MCES 2022 - 2027

CAPITAL PROGRAM



Metro Wastewater Treatment Plant Secondary Renewal

Adopted December 8, 2021

390 Robert Street North | St. Paul, MN 55101-1805 Phone 651.602.1000 | Fax 651.602.1550 | TTY 651.291.0904 | metrocouncil.org An Equal Opportunity Employer



The Council's mission is to foster efficient and economic growth for prosperous metropolitan region

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The Metropolitan Council is the regional planning organization for the seven-county Twin Cities area. The Council operates the regional bus and rail system, collects and treats wastewater, coordinates regional water resources, plans and helps fund regional parks, and administers federal funds that provide housing opportunities for low-and moderate-income individuals and families. The 17-member Council board is appointed by and serves at the pleasure of the governor.

On request, this publication will be made available in alternative formats to people with disabilities. Call Metropolitan Council information at 651-602-1140 or TTY 651-291-0904.

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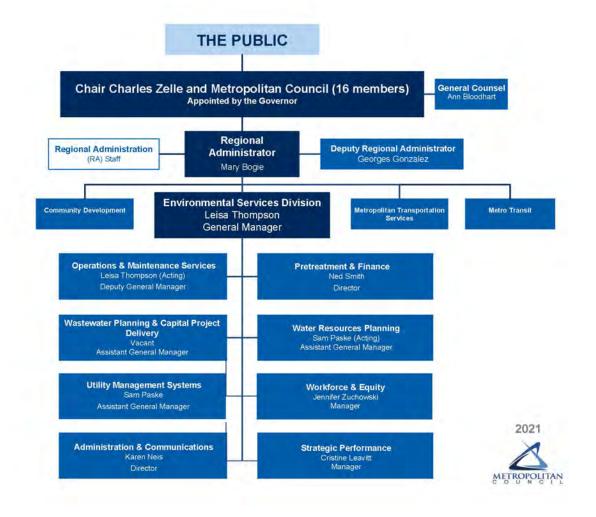
About Metropolitan Council Environmental Services



Metropolitan Council Environmental Services (MCES) is responsible for operating and maintaining the regional wastewater system which protects public health, protects the environment, and fosters the economic growth of the seven county Twin Cities Metropolitan Area. The regional wastewater system currently serves 111 communities and has an estimated replacement value of \$7 Billion. The organization employs about 640 staff who are committed to clean water and a clean environment, both of which are essential to the quality of life for those who live and work in the region.

MCES consistently achieves near-perfect compliance with federal and state water discharge standards while holding rates 40% below the national average. MCES is committed to sustainable operations through energy efficiency, use of renewable energy resources, use of technology and reducing air pollutant emissions and resource recovery.

Environmental Services Organizational Chart



Extraordinary Facts by the numbers!

Environmental Services

moves and treats **250 million** gallons of wastewater each day

serving 2.7 million people in 111 communities in the 7-county Twin Cities metro area.





That wastewater moves through privately owned and city sewer pipes into

634 miles of regional interceptor sewer mains

ranging in size from 9 inches to 14 feet in diameter and in age from 140 years old to brand new!

The wastewater also passes

226 meters measuring how much water is flowing through the pipes.

lift stations

pumping water from lower elevation to higher elevation so gravity can help us move it.

on its way to

treatment plants

cleaning the water before it is returned to the environment.



Metropolitan Council Environmental Services 390 Robert Street North Saint Paul, MN 55101-1805 metrocouncil.org



Rev. 12.03.2021

Capital Program

Capital Program Overview

The Environmental Services Capital Program is a component of the Metropolitan Council's unified budget plan. The Environmental Services Division plans capital spending for new treatment plants, interceptors and/or improvements to the metropolitan wastewater system. The capital program provides capital investments to preserve and rehabilitate existing wastewater infrastructure, meet more stringent water and air quality regulations, and expand the system capacity to meet regional growth needs. The Capital Program is prepared, reviewed, and approved on a yearly basis to consider new programs and/or adjustments to the plan. The Capital Program and key projects are presented to customers at the budget workshops held annually.

From 1970 to 2013, capital investment focused primarily on developing an efficient and effective wastewater system to meet the needs of a growing region. These investments included interceptor system capacity expansion and extension to serve the long-term service area (2040 and beyond), as well as consolidating, expanding capacity, and completing quality upgrades to the regional wastewater treatment plants. Between 2014 and 2020, capital investments shifted primarily to preserving the valuable regional wastewater infrastructure. The 2022-2027 program continues to have a strong emphasis on asset preservation and includes capacity improvements to support a thriving region. Noteworthy capacity projects and asset preservation projects in the plan include expansion of solids processing at the Metro Plant, a new wastewater treatment plant at Hastings, the new Crow River wastewater treatment plant and lift station L32A in Fridley.



MCES Customer Level of Service



Water Resources Policy Plan and the Customer Level of Service are the foundation for the Capital Program.

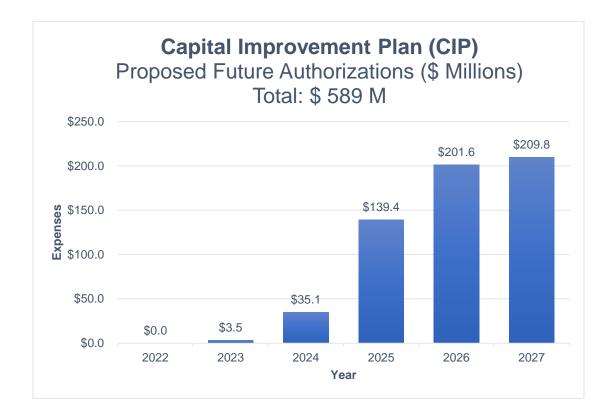
Authorized Capital Program (ACP) - The ACP provides multi-year authorization to spend on program costs where funding has been secured and the Council has given final approval to proceed. It is the total amount of all past and present approvals from the Council.

The 2022 ACP consists of the previously approved ACP; plus, the authorization of new programs; authorized adjustments to existing programs; and the deletion of completed and closed-out programs. The changes are summarized below.

Summary of Authorized Capital Program (ACP) Changes

| Previous Authorized Capital Program (ACP) | \$1,032,670,524 |
|---|------------------|
| Adjustments to Existing Projects | \$ 154,364,058 |
| Closed Projects | \$ (146,236,220) |
| New Projects | \$ 63,754,163 |
| Total All Changes | \$ 32,484,987 |
| Approved 2022 ACP | \$1,104,552,525 |

Capital Improvement Plan (CIP) - The CIP is the six-year capital investment plan. The Council has not given final approval to these investments. These proposed investments and the year that it is anticipated that the Council will be asked to move them into the ACP is summarized below.



Capital Program – The Capital Program consists of the ACP plus the CIP. Table 10 from the Metropolitan Council's 2022 Unified Budget summarizes the MCES 2022 - 2027 Capital Program:

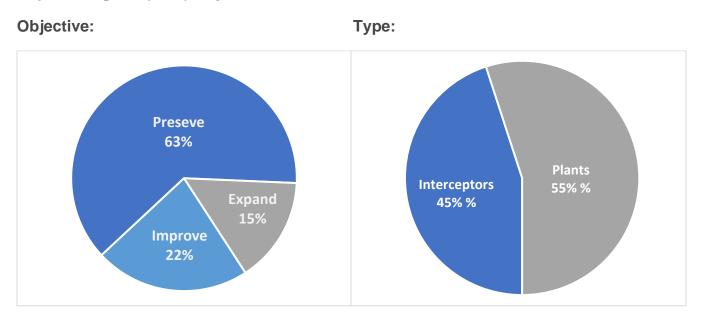
| METROPOLITAN COUNCIL | | | | | | | | | | | TABLE 10 |
|---|-----------------|-----------------|------------------|------|-------|------------|---------------|---------------|----------|---------------|-----------------------|
| CAPITAL PROGRAM ENVIRONMENTAL SERVICES | | | | | | | | | | | (\$ in 000's) |
| | | Capital Prog | , , | | | Capital In | provement F | Plan (CIP) | | | |
| | 2021 Amended | Changes | 2022 Proposed | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Total | ACP + CIP Combined |
| Treatment Plant Projects | | | | | | | | | | | |
| 8059 - Metro Rehabilitation & Facilities Improve | 110,417 | 5,449 | 115,866 | - | - | - | - | - | - | - | 115,866 |
| 8062 - Metro Solids Improvements | 168,746 | 5,082 | 173,828 | - | - | - | 10,000 | 10,000 | 10,000 | 30,000 | 203,828 |
| 8074 - Empire Plant Solids Improvements | 56,642 | -2,683 | 53,959 | - | - | - | - | - | - | - | 53,959 |
| 8075 - Seneca Solids Processing Improvements | 28,960 | -28,960 | - | - | - | - | - | - | - | - | - |
| 8078 - Regional Plant Improvements | 46,203 | 473 | 46,676 | - | 500 | 7,000 | 8,500 | 9,100 | 9,100 | 34,200 | 80,876 |
| 8089 - MWWTP Asset Renewal | 122,141 | 54,116 | 176,257 | - | - | - | 15,060 | 28,000 | 29,500 | 72,560 | 248,817 |
| 8091 - Wastewater Reclamation Facilities | 6,775 | 359 | 7,133 | - | - | - | 1,250 | 20,000 | 20,000 | 41,250 | 48,383 |
| 8097 - Blue Lake Solids Processing | 1,948 | 751 | 2,700 | - | 3,000 | 4,000 | 10,000 | 20,100 | 50,000 | 87,100 | 89,800 |
| 8098 - Hastings WWTP | 2,000 | 20,600 | 22,600 | - | - | 10,000 | 38,000 | 20,000 | - | 68,000 | 90,600 |
| 8100 - Industrial Pretreatment Incentive Program | 12,957 | 8,743 | 21,700 | - | - | 100 | 100 | 5,000 | - | 5,200 | 26,900 |
| TOTAL Treatment Plant Projects | 556,788 | 63,931 | 620,719 | - | 3,500 | 21,100 | 82,910 | 112,200 | 118,600 | 338,310 | 959,029 |
| Interceptor Projects | | | | | | | | | | | |
| 8028 - Blue Lake System Improvements | 58,919 | -15,828 | 43,090 | | - | - | 6,780 | 300 | - | 7,080 | 50,170 |
| 8041 - Hopkins System Improvements | 10,207 | 5 | 10,213 | - | - | - | - | - | - | -,000 | 10,213 |
| 8055 - Lift Station Improvements | 32,497 | 28,437 | 60,934 | - | - | - | 10,200 | 30,200 | 30,200 | 70,600 | 131,534 |
| 8056 - Meter Improvements | 19,826 | 4,187 | 24,014 | _ | - | - | 10,000 | 10,000 | 10.000 | 30,000 | 54,014 |
| 8063 - SWC Interceptor - Lake Elmo Connections | 13,444 | 6,119 | 19,563 | | | | 10,000 | 10,000 | 10,000 | | 19,563 |
| 8076 - Mpls. Interceptor System Rehabilitation | 82,949 | -1,188 | 81,761 | _ | - | - | _ | - | _ | _ | 81,761 |
| 8077 – Northeast Area Interceptor Imp | 450 | -450 | - | - | - | - | - | - | - | - | - |
| 8080 - Seneca Interceptor System Rehabilitation | 237 | -237 | | | | | | | | | |
| 8081 - Maple Plain LS/FM Rehabilitation | 5.000 | -5,000 | - | - | - | - | - | - | - | - | - |
| 8082 - St Bonifacius LS/FM Rehabilitation | 32,161 | -3,000 | 32,304 | - | - | - | - | - | - | - | 32,304 |
| 8083 - Waconia LS/FM Rehabilitation | 12,586 | -7,287 | 5,298 | - | - | - | - | - | - | - | 5,298 |
| 8084 - Bloomington System Improvements | 17,035 | 70 | 17,105 | | | | | | | | 17,105 |
| 8085 - Elm Creek - Corcoran/Rogers Connections | 2,960 | -2,960 | - | - | - | - | - | - | - | - | 17,100 |
| 8086 - North Area Interceptor Rehabilitation | 16,096 | 5,912 | 22.008 | - | - | - | 300 | - | - | 300 | 22,308 |
| 8088 - St Paul Interceptor System Rehabilitation | 46,792 | -18,823 | 27,969 | - | - | - | 500 | - | - | 500 | 28,469 |
| 8090 - Interceptor Rehabilitation - Program | 59,422 | 20,876 | 80,298 | - | - | - | - | 26.000 | 43,000 | 69,000 | 149,298 |
| | 17,550 | 8,206 | 25,757 | - | - | | 2,000 | 20,000 | | 2,200 | 27,957 |
| 8092 - Mpls. Interceptor 1-MN-340 Rehabilitation 8093 - Brooklyn Park-Champlin Inter | 30,251 | -14,644 | 15,607 | - | - | - | 2,000 | 200 | - | 2,200 | 15,607 |
| | | | | - | - | | | | | - | |
| 8094 - Brooklyn Park L32 | 15,509 450 | -2,748 3,450 | 12,761 3,900 | - | - | 14,000 | 14,000 200 | 14,000 200 | 8,000 | 50,000 400 | 62,761 |
| 8095 - Coon Rapids-Fridley Area Inter 8096 - Northwest Area Interceptor Imp | 1,540 | -289 | 3,900 | - | - | - | 12,500 | 8,500 | - | 21,000 | 4,300 22,251 |
| TOTAL Interceptor Projects | 475,882 | 7,951 | 483,833 | - | | 14,000 | 56,480 | 89,400 | 91,200 | 251,000 | 734,913 |
| | | | | - | | | - | 1 | <i>,</i> | | |
| Total ES Capital Program | 1,032,671 | 71,882 | 1,104,553 | - | 3,500 | 35,100 | 139,390 | 201,600 | 209,800 | 589,390 | 1,693,943 |

Capital Program Use of Funds

The three objectives of the capital program are:

- Asset Preservation Preserve the existing MCES infrastructure investment through rehabilitation and replacements.
- **System Expansion** Expand the system capacity through treatment plant and interceptor expansions and interceptor extensions to meet the needs of a growing region.
- **Quality Improvements** Improve the quality of service by responding to more stringent regulations, improving safety, reusing wastewater, increasing system reliability, and conserving and generating energy.

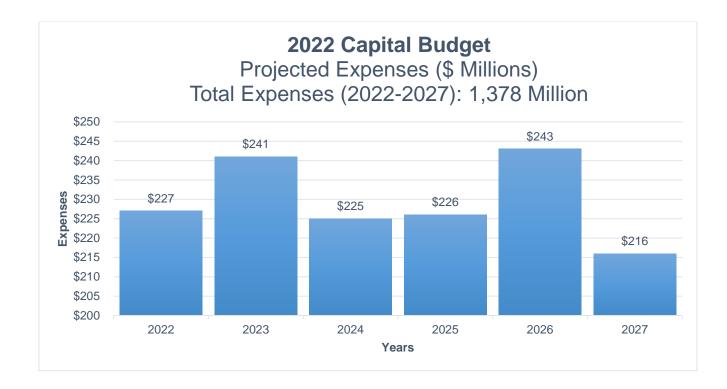
As indicated below, most of the funds are used for the preservation of the existing MCES infrastructure investment. The breakdown by objectives for the 2022 ACP and the Total Capital Program are as follows:



Capital Program (ACP) Objectives

The projects in Environmental Services program are driven by the objectives of asset preservation, capacity needs, or to improve performance in order to respond to more stringent water quality and air quality regulations, increasing system reliability and conserving or generating energy. In the 2022 Authorized Capital Program (ACP), 63% of the funding will be spent on Preservation projects, 15% on Expansion projects, and 22% on Improvement projects. Furthermore, of the 2022 ACP, Interceptors will spend approximately 45% of the budget while Plants will spend approximately 55%.

Capital Budget and Projected Expenses - The Capital Budget is the amount from the ACP that is expected to be spent in that given year. It cannot be exceeded without formal Metropolitan Council action. The adopted MCES 2022 Capital Budget is \$227 million. As depicted below, the projected capital expenses for the 2022-2027 timeframe are \$1,378 million. The projected expenses are utilized in the development of the debt service numbers in the MCES' Capital Finance Plan.



MCES 2022 Capital Program

Authorized Capital Program (ACP)

METROPOLITAN COUNCIL CAPITAL PROGRAM ENVIRONMENTAL SERVICES

| | Authorized Capital Program (ACP) | | | | |
|---|----------------------------------|---------|-----------|--|--|
| | 2021 2022 | | | | |
| | Amended | Changes | Proposed | | |
| Treatment Plant Projects | | | | | |
| 8059 - Metro Rehabilitation & Facilities Improve | 110,417 | 5,449 | 115,866 | | |
| 8062 - Metro Solids Improvements | 168,746 | 5,082 | 173,828 | | |
| 8074 - Empire Plant Solids Improvements | 56,642 | -2,683 | 53,959 | | |
| 8075 - Seneca Solids Processing Improvements | 28,960 | -28,960 | 55,858 | | |
| the second se | | | 40.070 | | |
| 8078 - Regional Plant Improvements 8089 - MWWTP Asset Renewal | 46,203 | 473 | 46,676 | | |
| | 122,141 | 54,116 | 176,257 | | |
| 8091 - Wastewater Reclamation Facilities | 6,775 | 359 | 7,133 | | |
| 8097 - Blue Lake Solids Processing | 1,948 | 751 | 2,700 | | |
| 8098 - Hastings WWTP | 2,000 | 20,600 | 22,600 | | |
| 8100 - Industrial Pretreatment Incentive Program | 12,957 | 8,743 | 21,700 | | |
| TOTAL Treatment Plant Projects | 556,788 | 63,931 | 620,719 | | |
| nterceptor Projects | | | | | |
| 8028 - Blue Lake System Improvements | 58,919 | -15,828 | 43,090 | | |
| 8041 - Hopkins System Improvements | 10,207 | 5 | 10,213 | | |
| 8055 - Lift Station Improvements | 32,497 | 28,437 | 60,934 | | |
| 8056 - Meter Improvements | 19,826 | 4,187 | 24,014 | | |
| 8063 - SWC Interceptor - Lake Elmo Connections | 13,444 | 6,119 | 19,563 | | |
| 8076 - Mpls. Interceptor System Rehabilitation | 82,949 | -1,188 | 81,761 | | |
| 8077 - Northeast Area Interceptor Imp | 450 | -450 | - | | |
| 8080 - Seneca Interceptor System Rehabilitation | 237 | -237 | | | |
| 8081 - Maple Plain LS/FM Rehabilitation | 5,000 | -5.000 | | | |
| 8082 - St Bonifacius LS/FM Rehabilitation | 32,161 | 143 | 32,304 | | |
| 8083 - Waconia LS/FM Rehabilitation | 12,586 | -7,287 | 5,298 | | |
| 8084 - Bloomington System Improvements | 17,035 | 70 | 17,105 | | |
| 8085 - Elm Creek - Corcoran/Rogers Connections | 2,960 | -2,960 | 11,100 | | |
| 8086 - North Area Interceptor Rehabilitation | 16,096 | 5,912 | 22,008 | | |
| 8088 - St Paul Interceptor System Rehabilitation | 46,792 | -18,823 | 27,969 | | |
| 8090 - Interceptor Rehabilitation - Program | 59,422 | 20,876 | 80,298 | | |
| 8092 - Mpls. Interceptor 1-MN-340 Rehabilitation | 17,550 | 8,206 | 25,757 | | |
| 8093 - Brooklyn Park-Champlin Inter | 30,251 | -14,644 | 15,607 | | |
| | | | | | |
| 8094 - Brooklyn Park L32 | 15,509 | -2,748 | 12,761 | | |
| 8095 - Coon Rapids-Fridley Area Inter | 450 | 3,450 | 3,900 | | |
| 8096 - Northwest Area Interceptor Imp | 1,540 | -289 | 1,251 | | |
| TOTAL Interceptor Projects | 475,882 | 7,951 | 483,833 | | |
| Total ES Capital Program | 1,032,671 | 71,882 | 1,104,553 | | |

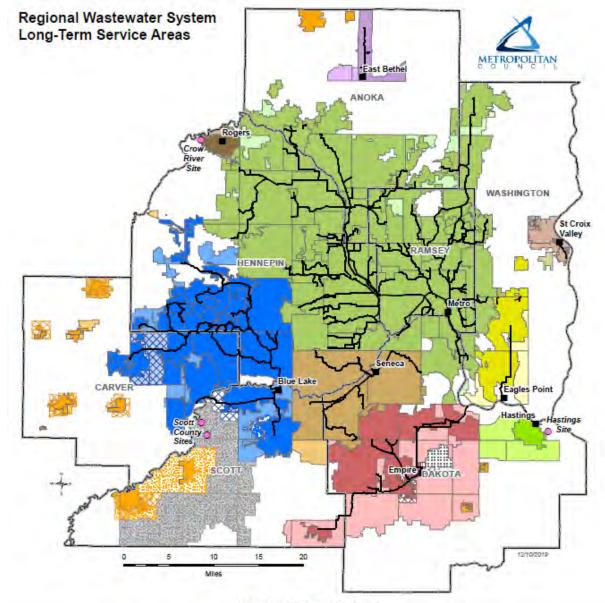
MCES 2022 – 2027 Capital Program

Projected Expenses by Year (all costs in \$1,000s)

| | | | | | | | | 2022-2027 |
|--------|--|---------|---------|---------|---------|---------|---------|-----------|
| Family | Project Name | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Total |
| | <u>Treatment Plants</u> | | | | | | | |
| 8059 | Metro Rehabilitation and Facilities Improvements | 37,146 | 27,000 | 6,000 | 0 | 0 | 0 | 70,146 |
| 8062 | Metro Solids Improvements | 4,750 | 41,500 | 41,500 | 52,000 | 42,000 | 10,000 | 191,750 |
| 8074 | Empire Plant Solids Improvements | 11,100 | 6,000 | 5,000 | 0 | 0 | 0 | 22,100 |
| 8078 | Regional Plant Improvements | 16,950 | 8,700 | 10,100 | 10,100 | 10,100 | 10,100 | 66,050 |
| 8089 | MWWTP Asset Renewal | 31,910 | 38,890 | 36,560 | 40,560 | 38,800 | 29,500 | 216,220 |
| 8091 | Wastewater Reclamation Facilities | 751 | 750 | 750 | 1,250 | 20,000 | 20,000 | 43,501 |
| 8097 | Blue Lake Solids Processing | 1,000 | 3,000 | 4,000 | 10,000 | 20,100 | 50,000 | 88,100 |
| 8098 | Hastings WWTP | 1,800 | 1,700 | 28,000 | 38,000 | 20,000 | 0 | 89,500 |
| 8100 | Industrial Pretreatment Incentive Program | 10,645 | 100 | 100 | 100 | 100 | 5,000 | 16,045 |
| | Plant Totals | 116,052 | 127,640 | 132,010 | 152,010 | 151,100 | 124,600 | 803,412 |
| | Percent of Planned Expenses | 51% | 53% | 59% | 67% | 62% | 58% | 58% |
| | Interceptor System | | | | | | | |
| 8028 | Blue Lake Interceptor System Improvements | 10,160 | 7,831 | 12,563 | 8,601 | 300 | 0 | 39,455 |
| 8041 | Hopkins System Improvements | 2,900 | 400 | 0 | 0 | 0 | 0 | 3,300 |
| 8055 | Lift Station Improvements | 5,019 | 16,875 | 16,807 | 12,700 | 32,700 | 30,200 | 114,301 |
| 8056 | Meter Improvements | 5,804 | 4,717 | 7,000 | 10,000 | 10,000 | 10,000 | 47,521 |
| 8063 | East Area Interceptor Improvements | 3,883 | 5,692 | 4,278 | 0 | 0 | 0 | 13,853 |
| 8076 | Mpls Interceptor System Rehabilitaiton | 20,014 | 8,039 | 0 | 0 | 0 | 0 | 28,053 |
| 8082 | St Bonifacius LS/FM Rehabilitation | 10,000 | 10,000 | 9,000 | 0 | 0 | 0 | 29,000 |
| 8083 | Waconia LS/FM Rehabilitation | 2,600 | 1,500 | 0 | 0 | 0 | 0 | 4,100 |
| 8084 | Bloomington System Improvements | 50 | 0 | 0 | 0 | 0 | 0 | 50 |
| 8086 | North Area Interceptor Rehabilitation | 2,280 | 4,575 | 5,775 | 4,152 | 0 | 0 | 16,782 |
| 8088 | St Paul Interceptor System Rehabilitation | 6,378 | 5,904 | 2,850 | 500 | 0 | 0 | 15,632 |
| 8090 | Interceptor Rehabilitation | 26,535 | 24,125 | 8,209 | 7,500 | 26,200 | 43,100 | 135,669 |
| 8092 | Mpls Interceptor System Improvements | 6,050 | 10,600 | 6,500 | 4,000 | 200 | 0 | 27,350 |
| 8093 | Brooklyn Park-Champlin Interceptor Renewal | 4,716 | 3,500 | 3,500 | 0 | 0 | 0 | 11,716 |
| 8094 | Brooklyn Park L32 | 4,500 | 7,000 | 14,000 | 14,000 | 14,000 | 8,000 | 61,500 |
| 8095 | South Area Interceptor Improvements | 350 | 1,700 | 1,700 | 200 | 200 | 0 | 4,150 |
| 8096 | Northwest Area Interceptor Improvements | 150 | 500 | 500 | 12,500 | 8,500 | 0 | 22,150 |
| 8099 | Joint Interceptor Renewal | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New | Northeast Interceptor Improvements | | | | | | | 0 |
| | Interceptor Totals | 111,389 | 112,958 | 92,682 | 74,153 | 92,100 | 91,300 | 574,582 |
| | | 49% | 47% | 41% | 33% | 38% | 42% | 42% |
| | Total | 227,441 | 240,598 | 224,692 | 226,163 | 243,200 | 215,900 | 1,377,994 |

