

Program 8092 – Minneapolis Interceptor System Improvements



Photo collage including 4th Street tunnel repairs and the inside of a tunnel constructed in the 1930s

Description

This program includes facility planning and new projects to address aging infrastructure within or contributory to the City of Minneapolis. Potential projects include:

- Interceptor 1-MN-303 Pipe-in-Pipe Rehabilitation
- Interceptor 1-MN-320 Improvements

Purpose and justification

Interceptors in Minneapolis were constructed as early as 1891 and included tunnels constructed in the 1930s to intercept the old, combined sewers. Additional planning work is required to both identify projects needed to address capacity and to repair existing facilities. These projects will be prioritized into the future CIP.

Program location

The active projects within this program are in the following Council districts: 5, 6, 7, and 8

New program additions

Category	Details
Scope	Evaluation and rehabilitation of over 8,200 feet of 33 to 54-inch interceptor pipe and abandonment of four inactive Emergency Relief Structures.
Assets	1-MN-302, 1-MN-346, 1-MN-307, 1-MN-300A, 1-MN-320, 1-MN-305, 4-FR-440, ERS-04, ERS-08, ERS-11, ERS-12
Communities	Minneapolis, Saint Paul, Fridley
Added budget	\$15,600,000
Construction years	2026 through 2031

Active projects in program

Project Number	Project Title
809200	Minneapolis Interceptor Rehabilitation Phase 2 (Parent Project) – Facility Planning
809203	1-MN-310 Siphon Rehabilitation
809204	1-MN-341 Improvements – Phase 3
809205	Interceptor 1-MN-320 Improvements

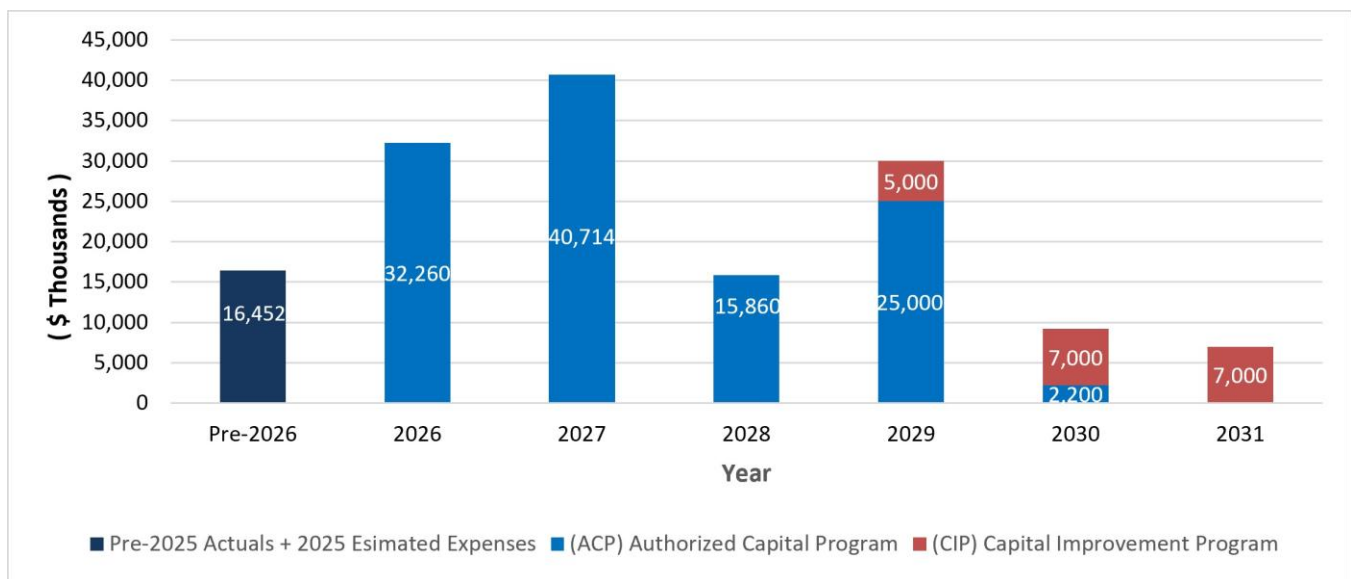
Project Number	Project Title
809207	1-MN-346 Rehabilitation – Phase 2
809208	1-MN-345 Repair
809210	Minneapolis Sandstone Tunnel Evaluation
809211	1-MN-303 Pipe-in-Pipe Rehabilitation
809213	1-MN-310 Rehab between 23rd and 33rd Avenue North
809214	1-MN-310 Rehabilitation – Phase 1
809216	ERS07 Rehabilitation
809218	Northeast Minneapolis Interceptor Rehabilitation

