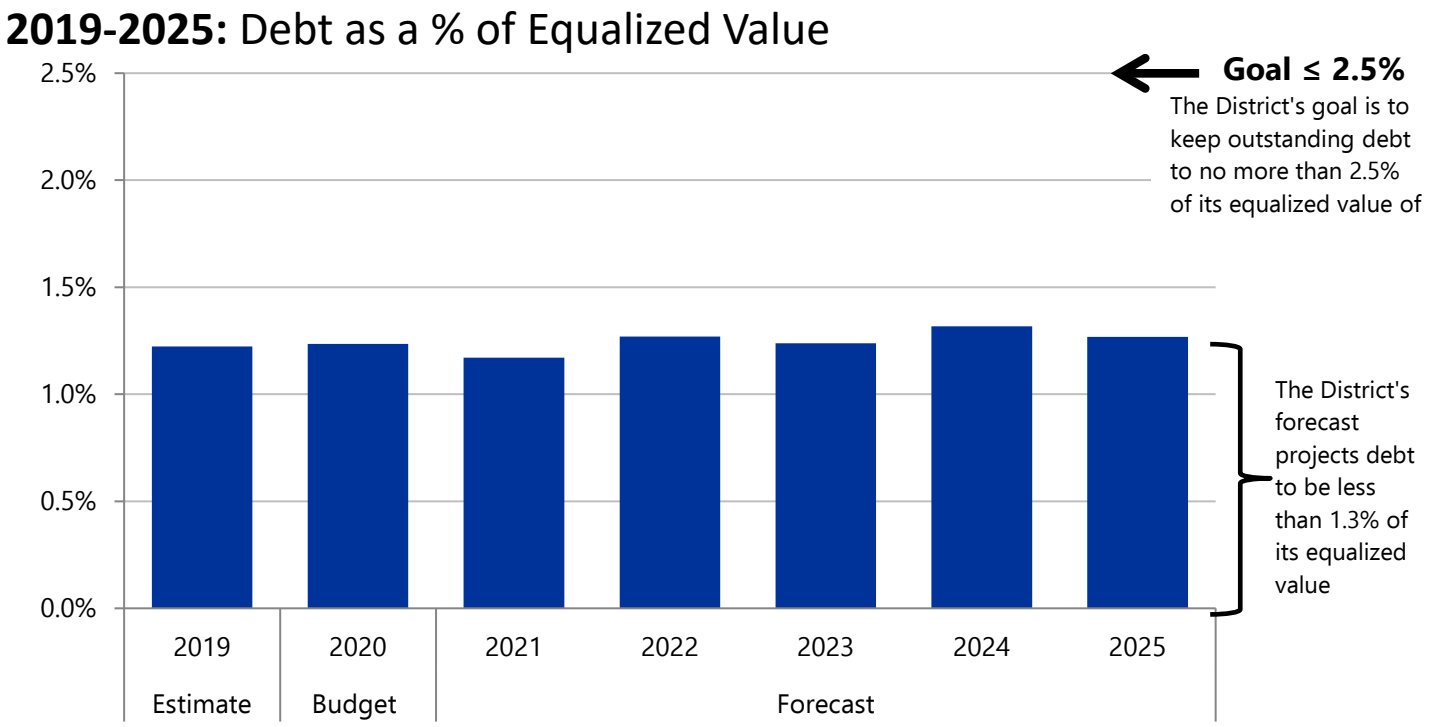


District Bonds & Notes

Source of Funds (in thousands)	2018 Actual	2019 Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019
District Bonds & Notes	$0	$0	$0	$80,000	$80,000	100.0%

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 2019, the District plans to issue $80 million in new bonds and an additional $163 million from 2021 through 2025.



Loans

Source of Funds (in thousands)	2018 Actual	2019 Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019
Loans	$19,735	$31,514	$22,297	$49,024	$17,510	55.6%

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 2020, the District expects to receive approximately $49.0 million from State Clean Water Fund Program loans to fund capital projects and an additional $349.3 million from 2021 through 2025.

Interest and Other Income

Source of Funds (in thousands)	2018 Actual	2019 Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019
Interest and Other	$4,081	$1,249	$4,073	$2,526	$1,277	102.2%

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 1.7 percent.

Other income may include revenues from the sale of capital assets, or project-specific payments from private or public sources, and credit payments from the federal government for the District's $50 million Build America Bond (BAB) issues.

Federal and State Aid and Grants

Source of Funds (in thousands)	2018 Actual	2019 Budget	2019 Estimate	2020 Budget	Change from 2019 Budget	% Change from 2019
Federal and State Aid and Grants	$2,871	$1,631	$4,107	$2,419	$788	48.3%

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

In 2020, the District expects to receive approximately $2.3 million in state aid for tax exempt computers and $120,000 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 irrepealable 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 irrepealable, 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.

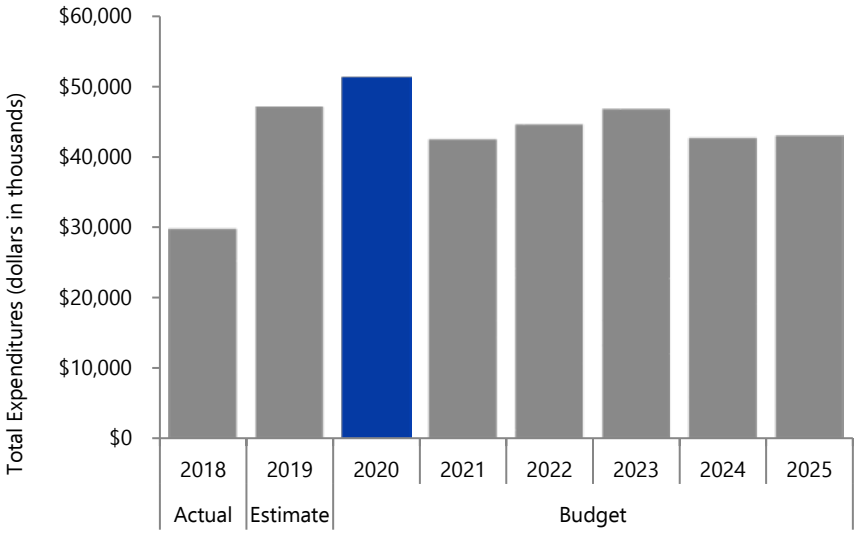
Gross debt service to be paid in 2020 for tax supported obligations is estimated to be $109,933,499. Gross debt service is reduced by surplus funds in the Debt Service Fund, resulting in net debt service of $108,176,499. The requested transfer of $6,323,070 from working capital to the Debt Service Fund would further reduce net debt service and the required tax levy to $101,853,429, which is a 1.75% increase from last year's levy.

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

	Gross Debt Service	Less Surplus in Debt Service Fund	Net Debt Service
District General Obligation Bonds and Notes	$36,390,637	$284,000	$36,106,637
Clean Water Fund Loans	$73,041,862	$1,473,000	$71,568,862
New Clean Water Fund Loans	$501,000	$0	$501,000
Total Debt Service Sinking Fund	$109,933,499	$1,757,000	$108,176,499
Intergovernmental Loan - Ryan Creek*	$1,691,786		
Total Debt Service	**$111,625,285**		
Less Tax Levy (1.75% increase from prior year)			$101,853,429
Transfer from Working Capital			$6,323,070

*This loan is not secured with pledge of tax levy

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.

Jones Island Reclamation Facility

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; full capacity with 60 MGD in-plant diversion is 390 MGD. Current average daily flows to the plant are 112 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. After removal of the solids, 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.

South Shore Reclamation Facility

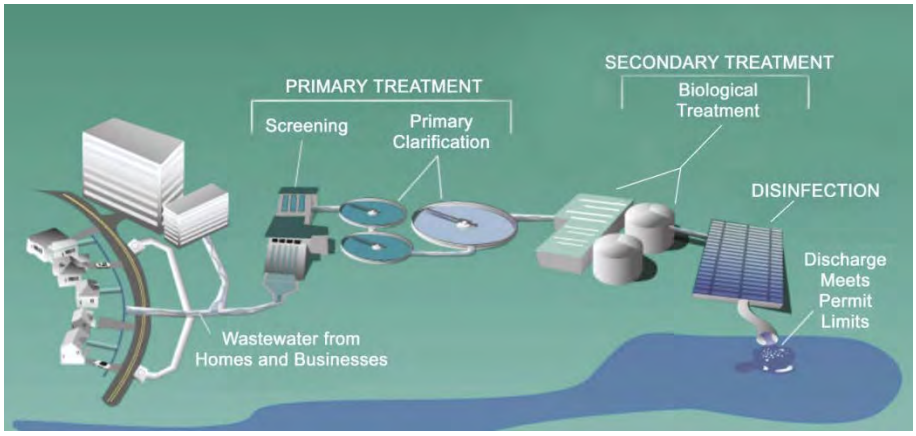
Located to the south of Jones Island in Oak Creek, the South Shore Water Reclamation Facility was constructed in 1964 as a primary treatment facility with a capacity of 60 MGD. The plant was expanded in 1974, to include secondary treatment, advanced treatment involving phosphorus removal and nitrification to remove ammonia. The design capacity of South Shore is 250 MGD Maximum Day and 300 MGD Peak Hour. Current average daily flows to the plant are 100 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 pipeline to Jones Island for processing into Milorganite® or sent to digesters at either Jones Island or 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.

Interplant & Landfill Gas Pipelines

An interplant 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 2020 Capital Budget includes $50.5 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.

Sewage Treatment System



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	$455,508
		Construction	Mar-21	Apr-23	$4,072,053
		Post-Constr.	Jun-23	Oct-23	$6,253
		Total			$4,533,814
		Previously Approved Total			$4,591,325
		Increase/(Decrease)			($57,511)

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. 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 change in total project cost is primarily due to decreased design costs. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J01019	JI Force Main Assessment	Prelimin. Eng	Apr-17	Aug-20	$737,061
		Total			$737,061
		Previously Approved Total			$737,060
		Increase/(Decrease)			$1

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 JI WRF. 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. The change in total project cost is de minimus. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J01021	Grit Basin Equipment Replacement	Prelimin. Eng	Jul-18	Dec-18	$73,222
		Design	Dec-18	Jul-19	$262,201
		Construction	Oct-19	Nov-21	$2,344,393
		Post-Constr.	Dec-21	Mar-22	$5,338
		Total			$2,685,154
		Previously Approved Total			$1,373,671
		Increase/(Decrease)			$1,311,483

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, each with a grit mechanism, 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 offsite disposal. The scope of the project is to replace Grit Mechanisms 1, 2, 3, 4, 5, and 6, 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 the revised scope that ensures replacement of the grit mechanism in all six basins are the same. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J01024	Harbor Siphon Structures & Adjacent Asset Modifications	Design	Feb-18	Nov-19	$683,937
		Construction	Feb-18	Jun-20	$11,732,676
		Post-Constr.	Jun-20	Dec-20	$20,432
		Total			$12,437,045
		Previously Approved Total			$12,437,045
		Increase/(Decrease)			$0

Project Description

The purpose of this project is to restore and maintain the structural integrity of the Harbor Siphon structures, the associated sewers, and the Inline Storage System (ISS) Force Main. The scope of the project includes excavation to expose existing sewers and ISS Force Main and to identify the source of wastewater that is being discharged, grout injection, and installation of internal pipe seals at leaking joints. Site investigation provided results and recommendations for restoration. The contractor will install piling, underpin 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.

ID #:	Name:	Phase	Start	Finish	Cost
J01025	High & Low Level Screw Pump Replacement	Design	Mar-19	Jun-19	$32,802
		Construction	Sep-19	Jan-21	$3,085,385
		Post-Constr.	Mar-21	Jun-21	$5,387
		Total			$3,123,574
		Previously Approved Total			$2,981,574
		Increase/(Decrease)			$142,000

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 is due to updated construction and labor cost estimates. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J01026	Primary Clarifier 2 & 8 Withdrawal Piping Replacement	Design	Mar-19	Feb-19	$19,770
		Construction	May-19	Jan-20	$1,174,730
		Post-Constr.	Mar-20	Jun-20	$5,500
		Total			$1,200,000
		Previously Approved Total			$1,500,000
		Increase/(Decrease)			($300,000)

Project Description

The purpose of this project is to ensure that Jones Island maintains its full treatment capacity by reducing the risk of unexpected failure of two primary clarifiers. If more than one primary clarifier is out of service at one time the overall treatment capacity of the facility is reduced which increases the risk for overflows and may impact effluent quality and the ability to meet the District's WPDES effluent permit limits. The scope of this project includes removing and replacing the primary sludge withdrawal pipes in primary clarifiers 2 and 8 at Jones Island. The change in total project cost is due to breaking out the primary clarifier drive improvements initially included under this project to form a separate project (J01028). No significant operating budget impact is expected. The Commission created this project in February 2019.

ID #:	Name:	Phase	Start	Finish	Cost
J01027	Primary Clarification, Sludge, and Scum Piping	Design	Jan-20	Oct-21	$306,109
		Total			$306,109
		Previously Approved Total			$0
		Increase/(Decrease)			$306,109

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. This is a new project. The project may reduce energy costs from the operating budget, because the project may increase renewable energy production and reduce landfill waste.

ID #:	Name:	Phase	Start	Finish	Cost
J01028	Primary Clarifier Drive Improvements	Design	Sep-20	Oct-21	$217,000
		Construction	Dec-21	Jan-24	$1,285,000
		Post-Constr.	Feb-24	May-24	$7,500
		Total			$1,509,500
		Previously Approved Total			$300,000
		Increase/(Decrease)			$1,209,500

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 JIWRF. The scope includes raising the drive mechanisms, clarifier bridge and associated equipment approximately 12 inches. The change in total project cost is due to the determination that the addition of baffles would not sufficiently protect the clarifier drives from wastewater intrusion. The project was transferred from project J01026 in July 2019.

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 Improvements	Prelimin. Eng	Jun-15	Dec-19	$171,397
		Design	Oct-20	Mar-22	$401,813
		Construction	May-22	Jun-23	$3,153,289
		Post-Constr.	Jul-23	Apr-24	$6,096
		Total			$3,732,595
		Previously Approved Total			$3,719,800
		Increase/(Decrease)			$12,795

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 change in total project cost is de minimus. This project is expected to reduce operating budget costs because of the reduced energy usage.

ID #:	Name:	Phase	Start	Finish	Cost
J02015	Aeration Basin Concrete Rehabilitation	Design	Oct-19	Mar-24	$354,520
		Construction	Apr-21	Mar-24	$4,114,506
		Post-Constr.	Dec-23	Mar-24	$9,550
		Total			$4,478,576
		Previously Approved Total			$0
		Increase/(Decrease)			$4,478,576

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. This is a new project. 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 2020.

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. Jones Island 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 minimizes 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	Oct-19	$787,428
		Construction	Jan-20	May-22	$4,594,357
		Post-Constr.	Jun-22	May-23	$5,601
		Total			$5,387,386
		Previously Approved Total			$3,235,701
		Increase/(Decrease)			$2,151,685

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. The purpose is also 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. Project scope includes design and construction of replacement Greens Grade classification and Product Train equipment that has reached the end of its useful service life. 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 due to increased equipment and construction costs. 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	Dec-18	$370,756
		Construction	Mar-19	Oct-19	$1,140,393
		Total			$1,515,062
		Previously Approved Total			$596,400
		Increase/(Decrease)			$918,662

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 is also intended to improve the reliability of pumping thickened activated sludge (TAS) to the blended sludge tank feeding the BFP. 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 two more permanent TAS pumps into the TAS piping network. Design and construction of the additional permanent TAS pumps is included in the project scope, as long as the evaluation proves it is cost-effective. Finally, the project will evaluate polymer storage capacity improvements for the gravity belt thickeners (GBTs) at JI. The change in total project cost is due to additional labor to evaluate alternatives for improving TAS pumping reliability. 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	Oct-20	$400,021
		Construction	Jan-21	Mar-22	$3,164,290
		Post-Constr.	Apr-22	Sep-22	$11,846
		Total			$3,576,157
		Previously Approved Total			$5,876,156
		Increase/(Decrease)			($2,299,999)

Project Description

The purpose of the project is to make extensive rehabilitation to equipment associated with the dryer waste heat guillotine 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 nine guillotine gates. The decrease in total project cost is due to refined cost estimates. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J04046	D&D Induced Draft Fan Energy Conservation	Design	Dec-16	Jul-18	$204,337
		Construction	Sep-18	Dec-20	$1,248,405
		Post-Constr.	Feb-21	Jun-21	$5,385
		Total			$1,458,127
		Previously Approved Total			$1,471,698
		Increase/(Decrease)			($13,571)

Project Description

At JI, 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. Energy savings can be achieved by adding a variable frequency drive (VFD) at each dryer. 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 existing motors driving the fans have been in continuous service for over 20 years and are not compatible with VFDs. This project will replace the motors and guide vanes on the twelve induced draft fans that maintain the negative pressure within the Milorganite® drying system with new motors and 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.

ID #:	Name:	Phase	Start	Finish	Cost
J04050	Dryer Feed and Discharge Screw Replacement	Design	Jul-16	Sep-17	$304,269
		Construction	Jan-18	Feb-21	$4,914,955
		Post-Constr.	Mar-21	Jun-21	$21,620
		Total			$5,240,844
		Previously Approved Total			$5,268,163
		Increase/(Decrease)			($27,319)

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 the addition of the dryer recycle screw conveyors. Deflagration venting required by NFPA code will be installed in all replacement dryer mixer feed screws, all the rehabbed dryer feed screws, and all 12 dryer discharge screws. The decrease in total project cost is due to refined cost estimates. The total project cost was updated in May 2019 via Commission Action. No significant operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
J04052	Milorganite® Facilities Improvements Phase IV	Design	Jul-16	Apr-18	$487,774
		Construction	Jun-18	Feb-20	$5,620,341
		Post-Constr.	Feb-20	Jun-20	$15,000
		Total			$6,123,115
		Previously Approved Total			$5,840,643
		Increase/(Decrease)			$282,472

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.

ID #:	Name:	Phase	Start	Finish	Cost
J04057	Dryer Exhaust Duct Header Replacement	Design	Feb-19	Jan-23	$336,366
		Construction	Apr-23	Jan-25	$3,725,311
		Post-Constr.	Mar-25	Jun-25	$4,985
		Total			$4,066,662
		Previously Approved Total			$2,758,518
		Increase/(Decrease)			$1,308,144

Project Description

The purpose of this project is to ensure reliable operation of the D&D dryer exhaust duct. The scope of the project includes design and construction of replacing the 36-inch to 96-inch diameter dryer exhaust duct header suspended adjacent to and above the 7th Floor of the D&D Facility. The change in total project cost is due to refined cost estimates. There is a positive operating budget impact as this project was originally to be a repair and funded via the operating budget. However, replacement of the duct has been discovered to be less expensive and will result in greater performance and a longer useful life.

ID #:	Name:	Phase	Start	Finish	Cost
J04060	Sludge Cake Transport & Feed Conveyors Replacement	Design	Feb-18	Jul-19	$515,944
		Construction	Nov-19	Nov-21	$7,377,674
		Post-Constr.	Jan-22	May-22	$7,366
		Total			$7,900,984
		Previously Approved Total			$7,058,243
		Increase/(Decrease)			$842,741

Project Description

The purpose of this project is to improve the reliability of solids processing equipment in D&D and minimize dryer outages. The project's scope includes replacing six sludge cake transport belt conveyors, six sludge cake feed belt conveyors, 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 scope also includes evaluating and potentially modifying processes 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 increase in total project cost is due to refined cost estimates. Operating budget impacts will take the form of corrective and preventative maintenance savings which, since 2009, have totaled approximately $440,000.

ID #:	Name:	Phase	Start	Finish	Cost
J04061	D&D Programmable Logic Controller 5 Upgrades	Design	Feb-19	Nov-20	$509,529
		Construction	Mar-21	Jul-23	$7,015,865
		Post-Constr.	Sep-23	Feb-24	$7,633
		Total			$7,533,027
		Previously Approved Total			$7,458,973
		Increase/(Decrease)			$74,054

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. The change in total project cost is due to portions of the project qualifying for funding in the O&M budget. The operating budget components total $182,000.

ID #:	Name:	Phase	Start	Finish	Cost
J04064	Chaff System Improvements	Prelimin. Eng	Dec-19	Nov-20	$216,639
		Design	Jun-21	Oct-22	$1,212,444
		Construction	Jan-23	Jan-25	$12,394,407
		Post-Constr.	Mar-25	Aug-25	$5,743
		Total			$13,829,233
		Previously Approved Total			$13,241,629
		Increase/(Decrease)			$587,604

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 the decision to include a preliminary engineering phase to the project. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J04065	D&D First Stage Classification Equipment Replacement	Design	Jul-18	Jul-19	$506,925
		Construction	Nov-19	Nov-21	$9,390,940
		Post-Constr.	Dec-21	Mar-22	$5,654
		Total			$9,903,519
		Previously Approved Total			$5,879,018
		Increase/(Decrease)			$4,024,501

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 change in total project cost is due to increased construction costs. 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.

ID #:	Name:	Phase	Start	Finish	Cost
J04066	Milorganite® Dust Suppressant System Upgrades	Design	Jul-19	Jul-20	$108,364
		Construction	Oct-20	May-22	$602,407
		Post-Constr.	Jul-22	Oct-22	$5,728
		Total			$716,499
		Previously Approved Total			$702,774
		Increase/(Decrease)			$13,725

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 increase in total project is due to inflation. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J04067	D&D South Cake Loadout System	Planning	Mar-18	May-18	$1,893
		Design	Apr-19	Dec-19	$123,553
		Construction	Mar-20	Mar-21	$698,034
		Post-Constr.	Apr-21	Jul-21	$4,729
		Total			$828,209
		Previously Approved Total			$684,273
		Increase/(Decrease)			$143,936

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 2nd floor of the D&D Building. The increase in total project is due to increased labor and construction cost estimates. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
J04068	Equalization and Blend Tank Odor Removal	Design	Mar-18	Feb-19	$188,630
		Construction	Jul-18	Feb-20	$677,394
		Post-Constr.	Apr-20	Aug-20	$11,876
		Total			$877,900
		Previously Approved Total			$877,899
		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 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 will be designed for a 20-year life and provides new activated carbon in the odor control system 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.

ID #:	Name:	Phase	Start	Finish	Cost
J04070	Milorganite® Facilities Improvements Phase V	Design	Feb-19	Mar-23	$344,033
		Construction	Jun-19	Jul-24	$1,195,622
		Post-Constr.	Jul-24	Oct-24	$5,899
		Total			$1,545,554
		Previously Approved Total			$3,000,000
		Increase/(Decrease)			($1,454,446)

Project Description

This project was created by Commission action 19-015-1. 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 is due to reduced project scope. At the time the project was created, staff did not know exactly what would be needed to achieve compliance. It was a work in progress. Since then, compliance has been demonstrated and maintained. The scope of work going forward is reduced from the original. The impact on the operating budget is approximately $6,000 annually for replacement of temperature probe thermowells and batteries.

ID #:	Name:	Phase	Start	Finish	Cost
J04072	Milo Transport and Silo Storage Equipment Replacement	Design	Nov-19	Jan-22	$987,238
		Construction	Aug-21	Sep-23	$4,798,769
		Post-Constr.	Nov-23	Feb-24	$7,433
		Total			$5,793,440
		Previously Approved Total			$0
		Increase/(Decrease)			$5,793,440

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 as needing replacement within four years for D&D and within five years for the silos in the 2018 D&D Equipment Assessment Meetings with VWM. 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. This is a new project. 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.