Six Year Cash Flow = \$1,377,994

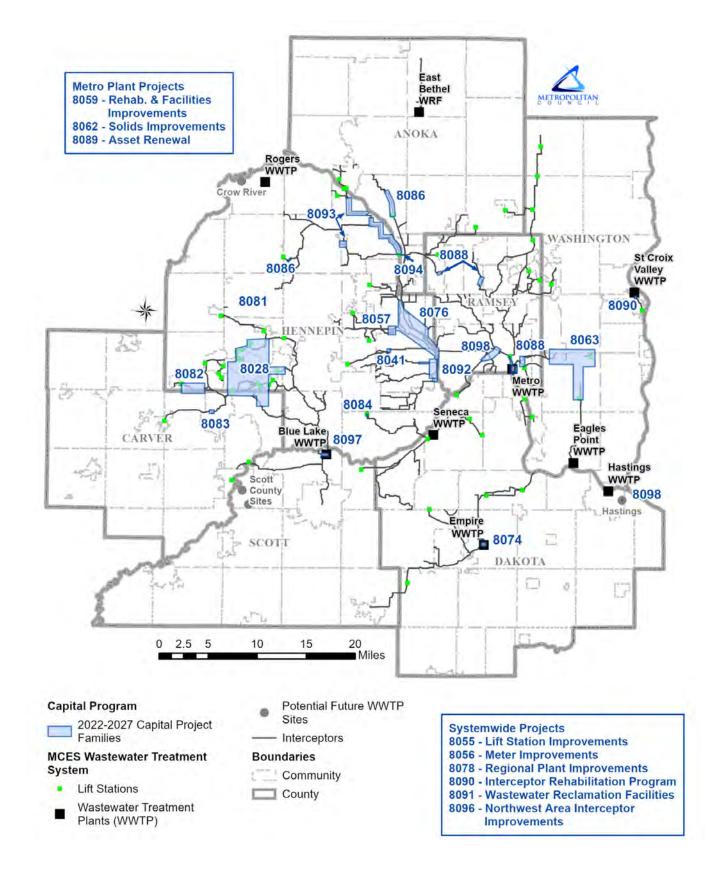
MCES Long-Term Service Area Map



Long Term Service Areas

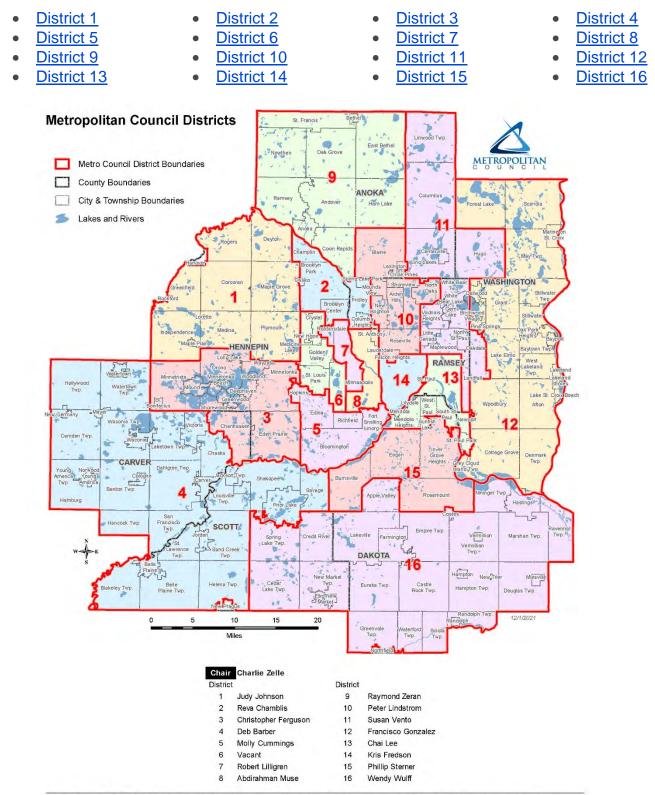


MCES 2022-2027 Capital Program Project Location Map



MCES Council Districts Map

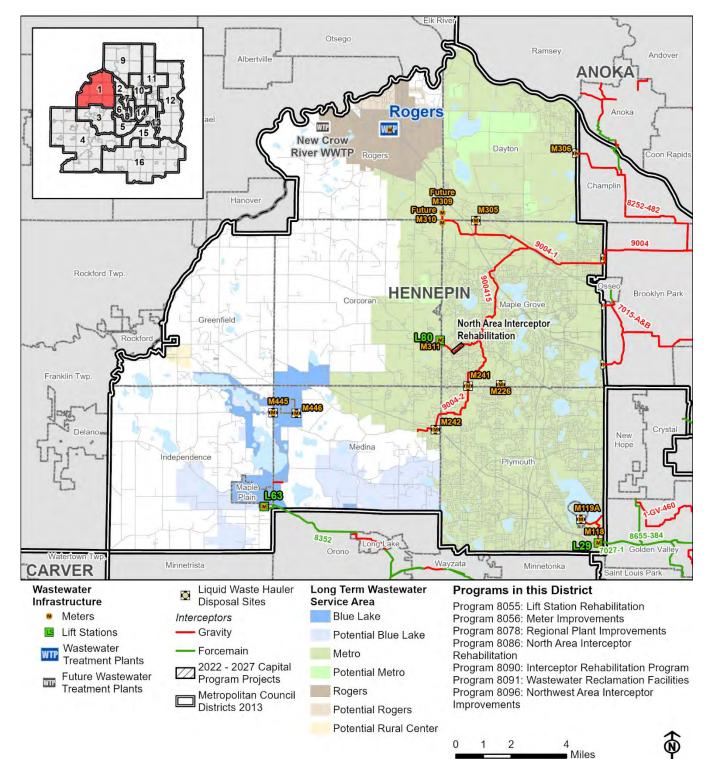
Click on the district to learn more about projects located in that district.



Source: Metropolitan Council Redistricting Plan passed by the state legislature on May 17, 2013. Boundaries re-aligned with municipal and county boundaries and NCompass Street Centerlines.

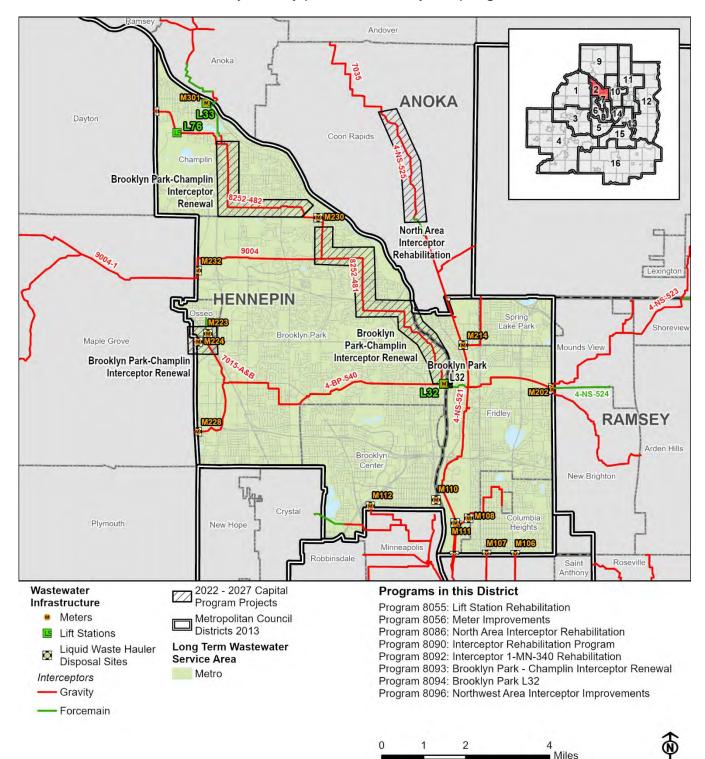
Capital Program & Projects

District 1 includes, in Hennepin County, the cities of Corcoran, Dayton, Greenfield, Independence, Loretto, Maple Grove, Maple Plain, Medicine Lake, Medina, Plymouth, and Rogers. Excluded are the Hennepin County portions of the cities of Hanover and Rockford.



Capital Program & Projects

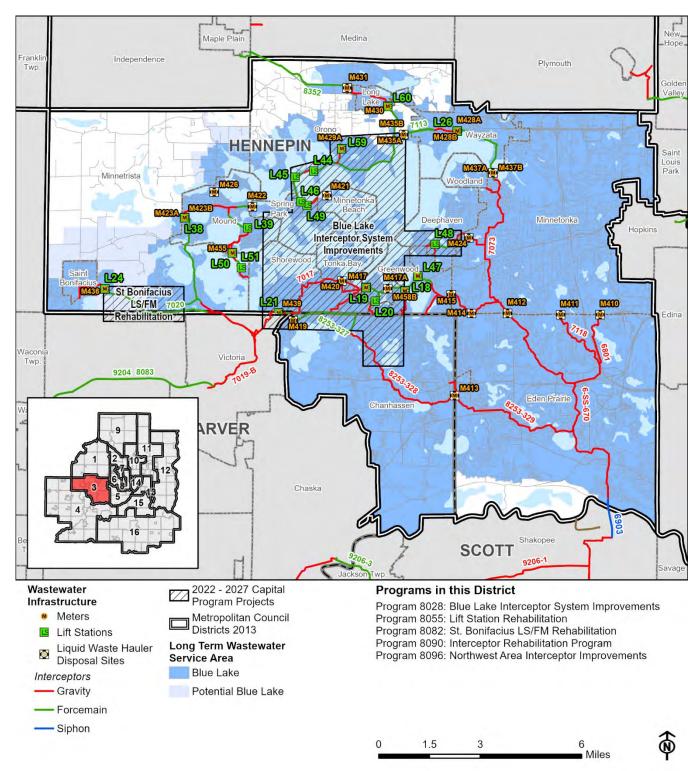
District 2 includes, in Anoka County, the cities of Columbia Heights, Fridley, Hilltop, and Spring Lake Park and in Hennepin County, the cities of Brooklyn Center, Brooklyn Park, Champlin, and Osseo. Excluded is the Ramsey County portion of the city of Spring Lake Park.



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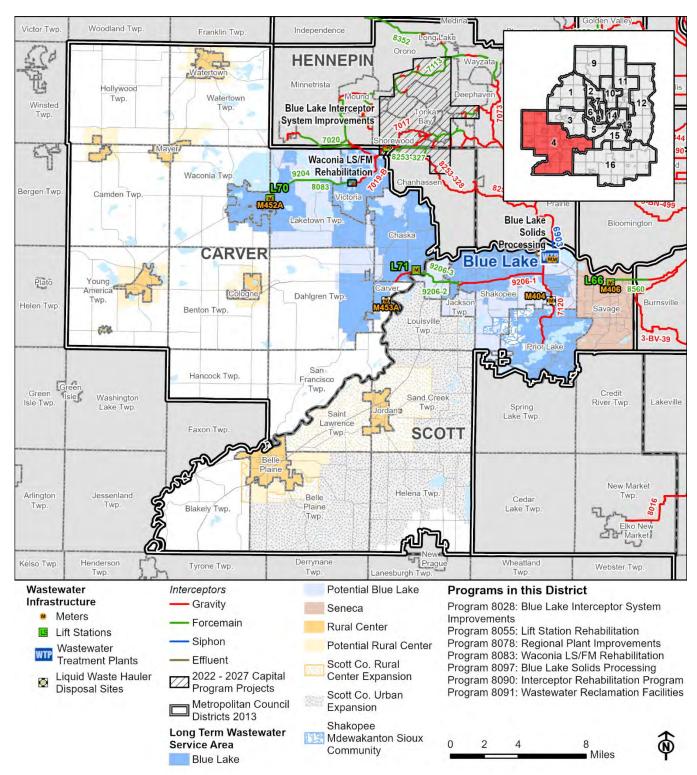
Capital Program & Projects

District 3 includes the cities of Chanhassen, Deephaven, Eden Prairie, Excelsior, Greenwood, Long Lake, Minnetonka, Minnetonka Beach, Minnetrista, Mound, Orono, Shorewood, Spring Park, St. Bonifacius, Tonka Bay, Wayzata, and Woodland.



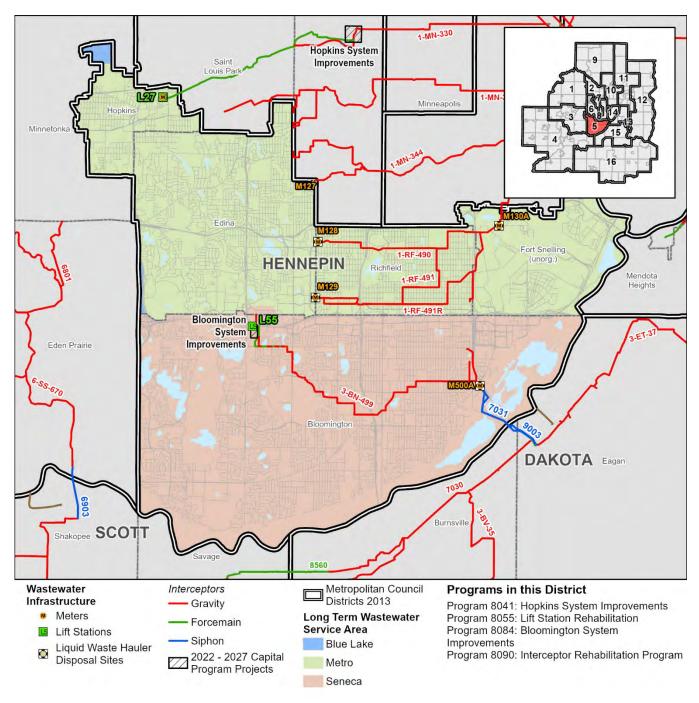
Capital Program & Projects

District 4 includes all of Carver County except for the city of Chanhassen and all of Scott County except Spring Lake Township, Credit River Township, Cedar Lake Township, New Market Township and the city of Elko New Market. Excluded is the Scott County portion of the city of New Prague.



Capital Program & Projects

District 5 includes the Hennepin County cities of Bloomington, Edina, Hopkins, Richfield, and the Fort Snelling Unorganized Territory (including MSP International Airport).

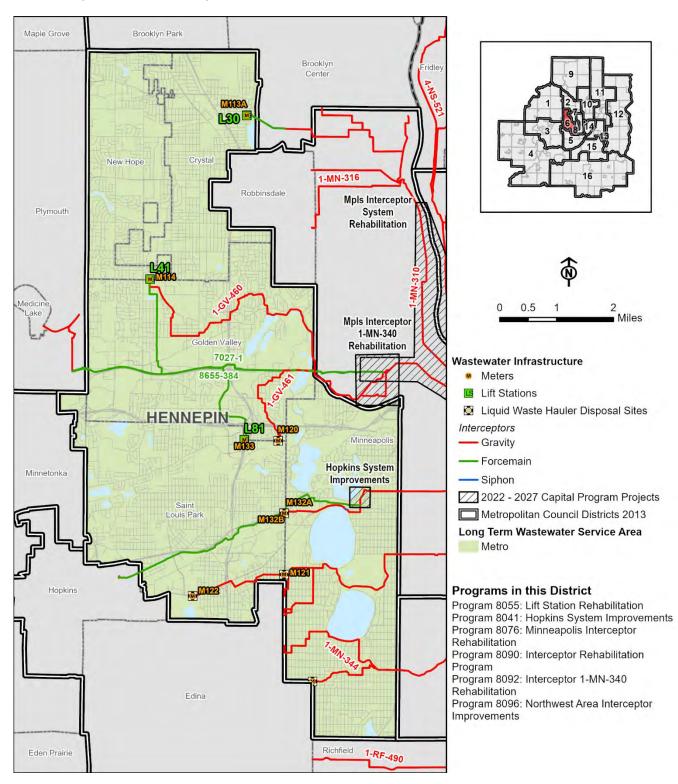


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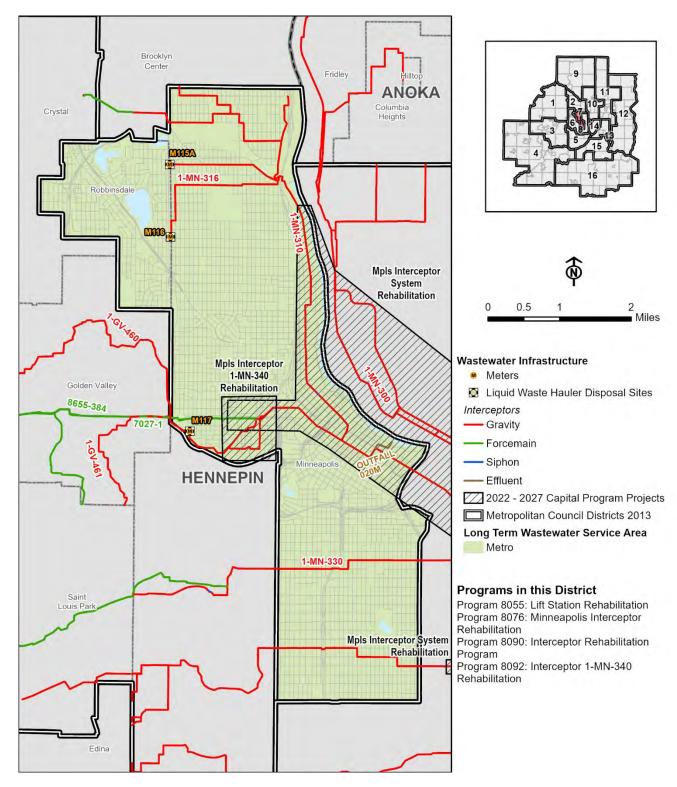
Capital Program & Projects

District 6 includes the Hennepin County cities of Crystal, Golden Valley, New Hope, St. Louis Park, and the portion of Minneapolis.



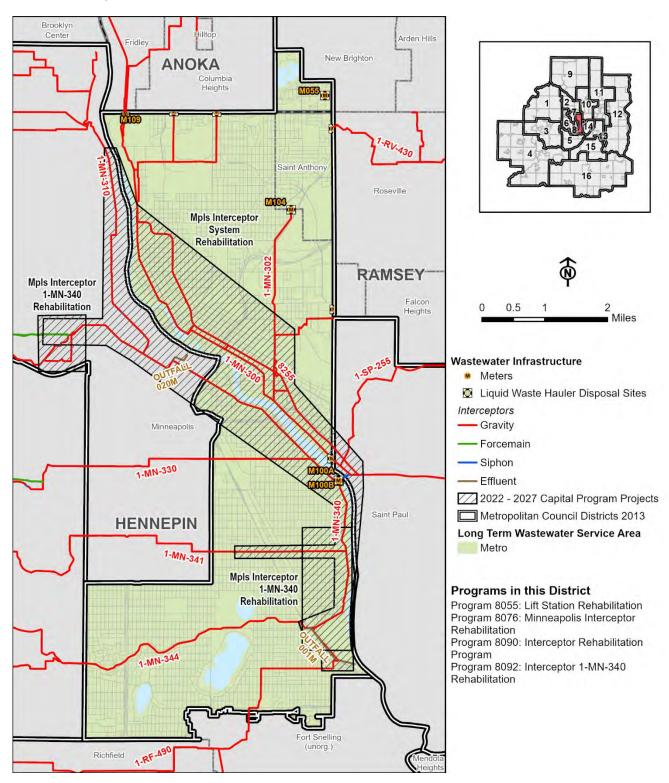
Capital Program & Projects

District 7 includes in Hennepin County, the city of Robbinsdale and the portion of Minneapolis.



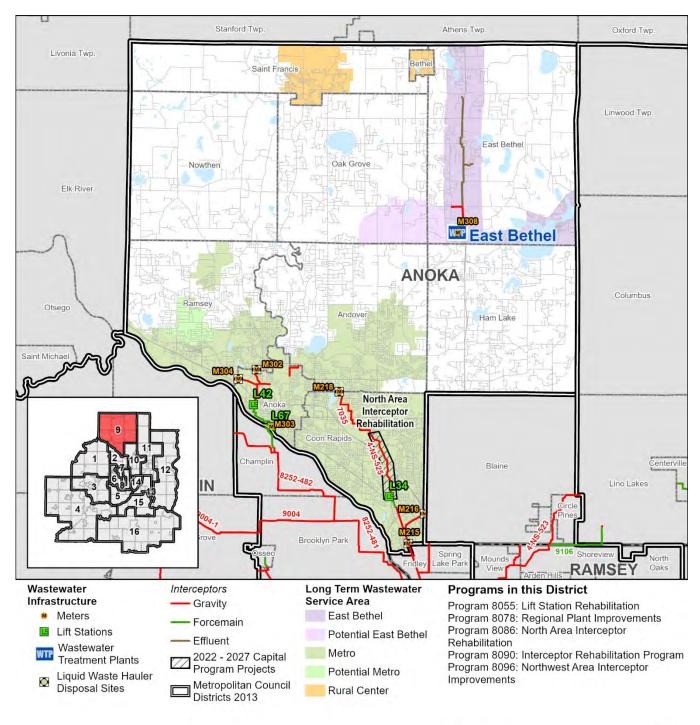
Capital Program & Projects

District 8 includes the Hennepin and Ramsey County parts of the city of St. Anthony and the portion of Minneapolis.



Capital Program & Projects

District 9 includes, in Anoka County, the cities of Andover, Anoka, Bethel, Coon Rapids, East Bethel, Ham Lake, Nowthen, Oak Grove, Ramsey, and St. Francis.

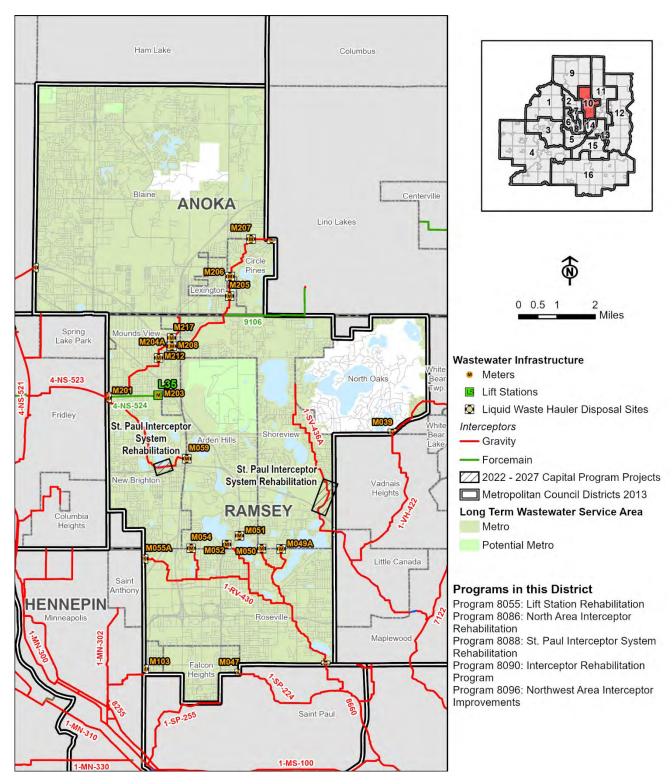


0 1 2 4 Miles



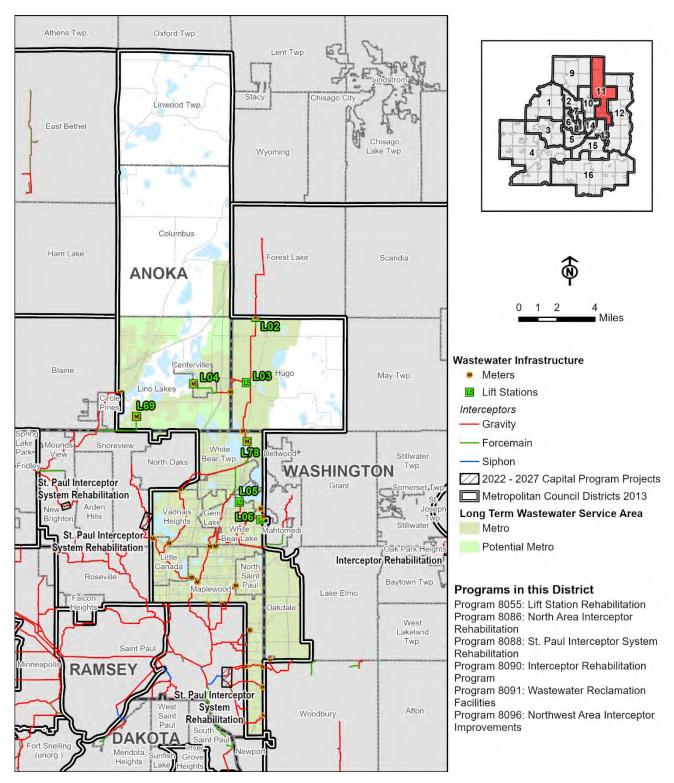
Capital Program & Projects

District 10 includes, in Anoka County, the cities of Blaine, Circle Pines and Lexington and in Ramsey County, Falcon Heights, Lauderdale, Mounds View, New Brighton, North Oaks, Roseville, Shoreview, and the Ramsey County portions of Arden Hills, Blaine and Spring Lake Park.



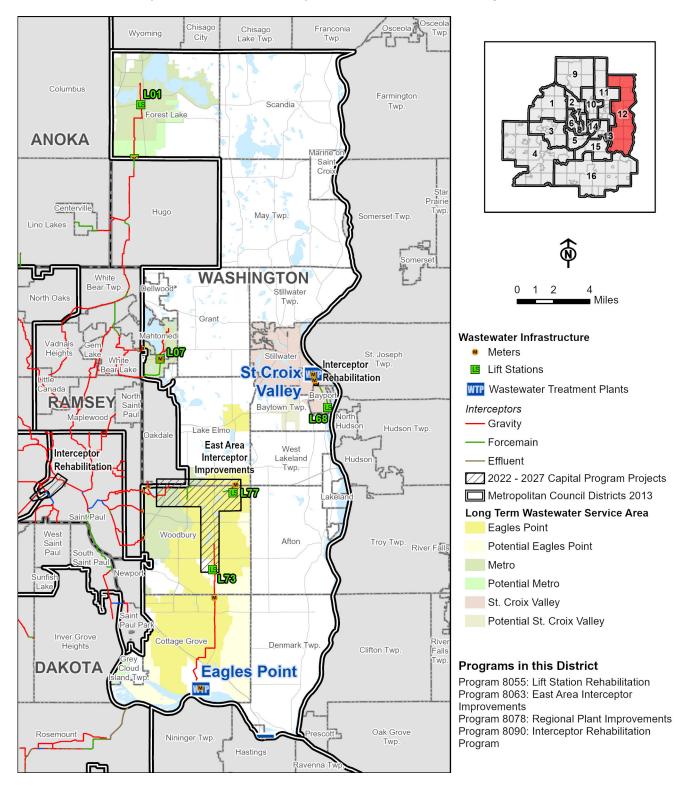
Capital Program & Projects

District 11 includes, in Anoka County, the cities of In Anoka County, Centerville, Columbus, Lino Lakes, and Linwood. In Washington County, it includes the cities of Hugo, Landfall, Oakdale, and White Bear Lake (Washington County Part). In Ramsey County, the cities of Gem Lake, Little Canada, Maplewood, North St. Paul, Vadnais Heights, White Bear Lake, and White Bear Township.



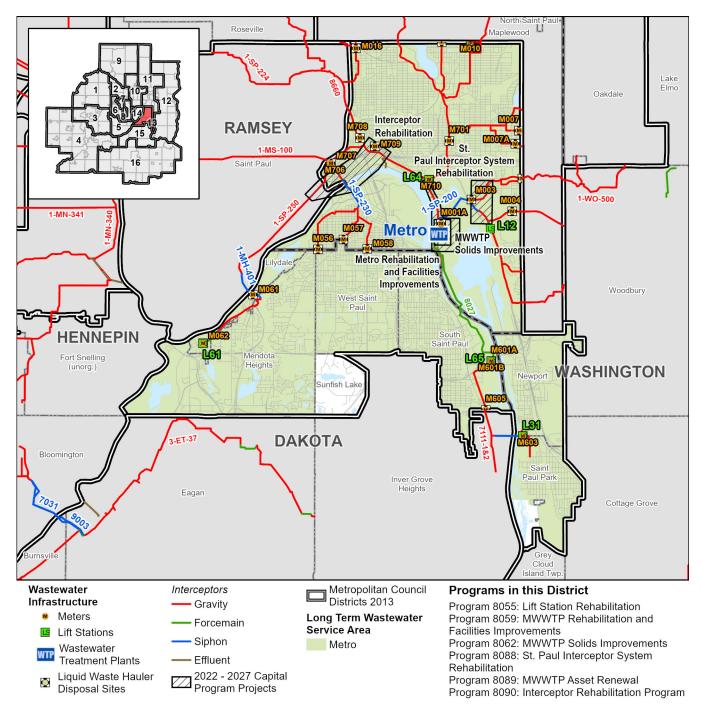
Capital Program & Projects

District 12 includes the cities of Afton, Bayport, Baytown Twp., Birchwood Village, Cottage Grove, Dellwood, Denmark Twp., Forest Lake, Grant, part of Grey Cloud Island Twp., Lake Elmo, Lake St. Croix Beach, Lakeland, Lakeland Shores, Mahtomedi, Marine on St. Croix, May Twp., Newport, Oak Park Heights, Pine Springs, Scandia, St. Mary's Point, St. Paul Park, Stillwater, Stillwater Twp., West Lakeland Twp., Willernie, and Woodbury.



