

## Program 8055 – Lift Station Rehabilitation



L66 (Savage) dry well

### Description

Upgrades include reconstruction and replacement work for force mains and lift stations. Fuel tanks are being replaced for compliance with changing storage tank rules.

### Purpose and justification

Capacity and condition assessments are being conducted along with regulatory reviews to identify system-wide lift station upgrades. These upgrades extend the life of facilities, reduce the risk of spills, and improve the safety of staff who operate and maintain lift stations.

### Program location

The active projects within this program are in the following Council districts: All

### Active projects in program

Project Number	Project Title
805500	Lift Station Rehabilitation (Parent Project)
805501	Lift Station Property Maintenance
805502	Lift Station Condition Assessments
805503	L13 HVAC Improvements
805504	FM-Siphon-Rx-Outfall Inspection Program Phase 3 (Sites 1 - 5)
805505	L32 Biofilter
805506	FM-Siphon-FX-Outfall Phase 1 – Site 1: Forcemain 7114
805564	L66 Rehabilitation
805566	Lift Station Electrical Rehabilitation (L01, L02, L03, L31, L42)
805568	L71 System Improvements
805569	L73 Odor Control Improvements
805576	L29 Rehabilitation
805581	Anoka-Champlin Forcemain Improvements

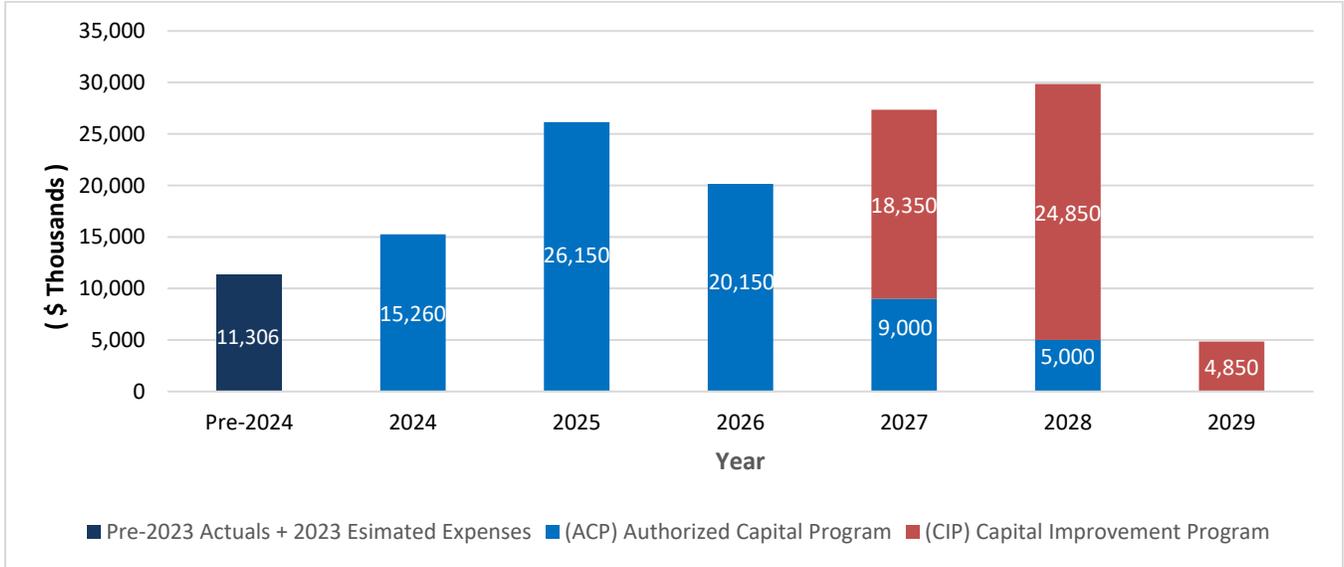
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### Environmental Services 2024 through 2029 Capital Program

- Authorized Capital Program (ACP): \$86,866,474
- Capital Improvement Plan (CIP): \$48,050,000

### 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 districts #1 to 16, regional project



ES workers maintain lift station L30, a lift station in Crystal

**Project type**

Lift Station Improvements

**Objectives**

Quality Improvements

**Scope**

Implement landscaping improvements at lift station properties on a case-by-case basis to provide lower maintenance and meet sustainability goals.

**Project need**

Establishment of sustainable and native landscapes reduce the need to maintain conventional site landscaping through mowing, watering, and application of lawn chemicals. Sustainable landscapes are better for the local ecology, the environment, and reduce carbon footprint. Undertaking these projects reduces maintenance labor and better meets sustainability goals.

