

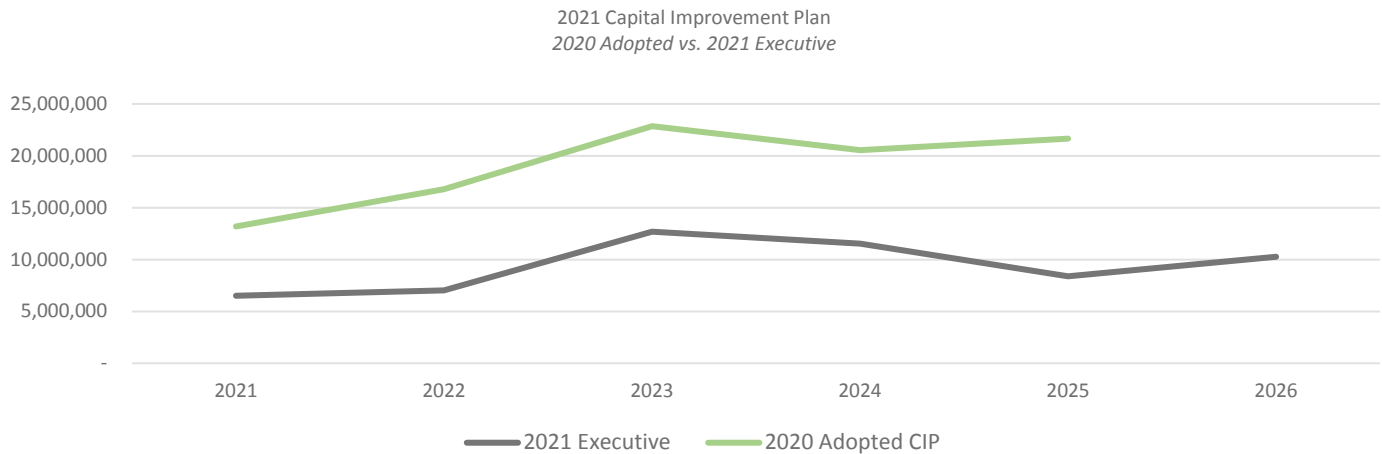
Water Utility

Capital Improvement Plan

Project Summary: Executive Budget

	2021	2022	2023	2024	2025	2026
Booster Pump Station #213 Lakeview Reconstruct	-	-	-	188,000	1,161,000	-
Chlorinators & Florinators	31,000	35,000	35,000	40,000	40,000	41,000
Unit Well #15	122,000	-	-	-	-	-
Unit Well #8 Reconstruction	120,000	-	-	88,000	1,778,000	2,292,000
Unit Well 12 Conversion	-	-	263,000	3,754,000	41,000	-
Unit Well Rehab Program	240,000	330,000	247,000	340,000	254,000	350,000
UW#23 Abandonment	50,000	-	-	-	-	-
Water Hydrants Program	350,000	350,000	350,000	350,000	350,000	350,000
Water Mains - New	152,000	159,000	166,000	1,429,000	178,000	185,000
Water Mains - Pavement Mgt	1,208,000	1,586,000	1,286,000	335,000	362,000	378,000
Water Mains - Pipe Lining	1,110,000	983,000	1,111,000	1,036,000	1,077,000	1,419,000
Water Mains- Reconstruct Streets	1,848,000	392,000	593,000	1,662,000	1,169,000	2,917,000
Water Meter & Fixed Network Prg	500,000	513,000	526,000	539,000	552,000	566,000
Water Utility Facility Improvements	417,000	1,167,000	1,152,000	1,119,000	1,153,000	1,187,000
Water Utility Vehicles & Equipment	344,000	521,000	246,000	539,000	256,000	557,000
Water Valve Cut-In Program	16,000	16,000	17,000	18,000	19,000	20,000
Well 14 Mitigation	-	82,000	-	-	-	-
Well 19 Iron and Manganese Filter	-	891,000	6,691,000	81,000	-	-
Total	\$ 6,508,000	\$ 7,025,000	\$ 12,683,000	\$ 11,518,000	\$ 8,390,000	\$ 10,262,000

Changes from 2020 CIP



Major Changes

- **Booster Pump Station #213 Lakeview Reconstruction**
Project moved from 2025/26 to 2024/25
- **Unit Well #15**
Project moved from 2021-2025 to 2021
- **Unit Well #8 Reconstruction**
Project budget increased to include full project scope in the CIP (\$4.2m)
Project moved from 2025 to 2021 and 2023-2026
- **UW#23 Abandonment**
Project added to CIP in 2021 (\$50k)
- **Water Utility Facility Improvements**
Program budget increased in 2022-2025 based on scheduled facility improvements (\$2.0m)
- **Well 14 Mitigation**
Project moved from 2021 to 2022