Capital Program & Projects

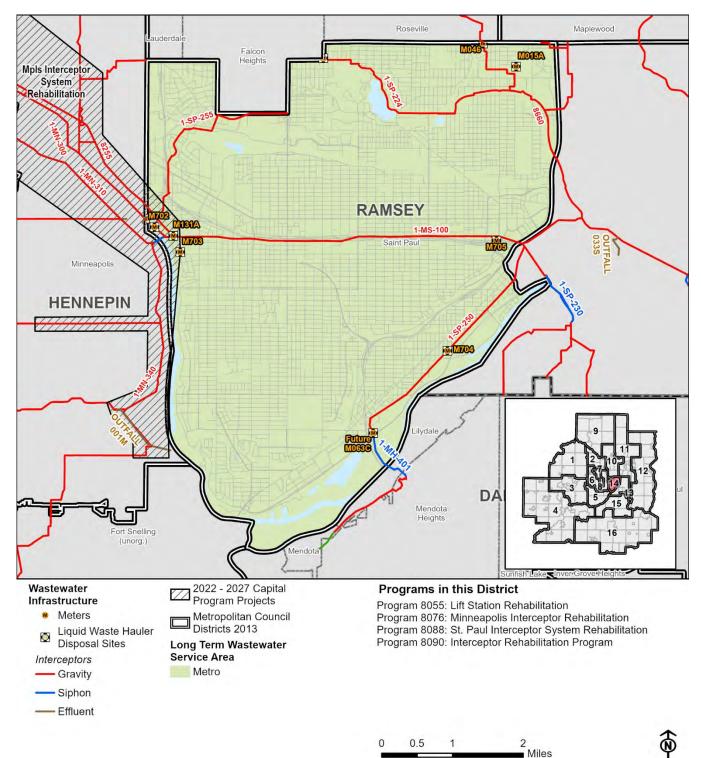
District 13 includes, in Dakota County, the cities of Lilydale, Mendota, Mendota Heights, Sunfish Lake, West St. Paul, and South St. Paul. In Washington County, Newport, St. Paul Park and the enclaves of Grey Cloud Island Township that are wholly within the city of St. Paul Park. In Ramsey County, that portion of the city of St. Paul.





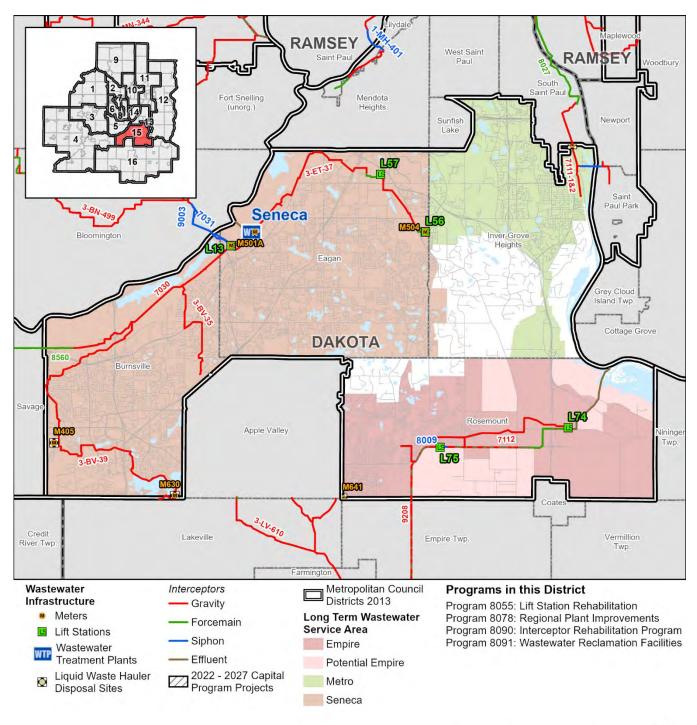
Capital Program & Projects

District 14 includes the portion of the city of St. Paul described as follows: west of a line beginning at the point where the median of Interstate 35E intersects the northern boundary of the city of St. Paul.



Capital Program & Projects

District 15 includes the cities of Burnsville, Eagan, Inver Grove Heights, and Rosemount in Dakota County.

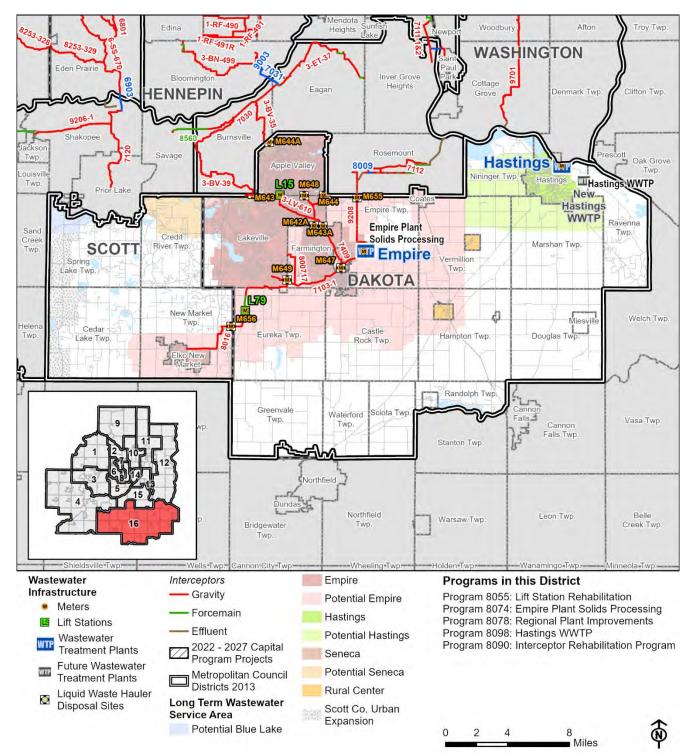




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Capital Program & Projects

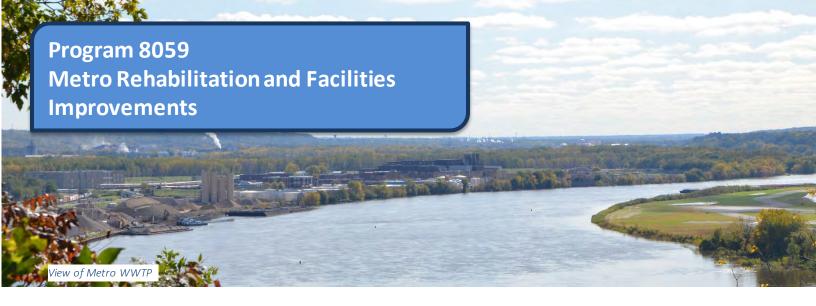
District 16 includes, in Dakota County, the cities of Apple Valley, Castle Rock Twp. Coates, Douglas Twp., Empire Twp., Eureka Twp., Farmington, Greenvale Twp., Hampton, Hampton Twp., Hastings, Lakeville, Marshan Twp., Miesville, New Trier, Nininger Twp., Randolph, Randolph Twp., Ravenna Twp., Sciota Twp., Vermillion, Vermillion Twp., and Waterford Twp. In Scott County, Cedar Lake Twp., Credit River Twp., Elko New Market, New Market Twp., and Spring Lake Twp. Excluded are the Dakota County portions of the city of Northfield.



Appendix A: Project Summaries by Program – <u>Treatment Plant</u>

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| Program 8059: Metro Rehabilitation & Facilities Improvements | .32 |
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| Program 8062: Metro WWTP Solids Improvements | .39 |
| Program 8074: Empire WWTP Solids Improvements | .44 |
| Program 8078: Regional Plant Improvements | .49 |
| Program 8089: Metro WWTP Asset Renewal | .60 |
| Program 8091: Wastewater Reclamation Facilities | .78 |
| Program 8097: Blue Lake WWTP Solids Improvements | .81 |
| Program 8098: Hastings WWTP | .84 |
| Program 8100: Industrial Pretreatment Incentive Program | .88 |



Description:

This program provides funding for planning and implementation of a plant-wide renewal program at the Metropolitan Wastewater Treatment Plant (Metro WWTP).

Purpose and Justification:

The program provides for planning and implementation of projects to address renewal needs for continued, reliable and sustainable wastewater service at the Metro WWTP through the year 2030.

Program Location:

The active projects within this program are in the following Council Districts: 13

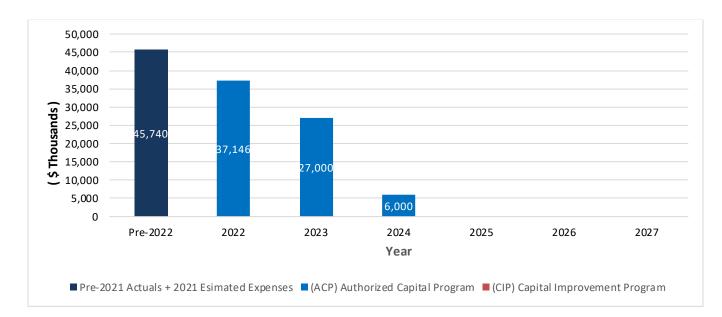
Active Projects in Program:

| Project Number | Project Title |
|-------------------|---|
| 805932 | Metro WWTP HVAC Improvements Phase 2 |
| 805947 | Metro WWTP Solids Renewal and Improvements |
| 805963 | Metro WWTP Water Systems Renewal and Improvements |
| 805990 | Metro WWTP Site Preparation and Improvements |
| 805998 | Metro WWTP Services Building |

MCES 2022 - 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$115,886,000 | \$0 |
| | |

Estimated Program Cash Flow 2022 - 2027:



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

Project Location:

Council District # 13

City of Saint Paul

Metro WWTP

Metro WWTP HVAC Improvements – Phase 2



| PROJECT TYPE: | Plant Improvements |
|---|---|
| OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Preserve and Improvement Preserve Assets |
| SCOPE: | This project replaces the main air handling unit at the Laboratory Building, an air handling system for the Maintenance Warehouse Building lunchroom, and other HVAC equipment in the 408 Building. |
| PROJECT NEED: | HVAC equipment near end-of-service life need to be rehabilitated or replaced based on condition assessment and business case evaluations. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$2,310,00 | \$0 | \$2,310,000 |

Metro WWTP Solids Renewal & Improvements

| Project Location: Council District # 13 City of Saint Paul Metro WWTP | Image: series of the series |
|--|---|
| PROJECT TYPE: | Plant Improvements |
| OBJECTIVES: | Preservation |
| CUSTOMERLEVELOFSERVICE | : Communicate Information and Preserve Assets |
| SCOPE: | The project includes miscellaneous improvements and renewal of equipment related to processing wastewater solids at the Metropolitan Wastewater Treatment Plant including baghouse rehabilitation, scrubber modifications, waste heat boiler tube replacement, fluid bed incinerator renewal, alkaline loadout modifications, cake pumping modifications, alkaline odor control renewal, ash cleanup improvements, auxiliary condenser improvements, instrumentation & control improvements, BF08 vent reroute, flotation thickener modifications, and sludge storage mixing improvements. |
| PROJECT NEED: | Components of the solids processing system at the Metro WWTP need to be renewed due to the harsh environment experienced inside the incineration system. Improvements will increase reliability and performance. |

PROJECT SCHEDULE



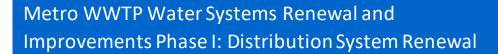
| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$8,496,000 | \$24,309,440 | \$8,496,000 | \$24,309,440 |

Project Location:

Council District # 13

City of Saint Paul

Metro WWTP





| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Lead by Example and Preserve Assets |
| SCOPE: | The project replaces the service water piping network throughout the Plant with a new piping network in preparation for a future reclaimed water system. |
| PROJECT NEED: | Rehabilitate and repurpose the Metro Plant Water Systems and reduce withdrawal of water from the Prairie du Chien aquifer. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|-----------|--------------|
| 2019 | 2020-2021 | 2022-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$7,000,000 | \$16,732,562 | \$14,000,000 | \$16,732,562 |

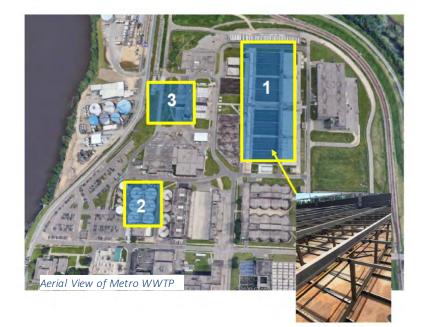
Metro WWTP Site Preparation and Improvements

Project Location:

Council District # 13

City of Saint Paul

Metro WWTP



Primary Settling Tank Collector System

| PROJECT TYPE: | Plant Improvements |
|---|---|
| OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Preservation Preserve Assets |
| SCOPE: | The project rehabilitates roads; rehabilitates concrete in Primary Settling tanks (#1 in photo above), Gravity Thickening tanks (2) and parts of the influent channel (3); installs a waterline; rehabilitates the Solids storage pad and installs a closed loop colling system for instrument air compressors. |
| PROJECT NEED: | There is a need to replace or rehabilitate assets throughout the Metro Plant to extend service life. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$4,000,000 | \$13,900,000 | \$8,000,000 | \$13,900,000 |

Project Location:

City of Saint Paul

Metro WWTP

Council District # 13

Metro WWTP Services Buildings



SITE PLAN DIAGRAM WITH EXISTING AERIAL WORKSHOP SERIES 3C OFFICES, LAB & ADDITIONS

03/16/2021

| PROJECT TYPE: | Plant Improvements |
|---|---|
| OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Improvement Engage Customers, Lead by Example and comply with permits |
| SCOPE: | The Services Building and Field Service Annex will be constructed adjacent to the Laboratory Building and will office the Construction Services, Water Resources, Industrial Waste Pollution Prevention and Process Engineering R&D. |
| PROJECT NEED: | Other departmental offices or laboratories currently reside within deteriorating buildings at the Metro Plant or in rental facilities away from Council property. There is a need to consolidate similar functions in common spaces to increase efficiency. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$12,000,000 | \$34,899,930 | \$30,000,000 | \$34,899,930 |

Program 8062 Metro WWTP Solids Improvements



Description:

This program provides funding for planning and implementation of improvements to wastewater solids processing facilities at the Metropolitan Wastewater Treatment Plant (Metro WWTP).

Purpose and Justification:

The program provides for planning and implementation of projects to address capacity and renewal needs for continued, reliable and sustainable wastewater solids processing at the Metro WWTP through the year 2050.

Program Location:

The active projects within this program are in the following Council Districts: 13

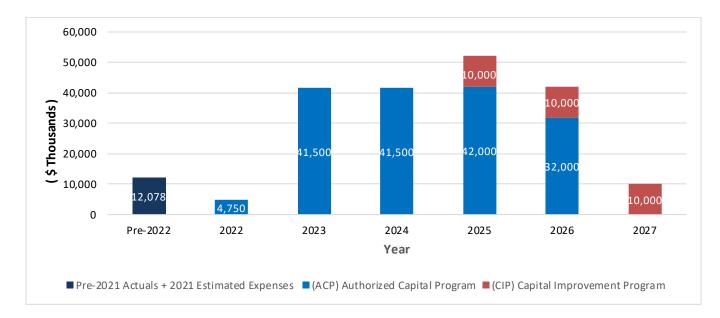
Active Projects in Program:

| Project Number | Project Title |
|-------------------|--|
| 806210 | Metro WWTP Solids Management Improvements Facility Plan |
| 806230 | Metro WWTP Fluid Bed Reactor 4 |
| 806240 | Metro WWTP Renewal of Fluid Bed Reactors 1, 2 & 3 |

MCES 2022 - 2027 Capital Program:



Estimated Program Cash Flow 2022 - 2027:



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

Metro WWTP Solids Management Improvements Facility Plan

Project Location:

Council District # 13

City of Saint Paul

Metro WWTP



| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation and Expansion |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Minimize Impacts, Lead by Example, Be A Good Neighbor, Optimize Budget Plan, and Preserve Assets |
| SCOPE: | Develop a facility plan for Council approval. Conduct planning activities necessary to support facility plan development: evaluate current and future wastewater solids production, evaluate air emissions, assess existing solids treatment facilities, develop and evaluate alternatives. Identify the recommended alternative(s) and the implementation plan. |
| | Develop and execute a communications plan for internal and external outreach, including a public hearing for facility plan review. |
| PROJECT NEED: | The Metro WWTP needs additional solids treatment capacity to preserve existing wastewater infrastructure and to serve regional population growth. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$500,000 | \$4,287,546 | \$500,000 | \$4,287,546 |

Metro WWTP Fluid Bed Reactor 4

| Project Location: Council District # 13 City of Saint Paul Metro WWTP | Prendering design of future 4 th Incinerator at Metro WWTP |
|--|--|
| PROJECT TYPE: | Plants |
| OBJECTIVES: | Preservation and Expansion |
| CUSTOMER LEVEL OF SERVICE: | Meet Capacity Need and Preserve Assets |
| SCOPE: | Expand the Metro WWTP solids management building and install a fourth incinerator train next to the existing three. The fourth train will include energy recovery, air pollution control, and related solids processing equipment. |
| PROJECT NEED: | The Metro WWTP needs additional solids treatment capacity to preserve existing wastewater infrastructure and to serve regional population growth through the |

PROJECT SCHEDULE

| | | (e |
|----------|-----------|--------------|
| Planning | Design | Construction |
| N/A | 2020-2022 | 2023-2025 |

year 2050.

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|---------------|-----------------------|--------------------|
| \$2,500,000 | \$155,000,000 | \$152,500,000 | \$155,000,000 |

Metro WWTP Renewal of Fluid Bed Reactors

1,2&3



reactors and associated solids treatment facilities.PROJECT NEED:In 2025, the existing incinerators will be 20 years old and in need of major renewal
work to extend service life and to recover capacity.

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|-----------|--------------|
| N/A | 2022-2024 | 2024-2027 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$0 | \$30,000,000 | \$32,000,000 |

Program 8074 Empire WWTP Solids Improvements



Solids Improvements



Description:

This program provides funding for planning and implementation of improvements to the wastewater solids processing facilities at the Empire Wastewater Treatment Plant (WWTP).

Purpose and Justification:

The program provides for planning and implementation of projects to address capacity constraints and improve performance for wastewater solids processing at the Empire WWTP.

Program Location:

The active projects within this program are in the following Council Districts: 16

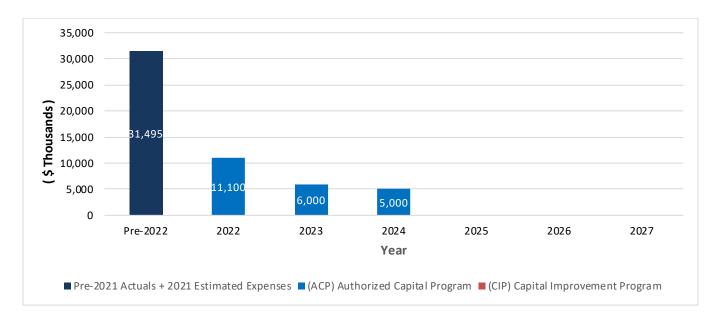
Active Projects in Program:

| Project Number | Project Title |
|-------------------|---|
| 807400 | Empire WWTP Solids Improvements Phase I |
| 807401 | Empire WWTP Solids Improvements Phase II |
| 807415 | Empire WWTP High Strength Waste Receiving Pilot |

MCES 2022 - 2027 Capital Program:

| Authorized Capital Program (ACP)Cap\$53,959,000\$0 | pital Improvement Plan (CIP) |
|--|------------------------------|
|--|------------------------------|

Estimated Program Cash Flow 2022 - 2027:



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

Council District # 16

Empire Township

Empire WWTP





| PROJECT TYPE: | Plant Expansion | |
|---|--|--|
| OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Preservation, Expansion and Improvement Lead by Example, Meet Capacity Needs, and Preserve Assets | |
| | | |
| SCOPE: | Increase biosolids storage capacity by covering existing storage area. Improve pad drainage and recover stormwater for on-site infiltration. Provide biogas moisture removal for use as boiler fuel. Renew boiler system to replace aging equipment and meet future plant-wide heating needs. | |
| PROJECT NEED: | Solids treatment capacity at the Empire Plant must be increased to accommodate future growth in the service area. The existing boiler system is near end of service life and requires renewal. Biogas improves fuel quality in preparation for a future combined heat and power system (See Empire WWTP Solids Improvements Phase II, Project # 807401). | |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2011-2013 | 2014-2019 | 2020-2023 |

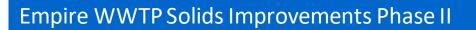
| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$3,000,000 | \$33,948,902 | \$4,000,000 | \$33,948,902 |

Project Location:

Council District # 16

Empire Township

Empire WWTP





| PROJECT TYPE: OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Plant Expansion Expansion and Improvement Lead by Example and Meet Capacity Needs |
|--|--|
| SCOPE: | Modify existing digesters to increase capacity and meet future capacity needs. Add advanced biogas treatment to remove hydrogen sulfide and siloxanes from biogas prior to use as fuel in a combined heat and power engine generator (CHP). CHP will generate heat and electricity for on-site use. |
| PROJECT NEED: | Solids treatment capacity at the Empire Plant must be increased to accommodate future growth in the service area. CHP will generate approximately 1/3 of the plant's heat and power demand utilizing biogas generated on-site as fuel. |

PROJECT SCHEDULE

| | | A |
|-----------|-----------|--------------|
| Planning | Design | Construction |
| 2011-2013 | 2019-2020 | 2021-2023 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$8,000,000 | \$19,010,150 | \$18,000,000 | \$19,010,150 |

Project Location:

Council District # 16

Empire Township

Empire WWTP

Empire WWTP High Strength Waste Receiving Pilot





| PROJECT TYPE: | Plant Expansion |
|----------------------------|---|
| OBJECTIVES: | Improvement |
| CUSTOMER LEVEL OF SERVICE: | Lead by Example |
| SCOPE: | Install a 27,000-gallon high strength waste receiving station complete with storage and pumping systems. |
| PROJECT NEED: | This project pilot's digestion of an industrial high strength waste to increase biogas production for use as fuel in a combined heat and power engine generator system (See Empire WWTP Solids Improvements Phase II, Project #807401). |

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|-----------|--------------|
| 2016 | 2018-2019 | 2020-2021 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$100,000 | \$1,000,000 | \$100,000 | \$1,000,000 |



Description:

This program provides funding to address capital improvements at 8 regional wastewater treatment plants (WWTPs).

Purpose and Justification:

The program provides for implementation of improvement and renewal projects for components and systems at the regional plants. 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: 1, 4, 9, 12, 15 & 16

Active Projects in Program:

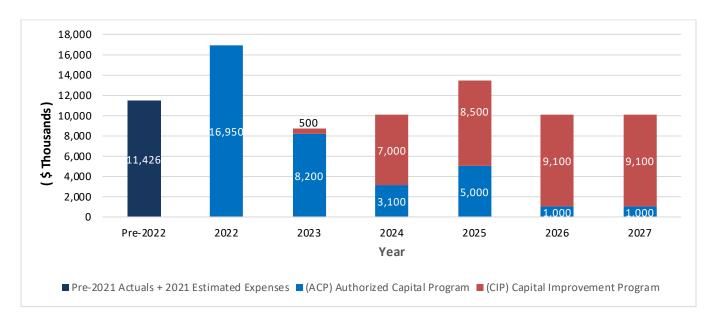
| Project Number | Project Title |
|-------------------|--|
| 807802 | Regional Plant Improvements (Parent Project) |
| 807803 | Blue Lake Administration Building |
| 807805 | East Bethel WRP Improvements |
| 807818 | Hastings WWTP Condition Assessment |
| 807826 | Empire WWTP Arc Flash Improvements |
| 807857 | Fridley Liquid Waste Receiving Improvements |
| 807858 | Blue Lake FSF and Solids Renewal |
| 807865 | Treatment Plant PLC Renewal |
| 807899 | Regional Plant Planning |

| 8078XX | Blue Lake Outfall Renewal |
|--------|---------------------------|
|--------|---------------------------|

MCES 2022 – 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$46,676,000 | \$34,200,000 |
| | |

Estimated Program Cash Flow 2022 - 2027:



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

Blue Lake WWTP Administration Building



| PROJECT TYPE: | Plant Improvements |
|---|---|
| OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Preservation and Expansion Engage Customers |
| SCOPE: | Perform building assessments, modify space or construct an addition to the Administration building to better accommodate staff, education and training. |
| PROJECT NEED: | The Administration Building is not well-suited for meetings and school field trips. The Administration building needs restroom, HVAC, and ADA accessibility improvements based on intended use. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|--------|--------------|
| 2020 | 2021 | 2022-2023 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$0 | \$10,000,000 | \$10,000,000 |

| Program Family: 8078 Project # 807805 | East Bethel WRP Improvements |
|--|---|
| Project Location: | |
| Council District # 9 | |
| City of East Bethel | |
| East Bethel WWTP | East Bethel Water Reclamation Plant |
| – PROJECT TYPE: | Plant Improvements |
| OBJECTIVES: | Improvement |
| CUSTOMER LEVEL OF SERVICE: | Lead by Example |
| SCOPE: | Modify the piping to adjust to start up flows and increasing flows over time. Study and demonstrate different disinfection methods and equipment for use at future reclamation plants in the region. |
| PROJECT NEED: | East Bethel is the first water reclamation plant (WRP) in the MCES service area. The plant was brought online in 2014 as a demonstration plant for water reuse in the metro area at 7% of design flow. Adjustments are required to accommodate increasing flows as new connections are made. MCES is also working to achieve high effluent quality for a variety of potential reclaimed uses. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022– 2027 Cash Flow | Total Project Cost |
|----------------|-------------|----------------------|--------------------|
| \$200,000 | \$940,589 | \$200,000 | \$940,589 |

Hastings WWTP Condition Assessment

Project Location:

Council District # 16

City of Hastings

Hastings WWTP



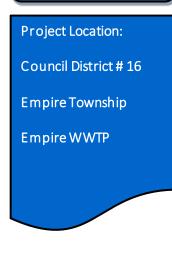
| PROJECT TYPE: OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Plant Improvements Preservation Optimize Budget Plan and Be Fair & Transparent |
|--|---|
| SCOPE: | A condition assessment of the existing Hastings WWTP was completed. A modest renewal project is planned to support existing facilities until the proposed new WWTP can be constructed at a location outside of downtown Hastings. |
| PROJECT NEED: | The Hastings plant was originally built in 1952, with expansions in 1967 and 1981. MCES will continue to preserve the plant until the new facility is constructed. |

