

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

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
809207	1-MN-346 Rehabilitation – Phase 2
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

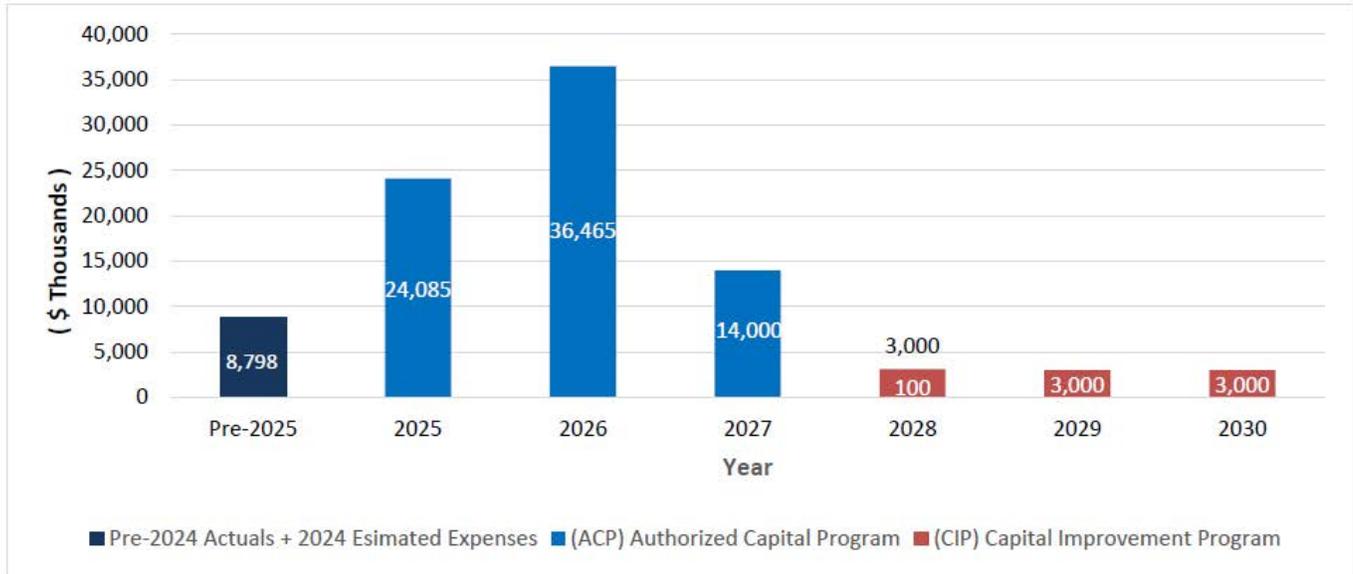
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Environmental Services 2025 through 2030 Capital Program

- Authorized Capital Program (ACP): \$83,448,151
- Capital Improvement Plan (CIP): \$9,000,000

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.