- Well 19 Iron and Manganese Filter
Project moved from 2021-2023 to 2022-2024
- Program Budget Reductions
Various program budgets reduced across CIP based on goals outlined in financial plan submitted to Public Service Commission
Program budgets reduced include: Water Hydrants (\$1.3m), New Water Mains (\$12.2m), Water Main Replacements (\$12.4m), Water Main Pipe Lining (\$4.3m), Fixed Network (\$873k), and Vehicle & Equipment Purchases (\$1.5m)

Water Utility

Budget Overview

2021 CIP by Expenditure Type

	2021	2022	2023	2024	2025	2026
Building	342,000	1,770,000	7,775,000	4,956,000	2,576,000	897,000
Land	-	-	-	-	200,000	-
Machinery and Equipment	1,432,000	1,769,000	1,385,000	1,732,000	2,459,000	1,804,000
Water Network	4,734,000	3,486,000	3,523,000	4,830,000	3,155,000	7,561,000
Total	\$ 6,508,000	\$ 7,025,000	\$ 12,683,000	\$ 11,518,000	\$ 8,390,000	\$ 10,262,000

2021 CIP by Funding Source

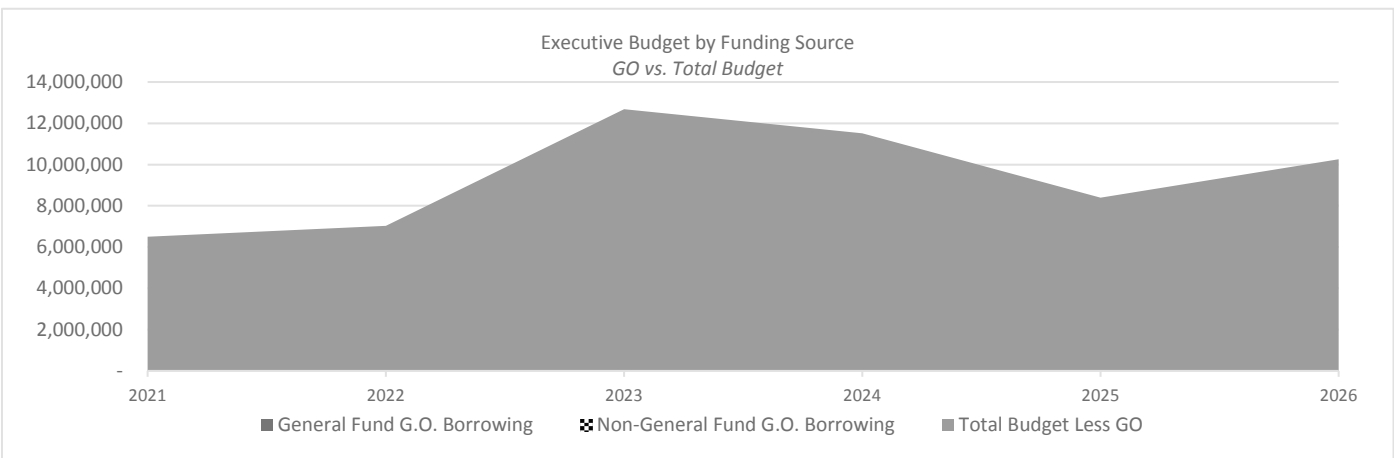
	2021	2022	2023	2024	2025	2026
Reserves Applied	1,948,000	2,932,000	2,573,000	2,945,000	2,624,000	3,071,000
Revenue Bonds	4,560,000	4,093,000	10,110,000	8,573,000	5,766,000	7,191,000
Total	\$ 6,508,000	\$ 7,025,000	\$ 12,683,000	\$ 11,518,000	\$ 8,390,000	\$ 10,262,000

Borrowing Summary

	2021	2022	2023	2024	2025	2026
Borrowing Schedule						
General Fund G.O. Borrowing	-	-	-	-	-	-
Non-General Fund G.O. Borrowing	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Annual Debt Service

General Fund G.O. Borrowing	-	-	-	-	-	-
Non-General Fund G.O. Borrowing	-	-	-	-	-	-



Water Utility

Project Overview

Project	Booster Pump Station #213 Lakeview Reconstruction	Project #	12441
Citywide Element	Green and Resilient	Project Type	Project