**Project schedule:**



Planning: 2020



Design: 2020 through 2021



Construction: 2021 through 2026

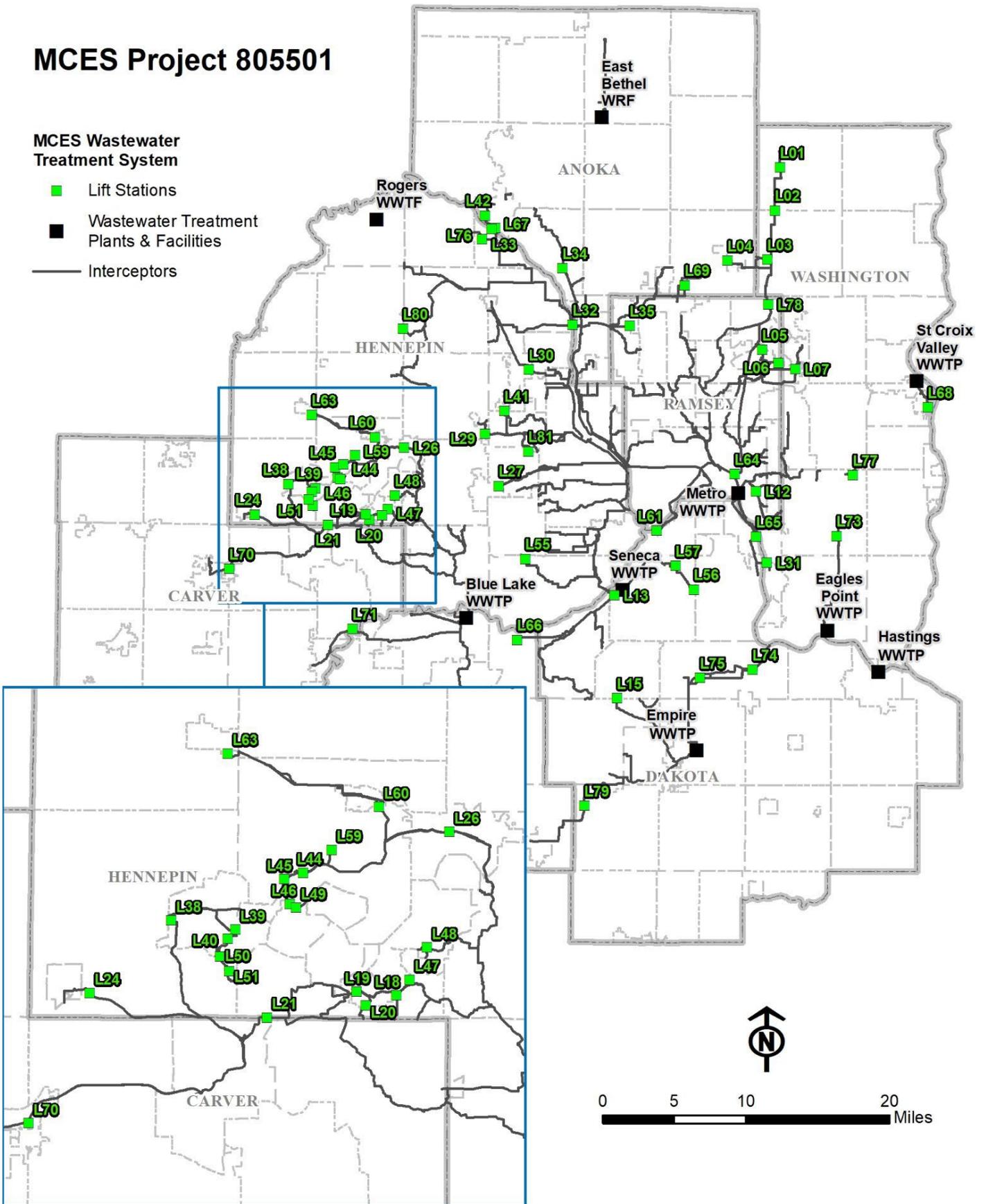
**Financial analysis**

2024 cash flow:	\$100,000
Current ACP:	\$2,213,000
2024 through 2029 cash flow:	\$2,100,000
Total project cost:	\$3,413,000

# MCES Project 805501

## MCES Wastewater Treatment System

- Lift Stations
- Wastewater Treatment Plants & Facilities
- Interceptors



Project location: Council districts #1 to 16, regional project



Interceptor service worker inspects the Rosemount Lift Station (L74)

**Project type**

Condition Assessment

**Objectives**

Asset Preservation, System Expansion, and Quality Improvements

**Scope**

Evaluate and report the condition of 25 lift stations.

**Project need**

The condition assessments are needed to prioritize and plan lift station repairs and improvements.

**Project schedule:**



Planning: 2018 through 2027



Design: N/A



Construction: N/A

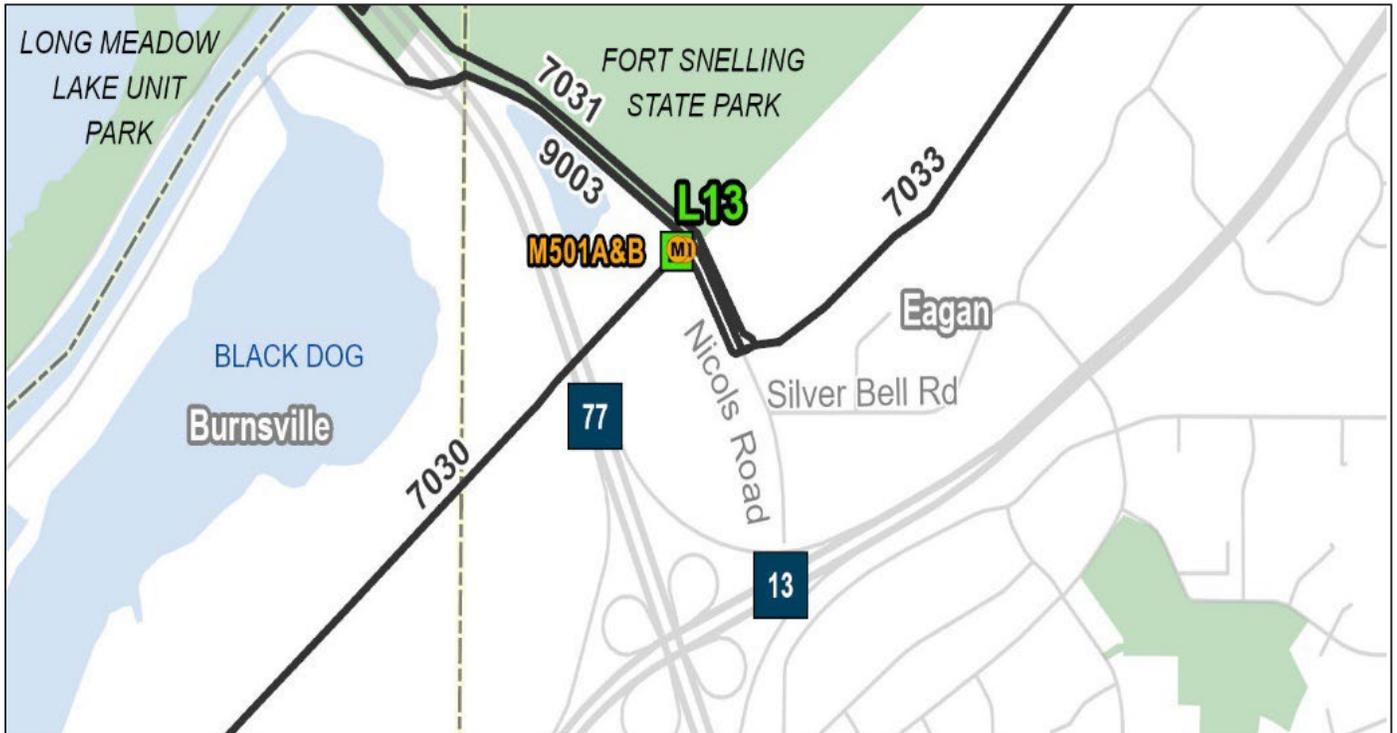
**Financial analysis**

2024 cash flow:	\$150,000
Current ACP:	\$1,051,000
2024 through 2029 cash flow:	\$900,000
Total project cost:	\$1,500,000

**L13 HVAC Improvements**  
Program family 8055

Project #805503

Project location: Council district #15, City of Eagan



Map of project #805503 location near Nicols Road and Silver Bell Road in Eagan

**Project type**

Lift Station Improvements

**Objectives**

Asset Preservation and Quality Improvements

**Scope**

Design and construct HVAC (Heating, Ventilation, and Air Conditioning) and odor control systems that reduce odors and preserve the function of the existing lift station.

**Project need**

High H2S levels will continue to cause corrosion within the lift station that can compromise station reliability. In addition, odors from the lift station are leaving the lift station site. The odor and potential disruption of service to our customers does not meet the Council’s Level of Service goals.