Environmental Services 2026 through 2031 Capital Program

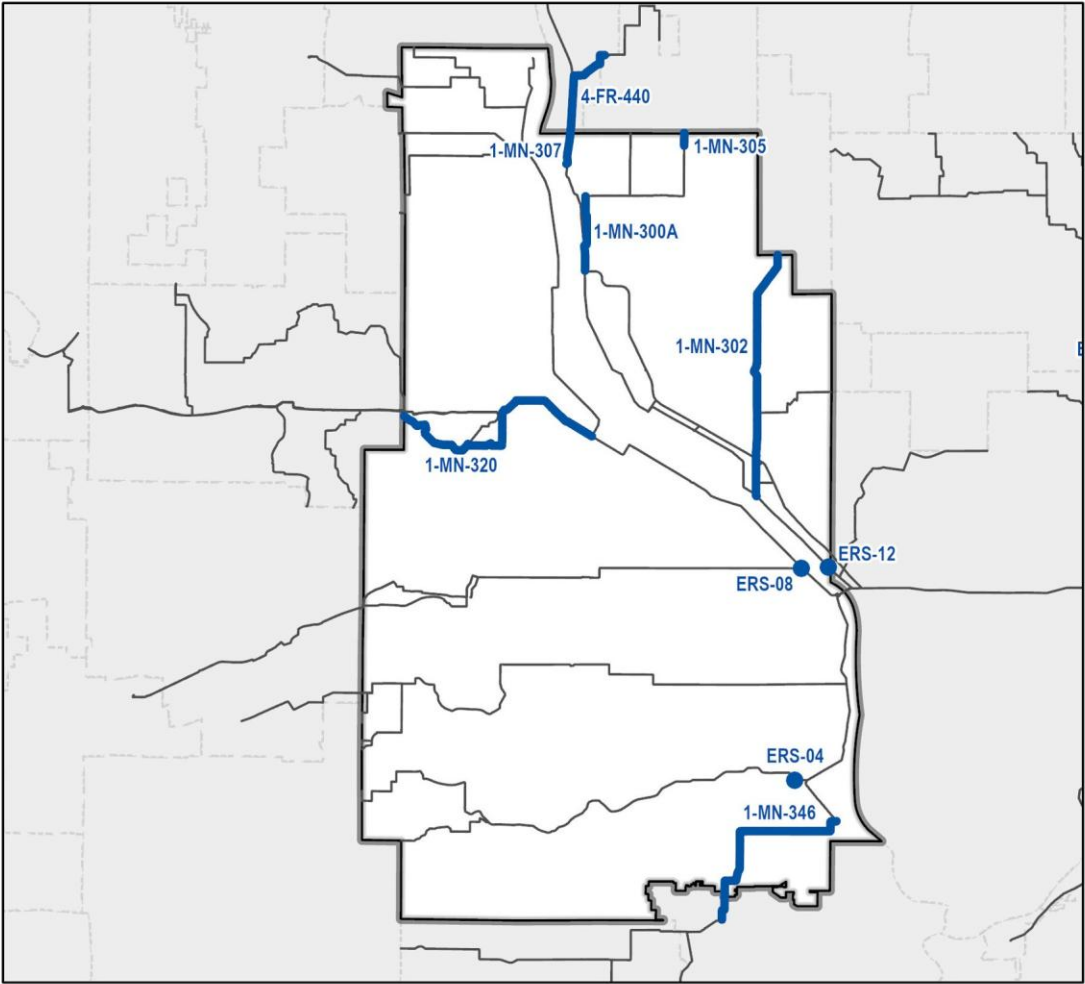
- Authorized Capital Program (ACP): \$132,485,912
- Capital Improvement Plan (CIP): \$19,000,000

Estimated program cash flow from 2026 through 2031

Note: the ACP is the total amount of all past and present authorizations including pre-2026 expenses.



Minneapolis Area Program Map – New Projects

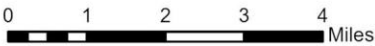


Minneapolis Capital Improvement Projects (CIP)

