

## Program 8078 – Regional Plant Improvements



Aerial view of the Rogers Wastewater Treatment Facility acquired by ES 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: All

### Active projects in program

Project Number	Project Title
807803	Blue Lake WWTP Administration Building.
807805	East Bethel WRF Improvements.
807811	St. Croix Valley WWTP HVAC and Gravity Thickener Metals Renewal
807818	Hastings WWTP Aeration and HVAC Renewal
807858	Blue Lake FSF and Solids Renewal.
807863	Rogers WWTF Pond Solids Removal.
807864	Seneca Piping and Site Rehabilitation
807865	Treatment Plant PLC Renewal
807899	Regional Plant Planning

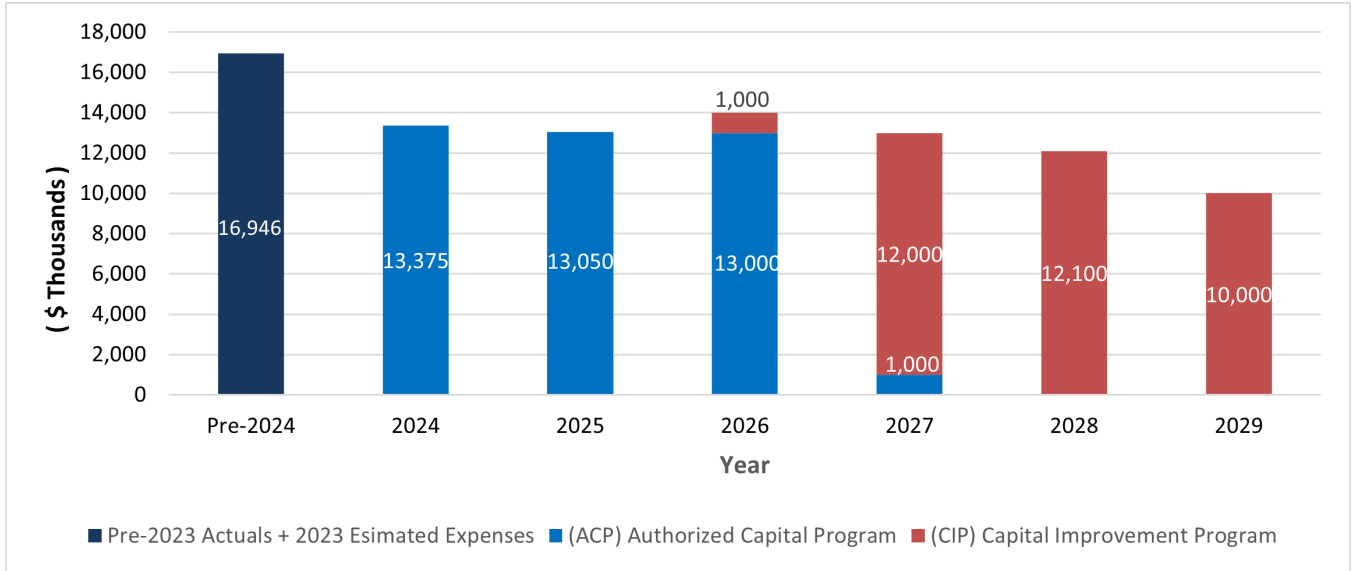
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### Environmental Services 2024 through 2029 Capital Program

- Authorized Capital Program (ACP): \$57,371,950
- Capital Improvement Plan (CIP): \$35,100,000

### Estimated program cash flow from 2024 through 2029

Note: the ACP is the total amount of all past and present authorizations including pre-2024 expenses.