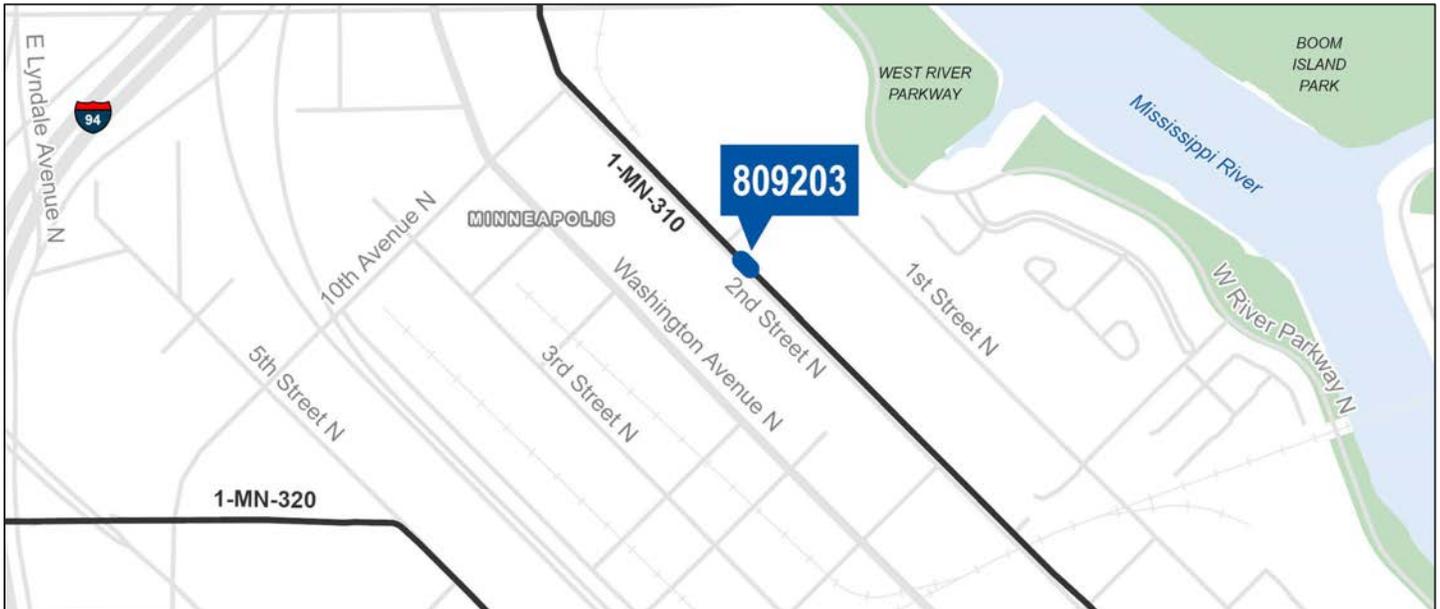


1-MN-310 Siphon Rehabilitation

Program family 8092

Project #809203

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: 2025 through 2026

Financial analysis

2025 cash flow:	\$500,000
Current ACP:	\$4,009,000
2025 through 2030 cash flow:	\$3,861,000
Total project cost:	\$4,000,000

1-MN-341 Improvements – Phase 3
Program family 8092

Project #809204

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 W 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: 2024 through 2025



Construction: 2025 through 2026

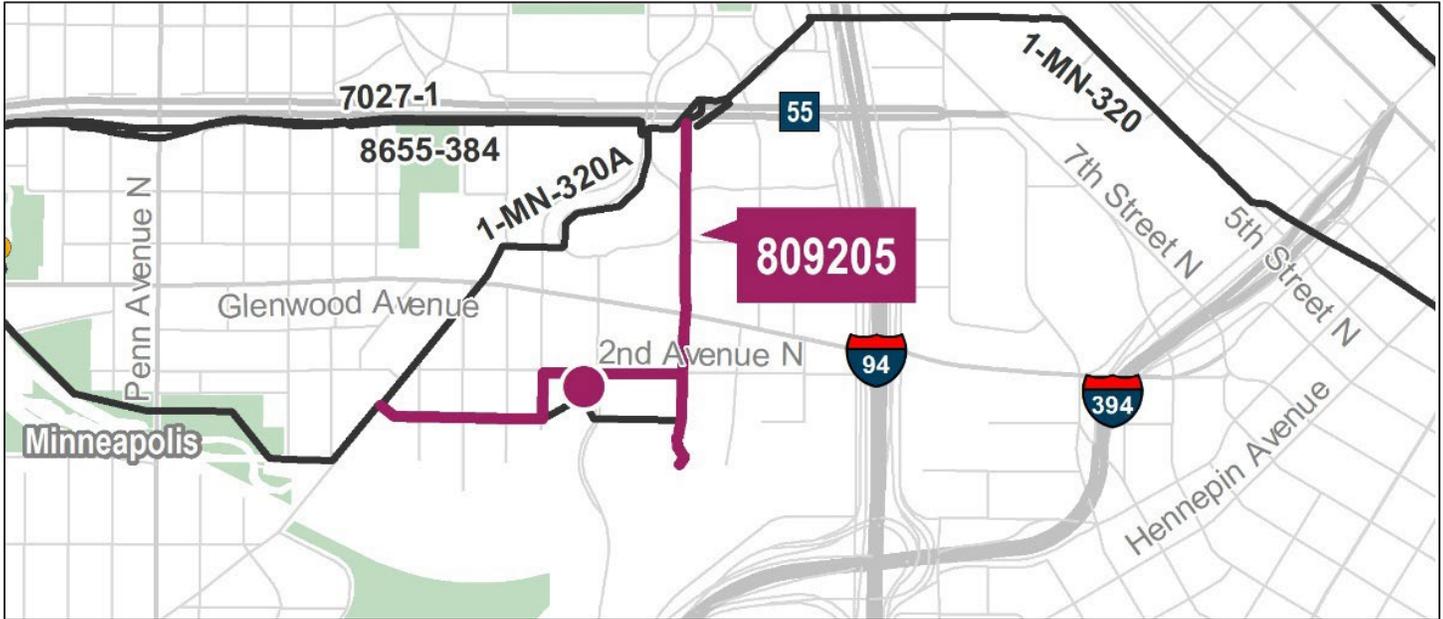
Financial analysis

2025 cash flow:	\$500,000
Current ACP:	\$1,360,000
2025 through 2030 cash flow: Total	\$16,300,000
project cost:	\$16,500,000