**Project schedule:**



Planning: 2021 through 2022



Design: 2022 through 2023



Construction: 2023 through 2024

**Financial analysis**

2024 cash flow:	\$1,250,000
Current ACP:	\$5,632,000
2024 through 2029 cash flow:	\$5,250,000
Total project cost:	\$5,632,000

**FM-Siphon-Rx-Outfall Inspection Program Phase 3 – Site 1: Forcemain 7113**  
**Program family 8055**

**Project #805504**

Project location: Council District #3, City of Orono



Project #805504 Site 1 location

**Project type**

Condition Assessment

**Objectives**

Asset Preservation

**Scope**

Design inspection program for 1.2 miles of forcemain in Orono.

**Project need**

Programmatic evaluation of assets in accordance with the 2022 Forcemain-Siphon-River Crossing-Outfall Inspection Program Manual.

**Project schedule:**



Planning: 2022



Design: 2024 through 2025



Construction: Under Project 805506

**Financial analysis**

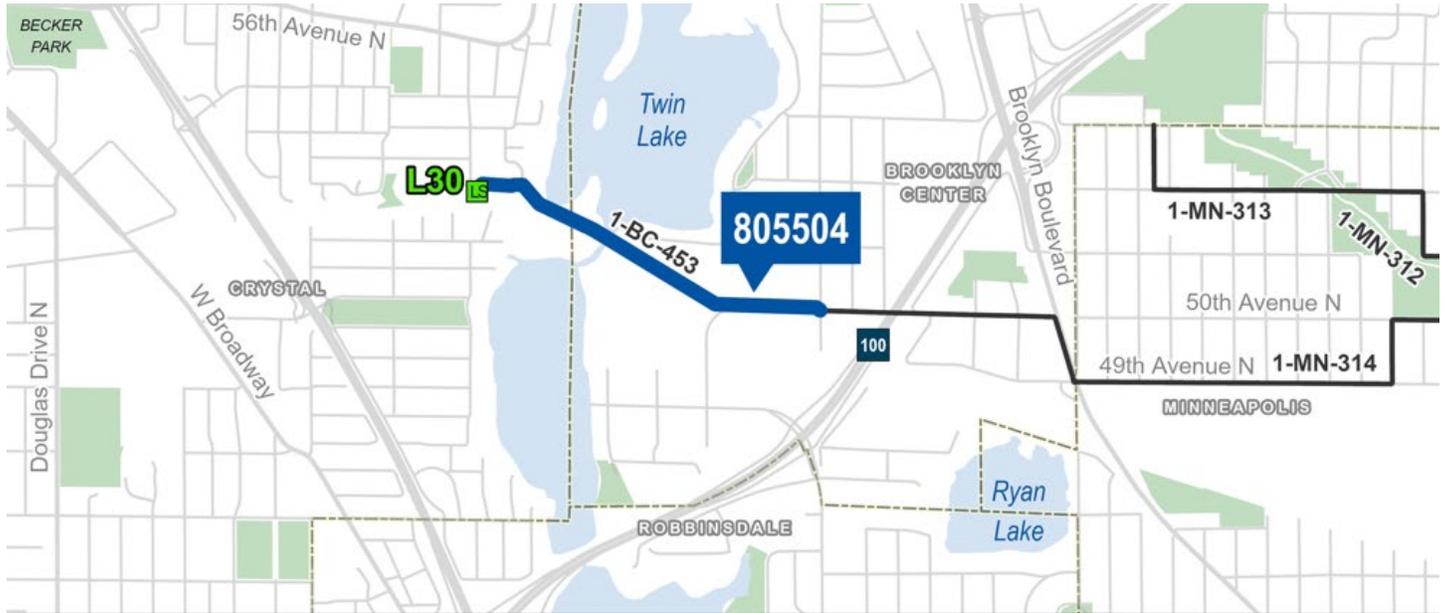
2024 cash flow:	\$50,000
Current ACP:	\$12,359,000
2024 through 2029 cash flow:	\$20,000,000
Total project cost:	\$20,359,000

# FM-Siphon-Rx-Outfall Inspection Program Phase 3 – Site 2: Forcemain 1-BC-453

Program family 8055

Project #805504

Project location: Council district #8, City of Brooklyn Center



Project #805504 Site 2 location

## Project type

Condition Assessment

## Objectives

Asset Preservation

## Scope

Design an inspection program for 1.3 miles of forcemain in Brooklyn Center.

## Project need

Programmatic evaluation of assets in accordance with the 2022 Forcemain-Siphon-River Crossing-Outfall Inspection Program Manual.

## Project schedule:



Planning: 2022



Design: 2024



Construction: Under Project 805506

## Financial analysis

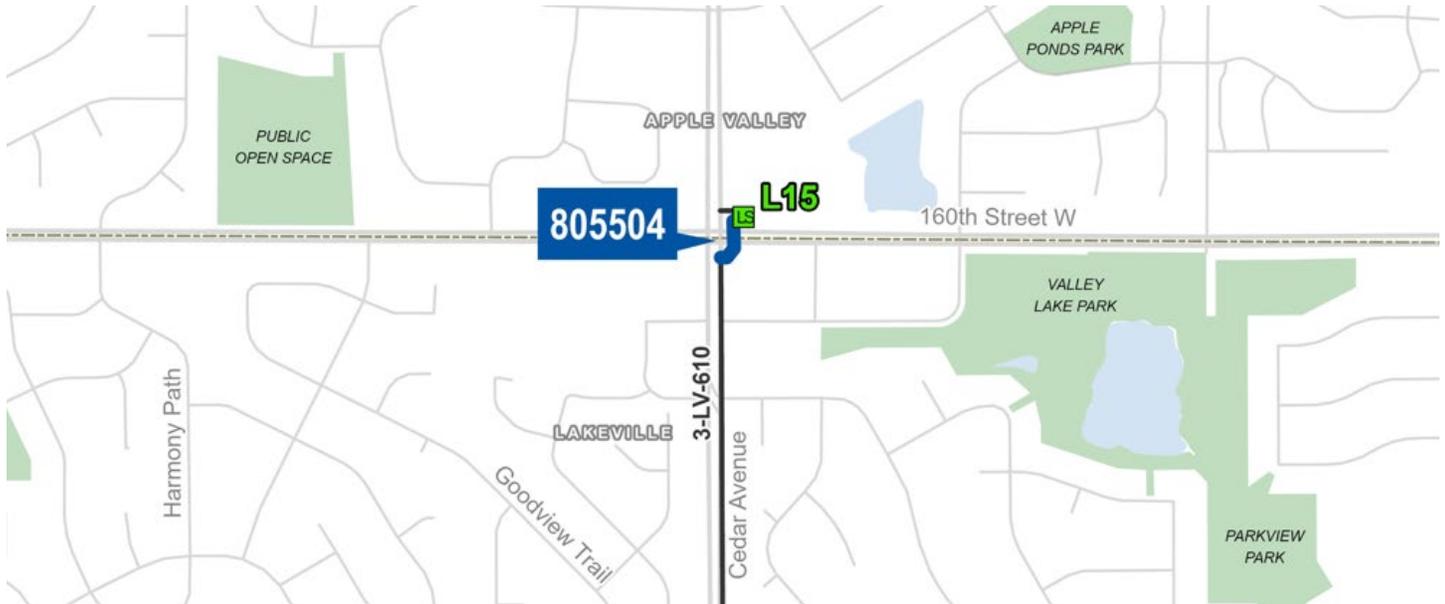
2024 cash flow:	\$50,000
Current ACP:	\$12,359,000
2024 through 2029 cash flow:	\$20,000,000
Total project cost:	\$20,359,000