Project Description

This project is for reconstructing the Lake View Booster Pumping Station on Madison's north side. The goal of the project is to meet fire fighting requirements and expansion in Zone 5. The project's scope includes adding a generator to ensure reliability of the pumping station in the event of a power outage and increasing pump capacity to 1,200 gallons per minute. Design is scheduled for 2024; construction is planned for 2025.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	-	-	-	188,000	1,161,000	-
TOTAL	\$ -	\$ -	\$ -	\$ 188,000	\$ 1,161,000	\$ -

Project	Chlorinators & Florinators Program	Project #	12386
Citywide Element	Green and Resilient	Project Type	Program

Project Description

This program maintains the City's chlorinator and florinator equipment. The goal of this program is to reduce failures and service interruptions for safe and reliable water. Projects funded in this program rebuild and replace chlorinator and florinator equipment on a 10-year replacement cycle. Specific projects for 2021 have not been identified.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Reserves Applied	31,000	35,000	35,000	40,000	40,000	41,000
TOTAL	\$ 31,000	\$ 35,000	\$ 35,000	\$ 40,000	\$ 40,000	\$ 41,000

Project	Unit Well #15	Project #	12443
Citywide Element	Green and Resilient	Project Type	Project

Project Description

This project is for evaluating options and identifying a cost-effective solution to address the east-side water supply issue caused by per- and polyfluoroalkyl substances (PFAS) at Unit Well #15. The goal of the project is to prepare the City to address an emerging water contaminate of public health concern and provide an adequate water supply that achieves water quality objectives. The project's scope includes public engagement, engineering work to evaluate treatment alternatives, and potential mitigation. The project is scheduled for 2021. This project is projected to result in net operating savings of \$22,000 from identifying more cost-effective treatment for PFAS contaminants.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	122,000	-	-	-	-	-
TOTAL	\$ 122,000	\$ -	\$ -	\$ -	\$ -	\$ -

Project	Unit Well #8 Reconstruction	Project #	12440
Citywide Element	Green and Resilient	Project Type	Project

Project Description

This project is for reconstructing Unit Well #8 on Madison's east side. The goal of the project is to reduce iron and manganese levels via filtration upgrades and to expand capacity to a three zone well. The project's scope includes public engagement, property acquisition, and pipeline improvements. A sentinel well will be constructed in 2021; public engagement and property acquisition are planned in 2025; pipeline improvements are planned for 2026.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	120,000	-	-	88,000	1,778,000	2,292,000
TOTAL	\$ 120,000	\$ -	\$ -	\$ 88,000	\$ 1,778,000	\$ 2,292,000

Project	Unit Well 12 Conversion to a Two Zone Well	Project #	10452
Citywide Element	Green and Resilient	Project Type	Project

Project Description

This project is for rebuilding and expanding Well #12 located on South Whitney Way. The goal of the project is to provide water supply capacity to five existing pressure zones that represent the majority of the City's west side. The project's scope will include adding system flexibility that improves service reliability and maximizes water supply. Funding in 2023 is for design; construction is planned for 2024. Ongoing operating costs are estimated to be \$21,000 to support electrical power.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	-	-	263,000	3,754,000	41,000	-
TOTAL	\$ -	\$ -	\$ 263,000	\$ 3,754,000	\$ 41,000	\$ -

Project	Unit Well Rehab Program	Project #	12341
Citywide Element	Green and Resilient	Project Type	Program

Project Description

This program is for the 10-year unit well upgrade projects as recommended by the Wisconsin Department of Natural Resources (WI DNR). The goal of this program is to ensure that all unit wells are functioning at an efficient level and to reduce annual maintenance costs. The project scope includes pulling and inspecting pumps every 10 years. The Water Utility maintains a list of all unit wells and their corresponding maintenance schedule. The unit wells selected for maintenance each year are taken from this list. Funding in 2021 is for unit wells 15, 20, and 24.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Reserves Applied	240,000	330,000	247,000	340,000	254,000	350,000
TOTAL	\$ 240,000	\$ 330,000	\$ 247,000	\$ 340,000	\$ 254,000	\$ 350,000

Project	UW#23 Abandonment	Project #	13063
Citywide Element	Green and Resilient	Project Type	Project

Project Description

This project is for abandoning UW#23. The goal is to safely close an outdated and poorly performing well with poor water quality. The project's scope includes filling and sealing the municipal well in a safe manner while complying with state code. The project is scheduled for 2021.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Reserves Applied	50,000	-	-	-	-	-
TOTAL	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -

Project	Water Hydrants Program	Project #	12385
Citywide Element	Neighborhoods and Housing	Project Type	Program