Interceptor 1-MN-320 Improvements
 Program family 8092

Project #809205

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

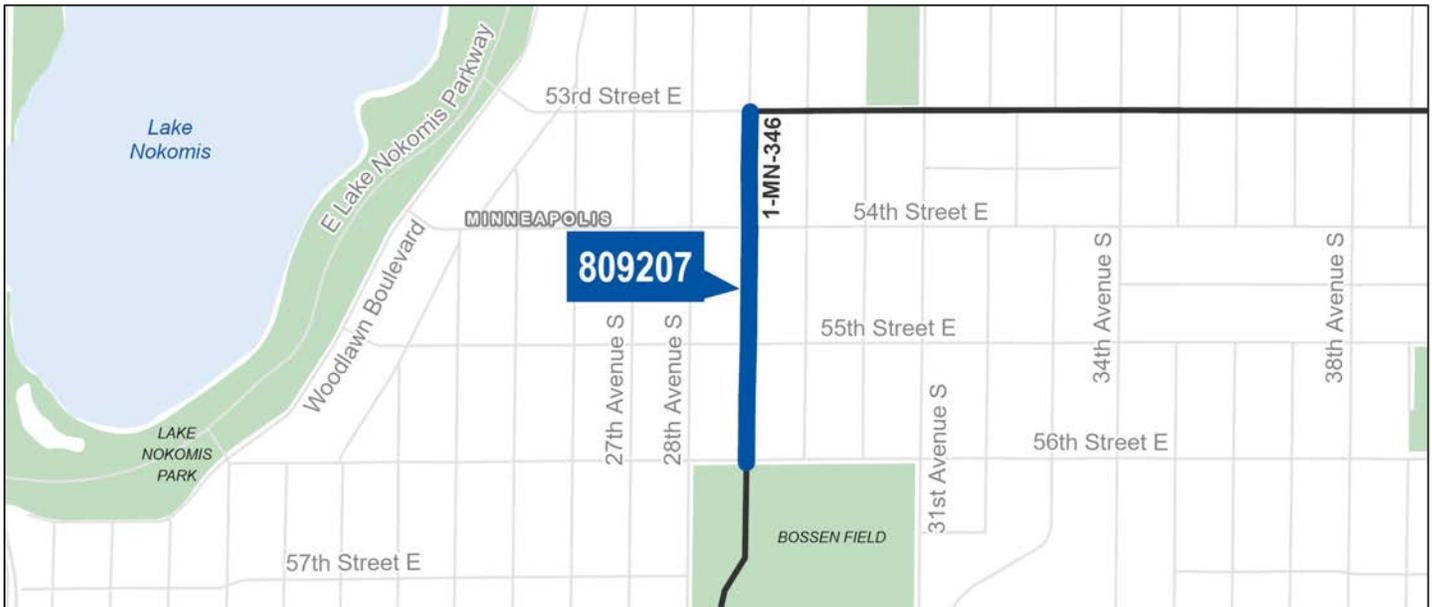


Construction: 2026 through 2028

Financial analysis

2025 cash flow:	\$280,000
Current ACP:	\$16,315,000
2025 through 2030 cash flow:	\$15,900,000
Total project cost:	\$20,000,000

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

A study is underway to determine whether a new interceptor pipe should replace the existing 1-MN-346 interceptor or divert flow through a parallel pipe to increase capacity and reduce maintenance.

Project need

Hydraulic modeling conducted by Environmental Services in partnership with the City of Edina indicates future capacity issues. A sag between 54th and 56th Streets along 1-MN-346 has been problematic for maintenance with grease buildup and limits the capacity of the pipe.