ID #:	Name:	Phase	Start	Finish	Cost
J04074	Milorganite® Packaging Facility	Prelimin. Eng	Nov-19	Apr-21	$441,904
		Design	Nov-20	Apr-22	$1,147,684
		Construction	Jun-22	Mar-24	$22,168,132
		Post-Constr.	Mar-24	Sep-24	$9,920
		Total			$23,767,640
		Previously Approved Total			$0
		Increase/(Decrease)			$23,767,640

Project Description

The purpose of this project is to design and construct a suitable building to house new equipment 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. This is a new project. The project may impact the operating budget by changing the costs of the packaging contract.

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:	Phase	Start	Finish	Cost
J06032	JI Geotechnical Structural Analysis	Prelimin. Eng	Apr-15	Dec-18	$552,835
		Design	Nov-20	Jan-22	$341,195
		Construction	Apr-22	Apr-24	$571,966
		Post-Constr.	Jun-24	Sep-24	$15,638
		Total			$1,481,634
		Previously Approved Total			$1,176,607
		Increase/(Decrease)			$305,027

Project Description

The purpose of this project is to evaluate the structural condition of the many buildings and tanks at the Jones Island Water Reclamation Facility. The project will conduct an engineering and field investigation of the structural condition of the various facilities at Jones Island, concentrating on the facilities that are supported with 100-year-old wood pile foundations. The change in total project cost is due to updated cost estimates. There is no operating budget impact.

ID #:	Name:	Phase	Start	Finish	Cost
J06054	ISS Crane Rehabilitation	Design	Jun-15	Jun-17	$373,141
		Construction	Jul-17	Sep-18	$1,485,193
		Post-Constr.	Oct-19	Mar-20	$62,936
		Total			$1,921,270
		Previously Approved Total			$1,905,241
		Increase/(Decrease)			$16,029

Project Description

The purpose of this project is to replace and upgrade components of the Inline Storage System (ISS) crane to improve system performance during high flow events and worker safety. The purpose of the crane is to remove the solids that accumulate on the bar screens prior to the flow entering the ISS pump intake header. The scope of this project is to replace and upgrade the crane motors, braking systems, crane superstructure, cab, ISS bar screen vertical shaft cover, and the clamming bucket related to the ISS crane. The crane has been operating in a harsh environment for over 20 years and is experiencing reliability and safety issues. The scope also includes the study of the effectiveness of two fans that exhaust sewer gas from the ISS. The fans have reached the end of their useful life. Sewer gas presents a safety hazard when staff are deployed in the ISS for inspection and maintenance. Before replacing the fans, the study will determine the proper sizing by measuring the air input points in the system. The change in total project cost is de minimus. The operating budget impact is not known at this time.

ID #:	Name:		Cost
J06056	Turbine Extended Service Agreement	Total	$14,661,332
		Previously Approved Total	$13,445,724
		Increase/(Decrease)	$1,215,608

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	Dec-18	Apr-22	$6,348,660
		Post-Constr.	May-22	Sep-22	$7,945
		Total			$7,594,095
		Previously Approved Total			$7,594,761
		Increase/(Decrease)			($666)

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 total project cost was updated in May 2019 via Commission Action. 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 project is expected to reduced energy costs in the operating budget with the increased use of landfill gas, a lower-cost fuel option.

ID #:	Name:	Phase	Start	Finish	Cost
J06064	Gaseous Fire Suppression Systems	Design	Jul-15	Jul-17	$264,529
		Construction	Oct-17	Sep-19	$651,303
		Post-Constr.	Jan-20	Oct-20	$14,214
		Total			$930,046
		Previously Approved Total			$930,046
		Increase/(Decrease)			$0

Project Description

The purpose of this project is to ensure the reliability of wastewater treatment control and improve employee safety. The project scope is to evaluate, design and install a gaseous fire suppression system in three control rooms at JIWRF. The previously installed Halon fire suppression system in these rooms has been removed or is no longer functioning. Fire in these staffed rooms poses a direct safety risk to personnel. Fire damage potential in each of these rooms is estimated to range from $175,000 to $2,500,000. This damage would disrupt operations and solids handling, potentially resulting in permit violations or increased costs of solids disposal. There is no change in total project cost. The operating budget impact is not known at this time.

ID #:	Name:		Cost
J06065	Rolling Stock & Other Equipment	Total	$7,469,992
		Previously Approved Total	$7,505,825
		Increase/(Decrease)	($35,833)

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 is due to updated cost estimates. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
J06066	Power System Improvements	Prelimin. Eng	Jun-14	Jul-19	$439,538
		Design	May-19	Aug-20	$139,679
		Construction	Oct-17	Mar-22	$1,050,023
		Post-Constr.	Apr-22	Aug-22	$7,500
		Total			$1,636,740
		Previously Approved Total			$1,379,051
		Increase/(Decrease)			$257,689

Project Description

The purpose of this project is to improve the overall reliability and safety of the JIWRF power supply. 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 has been modified to include design and construction of a connection between the Solar turbine black start generator and the power house and turbine gas compressor. The change in total project cost is due to the additional scope added. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
J06069	JI Building Roof Replacement - Phase 3	Design	Feb-18	Jun-19	$353,722
		Construction	Sep-19	Aug-20	$2,594,358
		Post-Constr.	Sep-20	Mar-20	$5,097
		Total			$2,593,177
		Previously Approved Total			$4,378,754
		Increase/(Decrease)			($1,785,577)

Project Description

The purpose of this project is to rehabilitate and, where applicable, replace ten roofs at the Jones Island Water Reclamation Facility. The project scope includes full work for replacement as well as condition assessment reviews. The decrease in total project cost is due to the removal of one building roof as a result of a condition assessment. The impact on the operating budget is unknown at this time.

ID #:	Name:	Phase	Start	Finish	Cost
J06073	Harbor Siphons Area Settlement Mitigation	Design	Jan-17	Dec-24	$131,033
		Total			$131,033
		Previously Approved Total			$513,713
		Increase/(Decrease)			($382,680)

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 decrease in total project cost is due to project scope reduction. The impact on the operating budget is unknown at this time.

ID #:	Name:	Phase	Start	Finish	Cost
J06075	JI Capital Equipment Rehabilitation/Replacement	Construction	Dec-17	Dec-24	$8,004,741
		Total			$8,004,741
		Previously Approved Total			$8,005,464
		Increase/(Decrease)			($723)

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 is de minimus. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
J06076	Turbine Waste Heat Expansion Joint 12 & 13 Replacement	Design	Jun-18	Dec-18	$103,537
		Construction	Feb-19	Dec-19	$525,569
		Post-Constr.	Feb-20	May-20	$5,244
		Total			$634,350
		Previously Approved Total			$634,350
		Increase/(Decrease)			$0

Project Description

The purpose of this project is to ensure the integrity and reliability of the waste heat system between the JIWRF 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 Commission approved an updated total project by action 19-025-2. There is no change in total project cost. No impact on the operating budget is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
J06081	JI WRF Phase 1 MCC Replacements	Design	Jan-19	Jun-22	$584,759
		Construction	Apr-22	Feb-24	$4,482,361
		Post-Constr.	Feb-24	Jun-24	$7,171
		Total			$5,074,290
		Previously Approved Total			$0
		Increase/(Decrease)			$5,074,290

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 are more than 30 years old and have reached or 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 scope of this project will replace 24 Motor Control Centers (MCCs), Load Center Unit Substation - Power House (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. This is a new project. No significant operating budget impact is expected.

ID #:	Name:		Cost
J99003	Operator Contribution to CIP	Six-Year Forecast Total	$300,000
		Total	$300,000

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 2020 expenditures are budgeted at $50,682; the six-year long-range financing plan includes $300,000. 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
S01009	Scum System Improvements	Prelimin. Eng	Sep-12	Sep-16	$224,215
		Design	Mar-18	Jan-19	$89,242
		Construction	May-19	Apr-20	$419,601
		Post-Constr.	May-20	Nov-20	$8,236
		Total			$741,294
		Previously Approved Total			$741,093
		Increase/(Decrease)			$201

Project Description

The purpose of this project is to improve reliability of the primary scum handling system. The project scope will design and construct the necessary changes to automate the primary scum handling system, and replace select primary scum piping fittings to improve flow, and provide cleaning access points at select locations along the primary scum piping system. The scope also includes a pilot project to investigate the ability of glass-lined ductile iron pipe to reduce the scum accumulation on the pipe wall. The change in total project cost is de minimus. No operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
S01013	Primary Clarifier Overhaul	Design	Jun-20	Jan-22	$856,988
		Construction	Apr-22	Oct-26	$13,686,086
		Post-Constr.	Dec-26	Apr-27	$18,270
		Total			$14,561,344
		Previously Approved Total			$14,176,576
		Increase/(Decrease)			$384,768

Project Description

The purpose of this project is to ensure performance and reliability in removing scum and solids from the influent wastewater. The project scope consists of two alternatives: design and construction of the removal and in-kind replacement of Primary Clarifier (PC) Nos. 1-16, or design and construction of the removal and in-kind replacement of only eight out of the 16 PC units combined with the addition of a chemical or biological enhanced primary treatment system. Conditions of the existing equipment include warped scum beaches, warped and misaligned longitudinal and cross collectors, and corroded drives. The project will ensure reliable operation with regards to scum and solids removal. The change in total project cost is due to refined cost estimates. The first alternative will have no operating budget impact while the second alternative will have a savings of $2.6M a year.

ID #:	Name:	Phase	Start	Finish	Cost
S01015	Grit Equipment Replacement	Design	Jan-20	Dec-21	$479,912
		Construction	Apr-22	Oct-24	$3,020,521
		Post-Constr.	Sep-24	May-25	$26,568
		Total			$3,527,001
		Previously Approved Total			$0
		Increase/(Decrease)			$3,527,001

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 analysis performed under project S02008 and near term recommendations from the 2050 Facilities Plan. This is a new project. 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	Preliminary and Secondary Capacity Improvements	Planning	Mar-10	Dec-10	$13,200
		Prelimin. Eng	Feb-12	Jul-17	$1,648,009
		Design	Oct-16	Dec-20	$766,024
		Construction	May-19	Jan-24	$4,183,301
		Post-Constr.	Jan-24	Feb-25	$21,760
		Total			$6,632,294
		Previously Approved Total			$3,686,300
		Increase/(Decrease)			$2,945,994

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, 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 the District's decision to move forward with final design and construction of clarifier skirt and baffle modifications in all the front secondary clarifiers, and for the work to increase hydraulic capacity through Preliminary and Primary Treatment. 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.

ID #:	Name:	Phase	Start	Finish	Cost
S02012	Biological Phosphorous Removal	Prelimin. Eng	Mar-14	Apr-17	$310,436
		Design	Dec-19	Apr-26	$614,419
		Construction	Jul-26	Mar-28	$4,055,162
		Post-Constr.	Apr-28	Aug-28	$13,660
		Total			$4,993,677
		Previously Approved Total			$4,874,445
		Increase/(Decrease)			$119,232

Project Description

The purpose of this project is to improve the effectiveness of phosphorus removal of the secondary treatment process in order to comply with current and future phosphorous limits in the WPDES permit. The project scope is to evaluate, engineer, design and construct the necessary provisions at SS to replace the existing chemical phosphorus removal system by employing enhanced biological phosphorus removal. The increase in total project cost is due to refined cost estimates. The project is anticipated to have a positive operating budget impact as a result of increased energy efficiency and a decrease in chemical use.

Phosphorus removal is necessary to meet effluent permit requirements.

ID #:	Name:	Phase	Start	Finish	Cost
S02013	Aeration Galleries RAS Header Piping Rehab	Design	Feb-16	Feb-20	$691,024
		Construction	Oct-17	Jul-23	$5,983,379
		Post-Constr.	Aug-23	Mar-24	$6,506
		Total			$6,680,909
		Previously Approved Total			$3,859,064
		Increase/(Decrease)			$2,821,845

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 increase in total project cost is due to the added scope to replace RAS suction and discharge header piping located in Aeration Buildings 316 and 317. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
S02015	Aeration Basin Diffuser Replacement	Prelimin. Eng	Dec-19	Jun-20	$6,478
		Design	Oct-24	Jul-25	$1,988,925
		Construction	Apr-26	Jun-30	$24,936,133
		Post-Constr.	Jan-31	Apr-31	$8,110
		Total			$26,939,646
		Previously Approved Total			$26,242,021
		Increase/(Decrease)			$697,625

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 increase in total project cost is due to increased construction costs. The impact on the operating budget is unknown.

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	Mar-20	$1,046,699
		Construction	Jul-20	Sep-22	$918,453
		Post-Constr.	Sep-22	Aug-23	$29,782
		Total			$1,994,934
		Previously Approved Total			$1,690,900
		Increase/(Decrease)			$304,034

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 increase in total project cost is due to the added scope to design and construct disinfection system improvements to blend primary effluent with secondary effluent. Increases to the operating budget, not expected to be incurred until after 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.

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
S04010	Thickening Process Capacity Enhancements	Prelimin. Eng	Jul-15	Dec-17	$77,338
		Design	Oct-20	Jun-22	$357,326
		Construction	Sep-22	Mar-24	$2,152,337
		Post-Constr.	May-24	Nov-24	$9,441
		Total			$2,596,442
		Previously Approved Total			$2,964,903
		Increase/(Decrease)			($368,461)

Project Description

The purpose of this project is to increase process capacity and flexibility between treatment facilities by increasing solids handling capacity at SSWRF. This project is an outcome of the most recent draft of the Biosolids Facilities Plan and Addendum 4 of the 2020 Facilities Plan. The project scope includes preliminary engineering to evaluate cost effectiveness of primary sludge pumping, design and construction of two additional meters of gravity belt thickening capacity, and removal of all decommissioned centrifuge systems. The decrease in total project cost is due to refined cost estimates. The impact on the operating budget is unknown at this time.

ID #:	Name:	Phase	Start	Finish	Cost
S04012	Plate and Frame Press Control Upgrade	Design	Aug-18	Mar-19	$26,305
		Construction	Jun-19	Mar-21	$733,901
		Post-Constr.	Apr-21	Dec-21	$7,649
		Total			$767,855
		Previously Approved Total			$767,855
		Increase/(Decrease)			$0

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. There is no change in total project cost. The operating budget impact of the restoration work is $325,000.

ID #:	Name:	Phase	Start	Finish	Cost
S04030	Aeration Basin Concrete Rehab - Phase III	Design	Jul-18	Sep-19	$265,517
		Construction	Nov-19	Nov-21	$2,531,111
		Post-Constr.	Dec-21	May-22	$5,645
		Total			$2,802,273
		Previously Approved Total			$2,666,013
		Increase/(Decrease)			$136,260

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 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 removing and rehabilitating failing concrete walls on five aeration basins. Included is removal and re-painting existing poured in place guard railing, and installation of the rails bolted down with a kickplate for flexibility and safety in future maintenance. The added project scope is improving the access to the eight existing primary effluent channel across hatches. The increase in total project cost is due to the additional scope. No operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
S04031	Digester Gas Treatment System	Design	Jan-16	Nov-18	$830,402
		Construction	Feb-18	Nov-19	$4,136,033
		Post-Constr.	Jul-19	Apr-20	$6,706
		Total			$4,973,141
		Previously Approved Total			$4,775,103
		Increase/(Decrease)			$198,038

Project Description

The purpose of this project is to reduce the cost of maintenance and improve the reliability of the SSWRF engines and boilers. The concentrations of the digester gas constituents directly impact the maintenance cost and reliability of the engines and boilers. Increasing the reliability of the system will decrease the amount of electricity or natural gas that the District must purchase. The project will move the District closer to attaining the 2035 Vision. The project scope provides comprehensive digester gas treatment to remove conventional constituents of concern including moisture and siloxanes. The major scope items include: interim digester gas conditioning evaluation; design and construction of gas compression, moisture removal and siloxane treatment; provide the ability to isolate existing abandoned gas equipment; replace an existing, underground 18-inch diameter gas supply line; and related structural, mechanical, electrical, site and instrumentation and control work. The increase in total project cost is due to refined construction costs. The project is anticipated to have a favorable impact on the operating budget as the District will not have to overhaul the engines as often, and the District will not have to purchase as much electricity or natural gas.

The anaerobic digestion system reduces primary sludge mass and produces digester gas. Digester gas is normally combusted in engine generators and boilers to produce electricity and heat for plant consumption. This **reduces the District's energy costs**, is a renewable energy source, and contributes to the District's 2035 Vision energy goals.

ID #:	Name:	Phase	Start	Finish	Cost
S04034	High Strength Waste Mixing Improvements	Design	Jan-21	Mar-22	$67,586
		Construction	Jun-22	Aug-23	$279,276
		Post-Constr.	Oct-23	Feb-24	$5,943
		Total			$352,805
		Previously Approved Total			$343,335
		Increase/(Decrease)			$9,470

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	Dec-19	$218,063
		Construction	Apr-20	Oct-21	$2,465,791
		Post-Constr.	Dec-21	Oct-22	$11,212
		Total			$2,695,066
		Previously Approved Total			$2,275,855
		Increase/(Decrease)			$419,211

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 draft tube or linear motion mixers, installation of two new pressure relief/flame arrestor valves, removal and disposal of sludge, cleaning, and related structural, mechanical, electrical and control work. Additional project scope included is digester structure rehabilitation. The increase in total project cost is due to the additional project scope. No impact to the operating budget is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
S04036	Bldg. 383 HVAC Replacement	Design	Oct-19	Nov-20	$164,175
		Construction	Nov-20	Nov-21	$352,026
		Post-Constr.	Jan-22	Apr-22	$9,902
		Total			$526,103
		Previously Approved Total			$0
		Increase/(Decrease)			$526,103

Project Description

The purpose of this project is to replace the existing HVAC system at the Agri-Life Operations Building of the South Shore WRF, which has reached the end of its useful life, with a more energy efficient system, while also improving the HVAC level of service provided to building users. The project scope includes design and construction for the removal and replacement of the HVAC system 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 and reduce energy usage. This is a new project. There is no operating budget impact.

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-19	$1,153,827
		Post-Constr.	Nov-19	May-20	$5,646
		Total			$1,444,107
		Previously Approved Total			$1,412,915
		Increase/(Decrease)			$31,192

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 additional efforts required during construction. 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
S06022	Building 326 Site Improvements	Design	Feb-15	Mar-18	$194,504
		Construction	Jul-16	Sep-19	$564,204
		Post-Constr.	Oct-19	Feb-20	$4,974
		Total			$763,682
		Previously Approved Total			$763,682
		Increase/(Decrease)			$0

Project Description

The purpose of the project is to reduce flood risk and resultant damages to Building 326 at the SSWRF. The scope of this project is to remove two double pedestrian doors and two single pedestrian doors and replace them with floodproof doors. In addition, two existing garage overhead doors openings will be modified to allow for stop plank installation during a flood event. There is no change in total project cost. There is no impact to the operating budget.

ID #:	Name:	Phase	Start	Finish	Cost
S06027	Tunnels Concrete Rehabilitation	Design	Jan-16	Aug-19	$432,296
		Construction	Nov-18	Nov-20	$3,700,830
		Post-Constr.	Oct-19	Mar-21	$11,000
		Total			$4,144,126
		Previously Approved Total			$4,007,409
		Increase/(Decrease)			$136,717

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 increase in total project cost is due to refined cost estimates. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
S06028	Control Center Relocation and Gaseous Fire Suppression Systems	Prelimin. Eng	Aug-15	Mar-16	$41,078
		Design	Jun-16	Jul-17	$211,842
		Construction	Oct-17	Sep-19	$1,158,564
		Post-Constr.	Jan-20	Oct-20	$14,041
		Total			$1,425,525
		Previously Approved Total			$1,389,101
		Increase/(Decrease)			$36,424

Project Description

The purpose of this project is to improve the reliability of critical treatment process computer equipment currently located in the central control building at SS. Hydrogen sulfide from the surrounding clarifiers and from basement sludge pumping enters the control and server room areas, causing corrosion issues with electronic equipment. Constant exposure to the hydrogen sulfide has resulted in numerous repairs to critical electronic equipment including servers, hard drives, and computer circuit boards. The scope of this project includes removal of laboratory fixtures and equipment, asbestos removal, construction of a new control room, server room, additional office, and HVAC improvements at the SS administration building. Also included is the expansion of the SS fiber communications network and installation of an emergency generator system. This project also includes construction of gaseous fire suppression systems in two control rooms. The increase in total project cost is due to refined cost estimates. The operating budget is impacted by the cost of operation of the gaseous fire suppression systems estimated at $4,000 annually.

ID #:	Name:	Phase	Start	Finish	Cost
S06029	Med Voltage Switchgear Replacement	Design	Feb-15	Mar-20	$453,330
		Construction	Aug-17	Sep-19	$3,453,392
		Post-Constr.	Aug-19	Mar-20	$7,275
		Total			$3,913,998
		Previously Approved Total			$3,855,693
		Increase/(Decrease)			$58,305

Project Description

The purpose of this project is to improve the reliability of the South Shore electrical power system. The project scope is to design and install a replacement to the medium voltage switchgear. This equipment is the heart of the SS electrical system as it provides power, through several substations, to the great majority of the facility. The project also includes replacement of one motor control center. The increase in total project cost is due to refined cost estimates. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
S06033	Motor Control Center Replacements Phase 1	Design	Mar-16	Nov-17	$440,991
		Construction	Jan-18	Oct-19	$3,004,003
		Post-Constr.	Dec-19	Apr-20	$6,240
		Total			$3,451,234
		Previously Approved Total			$3,382,405
		Increase/(Decrease)			$68,829

Project Description

The purpose of this project is to replace 17 motor control centers (MCC) at South Shore that are over 40 years old and have reached the end of their useful life. The current motor control centers are beginning to fail. The MCCs will include power monitoring equipment with networking to monitor energy usage. The project scope also includes improvements in the MCC replacement areas related to NFPA 820. The increase in total project cost is due to refined cost estimates. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
S06034	Building Roof Replacement Phase III	Design	Feb-18	Feb-19	$273,870
		Construction	May-19	Feb-20	$2,763,390
		Post-Constr.	Mar-20	Mar-21	$5,128
		Total			$3,042,388
		Previously Approved Total			$2,506,626
		Increase/(Decrease)			$535,762

Project Description

The purpose of this project is to review roof conditions and subsequently recommend and preform replacements at SS. The scope of this project includes condition assessments, replacement design, and construction on the roofs of four buildings. The increase in total project cost is due to increased construction costs. At this time, no impact on the operating budget is anticipated, however, if an outcome of the assessments is that only minor repair work is required, then the work would be funded via the operating budget.

ID #:	Name:	Phase	Start	Finish	Cost
S06036	Gas Compressor 5 Digester Gas Enhancements	Prelimin. Eng	Oct-16	Apr-17	$75,884
		Design	Aug-17	Oct-20	$82,418
		Construction	Feb-21	Dec-21	$84,102
		Post-Constr.	Jan-22	Mar-22	$3,898
		Total			$246,302
		Previously Approved Total			$197,146
		Increase/(Decrease)			$49,156

Project Description

The purpose of this project is to allow Engine Generator No. 5 to function reliably on digester gas. Digester Gas Compressor No. 5 provides digester gas only to this generator and does not have a redundant unit. The compressor skid operation is unreliable as it experiences frequent faults due to low inlet pressure conditions and high discharge pressure conditions. The scope of this project includes evaluation, design and construction of mechanical and control modifications for Digester Gas Compressor No. 5, downstream piping and valving. The change in total project is due to refined cost estimates. The project is anticipated to have a favorable impact on the operating budget as the District will not have to purchase as much electricity or natural gas.