Project Description

This program is for maintaining the City's network of water hydrants. The goal of this program is to maintain reliable service for fire suppression. Projects funded in this program include replacing, raising, or relocating aging fire hydrants. Specific projects for 2021 are not yet identified.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Reserves Applied	350,000	350,000	350,000	350,000	350,000	350,000
TOTAL	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000

Project	Water Mains - New	Project #	12507
Citywide Element	Green and Resilient	Project Type	Program

Project Description

This program is for installing new water mains throughout the City. The goal of the program is to strengthen and expand the existing distribution system, improve water pressure, improve fire protection, allow transfer of water between pressure zones, and to serve the growing areas of the City. Projects funded in this program include improving water system hydraulics, pressures, fire protection, and supporting ongoing development and water supply/facility improvements. Planned projects in 2021 include hydraulic improvements.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	152,000	159,000	166,000	1,429,000	178,000	185,000
TOTAL	\$ 152,000	\$ 159,000	\$ 166,000	\$ 1,429,000	\$ 178,000	\$ 185,000

Project **Water Mains Replace Rehab Improve - Pavement Management** Project # **11894**
 Citywide Element **Green and Resilient** Project Type **Program**

Project Description

This program is for replacing existing water mains in conjunction with the repaving of roads as part of the City's Engineering-Major Streets Pavement Management program. The goal of the program is to update the water infrastructure and reduce the risk of pipe failure. Projects funded in this program replace or rehabilitate aging pipes to renew and maintain the system. Planned projects in 2021 include: Old Middleton Road/Craig Avenue, West Washington Avenue, Kroenke Drive/Lanett Circle/Tanager Trail, North Brooks Street/Fahrenbrook Court/College Court, and hydraulic improvements.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	1,208,000	1,586,000	1,286,000	335,000	362,000	378,000
TOTAL	\$ 1,208,000	\$ 1,586,000	\$ 1,286,000	\$ 335,000	\$ 362,000	\$ 378,000

Project **Water Mains Replace Rehab Improve - Pipe Lining** Project # **11892**
 Citywide Element **Green and Resilient** Project Type **Program**

Project Description

This program is for cured-in-place-pipe lining (CIPP) to improve the quality of existing pipes in the water network throughout the City. The goal of the program is to lengthen the useful life of pipes at a lower cost than replacing the pipe. Projects funded in this program include lining pipes to rehabilitate existing pipes, as well as funding temporary water service during projects and associated storage. 2021 funding is for rehabilitating approximately 3,100 feet of existing deteriorated water mains.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	1,110,000	983,000	1,111,000	1,036,000	1,077,000	1,419,000
TOTAL	\$ 1,110,000	\$ 983,000	\$ 1,111,000	\$ 1,036,000	\$ 1,077,000	\$ 1,419,000

Project **Water Mains Replace Rehab Improve - Reconstruct Streets** Project # **11893**
 Citywide Element **Green and Resilient** Project Type **Program**

Project Description

This program is for replacing existing water mains in conjunction with the reconstruction of roads as part of the City's Engineering-Major Streets Reconstruct Streets program. The goal of the program is to update the water infrastructure and diminish the risk of pipe failure. Projects funded in this program rehabilitate or replace existing pipes under the City's streets. Planned projects in 2021 include: Helena/Russell/Jenifer Streets, Starkweather Drive, Hill Crest Drive/Standish Court/Alden Drive, Davies Street/Major Avenue/Dempsey Road/Maher Avenue, Pontiac Trail/Nokomis Court/Rosewood Circle/Boston Court, and hydraulic improvements.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	1,848,000	392,000	593,000	1,662,000	1,169,000	2,917,000
TOTAL	\$ 1,848,000	\$ 392,000	\$ 593,000	\$ 1,662,000	\$ 1,169,000	\$ 2,917,000

Project	Water Meter and Fixed Network Program	Project #	12340
Citywide Element	Green and Resilient	Project Type	Program

Project Description

This program is for the water meter and fixed network advanced metering infrastructure (AMI) improvements. The goal of the program is to maximize the accuracy of the municipal services statements issued to customers. This project funds testing and replacement of water meters on the Public Service Commission's prescribed 20-year schedule. Funding in 2021 is to replace a portion of meters based on the citywide replacement schedule.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Reserves Applied	500,000	513,000	526,000	539,000	552,000	566,000
TOTAL	\$ 500,000	\$ 513,000	\$ 526,000	\$ 539,000	\$ 552,000	\$ 566,000

Project	Water Utility Facility Improvements	Project #	10440
Citywide Element	Green and Resilient	Project Type	Program