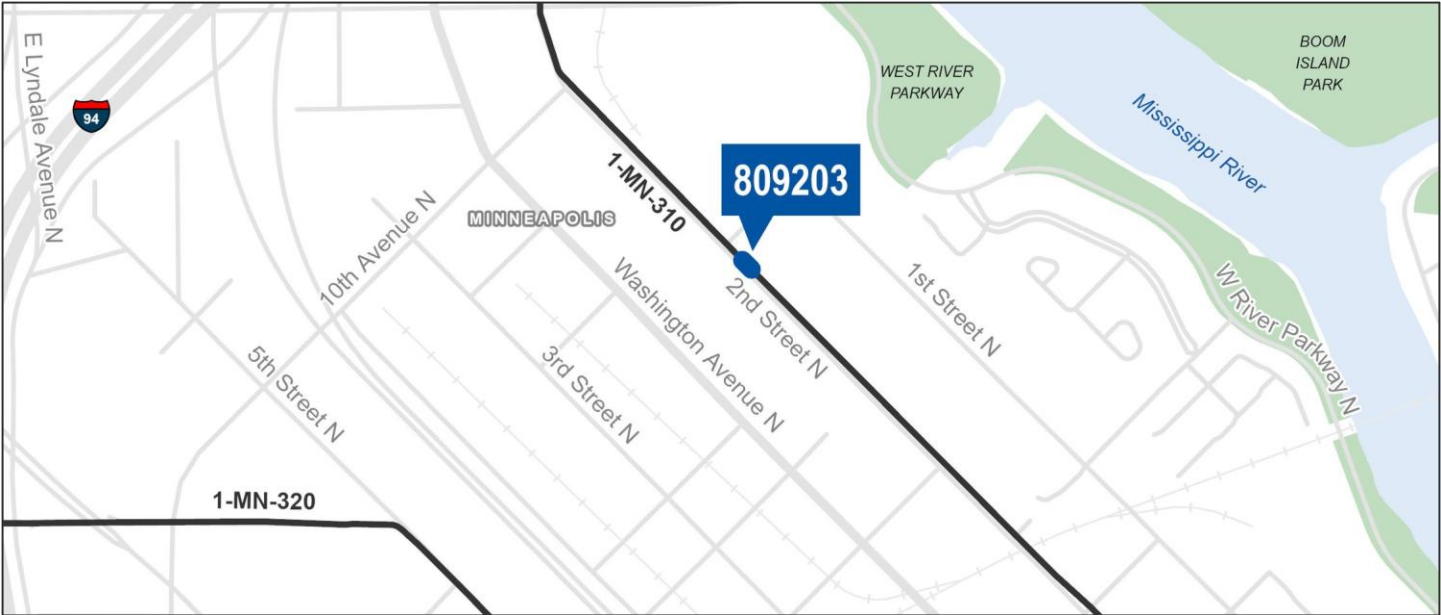
MCES Wastewater Treatment System

- Interceptors
- Interceptors with CIP
- Structures with CIP

- Boundaries
- Community
 - Minneapolis



Project location: Council district #7, City of Minneapolis



Map of project #809203 location near the Star Tribune building in Minneapolis

Project type
Interceptor Improvements

Objectives
Asset Preservation

Scope
Rehabilitation of two 36-inch pipes that convey flow under the Bassets Creek tunnel, including rehabilitation of the siphon headhouse and tailhouse.

Project need
Condition assessments have identified the siphon on 1-MN-310, which conveys flow beneath the Bassets Creek tunnel in Minneapolis, as in poor condition and in need of rehabilitation.



Planning: 2024



Design: 2024 through 2025



Construction: 2026 through 2027

Financial analysis

2026 cash flow:	\$2,500,000
Current ACP:	\$5,654,000
2026 through 2031 cash flow:	\$3,361,000
Total project cost:	\$4,000,000

Project location: Council district #6, City of Minneapolis, Crossing of Lyndale Ave at 36th Street West



Map of Project #809204 location at the intersection of Lyndale Ave and 36th St West in Minneapolis

Project type

Interceptor Improvements

Objectives

Asset Preservation

Scope
Rehabilitation of 1,500 feet of 60-inch and 90-inch concrete pipe and replacement of maintenance hole structures.

Project need
Condition assessment rated portions of Interceptor 1-MN-341 in poor condition. The project is needed to minimize the potential for pipe failure and the release of wastewater to the environment.



