

Program 8078 Regional Plant Improvements

Aerial view of the Rogers Wastewater Treatment Facility acquired by MCES in 2018

Description:

This program provides funding to address capital improvements at 8 regional wastewater treatment plants (WWTPs).

Purpose and Justification:

The program provides for implementation of improvement and renewal projects for components and systems at the regional plants. These projects are outside of the realm of major plant expansion. The projects may also be in response to items that were not fully optimized in other major regional plant rehabilitation/renewal projects.

Program Location:

The active projects within this program are in the following Council Districts: 1, 4, 9, 12, 15 & 16

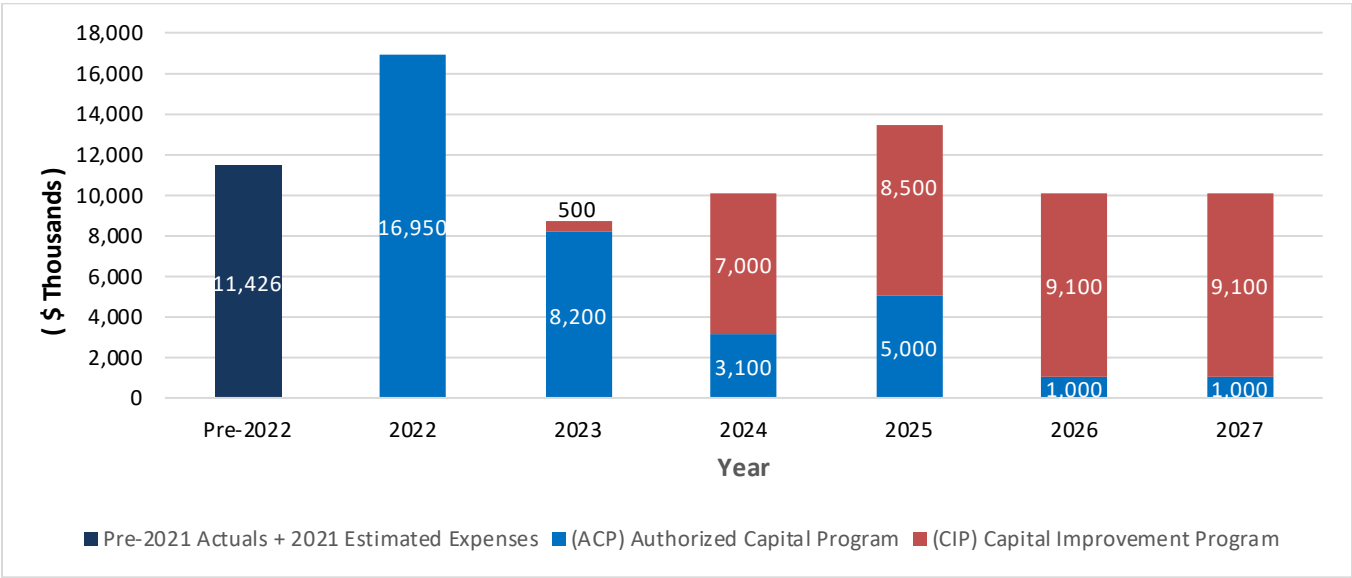
Active Projects in Program:

Project Number	Project Title
807802	Regional Plant Improvements (Parent Project)
807803	Blue Lake Administration Building
807805	East Bethel WRP Improvements
807818	Hastings WWTP Condition Assessment
807826	Empire WWTP Arc Flash Improvements
807857	Fridley Liquid Waste Receiving Improvements
807858	Blue Lake FSF and Solids Renewal
807865	Treatment Plant PLC Renewal
807899	Regional Plant Planning

MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) \$46,676,000	Capital Improvement Plan (CIP) \$34,200,000
--	--

Estimated Program Cash Flow 2022 - 2027:



Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.

Program Family: 8078
Project # 807803

Blue Lake WWTP Administration Building

Project Location:
Council District # 4
City of Shakopee
Blue lake WWTP



Blue Lake WWTP Administration Building

PROJECT TYPE:	Plant Improvements
OBJECTIVES:	Preservation and Expansion
CUSTOMER LEVEL OF SERVICE:	Engage Customers
SCOPE:	Perform building assessments, modify space or construct an addition to the Administration building to better accommodate staff, education and training.
PROJECT NEED:	The Administration Building is not well-suited for meetings and school field trips. The Administration building needs restroom, HVAC, and ADA accessibility improvements based on intended use.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow	Current ACP	2022 – 2027 Cash Flow	Total Project Cost
\$0	\$0	\$10,000,000	\$10,000,000