Project Description

This program is for repairing and upgrading Water Utility facilities. The goal of the program is to maintain the facilities for reliable service and reducing emergency repairs. Projects funded in this program include building, mechanical, and safety upgrades. Funding in 2021 is for SCADA system upgrades and expansion, fiber optic installation and upgrade, deep well variable frequency drive (VFD) installs, facility safety and security upgrades, and other miscellaneous upgrades.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Reserves Applied	417,000	1,167,000	1,152,000	1,119,000	1,153,000	1,187,000
TOTAL	\$ 417,000	\$ 1,167,000	\$ 1,152,000	\$ 1,119,000	\$ 1,153,000	\$ 1,187,000

Project	Water Utility Vehicles & Equipment	Project #	12339
Citywide Element	Green and Resilient	Project Type	Program

Project Description

This program is for the Water Utility's annual vehicle and equipment replacements and additions. The goal of this program is to provide reliable vehicles and equipment for Water Utility's operations. Replacement schedules are based on age and mileage of the vehicles and equipment. Projects funded in this program range from upgrades of electrical vehicles to purchasing updated equipment to support Water Utility services. In 2021, funds will be used to purchase four new vehicles, a new towable lift, and other various tools and equipment, as well as to modernize mapping and service equipment.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Reserves Applied	344,000	521,000	246,000	539,000	256,000	557,000
TOTAL	\$ 344,000	\$ 521,000	\$ 246,000	\$ 539,000	\$ 256,000	\$ 557,000

Project	Water Valve Cut-In Program	Project #	12387
Citywide Element	Green and Resilient	Project Type	Program

Project Description

This program is for installing new valve cut-ins to the existing water infrastructure. The goal of this program is to eliminate areas of the city where water service is negatively impacted during water system maintenance and repair. Specific projects for 2021 have not been identified.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Reserves Applied	16,000	16,000	17,000	18,000	19,000	20,000
TOTAL	\$ 16,000	\$ 16,000	\$ 17,000	\$ 18,000	\$ 19,000	\$ 20,000

Project	Well 14 Mitigation	Project #	11900
Citywide Element	Green and Resilient	Project Type	Project

Project Description

This project is for studying potential improvements to Well 14 on University Avenue near Spring Harbor on the City's west side. The goal of this project is to determine the source of increasing chloride concentration levels at Well 14 and improvements that may mitigate these increases. The project's scope includes public engagement and engineering costs to study the increasing salt levels in 2022. Ongoing operating costs are estimated to be \$250,000 annually for a 0.5 FTE and utility costs.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	-	82,000	-	-	-	-
TOTAL	\$ -	\$ 82,000	\$ -	\$ -	\$ -	\$ -

Project	Well 19 Iron and Manganese Filter	Project #	10448
Citywide Element	Green and Resilient	Project Type	Project

Project Description

This project is for a new iron, manganese, and radium treatment system at Well 19 located on Lake Mendota Drive on the City's west side. The goal of this project is to improve water quality in the area. The project's scope includes a full system replacement that can meet water quality standards. Funding in 2022 is for public engagement; construction is planned 2023. Ongoing operating costs are projected to be \$31,000 for power and water treatment chemicals, as well as \$8,700 for an existing staff position.

Project Budget by Funding Source

	2021	2022	2023	2024	2025	2026
Revenue Bonds	-	891,000	6,691,000	81,000	-	-
TOTAL	\$ -	\$ 891,000	\$ 6,691,000	\$ 81,000	\$ -	\$ -

Water Utility

2021 Appropriation Schedule

2021 Appropriation

Executive Budget

	Request	GO Borrowing	Other	Total
Chlorinators & Florinators Program	31,000	-	31,000	31,000
Unit Well #15	122,000	-	122,000	122,000
Unit Well #8 Reconstruction	120,000	-	120,000	120,000
Unit Well Rehab Program	240,000	-	240,000	240,000
UW#23 Abandonment	50,000	-	50,000	50,000
Water Hydrants Program	350,000	-	350,000	350,000
Water Mains - New	152,000	-	152,000	152,000
Water Mains Replace Rehab Improve - Pavement Management	1,208,000	-	1,208,000	1,208,000
Water Mains Replace Rehab Improve - Pipe Lining	1,110,000	-	1,110,000	1,110,000
Water Mains Replace Rehab Improve - Reconstruct Streets	1,848,000	-	1,848,000	1,848,000
Water Meter and Fixed Network Program	500,000	-	500,000	500,000
Water Utility Facility Improvements	417,000	-	417,000	417,000
Water Utility Vehicles & Equipment	344,000	-	344,000	344,000
Water Valve Cut-In Program	16,000	-	16,000	16,000
Total 2021 Appropriation	\$ 6,508,000	\$ -	\$ 6,508,000	\$ 6,508,000