Planning: 2024



Design: 2025 through 2026

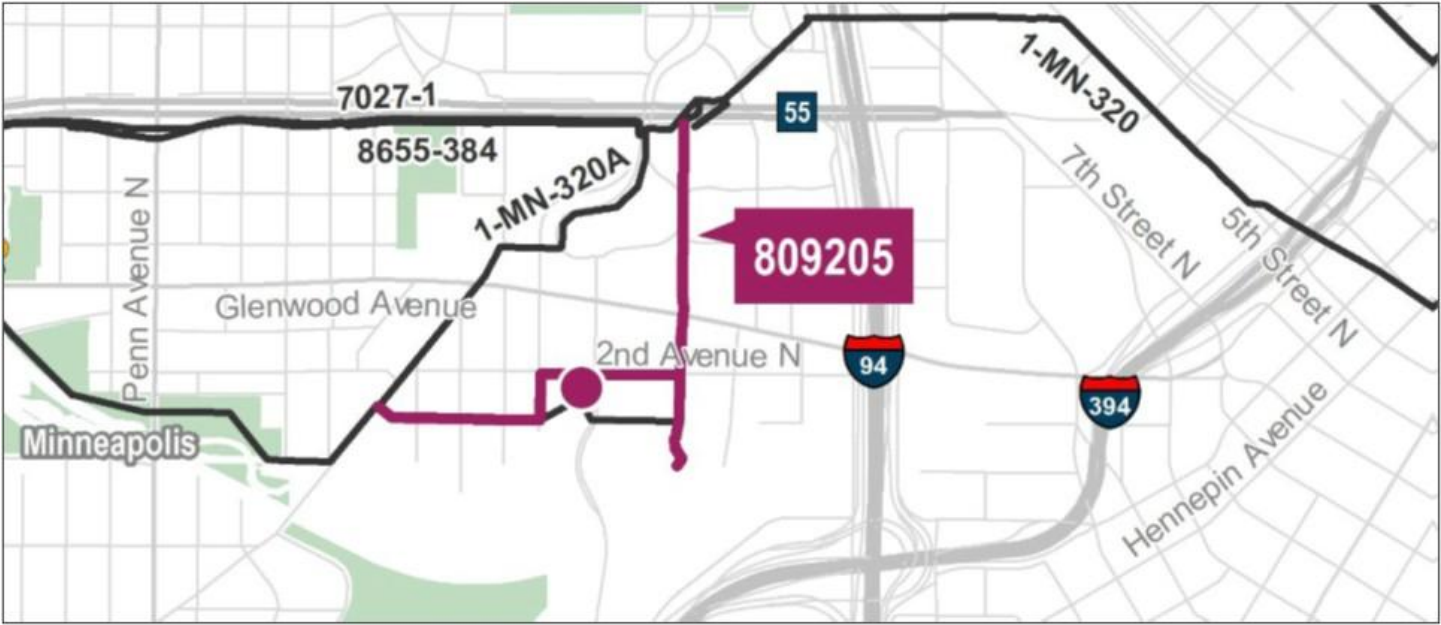


Construction: 2027

Financial analysis

2026 cash flow:	\$10,000,000
Current ACP:	\$16,955,000
2026 through 2031 cash flow:	\$15,753,000
Total project cost:	\$16,500,000

Project location: Council district #7, City of Minneapolis



Map of Project #809205 location south of Highway 55 and west of I-94 in Minneapolis

Project type

Interceptor Improvements

Objectives

Asset Preservation

Scope

A Draft Facility Plan recommends the construction of a lift station that serves flows coming into the Currie Avenue portion of 1-MN-320 and a realignment of the portion of 1-MN-320 along Dupont Avenue.

Project need

This interceptor, originally constructed in 1888, is in poor condition. In addition, the poor grade and likely settlement of the old interceptor causes solids accumulation in the pipe and results in odors.



Planning: 2021



Design: 2022 through 2026

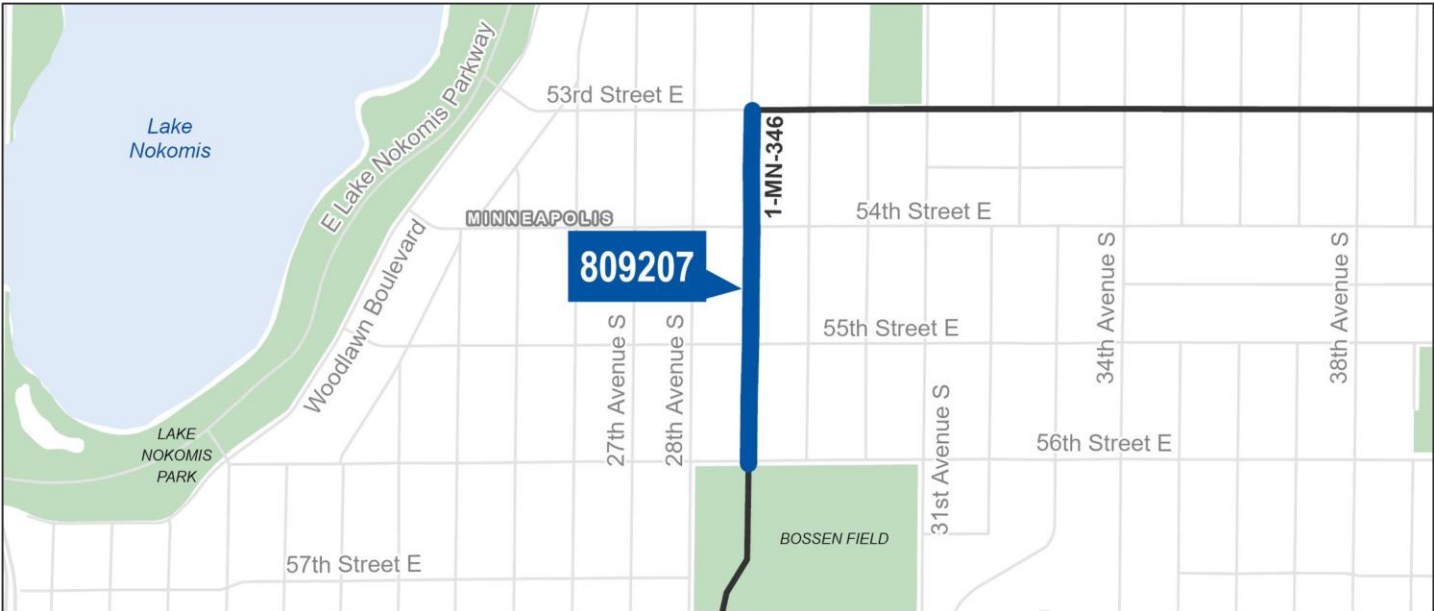


Construction: 2026 through 2028

Financial analysis

2026 cash flow:	\$360,000
Current ACP:	\$15,000,000
2026 through 2031 cash flow:	\$16,000,000
Total project cost:	\$19,970,000

Project location: Council district #6, Cities of Minneapolis and Richfield



Map of Project #809207 along 53rd Street East in Minneapolis

Project type

Interceptor Improvements

Objectives

Asset Preservation and System Expansion

Scope

Remove and replace Interceptor 1-MN-346 and all city utilities and surface improvements between 53th and 56rd Streets East. Reroute 70+ residential services connected to the interceptor to a new City of Minneapolis lateral sewer and remove and replace an existing city lift station to accommodate the additional flow.