Program Family: 8078
Project # 807805

East Bethel WRP Improvements

Project Location:
Council District # 9
City of East Bethel
East Bethel WWTP



East Bethel Water Reclamation Plant

PROJECT TYPE:	Plant Improvements
OBJECTIVES:	Improvement
CUSTOMER LEVEL OF SERVICE:	Lead by Example
SCOPE:	Modify the piping to adjust to start up flows and increasing flows over time. Study and demonstrate different disinfection methods and equipment for use at future reclamation plants in the region.
PROJECT NEED:	East Bethel is the first water reclamation plant (WRP) in the MCES service area. The plant was brought online in 2014 as a demonstration plant for water reuse in the metro area at 7% of design flow. Adjustments are required to accommodate increasing flows as new connections are made. MCES is also working to achieve high effluent quality for a variety of potential reclaimed uses.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$200,000	Current ACP \$940,589	2022– 2027 Cash Flow \$200,000	Total Project Cost \$940,589
------------------------------------	---------------------------------	--	--

Program Family: 8078
Project # 807818

Hastings WWTP Condition Assessment

Project Location:
Council District # 16
City of Hastings
Hastings WWTP



PROJECT TYPE:	Plant Improvements
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Optimize Budget Plan and Be Fair & Transparent
SCOPE:	A condition assessment of the existing Hastings WWTP was completed. A modest renewal project is planned to support existing facilities until the proposed new WWTP can be constructed at a location outside of downtown Hastings.
PROJECT NEED:	The Hastings plant was originally built in 1952, with expansions in 1967 and 1981. MCES will continue to preserve the plant until the new facility is constructed.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$2,500,000	Current ACP \$5,130,766	2022 – 2027 Cash Flow \$2,500,000	Total Project Cost \$5,130,766
--------------------------------------	-----------------------------------	---	--

Program Family: 8078
Project # 807826

Empire WWTP Arc Flash Improvements Phase 1

Project Location:
Council District # 16
Empire Township
Empire WWTP



PROJECT TYPE:	Plant Improvements
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Minimize Impacts and Preserve Assets
SCOPE:	Replace obsolete electrical equipment and construct improvements to mitigate arc flash.
PROJECT NEED:	Motor Control Centers in the sludge pumping building are obsolete and require replacement. MCES routinely evaluates arc flash potential for all its facilities. Where possible, MCES constructs improvements to minimize impacts and reduce risk of arc flash to its maintenance personnel.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$1,000,000	Current ACP \$2,419,844	2022 – 2027 Cash Flow \$1,000,000	Total Project Cost \$2,419,844
-------------------------------	----------------------------	--------------------------------------	-----------------------------------

Program Family: 8078
Project # 807857

Fridley Liquid Waste Receiving Station

Project Location:

Council District # 2

City of Fridley

Fridley Liquid Waste
Receiving Station



Fridley Liquid Waste Receiving Station

PROJECT TYPE:	Treatment Plant / Interceptor
OBJECTIVES:	Improvement
CUSTOMER LEVEL OF SERVICE:	Lead by Example and Be A Good Neighbor
SCOPE:	This project will address minor process concerns with liquid waste receiving at the MCES Fridley Liquid Waste Receiving Station and implement upgrades necessary to use it as a maintenance facility for Interceptor Services staff. The facility will also include space for ES Construction staff working in the north area.
PROJECT NEED:	The Fridley Liquid Waste Receiving Station was acquired by MCES in 2009 and requires improvements for hauler loadout and liquid waste receiving. Additionally, the maintenance facility in Mounds View is not adequate for current operations. The Fridley site is ideally placed in the center of the northern service area and has available space to accommodate operations, maintenance and construction services needs.

PROJECT SCHEDULE



Planning

2021-2022



Design

2020-2022



Construction

2023-2025

FINANCIAL ANALYSIS

2022 Cash Flow \$250,000	Current ACP \$293,657	2022 – 2027 Cash Flow \$2,750,000	Total Project Cost \$2,793,657
-----------------------------	--------------------------	--------------------------------------	-----------------------------------

Program Family: 8078
Project # 807858

Blue Lake FSF and Solids Renewal

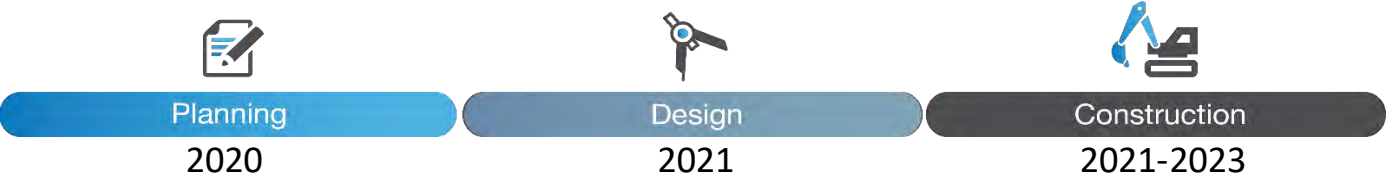
Project Location:
Council District # 4
City of Shakopee
Location:
Blue Lake WWTP