# FM-Siphon-Rx-Outfall Inspection Program Phase 3 – Site 3: Forcemain 3-LV-610

Program family 8055

Project #805504

Project location: Council Districts #15 and 16, Lakeville and Apple Valley



Project #805504 Site 3 location

## Project type

Condition Assessment

## Objectives

Asset Preservation

## Scope

Inspect 0.05 miles of forcemain in Lakeville and Apple Valley.

## Project need

Programmatic evaluation of assets in accordance with the 2022 Forcemain-Siphon-River Crossing-Outfall Inspection Program Manual.

## Project schedule:



Planning: 2022



Design: 2024



Construction: Under Project 805506

## Financial analysis

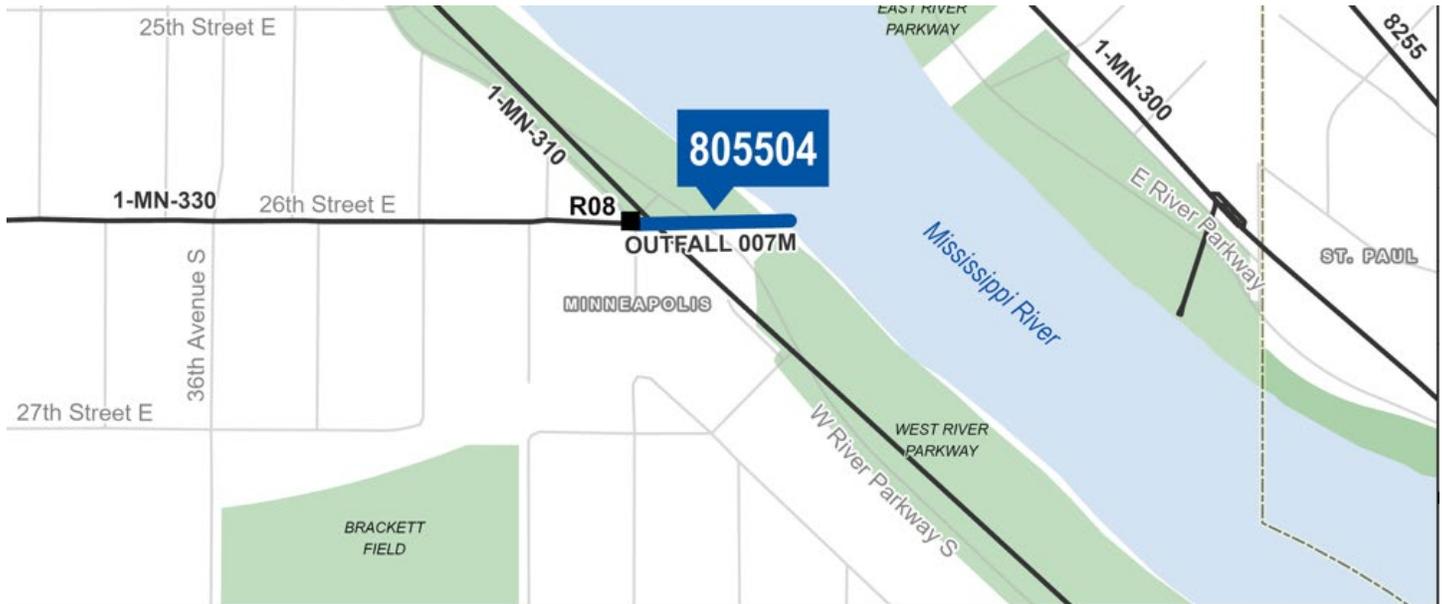
2024 cash flow:	\$50,000
Current ACP:	\$12,359,000
2024 through 2029 cash flow:	\$20,000,000
Total project cost:	\$20,359,000

# FM-Siphon-Rx-Outfall Inspection Program Phase 3 – Site 4: ERS08 Outfall

Program family 8055

Project #805504

Project location: Council District #6, Minneapolis



Project #805504 Site 4 Location

### Project type

Condition Assessment

### Objectives

Asset Preservation

### Scope

Inspect the 0.1 mile long Emergency Relief Structure ERS08 outfall.

### Project need

Programmatic evaluation of assets in accordance with the 2022 Forcemain-Siphon-River Crossing-Outfall Inspection Program Manual.

### Project schedule:



Planning: 2022



Design: 2024



Construction: Under Project 805506

### Financial analysis

2024 cash flow:	\$50,000
Current ACP:	\$12,359,000
2024 through 2029 cash flow:	\$20,000,000
Total project cost:	\$20,359,000

**FM-Siphon-Rx-Outfall Inspection Program Phase 3 – Site 5: Siphon 6903**  
Program family 8055

**Project #805504**

Project location: Council Districts #3 and #4, Eden Prairie



Project #805504 Site 5 Location

**Project type**

Condition Assessment

**Objectives**

Asset Preservation

**Scope**

Design an inspection program for 3.4 miles of siphon in Eden Prairie.

**Project need**

Programmatic evaluation of assets in accordance with the 2022 Forcemain-Siphon-River Crossing-Outfall Inspection Program Manual.