Project need

This section of 1-MN-346 is severely sagged resulting in reduced capacity, blockage of air flow, and backflow of wastewater into residential services connected directly to the interceptor. A complete overhaul of the utilities in this area is needed to provide proper drainage for the entire sewershed.



Planning: 2023



Design: 2024 through 2025

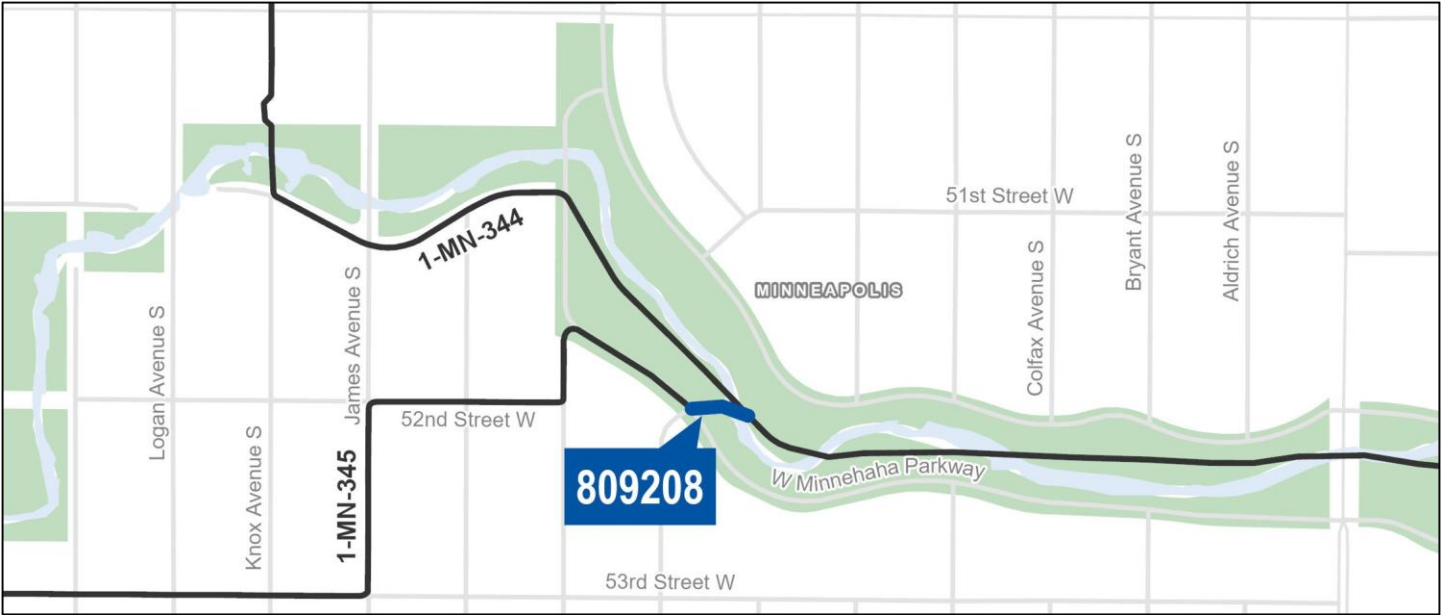


Construction: 2026 through 2029

Financial analysis

2026 cash flow:	\$400,000
Current ACP:	\$23,900,000
2026 through 2031 cash flow:	\$21,000,000
Total project cost:	\$22,075,000

Project location: Council district 5, City of Minneapolis



Map of Project 809208

Project type

Interceptor

Objectives

Asset Preservation

Scope

Rehabilitate Interceptor 1-MN-345 using cured-in-place pipe liner.

Project need

This segment of pipe is severely corroded and in need of rehabilitation.