ID #:	Name:	Phase	Start	Finish	Cost
S06038	SS Capital Equipment Rehabilitation/Replacement	Construction	Jan-18	Dec-24	$8,407,092
		Total			$8,407,092
		Previously Approved Total			$8,407,092
		Increase/(Decrease)			$0

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. There is no change in total project cost. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
S06039	Building Roof Replacement Phase IV	Design	Jul-18	Aug-19	$309,421
		Construction	Dec-19	Oct-20	$1,697,524
		Post-Constr.	Oct-20	Jan-21	$5,129
		Total			$2,012,074
		Previously Approved Total			$2,996,341
		Increase/(Decrease)			($984,267)

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 five roofs to be replaced (Buildings S326, S340, S356, S357, and S387). The project will then proceed with developing bid documents and with construction of the roof replacements. The change in total project cost is the decrease in the number of buildings requiring roof replacements. At this time, there is not any operating budget impact, however if an outcome of the assessments is that only minor repair work is required, then the work would be funded via the operating budget.

ID #:	Name:	Phase	Start	Finish	Cost
S06043	SS Buffer Zone	Design	Oct-18	Jul-19	$27,308
		Construction	Sep-19	Nov-19	$129,072
		Total			$156,380
		Previously Approved Total			$156,488
		Increase/(Decrease)			($108)

Project Description

The purpose of this project is to add a tree land improvement to act as a buffer for development in the area. The change in total project cost is de minimus. There is no operating budget impact.

ID #:	Name:		Cost
S99003	Operator Contribution to CIP	Six-Year Forecast Total	$300,000
		Total	$300,000

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 2020 expenditures are budgeted at $50,000; the six-year long-range financing plan includes $300,000. 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	Jul-18	Aug-19	$1,794,603
		Construction	Dec-19	Oct-20	$20,743,065
		Post-Constr.	Oct-20	Jan-21	$7,592
		Total			$22,545,260
		Previously Approved Total			$21,398,910
		Increase/(Decrease)			$1,146,350

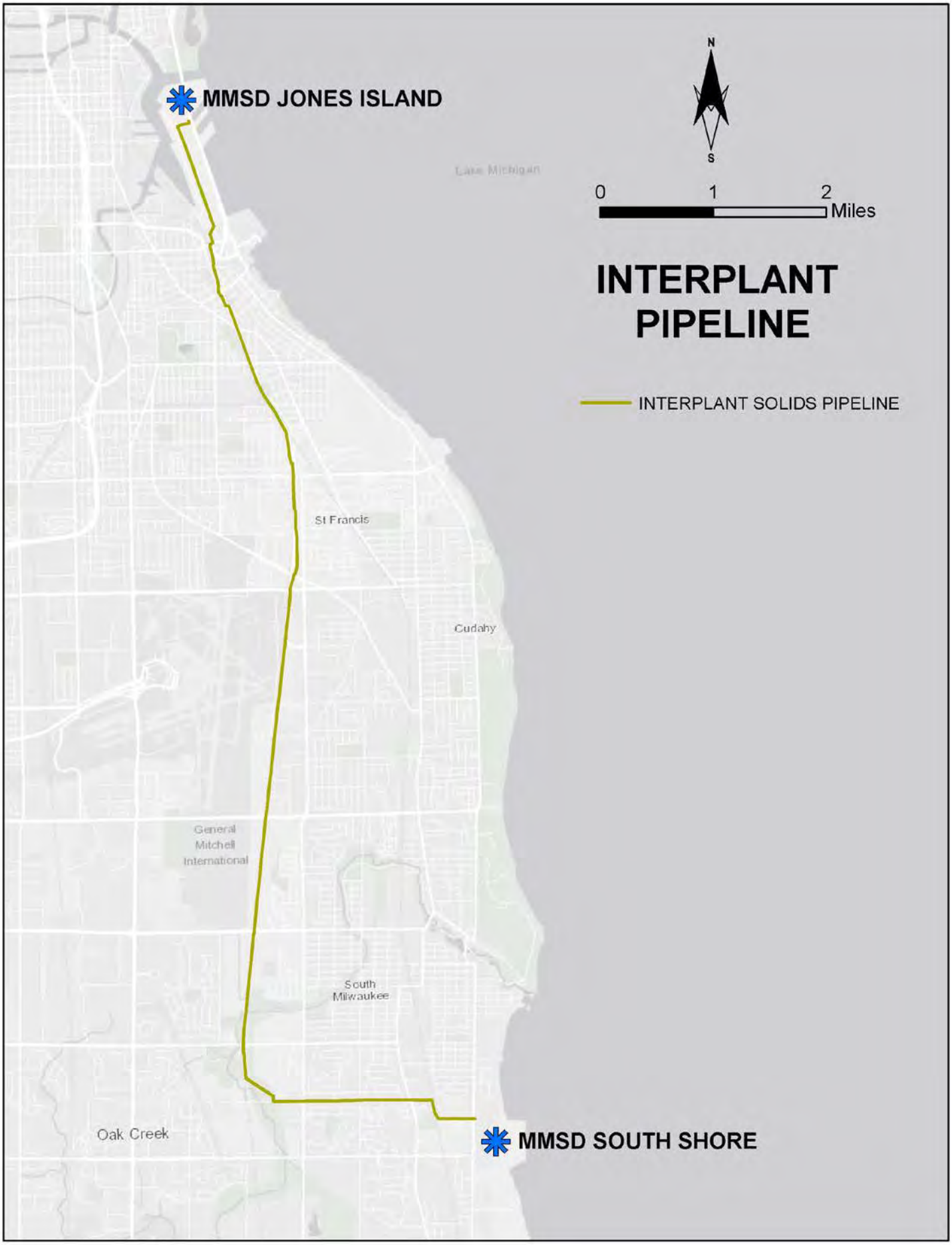
Project Description

The interplant solids system (IPS) 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 processing between Jones Island and South Shore. This project will replace key system components such as pumps, motors, variable frequency drives, magnetic flow meters, valves, and piping at the Jones Island IPS Pump Station, the South Shore IPS Station and the IPS 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 IPS is over 20 years old and much of its support equipment has reached the end of is useful life. The increase in total project cost reflects actual construction bid amounts and increased construction cost estimates. The associated cleaning costs of the pipeline are included in the operations and maintenance budget.

ID #:	Name:	Phase	Start	Finish	Cost
P01006	Replace IPS Pipes within South Shore WRF Property	Design	Feb-19	May-20	$363,146
		Construction	Sep-20	Apr-22	$4,652,266
		Post-Constr.	Jun-22	Dec-22	$9,099
		Total			$5,024,511
		Previously Approved Total			$2,938,211
		Increase/(Decrease)			$2,086,300

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 increase in total project cost is due to increased construction cost estimates. No operating budget impact is anticipated at this time.


MMSD JONES ISLAND
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INTERPLANT PIPELINE
INTERPLANT SOLIDS PIPELINE
St Francis
Cudahy
General Mitchell International
South Milwaukee
Oak Creek
MMSD SOUTH SHORE

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	$297,518
		Construction	Nov-19	Oct-20	$2,094,344
		Post-Constr.	Nov-20	Apr-21	$8,814
		Total			$2,602,685
		Previously Approved Total			$2,298,017
		Increase/(Decrease)			$304,668

Project Description

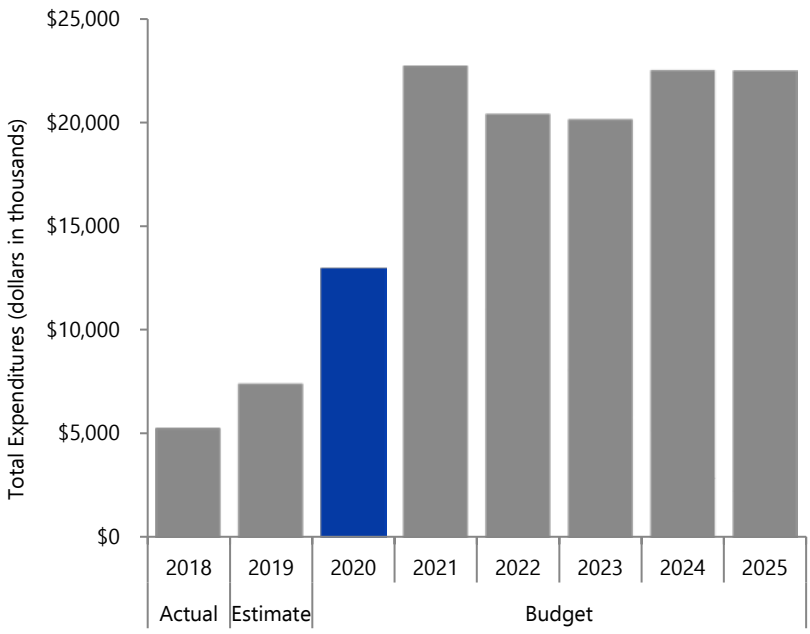
The purpose of the project is to evaluate locations, design and construct a two-way pigging station for the south end of the landfill gas pipeline located at College Avenue. Gas pipeline material transition points require a pigging station for cleaning and inspection of the pipe because of the different inside diameters of the two materials. A pigging station includes piping, valves, and appurtenances to either launch or receive a cleaning or inspection device (pig). The purpose is to have the ability to inspect and maintain the pipeline, which is required by the Wisconsin Public Service Commission. The increase in total project cost is due to refined cost estimates. 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	$972,972
		Construction	Sep-26	Dec-27	$11,526,488
		Post-Constr.	Jan-20	Oct-28	$10,394
		Total			$12,509,854
		Previously Approved Total			$12,154,336
		Increase/(Decrease)			$355,518

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 JI. The project will construct a new LFG treatment and conveyance facilities at Waste Management Metro Landfill. 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 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.

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.

Metropolitan Interceptor Sewer System

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.

Inline Storage System

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.

Central Control System

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 2020 Capital Budget includes $13.0 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	Mar-20	Jun-21	$974,858
		Total			$974,858
		Previously Approved Total			$0
		Increase/(Decrease)			$974,858

Project Description

The purpose of this new 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. This is a new project. 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	Franklin/Muskego Gravity MIS Chemical Addition	Planning	Jan-19	Sep-20	$381,277
		Prelimin. Eng	Aug-20	Dec-21	$181,206
		Design	Dec-21	Jun-22	$187,528
		Construction	Sep-22	Jan-23	$516,906
		Post-Constr.	Feb-23	Jun-23	$5,674
		Total			$1,272,591
		Previously Approved Total			$1,272,688
		Increase/(Decrease)			($97)

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_2S) issues throughout the MIS system. The scope consists of the recommendations for H_2S 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_2S and its impact on the MIS. The change in total project cost is de minimus. No impact on operating budget anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
C02010	Force Main Franklin Muskego Rehabilitation Project	Prelimin. Eng	Nov-19	Jun-21	$378,941
		Design	Nov-21	May-22	$169,277
		Construction	Sep-22	Mar-23	$694,837
		Post-Constr.	Mar-23	Aug-23	$5,031
		Total			$1,248,086
		Previously Approved Total			$846,246
		Increase/(Decrease)			$401,840

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 the addition of a preliminary engineering phase. No impact to the operating budget is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
C02011	Force Main Greenfield Park Rehabilitation Project	Design	Apr-19	Mar-20	$352,828
		Construction	Jun-20	Feb-21	$2,170,867
		Post-Constr.	Mar-21	Jul-21	$12,510
		Total			$2,536,205
		Previously Approved Total			$1,656,890
		Increase/(Decrease)			$879,315

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 change in total project cost is due to using an updated, and more detailed construction cost estimate that was prepared during the Preliminary Engineering phase. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
C02012	10th Avenue MIS Lateral Reconstruction	Design	Apr-19	Jan-20	$13,093
		Construction	Jan-20	May-20	$80,175
		Post-Constr.	May-20	May-20	$5,690
		Total			$98,958
		Previously Approved Total			$98,611
		Increase/(Decrease)			$347

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.

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 2020.

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	$1,395,308
		Design	Dec-19	Nov-22	$3,144,402
		Construction	May-23	Jan-26	$47,828,986
		Post-Constr.	Jan-26	Oct-26	$141,631
		Total			$52,510,327
		Previously Approved Total			$45,632,185
		Increase/(Decrease)			$6,878,142

Project Description

The purpose of this project is to reduce 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 108-inch sewer and twelve manholes with depths between 20 and 50 feet. The increase in total project cost is due to an updated construction cost estimate provided during the planning phase. No significant operating budget impact is expected from this project.

ID #:	Name:	Phase	Start	Finish	Cost
C04013	Brown Deer Road Sewer	Design	Jan-20	Mar-22	$473,383
		Construction	Oct-21	Jun-23	$1,869,367
		Post-Constr.	Feb-23	Sep-23	$11,236
		Total			$2,353,986
		Previously Approved Total			$0
		Increase/(Decrease)			$2,353,986

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. This is a new project. It is anticipated that this project will decrease maintenance costs for the District once 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	Basin H MIS PCB Remediation and Rehabilitation (C016)	Design	Aug-06	Feb-21	$1,590,237
		Construction	Jul-10	Oct-22	$5,908,872
		Post-Constr.	Apr-21	Mar-23	$39,174
		Total			$7,538,283
		Previously Approved Total			$7,299,123
		Increase/(Decrease)			$239,160

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 land acquisition costs and revised construction cost estimate. The operating budget will be impacted by costs to remove PCBs in areas of the MIS that are not rehabilitated. Insurance reimbursements are anticipated to partially offset the PCB removal costs.

ID #:	Name:	Phase	Start	Finish	Cost
C05051	Edgewood MIS Extension	Prelimin. Eng	Jan-17	May-18	$46,842
		Design	May-19	Aug-20	$793,490
		Construction	Nov-20	Jul-22	$10,697,062
		Post-Constr.	Aug-22	Jan-23	$11,743
		Total			$11,549,137
		Previously Approved Total			$8,049,095
		Increase/(Decrease)			$3,500,042

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 1,650 feet of 66-inch near surface collector sewer in East Edgewood Ave. Five new structures will be constructed with this project. Reducing water levels in the area will result in a greater level of service to the municipalities. The increase in total project cost is due to updating the construction cost estimate from the Preliminary Design Memo based on input from the design consultant and adding the estimated cost of reconstructing Edgewood Avenue. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
C05053	River Road MIS & Glendale Sewer	Design	Jun-20	Nov-21	$825,982
		Construction	May-23	Sep-27	$16,899,999
		Total			$17,725,981
		Previously Approved Total			$38,767,000
		Increase/(Decrease)			($21,041,019)

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 evaluation of alternatives to improve hydraulic capacity, improve access and replace aged infrastructure. The scope also includes design and construction of 7,000 feet of 15- and 18-inch Glendale sewers by the City of Glendale via an Intergovernmental Cooperation Agreement. The decrease in total project cost is due to the evaluation of alternatives to determine the best course of action for addressing the existing Milwaukee River MIS deficiencies. No significant operating budget impact is expected from this project.

ID #:	Name:	Phase	Start	Finish	Cost
C05055	BS0503 Facility Upgrades	Planning	Dec-18	Feb-20	$138,431
		Total			$138,431
		Previously Approved Total			$118,878
		Increase/(Decrease)			$19,553

Project Description

The purpose of this project is to reduce the risk of SSOs at BS0503 which is located at 35th 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. The planning study will result in recommendations for design and construction improvements. The change in total project cost is due to inflation. No significant operating budget impact is expected from this project.

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	Rehabilitate Structures - 4th & Scott/7th & Scott	Design	Jan-20	Feb-21	$62,089
		Construction	Nov-20	Feb-22	$255,836
		Post-Constr.	Jan-22	May-22	$9,043
		Total			$326,968
		Previously Approved Total			$0
		Increase/(Decrease)			$326,968

Project Description

The purpose of this 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 two underground flow control structures. The scope of this project includes the evaluation and rehabilitation of two flow control structures located in S. 7th St and W. Scott St, and in S. 4th St and W. Scott St. These structures have experienced significant structural deterioration due to high hydrogen sulfide levels in the structures. This project will extend the service life of these structures used to control flow in MMSD's sewer system. This is a new project. No significant operating budget impact is expected from this project.

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.

ID #:	Name:	Phase	Start	Finish	Cost
C07036	Siphons Improvements	Prelimin. Eng	Sep-19	Apr-21	$1,900,761
		Total			$1,900,761
		Previously Approved Total			$1,833,339
		Increase/(Decrease)			$54,895

Project Description

The purpose of this project is to determine which siphons need to be replaced of 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. The change in total project cost is due to inflation. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
C07037	South Shore Force Main Assessment	Prelimin. Eng	Aug-17	Aug-20	$989,424
		Total			$989,424
		Previously Approved Total			$989,423
		Increase/(Decrease)			$1

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	$50,313
		Construction	Sept-14	Dec-22	$1,133,551
		Total			$1,183,864
		Previously Approved Total			$1,183,863
		Increase/(Decrease)			$1

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 84th Street (extended);
- In Oregon (Menomonee Special wood sewer) from Water Street to 5th Street;
- In West Dickinson;
- West Center St;
- 1st/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	$3,160,421
		Total			$3,233,545
		Previously Approved Total			$1,801,804
		Increase/(Decrease)			$1,431,741

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 to construction costs to replace access hatch covers at structures being higher than originally estimated. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
C98052	Miscellaneous Sewer Rehab	Design	Jun-20	Jun-23	$111,920
		Construction	Oct-23	Mar-24	$322,009
		Post-Constr.	Apr-24	Aug-24	$4,990
		Total			$438,919
		Previously Approved Total			$432,709
		Increase/(Decrease)			$6,210

Project Description

Approximately 75 miles of MIS has been identified that currently functions 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. The increase in total project cost is de minimus. 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.

ID #:	Name:	Phase	Start	Finish	Cost
C98055	Conveyance Equipment Replacement	Construction	Jan-17	Dec-22	$600,000
		Total			$600,000
		Previously Approved Total			$600,000
		Increase/(Decrease)			$0

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. No significant operating budget impact is expected from this project.

ID #:	Name:	Phase	Start	Finish	Cost
C98056	Conveyance System Modeling Software Improvements	Prelimin. Eng	Nov-18	Nov-22	$2,512,559
		Total			$2,512,559
		Previously Approved Total			$2,556,464
		Increase/(Decrease)			($43,905)

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 cost of the consultant contract was less than originally anticipated, which resulted in a total project cost reduction. Two major tasks (model review/recommendations and 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			$0
		Increase/(Decrease)			$138,810

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. No significant operating budget impact is expected from this project.

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

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 2020 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	Six Year Forecast Total	$957,661

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 2020 and $957,661 in the six-year forecast. 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	May-20	$292,930
		Construction	Sep-20	May-21	$1,008,747
		Post-Constr.	Jun-21	Nov-21	$6,369
		Total			$1,333,854
		Previously Approved Total			$1,279,946
		Increase/(Decrease)			$53,899

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 engineering services contract award that was higher than the original budget. No significant impact on operating budget is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
I03011	Outfall Backflow Prevention	Design	Oct-19	Nov-20	$163,076
		Construction	Mar-21	Dec-21	$819,942
		Post-Constr.	Dec-21	Mar-22	$8,200
		Total			$991,218
		Previously Approved Total			$0
		Increase/(Decrease)			$991,218

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 at CSO locations to prevent river water from entering MMSD's sewer systems. This is a new project. The project may reduce energy costs with the reduced risk of river water entering the ISS.

ID #:	Name:	Phase	Start	Finish	Cost
I06001	NS12 Collector System Improvements	Prelimin. Eng	Jan-16	Apr-17	$172,509
		Design	Jun-17	Jun-20	$1,367,921
		Construction	Mar-21	Sep-22	$16,861,934
		Post-Constr.	Sep-22	Mar-23	$18,300
		Total			$18,420,664
		Previously Approved Total			$16,428,938
		Increase/(Decrease)			$1,991,726

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, 140 feet of 84-inch pipe, and level and flow monitoring equipment. The increase in total project cost is due to a Change Order on the Design Contract to complete design services on a selected alternative. No significant operating budget impact is expected from this project.

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.

ID #:	Name:	Phase	Start	Finish	Cost
K01012	Conveyance SCADA Upgrade	Prelimin. Eng	Nov-13	Jan-15	$112,212
		Design	Jun-15	Mar-18	$1,464,784
		Construction	Mar-16	May-21	$6,498,698
		Post-Constr.	Jun-20	Sep-21	$10,000
		Total			$8,085,694
		Previously Approved Total			$7,676,643
		Increase/(Decrease)			$409,051

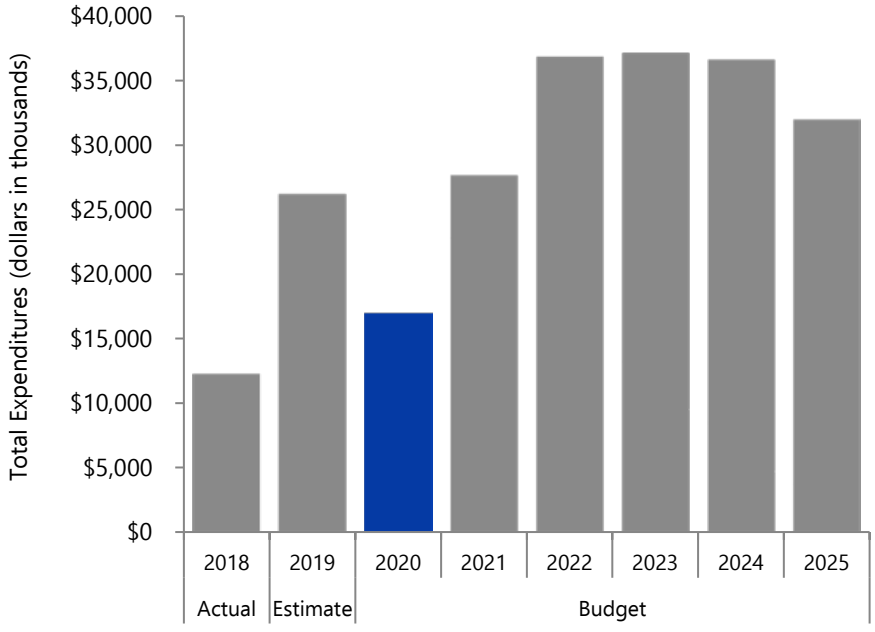
Project Description

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 due to updated construction cost estimates. The operating budget impact is not known at this time.


MMSD
PARTNERS FOR A CLEANER ENVIRONMENT

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-impeding 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 watersheds 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.

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

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.