PROJECT SCHEDULE

| | | (a | |
|-----------|-----------|--------------|--|
| Planning | Design | Construction | |
| 2019-2020 | 2020-2021 | 2022-2023 | |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$2,500,000 | \$5,130,766 | \$2,500,000 | \$5,130,766 |

Empire WWTP Arc Flash Improvements Phase 1







| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Minimize Impacts and Preserve Assets |
| SCOPE: | Replace obsolete electrical equipment and construct improvements to mitigate arc flash. |
| PROJECT NEED: | Motor Control Centers in the sludge pumping building are obsolete and require replacement. MCES routinely evaluates arc flash potential for all its facilities. Where possible, MCES constructs improvements to minimize impacts and reduce risk of arc flash to its maintenance personnel. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,000,000 | \$2,419,844 | \$1,000,000 | \$2,419,844 |

| Project Location: | |
|----------------------|--|
| Council District # 2 | Ar VISH Data |
| City of Fridley | |
| Fridley Liquid Waste | |
| Receiving Station | |
| | Fridley Liquid Waste Receiving Station |
| | |

Fridley Liquid Waste Receiving Station

| PROJECT TYPE: | Treatment Plant / Interceptor |
|----------------------------|---|
| OBJECTIVES: | Improvement |
| CUSTOMER LEVEL OF SERVICE: | Lead by Example and Be A Good Neighbor |
| SCOPE: | This project will address minor process concerns with liquid waste receiving at the MCES Fridley Liquid Waste Receiving Station and implement upgrades necessary to use it as a maintenance facility for Interceptor Services staff. The facility will also include space for ES Construction staff working in the north area. |
| PROJECT NEED: | The Fridley Liquid Waste Receiving Station was acquired by MCES in 2009 and requires improvements for hauler loadout and liquid waste receiving. Additionally, the maintenance facility in Mounds View is not adequate for current operations. The Fridley site is ideally placed in the center of the northern service area and has available space to accommodate operations, maintenance and construction services needs. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$250,000 | \$293,657 | \$2,750,000 | \$2,793,657 |

Project Location:

Council District#4

City of Shakopee

Location: Blue Lake WWTP

Blue Lake FSF and Solids Renewal



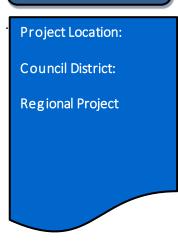
| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | The Blue Lake WWTP Solids Process has a few select items that need to be rehabilitated in the next 1-2 years. These items include: RTO emissions control system, the digester gas storage tank membrane, the mixing conveyor, WAS discharge valves, process piping and the associated electrical support systems. |
| PROJECT NEED: | Blue Lake has completed a Facility Plan for large Solids Processing Improvements and Expansions. Most of the current solids train will reach end of life at 2030. Auxiliary and the pollution control systems need to be rehabilitated to keep the entire system operational until the expansion project. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$2,600,000 | \$6,200,000 | \$5,200,000 | \$6,200,000 |

Treatment Plant PLC Renewal





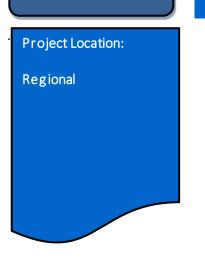
| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | Replace out-of-date process control systems at Regional Wastewater Treatment Plants. |
| PROJECT NEED: | Key elements in the process control system for regional wastewater treatment plants are out-of-date and in need of replacement in order to continue to provide reliable treatment plant process control. |

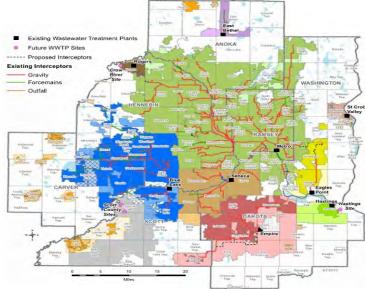
PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2021-2022 | 2022-2025 | 2022-2027 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$500,000 | \$5,500,000 | \$5,500,000 | \$10,200,000 |

Regional Plant Planning





Long Term Service Area Map

| PROJECT TYPE: OBJECTIVES: | Plant Improvements Preservation |
|------------------------------|--|
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | Current planning activities include the following: arc flash studies, road condition assessments, sustainable landscape planning, roof condition assessments, and real estate appraisal needs. |
| PROJECT NEED: | Planning activities are needed to identify near-term (less than 10 years) regional Plant capital project needs. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$100,000 | \$401,258 | \$600,000 | \$701,258 |

Program Family: 8078 Project # 8078XX

Project Location:

Council District #4

City of Shakopee

Blue lake WWTP

Blue Lake WWTP Outfall Renewal



| PROJECT TYPE: | Plant Improvements |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | Design and construct streambank stabilization around the outfall based on bank erosion monitoring. |
| PROJECT NEED: | The Blue Lake WWTP outfall pipe ends in the bank of the Minnesota River. The outfall point has been reinforced but the upstream and downstream banks are eroding. The banks need to be reshaped and stabilized before the erosion surpasses the outfall stabilization and erodes farther back under the pipe. |

PROJECT SCHEDULE

| | | A |
|----------|--------|--------------|
| Planning | Design | Construction |
| 2018 | 2019 | 2022-2023 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$0 | \$1,500,000 | \$1,500,000 |



Description:

This program provides funding to continue the plant-wide renewal program at the Metropolitan Wastewater Treatment Plant (Metro WWTP), which was initiated under Program 8059 Metro WWTP Rehabilitation and Facilities Improvements.

Funds are for planning and implementation of capital improvements to the liquids processing and plant-wide facilities at the Metro WWTP.

Purpose and Justification:

The program provides for planning and implementation of projects to address renewal needs for continued, reliable and sustainable wastewater service at the Metro WWTP through the year 2040.

Program Location:

The active projects within this program are in the following Council Districts: 13

Active Projects in Program:

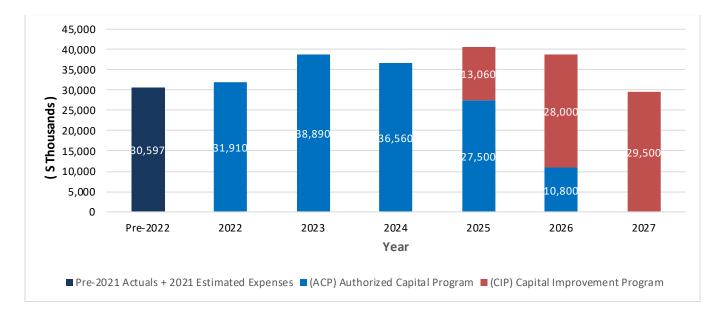
| Project Number | Project Title |
|-------------------|--|
| 808915 | Metro WWTP Electrical Distribution Renewal Phase 2 |
| 808916 | Metro WWTP Electrical Distribution Renewal Phase 3 |
| 808920 | Metro WWTP Roof Replacements Phase 1 |
| 808921 | MWWTP Primary Settling Tank Chain |
| 808922 | Metro Effluent Pump Station Renewal |
| 808923 | MWWTP Site Preparation and Improvements - Phase 2 |
| 808925 | Metro PLC Renewal |
| 808930 | Metro WWTP Secondary Renewal |
| 808935 | Metro WWTP Secondary & Primary Renewal |
| 8089XX | Metro WWTP Primary Scum Improvements |

| 8089XX | MWWTP Roof Replacement |
|--------|--|
| 8089XX | MWWTP HVAC Improvements – Phase 3 |
| 8089XX | Metro WWTP Electrical Distribution Renewal – Phase 4 |
| 8089XX | Metro WWTP Water Systems Renewal & Improvements Phase 2 – Reclaimed Water |
| 8089XX | Metro WWTP Effluent Pump Station Renewal |
| 8089XX | Metro Exterior Improvements |

MCES 2022 - 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$176,257,000 | \$72,560,000 |

Estimated Program Cash Flow 2022 - 2027:



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

Metro WWTP Electrical Distribution Renewal Phase 2

| Project Location: Council District # 13 City of St. Paul Metro WWTP | |
|--|---|
| PROJECT TYPE: | Plant Improvements |
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | Maintenance staff will coordinate rehabilitation of seven compressor motors through specialty contracted services and install temperature and vibration monitoring for the motors. |
| PROJECT NEED: | The aeration compressors are critical to the continued performance of the aeration process and inspections by Maintenance staff indicate the compressor motors need to be replaced or rehabilitated to extend service life. |

PROJECT SCHEDULE

| | | A |
|----------|-----------|--------------|
| Planning | Design | Construction |
| 2018 | 2019-2020 | 2020-2022 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,700,000 | \$6,150,000 | \$2,960,000 | \$6,150,000 |

Metro WWTP Electrical Distribution Renewal Phase 3



| PROJECT TYPE: | Plant Improvements |
|---|--|
| OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Preservation, Expansion and Improvement Minimize Impacts, Meet Capacity Needs, and Preserve Assets |
| SCOPE: | Replace electrical distribution equipment (unit substations, switchgear, and motor control centers) with new equipment. Upgrade and expand the existing Main Substation Building to provide space for new equipment and to increase worker safety during maintenance. |
| PROJECT NEED: | Condition assessments determined that electrical equipment in the Main Substation Building and at various buildings throughout the plant are at or nearing the end of useful service life and need to be replaced. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2018-2019 | 2019-2021 | 2022-2025 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$12,000,000 | \$59,500,000 | \$57,800,000 | \$59,500,000 |

Project Location:

City of St. Paul

Metro WWTP

Metro WWTP Roof Replacements – Phase 1



| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | This project replaces eight roofs including East Secondary #2, West Secondary #3, Chlorine Pump & Blower and Tunnel Access Building. |
| PROJECT NEED: | Several building roofs are over 40 years old and in need of renewal. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$2,840,000 | \$0 | \$2,840,000 |

Project Location:

Council District # 13

City of St. Paul

Metro WWTP

MWWTP Primary Settling Tank Chain



| PROJECT TYPE: | Plant Improvements |
|-----------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMERLEVELOF | |
| SERVICE: | Preserve Assets |
| SCOPE: | The project will remove and replace existing collection equipment in 5 Primary Settling Tanks and provide Maintenance with spare equipment for future replacements |
| PROJECT NEED: | The sludge collection equipment is critical to the continued performance of the primary process and inspections by Maintenance staff indicate the chain and flight systems need to be replaced or rehabilitated to extend service life. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,500,000 | \$3,620,000 | \$2,000,000 | \$3,620,000 |

Project Location: Council District # 13 City of Saint Paul Metro WWTP

Metro Effluent Pumps Rehabilitation



| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation and Expansion |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | Rehabilitate key components of the effluent pumps and/or motors. |
| PROJECT NEED: | These improvements benefit MCES by maximizing the effluent pumping capacity to minimize the potential for bypassing from the interceptor system upstream of the plant. |

PROJECT SCHEDULE

| | | / e | |
|-----------|--------|--------------|--|
| Planning | Design | Construction | |
| 2019-2020 | 2021 | 2021-2022 | |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$700,000 | \$1,050,000 | \$700,000 | \$1,050,000 |

Project Location: Council District # 13 City of St. Paul Metro WWTP

MWWTP Site Preparation & Improvements – Phase 2



| PROJECT TYPE: | Plant Improvements |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Financial |
| SCOPE: | Construction of staffed guard station, tunnel access to the Services Building and road and parking lot rehabilitation |
| PROJECT NEED: | Road, tunnel, parking and security improvements are required for the new Services Building and Field Service Annex |

PROJECT SCHEDULE

| | | A |
|-----------|-----------|--------------|
| Planning | Design | Construction |
| 2015-2020 | 2020-2021 | 2022-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,500,000 | \$8,552,561 | \$8,000,000 | \$8,552,561 |

Project Location:

City of St. Paul

Metro WWTP

Council District # 13

Metro PLC Renewal



| PROJECT TYPE: | Plant Improvements |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | Replace out-of-date process control systems at the Metropolitan Wastewater Treatment Plant. |
| PROJECT NEED: | Key elements in the process control system for the Metropolitan Wastewater Treatment Plant are out-of-date and in need of replacement in order to continue to provide reliable treatment plant process control. |

PROJECT SCHEDULE

| | | A |
|-----------|-----------|--------------|
| Planning | Design | Construction |
| 2021-2022 | 2022-2025 | 2022-2027 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$500,000 | \$2,000,000 | \$5,500,000 | \$9,500,000 |

Metro WWTP Secondary Renewal



| PROJECT TYPE: OBJECTIVES: CUSTOMERLEVEL OF SERVICE: | Plant Improvements Preservation Preserve Assets |
|---|---|
| SCOPE: | This project replaces the aeration tank diffusers, install aeration control upgrades, rehabilitate underdrain, and meter pits, install final settling tank backfill gates and air header leak assemblies. |
| PROJECT NEED: | The aeration system equipment was last replaced in the early 2000s and needs replacement. The new aeration equipment will result in significant energy savings due to improvements in air transfer efficiency. |

PROJECT SCHEDULE

| | Sec. | |
|-----------|-----------|--------------|
| Planning | Design | Construction |
| 2019-2020 | 2020-2021 | 2021-2025 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$10,000,000 | \$49,502,000 | \$34,500,000 | \$49,502,000 |

Project Location:

Council District # 13

City of St. Paul

Metro WWTP

Metro WWTP Secondary and Primary Renewal



| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | The following improvements are planned: East Secondary FST inlet gates, sluice gate replacements, Compressor system monitoring/diagnostic instrumentation, E-Valve gate actuator replacement, primary sludge pump replacement, and odor control improvements. |
| PROJECT NEED: | Primary and Secondary equipment is approaching 40 years old and needs replacement. The odor control systems for Pretreatment and Sludge Storage need to be rehabilitated to mitigate odors. |

PROJECT SCHEDULE

| | | A |
|-----------|-----------|--------------|
| Planning | Design | Construction |
| 2019-2020 | 2021-2022 | 2022-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$7,000,000 | \$7,000,000 | \$7,000,000 |

Metropolitan WWTP Primary Scum Improvements

| Project Location: | |
|-----------------------|--|
| Council District # 13 | |
| City of St. Paul | |
| Metro WWTP | Scum collection Inside Metro WWTP East Scum Building |

| PROJECT TYPE: | Plant Improvements |
|---|--|
| OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Preservation Lead by example and Preserve Assets |
| SCOPE: | This project will install improvements for the processing of primary scum at the Metro WWTP. |
| PROJECT NEED: | Approximately 2.0 tons per day of scum is conveyed on a batch process from the primary clarifiers to the dumpsters at the Solids Management Building. There is a need to evaluate alternatives for the ultimate location for primary scum and to renew the Primary Scum process. |

PROJECT SCHEDULE

| | | A |
|----------|-----------|--------------|
| Planning | Design | Construction |
| 2020 | 2020-2022 | 2023-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,000,000 | \$1,500,000 | \$1,000,000 | \$1,500,000 |

Project Location:

City of Saint Paul

Metro WWTP

Council District # 13

Metro Roof Replacements



| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | Replace the following roofs: FLT, EPR, MWH (low roof) and CMP above the compressor floor. Rehabilitate or repair roofs for decommissioned buildings 408, REL and F&I#2 to preserve building envelopes. |
| PROJECT NEED: | Condition assessment determined that several roofs are at or nearing the end of useful service life and need to be replaced. |

PROJECT SCHEDULE

| | | (e |
|----------|-----------|--------------|
| Planning | Design | Construction |
| Complete | 2022-2023 | 2023-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,000,000 | \$2,000,000 | \$2,000,000 | \$2,000,000 |

| Program Family: 8089 | |
|----------------------|--|
| Project # 8089XX | |

Project Location:

City of St. Paul

Metro WWTP

Council District # 13

MWWTP HVAC Improvements – Phase 3



| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | This project replaces various HVAC equipment at West Secondary and the top floor computer room insulated to improve energy efficiency. Other HVAC equipment will be replaced based on the outcome from the condition assessment. |
| PROJECT NEED: | HVAC equipment near end-of-life needs to be rehabilitated or replaced based on condition assessment and business case evaluations |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2020-2021 | 2021-2022 | 2023-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$3,000,000 | \$3,000,000 | \$3,000,000 |

Project Location:

City of St. Paul

Metro WWTP

Council District # 13

Metro WWTP Electrical Distribution Renewal Phase 4



| PROJECT TYPE: | Plant Improvements |
|----------------------------|---|
| OBJECTIVES: | Preservation, Expansion and Improvement |
| CUSTOMER LEVEL OF SERVICE: | Minimize Impacts, Meet Capacity Needs, and Preserve Assets |
| SCOPE: | Replace electrical distribution equipment (unit substations, switchgear, and motor control centers) with new equipment. |
| PROJECT NEED: | Condition assessment determined that electrical equipment in various buildings throughout the plant are at or nearing the end of useful service life and need to be replaced. |

PROJECT SCHEDULE

| | 5 | | |
|-----------|-----------|--------------|--|
| Planning | Design | Construction | |
| 2012-2023 | 2023-2024 | 2024-2027 | |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$12,000,000 | \$59,500,000 | \$57,800,000 | \$59,500,000 |

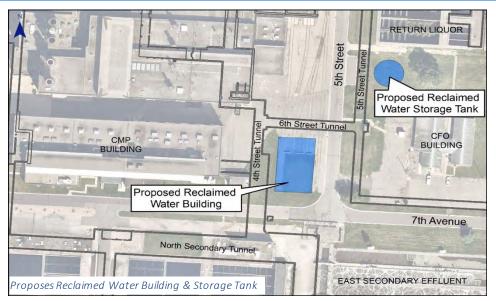
Project Location:

Council District # 13

City of Saint Paul

Metro WWTP

MWWTP Water Systems Renewal & Improvements Phase 2 – Reclaimed Water



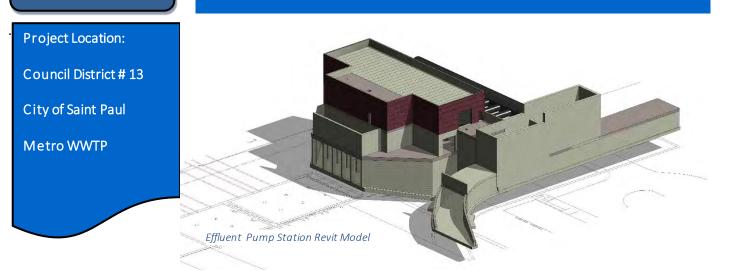
| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation and Expansion |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | This project constructs a new reclaimed water system to replace the water source for processes which are currently served by the Prairie du Chien aquifer through the plant service water system |
| PROJECT NEED: | There is a need to rehabilitate and repurpose the Metro Plant water systems and reduce use of the Prairie du Chien aquifer. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2022-2023 | 2023-2024 | 2025-2026 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$0 | \$0 | \$24,000,000 |

Metro Effluent Pump Station Rehabilitation



| PROJECT TYPE: OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Plant Improvements Preservation and Expansion Preserve Assets |
|--|--|
| SCOPE: | This project enhances the effluent pumping reliability by providing a more robust facility to handle peak flows and during flooding and adverse weather conditions. These improvements include interior and exterior building improvements; replace switchgear, transformers, MCCs and other electrical equipment; replace HVAC equipment; inspect wet wells and replace gates |
| PROJECT NEED: | The pump station has experienced problems with pump service availability. There is a need to rehabilitate the station to increase system reliability for an additional 30-40-year service life. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2019-2020 | 2021-2022 | 2023-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$0 | \$15,000,000 | \$15,000,000 | \$15,000,000 |

Metro Exterior Building Improvements



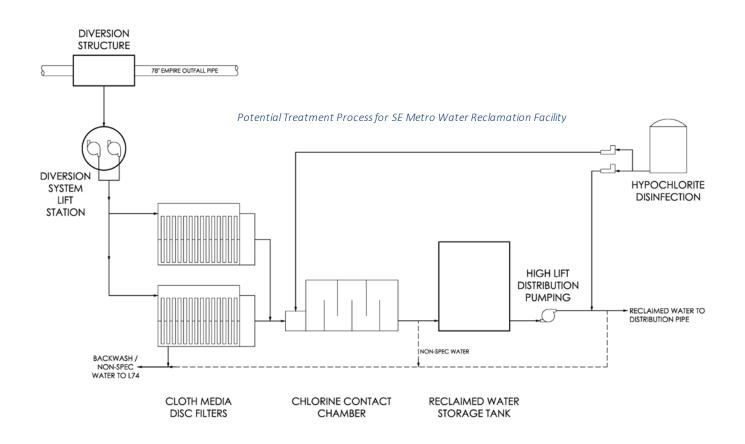
| PROJECT TYPE: | Plant Improvements |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets |
| SCOPE: | This project rehabilitates the exterior façade for several buildings based on condition assessment. |
| PROJECT NEED: | The building envelopes for several buildings are over 40 years old and in need of renewal. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|--------|--------------|
| 2022 | 2022 | 2022-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$2,840,000 | \$0 | \$2,840,000 |

Program 8091 Wastewater Reclamation Facilities



Description:

This program provides funding for planning activities needed to support the Council's overall wastewater reuse initiative.

Purpose and Justification:

The Water Resources Policy Plan directs MCES to pursue wastewater reuse where it is economically feasible to promote sustainable water resources. Drivers include:

- Alleviating future regional conveyance pipe capacity constraints
- Conserving & supplementing groundwater & surface water
- Projects to reduce the future issuance of a water appropriation due to concerns about the area's long-term water supply
- Projects driven by future regulatory requirements that result in effluent quality being closure to reuse standards

Program Location:

The active studies and projects within this program are relevant to all Council Districts. In particular, the Crow River Wastewater Reclamation Plant is planned to be built in District 1; the SE Metro Wastewater Reclamation Facility has been planned for District 15; and the Scott County Wastewater Plant is planned for District 4.

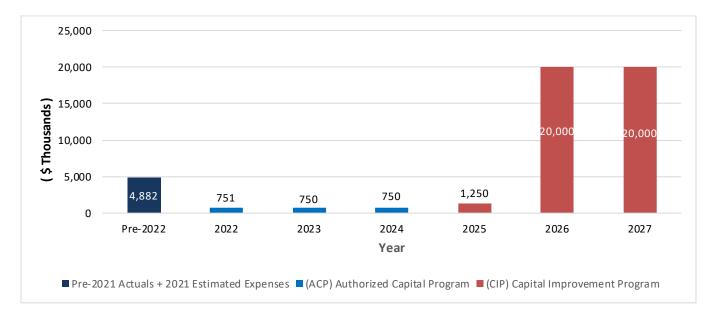
Active Projects in Program:

| Project Number | Project Title |
|-------------------|---|
| 809110 | Crow River Wastewater Reclamation Plant |

MCES 2022 - 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$7,133,000 | \$41,250,000 |
| | |

Estimated Program Cash Flow 2022 - 2027:



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

Project Location:

Council District # 1

Crow River WWTP

City of Rogers

Crow River Wastewater Treatment Plant



| PROJECT TYPE: | Wastewater Treatment Plant |
|----------------------------|---|
| OBJECTIVES: | Expand |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Minimize Impacts, Lead by Example, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, and Coordinate with Others |
| SCOPE: | MCES has recognized and planned for the need for a new wastewater facility in the northwest Metropolitan service area in the 2030 and 2040 Water Resources Policy Plans. The new facility, the Crow River Wastewater Treatment Plant, will be located on a parcel of land purchased by MCES in the City of Rogers near the Crow River. The facility will replace the existing MCES Rogers Wastewater Treatment Facility and will serve the City of Rogers as well as portions of Dayton and Corcoran. MCES is planning to start receiving flow at the facility in 2030. |
| PROJECT NEED: | This new Crow River Plant is needed to free up capacity for urban core growth in the Elm Creek interceptor which currently serves a rapidly expanding portion of Rogers. It also prepares for projected growth in the communities of Rogers, Dayton, Corcoran and the surrounding area. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|-----------|--------------|
| N/A | 2023-2025 | 2025-2027 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|-----------------------------|
| \$500,000 | \$3,844,000 | \$42,500,000 | \$103,644,000 ₈₀ |



Description:

This program provides funding for planning and implementation of projects to address renewal and capacity needs to improve performance for wastewater solids processing at the Blue Lake Wastewater Treatment Plant (WWTP).

Purpose and Justification:

The program provides for planning and implementation of projects to address renewal and capacity needs and to improve performance for wastewater solids processing at the Blue Lake WWTP.

Program Location:

The active projects within this program are in the following Council Districts: 4

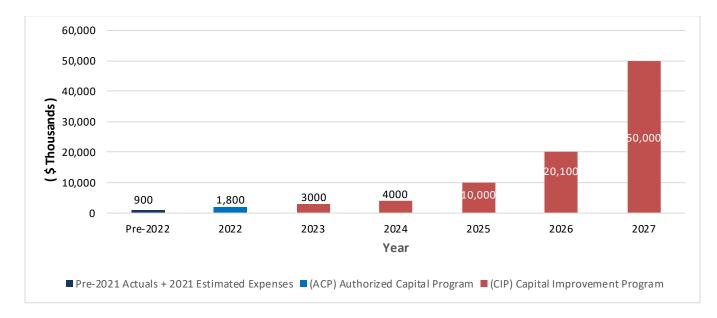
Active Projects in Program:

| Project Number | Project Title |
|-------------------|------------------------------------|
| 809700 | Blue Lake WWTP Solids Improvements |

MCES 2022 - 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$2,700,000 | \$87,100,000 |

Estimated Program Cash Flow 2022 - 2027:



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

Blue Lake WWTP Solids Improvements Phase 1

| Project Location: Council District # 4 City of Shakopee Blue Lake WWTP | The Blue Lake WWTP located in Shakopee, produces Class A Fertilizer |
|---|---|
| PROJECT TYPE: | Wastewater Treatment Plant |
| OBJECTIVES: | Preservation and Improvement |
| CUSTOMER LEVEL OF SERVICE: | Communicate Information and Preserve Assets |
| SCOPE: | Develop a facility plan and begin implementing recommended scope items. Phase 1 includes the addition of a second dryer, rehabilitation of the first dryer, and the addition of a digester on the solids side. There will also be diffuser replacements and expansion of the secondary clarifiers. |
| PROJECT NEED: | Wastewater solids drying facilities over 20 years old and are nearing end of its useful life. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2018-2021 | 2022-2024 | 2025-2030 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,000,000 | \$2,700,000 | \$88,000,000 | \$114,700,000 |

Program 8098 Hastings WWTP



Description:

This program provides funding for planning and implementation of a new Hastings Wastewater Treatment Plant (WWTP) located at 2445 Ravenna Trail in Hastings and includes projects for construction of the new plant and associated interceptor system improvements.

Purpose and Justification:

MCES intends to relocate Hastings WWTP service to 2445 Ravenna Trail in Hastings. The new site will allow the plant to expand to meet long-term regulatory and future requirements. The long-term service area identified in the 2040 Water Resources Policy Plan may include land areas in the township of Marshan, Nininger, or Vermillion.