Planning: 2024 through 2025



Design: 2026

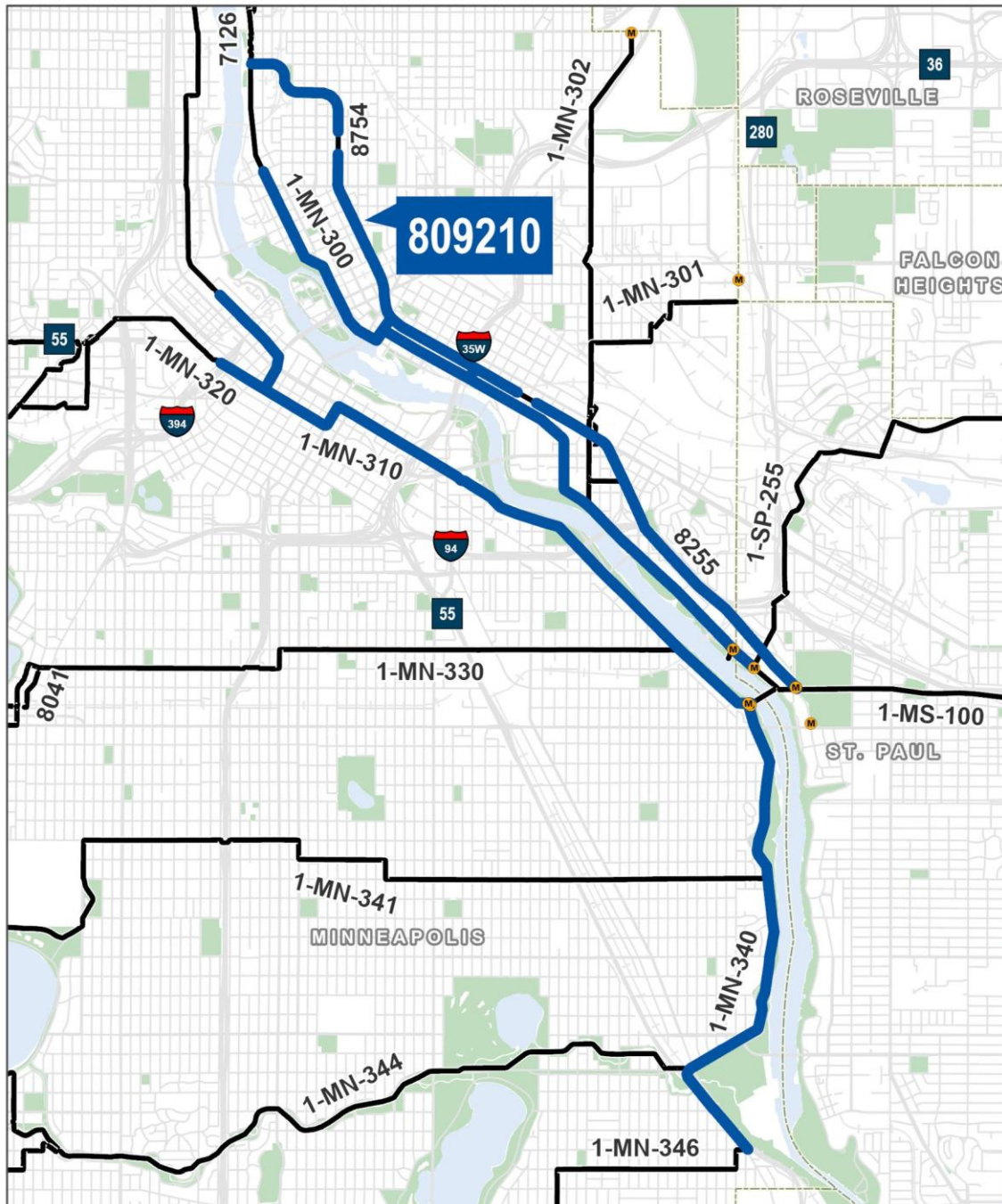


Construction: 2026 through 2027

Financial analysis

2026 cash flow:	\$50,000
Current ACP:	\$400,000
2026 through 2031 cash flow:	\$1,650,000
Total project cost:	\$1,750,000

Project location: Council districts 6, 7, and 8, City of Minneapolis



Map of Project #809210 location along the Mississippi River in Minneapolis

Project type

Condition Assessment

Objectives

Asset Preservation

Scope

Complete cave inspections on 1-MN-310 and 1-MN-340 and prepare inspection plans.

Project need

There is a risk of sandstone eroding over time from over the top of constructed tunnels through natural ground behavior. Condition assessments are needed to minimize the potential for pipe failure.



Planning: 2022 through 2023



Design: 2023



Construction: 2026 through 2027

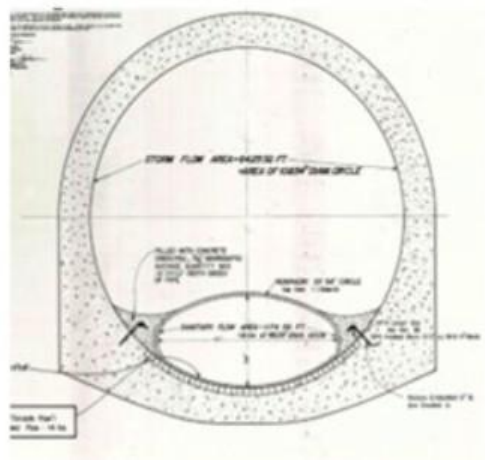
Financial analysis

2026 cash flow:	\$3,000,000
Current ACP:	\$6,500,000
2026 through 2031 cash flow:	\$18,000,000
Total project cost:	\$18,530,000

1-MN-303 Pipe-in-Pipe Rehabilitation
Program family 8092

Project #809211

Project location: Council district #7, City of Minneapolis, Columbia Park and Marshall Terrace neighborhoods



Left: Profile drawing of interceptor pipe. Right: Photo of damage to piping.