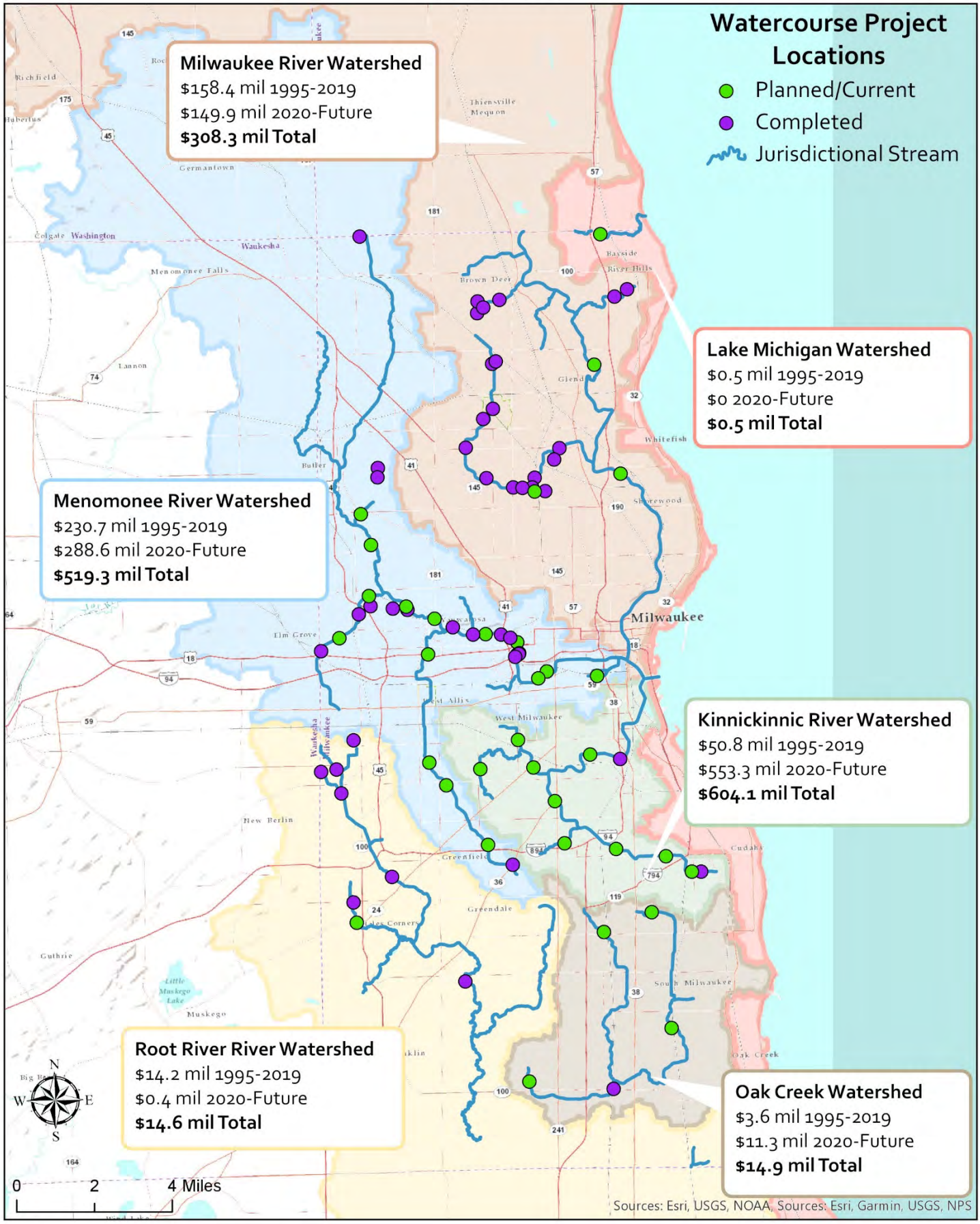
In addition, the District established a Watercourse Policy Advisory Group to recommend policy on the District's responsibility relating to flood management. Recommendations were reported to and approved by the Commission in April 1998 regarding the relationship between municipal stormwater management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

The 2020 Capital Budget includes $17.0 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.

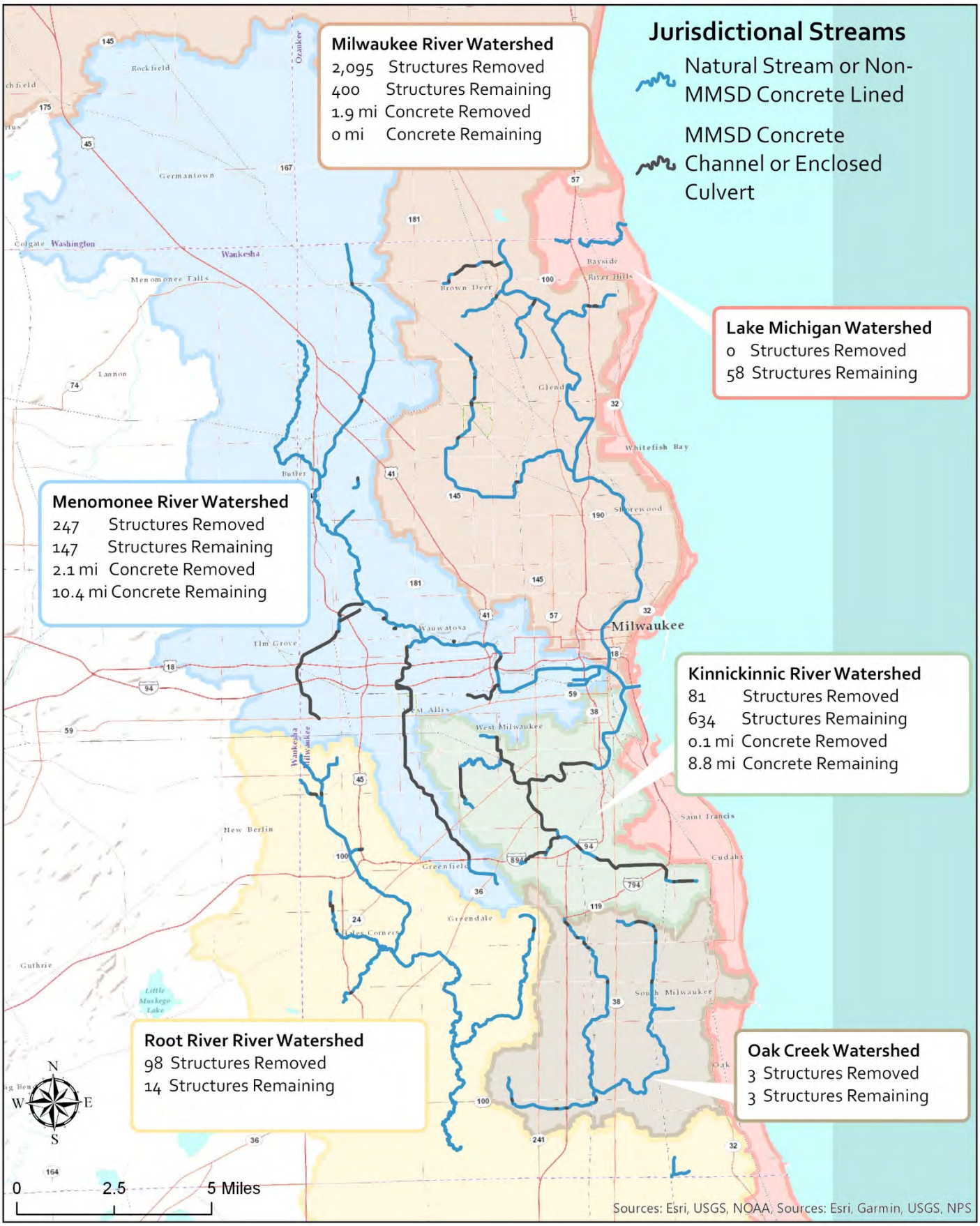
The District has spent approximately $458.2 million since 1995 on removing structures from the floodplain and concrete on District-owned concrete-lined channels. The District plans to spend another $1.0 billion in order to make the watersheds safer and to reduce the risk of flooding. Below is a table showing the District's involvement on each of the six watersheds.

	1995 - 2019			2020 - Future		
Watershed	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 and enclosed channel remaining
Milwaukee River	$158.4	2,095	1.9	$149.9	400	0
Lake Michigan	$0.5	0	0	$0.0	58	0
Menomonee River	$230.7	277	2.1	$288.6	147	10.4
Kinnickinnic River	$50.8	81	0.1	$553.3	634	8.8
Root River	$14.2	98	0	$0.4	14	0
Oak Creek	$3.6	3	0	$11.3	3	0
Total	$458.2	2,554	3.4	$1,003.4	1,256	19.2

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 are within the one percent annual probability floodplain.

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 are an estimated 13 structures 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	Jan-26	$717,838
		Prelim. Eng.	Jan-26	Jan-32	$48,183,081
		Total			$48,900,919
		Previously Approved Total			$47,295,555
		Increase/(Decrease)			$1,605,364

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	$1,437,812
		Post-Constr.	Nov-18	Oct-21	$128,984
		Total			$2,330,001
		Previously Approved Total			$2,330,000
		Increase/(Decrease)			$1

Project Description

The purpose of this project is to provide the benefits of flood risk reduction for at least 50 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 de minimus. 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.

ID #:	Name:	Phase	Start	Finish	Cost
W10004	Milwaukee River Planning Study – Capitol to Silver Spring	Planning	Nov-17	Dec-20	$890,390
		Total			$890,390
		Previously Approved Total			$890,389
		Increase/(Decrease)			$1

Project Description

The purpose of this project is to identify possible planning level solutions to fish passage, recreational low-flow issues, sediment accumulation and possible flood risk reduction for the area of the Milwaukee River between Capitol Drive and Silver Spring Drive. The project scope includes a planning study conducted to meet WDNR Milwaukee Estuary Area of Concern metrics for delisting. The District's role will be to assist with data collection/inventory, assist with working with external organizations and assist with development of alternatives. The increase in total project cost is de minimus. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
W11030	North 30th Street Corridor Wet Weather Relief - East	Design	Jun-14	Oct-16	$3,726,475
		Construction	Mar-16	Jan-19	$11,155,745
		Post-Constr.	Jan-19	Jan-24	$279,709
		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. This scope is consistent with the District's Integrated Regional Stormwater Management Program. The operating budget impact is not known at this time.

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

ID #:	Name:	Phase	Start	Finish	Cost
W11031	North 30th Street Corridor Wet Weather Relief - West	Design	Oct-15	Jul-22	$7,039,228
		Construction	Jun-16	Nov-27	$35,549,494
		Post-Constr.	Apr-18	Jan-33	$539,195
		Total			$43,127,917
		Previously Approved Total			$28,530,855
		Increase/(Decrease)			$14,597,062

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 2023-26 (Phase 2). Phase 2 will also include collaborative construction with the City of Milwaukee of a fourth stormwater basin on District owned property at 4044 N. 31st St. and stormwater conveyance from the railroad underpass located between N. 31st St. and N. 35th St. on W. Capitol Drive. The increase in total project cost is due to the District accounting for the full estimated project cost without consideration for the City contribution and updated labor estimates. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
W13002	Indian Creek Improvements	Planning	Oct-16	Nov-21	$178,815
		Prelimin. Eng	Apr-22	Oct-23	$125,438
		Total			$304,253
		Previously Approved Total			$278,536
		Increase/(Decrease)			$25,717

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 due to updated labor estimates and inflation. No operating budget impact is anticipated.

ID #:	Name:	Phase	Start	Finish	Cost
W15001	Beaver Creek Flood Management	Prelimin. Eng	Jan-20	Dec-27	$425,090
		Design	Aug-21	Apr-30	$2,733,858
		Total			$3,158,948
		Previously Approved Total			$0
		Increase/(Decrease)			$3,158,948

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. 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. MMSD will lead a voluntary flood proofing versus voluntary acquisition evaluation which may further refine alternatives evaluated by SEWRPC. This is a new project. The operating budget impact is unknown at this time.

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 147 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
W20018	Concordia Avenue	Prelimin. Eng	Apr-12	Sep-19	$208,484
		Design	Mar-15	Jan-26	$3,851,209
		Construction	Apr-16	Oct-29	$1,013,248
		Total			$5,072,941
		Previously Approved Total			$4,958,281
		Increase/(Decrease)			$114,660

Project Description

The purpose of this project is to reduce the flood risk for 11 properties and 12 residential structures from the one percent annual probability floodplain in the vicinity of the Menomonee River Parkway and Concordia Avenue. The project scope is to either floodproof or to purchase and remove the 12 residential structures. The increase in total project cost is due to updated cost estimates to acquire the properties and due to inflation. The impact on the operating budget is unknown at this time.

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	Dec-20	$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.

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	$84,859
		Total			$2,164,464
		Previously Approved Total			$2,164,641
		Increase/(Decrease)			($177)

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.

ID #:	Name:	Phase	Start	Finish	Cost
W20028	Western Milwaukee Phase 2B	Design	Apr-14	Nov-14	$5,082,424
		Construction	Feb-15	Dec-15	$24,183,496
		Post-Constr.	May-16	Jun-21	$1,011,141
		Total			$30,277,061
		Previously Approved Total			$25,306,989
		Increase/(Decrease)			$4,970,072

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 west 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 tie in to high ground just east of 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 360 feet of 90" storm sewer with inlet and outlet structures. A levee certification 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. The increase in total project cost is due to additional labor costs to reflect additional survey effort and a longer design duration, additional design scope to complete a levee certification review, and an updated cost estimate to both complete a levee and floodwall system between 59th and State and the existing levee at the former Central Redi-Mix site, and to address flood risk reduction for nine structures no longer protected by the levee system. Additional O&M 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 2022.

ID #:	Name:	Phase	Start	Finish	Cost
W20029	Western Milwaukee Real Estate & Environmental Assessment	Design	Apr-14	Mar-31	$10,978,758
		Construction	Apr-14	Nov-22	$7,215
		Post-Constr.	Jul-14	Jan-22	$3,038
		Total			$10,989,011
		Previously Approved Total			$8,704,977
		Increase/(Decrease)			$2,284,034

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 an acquisition plat, allowing the purchase of 16 individual property rights from ten property owners. To date, 13 of the 16 property rights have been purchased. The scope also includes demolition of structures purchased as part of the property rights acquisition. The increase in total project cost is due to current voluntary floodproofing and voluntary acquisition estimates as well as inflation. 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	$1,287,258
		Construction	May-16	Oct-18	$5,734,582
		Post-Constr.	Oct-18	Feb-24	$191,343
		Total			$7,213,183
		Previously Approved Total			$7,213,183
		Increase/(Decrease)			$0

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. There is no change in total project cost. In the first five years after construction is complete, the contactor 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.

ID #:	Name:	Phase	Start	Finish	Cost
W21007	Underwood Creek Reach 2 - CR	Prelimin. Eng	Jan-15	May-26	$8,146,113
		Design	Oct-26	Jan-28	$1,222,901
		Construction	Apr-28	May-31	$11,550,604
		Post-Constr.	Jun-31	Jul-36	$80,382
		Total			$21,000,000
		Previously Approved Total			$20,500,001
		Increase/(Decrease)			$499,999

Project Description

The purpose of this project is to reduce public safety risk, provide wetland enhancement, and improve aquatic habitat of segments of both 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, 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 an updated inflation adjustment for the construction cost estimate. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
W24005	Honey Creek Watercourse Mgmt. Plan & BMPs	Prelimin. Eng	Dec-09	Jun-20	$326,011
		Total			$326,011
		Previously Approved Total			$326,012
		Increase/(Decrease)			($1)

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
W24006	Honey Creek USACE Habitat Improvement Feasibility Study	Prelimin. Eng	Jun-15	Jan-19	$700,001
		Total			$700,001
		Previously Approved Total			$600,000
		Increase/(Decrease)			$100,001

Project Description

The purpose of this project is to assist USACE as a Non-Federal Sponsor with a feasibility study of the segment of Honey Creek located between the confluence with the Menomonee River and I-94. This project will provide the District with a data-intensive study of this segment of Honey Creek 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, the USACE will provide 65 percent of the total project design and construction costs for this segment of Honey Creek. The concrete lining of a 5,500-linear foot segment of this project between Wisconsin Avenue to I-94 is a District asset that has reached the end of its useful life. This feasibility study will potentially lead to federal funding of a portion of the removal costs and overall rehabilitation of this segment of Honey Creek. Project scope was revised by adjusting the study length by extending the downstream boundary to the Menomonee River for an extension of approximately 2,400 feet and a revised total study length of 10,300 feet. The increase in total project cost is due to labor cost addition based on an extended schedule and additional USACE soil boring expenses. No operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
W24007	Honey Creek Reach 1 Concrete Removal – Portland Ave. to I-94	Design	Nov-20	Sep-21	$424,328
		Construction	Dec-21	Jul-23	$14,437,128
		Post-Constr.	Aug-23	Dec-28	$88,569
		Total			$14,950,025
		Previously Approved Total			$11,218,116
		Increase/(Decrease)			$3,731,909

Project Description

The purpose of this project is to improve the aquatic habitat of Honey Creek Reach 1 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 5,500 linear feet of the District-owned concrete lined channel from W. Wisconsin Avenue upstream to I-94 with a more naturalized channel. It also includes 4,800 feet of channel from Wisconsin Avenue downstream to the Menomonee River which contains 1,250 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 increase in total project cost is due to an updated design and construction cost estimate completed by USACE. Any impacts on the operating budget are expected to begin in 2023, and would be ongoing site maintenance costs.

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

Project Description

The purpose of this new 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. 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.

ID #:	Name:	Phase	Start	Finish	Cost
W28001	Schoonmaker Creek	Planning	Dec-13	Mar-20	$282,917
		Prelimin. Eng	Feb-26	May-28	$758,940
		Design	Oct-29	May-31	$1,124,697
		Construction	Sep-31	Sep-33	$8,269,797
		Post-Constr.	Nov-33	Jan-35	$112,379
		Total			$10,548,730
		Previously Approved Total			$10,255,855
		Increase/(Decrease)			$292,875

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.

ID #:	Name:	Phase	Start	Finish	Cost
W28002	Daylighting Schoonmaker Creek	Construction	Apr-15	Dec-15	$4,900,839
		Post-Constr.	May-16	Jun-21	$233,399
		Total			$5,134,238
		Previously Approved Total			$5,134,538
		Increase/(Decrease)			($300)

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	Apr-25	$788,850
		Construction	Apr-20	Dec-26	$6,832,676
		Post-Constr.	Dec-26	Jan-32	$250,243
		Total			$7,871,769
		Previously Approved Total			$7,682,796
		Increase/(Decrease)			$188,973

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. 11th Street and in September 2018 the WDNR received $4 million in grant funding for the project. The WDNR will enter into an agreement with the District 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

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 96 structures from the one percent probability floodplain.

There are no active projects in 2020.

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 636 structures within the one percent annual probability floodplain. Completed projects have removed 79 structures from the one percent annual probability floodplain. Projects funded in 2019 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	Dec-09	Dec-20	$8,643,513
		Design	Dec-09	Dec-21	$14,794,566
		Construction	Oct-18	Jun-20	$11,465,431
		Post-Constr.	May-20	Jun-25	$258,770
		Total			$35,162,281
		Previously Approved Total			$34,282,686
		Increase/(Decrease)			$879,595

Project Description

The purpose of this project is to reduce the flood risk for over 300 structures located in the one percent annual probability floodplain between S. 6th Street and S. 16th Street and improve public safety and aquatic and riparian habitat along 1,600 feet of the Kinnickinnic River within Pulaski Park. The project scope includes the acquisition and removal of 83 residential structures between S. 6th Street and S. 16th 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 increased labor estimates and construction change orders based on changed site conditions. 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
W40007	KK River Reach 3 - CR	Prelimin. Eng	Nov-12	Apr-29	$892,871
		Design	Aug-29	Oct-30	$966,585
		Construction	Feb-31	Aug-32	$12,099,187
		Post-Constr.	Sep-32	Sep-37	$142,217
		Total			$14,100,860
		Previously Approved Total			$13,692,981
		Increase/(Decrease)			$407,879

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. 31st 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. 31st 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 due to primarily due to inflation. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
W40009	Jackson Park	Design	Dec-18	Jun-21	$8,442,856
		Construction	Oct-21	Mar-25	$36,258,886
		Post-Constr.	Apr-24	Apr-30	$127,530
		Total			$44,829,272
		Previously Approved Total			$38,781,356
		Increase/(Decrease)			$6,047,916

Project Description

The purpose of this project is to reduce flood risk on KK River as well as mitigate increased flood flows from proposed recommendations for the KK River (W40002), Lyons Park Creek (W41001), and the S. 43rd Street Ditch (W42003) projects. Over 350 residential and commercial structures are in the one percent annual probability floodplain within these areas. The project's purpose also improves public safety and aquatic and riparian habitat conditions. The project scope consists of lowering Milwaukee County land in Jackson Park to create 150 acre-feet of flood storage, 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. The project scope also includes the acquisition and removal of structures from properties located at 2425 S. 35th Street (formerly owned by We Energies) and 3460 W. Leeds Place (formerly owned by Dion-Simon Investments). The District will utilize these properties to provide flood storage to offset flood storage needed in Jackson Park. The change in total project cost is primarily due to adding the scope of work for acquiring and removing structures from the two additional properties outside of Jackson Park. The impacts to the operating budget will be determined following the development of future intergovernmental cooperation agreements between the District and Milwaukee County for ongoing site maintenance.

ID #:	Name:	Phase	Start	Finish	Cost
W40010	KK River Watershed	Prelimin. Eng	Jul-17	Jul-24	$4,535,501
		Total			$4,535,501
		Previously Approved Total			$3,490,280
		Increase/(Decrease)			$1,045,221

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 43rd 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 13th Street), Villa Mann Creek and Lyons Park Creek. The increase in total project cost is due refined cost estimates and increased labor estimates. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
W40011	KK River I-94 to Becher	Prelimin. Eng	Jun-14	Aug-20	$415,997
		Design	Aug-25	Feb-27	$1,206,506
		Construction	Jun-27	Jul-30	$16,740,135
		Post-Constr.	Aug-30	Aug-35	$283,510
		Total			$18,646,148
		Previously Approved Total			$18,160,687
		Increase/(Decrease)			$485,461

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. 1st 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. This 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.

ID #:	Name:	Phase	Start	Finish	Cost
W40012	KK River - 6th to 16th St.	Design	Jan-21	Mar-23	$4,899,802
		Construction	Jun-23	Dec-25	$40,670,741
		Post-Constr.	Dec-25	Jan-31	$267,185
		Total			$45,837,728
		Previously Approved Total			$40,656,063
		Increase/(Decrease)			$5,181,665

Project Description

The purpose of the project is to reduce flood risk on the KK River for over 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 increase in total project cost is due to updated cost estimates. The impact on the operating budget would take effect five years after construction is complete and the vegetation is established.

ID #:	Name:	Phase	Start	Finish	Cost
W40016	KK River Sewer Modifications	Design	Jan-19	Mar-20	$382,061
		Construction	Jun-20	Jun-21	$3,330,477
		Post-Constr.	Jul-21	Dec-21	$12,083
		Total			$3,724,621
		Previously Approved Total			$3,741,999
		Increase/(Decrease)			($17,378)

Project Description

The purpose of this project is to eliminate conflicts with an existing City of Milwaukee combined sewer in S. 8th Street and with District Diversion Structure 168 in S. 14th Street. Conflicts with existing sewers need 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, a new Diversion Structure, approximately 75 feet of 72-inch diameter Near Surface Collector sewer, approximately 1,240 feet of 24-inch diameter dry weather sewer, approximately 125 feet of 18-inch combined sewer, and the abandonment of miscellaneous structures and sewers. The decrease in total project cost is due to adjusting consultant engineering expenses to reflect actual Design Contract values. The new 24-inch diameter MIS and associated structures will be new District assets and need to be maintained beginning in mid-2021. The relocated DS-168 will have no impact on the O&M budget.

ID #:	Name:	Phase	Start	Finish	Cost
W41001	KK River Flood Management - Lyons Creek (W026)	Prelimin. Eng	Jan-11	Feb-22	$441,425
		Design	May-03	Dec-24	$926,302
		Construction	Oct-25	Jun-27	$13,300,220
		Post-Constr.	Jun-27	Jun-32	$139,923
		Total			$14,807,870
		Previously Approved Total			$14,382,986
		Increase/(Decrease)			$424,884

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. 60th Street. The project scope consists of increasing the culvert capacity under S. 57th 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.