Existing Regenerative Thermal Oxidizer

PROJECT TYPE:	Plant Improvements
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Preserve Assets
SCOPE:	The Blue Lake WWTP Solids Process has a few select items that need to be rehabilitated in the next 1-2 years. These items include: RTO emissions control system, the digester gas storage tank membrane, the mixing conveyor, WAS discharge valves, process piping and the associated electrical support systems.
PROJECT NEED:	Blue Lake has completed a Facility Plan for large Solids Processing Improvements and Expansions. Most of the current solids train will reach end of life at 2030. Auxiliary and the pollution control systems need to be rehabilitated to keep the entire system operational until the expansion project.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$2,600,000	Current ACP \$6,200,000	2022 – 2027 Cash Flow \$5,200,000	Total Project Cost \$6,200,000
-------------------------------	----------------------------	--------------------------------------	-----------------------------------

Program Family: 8078
Project # 807865

Treatment Plant PLC Renewal

Project Location:
Council District:
Regional Project



Typical PLC (Programmable Logic Controller)

PROJECT TYPE:	Plant Improvements
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Preserve Assets
SCOPE:	Replace out-of-date process control systems at Regional Wastewater Treatment Plants.
PROJECT NEED:	Key elements in the process control system for regional wastewater treatment plants are out-of-date and in need of replacement in order to continue to provide reliable treatment plant process control.

PROJECT SCHEDULE



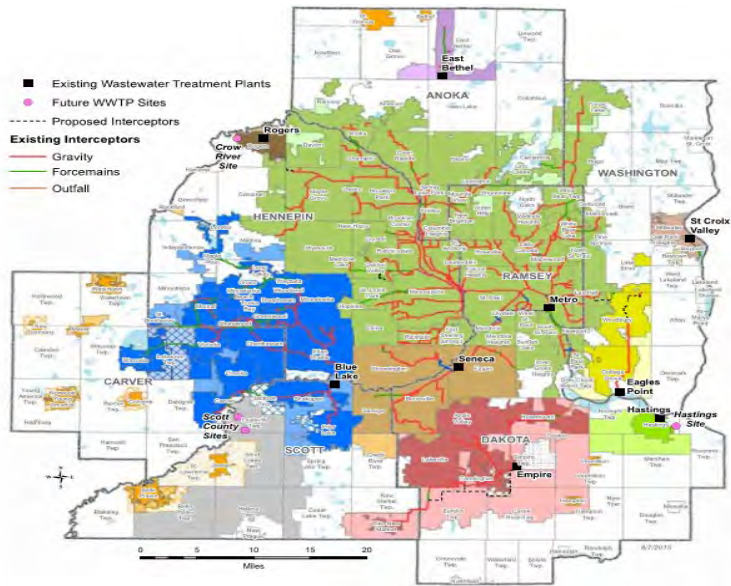
FINANCIAL ANALYSIS

2022 Cash Flow	Current ACP	2022 – 2027 Cash Flow	Total Project Cost
\$500,000	\$5,500,000	\$5,500,000	\$10,200,000

Program Family: 8078
Project # 807899

Regional Plant Planning

Project Location:
Regional



Long Term Service Area Map

PROJECT TYPE:	Plant Improvements
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Preserve Assets
SCOPE:	Current planning activities include the following: arc flash studies, road condition assessments, sustainable landscape planning, roof condition assessments, and real estate appraisal needs.
PROJECT NEED:	Planning activities are needed to identify near-term (less than 10 years) regional Plant capital project needs.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow	Current ACP	2022 – 2027 Cash Flow	Total Project Cost
\$100,000	\$401,258	\$600,000	\$701,258

Program Family: 8078
Project # 8078XX

Blue Lake WWTP Outfall Renewal

Project Location:
Council District # 4
City of Shakopee
Blue lake WWTP



Blue Lake WWTP Outfall



Looking upstream from the outfall

PROJECT TYPE:	Plant Improvements
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Preserve Assets
SCOPE:	Design and construct streambank stabilization around the outfall based on bank erosion monitoring.
PROJECT NEED:	The Blue Lake WWTP outfall pipe ends in the bank of the Minnesota River. The outfall point has been reinforced but the upstream and downstream banks are eroding. The banks need to be reshaped and stabilized before the erosion surpasses the outfall stabilization and erodes farther back under the pipe.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$0	Current ACP \$0	2022 – 2027 Cash Flow \$1,500,000	Total Project Cost \$1,500,000
-----------------------	--------------------	--------------------------------------	-----------------------------------