Project type
Interceptor Improvements

Objectives
Asset Preservation

Scope
Repair pipe-in-pipe (PIP) using removal and replacement and/or cured-in-place-pipe (CIPP).

Project need
Interceptor 1-MN-303 was built in the early 1920s as a 102-inch reinforced concrete combined sanitary/storm sewer. The segment of 1-MN-303 on 31st Avenue NE between Randolph Street NE and Columbia Golf Course was converted to a PIP separated sewer in 1965 using inlaid deformed corrugated metal pipe (CMP). A walking inspection conducted in January 2022 identified severe damage and corrosion that is allowing significant inflow of stormwater into the sanitary sewer.



Planning: 2020 through 2021



Design: 2021 through 2022



Construction: 2026 through 2027

Financial analysis	
2026 cash flow:	\$6,000,000
Current ACP:	\$14,997,100
2026 through 2031 cash flow:	\$14,500,000
Total project cost:	\$15,020,000

Project location: Council district #7, City of Minneapolis



Map of Project #809213 location south of Lowry Avenue and east of I-94 in Minneapolis

Project type

Interceptor Improvements

Objectives

Asset Preservation

Scope
Line 5,000 feet of 1-MN-310 from 34th Avenue North to 22nd Avenue North and rehabilitate 20 maintenance holes.

Project need
Interceptor 1-MN-310 is adjacent to the proposed Upper Harbor Terminal Project in Minneapolis. Recent CCTV inspection has identified condition 4 deterioration between 34th and 22nd Avenues North. The project schedule will be coordinated to limit impacts on future development in the area.



Planning: 2020



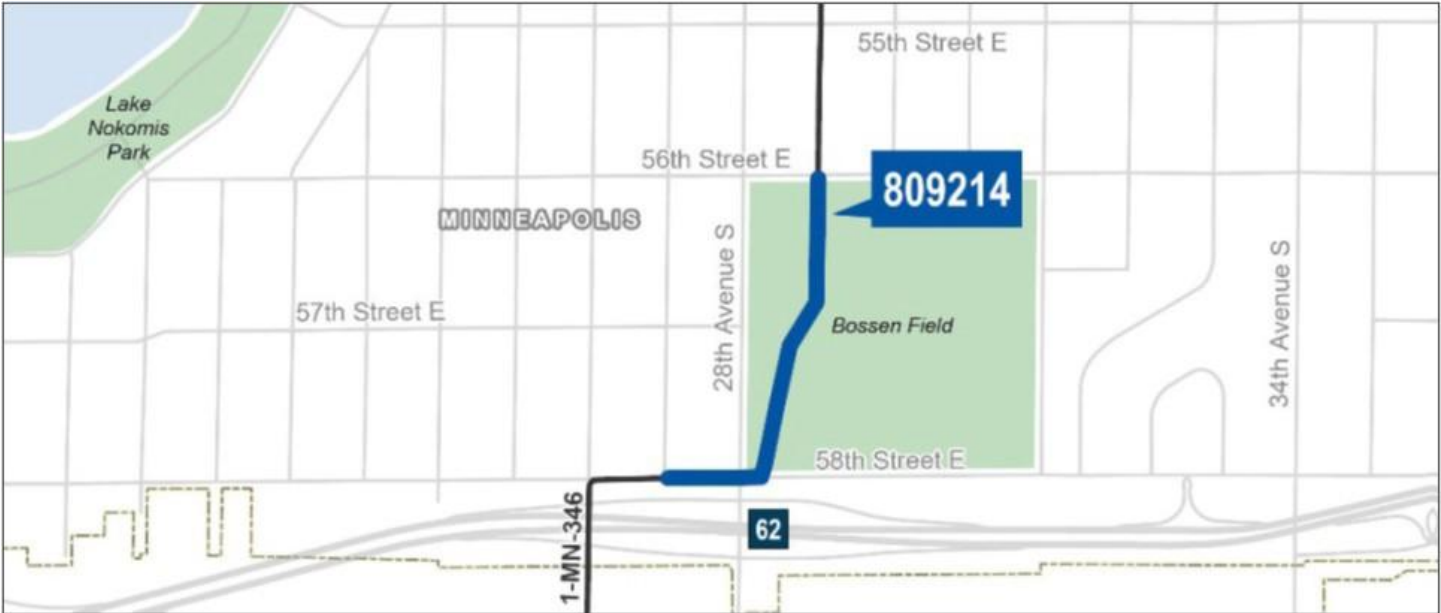
Design: 2020 through 2026



Construction: 2026 through 2027

Financial analysis	
2026 cash flow:	\$5,000,000
Current ACP:	\$15,330,000
2026 through 2031 cash flow:	\$13,600,000
Total project cost:	\$14,025,000

Project location: Council district #6, City of Minneapolis.



Map of Project #809214 location north of Highway 62 in Minneapolis

Project type
Interceptor Improvements

Objectives
Asset Preservation

Scope
Rehabilitate the existing condition 5 pipe between Bossen Field and 53rd Street East or replace it.

Project need
Methane gases are likely entering Interceptor 1-MN-346 through surrounding fill materials. High methane concentrations have been found at structures along Bossen Field park and upstream to Meter M-130. The interceptor was identified as being in poor condition in previous assessment. Lining the interceptor will preserve the pipe and minimize gases from entering the sewer, potentially causing hazardous conditions.



Planning: 2022



Design: 2023



Construction: 2024 through 2025

Financial analysis

2026 cash flow:	\$3,810,000
Current ACP:	\$5,516,000
2026 through 2031 cash flow:	\$3,810,000
Total project cost:	\$5,000,000

Project location: Council district 3, City of Minneapolis



Map of Project 809216

Project type

Interceptor

Objectives

Asset Preservation

Scope

Rehabilitate the corroded gate vaults and damaged odorous air duct work.

Project need

Concrete and ductwork need to be rehabilitated to keep the working space safe and accessible.



Planning: 2024 through 2025



Design: 2025 through 2026

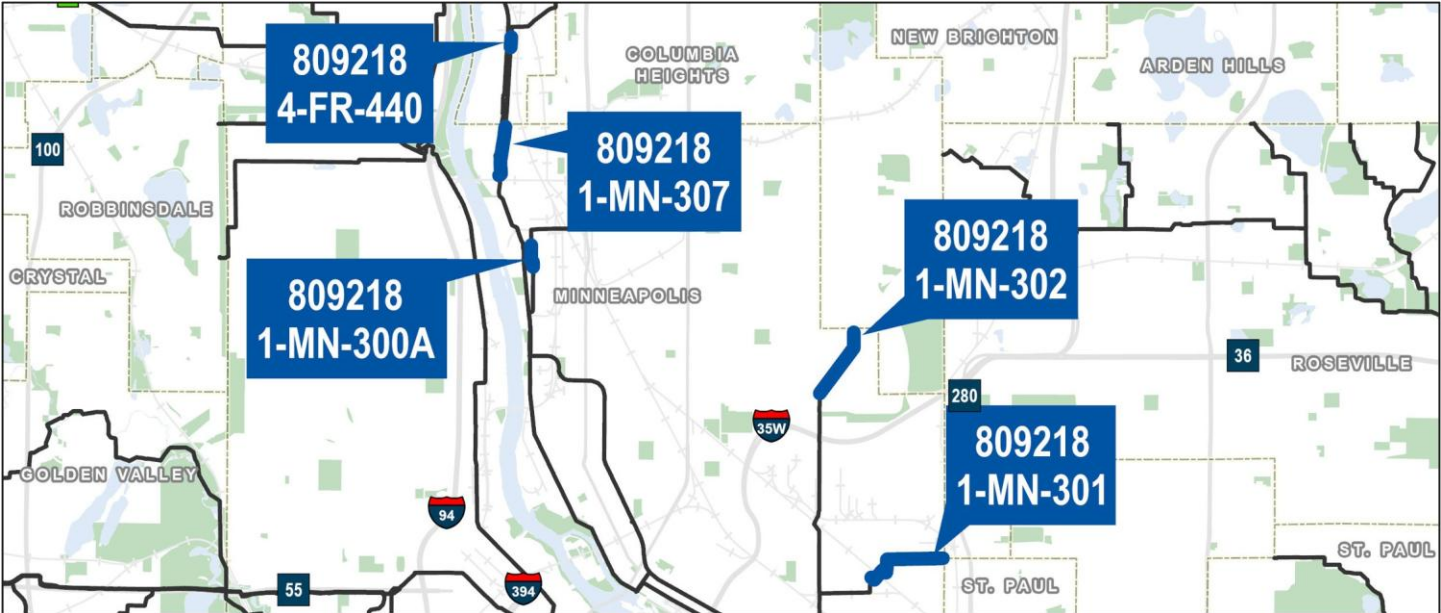


Construction: 2026 through 2027

Financial analysis

2026 cash flow:	\$2,000,000
Current ACP:	\$2,000,000
2026 through 2031 cash flow:	\$3,000,000
Total project cost:	\$3,227,000

Project location: Council district 2 and 7, Cities of Minneapolis and Fridley



Map of Project 809218 showing four sites across Northeast Minneapolis and one site in Fridley

Project type
Interceptor

Objectives
Asset Preservation

Scope
Rehabilitate two miles deteriorated pipe using cured-in-place pipe liner and rehabilitate 63 maintenance holes using a fiberglass insert.

Project need
Five sites across Northeast Minneapolis and Fridley have deteriorated pipe and maintenance holes. Deterioration includes corroded concrete pipes, cracking, and infiltration. Lining the pipe and rehabilitating/replacing the maintenance holes will preserve the life of the sewer.



Planning: 2025



Design: 2026-2027



Construction: 2027-2029

Financial analysis

2026 cash flow:	\$240,000
Current ACP:	\$1,413,000
2026 through 2031 cash flow:	\$11,900,000
Total project cost:	\$12,000,000