Planning: 2023



Design: 2024



Construction: 2025 through 2026

Financial analysis

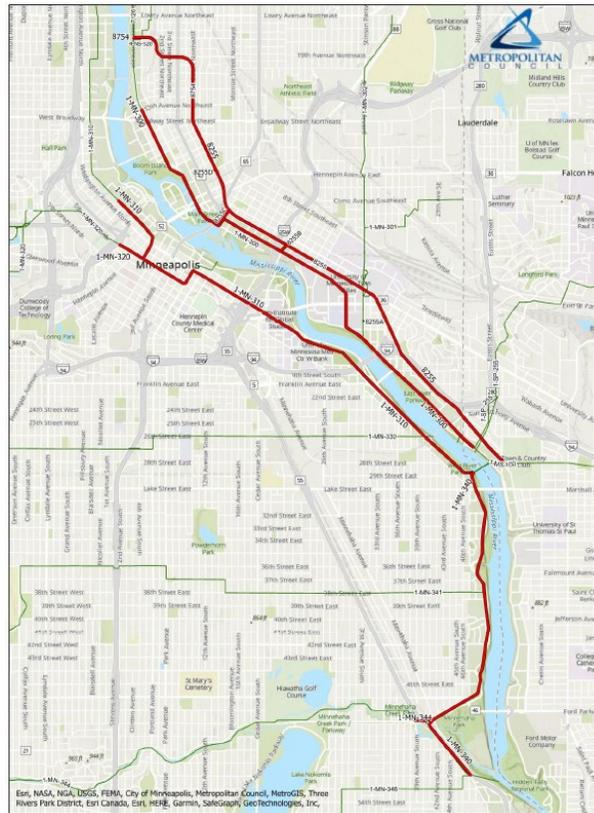
2025 cash flow:	\$500,000
Current ACP:	\$2,400,000
2025 through 2030 cash flow:	\$22,100,000
Total project cost:	\$9,325,000

Minneapolis Sandstone Tunnel Evaluation

Program family 8092

Project #809210

Project location: Council districts #6 and 7, City of Minneapolis, generally paralleling the Mississippi River



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: 2025 through 2026

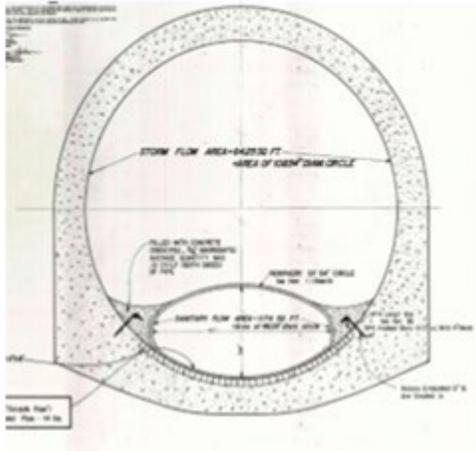
Financial analysis

2025 cash flow:	\$100,000
Current ACP:	\$6,500,000
2025 through 2030 cash flow:	\$15,100,000
Total project cost:	\$18,500,000

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 in-laid 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: 2022 through 2023

Financial analysis

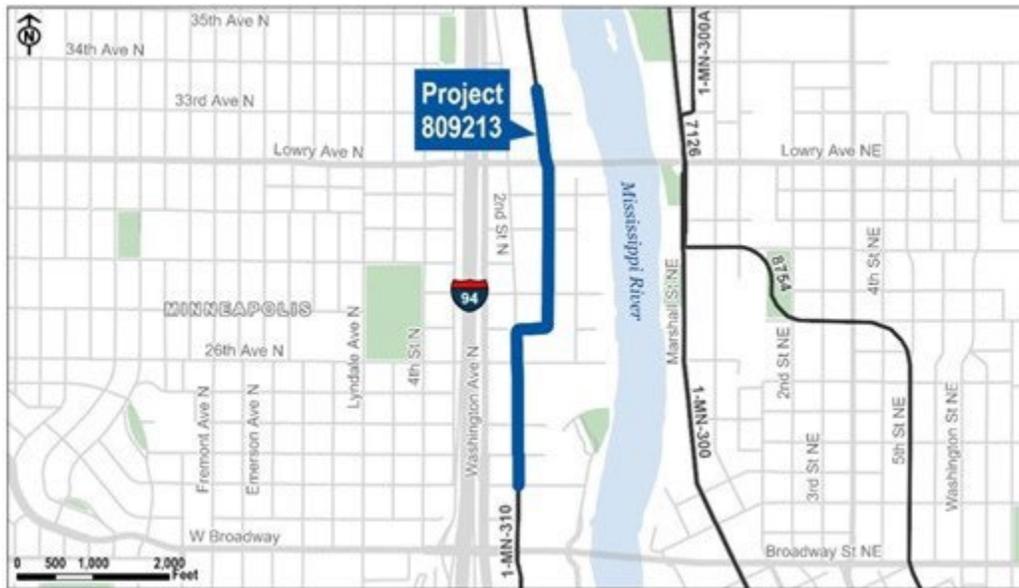
2025 cash flow:	\$120,000
Current ACP:	\$15,000,000
2025 through 2030 cash flow:	\$14,620,000
Total project cost:	\$15,000,000

1-MN-310 Rehabilitation Between 23rd and 33rd Avenue North

Program family 8092

Project #809213

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 2023



Construction: 2023 through 2025

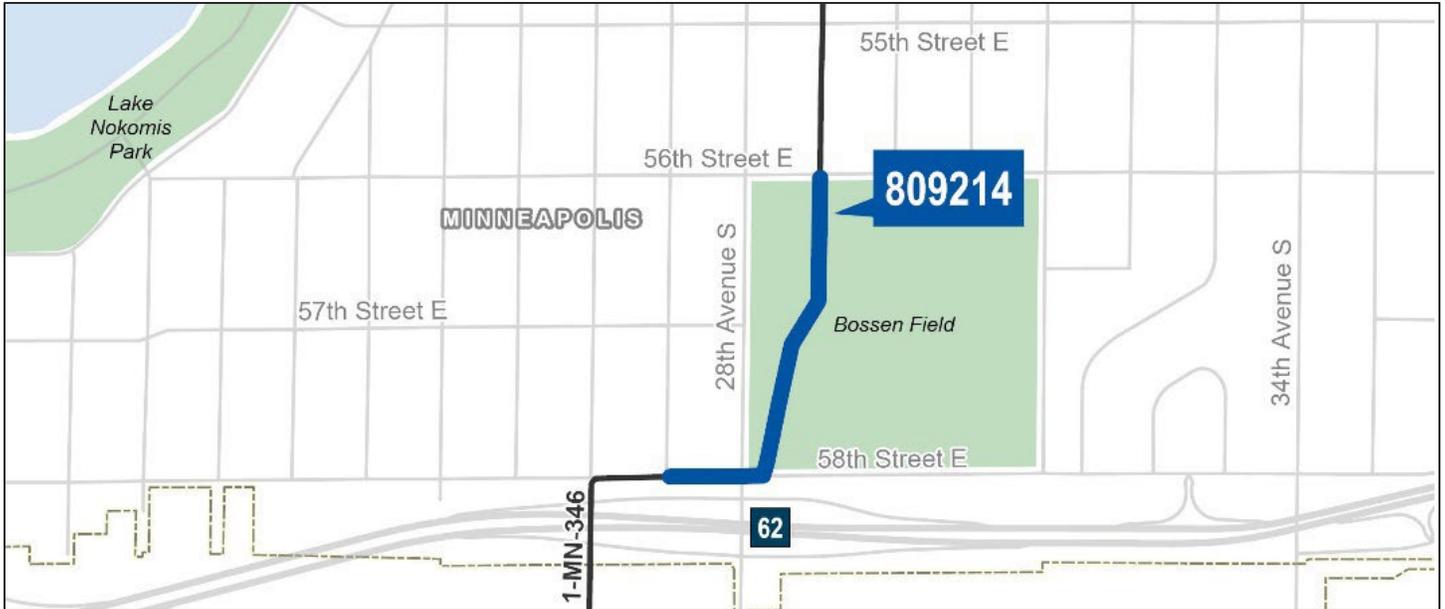
Financial analysis

2025 cash flow:	\$150,000
Current ACP:	\$15,330,000
2025 through 2030 cash flow:	\$13,750,000
Total project cost:	\$14,025,000

1-MN-346 Rehabilitation – Phase 1
Program family 8092

Project #809214

Project location: Council district #6, Cities of Minneapolis and Richfield, north side of the airport to the north side of Bossen Field



Map of Project #809214 location north of Highway 62 in Richfield and 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

2025 cash flow:	\$1,000,000
Current ACP:	\$5,516,000
2025 through 2030 cash flow: Total	\$4,810,000
project cost:	\$5,000,000