Program 8078 – Regional WRRFs Improvements

Aerial view of the Rogers Water Resource Recovery Facility acquired by ES in 2018

Description

This program provides funding to complete planning activities and near-term capital improvements (not otherwise included in a separate program) at 8 regional Water Resource Recovery Facilities (WRRF).

Purpose and justification

Projects in this program provide component and system renewal needs and improvements at the regional WRRFs. 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 WRRF Administration Building.
807805	East Bethel WRRF Improvements.
807811	St. Croix Valley WRRF Upgrades
807863	Rogers WWTF Pond Solids Removal.
807864	Seneca Piping and Site Rehabilitation
807865	Regional WRRFs PLC Renewal
807899	Regional Facility Planning
8078XX	Hastings WRRF Liquids Treatment and Plant-Wide Systems Rehabilitation

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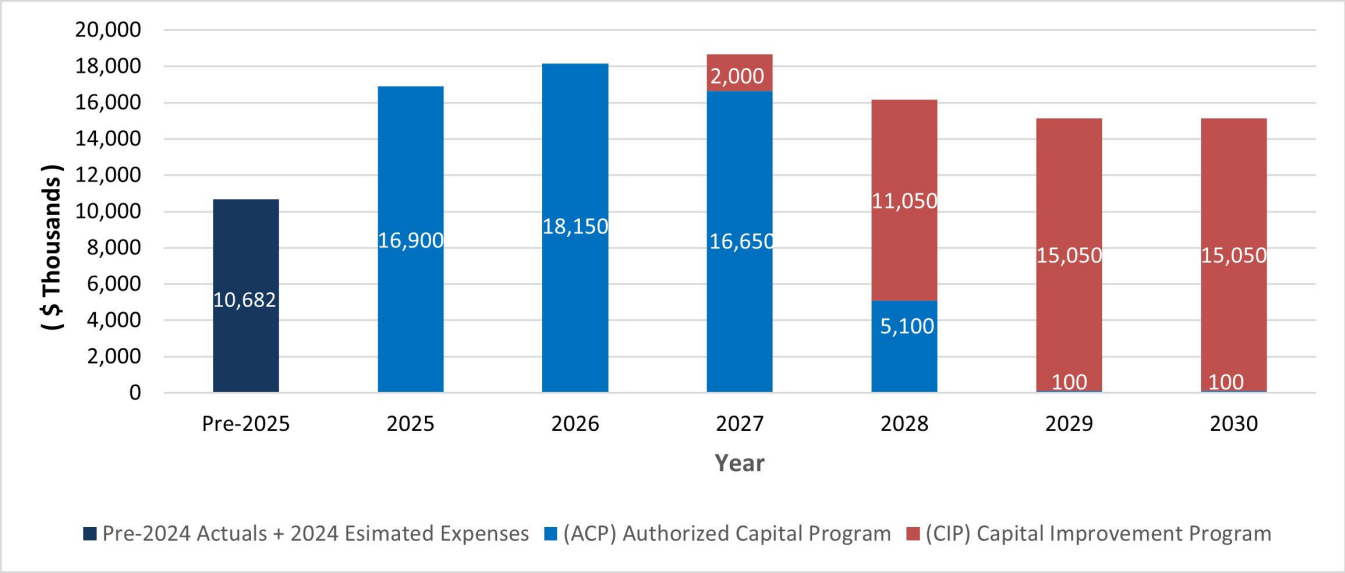
Environmental Services 2025 through 2030 Capital Program

- Authorized Capital Program (ACP): $67,681,963
- Capital Improvement Plan (CIP): $43,150,000

Estimated program cash flow from 2025 through 2030

Note: the ACP is the total amount of all past and present authorizations including pre-2025 expenses.



Blue Lake WRRF Administration Building
Program family 807800 **Project #807803**

Project location: Council District #4, City of Shakopee, Blue Lake WRRF

Blue Lake WRRF Administration Building

Project type
Facility

Objectives
Asset Preservation, Quality Improvements

Scope
Based on building assessments, modify space and/or construct an addition to the Administration Building to better accommodate staff, tours, and training.