Project location: Council district #4, City of Shakopee, Blue Lake WWTP



**Blue Lake WWTP Administration Building**

**Project type**

Plants

**Objectives**

Asset Preservation, Quality Improvements

**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:**



Planning: 2020 through 2024



Design: 2025 through 2027



Construction: 2027 through 2028

**Financial analysis**

2024 cash flow:	\$0
Current ACP:	\$0
2024 through 2029 cash flow:	\$5,000,000
Total project cost:	\$5,000,000

Project location: Council district #9, City of East Bethel, East Bethel WWTP



East Bethel Water Reclamation Plant

**Project type**  
Plants

**Objectives**  
Quality Improvements

**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 ES 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. ES is also working to achieve high effluent quality for a variety of potential reclaimed uses.

**Project schedule:**



Planning: 2017 through 2019



Design: 2020 through 2023



Construction: 2024 through 2025

**Financial analysis**

2024 cash flow:	\$0
Current ACP:	\$2,137,000
2024 through 2029 cash flow:	\$1,500,000
Total project cost:	\$2,137,000

**St. Croix Valley WWTP HVAC and Gravity Thickener Metals Renewal**  
Program family 8078

**Project #807811**

Project location: Council district #11, City of Stillwater, St. Croix Valley WWTP



Aerial photo of St. Croix Valley WWTP

**Project type**

Plants

**Objectives**

Asset Preservation

**Scope**

Renew metals and improve access and ventilation at the gravity thickener. Replace obsolete ultraviolet disinfection system. Renew bar screen and provide system redundancy. Replace obsolete electrical and HVAC equipment. Reconstruct roads.

**Project need**

There is a need to rehabilitate mechanical and electrical systems and reconstruct roads to increase SCV WWTP's capability of reliable operation.

**Project schedule:**



Planning: 2023



Design: 2024 through 2025



Construction: 2026 through 2028

**Financial analysis**

2024 cash flow:	\$500,000
Current ACP:	\$5,000,000
2024 through 2029 cash flow:	\$5,000,000
Total project cost:	\$5,000,000

Project location: Council district #12, City of Hastings, Hastings WWTP



Aerial View of Hastings WWTP

**Project type**  
Plants

**Objectives**  
Asset Preservation

**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. ES will continue to preserve the plant until the new facility is constructed.

**Project schedule:**



Planning: 2019 through 2020



Design: 2020 through 2021



Construction: 2022 through 2024

**Financial analysis**

2024 cash flow:	\$0
Current ACP:	\$1,171,000
2024 through 2029 cash flow:	\$0
Total project cost:	\$1,171,000

Project location: Council district #4, City of Shakopee, Blue Lake WWTP



Existing Regenerative Thermal Oxidizer

**Project type**  
Plants

**Objectives**  
Asset Preservation

**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 the 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:**



Planning: 2020



Design: 2021



Construction: 2021 through 2024

**Financial analysis**

2024 cash flow:	\$0
Current ACP:	\$5,069,000
2024 through 2029 cash flow:	\$0
Total project cost:	\$5,069,000

Project location: Council district #1, City of Rogers, Rogers WWTF



Photo of Rogers WWTF

**Project type**

Plants

**Objectives**

Quality Improvements

**Scope**

Remove solids from the solids holding pond and remove grit from the oxidation ditches.

**Project need**

The solids holding pond at the ES Rogers WWTF needs to have solids removed to ensure sufficient capacity in the pond prior to decommissioning of the facility. Additionally, there is a significant accumulation of grit in the oxidation ditches that needs to be removed to recover aeration capacity.

**Project schedule:**



Planning: 2022



Design: 2022



Construction: 2023 through 2025

**Financial analysis**

2024 cash flow:	\$1,000,000
Current ACP:	\$3,088,000
2024 through 2029 cash flow:	\$2,000,000
Total project cost:	\$5,087,000



Project location: Council district #15, City of Eagan, Seneca WWTP



**Aerial View of Seneca WWTP**

**Project type**  
Plants

**Objectives**  
Asset Preservation

**Scope**

The project includes replacement of the final section of the RAS line returning to the aeration basins as well as rehabilitation of the main influent line into the plant. There will also be some site drainage improvements.

**Project need**

Two large pipes have reached the end of life. The main influent to the plant was poured along with the Administration Building foundation and has been labeled as a level 5 by the interceptor group, meaning immediate attention is needed. Also, the RAS line is corroded and needs to be replaced.

**Project schedule:**



Planning: 2021



Design: 2022 through 2023



Construction: 2024 through 2025

**Financial analysis**

2024 cash flow:	\$2,000,000
Current ACP:	\$6,123,000
2024 through 2029 cash flow:	\$5,000,000
Total project cost:	\$5,123,000

Project location: Regional



Typical PLC (Programmable Logic Controller)

**Project type**

Plants

**Objectives**

Asset Preservation

**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:**



Planning: 2021 through 2022



Design: 2022 through 2027

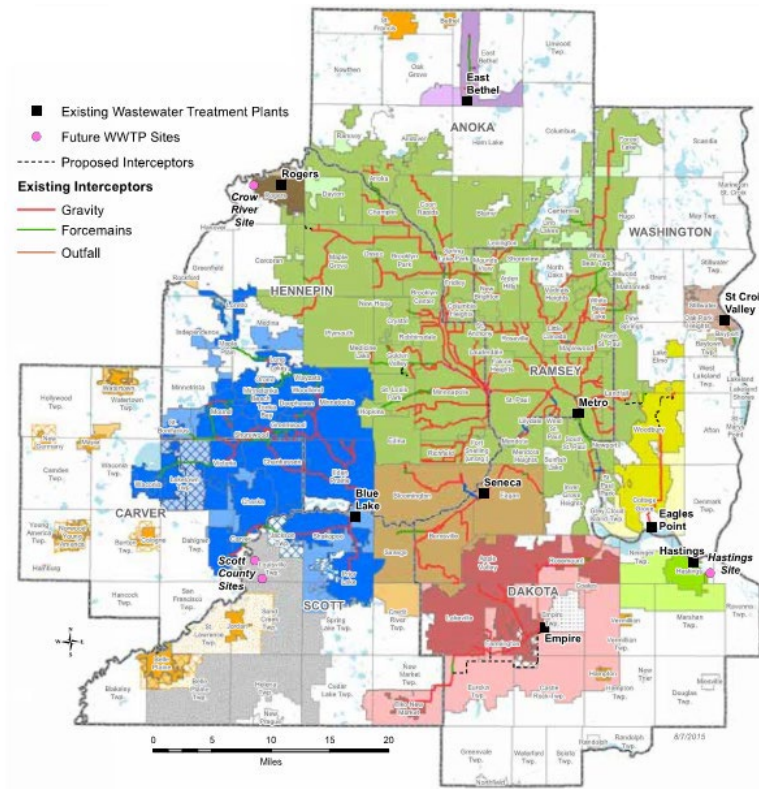


Construction: 2023 through 2028

**Financial analysis**

2024 cash flow:	\$2,500,000
Current ACP:	\$6,560,000
2024 through 2029 cash flow:	\$4,000,000
Total project cost:	\$8,560,000

Project location: Regional



Map of ES wastewater treatment plants and existing and proposed interceptors in the seven-county metropolitan area

**Project type**

Plants

**Objectives**

Asset Preservation, Quality Improvements

**Scope**

This project provides for planning activities at the regional plants. Design and construction of approved rehabilitations and/or improvements will be budgeted separately. Current planning activities include arc flash studies, road condition assessments, sustainable landscape planning, roof condition assessments, real estate appraisal needs, various business case evaluations, as requested.

**Project need**

Effective and efficient wastewater treatment requires that condition and operation of facilities be periodically evaluated.

**Project schedule:**




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Planning: 2024 - 2029

**Financial analysis**

2024 cash flow:	\$100,000
Current ACP:	\$469,000
2024 through 2029 cash flow:	\$500,000
Total project cost:	\$669,000