**Project schedule:**



Planning: 2022



Design: 2024

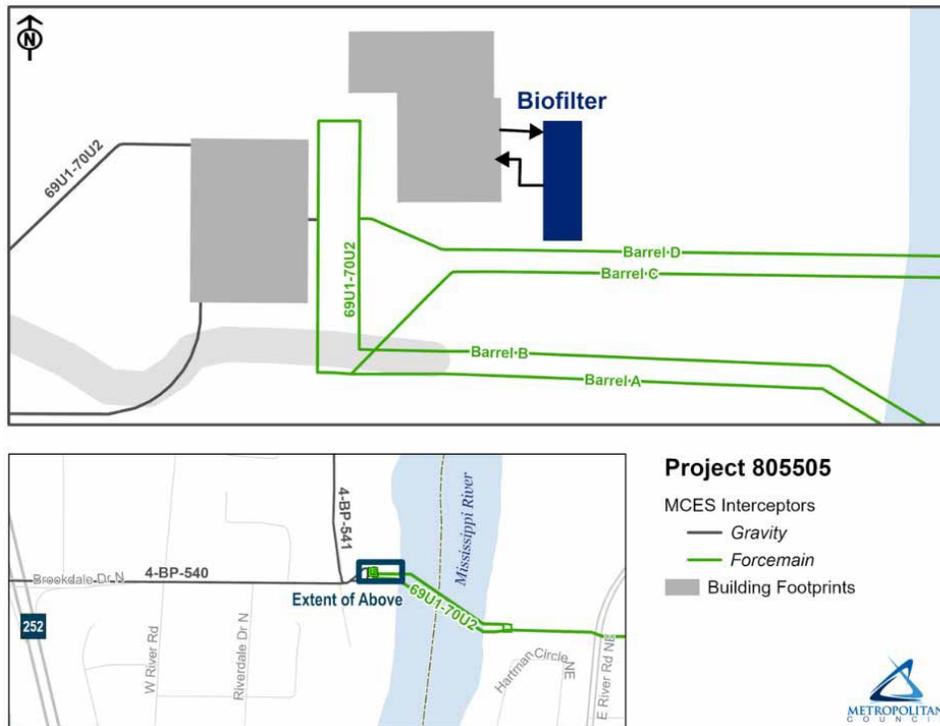


Construction: Under Project 805506

**Financial analysis**

2024 cash flow:	\$50,000
Current ACP:	\$12,359,000
2024 through 2029 cash flow:	\$20,000,000
Total project cost:	\$20,359,000

Project location: Council district #2, City of Brooklyn Park, 7700 Mississippi Lane



Map of project #805505 location west of the Mississippi River in Brooklyn Park

**Project type**  
 Lift Station Improvements

**Objectives**  
 Quality Improvements

**Scope**  
 Install a new biofilter to treat H2S and convert the existing carbon unit to a permanganate-impregnated media polishing unit to treat other odorous compounds. This system will also be used for the new L32A lift station scheduled to be built in 3 to 5 years.

**Project need**  
 The existing carbon odor control unit does not provide the level of treatment needed for the high H2S levels entering the lift station and the close proximity of the lift station site to neighboring properties.

**Project schedule:**



Planning: 2021 through 2022



Design: 2022



Construction: 2023 through 2024

**Financial analysis**

2024 cash flow:	\$2,000,000
Current ACP:	\$4,006,273
2024 through 2029 cash flow:	\$2,000,000
Total project cost:	\$4,006,273

**FM-Siphon-Rx-Outfall Inspection Phase 1 – Site 1: Forcemain 7114**  
Program family 8055

Project #805506

Project location: Council district #8, City of Golden Valley



Project #805506 Site 1 location east of Winnetka Ave North in Golden Valley.

**Project type**

Interceptor Condition Assessment

**Objectives**

Asset Preservation

**Scope**

Inspect 2 miles of forcemain in Golden Valley and make repairs if necessary.

**Project need**

Programmatic evaluation of assets in accordance with the 2022 Forcemain-Siphon-River Crossing-Outfall Inspection Program Manual.



Planning: 2022



Design: 2024



Construction: 2024 - 2029

**Financial analysis**

2024 cash flow:	\$3,000,000
Current ACP:	\$4,000,000
2024 through 2029 cash flow:	\$3,000,000
Total project cost:	\$4,000,000

**L66 Rehabilitation**  
Program family 8055

**Project #805564**

Project location: Council district #16, City of Savage



Map of project #805564 location south of Highway 13 and north of Savage Fen in Savage

**Project type**

Lift Station Improvements

**Objectives**

Asset Preservation and Quality Improvements

**Scope**

The lift station rehabilitation will include HVAC upgrades, a carbon tank, a new generator, wet well rehabilitation, pump replacement, and electrical upgrades.

**Project need**

Wet well rehabilitation is needed due to the substantial concrete deterioration. The station also needs new pumps to accommodate for projected 2040 flows. The HVAC is not up to code and needs replacement.

**Project schedule:**



Planning: N/A



Design: 2017 through 2022



Construction: 2023 through 2026

**Financial analysis**

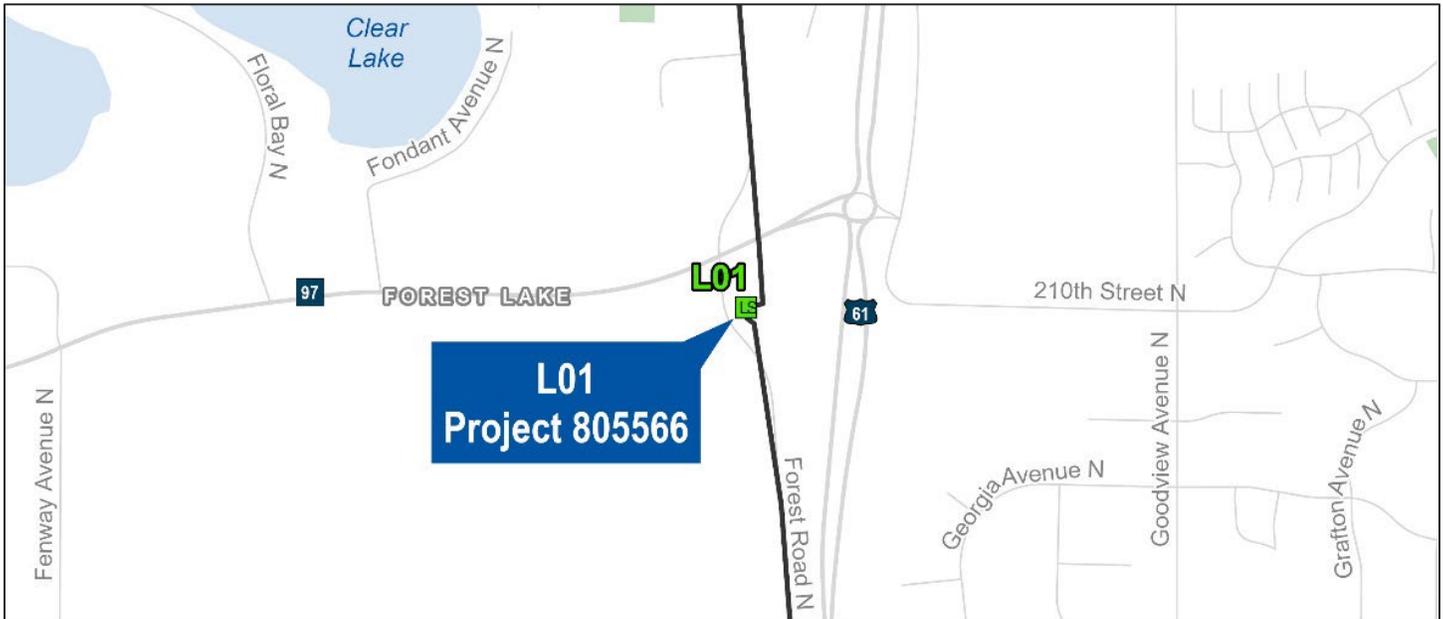
2024 cash flow:	\$5,000,000
Current ACP:	\$7,617,000
2024 through 2029 cash flow:	\$7,000,000
Total project cost:	\$7,617,000

# Lift Station Electrical Rehabilitation – L01

Program family 8055

Project #805566

Project location: Council district #11, City of Forest Lake



Project #805566 L01 location along Forest Road North in Forest Lake

### Project type

Lift Station Improvements

### Objectives

Asset Preservation

### Scope

Replace MCC (Motor Control Center), and in new enclosure, replace main breaker, replace manual transfer switch with automatic transfer switch and to install permanent generator in outdoor enclosure.