Program Location:

The active projects within this program are in the following Council Districts: 16

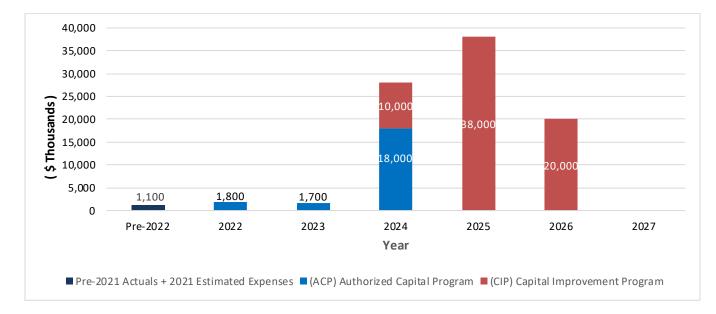
Active Projects in Program:

| Project Number | Project Title |
|-------------------|---------------|
| 809800 | Hastings WWTP |

MCES 2022 - 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$22,600,000 | \$68,000,000 |
| | |

Estimated Program Cash Flow 2022 - 2027:



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

Project Location:

Hastings

Council District # 16

Relocated Hastings WWTP

Hastings WWTP



| PROJECT TYPE: | Plant Improvements |
|----------------------------|--|
| OBJECTIVES: | Expansion and Improvement |
| CUSTOMER LEVEL OF SERVICE: | Meet Capacity Needs, Lead by Example and Coordinate with Others |
| SCOPE: | Construct a new wastewater treatment plant in Hastings |
| PROJECT NEED: | The existing plant site, located in downtown Hastings, presents challenges to major renewal, land use compatibility, expandability of the plant to respond to growth and changes in regulatory requirements. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2020-2022 | 2023-2024 | 2025-2030 |

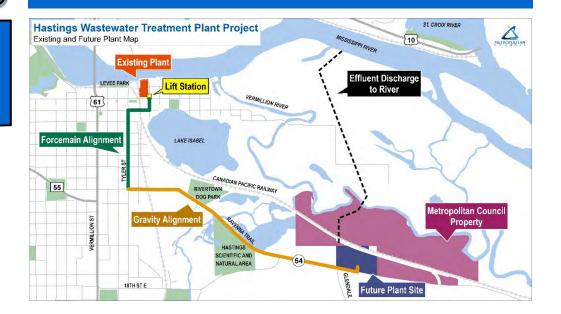
| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$1,800,000 | \$22,600,000 | \$89,500,000 | \$90,600,000 |

Project Location:

Council District # 16

Hastings, MN

Hastings WWTP – Interceptor Improvements



| PROJECT TYPE: | Preservation and Expansion |
|----------------------------|--|
| OBJECTIVES: | Transport wastewater from the existing WWTP in downtown Hastings to the new plant site located at 2445 Ravenna Trail. |
| CUSTOMER LEVEL OF SERVICE: | Meet Capacity Needs and Coordinate with Others |
| SCOPE: | Construct a sewer pumping station at the existing WWTP. Construct 6,000 LF of forcemain, 8800 LF of trunk gravity sewer, and 7200 LF of treated water discharge to the Mississippi River. Following final acceptance of the new plant, the existing WWTP will be decommissioned, and the property turned back to the City. |
| PROJECT NEED: | |
| | The existing plant has reached its treatment capacity. A new plant is required to accommodate growth. All wastewater currently flowing to the existing downtown treatment plant needs to be conveyed to the new plant site. |
| | |

PROJECT SCHEDULE

| | | A |
|-----------|-----------|--------------|
| Planning | Design | Construction |
| 2020-2022 | 2022-2024 | 2024-2026 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|----------------------------|
| \$1,300,000 | \$21,100,000 | \$38,500,000 | \$39,100,000 ₈₇ |

Program 8100 Industrial Pretreatment Incentive Program



Description:

Industrial Pretreatment Incentive Program (IPIP) provides financial incentives to assist high-strength industrial wastewater dischargers to pretreat the wastewater at their site, reducing or eliminating the high-strength discharge and reducing Metropolitan Council Environmental Services' (MCES) cost to treat that discharge.

Purpose and Justification:

This innovative public-private partnership yields benefits to MCES ratepayers, private industry, and the environment. The Council and its ratepayers benefit by avoiding operating costs (e.g., energy) to treat high-strength waste; improve ability to generate electricity by better handling of high-strength waste and potentially delay or eliminate the need for wastewater treatment plant expansion. Industries benefit by having access to low-cost loans to install treatment equipment; reducing or eliminating strength charges and enhancing ability to grow.

Program Location:

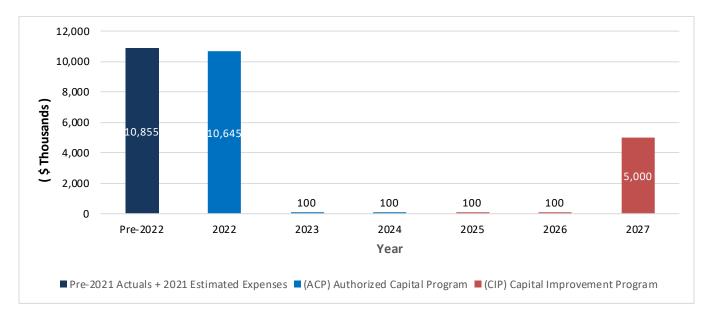
Current applications with pending projects

Active Projects in Program: None

MCES 2022 - 2027 Capital Program:

| Capital Improvement Plan (CIP) \$5,200,000 |
|---|
| |

Estimated Program Cash Flow 2022 - 2027:



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

Appendix B: Project Summaries by Program - Interceptor

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Program 8028 Blue Lake Interceptor Improvements

08/02/2019 12:22

Description:

This project provides improvements to meet the long-term conveyance capacity, reliability, and rehabilitation/replacement needs of the Blue Lake Interceptor System. This system includes gravity sewers, 29 lift stations, and forcemains from each lift station. Where cost effective, some lift stations will be replaced by deep gravity sewers using tunnel construction methods. The remaining lift stations will be rehabilitated and/or replaced as necessary. Single forcemains will be upgraded to dual forcemains where criteria supports this strategy. Gravity sewers will be rehabilitated as necessary. River crossings will be inspected and rehabilitated as necessary. The major project areas are Victoria, Excelsior, Mound and Orono. The gravity sewers are located in Chanhassen and Deephaven.

Purpose and Justification:

Evaluation of the Blue Lake Area Interceptor System indicates that the existing facilities cannot convey all the wastewater that will ultimately be generated from within the Blue Lake sewer shed due to growth. In addition, many of the sewers, lift stations, and associated forcemains need to be rehabilitated to ensure system reliability and to address odor and corrosion control.

Program Location:

The active projects within this program are in the following Council Districts: 3, 4

| Project Number | Project Title |
|-------------------|---------------------------------------|
| 802800 | Lake Minnetonka Area (Parent Project) |
| 802831 | Lift Station L46 and L49 |

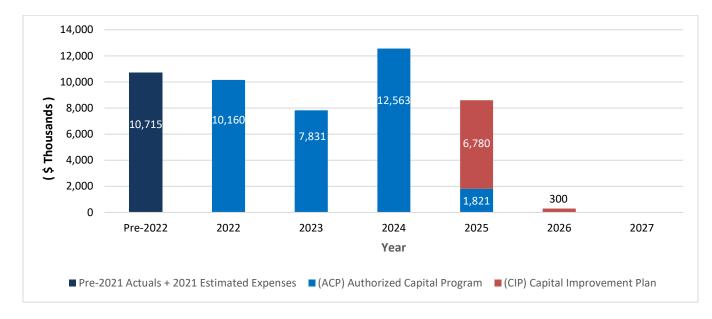
Active Projects in Program:

| 802834 | L48 Rehab and 6-DH-645 FM replacement |
|--------|---|
| 802856 | Excelsior Area Lift Station L-20 |
| 802863 | 8567 Channel Crossings Replacement |
| 802871 | Shorewood Interceptor 7017 Rehab |
| 802883 | Chanhassen Interceptor 8253-328 Rehabilitation |
| 802886 | Interceptor 7113 Replacement at Tanager Lake Bridge |
| 802888 | Cooperative Agreements – Blue Lake System |
| 802897 | Orono 7113 FM Replacement |

MCES 2022 - 2027 Capital Program:

| Capital Improvement Plan (CIP) \$7,080,000 |
|---|
| |

Estimated Program Cash Flow 2022 - 2027:



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

Orono Lift Stations L46 and L49 Improvements



| PROJECT TYPE: | Lift Station Improvements |
|----------------------------|--|
| 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: | Replace L49 at neighboring property, and fully rehabilitate L46 through replacement of pumps and mechanical equipment, and site improvements for safety. |
| PROJECT NEED: | Both L46 and L49 were included in recent condition assessments and were the subject of a 2009 study evaluating needed improvements. L49 is at the end of its useful life and has inadequate capacity to meet current peak flow rates. Its location is also difficult to access for maintenance. Land has been purchased adjacent to the existing lift station to provide easier access. L46 requires pump and valve replacement, electrical panel upgrades, as well as site improvements to protect existing equipment from traffic. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2019-2020 | 2020-2022 | 2023-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$160,000 | \$4,186,000 | \$3,869,000 | \$4,186,000 |

L48 Rehabilitation and 6-DH-645 Forcemain Replacement



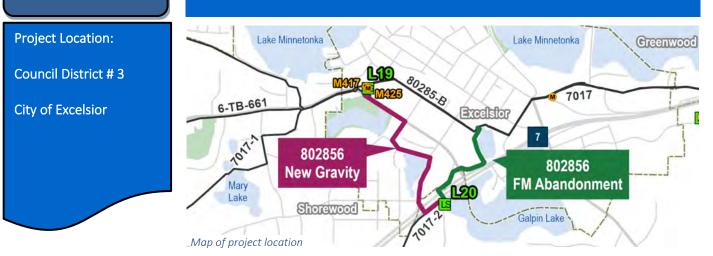


| PROJECT TYPE: OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Lift Station Rehabilitation and Forcemain Replacement Preservation Lead by Example, Be A Good Neighbor, Meet Capacity Needs and Preserve Assets |
|--|---|
| SCOPE: | The rehabilitation of L48 will include a new valve vault, pumps and valves, electrical and site work, forcemain replacement and replacement of the gravity discharge pipe. |
| PROJECT NEED: | The 16 ft deep buried valves are broken outside of the station. A buried temporary conveyance system was installed to convey around the broken valves. The forcemain was built in 1970 and is 50 years old. It is reaching the end of its service life. |



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$464,000 | \$ 5,855,000 | \$ 5,433,000 | \$ 5,855,000 |

Excelsior Area Lift Station L20



| PROJECT TYPE: | Interceptor System Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Minimize Impacts, Be A Good Neighbor, Engage Customers and Coordinate with Others |
| SCOPE: | Remove existing lift station L20 and install a gravity pipe to lift station L19. |
| PROJECT NEED: | The existing L20 was constructed in 1970 and is at the end of its service life. The 2021 Lake Minnetonka Facility Plan determined that L20 should be abandoned and replaced with a gravity pipe connection to L19. |

PROJECT SCHEDULE

| | | A |
|-----------|-----------|--------------|
| Planning | Design | Construction |
| 2008-2019 | 2019-2021 | 2022-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$5,000,000 | \$10,001,000 | \$9,358,000 | \$10,001,000 |



| PROJECT TYPE: | Interceptor Replacement |
|----------------------------|--|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Minimize Impacts, Lead by Example, Be A Good Neighbor, Engage Customers, Coordinate with Others and Preserve Assets |
| SCOPE: | In 2022, Hennepin County plans to replace the Noerenberg and Hendrickson bridges on North Shore Drive. Interceptor Forcemain 8567 is suspended on the bridges and needs to be relocated under the Lake Minnetonka channels before or during the County project. |
| PROJECT NEED: | Replace the existing 12-inch DIP Hendrickson and 16-inch DIP Noerenberg bridge crossings with buried channel crossings. Directionally drilled dual HDPE pipes are proposed. To lessen the potential need for land acquisition, this work will be scheduled when North Shore Drive is closed for bridge work. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|--------|--------------|
| 2020 | 2021 | 2022 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,241,000 | \$1,905,000 | \$1,716,000 | \$1,905,000 |

Project Location:

Council District # 3

City of Chanhassen

West of Lake Lucy

Chanhassen Interceptor 8253-328 Rehabilitation



Map of project location

| PROJECT TYPE: | Interceptor Rehabilitation |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Minimize Impacts, Communicate Information, Engage Customers, Coordinate with Others and Preserve Assets |
| SCOPE: | Rehabilitation of approximately 2,900 feet of concrete gravity sewer, ranging in size from 30-inch to 42-inch and installation of 10 fiberglass manhole inserts. MCES has a cooperative construction agreement to rehabilitate 1100 LF of 12" concrete gravity pipe owned by the City with the MCES construction project. The owner of the property along the alignment of the proposed rehabilitation has an approved preliminary plat and approved phase 1 site development plan. Rehabilitation either before or in conjunction with the development of the property will simplify construction and reduce construction costs. |
| PROJECT NEED: | The concrete sewer pipe has significant section loss of the interior wall. Delays in rehabilitating this pipe could result in a collapse of the sewer. |



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$650,000 | \$4,900,000 | \$650,000 | \$4,900,000 |

Program Family: 8028 Project # 802886 Project Location: City of Orono Lake Minnetonka Map of project location

| PROJECT TYPE: | Interceptor System Improvements at Tanager Bridge |
|----------------------------|---|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Minimize Impacts, Engage Customers, Coordinate with Others and Preserve Assets |
| SCOPE: | Replace existing forcemain at Tanager bridge with new forcemain alignment due to bridge replacement. Associated Hennepin County Project. |
| PROJECT NEED: | Forcemain 7113 was built in 1979 and runs from L59 in the City of Orono to the junction with forcemain 7113A approximately 3 miles to the east. Reconstruction of the Tanager Lake bridge by Hennepin County presents an opportunity to replace the old forcemain 7113 and remove any conflicts from bridge construction. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2018-2019 | 2019-2020 | 2021-2022 |

FINANCIAL ANALYSIS

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$762,000 | \$1,214,000 | \$762,000 | \$1,214,000** |
| | | | |

**Estimated. MCES share of project costs are currently being negotiated with Hennepin County. MCES cost participation is 50% of total FM relocation cost.

Project Location:

Council District # 3

City of Orono

Orono Interceptor 7113 Forcemain Replacement



| PROJECT TYPE: | Interceptor System Improvements |
|----------------------------|---|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Minimize Impacts, Be A Good Neighbor, Engage Customers and Coordinate with Others |
| SCOPE: | Replacement of existing forcemain from Lift Station L59 to junction with forcemain 7113A with a new forcemain. The new forcemain will follow the HCRRA trail corridor to avoid County Road 15 and the Lake Minnetonka shoreline. |
| PROJECT NEED: | Forcemain 7113 was built in 1979 and runs from L59 in the City of Orono to the junction with forcemain 7113A approximately 3 miles to the east. Forcemain 7113 is approaching the end of its service life and needs replacement or rehabilitation. A new redundant forcemain is proposed to increase reliability and allow the existing the forcemain in Shoreline Drive to be inspected and rehabilitated or replaced. |

PROJECT SCHEDULE

| | | A |
|-----------|-----------|--------------|
| Planning | Design | Construction |
| 2019-2022 | 2022-2024 | 2024-2025 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$485,000 | \$8,930,000 | \$14,767,000 | \$15,410,000 |



Description:

The Program provides for the replacement of a 5-mile-long force main, known as the Hopkins force main, and lift station L27 located in the city of Hopkins. The force main is a single 24 to 30-inch interceptor pipe that begins in Hopkins at the intersection of Blake Rd and Lake St and passes through St. Louis Park and Minneapolis where it discharges to the 1-MN-330 gravity interceptor sewer. The system serves the cities of Hopkins, St. Louis Park, and Minneapolis. The new force main system is constructed as a dual 18 to 24-inch pipe system. The new 6.3 mgd lift station is constructed 700-feet to the west of the existing lift station.

Purpose and Justification:

These facilities are over 40 years old, have significant condition issues and lack redundancy. The existing force main is constructed as Prestressed Concrete Cylinder Pipe which is susceptible to internal and external corrosion. In 2000, a corroded section of the force main collapsed within the Dean neighborhood of Minneapolis. In addition, the existing lift station is undersized with little storage. This presented an operational limitation to addressing malfunctions at the lift station without causing backups to homes or spills.

Program Location:

The active projects within this program are in the following Council Districts: District # 5 and 6

Active Projects in Program:

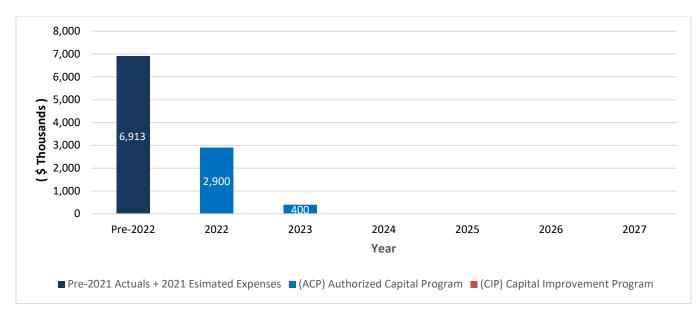
Due to funding shortages in this program, the last two construction projects in Minneapolis are planned to be funded under the Interceptor Rehabilitation Program 809000. The Hopkins System Improvements family is only used for funding the consultants and the cooperative construction agreements on the two remaining Minneapolis projects.

| Project Number | Project Title |
|-------------------|---|
| 804100 | Hopkins Systems Improvements (Parent Project) |
| 804125 | HSI East Isles Force Main Improvements |
| 804136 | HSI Cooperative Agreements |

MCES 2022 – 2027 Capital Program:

| thorized Capital Program (ACP) 0,213,000 | Capital Improvement Plan (CIP) \$0 |
|---|---------------------------------------|
| | |

Estimated Program Cash Flow 2022 - 2027:



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

HSI East Isles Forcemain Improvements



| PROJECT TYPE: | Interceptor Rehabilitation |
|----------------------------|--|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Conveys wastewater safely with minimal backups and spills |
| SCOPE: | The project includes only the planning and design phases for the replacement of 2500 lineal feet of 24" concrete forcemain with two 24" diameter forcemains. Cooperative construction with the City of Minneapolis and Minneapolis Park and Recreation Board to complete City improvements in the area. The construction of the improvements on Humbolt Ave are under MCES project number 819015. The construction of the improvements within The Mall Park are under MCES project number 819020 |
| PROJECT NEED: | Without a redundant forcemain, inspecting the existing 24" concrete forcemain is difficult and there is significant potential for corrosion given the pipe material and age. An upstream section of the forcemain collapsed in 2000. The vortex drop structure between the forcemain and interceptor 1-MN-330 at 27 th Street and Humboldt Ave. S. is severely corroded is at risk of failure. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,200,000 | \$1,798,000 | \$1,200,000 | \$1,798,000 |

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 spills, and improve the safety of staff who operate and maintain lift stations.

Program Location:

The active projects within this program are in all the Council Districts.

Active Projects in Program:

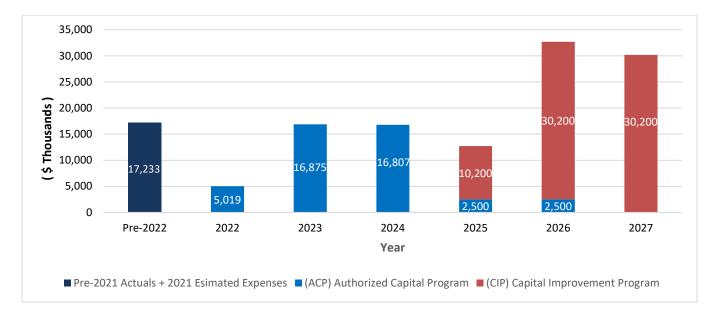
| Project Number | Project Title |
|-------------------|--|
| 805500 | Lift Station Rehabilitation (Parent Project) |

| 805501 | Lift Station Property Maintenance |
|--------|--|
| 805502 | Lift Station Condition Assessments |
| 805503 | L-13 HVAC Improvements |
| 805560 | Coon Rapids L34 Improvements |
| 805564 | Savage L66 Lift Station Rehab |
| 805565 | Lift Station Fuel Upgrades |
| 805566 | Lift Station Electrical Rehabilitation |
| 805575 | Bloomington L55 Gravity Sewer and Forcemain Rehabilitation |
| 805576 | L29 Improvements |

MCES 2022 – 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$60,934,000 | \$70,600,000 |

Estimated Program Cash Flow 2022 - 2027:



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



Lift Station Property Maintenance

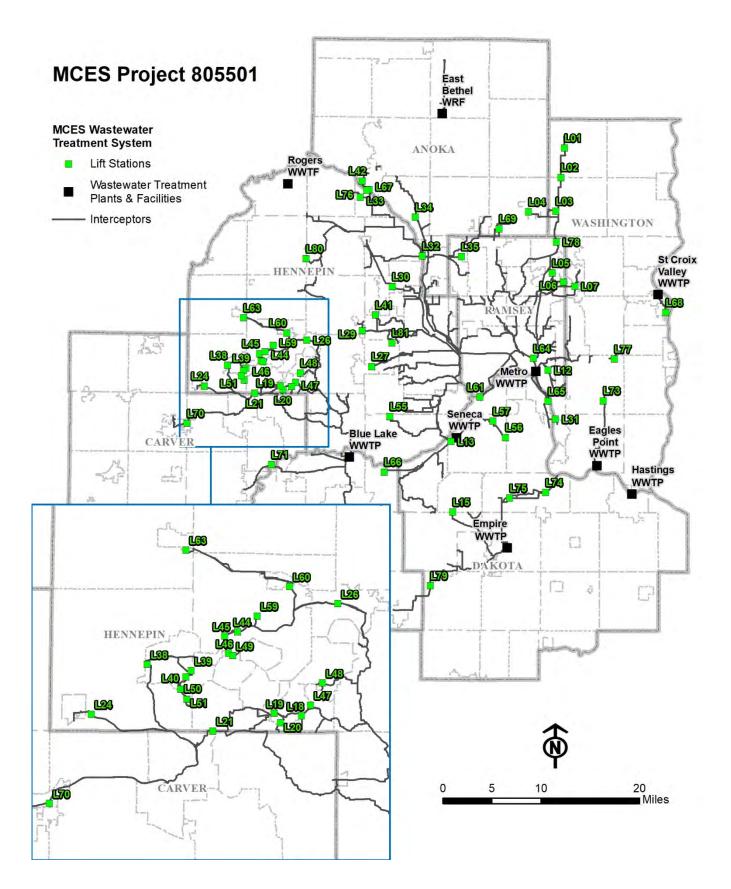


| PROJECT TYPE: | Interceptor System Improvements |
|----------------------------|---|
| OBJECTIVES: | Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Minimize Impacts, Lead by Example, Be A Good Neighbor, Engage Customers, Coordinate with Others and Preserve Assets. |
| SCOPE: | Implement landscaping improvements at lift station properties on a case-by- case basis to provide lower maintenance and meet sustainability goals. |
| PROJECT NEED: | To comply with conditional use permits, local ordinances and other criteria minor improvements are needed at various lift station sites. |

PROJECT SCHEDULE

| | P | |
|----------|-----------|--------------|
| Planning | Design | Construction |
| 2020 | 2020-2021 | 2021 – 2026 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$600,000 | \$1,559,000 | \$1,300,000 | \$1,559,000 |

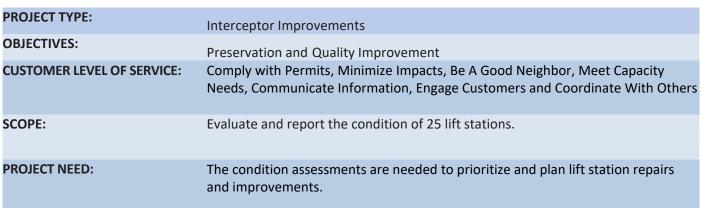


Project Location:

System Wide





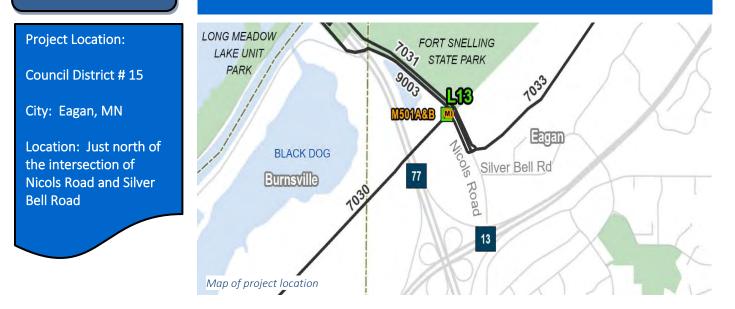


PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$200,000 | \$1,058,000 | \$1,200,000 | \$1,658,000 |

L13 HVAC Improvements



| PROJECT TYPE: | Study |
|----------------------------|--|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | 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 odors and potential disruption of service to our customers does not meet the Council's Level of Service goals |
| SCOPE: | Study to determine the most appropriate short-term and long-term methods to rehabilitate lift station HVAC and odor control systems to reduce odors and preserve the function of the existing lift station |
| PROJECT NEED: | The project is needed for operator safety, to preserve assets, and to reduce odors leaving the lift station property |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-------------|--------|--------------|
| 2021 – 2022 | 2022 | 2023 – 2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$200,000 | \$2,100,000 | \$200,000 | \$2,100,000 |

Project Location:

Council District # 9

City of Coon Rapids

Coon Rapids Blvd.

