

Program 8088 St. Paul Interceptor System Rehabilitation

Cured-in-place (CIP) liner being installed through a manhole

Large-diameter interceptor sewer pipe segments ready for installation

Description:

The interceptors located in Inver Grove Heights, Maplewood, Roseville, Shoreview, St. Paul, and Vadnais Heights need rehabilitation and/or replacement. The project will rehabilitate existing interceptor facilities to ensure reliable service.

Purpose and Justification:

The St. Paul Interceptor System Rehabilitation Program was developed to address areas of severe corrosion in the interceptor sewer system in St. Paul and surrounding suburbs. Internal corrosion of concrete sewer pipes and structures creates structural weakness that creates a risk for collapse and potential loss of service or wastewater spills. Projects have been identified to rehabilitate the existing sewers using trenchless means where possible, such as cured-in-place pipe or slip lining.

Program Location:

The active projects within this program are in the following Council Districts: District # 10, 11, 13 & 14

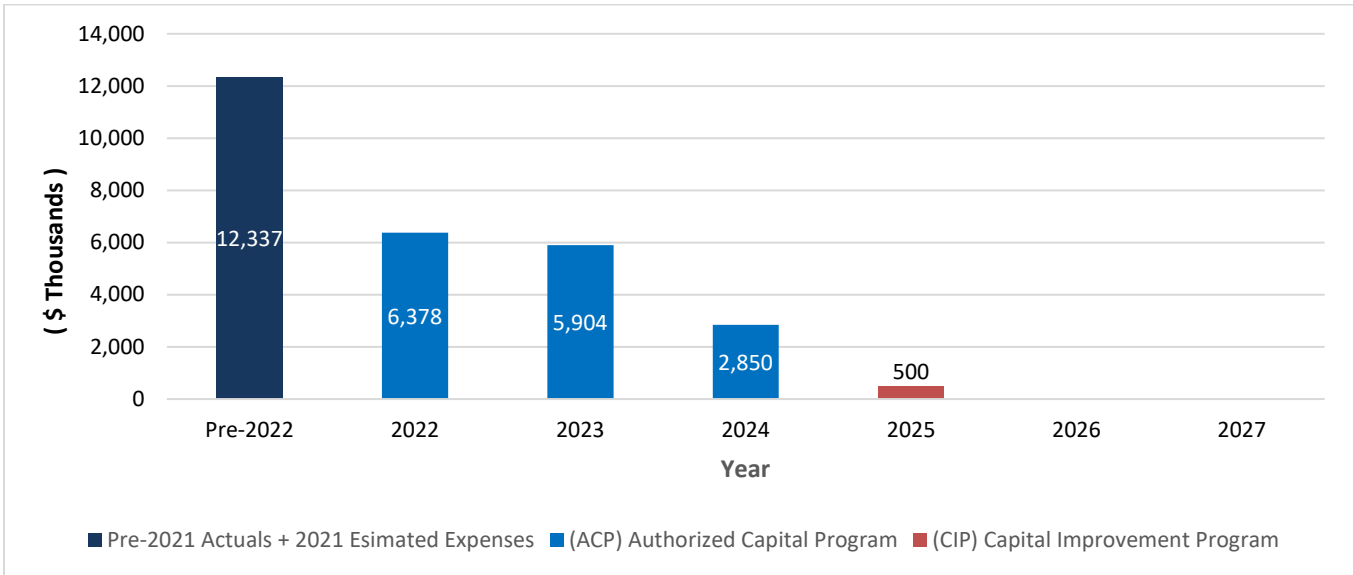
Active Projects in Program:

Project Number	Project Title
808800	St Paul Interceptor System (SPIS) Rehabilitation (Parent Project)
808823	Interceptors 1-SP-200 and 1-SP-201 Battle Creek Rehabilitation
808861	Grass Lake Interceptor Rehabilitation
808862	Long Lake Interceptor Rehabilitation
808881	R02 Site Needs Evaluation
808882	1-MS-100 Rehabilitation Feasibility Study
808883	Review Siphon Preliminary Investigation
808884	St Paul Interceptor System Study
808885	1-MS-100 Rehabilitation - Phase 1

MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) \$27,969,000	Capital Improvement Plan (CIP) \$500,000
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Estimated Program Cash Flow 2022 - 2027:



Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.