### Project need

The electrical condition assessment reports, preventative maintenance data, and arc flash study results were reviewed and prioritized by ES engineering, electrical, and ISBU staff. Lift Station L01 in Forest Lake is identified as a site needing rehabilitation as soon as possible. This site has many components in poor shape or obsolete.

### Project schedule:



Planning: 2022 through 2023



Design: 2023 through 2024



Construction: 2024 through 2025

### Financial analysis

2024 cash flow:	\$80,000
Current ACP:	\$2,240,000
2024 through 2029 cash flow:	\$2,200,000
Total project cost:	\$2,240,000

**Lift Station Electrical Rehabilitation – L02**  
Program family 8055

**Project #805566**

Project location: Council district #11, City of Hugo



Project #805566 L02 location at 180<sup>th</sup> Street North in Hugo

**Project type**

Lift Station Improvements

**Objectives**

Asset Preservation

**Scope**

Recommendations are to replace MCC in weather-proof enclosure, replace ATS and include space heater and provisions for moisture control, and to replace circuit breakers and clean all connections.

**Project need**

The electrical condition assessment reports, preventative maintenance data, and arc flash study results were reviewed and prioritized by ES engineering, electrical, and ISBU staff. Lift Station L02 in Hugo is identified as a site needing rehabilitation as soon as possible. This site has many components that show corrosion and are obsolete.

**Project schedule:**



Planning: 2022 through 2023



Design: 2023 through 2024



Construction: 2024 through 2025

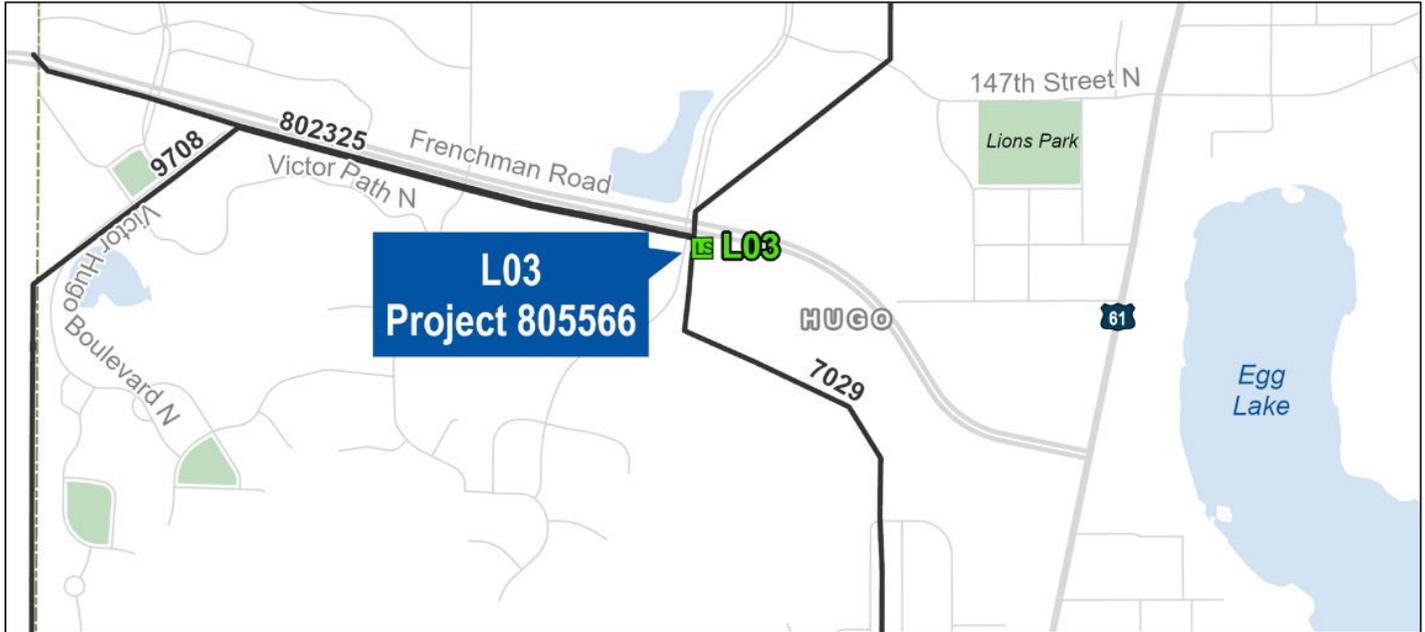
**Financial analysis**

2024 cash flow:	\$80,000
Current ACP:	\$2,240,000
2024 through 2029 cash flow:	\$2,200,000
Total project cost:	\$2,240,000

**Lift Station Electrical Rehabilitation – L03**  
Program family 8055

**Project #805566**

Project location: Council district #11, City of Hugo



Project #805566 L03 location along Frenchman Road in Hugo

**Project type**

Lift Station Improvements

**Objectives**

Asset Preservation

**Scope**

This site has many components that show corrosion and are obsolete. Recommendations are to replace both MCCs in above grade, weather-proofed enclosures, clean and paint ATS enclosure, and to install outdoor service breaker.

**Project need**

The electrical condition assessment reports, preventative maintenance data, and arc flash study results were reviewed and prioritized by MCES engineering, electrical, and ISBU staff. Lift Station L03 in Hugo is identified as a site needing rehabilitation as soon as possible.

**Project schedule:**



Planning: 2022 through 2023



Design: 2023 through 2024



Construction: 2024 through 2025

**Financial analysis**

2024 cash flow:	\$80,000
Current ACP:	\$2,240,000
2024 through 2029 cash flow:	\$2,200,000
Total project cost:	\$2,240,000

**Lift Station Electrical Rehabilitation – L31**  
Program family 8055

**Project #805566**

Project location: Council district #12, City of St. Paul Park



Project #805566 L31 location east of the Mississippi River near 3<sup>rd</sup> Avenue in St. Paul Park

**Project type**

Lift Station Improvements

**Objectives**

Asset Preservation

**Scope**

This site has many components that are potentially dangerous and nearing end-of-life. Recommendations are to install outdoor service circuit breaker, provide with remote on/off functions, and to install new MCC.