Coon Rapids L34 Improvements



| PROJECT TYPE: OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Lift Station Improvements Preservation and Quality Improvement Minimize Impacts, Lead by Example, Be A Good Neighbor and Preserve Assets |
|--|---|
| SCOPE: | Replace four existing pumps and motors, replace process piping and valves, replace undersized influent pipe, replace 100 feet of 48" concrete pipe with corrosion resistant pipe, replace roof, replace HVAC systems and odor management system, rehabilitate wet well with corrosion resistant coating, addition of new channel grinder and mechanical hoists, replace electrical service, replace all interior electrical and lights with energy efficient LEDs. Construct an on-site stormwater filtration basin to protect water quality. |
| PROJECT NEED: | Originally constructed in 1963, L34 facilities need to be rehabilitated to recover useful life and provide reliability, and ancillary improvements are required to improve site safety. The existing odor management unit does not have enough media capacity to successfully treat air through peak odor months, which are typically July through October. |

PROJECT SCHEDULE 3



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$600,000 | \$7,329,000 | \$0 | \$7,329,000 |

L66 Rehabilitation

| Project Location: | RICE Savage BLOOMING TON LERRY STATUS |
|--------------------------|---------------------------------------|
| Council District # 15 | MILKIE WILKIE UNIT PARK |
| City of Savage | 59,107 |
| 125 th Street | 13 14 Community States |
| | Parkwal/ appartmanna Anno South |
| | Presene Trail |
| | Map of project location |

| PROJECT TYPE: | Lift Station rehabilitation |
|----------------------------|---|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Lead by Example, Be A Good Neighbor, Meet Capacity Needs and Preserve Assets |
| SCOPE: | The lift station rehabilitation will include HVAC upgrades, carbon tank, 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 projects 2040 flows. The HVAC is not up to code and needs replacement. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|-----------|--------------|
| N/A | 2017-2022 | 2022-2025 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$969,000 | \$5,895,000 | \$5,744,000 | \$5,895,000 |

Project Location:

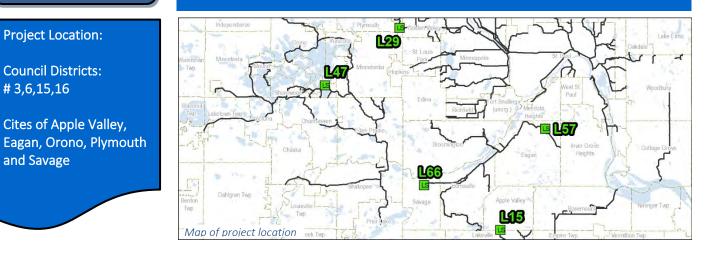
Council Districts:

Cites of Apple Valley,

3,6,15,16

and Savage

Lift Station Fuel Tank Upgrades



| PROJECT TYPE: | Fuel Tank Replacement |
|----------------------------|---|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits and Preserve Assets |
| SCOPE: | Remove and replace five existing underground storage tanks (UST) with five above ground storage tanks (AST). |
| PROJECT NEED: | The MPCA is requiring stricter reporting requirements on underground storage tanks (USTs). The first round of reports for the fuel tanks is due in October 2020. In order to comply with these standards MCES needs to replace these five tanks. Instead of replacing the USTs in kind, MCES is replacing them with above ground storage Tanks (ASTs) because of the additional maintenance costs and testing that is required for UST's. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$50,000 | \$1,718,000 | \$50,000 | \$1,718,000 |

Project Location: Multiple Lift Stations Council District # - NA City - NA

Location - NA

2020 Lift Station Electrical Rehabilitation



| PROJECT TYPE: | Electrical Condition Assessment |
|----------------------------|--|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Minimize impacts and Preserve Assets |
| SCOPE: | The current condition assessment reports, preventative maintenance data, and arc flash study results need to be reviewed to prioritize electrical rehabilitation work. MCES engineering and electrical maintenance staff will compare previous data from the condition assessments and conduct visit sites to determine current deficiencies with the electrical systems. Brown and Caldwell are assisting with site visits and arc flash modeling. |
| PROJECT NEED: | A consultant has been hired to prepare condition assessments for Metropolitan Council Environmental Services (MCES) lift stations. The condition assessments include a review of the electrical systems. In addition, preventative maintenance testing conducted by MCES electrical maintenance and previous arc flash studies have noted deficiencies. This work has revealed many lift stations with electrical deficiencies consisting of failed components; antiquated switch gear, protective devices, and motor starters; deteriorated electrical cabinets and conduit; and unsafe arc flash conditions. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|-----------|--------------|
| 2020 | 2021-2022 | 2022-2030 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$150,000 | \$500,000 | \$10,157,000 | \$20,331,452 |

Lift Station L55 Replacement – Gravity Sewer and Forcemain Construction

Project Location:

Council District # 5

City of Bloomington

Southeast Quadrant of Hwy 100 and 494 intersection



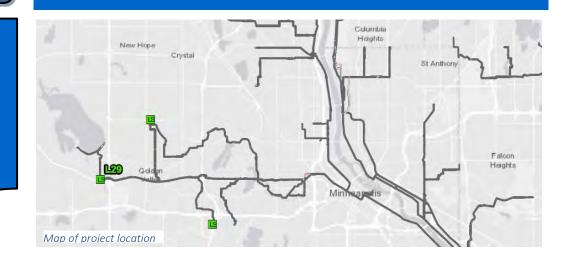
| PROJECT TYPE: | Lift Station Replacement |
|----------------------------|---|
| OBJECTIVES: | Preservation and Expansion |
| CUSTOMER LEVEL OF SERVICE: | |
| | Provide future capacity |
| SCOPE: | Install new gravity sewer to, and new forcemain from, a new 3.8 MGD lift station installed under Project 808400 |
| PROJECT NEED: | In 2013, Bloomington and Edina notified MCES that major developments located in the lift station L55 sewershed, including the Edina Gateway, Mall of America and OATI expansions, were scheduled for construction in three to five years and that projected flows were expected to exceed the capacity of L55. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$50,000 | \$4,303,000 | \$50,000 | \$4,303,000 |

L29 Rehabilitation



Project # 805576

Project Location: L29

Council Districts:

1 City of Plymouth

| PROJECT TYPE: | Lift Station Rehabilitation | | |
|----------------------------|--|--|--|
| OBJECTIVES: | Preservation and Quality Improvement | | |
| CUSTOMER LEVEL OF SERVICE: | Lead by Example, Be A Good Neighbor, Meet Capacity Needs and Preserve Assets | | |
| 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 | Design | Construction | |
|----------|-----------|--------------|--|
| 2022 | 2022-2023 | 2024-2026 | |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$800,000 | \$9,900,000 | \$9,800,000 | \$9,900,000 |



Description:

This Program provides funding to upgrade MCES's ability to measure flows for billing, operational, and planning purposes and standardize meter equipment at similar facilities. Meter improvements include meter rehabilitation or replacement, planning meter installation, and new meter installation.

Purpose and Justification:

Accurate flow metering is the basis of the MCES' billing system. It is essential that our customers trust the reliability and accuracy of the flow metering system. The project provides a systematic approach for capital improvements to the flow metering system. Increases in flow, greater emphasis on capturing peak flows stemming from MCES' infiltration/inflow program, normal facility rehabilitation needs, and the need for additional flow metering locations for system planning purposes are driving this meter improvements project.

Program Location:

The active projects within this program are in the following Council Districts: District # 1 & 2

| Project Number | Project Title |
|-------------------|-------------------------------------|
| 805600 | Meter Improvements (Parent Project) |
| 805601 | Meter Station Property Maintenance |
| 805603 | 2020 Meter Improvements |
| 805604 | Meter M061 Rehabilitation |
| 805605 | Meter M106 Rehabilitation |
| 805636 | Replacement Meter Vault M228 |

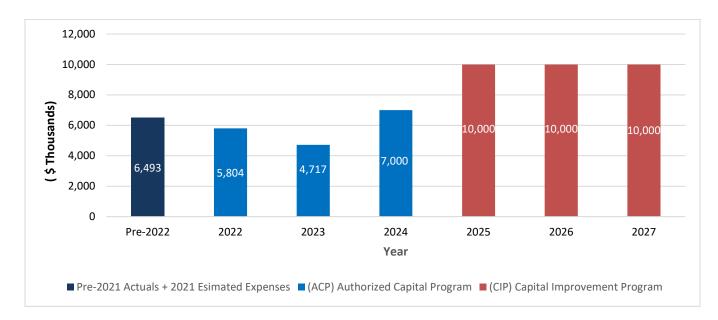
Active Projects in Program:

MCES 2022 - 2027 Capital Program:

Authorized Capital Program (ACP) \$24,014,000

Capital Improvement Plan (CIP) \$30,000,000

Estimated Program Cash Flow 2022 - 2027:



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

Project Location:

Council District # 2

Meter M106 Modifications



| PROJECT TYPE: | Interceptor Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Minimize Impacts, Be A Good Neighbor, Engage Customers, Coordinate with Others, and Preserve Assets |
| SCOPE: | Replace existing parshall flume, structure modifications and improvements. |
| PROJECT NEED: | Adjust structure to accommodate road and trail improvements. Replace and update meter to improve accuracy and address condition. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|----------|-----------|--------------|
| 2021 | 2021-2022 | 2022-2023 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$200,000 | \$1,300,000 | \$1,300,000 | \$1,300,000 |

| Program Family: 8056 Project # 805636 | Replacement Meter Vault M228 |
|--|---|
| Project Location: Council District # 2 City of Brooklyn Park | Map of project location |
| PROJECT TYPE: | Interceptor Improvements |
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers, Coordinate with Others and Preserve Assets |
| SCOPE: | Replace existing Meter M228 |
| PROJECT NEED: | Replace and update meter due to corrosion and difficult access. Meter is important to ensure accuracy of cost distribution among communities. |

PROJECT SCHEDULE

| | P | |
|----------|-----------|--------------|
| Planning | Design | Construction |
| 2019 | 2020-2022 | 2023-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$3,200,000 | \$7,483,000 | \$6,817,000 | \$7,483,000 |



Description:

The interceptor systems in Cottage Grove, Oakdale, Lake Elmo, Woodbury, and other east area communities need rehabilitation and/or replacement as well as expansion to serve additional areas. The Program will rehabilitate existing interceptor facilities, including gravity sewers, force mains, lift stations and meter stations, and analyze the system needs to accommodate regional growth.

Purpose and Justification:

The Program provides for improvements to the Interceptor System that serves the East Area. This includes work needed to serve the City of Lake Elmo, and the Northeast area of Woodbury. This also includes work to improve deteriorating facilities in Woodbury and Cottage Grove.

Program Location:

The active projects within this program are in the following Council Districts: District # 12

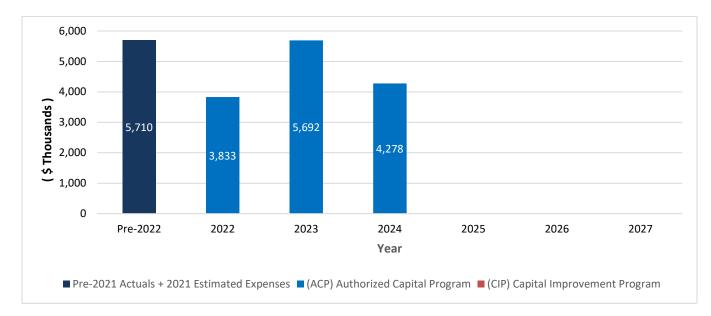
Active Projects in Program:

| Project Number | Project Title |
|-------------------|---|
| 806301 | East Area Interceptor Improvements (Parent Project) |
| 806302 | L77 Improvements |
| 806325 | Lake Elmo West Connection/I94 Crossing |
| 806335 | Woodbury Interceptor 9701 Rehabilitation |

MCES 2022 - 2027 Capital Program:

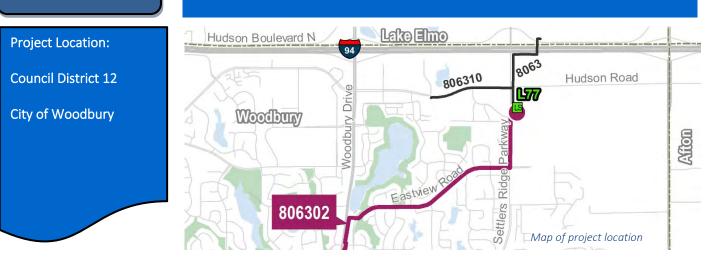
| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$19,563,000 | \$0 |

Estimated Program Cash Flow 2022 - 2027:



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

Lift Station L77 Improvements



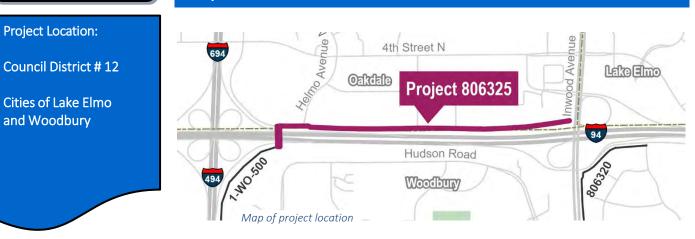
| PROJECT TYPE: | Interceptor |
|----------------------------|--|
| OBJECTIVES: | Expansion |
| CUSTOMER LEVEL OF SERVICE: | Meet Capacity Needs |
| SCOPE: | Expand L77 lift station and connect to larger forcemain |
| PROJECT NEED: | This expansion was planned with the construction of the L77 lift station and is driven by development in eastern Woodbury and Lake Elmo. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2020-2021 | 2022-2023 | 2023-2025 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,000,000 | \$1,060,000 | \$1,000,000 | \$1,060,000 |

South Washington County Interceptor Improvements



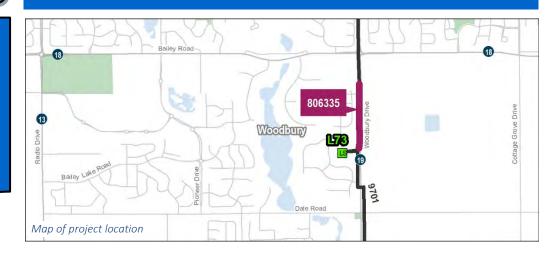
| PROJECT TYPE: | Interceptor |
|----------------------------|--|
| OBJECTIVES: | Expansion |
| CUSTOMER LEVEL OF SERVICE: | Meet Capacity Needs |
| SCOPE: | Provide regional sewer service to southwestern Lake Elmo through a gravity interceptor extension from 1-WO-500. Includes the upgrade of an existing interceptor sewer crossing I-94 to accommodate current and future growth in the service area. |
| PROJECT NEED: | This project will provide interceptor facilities to convey wastewater from southwestern Lake Elmo and eastern Oakdale to the Metro WWTP in St Paul. The project is needed to support growth in this eastern portion of the metropolitan area. |

PROJECT SCHEDULE

| | No. | |
|----------|-----------|--------------|
| Planning | Design | Construction |
| 2020 | 2021-2022 | 2022-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$1,633,000 | \$11,984,000 | \$11,203,000 | \$11,984,000 |

Woodbury Interceptor 9701 Rehabilitation



Project Location:

Council District # 12

City of Woodbury

| PROJECT TYPE: | Interceptor Improvements |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers, Coordinate with Others and Preserve Assets |
| SCOPE: | Grouting behind between the interceptor pipe and host tunnel liner. Repair cracked pipe sections |
| PROJECT NEED: | Inspections of the interceptor segment have discovered several cracks, offset joints, and missing backfill grout. The unbalanced loadings to the interceptor pipe have created pipe fractures. These defects provide a pathway for groundwater to enter the interceptor and indicate a potential risk of structural failure for the interceptor. |

PROJECT SCHEDULE

| | and the second s | |
|----------|--|--------------|
| Planning | Design | Construction |
| 2019 | 2019-2020 | 2020-2022 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,000,000 | \$5,918,000 | \$1,000,000 | \$5,918,000 |



Description:

This Program provides funding to address capital improvements for the interceptors that serve Minneapolis and the surrounding areas.

Purpose and Justification:

The project provides for the implementation of improvement and renewal projects needed to provide continued service to the metropolitan region and capacity to accommodate projected growth of the region.

Program Location:

The planned and active projects within this program are in Council Districts 6, 7, and 8.

Active Projects in Program:

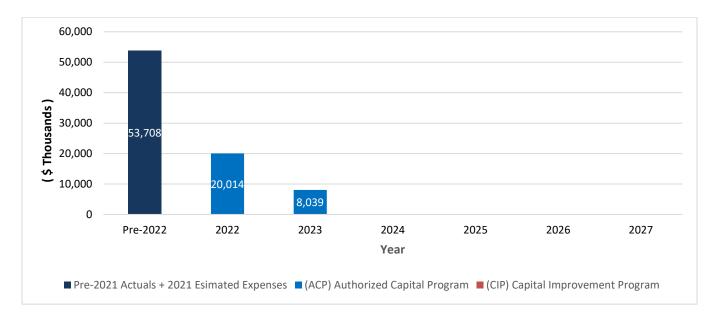
| Project Number | Project Title |
|-------------------|--|
| 807600 | Minneapolis Interceptor System Rehabilitation (Parent Project) |
| 807618 | 1-MN-341 Pipe-in-Pipe Rehab |
| 807626 | West Meters Odor Management Facility Improvements |
| 807629 | Emergency Relief Structure R04 and 1-MN-344 Tunnel Improvements |
| 807640 | Maintenance Access Structures |
| 807643 | Minneapolis East Interceptor (MEI) Diversion Structure Rehabilitation |
| 807645 | Mpls 1-MN-330 and 1-MN-341 Access Improvements Co-op |
| 807647 | Lake Street Siphon Inspection |

| 807650 | Minneapolis Joint Sewer Study |
|--------|--|
| 807666 | 1-MN-310 Rehabilitation Between Dowling and Broadway |
| 807667 | 1-MN-310 Rehab Between Broadway and 8th Ave N |
| 807670 | Minneapolis Interceptor Odor Control Study – Phase 1 |

MCES 2022 – 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$81,761,000 | \$0 |

Estimated Program Cash Flow 2022 - 2027:



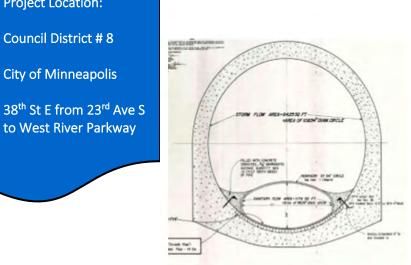
Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.

Project Location:

Council District # 8

City of Minneapolis

Interceptor 1-MN-341 Pipe-in-Pipe Rehabilitation



Pipe in Pipe (PIP) Profile



PIP Damage

| PROJECT TYPE: | Pipe-in-Pipe Rehabilitation |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | |
| | Maintain existing assets |
| SCOPE: | Repair holes in CMP pipe and pour new geopolymer crown for CMP/invert for storm sewer. |
| PROJECT NEED: | |
| | Interceptor 1-MN-341 was built in the early 1920's as a 102" reinforced concrete combined sanitary/storm sewer. The segment of 1-MN-341 on 38th Ave S between West River Road and 24 th Ave S was converted to a PIP separated sewer in 1965 using inlaid deformed corrugated metal pipe (CMP). Recent walking inspections and smoke tests of the PIP segment identified defects that are allowing inflow of stormwater into the sanitary sewer. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-------------|-------------|--------------|
| 2019 - 2020 | 2020 - 2021 | 2021 - 2022 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$5,000,000 | \$7,722,000 | \$5,500,000 | \$7,722,000 |

ERS04 and 1-MN-344 Tunnel Rehabilitation

| Project Location: Council District # 8 City of Minneapolis Minnehaha Park, Longfellow Gardens | ABIN SE Soft SE With Market Soft SE With Market Soft SE Soft SE |
|---|---|
| PROJECT TYPE: | Interceptor Rehabilitation |
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers and Coordinate With Others |
| SCOPE: | This project involves replacing Regulator 04 with an Emergency Overflow Structure, rehabilitating the four vortex drop shafts on tunnel 1-MN-340 and slip lining tunnel 1-MN-344 with fiberglass pipe. |
| PROJECT NEED: | The sandstone tunnel was constructed in 1936. The interior concrete wall of the tunnel is deteriorating and needs repair. |

PROJECT SCHEDULE

| | a la | |
|-----------|--|--------------|
| Planning | Design | Construction |
| 2013-2017 | 2017-2019 | 2019-2021 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$935,000 | \$27,039,000 | \$935,000 | \$27,039,000 |

Project Location:

Council District # 4, 6, 7, 8, 10, 13, 14

Cities of Minneapolis, St. Paul, Cottage Grove, Chaska, Mounds View

10 Locations

Maintenance Access Structures



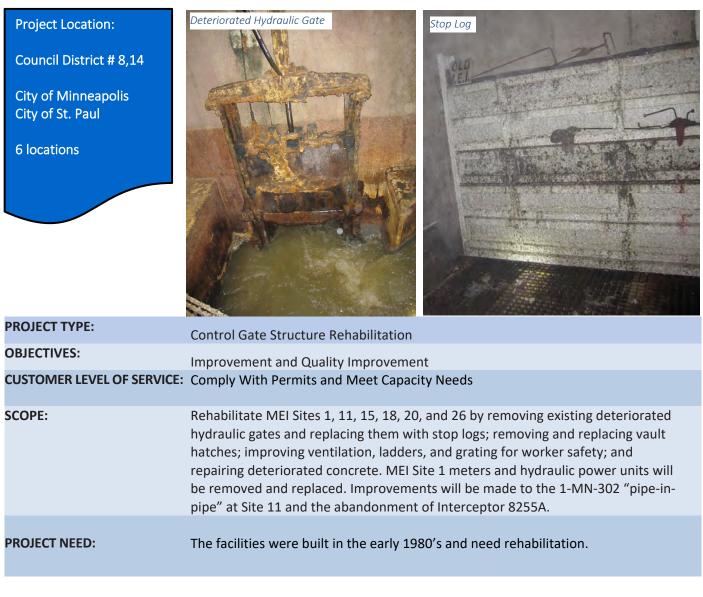
| PROJECT TYPE: | Small construction projects at various locations to improve odor management. |
|----------------------------|--|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | |
| | Be a good neighbor |
| SCOPE: | Repair existing maintenance holes, hatches, and snow chutes that emit odors and upgrade existing carbon units to improve odor removal. |
| PROJECT NEED: | |
| | Repairs required to maintain level of service related to odors. |

PROJECT SCHEDULE

| P | Planning | Design | Construction |
|---|----------|--------|--------------|
| | 2019 | 2019 | 2019 - 2022 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$200,000 | \$1,000,000 | \$400,000 | \$1,000,000 |

Minneapolis East Interceptor (MEI) Control Gate Rehabilitation

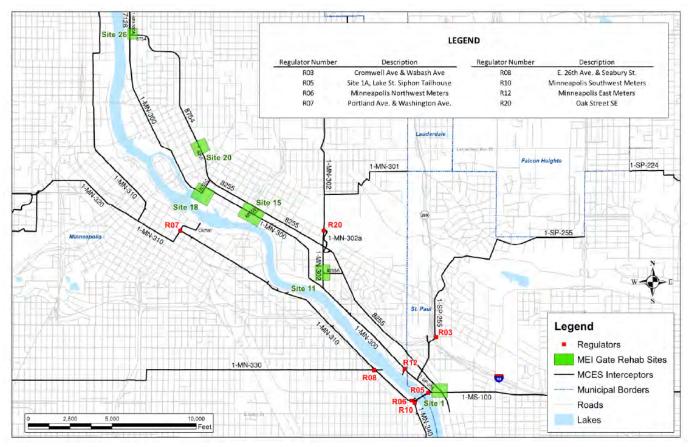


PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$8,000,000 | \$16,651,000 | \$13,839,000 | \$16,651,000 |

PROJECT LOCATION MAP



Project Location:

Council District # 8

City of Minneapolis

2935 West River Parkway

Lake Street Siphon Inspection



| PROJECT TYPE: | |
|----------------------------|--|
| | Inspection |
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | |
| | Maintain existing assets |
| SCOPE: | This project will include temporary work such as siphon dewatering, lighting, and ventilation; permanent work such as ladder removal and replacement, stop log and hoist installation, and swing gate reinforcement; preparing and maintaining siphons to allow Third Party inspection under the Contractor's Confined Space Entry Permit; Third Party Inspections including alignment, wall thickness, and ground penetrating radar; minor repairs as directed by the CAR. |
| PROJECT NEED: | |
| | The three 60" diameter Lake Street Siphons were last inspected in 1993. Inspections are needed to evaluate current conditions, identify future rehabilitation options, and ensure system reliability. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$500,000 | \$3,290,000 | \$500,000 | \$3,290,000 |

Project Location:

Council District #'s 6, 7, & 8

City of Minneapolis

Various Sites

Minneapolis Joint Sewer Study

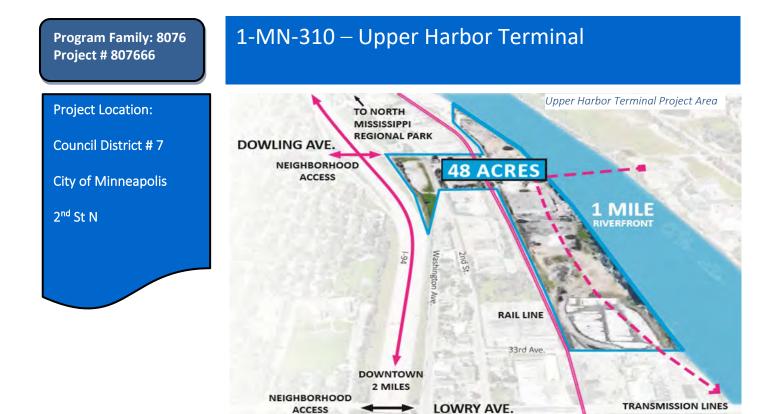


| PROJECT TYPE: | Interceptor |
|----------------------------|---|
| OBJECTIVES: | Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits, Lead by Example, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate with Others, and Preserve Assets |
| SCOPE: | Multi-year joint study with the city of Minneapolis to collect sanitary flow data at various locations throughout the City. Data will be used for I/I evaluation, hydraulic modeling and prioritizing future system improvements in both the local and regional collection systems. |
| PROJECT NEED: | Some of the oldest regional assets are in Minneapolis with some interceptors dating back to the 1880's and reflect a once combined storm/sanitary collection system. Growth within, and outside of Minneapolis needs to be accommodate through much of the regional system within the City. This coupled with I/I impacts on system flow identified a need to evaluate long-term system capacity needs and the ability of the system to accommodate it. |

PROJECT SCHEDULE

| | a l | 12 |
|----------|--------|--------------|
| Planning | Design | Construction |
| N/A | N/A | N/A |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,300,000 | \$6,030,000 | \$2,600,000 | \$6,030,000 |



| PROJECT TYPE: | Cured in Place Pipe Rehabilitation |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | |
| | Maintain existing assets |
| SCOPE: | CIPP line 5,000 feet of 1-MN-310 from 34th Avenue North to 22nd Avenue North; 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 Aves N. The project schedule will be coordinated to limit project impacts on future development in the area. |

ACCESS

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,502,000 | \$3,150,000 | \$1,502,000 | \$3,150,000 |

Project Location:

Council District # 7

City of Minneapolis

2nd St N

Interceptor 1-MN-310 Rehabilitation Between Broadway and 8th Ave N

Inspection camera looking inside a deteriorated interceptor

| PROJECT TYPE: | Cured in Place Pipe Rehabilitation |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | |
| | Maintain existing assets |
| SCOPE: | CIPP line 2,100 feet of 1-MN-310 from 15th Avenue North to 8th Avenue North; rehabilitate seven maintenance holes; extend temporary conveyance downstream of the siphon so it can be cleaned, inspected and field measured to prepare for a future rehabilitation project that will include the siphon and the remainder of the Condition 4 interceptor downstream. |
| PROJECT NEED: | Interceptor 1-MN-310 was built under 2nd St N in the City of Minneapolis in 1932. Recent CCTV inspection has identified Condition 4 deterioration between 15th and 3th Aves N as shown in gold below. The siphon under Bassett Creek near 8th Ave N has never been inspected. |

PROJECT SCHEDULE

| | | A |
|----------|-------------|--------------|
| Planning | Design | Construction |
| 2020 | 2020 - 2021 | 2021 - 2022 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,502,000 | \$3,150,000 | \$1,502,000 | \$3,150,000 |

Minneapolis Odor Control Study – Phase 1

Project Location:

Council District # 6,7,8

Cities of Richfield, Minneapolis, St. Paul, Eureka Township, and Golden Valley



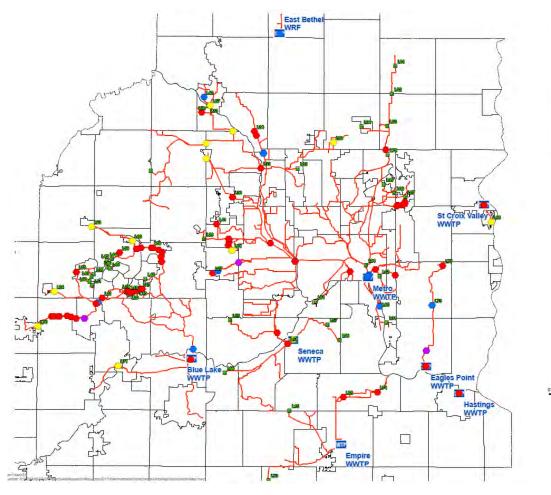
| PROJECT TYPE: | Odor Management |
|----------------------------|---|
| OBJECTIVES: | Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Minimize Impacts, Be A Good Neighbor, Communicate Information |
| SCOPE: | Model air and wastewater flows, deploy field instruments, and collect samples to identify individual odor sources and propose odor management strategies at the direction of the MCES Odor Management Team. |
| PROJECT NEED: | Consistent improvement of odor mitigation efforts is required to meet MCES level of service goals. |

PROJECT SCHEDULE

| | Pr- | |
|-----------|--------|--------------|
| Planning | Design | Construction |
| 2018-2020 | N/A | N/A |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$150,000 | \$1,141,000 | \$150,000 | \$1,141,000 |

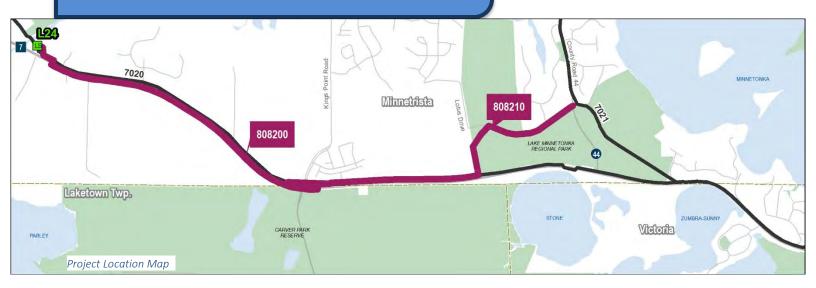
MAP of MCES ODOR CONTROL UNITS







Program 8082 St Bonifacius LS/FM Rehabilitation



Description:

This project consists of a new lift station and a new dual force main. Ultimately, the dual 14-inch force mains will be installed from L24 to the gravity discharge location in Lake Minnetonka Regional Park. This force main will connect to the previously installed Lotus Drive piping, a 2,600-foot segment of the force main that was constructed as part of the Lotus Drive with the City of Minnetrista. The force main construction will start at the west end of Lotus Drive and end on the east side of CR 44. The remaining 2,000 feet of the Waconia force main will be upgraded with this project as well, to align with work previously completed in Phases 1 & 2 of that project.