Project need
The Administration Building is not well suited for meetings and school field trips. The Administration Building needs restroom Americans with Disabilities Act (ADA) accessibility improvements.

Project schedule:

Planning: 2020 through 2026	Design: TBD	Construction: TBD

Financial analysis

2025 cash flow:	$0
Current ACP:	$0
2025 through 2030 cash flow:	$5,000,000
Total project cost:	$5,000,000

East Bethel WRRF Improvements

Program family 807800 **Project #807805**

Project location: Council District #9, City of East Bethel, East Bethel WRRF

East Bethel Water Resource Recovery (WRRF) Facility

Project type
Facility

Objectives
Quality Improvements

Scope
There are multiple process tanks that will be mechanically and electrically connected to the process flow for the first time, including new blowers and electrical transfer equipment.

Project need
East Bethel was brought online in 2014 at less than 10% of design flow. Now that flows have increased, the plant requires the remaining tanks and blowers to be commissioned, as well as electrical and generator upgrades.

Project schedule:

Planning: 2017 through 2019	Design: 2020 through 2024	Construction: 2025 through 2026

Financial analysis

2025 cash flow:	$1,000,000
Current ACP:	$2,700,000
2025 through 2030 cash flow:	$2,000,000
Total project cost:	$2,700,000

St. Croix Valley WRRF Upgrades

Program family 807800 **Project #807811**

Project location: Council District #11, City of Oak Park Heights, St. Croix Valley WRRF

St. Croix Valley WRRF

Project type
Facility

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. Replace alum storage and feed system. Install three stormwater best management practices (BMP) improvements. Add variable frequency drives (VFDs) to three aeration blowers. Install fall protection system for the odor control vessels. Install safety gates and dissolved oxygen (DO) probes in the aeration basins. Replace three primary sludge pumps.

Project need
Rehabilitate treatment and auxiliary systems to increase reliability of operation of the St. Croix Valley WRRF and reconstruct roads.

Project schedule:

Planning: 2023	Design: 2024 through 2025	Construction: 2026 through 2028

Financial analysis

2025 cash flow:	$1,500,000
Current ACP:	$16,694,000
2025 through 2030 cash flow:	$16,500,000
Total project cost:	$16,694,000

Rogers WWTF Pond Solids Removal

Program family 807800 **Project #807863**

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

Photo of Rogers Wastewater Treatment Facility (WWTF)

Project type
Facility

Objectives
Quality Improvements

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

Project need
Removal of solids holding pond solids and grit accumulation at the Rogers WWTF recovers capacity needed for continued reliable operation.

Project schedule:

Planning: 2022	Design: 2022	Construction: 2024 through 2025

Financial analysis

2025 cash flow:	$1,000,000
Current ACP:	$2,832,000
2025 through 2030 cash flow:	$1,000,000
Total project cost:	$2,832,000

Seneca Piping and Site Rehabilitation

Program family 807800 **Project #807864**

Project location: Council District #15, City of Eagan, Seneca WRRF

Aerial View of Seneca WRRF

Project type
Facility

Objectives
Asset Preservation

Scope
The project includes replacement of the final section of the return activated sludge (RAS) pipe returning to the aeration basins as well as rehabilitation of the main influent channel into the plant. There will also be some site drainage improvements.

Project need
The main influent channel to the plant was poured along with the Administration Building foundation and has been labeled as a level 5 (poorest) condition by the interceptor group. Also, the RAS pipe is corroded and needs to be replaced.

Project schedule:

Planning: 2021	Design: 2022 through 2024	Construction: 2025 through 2026

Financial analysis

2025 cash flow:	$2,500,000
Current ACP:	$9,016,000
2025 through 2030 cash flow:	$7,000,000
Total project cost:	$7,516,000

Regional WRRFs PLC Renewal

Program family 807800 **Project #807865**

Project location: Regional

Photo taken inside a typical Programmable Logic Controller (PLC)

Project type
Facility

Objectives
Asset Preservation

Scope
Replace out-of-date process control systems at regional Water Resource Recovery Facilities (WRRFs).

Project need
Key elements in the process control system for regional WRRFs are out of date and in need of replacement to continue to provide reliable treatment process control at the regional facilities.

Project schedule:

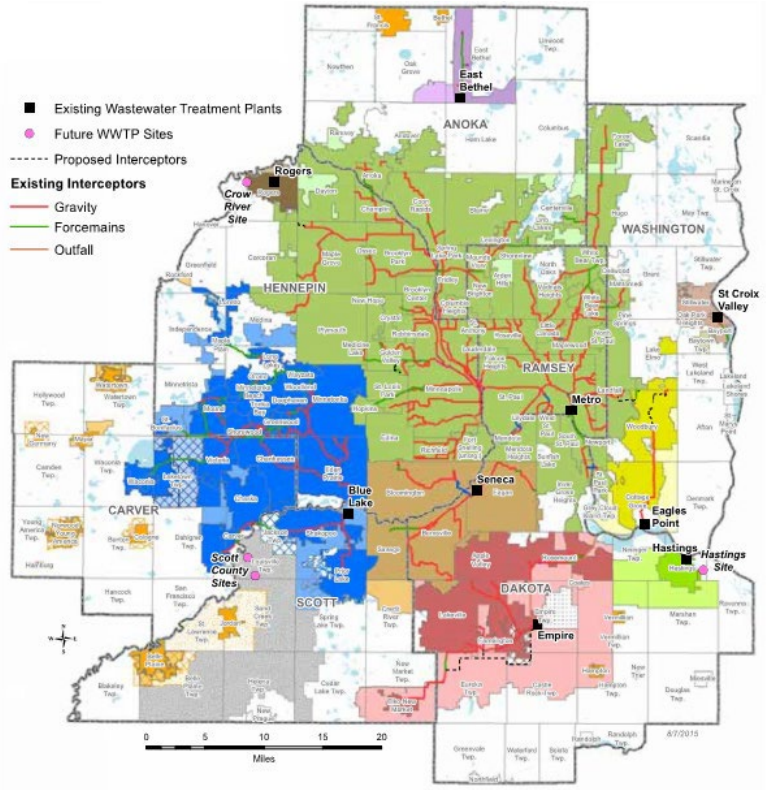
Planning: 2021 through 2022	Design: 2022 through 2027	Construction: 2023 through 2028

Financial analysis

2025 cash flow:	$500,000
Current ACP:	$4,842,000
2025 through 2030 cash flow:	$1,500,000
Total project cost:	$6,842,000

Regional WRRFs Planning
Program family 807800 **Project #807899**

Project location: Regional



Map of ES Water Resource Recovery Facilities (WRRFs) and existing and proposed interceptors in the seven-county metropolitan area

Project type
Facility

Objectives
Asset Preservation, Quality Improvements

Scope
This project provides for planning activities at the regional facilities. 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, and 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:

Planning: 2024 - 2029

Financial analysis

2025 cash flow:	$100,000
Current ACP:	$838,000
2025 through 2030 cash flow:	$600,000
Total project cost:	$838,000

Hastings WRRF Liquids Treatment and Plant-Wide Systems Rehabilitation

Program family 807800 **Project #8078XX**

Project location: Council District #12, Hastings, Hastings WRRF

Aeration Tank (left) and Electrical Motor Control Center (right) in need of Rehabilitation

Project type
Facility

Objectives
Asset Preservation

Scope
The project rehabilitates critical liquids treatment and plant-wide systems for continued reliable service. Liquids treatment elements include bar screens, aerated grit system, primary clarifiers, aeration tanks, final clarifiers, chemical disinfection, and outfall. Critical plant-wide systems include electrical distribution, instrumentation and control, emergency overflow system, and flood protection.

Project need
The last major renewal occurred in the 1980s. Rehabilitation of critical systems is required to continue reliable service.

Planning: 2024	Design: 2025 through 2026	Construction: 2027 through 2029

Financial analysis

2025 cash flow:	$7,000,000
Current ACP:	$21,000,000
2025 through 2030 cash flow :	$28,000,000
Total project cost:	$28,000,000