**Project need**

The electrical condition assessment reports, preventative maintenance data, and arc flash study results were reviewed and prioritized by ES engineering, electrical, and ISBU staff. Lift Station L31 in St. Paul Park is identified as a site needing rehabilitation as soon as possible.

**Project schedule:**



Planning: 2022 through 2023



Design: 2023 through 2024



Construction: 2024 through 2025

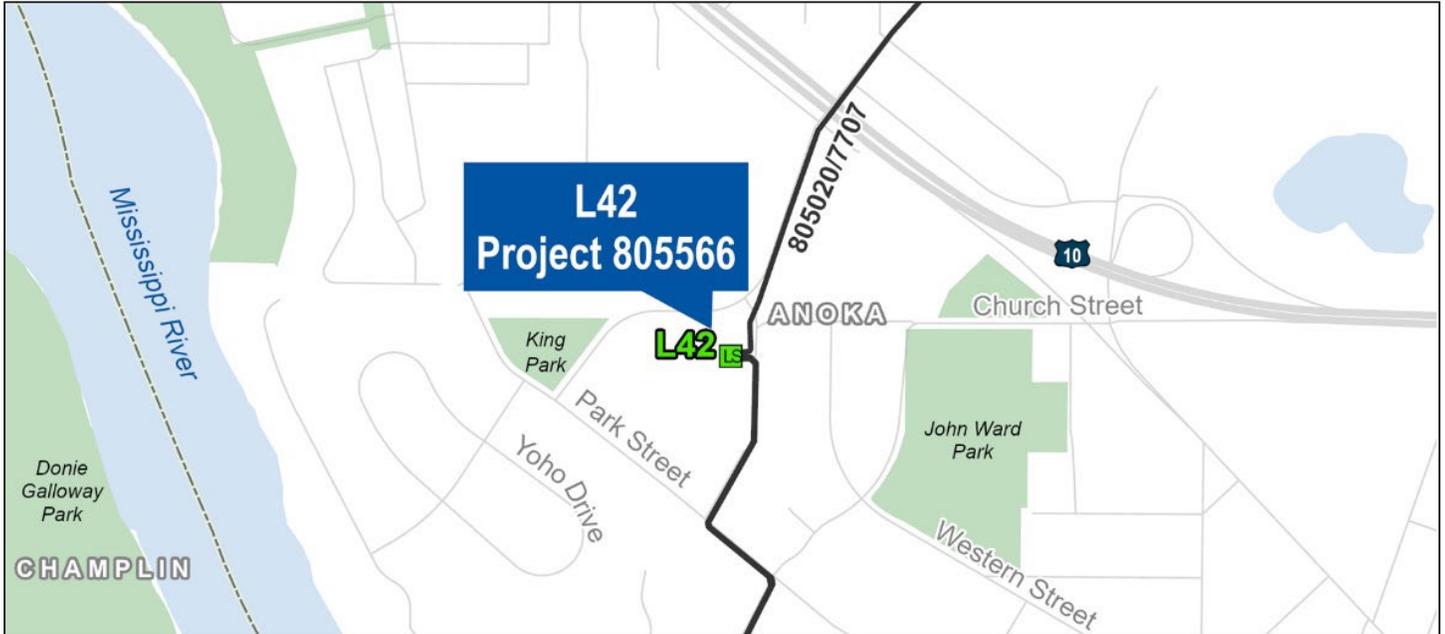
**Financial analysis**

2024 cash flow:	\$80,000
Current ACP:	\$2,240,000
2024 through 2029 cash flow:	\$2,200,000
Total project cost:	\$2,240,000

**Lift Station Electrical Rehabilitation – L42**  
Program family 8055

**Project #805566**

Project location: Council district #9, City of Anoka



Project #805566 L42 location between King Park and John Ward Park in Anoka

**Project type**

Lift Station Improvements

**Objectives**

Asset Preservation

**Scope**

Recommendations are to install outdoor service entrance circuit breaker, retrofit main switchboard to include surge protection and power meter, expand the existing switchboard to include an ATS, add flow meters at lift station, and to clean or replace corroded equipment.

**Project need**

The electrical condition assessment reports, preventative maintenance data, and arc flash study results were reviewed and prioritized by ES engineering, electrical, and ISBU staff. Lift Station L31 in St. Paul Park is identified as a site needing rehabilitation as soon as possible. This site has many components that are showing corrosion and potentially dangerous.

**Project schedule:**



Planning: 2022 through 2023



Design: 2023 through 2024

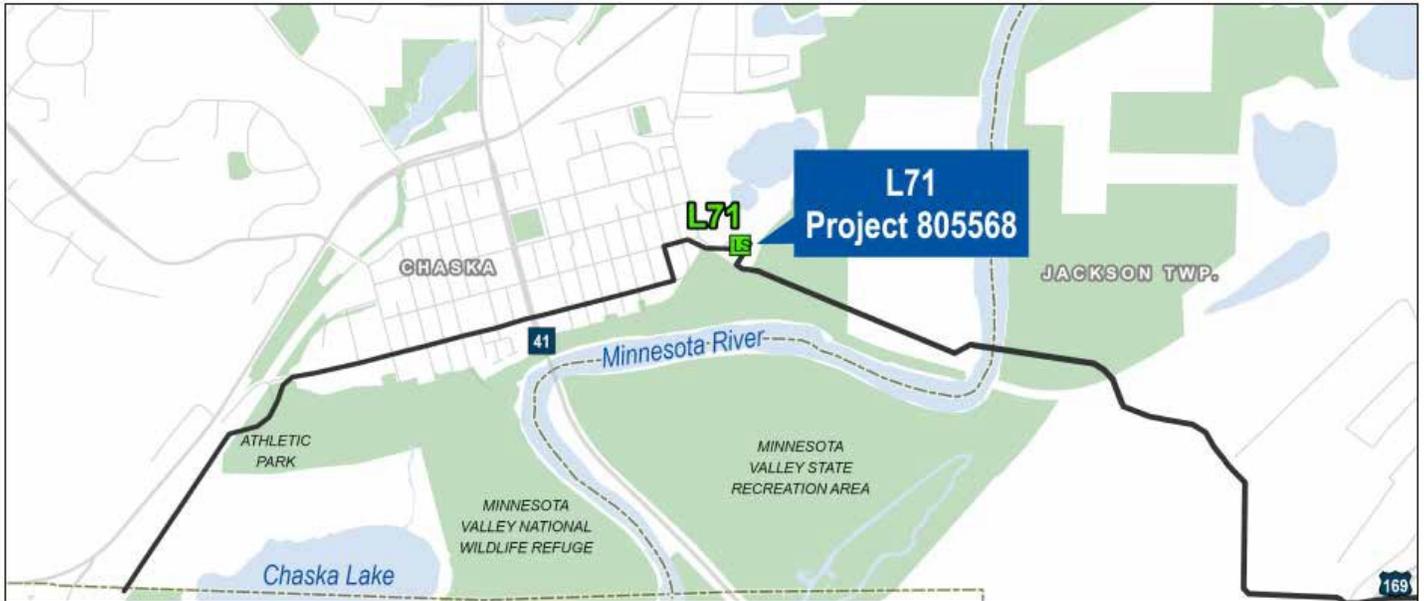


Construction: 2024 through 2025

**Financial analysis**

2024 cash flow:	\$80,000
Current ACP:	\$2,240,000
2024 through 2029 cash flow:	\$2,200,000
Total project cost:	\$2,240,000

Project location: Council district #4, City of Chaska, 600 4<sup>th</sup> Street East and eastward into Shakopee



Project #805568 L71 location north of the Minnesota River in Chaska

**Project type**

Lift Station Improvements

**Objectives**

Asset Preservation

**Scope**

Ongoing investigations of upstream contributions and results of pump testing and odor treatment will be evaluated to determine the scope of work. Preliminary indications are that fats, oils, and greases (FOG) pre-treatment, forcemain modifications, and odor control will be needed.