Purpose and Justification:

The lift station is in need of rehabilitation based on an assessment of its condition and a history of its performance. The St. Bonifacius force main is approximately forty years old and near the end of its design life. The single 12-inch diameter cast iron pipe is just over three miles long. The force main parallels Highway 7 and discharges to a gravity interceptor located in Lake Minnetonka Regional Park. The new dual force main will provide reliable conveyance of wastewater, as well as capacity to serve long- term growth.

Program Location:

This project serves District 3.

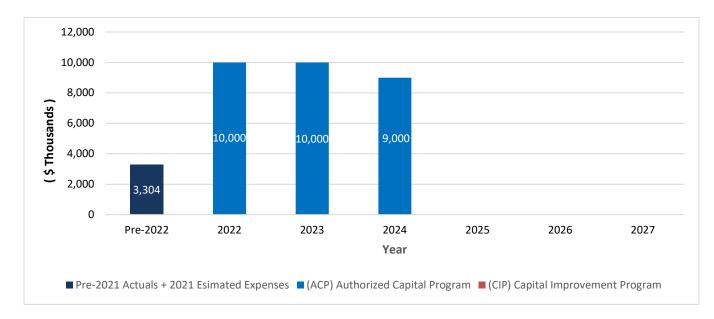
Active Projects in Program:

| Project Number | Project Title |
|-------------------|---|
| 808200 | St Bonifacius LS/FM Rehabilitation (Parent Project) |
| 808200 | L24 Renovation and FM 7020 Replacement |

MCES 2022 – 2027 Capital Program:

| Authorized Capital Program (ACP) \$32,304,000Capital Improvement Plan (CIP) \$0 | Authorized Capital Program (ACP) 332,304,000 |
|---|---|
|---|---|

Estimated Program Cash Flow 2022 - 2027:



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



Description:

Replacement of the west 9,200' of 7508 is planned as part of Phase 2. The existing 14-inch cast iron pipe would be removed and replaced with 20-inch PVC and HDPE pipe. The existing route would be followed through Lake Waconia Park and in TH 5 right-of-way. A micro tunnel crossing of CR 92 is necessary.

Purpose and Justification:

Forcemain 7508 is over 40 years old and near the end of its planned service life. It is one of two parallel forcemains from L70. 7508 is being replaced due to age and to provide future capacity.

Program Location:

The active projects within this program are in the following Council Districts: District # 4

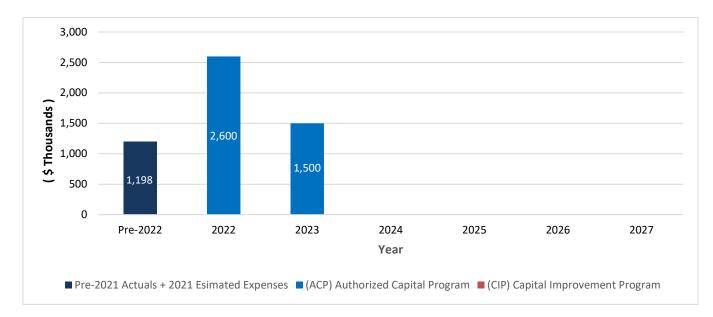
Active Projects in Program:

| Project Number | Project Title |
|-------------------|--|
| 808300 | Waconia Lift Station / Forcemain Rehabilitation (Parent Project) |
| 808330 | Waconia Forcemain 7508 Phase 3 West (included with 808200) |

MCES 2022 – 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$5,298,000 | \$0 |
| \$5,298,000 | \$0 |

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: 8083 Project # 808320 & # 808330

Project Location:

Council District #4

City of Waconia and Laketown Township

Blue Lake WWTP

Waconia Forcemain 7508 Phase 2 & 3 Replacement



PROJECT TYPE:Interceptor ImprovementsOBJECTIVES:Preservation and ExpansionCUSTOMER LEVEL OF SERVICE:Comply with Permits, Minimize Impacts, Be A Good Neighbor, Meet Capacity
Needs, Communicate Information, Engage Customers Coordinate with OthersSCOPE:Replace 9,000' of Interceptor Forcemain 7508.PROJECT NEED:Forcemain 7508 is over 40 years old and near the end of its planned service life. It
is one of two parallel forcemains from L70. 7508 is being replaced due to age and
to provide future capacity.

PROJECT SCHEDULE

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,600,000 | \$2,200,000 | \$2,100,000 | \$2,200,000 |

MCES Project 808320





Description:

Construct a 3.8 Million Gallon Per Day (MGD) lift station, 1600 feet of 18 to 42-inch gravity sewer, 635 feet of 16-inch force main, and decommission an existing lift station

Purpose and Justification:

Projected wastewater flows in the existing L55 sewershed following development in the I-494 corridor by the cities of Bloomington and Edina are expected exceed the capacity of existing L55.

Program Location:

The active projects within this program are in the following Council Districts: 5

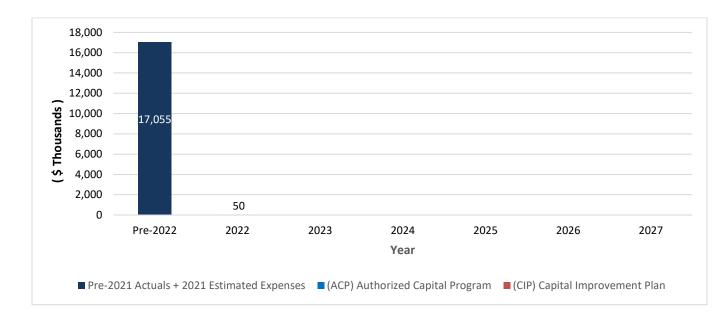
Active Projects in Program:

| Project Number | Project Title |
|-------------------|---|
| 808400 | Bloomington System Improvements Lift Station L55 (Parent Project) |

MCES 2022 - 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| | |

Estimated Program Cash Flow 2022 - 2027:



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

Project Location:

Council District # 5

City of Bloomington

SE Quadrant of I-494 and Hwy 100

Lift Station L55 Replacement



| PROJECT TYPE: OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Lift Station Replacement Preservation, Expansion and Quality Improvement Meet Capacity Needs |
|--|---|
| SCOPE: | Construct a 3.8 Million Gallon Per Day (MGD) lift station, 1600 feet of 18 to 42-inch gravity sewer, 635 feet of 16-inch force main, and decommission an existing lift station |
| PROJECT NEED: | Projected wastewater flows in the existing L55 sewershed following development in the I-494 corridor by the cities of Bloomington and Edina are expected exceed the capacity of existing L55. |

PROJECT SCHEDULE

| | n and a second s | |
|-----------|--|--------------|
| Planning | Design | Construction |
| 2014-2016 | 2016-2019 | 2019-2021 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$50,000 | \$17,105,000 | \$50,000 | \$17,105,000 |



Description:

The interceptor systems in Blaine, Brooklyn Park, Champlin, Circle Pines, Coon Rapids, Forest Lake Fridley, Hugo, Lexington, Lino Lakes, Maple Grove, Mounds View, Spring Lake Park, and other north area communities need rehabilitation and/or replacement. The project will rehabilitate existing interceptor facilities, including gravity sewers, forcemains, lift stations and meter stations.

Purpose and Justification:

Inspections of the interceptors that serve the North Metro Area have revealed corrosion damage. The corrosion is extensive and has resulted in significant damage to the interior concrete surfaces of the interceptors and maintenance structures.

Program Location:

The active projects within this program are in the following Council Districts: District # 1 & 9

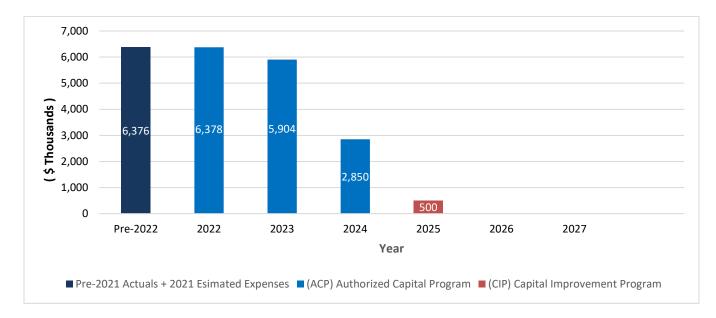
Active Projects in Program:

| Project Number | Project Title |
|-------------------|--|
| 808600 | North Area Interceptor (NAI) Rehabilitation (Parent Project) |
| 808622 | Elm Creek – Maple Grove Interceptor 900416 Renewal |
| 808685 | Coon Rapids: 4-NS-525 Phase I |
| 808686 | Interceptor 7034 Extension - Anoka |
| 8086XX | Coon Rapids: 4-NS-525 Phase II |

MCES 2022 – 2027 Capital Program:

| Authorized Capital Program (ACP) | Capital Improvement Plan (CIP) |
|----------------------------------|--------------------------------|
| \$22,008,000 | \$300,000 |
| | |

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: 8086 Project # 8086XX

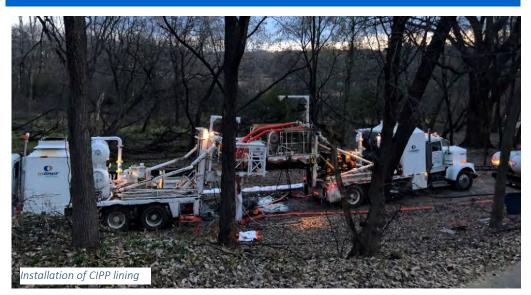
Project Location:

Council District # 9

City of Coon Rapids

Interceptor 4-N5-525

Coon Rapids Interceptor 4-NS-525 Rehabilitation Phase 2



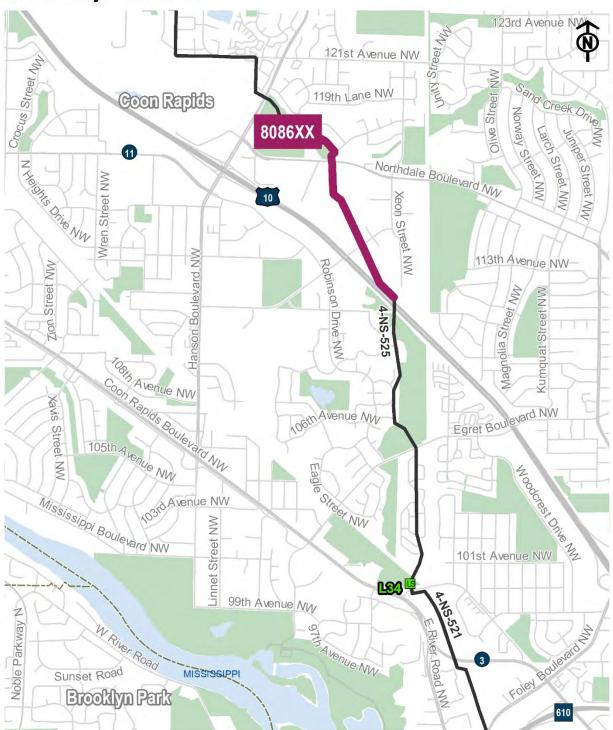
| PROJECT TYPE: | Interceptor Rehabilitation |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets, Minimize Impacts, Engage Customers, and Coordinate with Others |
| SCOPE: | This project is the second of a two-phase interceptor rehabilitation project. |
| | This second phase will renew approximately 6,100 LF of 48-inch RCP and 21 MHs with Cured-In-Place Pipe technology. The project will require 8 temporary construction easements, permits from MNDOT for work in highway right of way, City road and park permits, and will require coordination with Centerpoint Energy and Xcel Energy. |
| | A cooperative agreement with the City of Coon Rapids is desired by the City for the purpose of rehabilitating trunk sewers that connect directly to the interceptor. |
| PROJECT NEED: | 48-inch RCP is in need of immediate planning for rehabilitation to extend useful life and provide reliability. Risk of failure includes a sinkhole near the foundation of an apartment complex and a 6.0 MGD spill to a tributary of Coon Creek that eventually discharges directly to the Mississippi River. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2020-2022 | 2022-2023 | 2024-2025 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost | t |
|----------------|-------------|-----------------------|--------------------|-----|
| \$0 | \$0 | \$0 | \$0 | 148 |

MCES Project 8086XX



Project Location:

Council District # 1

City of Maple Grove

Interceptor 900416 Bass Lake Road



| PROJECT TYPE: | Interceptor Rehabilitation |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits and Preserve Assets |
| SCOPE: | The section of Interceptor 900416 has been identified as in need of immediate repair. The section will be slip-lined to address the current pipe condition. |
| PROJECT NEED: | To maintain the integrity of the system and to prevent potential damage to the environment due to pipe failure, sections of the interceptor must be repaired or replaced. |

PROJECT SCHEDULE

| | the second secon | |
|----------|--|--------------|
| Planning | Design | Construction |
| 2020 | 2021 | 2022-2023 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,500,000 | \$1,980,000 | \$1,980,000 | \$1,980,000 |

Maple Grove Interceptor Replacement



Project Location:

Council District # 1

City of Maple Grove

| PROJECT TYPE: | Interceptor Rehabilitation |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Comply with Permits and Preserve Assets |
| SCOPE: | Areas of Interceptor 900416 have been identified with varies degrees of deflection. The interceptor will be evaluated to determine which sections require rehabilitation or replacement. |
| PROJECT NEED: | To maintain the integrity of the system and to prevent potential damage to the environment due to pipe failure, sections of the interceptor must be repaired or replaced. |

PROJECT SCHEDULE

| | P | | |
|-----------|-----------|--------------|--|
| Planning | Design | Construction | |
| 2019-2021 | 2021-2022 | 2023-2025 | |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$200,000 | \$4,031,000 | \$3,800,000 | \$4,031,000 |

Project Location:

Council District #9

City of Coon Rapids

Interceptor 4-NS-525

Coon Rapids Interceptor 4-NS-525 Rehabilitation Phase 1

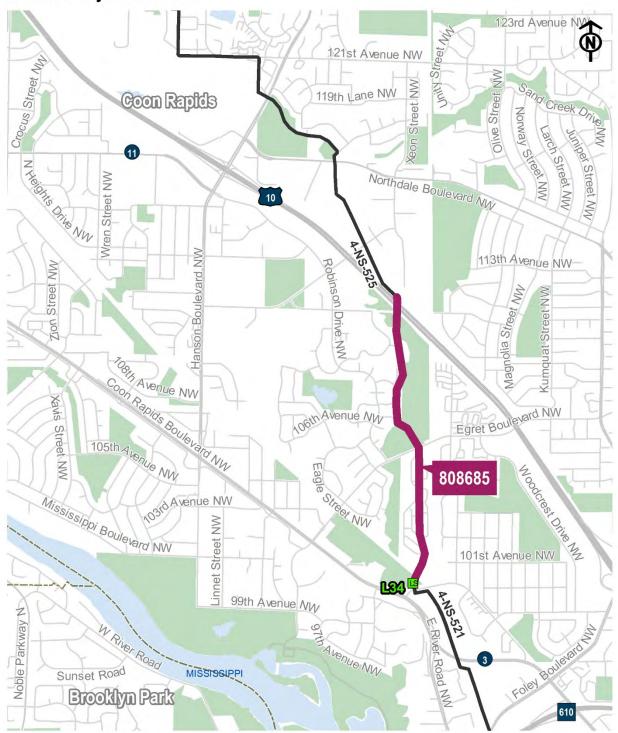


PROJECT TYPE: Interceptor Rehabilitation **OBJECTIVES:** Preservation CUSTOMER LEVEL OF SERVICE: Preserve Assets, Minimize Impacts, Engage Customers, and Coordinate with Others SCOPE: This project is the first of a two-phase interceptor rehabilitation project. This first phase will renew approximately 7,900 LF of 48-inch RCP and 19 MHs with Cured-In-Place Pipe technology. The project will require 8 temporary construction easements, permits from BNSF and MNDOT for work in highway and railroad right of ways, City road and park permits, and will require coordination with CenterPoint Energy and Xcel Energy. A cooperative agreement with the City of Coon Rapids is desired by the City for the purpose of rehabilitating trunk sewers that connect directly to the interceptor. **PROJECT NEED:** 3.600 linear feet of 48-inch RCP is in need of immediate rehabilitation to extend useful life and provide reliability. Risk of failure includes a sinkhole forming that could engulf a mobile home and a 6.0 MGD spill to nearby Coon Creek that discharges directly to the Mississippi River.

PROJECT SCHEDULE

| | | | | A | |
|------------------|--------------|------------------|------|--------------------|--|
| Planning | | Design | | Construction | |
| 2020 | | 2020-2021 | | 2022-2023 | |
| FINANCIAL ANALYS | SIS | | | | |
| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash | Flow | Total Project Cost | |
| \$4,000,000 | \$10,761,000 | \$10,302,000 | | \$10,761,000 | |

MCES Project 808685





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

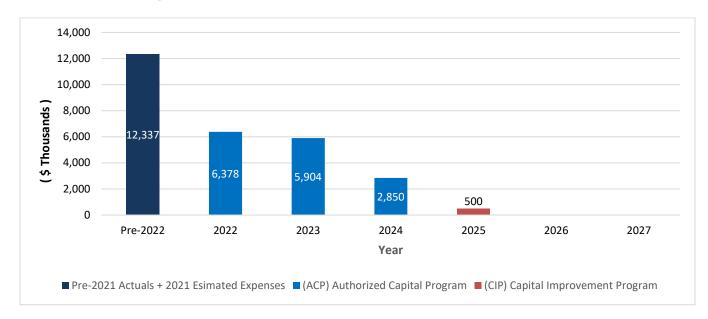
Active Projects in Program:

| 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:



Estimated Program Cash Flow 2022 - 2027:



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

Project Location:

City St. Paul

Park

Council District # 13

Battle Creek Regional

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



| 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

| | p- | (a |
|-----------|--------|--------------|
| Planning | Design | Construction |
| 2015-2016 | 2019 | 2020-2022 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$3,730,000 | \$13,152,000 | \$3,730,000 | \$13,152,000 |



| 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. |

CUSTOMER LEVEL OF SERVICE: Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate

Information, Engage Customers and Coordinate with Others

PROJECT SCHEDULE

| | and the second s | |
|----------|--|--------------|
| Planning | Design | Construction |
| 2019 | 2020-2022 | 2023-2024 |

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

Long Lake Interceptor Rehabilitation

| Project Location: Council District # 10 City of New Brighton | Long Lake Long Lake Regional Park 9451 New Brighton Project location map 10th Street NW |
|--|---|
| 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

| | Provide and | (e |
|----------|---|--------------|
| Planning | Design | Construction |
| 2020 | 2020-2022 | 2022-2023 |

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

Project Location:

City St. Paul

LWR

Council District # 13

Interceptor 1-MS-100 Third & Commercial

Third and Commercial Site Needs Evaluation



| 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

| | and the second s | | |
|-----------|--|--------------|--|
| Planning | Design | Construction | |
| 2019-2022 | N/A | N/A | |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$1,900,000 | \$2,061,000 | \$1,900,000 | \$2,061,000 |

Project Location: Council District 13 City of St. Paul

1-MS-100 Rehabilitation Feasibility Study



| 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

| | | A |
|-----------|-----------|--------------|
| Planning | Design | Construction |
| 2021-2026 | 2028-2031 | 2032-2036 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$250,000 | \$767,000 | \$500,000 | \$767,000 |

Project Location:

Council District 13

City of St. Paul

Riverview Siphon Preliminary Investigation



| 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



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



Description:

This Program includes miscellaneous projects to rehabilitate failing facilities, address Inflow and Infiltration (I/I) sources and addressing general needs of the interceptor system not programmed into a region or facility specific program. This Program also includes additional condition assessment work to complement the internal inspections work completed by operations, office space planning and design to accommodate all the staff assigned to the Regional Maintenance Facility, and property transfer between Council and municipalities for public benefit.

Purpose and Justification:

Periodic condition assessments for interceptor facilities have revealed facilities requiring immediate projects. In addition, system-wide administrative and management work is required to efficiently operate the interceptor System.

Program Location:

The active projects within this program are in all the Council Districts.

Active Projects in Program:

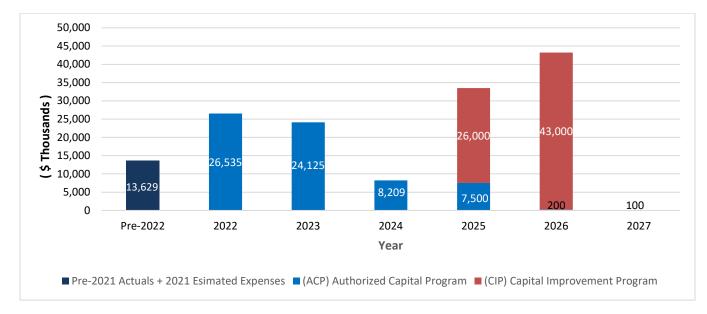
| Project Number | Project Title |
|-------------------|---|
| 809099 | Funds for Future Interceptor Rehabilitation Projects (Parent Project) |
| 809083 | I/I Mitigation |
| 809089 | Interceptor Inspection |
| 809093 | South Saint Paul WWTP Reconveyance |

| 809094 | Oak Park Heights Interceptor 9101 Replacement |
|--------|--|
| 809095 | Regional Maintenance Facility (RMF) Improvements |
| 819010 | System Wide River Crossing Inspection |
| 819011 | Interceptor Chemical Odor Control |
| 819012 | Blue Lake Area Interceptor Odor Control Improvements |
| 819013 | Technical Support of Interceptors |
| 819017 | 7031/9003 Siphon Outlet Structure Improvements |
| 819018 | Plymouth Forcemain Relocation at Douglas Drive |
| 819019 | Vactor Waste Facility Improvements |
| 819020 | East Isles Forcemain Improvements – Contract H |
| 819025 | TH 13 – MNDOT Coordination |
| | |

MCES 2022 - 2027 Capital Program:

| | Capital Improvement Plan (CIP) \$69,000,000 |
|-------------|--|
| φ00,200,000 | 403,000,000 |





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

I / I Mitigation

Project Location:

Project location can vary across 7 county region



| PROJECT TYPE: | Interceptor rehabilitation |
|----------------------------|---|
| OBJECTIVES: | Preservation and Quality Improvement |
| CUSTOMER LEVEL OF SERVICE: | Lead by Example, Minimize Impacts, Meet Capacity Needs and Comply with Permits |
| SCOPE: | Working with Operations when items are identified, such as leaking maintenance hole joints, adjustment rings and broken castings, to repair these sources of inflow and infiltration. |
| PROJECT NEED: | Elimination of inflow and infiltration sources is important to MCES in order to maintain system capacity, prevent backups of wastewater into private homes and businesses, prevent the entrance of wastewater into the environment during weather events. |

PROJECT SCHEDULE

| | P | |
|----------|--------|--------------|
| Planning | Design | Construction |
| N/A | N/A | N/A |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$100,000 | \$805,000 | \$600,000 | \$1,805,000 |

Location: Region Wide

Project Location:

Special Interceptor Inspections



| PROJECT TYPE: | Interceptor Planning |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Preserve Assets, Minimize Impacts, Lead by Example, Be A Good Neighbor, and Coordinate with Others |
| SCOPE: | This project provides support for special inspections of the interceptor system that cannot otherwise feasibly be completed by Council workers. In 2021 approximately 3 miles of interceptor 1-SP-224 in St. Paul and 1-VH-423 in Vadnais Heights will be cleaned and inspected. |
| PROJECT NEED: | MCES maintains critical infrastructure throughout the greater metropolitan area, and not all of it is accessible by using the standard equipment that Interceptor Operations owns. In 2021 approximately 14,000 linear feet of interceptor gravity sewers in the cities of St. Paul and Vadnais Heights will need internal closed- circuit-television (CCTV) inspections. Specialized equipment, permits and coordination with the communities is needed to complete the work. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$100,000 | \$2,000,000 | \$15,500,000 | \$32,000,000 |

Project Location:

Council District # 13

City of South St. Paul

Metro WWTP

South Saint Paul WWTP Reconveyance



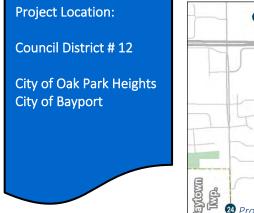
| PROJECT TYPE: | Interceptor System |
|----------------------------|--|
| OBJECTIVES: | Preservation and Quality Improvements |
| CUSTOMER LEVEL OF SERVICE: | Be A Good Neighbor, Engage Customers, and Coordinate with Others |
| SCOPE: | This project completes some needed work required in anticipation of reconveying excess property back to the City of South St. Paul. Work includes removing unneeded structures and materials from site and constructing reliability improvements to electrical systems, biofilter and mechanical systems. This project also includes installation of a grinder at L74. |
| PROJECT NEED: | The Council approved reconveyance of a portion of the site to the City. MCES is obligated to clear the reconveyed land of pipes and structures in accordance with the draft acquisition agreement. In addition, to increase system reliability, a new portable generator connection and new portable pump connection will be constructed. This project will also install a grinder at L74. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$330,000 | \$3,652,000 | \$330,000 | \$3,652,000 |

Oak Park Heights Interceptor 9101 Replacement





PROJECT TYPE: Interceptor Rehabilitation **OBJECTIVES:** Preservation CUSTOMER LEVEL OF SERVICE: Minimize impacts, Be a Good Neighbor, Preserve Assets, and Be Fair and **Transparent With Fees** SCOPE: The project replaces approximately 305 feet of 21-inch Polyvinyl Chloride (PVC) gravity sewer piping and associated manholes. Meter M609 is rehabilitated which involves replacing the flume, hatch, hardware, rehabilitate the Programable Logic Controller (PLC) and upgrading the electrical service. Temporary conveyance will be provided for the interceptor and for a crossing municipal sewer. **PROJECT NEED:** Routine manhole inspection found sags in the 21" PVC interceptor located between Manhole (MH) G4 and MH G5. The sags have caused pooling of flow and sediment deposition. In addition, MH G13, the discharge manhole from lift station L68 was found to be extremely corroded with reinforcement wire visible throughout. Rehabilitating meter M609 during the temporary conveyance of the interceptor will save future costs.