Program Family: 8088
Project # 808823

Interceptors 1-SP-200 and 1-SP-201 Battle Creek Rehabilitation

Project Location:

Council District # 13

City St. Paul

Battle Creek Regional Park



PROJECT TYPE:	Interceptor Rehabilitation
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Comply with Permits, Minimize Impacts, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate With Others and Preserve Assets
SCOPE:	Cured-in-place pipe lining of approximately 5,000 feet of 30" and 33" concrete gravity interceptor sewer, constructed in 1959. The work includes two adjacent sites at Battle Creek Regional Park in St. Paul. The program also includes the addition of a channel grinder in the bar screen building upstream of the Battle Creek Siphon, and some structure and pipe replacements.
PROJECT NEED:	This is one in a program of rehabilitation projects in St. Paul, for which a Facility Plan was approved by the MN Pollution Control Agency in 2016. The rehabilitation program is driven by condition assessment, and much of the pipe and structures included in this project are rated Condition 4 and 5 per National Association of Sewer Service Companies (NASSCO) condition assessment standards, in need of immediate attention.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$3,730,000	Current ACP \$13,152,000	2022 – 2027 Cash Flow \$3,730,000	Total Project Cost \$13,152,000
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Program Family: 8088
Project # 808861

Grass Lake Interceptor Rehabilitation

Project Location:
Council District # 10
City of Shoreview



PROJECT TYPE:	Interceptor
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers and Coordinate with Others
SCOPE:	Re-align MH1 to MH15 to improve access and reduce I&I along Grass Lake
PROJECT NEED:	To relocate the interceptor to provide year around access and prevent flooded structures, prevent I&I as lake levels continue to rise.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow	Current ACP	2022 – 2027 Cash Flow	Total Project Cost
\$478,000	\$5,765,000	\$5,178,000	\$5,765,000

Program Family: 8088
Project # 808862

Long Lake Interceptor Rehabilitation

Project Location:
Council District # 10
City of New Brighton



PROJECT TYPE:	Interceptor
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers and Coordinate with Others
SCOPE:	CIPP repair includes interceptor 2-NB-100 from MH 40 to MH 43
PROJECT NEED:	The segment of the Interceptor 2-NB-100 is showing signs and areas of heavy corrosion. The deterioration in the interceptor and at the maintenance structure at several locations is severe and needs repair.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow	Current ACP	2022 – 2027 Cash Flow	Total Project Cost
\$1,000,000	\$1,871,000	\$1,704,000	\$1,871,000

Program Family: 8088
Project # 808881

Third and Commercial Site Needs Evaluation

Project Location:
Council District # 13
City St. Paul
Interceptor 1-MS-100
Third & Commercial
LWR



PROJECT TYPE:	Interceptor
OBJECTIVES:	Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE:	Comply with Permits, Minimize Impacts, Lead by Example, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate with Others and Preserve Assets
SCOPE:	The site needs evaluation to examine current and future needs at the Third and Commercial site to ensure that critical assets can be operated and maintained for the region into the future.
PROJECT NEED:	MCES maintains critical infrastructure at its Third and Commercial site, including the largest sewer tunnel in the Twin Cities metro area. MCES needs to reserve the space needed to maintain operations and to allow access for future rehabilitation of Interceptor Sewer 1-MS-100, the emergency relief structure and the septage recovery facility.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$1,900,000	Current ACP \$2,061,000	2022 – 2027 Cash Flow \$1,900,000	Total Project Cost \$2,061,000
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Program Family: 8088
Project # 808882

1-MS-100 Rehabilitation Feasibility Study

Project Location:
Council District 13
City of St. Paul



Construction Photos from 1936



PROJECT TYPE:	Interceptor
OBJECTIVES:	Preservation
CUSTOMER LEVEL OF SERVICE:	Comply with Permits, Minimize Impacts, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate With Others and Preserve Assets
SCOPE:	A facility plan will be created as a first phase, to evaluate alternatives for rehabilitating portions of 1-MS-100 with corrosion and other structural concerns.
PROJECT NEED:	Past inspections have indicated corrosion and other structural concerns with this large and deep sewer tunnel constructed in the 1930's. Due to the size and difficulty of this work, and expected costs of construction, it will require extensive planning and multiple stages of work in advance of future construction.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$250,000	Current ACP \$767,000	2022 – 2027 Cash Flow \$500,000	Total Project Cost \$767,000
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Program Family: 8088
Project # 808883

Riverview Siphon Preliminary Investigation

Project Location:
Council District 13
City of St. Paul



Riverview Siphon Headhouse Exterior



Riverview Headhouse Interior

PROJECT TYPE:	Interceptor
OBJECTIVES:	Preservation and Quality Improvements
CUSTOMER LEVEL OF SERVICE:	Meet Capacity Needs, Coordinate with Others, Preserve Assets
SCOPE:	A calibrated hydraulic model was created to estimate capacity of the Riverview Siphon system, and an analysis of current and future wastewater flows was conducted in collaboration with the City of St. Paul. Initial modeling found unexpectedly low capacity in the siphon, resulting in a cleaning and televising project. Additional modeling and system analysis will determine if capacity and reliability are adequate to meet current and future needs.
PROJECT NEED:	Growth in the West Side Flats area of St. Paul, combined with evidence of past wastewater spills at the siphon headhouse and concerns raised by the City of St. Paul about the ability of the siphon to serve rapid redevelopment in the area, have driven an analysis to better understand siphon capacity and improvement needs.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow	Current ACP	2022 – 2027 Cash Flow	Total Project Cost
\$250,000	\$2,250,000	\$2,250,000	\$2,381,000