**Project need**

L71 receives high strength wastewater containing significant volumes of fats, oils, and greases. The FOGs impact lift station and forcemain operations. This has resulted in decreased capacity and creates odors.

**Project schedule:**



Planning: 2023 through 2024



Design: 2025



Construction: 2026 through 2027

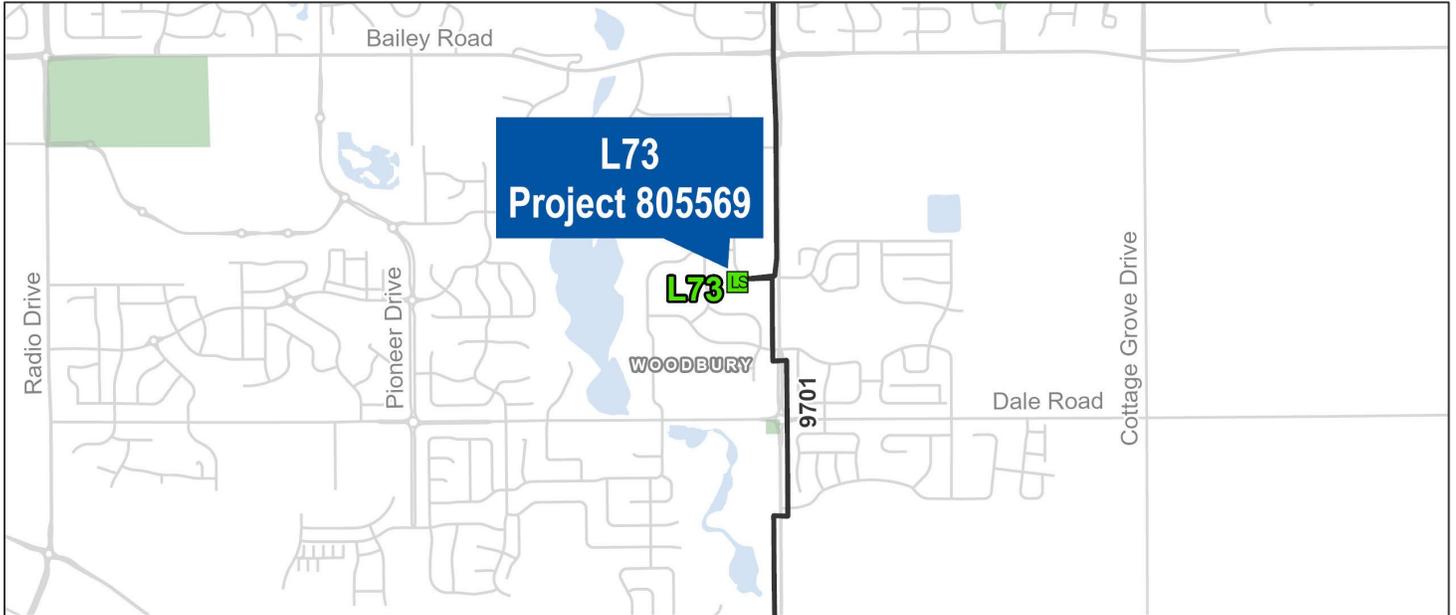
**Financial analysis**

2024 cash flow:	\$150,000
Current ACP:	\$6,300,000
2024 through 2029 cash flow:	\$6,150,000
Total project cost:	\$6,300,000

**L73 Odor Control Improvements**  
Program family 8055

**Project #805569**

Project location: Council district #12, City of Woodbury



L73 Location

**Project type**

Lift Station Odor Control Improvements

**Objectives**

Quality Improvements

**Scope**

Replace an existing biofilter odor control system with a carbon odor control unit.

**Project need**

Improvements are needed to better control odor emissions from the lift station following development of neighboring properties.



Planning: 2023



Design: 2024



Construction: 2025

**Financial analysis**

2024 cash flow:	\$2,000,000
Current ACP:	\$2,500,000
2024 through 2029 cash flow:	\$2,250,000
Total project cost:	\$2,500,000

Project location: Council district #1, City of Plymouth



Project #805576 location in Plymouth

**Project type**

Lift Station Improvements

**Objectives**

Asset Preservation and Quality Improvements

**Scope**

The lift station rehabilitation will include HVAC upgrades, carbon tank, new segment of forcemain, wet well rehabilitation, and pump replacement.

**Project need**

A segment of forcemain will be replaced due to substantial corrosion. A pipe restriction will be upsized to increase lift station capacity along with new pumps.

**Project schedule:**



Planning: 2022



Design: 2023 through 2024



Construction: 2025 through 2027

**Financial analysis**

2024 cash flow:	\$50,000
Current ACP:	\$165,000
2024 through 2029 cash flow:	\$50,000
Total project cost:	\$165,000

**Anoka-Champlin Forcemain Improvements**  
**Program family 8055**

**Project #805581**

Project location: Council districts #2 and 9, Cities of Anoka and Champlin, north and south sides of the Mississippi River at Highway 169



Project #805581 location on either side of the Mississippi River in Anoka and Champlin

**Project type**

Lift Station and Interceptor Improvements

**Objectives**

Asset Preservation and Quality Improvements

**Scope**

Results of pump testing will be evaluated to determine the scope of work. Preliminary indications are that a second forcemain will be needed.

**Project need**

L33, L42, and L67 and their respective forcemains are interconnected. Forcemain 8751, downstream of all three lift stations, is an aging single 24” barrel. Air release valves on the forcemain are inoperable and impacting the forcemain capacity. The forcemain and air releases cannot be inspected or repaired without major temporary conveyance.

**Project schedule:**



Planning: 2023 through 2024



Design: 2025



Construction: 2026 through 2027

**Financial analysis**

2024 cash flow:	\$300,000
Current ACP:	\$15,500,000
2024 through 2029 cash flow:	\$15,300,000
Total project cost:	\$15,500,000