ID #:	Name:	Phase	Start	Finish	Cost
W41003	Lyons Park Creek Streambank Stabilization	Design	Aug-18	Jan-20	$174,255
		Construction	Apr-20	Aug-20	$438,904
		Post-Constr.	Sep-20	Dec-22	$27,520
		Total			$640,679
		Previously Approved Total			$420,963
		Increase/(Decrease)			$219,716

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 construction cost updates. 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	Nov-20	Jan-22	$1,471,643
		Construction	May-22	Jun-25	$26,645,493
		Post-Constr.	Jul-25	Sep-30	$117,444
		Total			$28,234,580
		Previously Approved Total			$11,076,471
		Increase/(Decrease)			$17,158,109

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 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 is due to additional scope being added to the project. The project will install new assets which will have to be maintained by the District. Maintenance costs are expected to begin in 2030.

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	Sep-23	$2,815,788
		Construction	Apr-21	Oct-25	$24,886,090
		Post-Constr.	Jan-23	Dec-30	$463,703
		Total			$30,111,892
		Previously Approved Total			$29,225,294
		Increase/(Decrease)			$886,598

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 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 labor and design costs as well as inflation. No significant operating budget impact is expected.

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.

ID #:	Name:	Phase	Start	Finish	Cost
W50005	Oak Creek Flood Management - Floodproofing/Acquisition	Planning	Apr-09	Mar-19	$326,854
		Design	Oct-12	Dec-27	$8,045,237
		Total			$8,372,091
		Previously Approved Total			$7,385,362
		Increase/(Decrease)			$986,729

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 of four commercial structures and the acquisition of two residential structures in the Oak Creek watershed. The increase in total project cost is due to property acquisition cost change and the extended schedule. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
W50006	Oak Creek Watershed Restoration Plan	Planning	Oct-15	Apr-22	$340,396
		Total			$343,396
		Previously Approved Total			$343,323
		Increase/(Decrease)			$73

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 increase 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.

ID #:	Name:	Phase	Start	Finish	Cost
W61002	Fish Creek Flood Acquisitions	Planning	Jun-20	Mar-22	$119,060
		Total			$119,060
		Previously Approved Total			$116,492
		Increase/(Decrease)			$2,568

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 due to inflation. 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 2020 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	Mar-23	$2,733,360
		Design	Dec-99	Apr-00	$14,023
		Total			$2,783,814
		Previously Approved Total			$2,784,039
		Increase/(Decrease)			($225)

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 - Greater Milwaukee Regional Conservation Partnership Program	Planning	Jan-15	Dec-21	$4,993,915
		Total			$4,993,915
		Previously Approved Total			$4,992,443
		Increase/(Decrease)			$1,472

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 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 due to refined cost estimates. The operating budget impact is not known at this time.

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

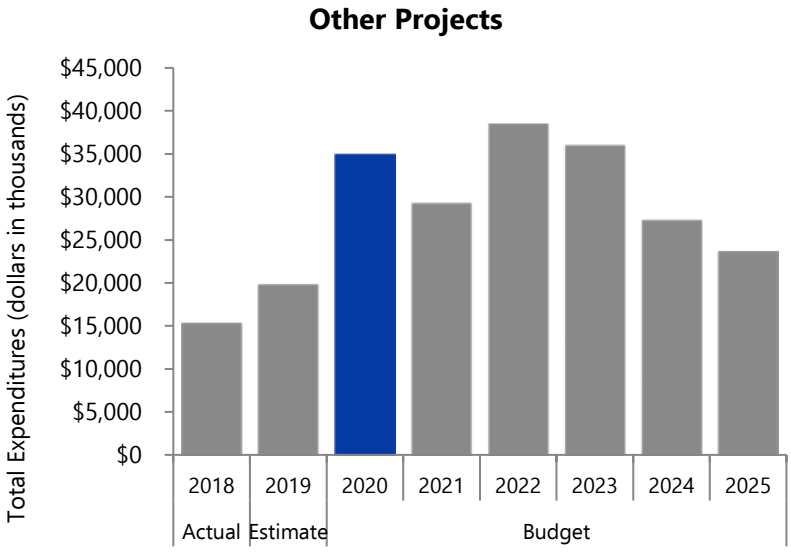
Project Description

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 aquafers, preserving wildlife habitat, contributing to air and water quality, and preserving diversity of native species.

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 3,930 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 2020 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.

Other Projects and Programs



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 2020 Capital Budget includes $35.0 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
M01023	Wharf Wall Improvements	Prelimin. Eng	Jan-14	Jun-14	$328,231
		Design	Jun-14	Nov-15	$310,408
		Construction	May-15	Oct-16	$943,393
		Post-Constr.	Oct-16	Mar-20	$38,960
		Total			$1,620,992
		Previously Approved Total			$1,620,978
		Increase/(Decrease)			$14

Project Description

The purpose of this project is to stabilize the wharf wall on the southwest corner of District Headquarters and to extend its useful life. The project scope includes rehabilitating the ground support system along approximately 160 feet of wharf wall which includes realignment of the wharf wall, installation of new tie rods, transport and disposal of contaminated excavated materials to a licensed landfill, placement of lightweight aggregate backfill and granular backfill, and site restoration. The change in total project cost is de minimus. No significant operating budget impact is expected.

ID #:	Name:	Phase	Start	Finish	Cost
M01029	HQ North Wharf Wall System Restoration	Planning	Nov-16	Dec-17	$167,427
		Design	Jul-18	Aug-19	$264,479
		Construction	Nov-19	Nov-20	$1,653,571
		Post-Constr.	Dec-20	Mar-21	$8,991
		Total			$2,094,468
		Previously Approved Total			$2,224,951
		Increase/(Decrease)			($130,483)

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 decrease in total project cost is due to the reduced required level of effort in the design and construction phases of the project. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
M01032	N. 44th Street Property Restoration (Miller Park Area)	Design	Jan-19	Sep-20	$453,777
		Construction	Jan-21	Jun-22	$1,572,203
		Post-Constr.	Jul-22	Dec-27	$174,020
		Total			$2,200,000
		Previously Approved Total			$1,863,179
		Increase/(Decrease)			$336,821

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 includes demolition of an aging District building, remediation of environmental contamination issues and riparian habitat improvements. The increase in total project cost is due to a revised cost estimate for the proposed remedial action needed for case closure. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
M01033	4044 N. 31st Street Demolition/Deconstruction	Design	Apr-18	Sep-18	$62,225
		Construction	Dec-18	Sep-19	$997,777
		Post-Constr.	Sep-19	Jan-20	$6,490
		Total			$1,066,492
		Previously Approved Total			$1,066,491
		Increase/(Decrease)			$1

Project Description

The purpose of the project is to reduce on-going costs related to maintenance and risk for District-owned property located at 4044 N. 31st Street. The scope consists of performing a limited pre-deconstruction hazardous materials assessment, and deconstruction or demolition of the building. The property consists of a one– and part-story industrial building constructed in multiple contiguous sections, with a gross building area of +/- 65,600 square feet on two acres. The work at this property includes disconnection and abandonment of utilities, removal of an underground storage tank, removal of asbestos-containing materials if present, and other regulated materials prior to deconstruction or demolition, placement of fill, regrading to maintain site surface drainage patterns, and surface restoration. The change in total project cost is de minimus. The operating budget will be impacted once the project is complete with costs for routine vegetation maintenance and snow removal.

ID #:	Name:	Phase	Start	Finish	Cost
M01034	HQ Parking Lot Solar Powered Electric Vehicle Charging Stations	Design	Nov-19	Mar-20	$89,685
		Construction	Jul-20	Sep-20	$582,781
		Post-Constr.	Oct-20	Dec-20	$3,442
		Total			$675,908
		Previously Approved Total			$612,897
		Increase/(Decrease)			$63,011

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 change in total project cost is due to completion of refined construction estimates. The project may result in additional maintenance costs as the District will have to maintain the new stations.

ID #:	Name:	Phase	Start	Finish	Cost
M01037	HQ and Lab Facility Improvements	Construction	Nov-19	Dec-23	$3,044,110
		Total			$3,044,110
		Previously Approved Total			$2,394,000
		Increase/(Decrease)			$650,110

Project Description

The purpose of this project is to address a number of 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 includes funding for a generator for the laboratory building and disconnecting and removing the exhaust hoods on the laboratory building. The change in total project cost is due to the additional scope of adding the exhaust hoods. The new equipment may result in reduced maintenance costs.

ID #:	Name:	Phase	Start	Finish	Cost
M01038	Water Quality Equipment Procurement	Construction	Mar-20	Oct-20	$294,000
		Total			$294,000
		Previously Approved Total			$0
		Increase/(Decrease)			$294,000

Project Description

This project has two large equipment purchases. To improve the efficiency of the skimmer and increase the amount of trash collected on the rivers, the District will purchase a custom conveyor system. The conveyor will sit on the water's edge at a second offloading site so the skimmer does not need to travel as far. This will save both time and fuel. The City of Milwaukee has committed to collect the debris and trash that is offloaded at this second site. The District was awarded a $50,400 grant from the Department of Natural Resources to aid in the cost of this. Second, while the Pelagos is and will continue to be the District's primary research vessel, a smaller vessel is needed to be able to go into shallower reaches of the watershed to assist special projects, surveys and perform required inspections and maintenance on CSO signage. The current vessel, ORP, is no longer seaworthy and this project will replace that vessel. The vessel should be approximately 20 feet long with an aluminum hull, with a shallow water draft and air draft to maneuver in the shallower sections of the river and under bridges (approximately less than 2 feet and 5 feet, respectively) as well as inboard engines. It must be large enough to accommodate a crew of four and equipment and be trailerable. This is a new project. The new equipment may result in increased maintenance costs.

ID #:	Name:	Phase	Start	Finish	Cost
M01040	13th Street Upgrades	Construction	Oct-19	Dec-20	$168,219
		Total			$168,219
		Previously Approved Total			$97,681
		Increase/(Decrease)			$70,538

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. 13th 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. 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.

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 2020 Capital Budget will identify and plan future improvements to District facilities.

ID #:	Name:	Phase	Start	Finish	Cost
M03029	Water Quality Studies	Planning	Apr-06	Jun-20	$5,896,310
		Total			$5,896,310
		Previously Approved Total			$5,871,209
		Increase/(Decrease)			$25,101

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 soon-to-be-complete 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. The increase in total project cost is due to an extended schedule and inflation. Studies not meeting capital funding criteria are funded in the O&M budget.

ID #:	Name:	Phase	Start	Finish	Cost
M03037	2050 Facilities Planning - Ultimate Build-out	Planning	Oct-13	Mar-20	$12,805,850
		Total			$12,805,850
		Previously Approved Total			$11,852,469
		Increase/(Decrease)			$953,381

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 due to the scope changes. There is no anticipated impact on the operating budget.

ID #:	Name:	Phase	Start	Finish	Cost
M03051	Alternative Energy Planning	Planning	Jun-10	Mar-19	$504,463
		Total			$504,463
		Previously Approved Total			$481,150
		Increase/(Decrease)			$23,313

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 due to inflation. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
M03059	TMDL Studies	Planning	Feb-11	Feb-20	$2,842,884
		Total			$2,842,884
		Previously Approved Total			$2,770,895
		Increase/(Decrease)			$71,989

Project Description

The purpose of this project is to develop and support WDNR implementation of third-party fecal coliform, phosphorus, and sediment Total Maximum Daily Loads (TMDL) for various watersheds in southeastern Wisconsin. The results of the TMDL are the load and waste load allocations by pollutant source that must be met to achieve the water quality standards and targets for each pollutant. This project addresses six beneficial use impairments within the Milwaukee Estuary Area of Concern. The change in total project cost is due to an additional planning study and additional labor cost estimates. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
M03088	Corridor Study, Phase 5	Planning	Dec-15	Sep-26	$2,418,607
		Total			$2, 418,607
		Previously Approved Total			$2,400,362
		Increase/(Decrease)			$18,245

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. The change in total project cost is de minimus. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
M03091	Ad Hoc Water Quality Studies 2017-2021	Planning	Dec-15	Sep-26	$1,492,343
		Total			$1,492,343
		Previously Approved Total			$5,719,953
		Increase/(Decrease)			($4,227,610)

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 decrease in total project cost is due to moving projects that qualify for O&M funding to the O&M budget. 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.

ID #:	Name:	Phase	Start	Finish	Cost
M03098	Monitoring for Capital Project Development and Support	Planning	Jan-18	Dec-25	$15,744,521
		Total			$15,744,521
		Previously Approved Total			$14,279,424
		Increase/(Decrease)			$1,465,097

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 increase in total project cost is due to an additional years' worth of project costs. There is no impact on the operating budget.

ID #:	Name:	Phase	Start	Finish	Cost
M03102	Biosolids Advanced Facility Planning	Planning	Jan-18	Oct-19	$782,022
		Total			$782,022
		Previously Approved Total			$623,718
		Increase/(Decrease)			$158,304

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 due to the consultant contract costs being more than the engineering estimate and additional District labor costs. The operating budget impact is not known at this time.

ID #:	Name:		Cost
M10003	PPI/I Phase 2	Six Year Forecast Total	$30,000,000

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 approved 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. The 2020 costs are budgeted at $5 million; the six-year long-range financing plan includes $30 million. There is no operating budget impact.

ID #:	Name:	Phase	Start	Finish	Cost
M10004	PPI/I Implementation Phase 2 (Labor)	Prelimin. Eng	Jan-19	Dec-26	$4,959,089
		Total			$4,959,088
		Previously Approved Total			$4,456,279
		Increase/(Decrease)			$502,809

Project Description

The purpose of this project is to work in conjunction with project M10003 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. There is no operating budget impact.

Workforce & Business Development Resource Program

ID #:	Name:		Cost
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 2020 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

ID #:	Name:	Phase	Start	Finish	Cost
M06016	Enterprise Resource Management System Implementation	Design	Jan-20	Dec-22	$5,000,000
		Total			$5,000,000
		Previously Approved Total			$0
		Increase/(Decrease)			$5,000,000

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 a consultant and system to implement beginning in 2020. This is a new project. The operating budget will be the annual licensing fee for the software and is unknown at this time.

Financial Planning

ID #:	Name:		Cost
M07002	Financial Planning 2017-2022	Six Year Forecast Total	$1,353,969

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 2025, 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 2020 expenditures are budgeted at $330,863; the six-year long-range financing plan includes $1,353,969. There is no significant operating budget impact.

Risk Management Program

ID #:	Name:		Cost
M09002	Risk Management for Capital Program	Six Year Forecast Total	$4,406,378

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 2020 expenditures are budgeted at $968,159; the six-year long-range financing plan includes $4,406,378. 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

ID #:	Name:		Cost
M99001	Allowance for Cost & Schedule Changes	Six Year Forecast Total	$10,954,951

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 $10.9 million with $1,779,238 budgeted for 2020. 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	Sep-23	$3,029,205
		Total			$3,029,205
		Previously Approved Total			$2,616,703
		Increase/(Decrease)			$412,502

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 includes additional funding for planning and design activities. The operating budget impact is not known at this time.

ID #:	Name:	Phase	Start	Finish	Cost
G98004	Fresh Coast Implementation Phase 2	Planning	Jan-18	Dec-24	$14,885,327
		Total			$14,885,327
		Previously Approved Total			$14,985385
		Increase/(Decrease)			($100,058)

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 decrease in total project cost is due to the removal of the Green Infrastructure in the Combined Sewer Service Area Project which has been recoped to include construction and is in project G98015.

ID #:	Name:		Cost
G98005	Green Solutions Phase 2	Six Year Forecast Total	$35,000,000

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 2020 budget includes $10 million and the six-year forecast includes $35 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.

ID #:	Name:	Phase	Start	Finish	Cost
G98011	Alternative Project Delivery / Community-Based GI	Planning	Jan-18	Jan-24	$520,453
		Design	Jan-20	Jun-23	$2,382,650
		Construction	Jan-21	Sep-23	$16,076,897
		Post-Constr.	Jun-23	Aug-28	$1,020,000
		Total			$20,000,000
		Previously Approved Total			$0
		Increase/(Decrease)			$20,000,000

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 20 million gallons or more of green infrastructure. This is a new project. The project might result in additional green infrastructure maintenance.

ID #:	Name:	Phase	Start	Finish	Cost
G98012	Urban Tree System to Address Climate Change	Planning	May-20	May-23	$588,397
		Post-Constr.	Feb-22	Aug-23	$12,065
		Total			$600,462
		Previously Approved Total			$0
		Increase/(Decrease)			$600,462

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 build stormwater tree land improvements on District property. This is a new project. The project might result in additional maintenance costs.

ID #:	Name:	Phase	Start	Finish	Cost
G98013	National Fish & Wildlife Foundation Funding Partnership	Planning	Jan-20	Aug-24	$1,342,624
		Total			$1,342,624
		Previously Approved Total			$0
		Increase/(Decrease)			$1,342,624

Project Description

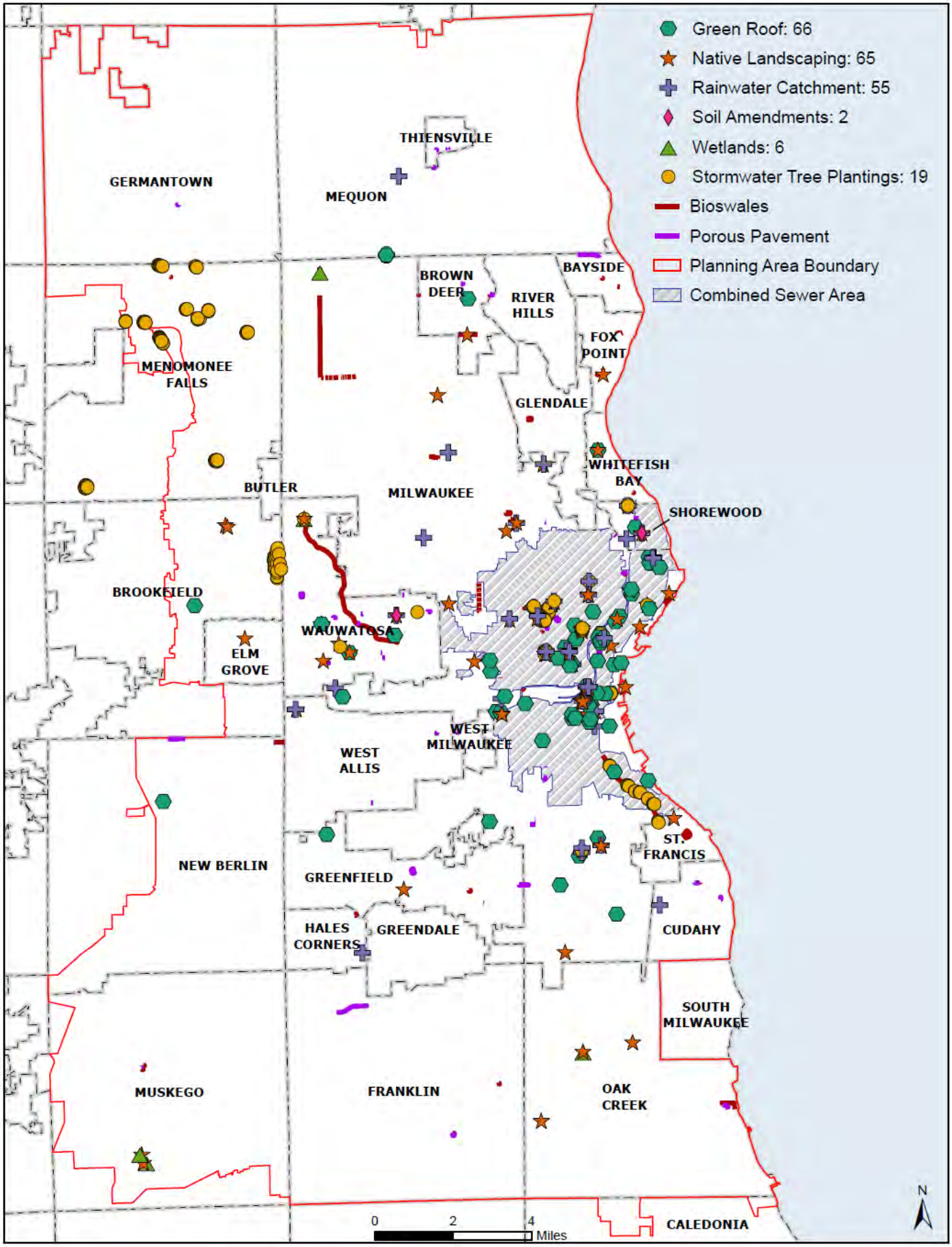
The purpose of this project is to meet the District's 2035 Vision while leveraging external funding to implement green infrastructure (GI). The project scope includes developing a multi-year partnership with the National Fish and Wildlife Foundation (NFWF) to fund and accelerate the implementation of large-scale GI within the District's GI Service Area. IThere is no significant operating budget impact.

ID #:	Name:	Phase	Start	Finish	Cost
G98015	USACE GI Combined Sewer Service Area Plan	Planning	Jul-19	Feb-22	$905,500
		Total			$905,500
		Previously Approved Total			$905,500
		Increase/(Decrease)			$0

Project Description

The purpose of this project is to meet the District's 2035 Vision goals. The scope of the project is to work with the US Army Corps of Engineers, City of Milwaukee, Village of Shorewood, and a consultant to identify and build up to ten large-scale green infrastructure installations in the combined sewer service area. The project will complete conceptual designs for each of the ten locations that include site gallons captured. Phase two of the project will be construction. The project might result in additional maintenance costs.

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 acknowledgement of its financial management and planning strength, the District continues to receive strong credit ratings. In May 2017, Standard & Poor's Ratings Services affirmed the District's AA+ credit rating with a stable outlook. The rating report cited the District's large and diversified property tax base; sound fiscal operations with strong liquidity and strong financial management; and moderate overall debt burden with rapid amortization in affirming the AA+ rating which has remained unchanged since 1997. Also, in May 2017, Moody's Investors Service affirmed its credit rating Aa1. Moody's report noted that the District's Aa1 rating reflects "sound financial operations that benefit from strong financial flexibility and adequate liquidity levels." Since July 2007 Fitch Ratings has rated the District as a AAA credit, most recently affirming the AAA rating in June 2017.

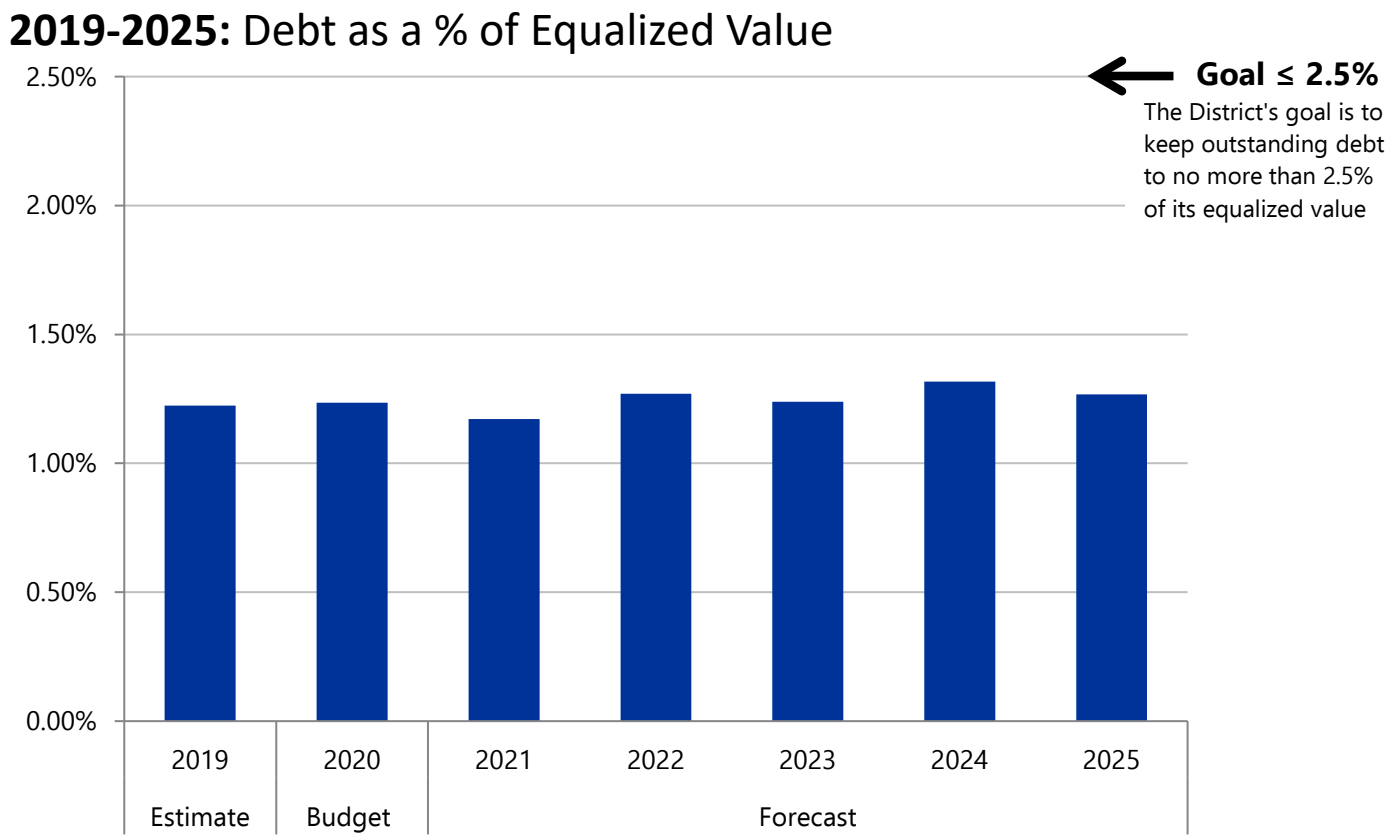
As of August 31, 2019, the District has $765.1 million of general obligation debt outstanding.

	Principal Amount ($0)	True Interest Cost (%)
District Bonds	$286.5	2.437 - 4.447%
Clean Water Fund Program Loans	$478.6	1.760 - 4.953%
Total	$765.1	

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.

2019 Equalized Valuation (Estimate)	$63,089,236,800	100.00%
Statutory Debt Limit Rate		5.00%
Statutory Debt Limit	$3,154,461,840	
General Obligation Debt Outstanding at August 31, 2019	$765,123,710	1.21%
Legal Debt Margin	$2,389,388,129	

The District's Long-Range Financing Plan includes the estimate for outstanding debt at year-end 2020 at $736.6 million and 1.22% 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.



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 73. Total debt service payments in 2020 are budgeted at $111.6 million, of which $1.7 million is for an Intergovernmental Loan not secured by a pledge of tax levy. $109.9 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 2020, the tax levy of $101.9 million does not fully cover the $109.6 million debt service, and to abate the tax levy, $6.3 million is transferred to the Debt Service Sinking Fund of $1.8 million. In 2020, the District plans to issue $80.0 million of general obligation debt and plans to receive an additional $49.0 million in low-interest loan funds from the State of Wisconsin Clean Water Fund Program.

Debt Service Schedules

All Amounts in $ Thousands

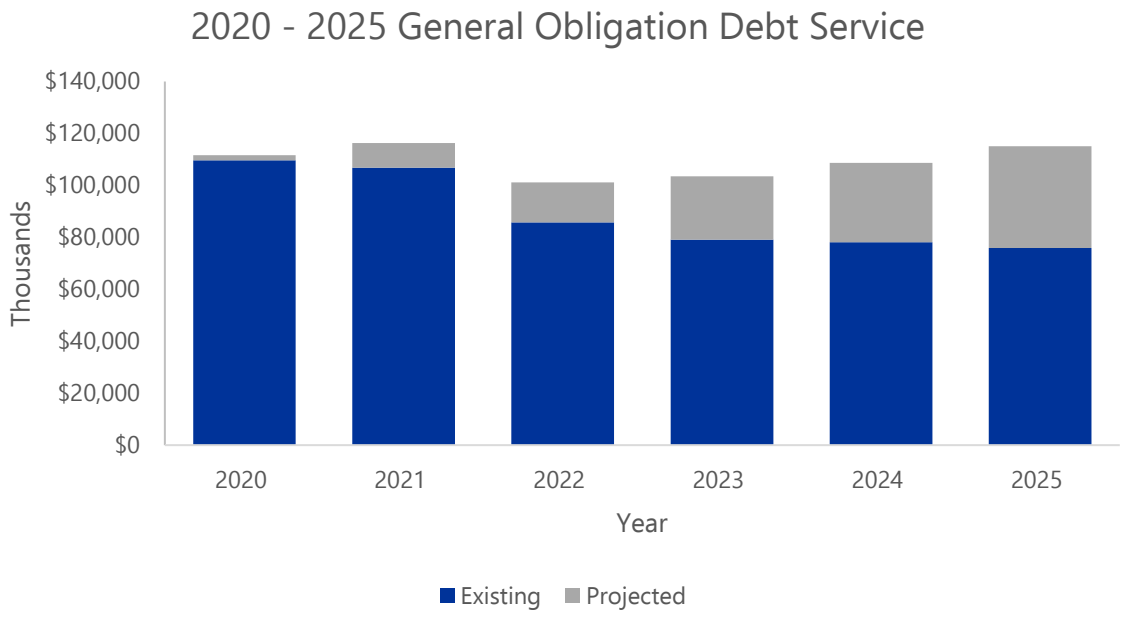
	2019 Estimate	2020 Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2020-25 Six Year Total
District Bonds	$35,104	$36,391	$40,690	$35,257	$35,139	$36,572	$40,308	$224,356
CWFP Loans	72,392	73,543	73,885	64,258	66,716	70,403	73,124	421,928
Intergovt. Loan	1,692	1,692	1,691	1,691	1,691	1,690	1,690	10,145
Total Debt Service	$109,188	$111,625	$116,266	$101,206	$103,545	$108,664	$115,121	$656,428

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 2020, as anticipated in the Long-Range Financing Plan.



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 2020. 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 2020, the District plans to issued a 20-year general obiligation bond with a face value of $80,000,000. The true interest cost of this issue is estimated to be 3.65%. The proceeds will be used to finance two years of capital project spending that cannot be or is not efficient to finance through the Clean Water Fund Loan program.

Budgeted debt service in 2020 for District-issued general obligation bonds is as follows:

District Bonds 2020 Net Debt Service

All Amounts in Thousands

Series	Gross Debt Service	Less: Debt Service Fund	Net Debt Service
2005A	$12,633	$79	$12,554
2010L	$3,859	$88	$3,771
2015A	$7,988	$45	$7,943
2015C	$5,234	$45	$5,189
2017A	$5,217	$27	$5,190
New Bond	$1,460	$0	$1,460
Total	$36,391	$284	$36,107

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.

Estimated debt service requirements in the six-year plan for District-issued bonds, including $224.4 million of new bonds projected to be issued through 2025 are as follows:

District Bonds Debt Service Schedule

All Amounts in Thousands

Year	Total
2020	$36,391
2021	$40,690
2022	$35,257
2023	$35,139
2024	$36,572
2025	$40,308
Total	$224,356

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 130 loan awards totaling $1.389 billion at interest rates ranging from 1.760 to 4.953 percent. Projects for compliance maintenance receiving State fiscal year 2020 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 2020 for financial assistance received under the Clean Water Fund Program.

2020 Clean Water Fund Program
All Amounts in Thousands

Gross Debt Service	$73,543
Less Debt Service Fund	$1,473
Total	$72,070

*Net Debt Service may differ from actual debt service payments due to interest earned on unused bond proceeds, premiums received, or discounts provided.

In 2020, the District expects to receive $49.0 million in project expense reimbursements from low-interest, 20-year loans from the Clean Water Fund Program. Twelve new loans are expected to be awarded from September 2019 through December 2020.

Estimated debt service requirements for Clean Water Fund Program loans, including disbursements from new loans projected to be received through 2025 are as follows:

Clean Water Fund Program Debt Service Schedule
All Amounts in Thousands

Year	Total
2020	$73,543
2021	$73,885
2022	$64,258
2023	$66,716
2024	$70,403
2025	$73,124
Total	$421,928

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 $24,588,635 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 CWFP loan. The CWFP 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

Year	Principal	Interest	Total
Prior	7,033,294	3,904,152	10,937,446
2020	1,275,272	416,514	1,691,786
2021	1,306,669	384,730	1,691,399
2022	1,338,839	352,164	1,691,003
2023	1,371,802	318,796	1,690,598
2024	1,405,575	284,607	1,690,182
2025	1,440,181	249,575	1,689,756
2026-2031	9,417,003	711,981	10,128,984
Total	$24,588,635	$6,622,518	$31,211,153

NOTE: Totals may not add due to rounding

Glossary of Acronyms and Terms

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
COD	Chemical Oxygen Demand
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
H2S	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
M7	Milwaukee 7
MBE	Minority Business Enterprise
MCRR	Material Capital Repair and Replacement
MGD	Million Gallons per Day
MIS	Metropolitan Interceptor Sewer System

MMAC	Metropolitan Milwaukee Association of Commerce
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
RACM	Redevelopment Authority of the City of Milwaukee
RAS	Return Activated Sludge
SEWRPC	Southeastern Wisconsin Regional Planning Commission
SSES	Sewer System Evaluation Survey
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
WRP	Watershed Restoration Plan

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 Improvement 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, evapotranspirate, 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.

Low Impact Development (LID): Integrates ecological and environmental considerations into all phases of urban planning, design, and construction in order to avoid encroaching on environmentally fragile or valuable lands, and to decrease runoff volumes and peak flow impacts.

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 51st 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.

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's 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.


MMSD
PARTNERS FOR A CLEANER ENVIRONMENT

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 2020 Operations & Maintenance Budget applies a structural adjustment as of 1/1/20 of 2.3 percent and a 2.5 percent merit based on satisfactory or above performance.

2020 Pay Grades 4-21

Pay Grade	Minimum	Midpoint	Maximum
21	$201,552.65	$237,170.95	$284,626.46
20	$166,680.84	$196,113.92	$235,358.04
19	$145,885.73	$171,586.35	$205,924.95
18	$133,515.30	$157,083.09	$188,542.37
17	$122,211.29	$143,752.89	$172,546.13
16	$111,973.69	$131,702.39	$158,042.87
15	$102,482.59	$120,611.66	$144,712.67
14	$93,951.26	$110,587.35	$132,662.17
13	$86,273.06	$101,522.81	$121,784.72
12	$79,341.36	$93,311.41	$111,973.69
11	$72,942.86	$85,846.50	$103,015.80
10	$67,184.22	$79,021.43	$94,804.39
9	$61,852.13	$72,729.58	$87,232.84
8	$57,053.26	$67,077.57	$80,514.42
7	$52,680.96	$61,958.78	$74,329.20
6	$42,336.72	$49,801.63	$59,719.30
5	$36,791.36	$43,296.49	$51,934.47
4	$31,992.48	$37,644.49	$45,216.04

Budget Policies

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 permit- ted 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.

		Prior	2019 Estimate	2020 Budget
Water Reclamation Facilities		**$72,741,220**	**$46,832,103**	**$50,508,919**
Jones Island		**$47,756,227**	**$25,137,944**	**$28,963,975**
Primary Treatment		**$4,084,917**	**$10,058,597**	**$6,387,493**
J01013	Preliminary Facility Electrical Upgrade	$11,606	$209,589	$234,313
J01019	JI Force Main Assessment	$119,001	$82,679	$535,167
J01021	Grit Basin Equipment Replacement	$162,262	$195,719	$1,134,140
J01023	Primary Clarifier 4 & 6 PSD Withdrawal Piping Replacement	$958,163	$1,680	$0
J01024	Harbor Siphon Structures & Adjacent Asset Modifications	$2,833,885	$7,817,946	$1,785,214
J01025	High & Low Level Screw Pump Replacement	$0	$635,695	$2,319,468
J01026	Primary Clarifier 2 & 8 Withdrawal Piping Replacement	$0	$1,115,288	$84,563
J01027	Primary Clarification, Sludge and Scum Pumping	$0	$0	$119,820
J01028	Primary Clarifier Drive Improvements	$0	$1	$174,807
Secondary Treatment		**$1,765,024**	**$299,416**	**$341,923**
J02011	Upgrade Secondary Clarifier Drain Valves	$0	$0	$0
J02012	Aeration System Diffusers Replacement	$29,233	$112,928	$194,111
J02013	East Plant RAS Header and Pump Replacement	$1,735,791	$168,944	$0
J02015	Aeration Basin Concrete Rehabilitation	$0	$17,544	$147,812
Solids Processing		**$17,944,722**	**$8,892,840**	**$13,222,644**
J04035	Greens Grade Train Replacement and Redundant Train Evaluation	$320,630	$436,665	$1,619,595
J04037	Thickened Sludge Improvements	$183,057	$108,403	$331,594
J04038	D&D Dryers Guillotine Gate Replacement	$37,175	$174,689	$199,314
J04039	D&D Building Explosion Relief Panel Replacement	$2,960,909	$1,823	$0
J04040	D&D Freight & Passenger Elevator Rehab	$2,700,633	$24,561	$0
J04041	Milorganite Facilities Improvement - Phase III	$5,468,493	$148,330	$0
J04046	D&D ID Fan Energy Conservation	$251,107	$555,965	$642,120
J04047	Install Winches at Chaff Load out Bay	$270,283	$178	$0
J04050	Dryer Feed and Discharge Screw Replacement	$3,260,726	$840,339	$1,033,425
J04051	MRAB Feed Screw Replacements	$593,873	$1,739	$0
J04052	Milorganite Facilities Improvements Phase IV	$1,055,863	$4,398,926	$668,326
J04057	Dryer Exhaust Duct Header Replacement	$17,904	$781	$907
J04060	Sludge Cake Transport & Feed Conveyors Replacement	$333,567	$334,610	$3,838,890
J04061	D&D PLC 5 Upgrades	$47,805	$222,221	$238,633
J04064	Chaff System Improvements	$0	$109,328	$110,248
J04065	D&D First Stage Classification Equipment Replacement	$155,265	$299,321	$2,668,070
J04066	Milorganite Dust Suppressant System Upgrades	$0	$61,550	$114,443
J04067	D&D South Cake Loadout System	$8,570	$96,376	$555,092
J04068	E/B Tank Odor Removal	$278,862	$457,057	$140,908
J04070	Milorganite Facilities Improvements Phase V	$0	$552,507	$462,444
J04072	Milo Transport and Silo Storage Equipment Replacement	$0	$16,285	$183,714
J04074	Milorganite Packaging Facility	$0	$51,186	$414,921
General Jones Island		**$23,961,564**	**$5,887,091**	**$9,011,915**
J06032	JI Geotechnical Structural Analysis	$548,746	$6,382	$56,009
J06050	JI I&C Improvements	$1,541,761	$192,522	$0
J06054	ISS Crane Rehabilitation	$1,849,683	$57,459	$14,128
J06056	Turbine Extended Service Agreement	$6,547,584	$1,281,917	$1,326,784
J06058	JI Building Roof Replacement - Phase II	$2,871,475	$178	$0
J06059	Gas Turbine Replacement - Phase II	$0	$0	$0
J06061	Dryer Conversion for Additional LFG	$1,312,631	$1,378,136	$2,120,695
J06062	Re-Commission GE Turbine #2	$1,883	$0	$0
J06064	Gaseous Fire Suppression Systems	$755,369	$135,718	$38,959
J06065	Rolling Stock & Other Equipment	$6,811,544	$573,036	$85,412
J06066	Power System Improvements	$390,021	$103,162	$151,754
J06068	JI & SS Network Optimizations	$454,227	$367,479	$0
J06069	JI Building Roof Replacement - Phase 3	$215,606	$583,305	$2,151,988
J06073	Harbor Siphons Area Settlement Mitigation	$39,429	$11,604	$20,000
J06075	2018 JI Capital Equipment Rehabilitation/Replacement	$525,987	$614,806	$2,860,357
J06076	Turbine Waste Heat Expansion Joint 12 & 13 Replacement	$95,618	$532,069	$6,443
J06081	JI WRF Phase 1 MCC Replacements	$0	$0	$128,704
J99003	Operator Contribution to CIP	$0	$49,318	$50,682

2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	Future Forecast	Total	Project Number
$50,136,398	**$47,146,308**	**$48,856,231**	**$54,594,016**	**$61,754,965**	**$62,969,808**	**$346,884,583**	
$34,939,088	**$33,454,212**	**$30,558,629**	**$11,988,633**	**$37,305,712**	**$31,437,764**	**$228,365,716**	
$3,061,797	**$2,834,904**	**$1,056,893**	**$7,500**	**$0**	**$0**	**$27,492,101**	
$1,476,187	$1,950,593	$651,526	$0	$0	$0	$4,533,814	J01013
$214	$0	$0	$0	$0	$0	$737,061	J01019
$1,188,301	$4,732	$0	$0	$0	$0	$2,685,154	J01021
$0	$0	$0	$0	$0	$0	$959,843	J01023
$0	$0	$0	$0	$0	$0	$12,437,045	J01024
$168,411	$0	$0	$0	$0	$0	$3,123,574	J01025
$149	$0	$0	$0	$0	$0	$1,200,000	J01026
$186,289	$0	$0	$0	$0	$0	$306,110	J01027
$42,245	$879,579	$405,367	$7,500	$0	$0	$1,509,500	J01028
$472,551	**$3,971,754**	**$3,332,892**	**$99,831**	**$138,446**	**$302,503**	**$10,724,340**	
$0	$0	$78,486	$88,999	$138,446	$302,503	$608,434	J02011
$231,531	$1,639,245	$1,523,227	$2,320	$0	$0	$3,732,595	J02012
$0	$0	$0	$0	$0	$0	$1,904,735	J02013
$241,020	$2,332,509	$1,731,179	$8,512	$0	$0	$4,478,576	J02015
$16,900,402	**$13,411,715**	**$18,184,373**	**$8,584,606**	**$92,878**	**$15,000,000**	**$112,234,180**	
$2,178,084	$830,120	$2,292	$0	$0	$0	$5,387,386	J04035
$892,008	$0	$0	$0	$0	$0	$1,515,062	J04037
$2,521,537	$643,442	$0	$0	$0	$0	$3,576,157	J04038
$0	$0	$0	$0	$0	$0	$2,962,732	J04039
$0	$0	$0	$0	$0	$0	$2,725,194	J04040
$0	$0	$0	$0	$0	$0	$5,616,823	J04041
$8,935	$0	$0	$0	$0	$0	$1,458,127	J04046
$0	$0	$0	$0	$0	$0	$270,461	J04047
$106,354	$0	$0	$0	$0	$0	$5,240,844	J04050
$0	$0	$0	$0	$0	$0	$595,612	J04051
$0	$0	$0	$0	$0	$0	$6,123,115	J04052
$77,323	$162,598	$1,555,677	$2,195,123	$56,349	$0	$4,066,662	J04057
$3,380,890	$13,027	$0	$0	$0	$0	$7,900,984	J04060
$2,113,168	$2,810,044	$2,098,866	$2,290	$0	$0	$7,533,027	J04061
$312,905	$418,376	$6,651,484	$6,190,363	$36,529	$0	$13,829,233	J04064
$2,842,805	$3,938,058	$0	$0	$0	$0	$9,903,519	J04065
$389,270	$151,236	$0	$0	$0	$0	$716,499	J04066
$167,782	$389	$0	$0	$0	$0	$828,209	J04067
$1,073	$0	$0	$0	$0	$0	$877,900	J04068
$143,362	$114,123	$200,474	$72,643	$0	$0	$1,545,554	J04070
$872,757	$3,792,217	$925,120	$3,346	$0	$0	$5,793,440	J04072
$892,148	$538,086	$6,750,460	$120,840	$0	$15,000,000	$23,767,640	J04074
$6,319,258	**$4,436,770**	**$6,221,921**	**$2,383,706**	**$3,557,609**	**$16,135,261**	**$77,915,095**	
$159,117	$512,018	$192,743	$6,619	$0	$0	$1,481,634	J06032
$0	$0	$0	$0	$0	$0	$1,734,283	J06050
$0	$0	$0	$0	$0	$0	$1,921,270	J06054
$1,379,855	$1,435,049	$1,492,451	$1,197,692	$0	$0	$14,661,332	J06056
$0	$0	$0	$0	$0	$0	$2,871,653	J06058
$0	$0	$0	$0	$3,557,609	$16,135,261	$19,692,870	J06059
$2,102,164	$680,469	$0	$0	$0	$0	$7,594,095	J06061
$0	$0	$0	$0	$0	$0	$1,883	J06062
$0	$0	$0	$0	$0	$0	$930,046	J06064
$0	$0	$0	$0	$0	$0	$7,469,992	J06065
$796,772	$195,031	$0	$0	$0	$0	$1,636,740	J06066
$0	$0	$0	$0	$0	$0	$821,706	J06068
$2,278	$0	$0	$0	$0	$0	$2,953,177	J06069
$20,000	$20,000	$20,000	$0	$0	$0	$131,033	J06073
$1,499,059	$1,180,812	$1,000,000	$323,720	$0	$0	$8,004,741	J06075
$220	$0	$0	$0	$0	$0	$634,350	J06076
$309,793	$363,391	$3,466,727	$805,675	$0	$0	$5,074,290	J06081
$50,000	$50,000	$50,000	$50,000	$0	$0	$300,000	J99003

		Prior	2019 Estimate	2020 Budget
South Shore		**$20,280,292**	**$15,565,421**	**$12,671,500**
Primary Treatment		**$226,149**	**$351,002**	**$548,391**
S01009	Scum System Improvements	$226,149	$341,605	$173,540
S01013	Primary Clarifier Rehabilitation	$0	$9,397	$257,967
S01015	Grit Equipment Replacement	$0	$0	$116,884
S01016	Lower Site Wastwater Pump Improvements	$0	$0	$0
Secondary Treatment		**$4,497,302**	**$2,208,565**	**$1,409,562**
S02008	SS Capacity Improvements	$2,191,854	$705,144	$440,062
S02012	Biological Phosphorous Removal	$323,413	$49,278	$89,897
S02013	Aeration Galleries RAS Header Piping Rehab	$1,958,687	$1,453,306	$873,962
S02014	Secondary Clarifier Idling Control	$23,348	$0	$0
S02015	Aeration Basin Diffuser Replacement	$0	$837	$5,641
Advanced Treatment		**$703,635**	**$422,190**	**$294,739**
S03002	SS Chloramination	$0	$0	$40,221
S03003	Post-Secondary Capacity Improvements	$703,635	$416,845	$188,245
S03004	Effluent Pump MCC and VFD Upgrade	$0	$5,345	$66,273
Solids Processing		**$3,997,667**	**$2,019,143**	**$2,797,053**
S04010	Thickening Process Capacity Enhancements	$149,204	$0	$17,101
S04012	Plate and Frame Press Upgrade	$4,545	$360,032	$387,763
S04024	2019 Reference - Aeration Basin Concrete Rehab - Phase II	$63,321	$0	$0
S04029	Digester Mixing II	$0	$0	$0
S04030	Aeration Basin Concrete Rehab - Phase III	$87,998	$247,100	$1,247,417
S04031	Digester Gas Treatment System	$3,687,071	$1,279,351	$5,304
S04033	Aeration Basin Concrete Rehab - Phase IV	$0	$0	$0
S04034	High Strength Waste Mixing Improvements	$0	$0	$21,564
S04035	Digester 6 & 8 Mixer Replacement	$5,528	$132,570	$953,817
S04036	Bldg. 383 HVAC Replacement	$0	$90	$164,087
General South Shore		**$10,855,539**	**$10,564,521**	**$7,621,755**
S06015	SS Geotechnical Structural Analysis	$0	$0	$0
S06019	Replace W3 Flushing Water Pumps	$488,017	$951,780	$4,310
S06022	Building 326 Site Improvements	$464,990	$235,219	$63,473
S06027	Tunnels Concrete Rehabilitation	$351,380	$2,532,683	$1,258,771
S06028	Central Control Building H2S Removal System	$644,102	$766,829	$14,508
S06029	Med Voltage Switchgear Replacement	$2,934,435	$976,712	$2,851
S06032	SS Rolling Stock & Other Equipment	$3,087,593	$736,371	$0
S06033	Upgrade Medium & Low Voltage MCC's	$1,875,269	$1,570,352	$5,613
S06034	Building Roof Replacement Phase III	$112,251	$450,770	$1,724,250
S06036	Gas Compressor 5 DG Enhancements	$126,997	$22,725	$26,565
S06038	2018 SS Capital Equipment Rehabilitation/Replacement	$471,885	$1,602,423	$2,827,454
S06039	Building Roof Replacement Phase IV	$78,028	$299,988	$1,633,029
S06040	SS Network Optimization	$215,917	$227,895	$0
S06043	SS Buffer Zone	$4,675	$140,774	$10,931
S99003	Operator Contribution to CIP	$0	$50,000	$50,000
Interplant Pipeline		**$4,704,701**	**$6,128,738**	**$8,873,444**
Interplant Pipeline		**$4,229,287**	**$5,768,091**	**$6,866,254**
P01003	Interplant Pipeline Improvements at South Shore	$2,673,056	$1,657	$0
P01005	Interplant Pipeline Improvements - Phase II	$1,521,631	$5,605,931	$6,647,686
P01006	Replace IPS Pipes within South Shore WRF Property	$34,600	$160,503	$218,568
Energy Pipeline		**$475,414**	**$360,647**	**$2,007,190**
P02003	LFG Pipeline Pigging Station	$288,283	$337,084	$1,971,009
P02004	Landfill Gas System - Metro Landfill	$187,131	$23,563	$36,181
General Reclamation Facility Projects		**$0**	**$0**	**$0**
Allowance for Plant Rehabilitation		**$0**	**$0**	**$0**
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
Inflation		**$0**	**$0**	**$0**
J99005	Inflation	$0	$0	$0
S99004	Inflation	$0	$0	$0
P99002	Inflation	$0	$0	$0

2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	Future Forecast	Total	Project Number
$7,380,611	**$8,594,310**	**$17,426,623**	**$42,601,970**	**$23,973,509**	**$31,532,044**	**$118,518,867**	
$904,493	**$2,375,933**	**$5,662,047**	**$3,192,388**	**$3,077,247**	**$2,491,989**	**$15,302,638**	
$0	$0	$0	$0	$0	$0	$741,294	S01009
$541,465	$2,098,384	$3,037,846	$3,062,148	$3,062,148	$2,491,989	$14,561,344	S01013
$363,028	$277,549	$2,624,201	$130,240	$15,099	$0	$3,527,001	S01015
$0	$0	$0	$0	$0	$0	$0	S01016
$1,855,910	**$2,378,947**	**$2,147,733**	**$1,311,953**	**$939,454**	**$29,035,544**	**$45,784,970**	
$811,299	$1,250,566	$1,193,982	$37,378	$2,009	$0	$6,632,294	S02008
$87,640	$87,990	$87,640	$88,341	$88,341	$4,091,137	$4,993,677	S02012
$935,696	$935,636	$521,370	$2,252	$0	$0	$6,680,909	S02013
$21,275	$104,755	$344,741	$44,325	$0	$0	$538,444	S02014
$0	$0	$0	$1,139,657	$849,104	$24,944,407	$26,939,646	S02015
$596,372	**$1,650,926**	**$35,292**	**$0**	**$0**	**$0**	**$2,710,613**	
$81,091	$580,313	$14,054	$0	$0	$0	$715,679	S03002
$373,113	$291,858	$21,238	$0	$0	$0	$1,994,934	S03003
$142,168	$778,755	$0	$0	$0	$0	$992,541	S03004
$3,389,667	**$702,632**	**$2,364,479**	**$3,926,910**	**$2,696,845**	**$4,511**	**$21,898,907**	
$186,476	$391,193	$1,363,192	$489,188	$88	$0	$2,596,442	S04010
$11,970	$3,545	$0	$0	$0	$0	$767,855	S04012
$0	$0	$0	$0	$0	$0	$63,321	S04024
$0	$0	$349,090	$2,100,907	$2,249,781	$4,511	$4,704,289	S04029
$1,212,463	$7,295	$0	$0	$0	$0	$2,802,273	S04030
$1,415	$0	$0	$0	$0	$0	$4,973,141	S04031
$7,834	$138,091	$497,759	$1,326,952	$446,976	$0	$2,417,612	S04033
$33,887	$133,053	$154,438	$9,863	$0	$0	$352,805	S04034
$1,583,598	$19,553	$0	$0	$0	$0	$2,695,066	S04035
$352,024	$9,902	$0	$0	$0	$0	$526,103	S04036
$634,169	**$1,485,872**	**$7,217,072**	**$34,170,720**	**$17,259,963**	**$0**	**$32,821,740**	
$0	$0	$0	$0	$0	$0	$0	S06015
$0	$0	$0	$0	$0	$0	$1,444,107	S06019
$0	$0	$0	$0	$0	$0	$763,682	S06022
$1,292	$0	$0	$0	$0	$0	$4,144,126	S06027
$86	$0	$0	$0	$0	$0	$1,425,525	S06028
$0	$0	$0	$0	$0	$0	$3,913,998	S06029
$0	$0	$0	$0	$0	$0	$3,823,964	S06032
$0	$0	$0	$0	$0	$0	$3,451,234	S06033
$2,173	$0	$0	$0	$0	$0	$2,289,444	S06034
$67,871	$2,144	$0	$0	$0	$0	$246,302	S06036
$367,000	$1,100,000	$1,161,945	$876,385	$0	$0	$8,407,092	S06038
$1,029	$0	$0	$0	$0	$0	$2,012,074	S06039
$0	$0	$0	$0	$0	$0	$443,812	S06040
$0	$0	$0	$0	$0	$0	$156,380	S06043
$50,000	$50,000	$50,000	$50,000	$0	$0	$300,000	S99003
$7,816,700	**$5,097,786**	**$870,980**	**$3,413**	**$475,744**	**$11,832,083**	**$45,357,023**	
$7,657,122	**$4,899,833**	**$820,744**	**$3,153**	**$0**	**$0**	**$30,244,484**	
$0	$0	$0	$0	$0	$0	$2,674,713	P01003
$4,271,547	$3,674,568	$820,744	$3,153	$0	$0	$22,545,260	P01005
$3,385,575	$1,225,265	$0	$0	$0	$0	$5,024,511	P01006
$6,309	**$0**	**$0**	**$0**	**$430,896**	**$11,832,083**	**$15,112,539**	
$6,309	$0	$0	$0	$0	$0	$2,602,685	P02003
$0	$0	$0	$0	$430,896	$11,832,083	$12,509,854	P02004
$8,483,067	**$9,330,749**	**$7,817,913**	**$34,157,584**	**$50,821,591**	**$0**	**$15,610,903**	
$7,500,000	**$7,500,000**	**$5,000,000**	**$30,000,000**	**$45,000,000**	**$0**	**$95,000,000**	
$0	$0	$0	$0	$15,000,000	$0	$15,000,000	J99001
$7,500,000	$7,500,000	$0	$0	$15,000,000	$0	$30,000,000	J99004
$0	$0	$5,000,000	$30,000,000	$15,000,000	$0	$50,000,000	S99001
$983,067	**$1,830,749**	**$2,817,913**	**$4,157,584**	**$5,821,591**	**$0**	**$15,610,903**	
$685,080	$1,299,068	$1,762,550	$912,989	$3,516,779	$0	$8,176,467	J99005
$144,718	$333,728	$1,005,127	$3,244,335	$2,259,963	$0	$6,987,870	S99004
$153,269	$197,953	$50,236	$260	$44,848	$0	$446,566	P99002

		Prior	2019 Estimate	2020 Budget
Conveyance		**$18,577,407**	**$7,462,099**	**$13,045,400**
Metropolitan Interceptor Sewer		**$11,298,178**	**$5,403,349**	**$10,945,009**
Subsystem 1 - Branch		**$0**	**$0**	**$909,763**
C01006	150" MIS Preliminary Engineering	$0	$0	$909,763
Subsystem 2 - Southwest Branch		**$2,021,218**	**$302,125**	**$2,396,243**
C02008	Force Main Rehabilitations	$1,996,215	$0	$0
C02009	Hydrogen Sulfide & Odor Mitigation Study	$20,436	$158,994	$349,006
C02010	Force Main Franklin Muskego Rehabilitation Project	$0	$80,099	$194,001
C02011	Force Main Greenfield Park Rehabilitation Project	$4,567	$49,939	$1,767,371
C02012	10th Avenue MIS Lateral Reconstruction	$0	$13,093	$85,865
C02013	Oak Creek Southwest MIS Extension	$0	$0	$0
Subsystem 3 - Northwest Branch		**$616,184**	**$12,304**	**$0**
C03009	107th St. MIS Improvement	$616,184	$12,304	$0
Subsystem 4 - Northeast Branch		**$1,882,577**	**$627,551**	**$1,239,834**
C04002	Honey Creek MIS Rehab	$78,085	$0	$0
C04003	Roosevelt Drive MIS Rehab	$0	$0	$0
C04005	Martha Washington/Highlands MIS Rehab	$147,912	$0	$0
C04010	Mill/Green Bay/Green Tree MIS Relief	$1,345,385	$607,708	$1,052,361
C04011	Martha Washington Dr. MIS Segment Rehabilitation	$311,195	$19,843	$0
C04013	Brown Deer Road Sewer	$0	$0	$187,473
Subsystem 5 - North Side High Relief		**$2,769,705**	**$1,063,793**	**$2,642,031**
C05041	CMIS - Basin H PCB Remediation and Rehabilitation (C016)	$2,710,616	$449,017	$1,886,365
C05044	Estabrook Park MIS Rehab	$0	$0	$0
C05051	Edgewood MIS Extension	$59,089	$365,151	$442,419
C05053	River Road MIS & Glendale Sewer	$0	$130,597	$293,844
C05055	BS0503 Facility Upgrades	$0	$119,028	$19,403
C05056	Solar on N. Port Washington Rd. Pump Station	$0	$0	$0
Subsystem 6 - South Side High Relief		**$0**	**$0**	**$62,499**
C06017	South 6th Street & Warnimont MIS Rehab	$0	$0	$0
C06018	Oklahoma Ave MIS Rehab	$0	$0	$0
C06022	Rehabilitate Structures - 4th & Scott/7th & Scott	$0	$0	$62,499
Subsystem 7 - Low Level		**$84,808**	**$175,120**	**$1,131,667**
C07035	Mitchell Park PCB Sewer Improvements	$0	$0	$0
C07036	Siphons Improvements	$0	$0	$402,171
C07037	South Shore Force Main Assessment	$84,808	$175,120	$729,496
General Interceptor Sewer System		**$3,923,686**	**$3,222,456**	**$2,562,972**
C98044	MIS Abandonment	$211,473	$479,417	$310,026
C98047	Access Hatch Covers	$646,840	$1,307,887	$847,141
C98048	Gravity Overflow Conversion to Pump Overflow	$57,936	$0	$0
C98052	Miscellaneous Sewer Rehab	$9,149	$8,083	$24,107
C98053	Conveyance Gate Rehab, Phase 4	$2,929,469	$4,243	$0
C98054	Force Main Cathodic Protection	$0	$0	$0
C98055	Conveyance Equipment Replacement	$0	$200,000	$100,000
C98056	Conveyance System Modeling Software Improvements	$68,819	$1,222,820	$1,143,516
C98060	SSO Elimination Study	$0	$6	$138,182
Inline Storage System		**$567,841**	**$499,561**	**$1,153,443**
CSO Structures		**$567,841**	**$499,561**	**$1,153,443**
I03008	CSO102 Rehabilitation - Humbolt	$25,799	$249,007	$202,921
I03011	Outfall Backflow Prevention	$0	$17,530	$145,546
I06001	NS12 Collector System Improvements	$542,042	$233,024	$804,976
General Control System		**$6,004,411**	**$1,260,869**	**$696,948**
Conveyance System Central Control		**$6,004,411**	**$1,260,869**	**$696,948**
K01012	Conveyance SCADA Upgrade	$6,004,411	$1,260,869	$696,948
General Conveyance		**$706,977**	**$298,320**	**$250,000**
General Conveyance		**$15,263**	**$55,981**	**$50,000**
I98003	Miscellaneous Outfall Improvements	$15,263	$5,981	$0
C99002	Operator Contribution to CIP	$0	$50,000	$50,000
Allowance for Conveyance		**$691,714**	**$242,339**	**$200,000**
C99001	Allowance for Future Conveyance Rehab Projects	$0	$0	$0
C99004	Allowance for DOT Reimbursements	$691,714	$242,339	$200,000
Inflation		**$0**	**$0**	**$0**
C99003	Inflation	$0	$0	$0

2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	Future Forecast	Total	Project Number
$28,475,626	**$25,249,068**	**$30,656,594**	**$32,556,359**	**$33,555,126**	**$79,765,078**	**$269,342,757**	
$17,374,702	**$15,671,996**	**$17,379,243**	**$18,619,383**	**$20,391,912**	**$79,765,078**	**$196,848,849**	
$65,096	**$0**	**$0**	**$0**	**$0**	**$0**	**$974,858**	
$65,096	$0	$0	$0	$0	$0	$974,858	C01006
$895,392	**$1,063,231**	**$425,466**	**$2,239**	**$2,239**	**$14,572,902**	**$21,681,055**	
$0	$0	$0	$0	$0	$0	$1,996,215	C02008
$26,001	$586,197	$105,257	$223	$223	$26,254	$1,272,591	C02009
$155,063	$477,034	$320,209	$2,016	$2,016	$17,648	$1,248,086	C02010
$714,328	$0	$0	$0	$0	$0	$2,536,205	C02011
$0	$0	$0	$0	$0	$0	$98,958	C02012
$0	$0	$0	$0	$0	$14,529,000	$14,529,000	C02013
$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$628,488**	
$0	$0	$0	$0	$0	$0	$628,488	C03009
$718,183	**$2,699,075**	**$11,100,688**	**$18,411,179**	**$18,382,545**	**$15,289,778**	**$70,351,410**	
$0	$0	$0	$0	$0	$3,063,130	$3,141,215	C04002
$0	$0	$0	$0	$351,744	$6,782,276	$7,134,020	C04003
$0	$0	$0	$0	$0	$4,732,912	$4,880,824	C04005
$462,827	$1,071,429	$10,817,177	$18,411,179	$18,030,801	$711,460	$52,510,327	C04010
$0	$0	$0	$0	$0	$0	$331,038	C04011
$255,356	$1,627,646	$283,511	$0	$0	$0	$2,353,986	C04013
$13,714,055	**$11,073,986**	**$5,688,263**	**$0**	**$371,663**	**$10,240,967**	**$47,564,462**	
$1,227,041	$1,256,470	$8,775	$0	$0	$0	$7,538,283	C05041
$0	$0	$0	$0	$371,663	$10,240,967	$10,612,630	C05044
$6,666,744	$3,996,498	$19,236	$0	$0	$0	$11,549,137	C05051
$5,820,270	$5,821,018	$5,660,252	$0	$0	$0	$17,725,981	C05053
$0	$0	$0	$0	$0	$0	$138,431	C05055
$0	$0	$0	$0	$0	$0	$0	C05056
$251,338	**$13,131**	**$0**	**$0**	**$1,440,254**	**$28,877,997**	**$30,645,219**	
$0	$0	$0	$0	$937,688	$19,836,922	$20,774,610	C06017
$0	$0	$0	$0	$502,566	$9,041,075	$9,543,641	C06018
$251,338	$13,131	$0	$0	$0	$0	$326,968	C06022
$1,133,560	**$365,030**	**$0**	**$0**	**$0**	**$3,514,845**	**$6,405,030**	
$0	$0	$0	$0	$0	$3,514,845	$3,514,845	C07035
$1,133,560	$365,030	$0	$0	$0	$0	$1,900,761	C07036
$0	$0	$0	$0	$0	$0	$989,424	C07037
$597,078	**$457,544**	**$164,826**	**$205,965**	**$195,211**	**$7,268,589**	**$18,598,327**	
$170,660	$12,288	$0	$0	$0	$0	$1,183,864	C98044
$215,686	$215,991	$0	$0	$0	$0	$3,233,545	C98047
$0	$0	$0	$35,182	$195,211	$6,498,196	$6,786,525	C98048
$33,658	$28,313	$164,826	$170,783	$0	$0	$438,919	C98052
$0	$0	$0	$0	$0	$0	$2,933,712	C98053
$0	$0	$0	$0	$0	$770,393	$770,393	C98054
$100,000	$200,000	$0	$0	$0	$0	$600,000	C98055
$76,453	$952	$0	$0	$0	$0	$2,512,559	C98056
$621	$0	$0	$0	$0	$0	$138,810	C98060
$10,169,112	**$8,346,620**	**$9,150**	**$0**	**$0**	**$0**	**$20,745,727**	
$10,169,112	**$8,346,620**	**$9,150**	**$0**	**$0**	**$0**	**$20,745,727**	
$856,118	$0	$0	$0	$0	$0	$1,333,845	I03008
$822,434	$5,708	$0	$0	$0	$0	$991,218	I03011
$8,490,560	$8,340,912	$9,150	$0	$0	$0	$18,420,664	I06001
$123,466	**$0**	**$0**	**$0**	**$0**	**$0**	**$8,085,694**	
$123,466	**$0**	**$0**	**$0**	**$0**	**$0**	**$8,085,694**	
$123,466	$0	$0	$0	$0	$0	$8,085,694	K01012
$808,346	**$1,230,452**	**$13,268,201**	**$13,936,977**	**$13,163,215**	**$0**	**$43,662,487**	
$50,000	**$50,000**	**$50,000**	**$50,000**	**$0**	**$0**	**$321,244**	
$0	$0	$0	$0	$0	$0	$21,244	I98003
$50,000	$50,000	$50,000	$50,000	$0	$0	$300,000	C99002
$200,000	**$200,000**	**$11,450,000**	**$11,407,661**	**$10,000,000**	**$0**	**$34,391,714**	
$0	$0	$11,250,000	$11,250,000	$10,000,000	$0	$32,500,000	C99001
$200,000	$200,000	$200,000	$157,661	$0	$0	$1,891,714	C99004
$558,346	**$980,452**	**$1,768,201**	**$2,479,316**	**$3,163,215**	**$0**	**$8,949,529**	
$558,346	$980,452	$1,768,201	$2,479,316	$3,163,215	$0	$8,949,529	C99003

		Prior	2019 Estimate	2020 Budget
Watercourse and Flood Management		**$96,610,430**	**$26,220,099**	**$16,976,754**
Milwaukee River Watershed		**$24,137,812**	**$379,116**	**$1,611,819**
Milwaukee River		**$2,553,868**	**$309,162**	**$683,416**
W10001	Milwaukee River Flood Mgt	$257,820	$63,941	$337,981
W10002	Estabrook Dam Removal	$2,150,131	$83,827	$52,734
W10004	Milwaukee River Planning Study – Capitol to Bender	$145,917	$161,394	$292,701
Lincoln Creek		**$21,494,421**	**$62,488**	**$878,538**
W11030	E - North 30th Street Corridor Wet Weather Relief - East	$14,958,588	($36,440)	$58,389
W11031	W - North 30th Street Corridor Wet Weather Relief - West	$6,535,833	$98,928	$820,149
Indian Creek		**$89,523**	**$7,466**	**$17,218**
W13002	Indian Creek Improvements	$89,523	$7,466	$17,218
Beaver Creek		**$0**	**$0**	**$32,647**
W15001	Beaver Creek Flood Management	$0	$0	$32,647
Milwaukee River Lake Estuary		**$0**	**$0**	**$0**
W16001	Milwaukee River Lake Estuary Study	$0	$0	$0
Menomonee River Watershed		**$27,537,484**	**$2,224,669**	**$4,796,428**
Menomonee River - Main Stem		**$13,493,211**	**$1,595,991**	**$2,975,830**
W20018	Concordia Avenue	$729,397	$13,967	$1,755
W20021	Menomonee River Stream Management - CR	$5,548,081	$28,162	$0
W20023	Phase II Menomonee River Stream Mgt	$3,068,012	$39,635	$42,420
W20027	Western Milwaukee Phase 2A	$2,131,488	$9,399	$15,771
W20028	Western Milwaukee Phase 2B	$1,318,170	$1,359,228	$2,846,099
W20029	Western Milwaukee Real Estate & Environmental Assessment	$439,036	$120,074	$69,785
W20031	Memonomee River Estuary Study	$259,027	$25,526	$0
Underwood Creek		**$7,776,712**	**$269,641**	**$165,427**
W21006	Phase II - Underwood Creek Reach 1, Phase II - CR	$7,042,136	$104,355	$17,046
W21007	Underwood Creek Reach 2 - CR	$734,576	$165,286	$148,381
South Branch Underwood Creek		**$0**	**$0**	**$0**
W22001	Underwood Creek S. Branch, Reach 1 - CR	$0	$0	$0
W22002	Underwood Creek S. Branch, Reach 2 - CR	$0	$0	$0
Honey Creek		**$712,265**	**$167,894**	**$240,128**
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	$0	$0
W24005	Honey Creek Watercourse Mgmt. Plan & BMPs	$242,539	$54,384	$28,842
W24006	Honey Creek USACE Habitat Improvement Feasibility Study	$469,726	$113,510	$116,765
W24007	Honey Creek Reach 2 - CR	$0	$0	$51,864
W24010	State Fair Culvert Preliminary Engineering	$0	$0	$42,657
Schoonmaker Creek		**$5,283,666**	**$56,073**	**$57,179**
W28001	Schoonmaker Creek	$238,598	$31,360	$12,904
W28002	Daylighting Schoonmaker Creek	$5,045,068	$24,713	$44,275
Menomonee River Lake Estuary		**$271,630**	**$135,070**	**$1,357,864**
W29001	Menomonee River Lake Estuary Study	$0	$0	$0
W29002	Burnham Canal	$271,630	$135,070	$1,357,864
Root River Watershed		**$0**	**$0**	**$0**
Root River West Branch		**$0**	**$0**	**$0**
W34002	Phase 2 Root River W. Branch Flood Management Study	$0	$0	$0
Wintnall Park Creek		**$0**	**$0**	**$0**
W35003	Lower Whitnall Park Creek Flood Mgt II	$0	$0	$0
Hale Creek		**$0**	**$0**	**$0**
W39002	Hale Creek Flood Management	$0	$0	$0

2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	Future Forecast	Total	Project Number
$27,671,148	**$36,847,434**	**$37,143,486**	**$36,606,450**	**$31,986,760**	**$418,562,805**	**$728,625,364**	
$1,942,418	**$1,906,805**	**$7,847,298**	**$8,103,422**	**$8,086,420**	**$60,201,033**	**$114,216,144**	
$797,356	**$282,866**	**$281,273**	**$283,524**	**$282,500**	**$46,647,345**	**$52,121,310**	
$463,820	$282,715	$281,273	$283,524	$282,500	$46,647,345	$48,900,919	W10001
$43,158	$151	$0	$0	$0	$0	$2,330,001	W10002
$290,378	$0	$0	$0	$0	$0	$890,390	W10004
$1,046,417	**$1,484,358**	**$7,211,041**	**$7,218,688**	**$6,591,546**	**$12,302,349**	**$58,289,846**	
$57,926	$58,158	$56,693	$8,615	$0	$0	$15,161,929	W11030
$988,491	$1,426,200	$7,154,348	$7,210,073	$6,591,546	$12,302,349	$43,127,917	W11031
$64,608	**$58,917**	**$66,521**	**$0**	**$0**	**$0**	**$304,253**	
$64,608	$58,917	$66,521	$0	$0	$0	$304,253	W13002
$34,037	**$49,653**	**$125,137**	**$453,760**	**$1,212,374**	**$1,251,339**	**$3,158,948**	
$34,037	$49,653	$125,137	$453,760	$1,212,374	$1,251,339	$3,158,948	W15001
$0	**$31,011**	**$163,326**	**$147,450**	**$0**	**$0**	**$341,787**	
$0	$31,011	$163,326	$147,450	$0	$0	$341,787	W16001
$11,604,567	**$19,156,863**	**$7,208,481**	**$2,455,070**	**$1,181,372**	**$121,112,160**	**$197,277,094**	
$5,434,113	**$9,469,537**	**$6,879,458**	**$2,296,892**	**$475,185**	**$14,894,123**	**$57,514,340**	
$0	$0	$0	$24,682	$96,969	$4,206,171	$5,072,941	W20018
$0	$0	$0	$0	$0	$0	$5,576,243	W20021
$0	$0	$0	$0	$0	$0	$3,150,067	W20023
$7,230	$576	$0	$0	$0	$0	$2,164,464	W20027
$5,337,654	$9,414,537	$6,829,468	$2,221,820	$366,908	$583,177	$30,277,061	W20028
$89,229	$54,424	$49,990	$50,390	$11,308	$10,104,775	$10,989,011	W20029
$0	$0	$0	$0	$0	$0	$284,553	W20031
$3,480,915	**$3,628,978**	**$13,052**	**$2,706**	**$0**	**$12,875,752**	**$28,213,183**	
$16,910	$16,978	$13,052	$2,706	$0	$0	$7,213,183	W21006
$3,464,005	$3,612,000	$0	$0	$0	$12,875,752	$21,000,000	W21007
$0	**$0**	**$0**	**$0**	**$0**	**$32,066,423**	**$32,066,423**	
$0	$0	$0	$0	$0	$17,969,914	$17,969,914	W22001
$0	$0	$0	$0	$0	$14,096,509	$14,096,509	W22002
$651,597	**$5,175,261**	**$190,266**	**$28,761**	**$43,925**	**$48,675,875**	**$55,885,972**	
$0	$0	$0	$0	$17,868	$12,687,769	$12,705,637	W24002
$0	$0	$0	$0	$0	$14,801,839	$14,801,839	W24003
$0	$0	$0	$0	$0	$12,158,646	$12,158,646	W24004
$246	$0	$0	$0	$0	$0	$326,011	W24005
$0	$0	$0	$0	$0	$0	$700,001	W24006
$450,195	$5,175,261	$190,266	$28,761	$26,057	$9,027,621	$14,950,025	W24007
$201,156	$0	$0	$0	$0	$0	$243,813	W24010
$19,790	**$447**	**$0**	**$0**	**$0**	**$10,265,813**	**$15,682,968**	
$55	$0	$0	$0	$0	$10,265,813	$10,548,730	W28001
$19,735	$447	$0	$0	$0	$0	$5,134,238	W28002
$2,018,152	**$882,640**	**$125,705**	**$126,711**	**$662,262**	**$2,334,174**	**$7,914,208**	
$0	$0	$0	$0	$36,238	$6,201	$42,439	W29001
$2,018,152	$882,640	$125,705	$126,711	$626,024	$2,327,973	$7,871,769	W29002
$11,700	**$27,497**	**$10,716**	**$0**	**$204,329**	**$48,986**	**$303,228**	
$11,700	**$27,497**	**$10,716**	**$0**	**$0**	**$0**	**$49,913**	
$11,700	$27,497	$10,716	$0	$0	$0	$49,913	W34002
$0	**$0**	**$0**	**$0**	**$78,814**	**$37,530**	**$116,344**	
$0	$0	$0	$0	$78,814	$37,530	$116,344	W35003
$0	**$0**	**$0**	**$0**	**$125,515**	**$11,456**	**$136,971**	
$0	$0	$0	$0	$125,515	$11,456	$136,971	W39002

		Prior	2019 Estimate	2020 Budget
Kinnickinnic River Watershed		**$34,106,360**	**$18,231,378**	**$6,181,341**
Kinnickinnic River		**$31,768,971**	**$17,135,170**	**$4,896,904**
W40002	KK River Real Estate Decon./Demo. & Pulaski Park	$23,781,158	$10,080,106	$820,539
W40007	KK River Reach 3 - CR	$303,924	$87,668	$501,279
W40008	KK River S. 6th to S. Chase Flood Mgt	$5,708,237	$21,657	$0
W40009	Jackson Park	$0	$5,812,829	$536,446
W40010	KK River Watershed	$1,604,297	$516,445	$581,334
W40011	KK River I-94 to Becher	$347,590	$46,577	$21,830
W40012	KK River - 6th to 16th St.	$12,639	$382,160	$1,029,560
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	$11,126	$187,728	$1,405,916
Lyons Creek		**$317,019**	**$197,271**	**$549,236**
W41001	KK River Flood Management - Lyons Creek (W026)	$316,454	$48,684	$81,876
W41003	Lyons Park Creek Streambank Stabilization	$565	$148,587	$467,360
43rd Street Ditch Creek		**$0**	**$0**	**$65,137**
W42003	43rd Street Ditch Reach 1 - CR	$0	$0	$65,137
Villa Mann Creek		**$0**	**$0**	**$0**
W43003	Villa Mann Creek Tributary Culvert Improvement	$0	$0	$0
Wilson Park Creek		**$2,020,370**	**$898,937**	**$670,064**
W45002	Wilson Park Creek Reach 3 - CR	$2,020,370	$898,937	$670,064
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
Oak Creek Watershed		**$1,940,028**	**$1,062,012**	**$43,529**
Oak Creek - Main Stem		**$1,940,028**	**$1,062,012**	**$43,529**
W50005	Oak Creek Flood Management - Floodproofing/Acquisition	$1,690,106	$1,044,381	$12,331
W50006	Oak Creek Watershed Restoration Plan	$249,922	$17,631	$31,198
Lake Michigan Drainage Watershed		**$950**	**$0**	**$32,715**
Fish Creek		**$950**	**$0**	**$32,715**
W61002	Fish Creek Flood Acquisitions	$950	$0	$32,715
General Watercourse Projects		**$8,887,796**	**$4,322,924**	**$4,310,922**
System Improvement Plan - Phase II		**$2,733,145**	**$7,300**	**$13,499**
W91001	Phase II Corridor & SEWRPC Studies	$2,733,145	$7,300	$13,499
General Watercourse Projects		**$6,154,651**	**$4,315,624**	**$4,297,423**
W96001	Fresh Coast Implementation	$4,022,600	$1,432,633	$1,755,589
W97003	GMRCPP - Greater Milwaukee Regional Conservation Partnership Prograr	$1,427,662	$1,682,991	$1,341,834
W97004	Greenseams Phase 2	$704,389	$1,200,000	$1,200,000
Inflation		**$0**	**$0**	**$0**
W99002	Inflation	$0	$0	$0

2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	Future Forecast	Total	Project Number
$11,703,572	**$13,075,881**	**$18,719,981**	**$22,051,426**	**$18,295,312**	**$231,615,000**	**$373,980,250**	
$9,168,207	**$7,272,661**	**$9,689,251**	**$12,347,436**	**$9,508,946**	**$105,736,023**	**$207,523,569**	
$305,258	$51,035	$51,035	$51,035	$22,116	$0	$35,162,281	W40002
$0	$0	$0	$0	$0	$13,207,989	$14,100,860	W40007
$0	$0	$0	$0	$0	$0	$5,729,894	W40008
$3,746,811	$3,888,704	$3,842,386	$3,923,989	$1,970,166	$21,107,941	$44,829,272	W40009
$1,102	$190,701	$900,012	$741,610	$0	$0	$4,535,501	W40010
$0	$0	$0	$0	$43,295	$18,186,856	$18,646,148	W40011
$2,110,941	$2,254,440	$2,163,351	$3,233,249	$3,233,249	$31,418,139	$45,837,728	W40012
$884,244	$887,781	$2,732,467	$4,397,553	$4,108,968	$19,492,956	$32,503,969	W40013
$0	$0	$0	$0	$131,153	$2,322,142	$2,453,295	W40014
$2,119,851	$0	$0	$0	$0	$0	$3,724,621	W40016
$94,867	**$49,191**	**$315,321**	**$485,501**	**$1,565,098**	**$11,875,045**	**$15,448,549**	
$81,227	$38,664	$315,321	$485,501	$1,565,098	$11,875,045	$14,807,870	W41001
$13,640	$10,527	$0	$0	$0	$0	$640,679	W41003
$1,200,685	**$1,286,741**	**$4,576,619**	**$4,645,233**	**$352,833**	**$16,107,332**	**$28,234,580**	
$1,200,685	$1,286,741	$4,576,619	$4,645,233	$352,833	$16,107,332	$28,234,580	W42003
$0	**$0**	**$0**	**$0**	**$0**	**$3,712,706**	**$3,712,706**	
$0	$0	$0	$0	$0	$3,712,706	$3,712,706	W43003
$1,239,813	**$4,467,288**	**$4,138,790**	**$4,573,256**	**$6,868,435**	**$94,183,894**	**$119,060,847**	
$1,239,813	$4,467,288	$4,138,790	$4,143,741	$4,213,321	$8,319,568	$30,111,892	W45002
$0	$0	$0	$0	$1,302,143	$40,601,349	$41,903,492	W45003
$0	$0	$0	$0	$0	$8,966,688	$8,966,688	W45004
$0	$0	$0	$429,515	$1,352,971	$36,296,289	$38,078,775	W45005
$38,786	**$21,538**	**$11,235**	**$8,773**	**$3,961**	**$5,585,625**	**$8,715,487**	
$38,786	**$21,538**	**$11,235**	**$8,773**	**$3,961**	**$5,585,625**	**$8,715,487**	
$8,980	$8,985	$8,949	$8,773	$3,961	$5,585,625	$8,372,091	W50005
$29,806	$12,553	$2,286	$0	$0	$0	$343,396	W50006
$70,619	**$14,776**	**$0**	**$0**	**$0**	**$0**	**$119,060**	
$70,619	**$14,776**	**$0**	**$0**	**$0**	**$0**	**$119,060**	
$70,619	$14,776	$0	$0	$0	$0	$119,060	W61002
$2,299,486	**$2,644,075**	**$3,345,775**	**$3,987,759**	**$4,215,366**	**$0**	**$34,014,101**	
$13,191	**$13,244**	**$3,425**	**$10**	**$0**	**$0**	**$2,783,814**	
$13,191	$13,244	$3,425	$10	$0	$0	$2,783,814	W91001
$1,743,723	**$1,200,000**	**$1,200,000**	**$1,200,000**	**$1,200,000**	**$0**	**$21,311,421**	
$2,295	$0	$0	$0	$0	$0	$7,213,117	W96001
$541,428	$0	$0	$0	$0	$0	$4,993,915	W97003
$1,200,000	$1,200,000	$1,200,000	$1,200,000	$1,200,000	$0	$9,104,389	W97004
$542,572	**$1,430,831**	**$2,142,350**	**$2,787,749**	**$3,015,366**	**$0**	**$9,918,866**	
$542,572	$1,430,831	$2,142,350	$2,787,749	$3,015,366	$0	$9,918,866	W99002

		Prior	2019 Estimate	2020 Budget
Other Projects		**$98,039,605**	**$19,190,253**	**$34,991,690**
Green Infrastructure		**$3,058,772**	**$1,218,828**	**$14,017,591**
G98002	Fresh Coast Green Solutions Phase 2	$299,156	$582,262	$744,881
G98004	Fresh Coast Implementation Phase 2	$125,956	$280,025	$1,881,156
G98005	Green Solutions Phase 2 (formerly M10002)	$2,633,660	$321,311	$10,000,000
G98011	Alternative Project Delivery / Community-Based GI	$0	$0	$879,521
G98012	Urban Tree System to Address Climate Change	$0	$0	$721
G98013	National Fish & Wildlife Foundation Funding Partnership	$0	$0	$441,042
G98015	USACE GI Combined Sewer Service Area Plan	$0	$35,230	$70,270
Facilities Planning		**$91,741,735**	**$10,253,328**	**$8,314,459**
Facilities Improvements		**$2,772,208**	**$2,663,493**	**$3,886,875**
M01007	KK River Flushing Station Improvements	$597,657	$0	$0
M01023	Wharf Wall Improvements	$1,602,672	$13,121	$5,164
M01026	HQ & Lab Heat & Power Generation System	$154,731	$11,266	$0
M01029	HQ Wharf Wall System Restoration	$229,212	$368,335	$1,485,131
M01032	N. 44th Street Property Restoration (Miller Park Area)	$59,420	$243,101	$156,654
M01033	4044 N. 31st Street Demolition/Deconstruction	$128,516	$924,959	$13,017
M01034	HQ Parking Lot Solar Powered Electric Vehicle Charging Stations	$0	$72,063	$602,749
M01037	HQ and Lab Facility Improvements	$0	$960,110	$1,240,000
M01038	Water Quality Equipment Procurement	$0	$0	$294,000
M01040	13th Street Upgrades	$0	$70,538	$90,160
2020 Facilities Planning		**$29,451,689**	**($17,154)**	**$0**
M03016	Post 2020 FP Implementation Evaluation & Planning	$29,451,689	($17,154)	$0
Continuous Facilities Planning		**$39,836,331**	**$5,975,832**	**$2,755,100**
M03029	Water Quality Studies	$5,721,567	$161,209	$13,387
M03036	Continuous Water Quality Monitoring Stations	$318,570	$678	$0
M03043	Greenhouse Gas Planning Study	$1,454,590	$8,103	$0
M03044	I/I Reduction on Private Property Phase II	$21,899,580	($126,159)	$0
M03051	Alternative Energy Planning	$384,622	$74,870	$44,971
M03059	TMDL Studies	$2,205,335	$515,641	$121,908
M03076	Green Solutions for Separate Infrastructure & Sewers	$3,365,889	$3,246,118	$0
M03088	Corridor Study, Phase 5	$1,023,930	$255,170	$459,449
M03091	Ad Hoc Water Quality Studies 2017-2021	$91,979	$92,928	$166,142
M03092	2050 Facility Plan's Regional Resiliency Plan	$742,117	$45,397	$0
M03098	Monitoring for Capital Project Development and Support	$2,560,480	$1,439,805	$1,496,965
M03102	Biosolids Advanced Facility Planning	$67,672	$262,072	$452,278
2050 Facilities Planning		**$8,944,347**	**$1,631,157**	**$1,672,484**
M03037	2050 Facilities Planning - Ultimate Build-out	$8,944,347	$1,631,157	$1,672,484
Capital Reimbursement Programs		**$9,877,342**	**$3,799,052**	**$6,049,032**
M03064	Fresh Coast Green Solutions	$6,031,127	$306,453	$0
M10003	PPI/I Phase 2	$3,237,945	$2,815,246	$5,000,000
M10004	PPI/I Implementation Phase 2 (Labor)	$608,270	$677,353	$1,049,032
M10005	Post 2050 FP PP/II Approach	$0	$0	$0
M10006	PPII Research and Development	$0	$0	$0
Workforce & Business Development Resource Program		**$0**	**$500,000**	**$500,000**
M04002	WDTP 2017 - 2022	$0	$500,000	$500,000
Financial Planning		**$859,818**	**$230,418**	**$330,863**
M07002	Financial Planning 2017 - 2022	$859,818	$230,418	$330,863
Risk Management		**$1,693,348**	**$787,567**	**$968,159**
M09002	Risk Management Program	$1,693,348	$787,567	$968,159
General Other Projects		**$1,545,750**	**$2,401,060**	**$4,811,586**
Information Technology Improvements		**$1,545,750**	**$841,596**	**$3,000,000**
M06011	Information Technology Software Systems	$414,674	$400,000	$0
M06013	Capital Program Management System	$1,131,076	$441,596	$0
M06016	Enterprise Resource Management System Implementation	$0	$0	$3,000,000
Allowance		**$0**	**$1,509,464**	**$1,761,586**
M99001	Allowance for Cost & Schedule Changes (M999)	$0	$1,509,464	$1,761,586
General		**$0**	**$50,000**	**$50,000**
M99002	Operator Contribution to CIP	$0	$50,000	$50,000
Inflation		**$0**	**$0**	**$0**
M99003	Inflation	$0	$0	$0

2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	Future Forecast	Total	Project Number
$29,236,155	**$38,418,110**	**$35,970,091**	**$27,284,443**	**$23,650,868**	**$24,734,866**	**$331,516,081**	
$11,931,997	**$19,852,305**	**$14,714,932**	**$7,923,823**	**$5,444,300**	**$643,536**	**$78,806,084**	
$580,320	$596,915	$225,671	$0	$0	$0	$3,029,205	G98002
$3,521,802	$3,099,241	$3,098,846	$2,878,301	$0	$0	$14,885,327	G98004
$5,000,000	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$87,995	$38,042,966	G98005
$1,226,699	$10,524,831	$6,348,980	$20,128	$444,300	$555,541	$20,000,000	G98011
$503,256	$93,116	$3,369	$0	$0	$0	$600,462	G98012
$429,376	$408,746	$38,065	$25,394	$0	$0	$1,342,624	G98013
$670,544	$129,456	$0	$0	$0	$0	$905,500	G98015
$5,254,498	**$5,298,442**	**$4,503,248**	**$3,007,408**	**$3,186,377**	**$9,250,266**	**$130,072,601**	
$2,023,524	**$2,892,794**	**$1,830,757**	**$470,352**	**$1,406,037**	**$9,250,135**	**$27,196,175**	
$695,559	$2,285,455	$1,286,967	$436,292	$1,372,086	$9,191,973	$15,865,989	M01007
$35	$0	$0	$0	$0	$0	$1,620,992	M01023
$0	$0	$0	$0	$0	$0	$165,997	M01026
$11,790	$0	$0	$0	$0	$0	$2,094,468	M01029
$988,523	$592,339	$33,790	$34,060	$33,951	$58,162	$2,200,000	M01032
$0	$0	$0	$0	$0	$0	$1,066,492	M01033
$1,096	$0	$0	$0	$0	$0	$675,908	M01034
$319,000	$15,000	$510,000	$0	$0	$0	$3,044,110	M01037
$0	$0	$0	$0	$0	$0	$294,000	M01038
$7,521	$0	$0	$0	$0	$0	$168,219	M01040
$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$29,434,535**	
$0	$0	$0	$0	$0	$0	$29,434,535	M03016
$2,673,112	**$2,405,648**	**$2,672,491**	**$2,537,056**	**$1,780,340**	**$131**	**$60,636,041**	
$147	$0	$0	$0	$0	$0	$5,896,310	M03029
$0	$0	$0	$0	$0	$0	$319,248	M03036
$0	$0	$0	$0	$0	$0	$1,462,693	M03043
$0	$0	$8	$0	$0	$0	$21,773,429	M03044
$0	$0	$0	$0	$0	$0	$504,463	M03051
$0	$0	$0	$0	$0	$0	$2,842,884	M03059
$0	$0	$0	$0	$0	$0	$6,612,007	M03076
$455,803	$224,255	$0	$0	$0	$0	$2,418,607	M03088
$81,521	$44,939	$547,742	$467,092	$0	$0	$1,492,343	M03091
$0	$0	$0	$0	$0	$0	$787,514	M03092
$2,135,641	$2,136,454	$2,124,741	$2,069,964	$1,780,340	$131	$15,744,521	M03098
$0	$0	$0	$0	$0	$0	$782,022	M03102
$557,862	**$0**	**$0**	**$0**	**$0**	**$0**	**$12,805,850**	
$557,862	$0	$0	$0	$0	$0	$12,805,850	M03037
$6,246,182	**$7,490,128**	**$11,114,338**	**$10,805,057**	**$10,664,610**	**$14,841,064**	**$80,886,806**	
$0	$0	$0	$0	$0	$0	$6,337,580	M03064
$5,000,000	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$0	$36,053,191	M10003
$877,522	$805,769	$623,746	$187,947	$106,180	$23,270	$4,959,089	M10004
$4	$1,351,230	$5,004,850	$5,022,054	$4,998,963	$13,622,900	$30,000,000	M10005
$368,656	$333,129	$485,743	$595,057	$559,467	$1,194,895	$3,536,946	M10006
$500,000	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$0**	**$3,500,000**	
$500,000	$500,000	$500,000	$500,000	$500,000	$0	$3,500,000	M04002
$181,383	**$330,541**	**$180,755**	**$330,154**	**$273**	**$0**	**$2,444,205**	
$181,383	$330,541	$180,755	$330,154	$273	$0	$2,444,205	M07002
$937,720	**$823,188**	**$789,043**	**$820,695**	**$67,573**	**$0**	**$6,887,293**	
$937,720	$823,188	$789,043	$820,695	$67,573	$0	$6,887,293	M09002
$4,184,374	**$4,123,507**	**$4,167,775**	**$3,897,305**	**$3,787,735**	**$0**	**$28,919,092**	
$1,500,000	**$500,000**	**$0**	**$0**	**$0**	**$0**	**$7,387,346**	
$0	$0	$0	$0	$0	$0	$814,674	M06011
$0	$0	$0	$0	$0	$0	$1,572,672	M06013
$1,500,000	$500,000	$0	$0	$0	$0	$5,000,000	M06016
$2,061,116	**$2,081,684**	**$2,043,104**	**$1,769,470**	**$1,558,187**	**$0**	**$12,784,612**	
$2,061,116	$2,081,684	$2,043,104	$1,769,470	$1,558,187	$0	$12,784,612	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
$573,258	**$1,491,822**	**$2,074,671**	**$2,077,835**	**$2,229,548**	**$0**	**$8,447,134**	
$573,258	$1,491,822	$2,074,671	$2,077,835	$2,229,548	$0	$8,447,134	M99003