PROJECT SCHEDULE

| | | <pre>A</pre> |
|----------|-----------|--------------|
| Planning | Design | Construction |
| 2018 | 2019-2020 | 2021-2022 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$200,000 | \$1,839,000 | \$200,000 | \$2,057,225 |

Regional Maintenance Facility (RMF) Expansion

| Project Location: | |
|----------------------------|--|
| Council District # 15 | |
| City of Eagan | |
| 3565 Kennebec Dr. | 3565 BEXANUE WITEWANCE COTER Element Regional Maintenance Facility (RMF) |
| PROJECT TYPE: | Building Improvements |
| OBJECTIVES: | Expansion |
| CUSTOMER LEVEL OF SERVICE: | Good value to the region and preservation of assets |
| SCOPE: | This project includes remodeling RMF to address the inadequate women's locker room and bathrooms and expansion to include the Air Quality lab and accommodate current staffing along with planned growth. The building improvements will address ADA deficiencies. Finally, a large meeting room is |

PF

| | 9 k · · · · · · · · · · · · · · · · · · |
|--------------|---|
| | and serve as an emergency operations center. |
| ROJECT NEED: | RMF was constructed in 1986 with improvements made in 2012 for expansion to accommodate additional staff. Currently, several work areas require improvements, including Dispatch, Computer Room, and women's facilities and improvements to comply with the ADA. Furthermore, MCES is no longer going to be leasing space at Metro 94 for the Air Quality department and RMF has been identified as a preferred location. |

being planned that could share space with other amenities for consistent use

PROJECT SCHEDULE

| | Se la construction de la constru | |
|----------|--|--------------|
| Planning | Design | Construction |
| 2019 | 2019-2021 | 2022-2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$7,750,000 | \$16,992,100 | \$15,500,000 | \$17,124,787 |

Project Location:

Council District # NA

City - NA

Location – Multiple Lift Stations and Meter Stations

Interceptor Chemical Odor Control



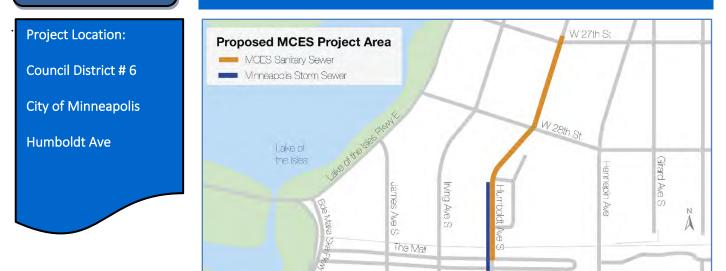
| PROJECT TYPE: OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Interceptor/Odor Control Preservation and Quality Improvement Preserve Assets, Be a Good Neighbor | |
|--|---|--|
| SCOPE: | Work will be performed under a design, build, operate contract where MCES will own all equipment (except for hydrogen sulfide monitoring equipment) and a vendor will operate, maintain, monitor, report, and supply chemical. This includes installing chemical deliver equipment and HDPE tanks. The work includes operation of the systems for a 10-year term with two possible 5-year extensions, bringing the total length of the services contract up to 20 years. | |
| PROJECT NEED: | MCES currently has 15 operational chemical dosing odor control sites, including meters and lift stations. These sites are critical to reducing odor releases impacting communities and reducing corrosion within the interceptor system. | |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$4,300,000 | \$7,063,000 | \$7,300,000 | 7,407,496 |

Hopkins System Improvements, East Isles Forcemain – Contract G



| PROJECT TYPE: OBJECTIVES: CUSTOMER LEVEL OF SERVICE: | Interceptor Rehabilitation Preservation Conveys wastewater safely with minimal backups and spills |
|--|--|
| SCOPE: | The project includes replacement of 1500 lineal feet of 30" concrete forcemain with two 24" diameter forcemains on Humboldt Ave between the Midtown Greenway and 27 th Street. Cooperative construction with the City of Minneapolis to complete City improvements in the area. |
| PROJECT NEED: | Without a redundant forcemain, inspecting the existing 24" concrete forcemain is difficult and there is significant potential for corrosion given the pipe material and age. An upstream section of the forcemain collapsed in 2000. The vortex drop structure between the forcemain and interceptor 1-MN-330 at 27th Street and Humboldt Ave. S. is severely corroded is at risk of failure |

PROJECT SCHEDULE

| | | A | |
|----------|-----------|--------------|--|
| Planning | Design | Construction | |
| 2018 | 2019-2020 | 2021-2023 | |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$4,000,000 | \$5,400,000 | \$5,300,000 | \$5,400,000 |

Project Location: Council District #7, 8, 14 Cities of Minneapolis and St. Paul NIEB, St. Anthony W, Prospect Park, Downtown, Marcy Holmes, North Loop, Summit Hill Neighborhoods

Large Diameter Interceptor Cleaning – Phase 2



/ 00

| PROJECT TYPE: | Large Diameter Interceptor Cleaning |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | |
| | Maintain Existing Services |
| SCOPE: | Clean seven separate segments of Interceptors 1-MN-300, 1-MN-310, 1-MN-320, 1-SP-250, and 1-MS-100. |
| PROJECT NEED: | |
| | Interceptors need to be cleaned to restore original design capacity and minimize the potential for service interruptions. |

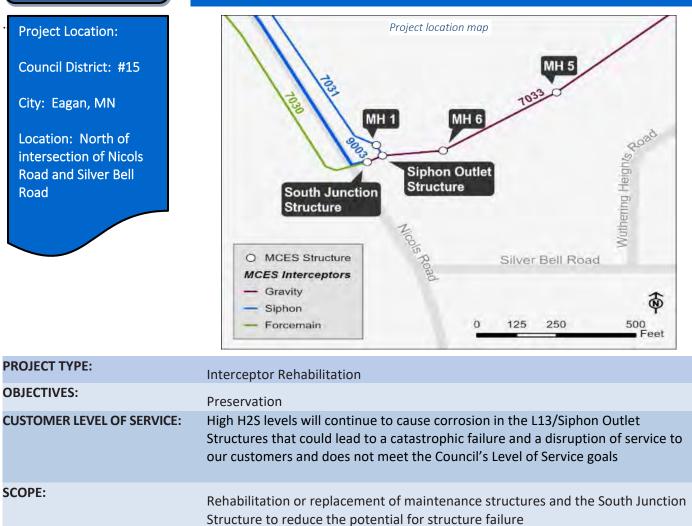
PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$3,700,000 | \$13,010,000 | \$11,100,000 | \$13,010,000 |

7031/9003 Siphon Outlet Structure Improvements (MH-1 & South Junction Structure)

The project is needed for operator safety, to preserve assets, and to maintain



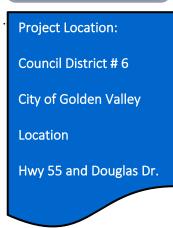
PROJECT NEED:

PROJECT SCHEDULE



system flexibility

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$500,000 | \$2,100,000 | \$2,000,000 | \$2,100,000 |



Plymouth Forcemain Relocation at Douglas Drive



| Interceptor Relocation | | |
|---|--|--|
| Quality Improvements | | |
| Be a Good Neighbor, and Coordinate with Others | | |
| This project realigns the existing parallel 30-inch and 42-inch forcemains to address a conflict due to proposed pedestrian improvements in the project area. | | |
| The City of Golden Valley is working to improve pedestrian access in the project area, and the ability for pedestrians to cross Highway 55. The proposed pedestrian tunnel requires that the existing forcemain be lowered. | | |
| | | |

PROJECT SCHEDULE

| | | (e |
|----------|-----------|--------------|
| Planning | Design | Construction |
| 2021 | 2022-2023 | 2024 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$50,000 | \$1,250,000 | \$1,250,000 | \$1,250,000 |

Hopkins System Improvements, East Isles Forcemain – Contract H

ving Ave S

W 27th St

Hennepin Ave

NA

W 28th St

Woonerf

Plaza



| Dro | oct | ocation |
|-----|------|-----------|
| PIU | IECL | Location: |
| | | |

Council District # 6

City of Minneapolis

The Mall Park

| PROJECT TYPE: | Interceptor Rehabilitation | |
|----------------------------|---|--|
| OBJECTIVES: | Preservation | |
| CUSTOMER LEVEL OF SERVICE: | Conveys wastewater safely with minimal backups and spills | |
| SCOPE: | The project includes replacement of 1000 lineal feet of 30" concrete forcemain with two 24" diameter forcemains within The Mall Park between Bde Maka Ska Parkway and Humboldt Ave. Cooperative construction with the Minneapolis Park and Recreation Board to construct park master plan improvements in the area. | |
| PROJECT NEED: | Without a redundant forcemain, inspecting the existing 24" concrete forcemain is difficult and there is significant potential for corrosion given the pipe material and age. An upstream section of the forcemain collapsed in 2000. | |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$400,000 | \$2,350,000 | \$2,300,000 | \$2,350,000 |

Project Location:

Council District #4

City of Savage

Location

Highway 13

TH 13 – MnDOT Coordination

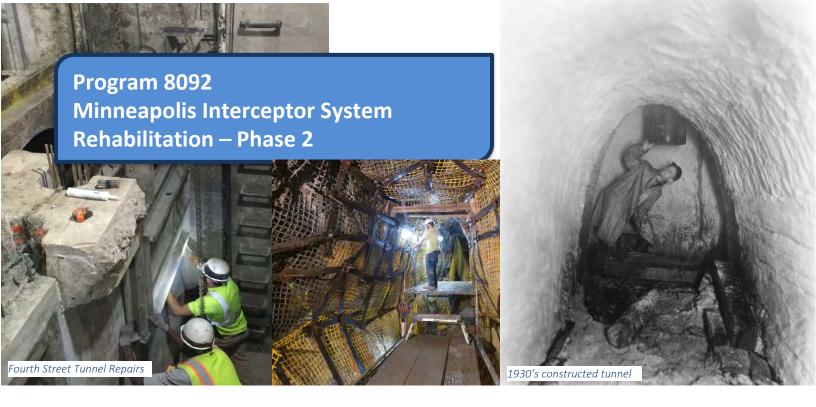


| PROJECT TYPE: OBJECTIVES: | Interceptor Rehabilitation Preservation and Quality Improvements |
|------------------------------|--|
| CUSTOMER LEVEL OF SERVICE: | Be A Good Neighbor, and Coordinate with Others |
| SCOPE: | This project realigns the existing forcemain route to move it from under MnDOT's proposed entrance ramps and frontage roads. |
| PROJECT NEED: | MnDOT's TH 13 project includes constructing an overpass with entrance and exit ramps to improve traffic safety at the intersections of Highway 13 and Dakota Ave and Highway 13 and Yosemite Ave. The existing forcemains need to be relocated to ensure continued maintenance without disrupting the proposed Highway improvements. The work will be completed as a part of the MnDOT Construction Contract. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$100,000 | \$3,600,000 | \$3,600,000 | \$3,600,000 |



Description:

This program includes facility planning and new projects to address aging infrastructure within or contributary 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 1930's 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: District # 2, 6, 7 & 8

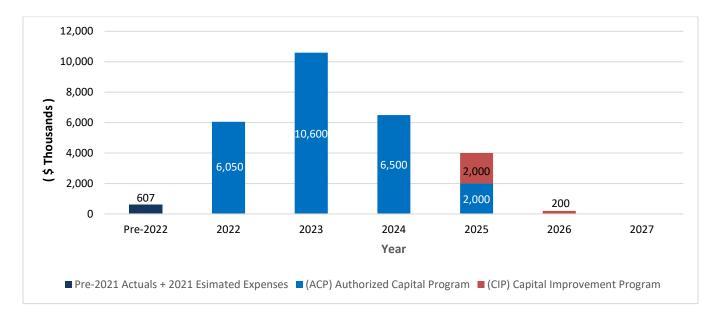
| Project Number | Project Title |
|-------------------|--|
| 809200 | Minneapolis Interceptor Rehabilitation Phase 2 (Parent Project) – Facility Planning |
| 809205 | Interceptor 1-MN-320 Improvements |
| 809209 | Basset Creek Tunnel Improvements |
| 809211 | 1-MN-303 Pipe-in-Pipe Rehabilitation |

Active Projects in Program:

MCES 2022 - 2027 Capital Program:

| | Capital Improvement Plan (CIP) \$2,200,000 |
|--|---|
|--|---|

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: 8092 Project # 809205

1-MN-320 Improvement Study



| PROJECT TYPE: | Study |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Provide conveyance and treatment capacity consistent with regional and local plans |
| SCOPE: | Evaluate condition and identify conceptual improvements |
| PROJECT NEED: | Prevent future emergency repairs |

PROJECT SCHEDULE

| | | A |
|----------|-------------|--------------|
| Planning | Design | Construction |
| 2021 | 2022 - 2023 | 2023 - 2025 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|--------------|-----------------------|--------------------|
| \$1,700,000 | \$15,558,000 | \$15,300,000 | \$15,558,000 |

Program Family: 8092 Project # 809209

1-MN-320

Location Van White Blvd

1-MN-320 Bassett Creek Tunnel



| PROJECT TYPE: | Interceptor Rehabilitation |
|----------------------------|---|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Provide conveyance and treatment capacity consistent with reginal and local plans |
| SCOPE: | Rehabilitate the interceptor section under Highway 55 |
| PROJECT NEED: | Prevent future emergency repairs |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$2,000,000 | \$2,200,000 | \$2,000,000 | \$2,200,000 |

Program Family: 8092 Project # 819211

1-MN-303 Pipe-in-Pipe Rehabilitation

| Project Location: | | - 100 At |
|----------------------------|---|--|
| Council District #8 | EXCELLED in contrast | ALC: NOT |
| Cities of Minneapolis | | |
| Columbia Park and | The same man and the same | |
| Mashall Terrace | | |
| Neighborhoods | Profile view of interceptor pipe | Image showing damage to piping |
| PROJECT TYPE: | Pipe-in-Pipe Rehabilitation | |
| OBJECTIVES: | Preservation | |
| CUSTOMER LEVEL OF SERVICE: | | |
| | Maintain Existing Assets | |
| SCOPE: | Repair Pipe-in-Pipe using removal and replace | cement and/or CIPP. |
| PROJECT NEED: | Interceptor 1-MN-303 was built in the early combined sanitary/storm sewer. The segme between Randolph St NE and Columbia Golf separated sewer in 1965 using inlaid deform walking inspection conducted in January 202 corrosion that is allowing significant inflow of | ent of 1-MN-303 on 31st Ave NE f Course was converted to a PIP ned corrugated metal pipe (CMP). A 22 identified severe damage and |
| | | |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-----------|-----------|--------------|
| 2020-2021 | 2021-2022 | 2022-2023 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$4,000,000 | \$8,150,000 | \$8,000,000 | \$8,150,000 |



This Program provides for the rehabilitation concrete gravity interceptor in the Cities of Champlin, Brooklyn Park and Osseo. The interceptor will be rehabilitated using Cured-In-Place-Pipe (CIPP) technology.

Purpose and Justification:

Inspections and condition assessment show the need for rehabilitation of interceptors in the Brooklyn Park and Champlin area. The pipes included in this program are rated Condition 4 or 5, which indicates defects requiring immediate attention, and that the pipe has failed or has potential to fail within the next 5 to 10 years if nothing is done. The video inspection indicates significant hydrogen sulfide and age-related damage to the reinforced concrete pipe (RCP). The damage is extensive and steel reinforcement is visible and/or missing in several locations

Program Location:

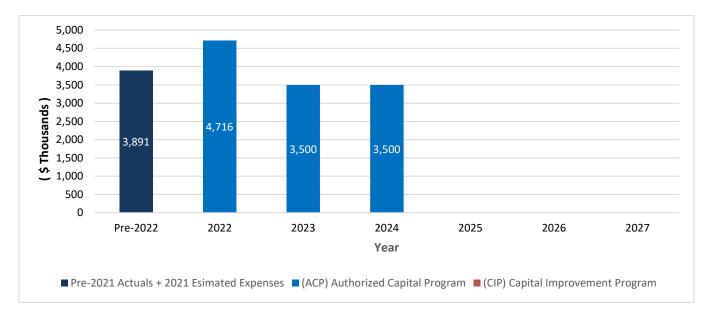
The active projects within this program are in the following Council Districts: District # 2

| Project Number | Project Title |
|----------------|---|
| 809300 | Brooklyn Park-Champlin Interceptor Renewal (Parent Project) |
| 809320 | BPCI Renewal – Phase 2 |
| 809361 | Brooklyn Park & Osseo Interceptor Rehabilitation – 7015 A&B, 4-OS-457 and M224 |

MCES 2022 – 2027 Capital Program:

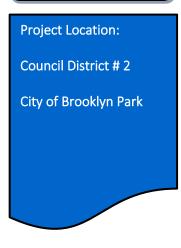


Estimated Program Cash Flow 2022 - 2027:



Program Family: 8093 Project # 809320

Brooklyn Park-Champlin Interceptor Renewal





| PROJECT TYPE: | Interceptor Improvements |
|----------------------------|---|
| 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 8252-481 from MH 8 1 to MH 15 2 |
| PROJECT NEED: | The Phase 2 project is identified as Site 2-1 in the Facility Plan. It includes interceptor 8252-481 from Manhole (MH) 4 2 to MH 15 2. This section of the interceptor was constructed in 1985 and consists of 12,000 ft. of 66-inch RCP pipe and 22 maintenance holes. Based on the inspection, it has a condition rating of 4 and needs repair. |

PROJECT SCHEDULE

| | and the second s | |
|----------|--|--------------|
| Planning | Design | Construction |
| 2021 | 2022-2023 | 2024-2025 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$200,000 | \$5,400,000 | \$5,400,000 | \$5,400,000 |

Program Family: 8093 Project # 809361

Brooklyn Park and Osseo Interceptor Rehabilitation – 7015 A&B, 4-OS-457 and M224

| Project Location: | |
|--------------------------------------|--|
| Council District # 1, 2 | |
| City of Brooklyn Park, | |
| Osseo and Maple Grove | |
| Interceptor 7015 A&B And 4-OS-457 | |
| And 4-05-457 | Meter Structure |
| PROJECT TYPE: | Interceptor Rehabilitation |
| OBJECTIVES: | Improvement |
| CUSTOMER LEVEL OF SERVICE: | Minimize Impacts, Be A Good Neighbor, Meet Capacity Needs, Communicate |

| | Information, Engage Customers, Coordinate with Others and Be Fair and Transparent with Fees |
|---------------|--|
| SCOPE: | The project includes Cured in Place Pipe (CIPP) lining of about 2,500 ft of 36-inch interceptor and replacement of about 1,000 ft of 12-inch interceptor. The maintenance hole structures along the route will either be rehabbed using Fiberglass Reinforces Plastic (FRP) inserts or replaced with new manholes. The meter structure M224 will be rehabilitated with a new flume and improved access to the structure. The exiting bioxide tank at M224 will be moved to a new location further south on 83 rd Ave on City of Brooklyn Park property. |
| PROJECT NEED: | 7015-A&B, and 4-OS-457 is listed as condition 5 pipe. The RCP pipe has reinforcement exposed, and numerous defects were observed in the CCTV inspection video. Recently, there was a partially collapsed section of interceptor 7015-D in this area that caused a sink hole in the road that was fixed as an emergency repair (Project 809360). The section around the repair area is in poor shape. M224 has significant corrosion and access issue. |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$4,116,000 | \$7,832,000 | \$4,186,000 | \$7,832,000 |

MCES Project 809361





This Program provides the construction of a new L32A on the east side of the Mississippi River on Council property. Program will determine facilities which will remain on the west side of the river at the existing L32 site.

Purpose and Justification:

Condition assessments have documented structural, mechanical, and electrical deficiencies which have led to system failures, such as backups and odor issues. Additionally, the existing Lift Station does not have capacity to serve the current and future needs of the area.

Program Location:

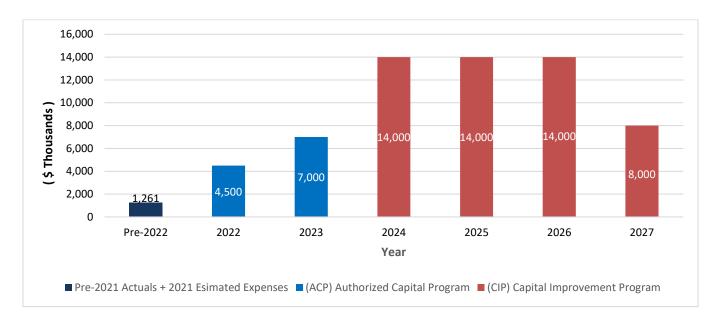
The active projects within this program are in the following Council Districts: District # 2

| Project Number | Project Title |
|-------------------|---------------------------------------|
| 809400 | New Lift Station L32 (Parent Project) |
| 809401 | Building Demolition – Fridley Site |
| 809410 | Design of New Lift Station L-32A |

MCES 2022 – 2027 Capital Program:



Estimated Program Cash Flow 2022 - 2027:



Program Family: 8094 Project # 809410

Design of New Lift Station L-32A

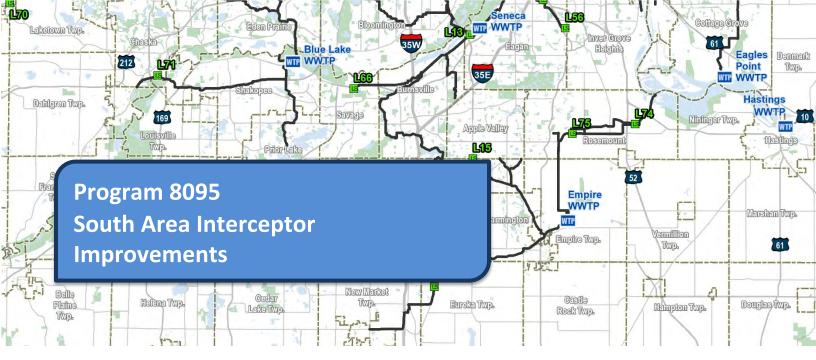


| PROJECT TYPE: | New Lift Station |
|----------------------------|--|
| OBJECTIVES: | Preservation |
| CUSTOMER LEVEL OF SERVICE: | Lead by Example, Be a Good Neighbor, Meet Capacity Needs |
| SCOPE: | Preliminary Design, Design, and Engineering Services during construction for the new L-32A Lift Station. |
| PROJECT NEED: | Condition assessments have documented structural, mechanical, and electrical deficiencies which have led to system failures, such as backups and odor issues. Additionally, the existing Lift Station does not have capacity to serve the current and future needs of the area. |

PROJECT SCHEDULE

| Planning | Design | Construction |
|-------------|-------------|--------------|
| 2019 - 2021 | 2022 - 2025 | 2025 - 2028 |

| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$0 | \$500,508 | \$0 | \$500,508 |



The interceptor systems in Apple Valley, Eagan, Farmington, Lakeville, Savage and other south area communities in need rehabilitation and/or replacement as well as expansion to serve growth. The Program will rehabilitate existing interceptor facilities, including gravity sewers, and force mains, and analyze the system needs to accommodate growth.

Purpose and Justification:

The Program provides for improvements to the Interceptor System that serves the South Area. This includes work that will rehabilitate deteriorated Interceptors in this area.

Program Location:

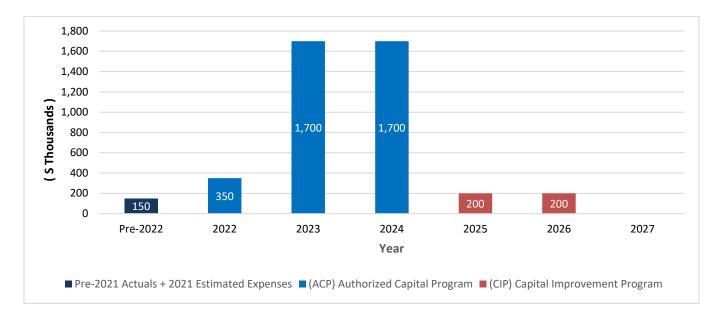
The active projects within this program are in the following Council Districts: District # 4, 15 and 16

| Project Number | Project Title |
|-------------------|--|
| 809500 | South Area Improvements (Parent Project) |
| 809510 | Shakopee Interceptor Odor Improvements |

MCES 2022 - 2027 Capital Program:



Estimated Program Cash Flow 2022 - 2027:



Program Family: 8095 Project # 809510

Shakopee Interceptor Odor Improvements



| PROJECT TYPE: | Study |
|----------------------------|---|
| OBJECTIVES: | Preservation and Quality Improvements |
| CUSTOMER LEVEL OF SERVICE: | Historically, odor and corrosion has been an issue within MCES interceptors, and several City sewer systems that connect to the MCES system. In some cases, odor and corrosion within City sewers may be due to migration of gases from MCES sewers. The nuisance to neighbors and customers does not meet the Council's Level of Service goals |
| SCOPE: | Study to determine the best method(s), and location(s) for odor and corrosion reduction facilities to reduce odor and corrosion impacts to MCES and City sewers |
| PROJECT NEED: | The project is needed for operator safety, to preserve assets, and to reduce nuisance odors in the study area |

PROJECT SCHEDULE



| 2022 Cash Flow | Current ACP | 2022 – 2027 Cash Flow | Total Project Cost |
|----------------|-------------|-----------------------|--------------------|
| \$150,000 | \$3,300,000 | \$3,150,000 | \$3,300,000 |



The interceptor systems in Plymouth, Maple Grove, Brooklyn Center, New Hope, Golden Valley, St Louis Park, Medina, and other northwest area communities need rehabilitation and/or replacement as well as expansion to serve growth. The Program will rehabilitate existing interceptor facilities, including gravity sewers, force mains, lift stations and meter stations, and analyze the system needs to accommodate growth.

Purpose and Justification:

The Program provides for improvements to the Interceptor System that serves the Northwest Area. This includes work needed to expand the Rogers WWTP service area and to improve system capacity and reliability.

Program Location:

The active projects within this program are in the following Council Districts: District # 1 & 6

| Project Number | Project Title |
|-------------------|--|
| 809600 | Northwest Area Improvements (Parent Project) |

MCES 2022 - 2027 Capital Program:

Authorized Capital Program (ACP) \$1,251,000

Capital Improvement Plan (CIP) \$21,000,000

Estimated Program Cash Flow 2022 - 2027:

