

## Sewer Utility

### Capital Improvement Plan

	2020 Adopted	2021 Request	Change
2021 Capital Budget	4,524,000	4,238,000	(286,000)
2021 Capital Improvement Plan	16,842,000	16,873,000	31,000

2020 Adopted  
**11**

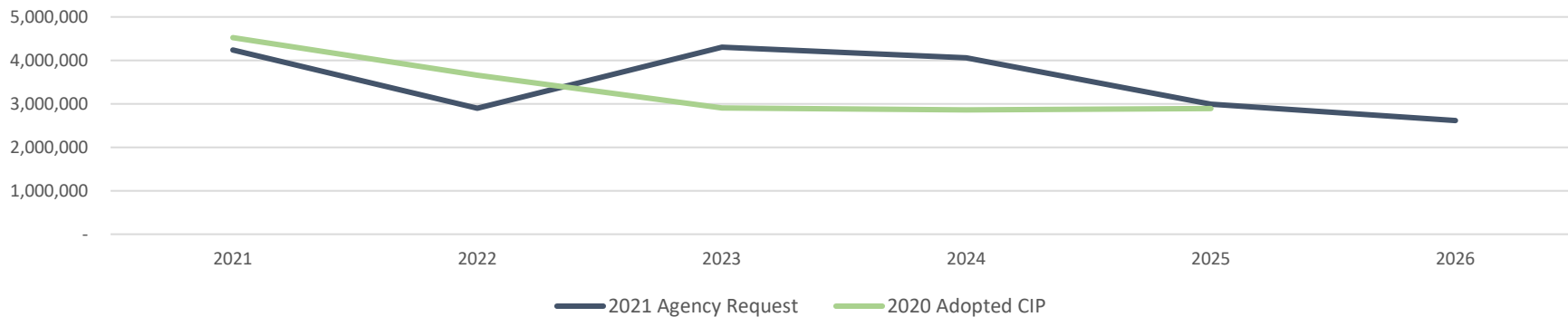
2021 Request  
**6**

### Project Summary: Agency Request

	2021	2022	2023	2024	2025	2026
Sewer Reconstruction	981,000	722,000	500,000	500,000	516,000	437,000
Lift Station Rehabilitation and Replacement	1,289,000	231,000	656,000	613,000	556,000	164,000
Sewer Access Improvements	220,000	130,000	130,000	130,000	135,000	142,000
Trenchless Sewer Rehabilitation	1,690,000	1,760,000	1,760,000	1,760,000	1,724,000	1,810,000
Citywide Pumping Stations-Emergency Power Stationary Gene	58,000	58,000	58,000	58,000	60,000	63,000
Sewer Impact Fee Districts	-	-	1,200,000	1,000,000	-	-
<b>Total</b>	<b>\$ 4,238,000</b>	<b>\$ 2,901,000</b>	<b>\$ 4,304,000</b>	<b>\$ 4,061,000</b>	<b>\$ 2,991,000</b>	<b>\$ 2,616,000</b>

### Changes from 2020 CIP

2021 Capital Improvement Plan  
2020 Adopted vs. 2021 Agency Request



### Major Changes/Decision Points

- Lift Station Projects

## Sewer Utility

### Capital Improvement Plan

	2020 Adopted	2021 Request	Change
2021 Capital Budget	4,524,000	4,238,000	(286,000)
2021 Capital Improvement Plan	16,842,000	16,873,000	31,000

2020 Adopted  
**11**

2021 Request  
**6**

Stand alone Lift Station projects consolidated under Lift Station Rehabilitation program-no budgetary change

- Sewer Reconstruction  
Project budget increased by \$1.3m based on funding moved from Street Reconstructions to support sewer reconstruction projects
- Sewer Impact Fee Districts  
Project moved from 2021/22 to 2023/24



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**Financial Manager**  
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**To:** Dave Schmiedicke, Finance Director

**From:** Robert F Phillips, P.E., City Engineer

**Date:** June 12, 2020

**Subject:** Engineering-Sewer Utility- 2021 Capital Budget Request

### Goals of Agency's Capital Budget

The primary objective of the Sewer Utility Budget is to undertake projects which provide for the safe, reliable, efficient, and cost effective collection and conveyance of wastewater to the Nine Springs Wastewater Treatment Plant. An emphasis is placed on projects that reduce the potential for sewer backups and sanitary sewer overflows.

Funds for sewer replacement associated with specific street reconstruction projects are not shown in the Sewer Utility budget but rather in the "Engineering – Major Streets Budget". This was done to provide a full view of funding for City street projects.

### Summary of Changes from 2020 Capital Improvement Plan

For the 2021 Capital Budget, the overall budget funding levels have not changed. We are proposing a transfer of funds from Reconstruction Streets into Sewer Reconstructions and into Trenchless Sewer Rehabilitation to fund priority sewer rehabilitation work.

The expenditure level for the out years in the Sewer Utility Capital budget are consistent with the 2020 City of Madison Adopted Capital Budget when considered in totality, including the expenditures shown for the utility in the Major Streets Budget.

The most significant change for the 2021 budget is shifting the 4 lift station projects (programs) into Lift Station Rehabilitations program and renaming the program Lift Station Rehabilitations and Replacements program. The Truax Lift Station Replacement, Badger Lift Station Replacement/ Rehabilitation, Lake Forest Replacement/ Rehabilitation, Mayflower Replacement/ Rehabilitation are now part of Lift Station Rehabilitations and Replacements program.

### Prioritized List of Capital Requests

The top priority is Trenchless Sewer Rehabilitation because it is the most cost effective least time consuming method we have for the repair of sanitary sewer. Sewer mains can be rehabilitated in a day compared to weeks with traditional open cut sewer replacement methods. It should be noted however that trenchless technology is not able to address all

deficiencies in Sanitary Sewers and in some instances sewer replacement is necessary. As stated in the introduction above, funds for sewer reconstruction can be found in the individual street projects that exist within the Major Streets Budget and these projects are a high priority for the sewer utility. The next priority is Citywide Pumping Stations Emergency Power Generators. This project installs generators at lift stations to provide temporary power during a power outage in the timeframe necessary to avoid sewer backups into basements or Sanitary Sewer Overflows (SSOs) into the City's Lakes. Several of the City's lift stations cannot be accessed with a portable generator in a timely manner in the event of power loss. Sewer Access improvements is the fourth priority because the City is not able to access certain sewers for routine maintenance or emergency repairs. Sewer Reconstruction is the fifth priority. These projects are sewer repair and replacements identified by Engineering Operations personnel as requiring to be addressed promptly. Sewer Impact Fee Districts is the 6th priority. These projects include the installation of new sanitary sewer facilities in order to facilitate new development

#### *Prioritized List of Projects*

1. Trenchless Sewer Rehabilitation
2. Citywide Pumping Stations – Emergency Power Stationary Generators
3. Lift Station Rehabilitations and Replacements
4. Sewer Access Improvements
5. Sewer Reconstructions
6. Sewer Impact Fees

#### **Potential for Scaling Capital Requests**

In the Engineering-Sewer Utility budget, individual projects for the most part are difficult to downscale other than Trenchless Sewer Rehabilitation or Citywide Pumping Stations-Emergency Power Generators where we have the most flexibility.

We can scale back on the number of sewer mains lined in Trenchless Sewer Rehabilitation. We can also scale back on the number of generators installed. A significant portion of the Engineering Sewer Utility budget funding involves sewer replacements with street projects included in the Engineering- Major Streets Budget. Reducing expenditures here will require the street project to be delayed. It is not recommended to reconstruct streets without the needed sanitary sewer reconstruction.

#### **Impact of COVID-19 on Capital Funding**

The Sewer Utility budget has been slightly impacted by COVID-19. Most projects proposed for 2020 are on track to be completion as planned in the budget or will be bid out later this year.

c.c. Christy Baumel, Deputy City Mayor

## 2021 Capital Improvement Plan Capital Budget Proposal

### Identifying Information

<b>Agency</b>	<input type="text" value="Sewer Utility"/>	<b>Proposal Name</b>	<input type="text" value="Sewer Access Improvement"/>
<b>Project Number</b>	<input type="text" value="10437"/>	<b>Project Type</b>	<input type="text" value="Program"/>
<b>Project Category</b>	<input type="text" value="Utility"/>	<b>Priority:</b>	<input type="text" value="4"/>
<b>2021 Project Number</b>	<input type="text" value="13150"/>		

### Description

This program is for sewer maintenance access roads, trails, paths and easement acquisitions where access to sanitary sewer access structures is not already well established. The goal of this program is to provide City Operations crews with safe access to maintain the City's sanitary sewer system. The main project planned for 2021 is improving access to a sewer off of Packers Avenue south of Dovetail Drive.

### Budget Information

**Prior Appropriation\***  **Prior Year Actual\***

\*Based on Fiscal Years 2015-2019

### Budget by Funding Source

Funding Source	2021	2022	2023	2024	2025	2026
Reserves Applied - Sewer	220,000	130,000	130,000	130,000	135,000	142,000
<b>Total</b>	<b>\$220,000</b>	<b>\$130,000</b>	<b>\$130,000</b>	<b>\$130,000</b>	<b>\$135,000</b>	<b>\$142,000</b>

### Budget by Expenditure Type

Expense Type	2021	2022	2023	2024	2025	2026
Land Improvements	220,000	130,000	130,000	130,000	135,000	142,000
<b>Total</b>	<b>\$220,000</b>	<b>\$130,000</b>	<b>\$130,000</b>	<b>\$130,000</b>	<b>\$135,000</b>	<b>\$142,000</b>

Explain any changes from the 2020 CIP in the proposed funding for this program.

### Priority

**Citywide Element**

**Strategy**

**Describe how this project advances the Citywide Element:**

### Project Schedule & Location

#### 2021 Projects

Project name	Est Cost	Location
Sanitary Access Path Phase 2	\$190,000	Access off of Packers Ave South of Dovetail Tax# 0810-194-8500-9
Miscellaneous projects as needed	\$30,000	Locations identified by operations crews as not being accessible to perform preventative maint...

**Explain the justification for selecting projects planned for 2021:**

Locations typically in wet areas and backyards that cannot be readily accessed with maintenance equipment.

**2022 Projects**

Project Name	Est Cost	Location
Miscellaneous projects as needed	\$130,000	Locations identified by operations crews as not being accessible to perform preventative maint...

**Explain the justification for selecting projects planned for 2022:**

Locations typically in wet areas and backyards that cannot be readily accessed with maintenance equipment.

**2023 Projects**

Project Name	Est Cost	Location
Miscellaneous projects as needed	\$130,000	Locations identified by operations crews as not being accessible to perform preventative maint...

**Explain the justification for selecting projects planned for 2023:**

Locations typically in wet areas and backyards that cannot be readily accessed with maintenance equipment.

**2024 Projects**

Project name	Est Cost	Location
Miscellaneous projects as needed	\$130,000	Locations identified by operations crews as not being accessible to perform preventative maint...

**Explain the justification for selecting projects planned for 2024:**

Locations typically in wet areas and backyards that cannot be readily accessed with maintenance equipment.

**2025 Projects**

Project name	Est Cost	Location
Miscellaneous projects as needed	\$135,000	Locations identified by operations crews as not being accessible to perform preventative maintenance work.

**Explain the justification for selecting projects planned for 2025:**

Locations typically in wet areas and backyards that cannot be readily accessed with maintenance equipment.

**2026 Projects**

Project name	Est Cost	Location
Miscellaneous projects as needed	\$142,000	Locations identified by operations crews as not being accessible to perform preventative maintenance work.

**Explain the justification for selecting projects planned for 2026:**

Locations typically in wet areas and backyards that cannot be readily accessed with maintenance equipment.

**Operating Costs**

What are the estimated annual operating costs associated with the projects planned within this program?

**Personnel**

# of FTEs	Annual Cost	Description
<input type="text" value=""/>	<input type="text" value="0"/>	There will be a reduction in operating cost if Engineering Operations crews are able to more quickly access sanitary sewer facilities.

**Non-Personnel**

Major	Amount	Description
<input type="text" value=""/>	<input type="text" value="0"/>	A slight decrease in equipment operating costs will result after these projects are completed.

**Notes**

Notes:

## 2021 Capital Improvement Plan Capital Budget Proposal

### Identifying Information

<b>Agency</b>	Sewer Utility	<b>Proposal Name</b>	Citywide Pumping Station
<b>Project Number</b>	11510	<b>Project Type</b>	Program
<b>Project Category</b>	Utility	<b>Priority:</b>	2
<b>2021 Project Number</b>	13152		

### Description

This program funds the installation of emergency power stationary generators at the City's pumping stations. The goal of the program is to ensure continuous sanitary service in the event of power loss. Funding in 2021 is for a back-up generator at the Veith Lift Station.

### Budget Information

**Prior Appropriation\*** \$215,000 **Prior Year Actual\*** \$187,733

\*Based on Fiscal Years 2015-2019

### Budget by Funding Source

Funding Source	2021	2022	2023	2024	2025	2026
Reserves Applied - Sewer	58,000	58,000	58,000	58,000	60,000	63,000
<b>Total</b>	<b>\$58,000</b>	<b>\$58,000</b>	<b>\$58,000</b>	<b>\$58,000</b>	<b>\$60,000</b>	<b>\$63,000</b>

### Budget by Expenditure Type

Expense Type	2021	2022	2023	2024	2025	2026
Sanitary Sewer	58,000	58,000	58,000	58,000	60,000	63,000
<b>Total</b>	<b>\$58,000</b>	<b>\$58,000</b>	<b>\$58,000</b>	<b>\$58,000</b>	<b>\$60,000</b>	<b>\$63,000</b>

Explain any changes from the 2020 CIP in the proposed funding for this program.

### Priority

**Citywide Element** Green and Resilient

**Strategy** Increase the use and accessibility of energy efficiency upgrades and renewable energy.

**Describe how this project advances the Citywide Element:**

To have a reliable sanitary sewer lift station in the event of a loss of power. Potential consequences of a lift station without power are sewer backups into homes and/or sanitary sewer overflows (SSOs).

### Project Schedule & Location

#### 2021 Projects

Project name	Est Cost	Location
Veith Ave. Lift Station	\$58,000	4101 Veith Ave

Explain the justification for selecting projects planned for 2021:

Program purchases and installs generators to provide continuous power to sanitary sewer lift station in the event of a loss of power. Priority of locations selected base upon likelihood of a loss of power, travel time to lift station with a portable generator, number of customers affected with a sewer backup if the lift station has no power, consequences to environment if the lift station fails.

station overflows.

**2022 Projects**

<i>Project Name</i>	<i>Est Cost</i>	<i>Location</i>
American Family Lift Station	\$29,000	4747 Eastpark Blvd.
Cherokee No. 2 Lift Station	\$29,000	1550 Commanche Glen

**Explain the justification for selecting projects planned for 2022:**

Program purchases and installs generators to provide continuous power to sanitary sewer lift station in the event of a loss of power. Priority of locations selected base upon likelihood of a loss of power, travel time to lift station with a portable generator, number of customers affected with a sewer backup if the lift station has no power, consequences to environment if the lift station overflows.

**2023 Projects**

<i>Project Name</i>	<i>Est Cost</i>	<i>Location</i>
Hermia Lift Station	\$29,000	201 Clyde Gallagher Ave.
Waunona No. 2(Fayette)	\$29,000	5201 Fayette Ave.

**Explain the justification for selecting projects planned for 2023:**

Program purchases and installs generators to provide continuous power to sanitary sewer lift station in the event of a loss of power. Priority of locations selected base upon likelihood of a loss of power, travel time to lift station with a portable generator, number of customers affected with a sewer backup if the lift station has no power, consequences to environment if the lift station overflows.

**2024 Projects**

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Atlas Lift Station	\$29,000	702 Atlas Ave.
Commodore Lift Station	\$29,000	3100 Lake Mendota Drive

**Explain the justification for selecting projects planned for 2024:**

Program purchases and installs generators to provide continuous power to sanitary sewer lift station in the event of a loss of power. Priority of locations selected base upon likelihood of a loss of power, travel time to lift station with a portable generator, number of customers affected with a sewer backup if the lift station has no power, consequences to environment if the lift station overflows.

**2025 Projects**

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Waunona No. 1(Hoboken) Lift Station	\$30,000	1814 Waunona Way
Waunona No. 4 (Waunona) Lift Station	\$30,000	3061 Waunona Way

**Explain the justification for selecting projects planned for 2025:**

Program purchases and installs generators to provide continuous power to sanitary sewer lift station in the event of a loss of power. Priority of locations selected base upon likelihood of a loss of power, travel time to lift station with a portable generator, number of customers affected with a sewer backup if the lift station has no power, consequences to environment if the lift station overflows.

**2026 Projects**

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Gettle Lift Station	\$63,000	5414 Gettle Ave.

**Explain the justification for selecting projects planned for 2026:**

Program purchases and installs generators to provide continuous power to sanitary sewer lift station in the event of a loss of power. Priority of locations selected base upon likelihood of a loss of power, travel time to lift station with a portable generator, number of customers affected with a sewer backup if the lift station has no power, consequences to environment if the lift station overflows.

**Operating Costs**

What are the estimated annual operating costs associated with the projects planned within this program?

**Personnel**

<i># of FTEs</i>	<i>Annual Cost</i>	<i>Description</i>
<input type="text" value=""/>	<input type="text" value="0"/>	This program ensures continuous power supply to the lift station. Without the generators, MMSD will need to bring a portable generator to the lift station site and the City will need to dispatch sewer vactor truck(s) and personnel to ensure uninterrupted sanitary sewer service to our customers and no Sanitary Sewer Overflows (SSOs) occur.



**Non-Personnel**

<i>Major</i>	<i>Amount</i>	<i>Description</i>
	0	Minimal impacts to future equipment operating costs.

**Notes**

**Notes:**

v 05/04/2020

## 2021 Capital Improvement Plan Capital Budget Proposal

### Identifying Information

<b>Agency</b>	Sewer Utility	<b>Proposal Name</b>	Sewer Impact Fee Distric
<b>Project Number</b>	11678	<b>Project Type</b>	Program
<b>Project Category</b>	Utility	<b>Priority:</b>	6
<b>2021 Project Number</b>	13153		

### Description

This program is for the extension of sanitary sewer service to developing areas of the City requiring sewer infrastructure installation. The program is funded entirely by Impact Fees, and review for planned projects is conducted annually as dictated by demand for development.

### Budget Information

**Prior Appropriation\*** \$2,230,000 **Prior Year Actual\*** \$637,046

\*Based on Fiscal Years 2015-2019

### Budget by Funding Source

Funding Source	2021	2022	2023	2024	2025	2026
Impact Fees			1,200,000	1,000,000		
<b>Total</b>	\$0	\$0	\$1,200,000	\$1,000,000	\$0	\$0

### Budget by Expenditure Type

Expense Type	2021	2022	2023	2024	2025	2026
Sanitary Sewer			1,200,000	1,000,000		
<b>Total</b>	\$0	\$0	\$1,200,000	\$1,000,000	\$0	\$0

### Explain any changes from the 2020 CIP in the proposed funding for this program.

Impact Fee projects are scheduled based upon the need for sanitary sewer service for pending development. In the 2020 CIP, the Pumpkin Hollow Sanitary Sewer Impact Fee(\$1,000,000) was planned for 2021 and Felland Rd Neighborhood Sanitary Sewer Improvement was scheduled for 2022. Felland was moved to 2023 and Pumpkin Hollow to 2024.

### Priority

**Citywide Element** Effective Government

**Strategy** Ensure that new development occurs in locations that can be efficiently served to minimize costs on the community as a whole.

**Describe how this project advances the Citywide Element:**

Extension of sanitary sewer to provide sanitary sewer service to developing lands.

### Project Schedule & Location

#### 2021 Projects

Project name	Est Cost	Location

Explain the justification for selecting projects planned for 2021:

Northeast Neighborhood Gaston Road Extension Sanitary Sewer Impact will be reauthorized for 2021 construction.

**2022 Projects**

Project Name	Est Cost	Location

**Explain the justification for selecting projects planned for 2022:**

No planned impact fees at this time \$0.

**2023 Projects**

Project Name	Est Cost	Location
Felland Road Neighborhood Sanitary Sewer Improvement Impact Fee District	\$1,200,000	Sewer project begins at Felland Road/ Burke Road and extends north along Felland Road to Nels...

**Explain the justification for selecting projects planned for 2023:**

Sanitary sewer service required for pending development.

**2024 Projects**

Project name	Est Cost	Location
Pumpkin Hollow Sanitary Sewer Impact Fee District	\$1,000,000	Sewer project begins 1100' south of Hoepker Road at Interstate Highway 90 & 94 and extends n...

**Explain the justification for selecting projects planned for 2024:**

Sanitary sewer service required for pending development.

**2025 Projects**

Project name	Est Cost	Location

**Explain the justification for selecting projects planned for 2025:**

No planned impact fees at this time \$0

**2026 Projects**

Project name	Est Cost	Location

**Explain the justification for selecting projects planned for 2026:**

No planned impact fees at this time \$0

**Operating Costs**

What are the estimated annual operating costs associated with the projects planned within this program?

**Personnel**

# of FTEs	Annual Cost	Description
<input type="text" value="0"/>	<input type="text" value="0"/>	There will be minimal additional personnel operating costs due to the sanitary sewer facilities being added to the sewer collection system. New sewer interceptors are cleaned once every 3 years. The maintenance required for these sewer improvements will not directly result in additional operating staffing needs.

**Non-Personnel**

Major	Amount	Description
<input type="text" value="0"/>	<input type="text" value="0"/>	There will be minimal additional equipment operating costs due to the sanitary sewer facilities being added to the sanitary sewer collection system. New sewer interceptors are cleaned once every 3 years. The maintenance required for these sewer improvements will not directly result in additional operating equipment needs.

**Notes**

Notes:

## 2021 Capital Improvement Plan Capital Budget Proposal

### Identifying Information

<b>Agency</b>	Sewer Utility	<b>Proposal Name</b>	Lift Station Rehabilitation
<b>Project Number</b>	10268	<b>Project Type</b>	Program
<b>Project Category</b>	Utility	<b>Priority:</b>	3
<b>2021 Project Number</b>	13149		

### Description

This program funds rehabilitation and replacement of the Sewer Utility's 29 wastewater lift stations and force mains. The goal of this program is to maintain system reliability and to reduce the number of back-ups or emergency incidents. The City will own and maintain 32 lift stations by October 2022 when the Town of Madison becomes part of the City of Madison. Projects to be constructed in 2021 include the replacement of the Truax Lift Station and smaller repairs to several other lift stations.

### Budget Information

**Prior Appropriation\*** \$1,309,934 **Prior Year Actual\*** \$831,511

\*Based on Fiscal Years 2015-2019

### Budget by Funding Source

Funding Source	2021	2022	2023	2024	2025	2026
Reserves Applied - Sewer	289,000	231,000	296,000	253,000	196,000	164,000
Revenue Bonds - Sewer	1,000,000	0	360,000	360,000	360,000	0
<b>Total</b>	<b>\$1,289,000</b>	<b>\$231,000</b>	<b>\$656,000</b>	<b>\$613,000</b>	<b>\$556,000</b>	<b>\$164,000</b>

### Budget by Expenditure Type

Expense Type	2021	2022	2023	2024	2025	2026
Sanitary Sewer	1,289,000	231,000	656,000	613,000	556,000	164,000
<b>Total</b>	<b>\$1,289,000</b>	<b>\$231,000</b>	<b>\$656,000</b>	<b>\$613,000</b>	<b>\$556,000</b>	<b>\$164,000</b>

### Explain any changes from the 2020 CIP in the proposed funding for this program.

Truax Lift Station(12457), Badger Lift Station(12458), Lake Forest Lift Station(12458) and Mayflower Lift Station(12459) were moved into the Lift Station Rehabilitation and Replacement program to simplify project tracking. These projects are all very similar replacing lift stations that have reached the end of their service life or a significant amount of rehabilitation work.

Truax Lift Station Replacement is planned for 2021(\$1,100,000), Badger Lift Station Design 2022(\$40,000), Badger Lift Station Construction 2023(\$400,000), Lake Forest Lift Station Design 2023(\$40,000), Lake Forest Lift Station Construction 2024(\$400,000), Mayflower Lift Station Design 2024 (\$40,000), Mayflower Lift Station Construction 2025(\$400,000).

### Priority

**Citywide Element** Green and Resilient

**Strategy** Increase the use and accessibility of energy efficiency upgrades and renewable energy.

**Describe how this project advances the Citywide Element:**

To have reliable energy efficient sanitary sewer lift stations operating without failures which could result in sewer backups into homes or sanitary sewer overflows (SSOs).

### Project Schedule & Location

#### 2021 Projects

Project name	Est Cost	Location
2021 Capital Budget		Agency Requests

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Veith Lift Station Controller	\$14,000	4101 Veith Ave
Carroll Lift Station Controls	\$20,000	621 N. Carroll St
Truax Lift Station Replacement Construction	\$1,100,000	2701 Anderson Street
Lift Station Pump Rebuilds (4-6 per year) as recommended by MMSD	\$75,000	Various locations as identified by MMSD
Miscellaneous Repairs as recommended by MMSD	\$80,000	Various locations as identified by MMSD

**Explain the justification for selecting projects planned for 2021:**

Lift Station pumps and electronics have a life cycle of 25 years prior to requiring replacement. MMSD maintains the City's lift stations and provides recommendation when repairs/ replacement are required.

The Truax Lift Station was been determined by MMSD to require excess repair work and is at the end of its service life (built in 1942). the lift station building structure is in very poor condition. The electrical system needs to be replaced and the pumps have a probelm with clogging. The repairs needed justify full replacement of the lift station.

**2022 Projects**

<i>Project Name</i>	<i>Est Cost</i>	<i>Location</i>
Waunona No. 1 L.S. (Hoboken Control)	\$17,000	1814 Waunona Way
American Family Controller upgrade	\$6,000	4747 Eastpark Blvd
Cherokee No. 2 Lift Station Controller upgrade	\$13,000	1550 Comanche Glen
Badger Lift Station Replacment/ Rehabilitation Design (by consultant engineer)	\$40,000	101 Nob Hill Road
Lift Station Pump Rebuilds (4-6 per year) as recommended by MMSD	\$75,000	Various locations as identified by MMSD
Miscellaneous Repairs as recommended by MMSD	\$80,000	Various locations as identified by MMSD

**Explain the justification for selecting projects planned for 2022:**

Lift Station pumps and electronics have a life cycle of 25 years prior to requiring replacement. MMSD maintains the City's lift stations and provides recommendation when repairs/ replacement are required.

The Badger Lift Station has been determined by MMSD to require excessive repair work and is in need of replacement. This is currently a Town of Madison owned facility. MMSD recommended that it be the City's top priority when the lift station is taken over from the Town in 2022. Design will be completed in 2022 and construction in 2023.

**2023 Projects**

<i>Project Name</i>	<i>Est Cost</i>	<i>Location</i>
Herrmina Lift Station Control upgrade	\$11,000	201 Clyde Gallagher Ave
Waunona No. 4 (Waunona) Lift Station Control upgrade	\$20,000	5201 Fayette Ave.
Westport L.S. Station Power/ Control upgrade	\$30,000	42 Knutson Drive
Badger Lift Station Replacment/ Rehabilitation Construction	\$400,000	101 Nob Hill Road
Lake Forest Lift Station Replacement/ Rehabilitation Design (by consultant engineer)	\$40,000	2021 Dickson Place
Lift Station Pump Rebuilds (4-6 per year) as recommended by MMSD	\$75,000	Various locations as identified by MMSD
Miscellaneous Repairs as recommended by MMSD	\$80,000	Various locations as identified by MMSD

**Explain the justification for selecting projects planned for 2023:**

Lift Station pumps and electronics have a life cycle of 25 years prior to requiring replacement. MMSD maintains the City's lift stations and provides recommendation when repairs/ replacement are required.

Badger Lift Station will be planned for replacement in 2023(currently a Town of Madison Facility) and is the MMSD's recommended top priority Town of Madison lift station for replacement.

The Lake Forest Lift Station has been determined by MMSD to require excessive repair work and may need to be fully replaced. This is currently a Town of Madison owned facility(until 2022). Analysis of the lift station will be needed in order to determine whether significant repair work or full lift station replacement is warranted. For the purpose of budget planning, full replacement of the lift station will be planned.

**2024 Projects**

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Atlas Lift Station Controller Upgrade	\$6,000	702 Atlas Ave
Nelson Road Lift Station Controller upgrade	\$6,000	5950 Nelson Road
South Point Road Lift Station Controller upgrade	\$6,000	452 South Point Road
Lake Forest Lift Station Replacement/ Rehabilitation	\$400,000	2021 Dickson Place
Mayflower Lift Station Replacement/ Rehabilitation Design (by consultant engineer)	\$40,000	902 W. Badger Road
Lift Station Pump Rebuilds (4-6 per year) as recommended by MMSD	\$75,000	Various location as identified by MMSD
Miscellaneous Repairs as recommended by MMSD	\$80,000	Various locations as identified by MMSD

**Explain the justification for selecting projects planned for 2024:**

Lift Station pumps and electronics have a life cycle of 25 years prior to requiring replacement. MMSD maintains the City's lift stations and provides recommendation when repairs/ replacement are required.

Lake Forest Lift Station replacement or rehabilitation work to update lift station facility to current standards will be planned for 2024.

The Mayflower Lift Station has been determined by MMSD to require excessive repair work and may need to be fully replaced. This is currently a Town of Madison owned facility (until 2022). Analysis of the lift station will be needed in order to determine whether significant repair work or full lift station replacement is warranted. For the purpose of budget planning, full replacement of the lift station will be planned.

**2025 Projects**

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Mayflower Lift Station Replacement/ Rehabilitation Construction	\$400,000	902 W. Badger Road
Lift Station Pump Rebuilds (4-6 per year) as recommended by MMSD	\$76,000	Various locations as identified by MMSD
Miscellaneous Repairs as recommended by MMSD	\$80,000	Various locations as identified by MMSD

**Explain the justification for selecting projects planned for 2025:**

Lift Station pumps and electronics have a life cycle of 25 years prior to requiring replacement. MMSD maintains the City's lift stations and provides recommendation when repairs/ replacement are required.

Mayflower Lift Station replacement or rehabilitation work to update lift station facility to current standards will be planned for 2025.

**2026 Projects**

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Lift Station Pump Rebuilds (4-6 per year) as recommended by MMSD	\$75,000	Various locations as identified by MMSD
Miscellaneous Repairs as recommended by MMSD	\$89,000	Various locations as identified by MMSD

**Explain the justification for selecting projects planned for 2026:**

Lift Station pumps and electronics have a life cycle of 25 years prior to requiring replacement. MMSD maintains the City's lift stations and provides recommendation when repairs/ replacement are required.

**Operating Costs**

What are the estimated annual operating costs associated with the projects planned within this program?

**Personnel**

<i># of</i>	<i>Annual Cost</i>	<i>Description</i>
2021 Capital Budget		Agency Requests

<i>FTEs</i>		
	0	This program makes improvements to the City's existing lift stations and does not generally result in an increase in personnel operating cost. In some instances, a reduction in operating costs can be achieved with new equipment that requires less maintenance.

**Non-Personnel**

<i>Major</i>	<i>Amount</i>	<i>Description</i>
	0	Minimal impacts to future equipment operating costs. Replacement equipment may or may not result in a reduction in the lift station's future equipment replacement needs.

**Notes**

Notes:

## 2021 Capital Improvement Plan Capital Budget Proposal

### Identifying Information

<b>Agency</b>	Sewer Utility	<b>Proposal Name</b>	Sewer Reconstruction
<b>Project Number</b>	10267	<b>Project Type</b>	Program
<b>Project Category</b>	Utility	<b>Priority:</b>	5
<b>2021 Project Number</b>	13148		

### Description

This program is for replacing old, problematic sewers throughout the City. The goal of this program is to alleviate emergency sewer repairs and back-ups by replacing the sewer infrastructure that is past its useful life. Coordination for the replacement of these sewers often gets completed with the Reconstruct Streets and Pavement Management programs within the Engineering-Major Streets budget. This program uses a case-by-case basis to evaluate the replacement of the sewers. Projects planned for 2021 include the Dearholt Sewer replacement in the Westgate Mall (Whitney Way) area, replacement of a sewer on Grimm Street, and other smaller repairs citywide.

### Budget Information

**Prior Appropriation\*** \$2,063,538 **Prior Year Actual\*** \$1,158,851  
\*Based on Fiscal Years 2015-2019

### Budget by Funding Source

Funding Source	2021	2022	2023	2024	2025	2026
Special Assessment - Sewer	492,000	5,000	5,000	5,000	5,000	5,000
Revenue Bonds - Sewer	390,000	500,000	254,000	270,000	300,000	321,000
Reserves Applied - Sewer	99,000	217,000	241,000	225,000	211,000	111,000
<b>Total</b>	<b>\$981,000</b>	<b>\$722,000</b>	<b>\$500,000</b>	<b>\$500,000</b>	<b>\$516,000</b>	<b>\$437,000</b>

### Budget by Expenditure Type

Expense Type	2021	2022	2023	2024	2025	2026
Sanitary Sewer	981,000	722,000	500,000	500,000	516,000	437,000
<b>Total</b>	<b>\$981,000</b>	<b>\$722,000</b>	<b>\$500,000</b>	<b>\$500,000</b>	<b>\$516,000</b>	<b>\$437,000</b>

### Explain any changes from the 2020 CIP in the proposed funding for this program.

\$531,000 proposed to be transferred into 2021 and \$222,000 into 2022 from Street Reconstructions (10226) to fund sewer projects.

\$100,000/ yr transferred in 2021-2025, from 2026 Street Reconstructions (10226) to fund sewer projects.

### Priority

**Citywide Element** Green and Resilient

**Strategy** Protect Madison's water supply and infrastructure to provide safe clean drinking water.

#### Describe how this project advances the Citywide Element:

Sanitary sewer system that efficiently carries wastewater with minimal costly sewer back-ups or disruption of sewer service is essential to protecting our environment and public health. Replacing sewer mains reduces the amount of groundwater that infiltrates into the City's sanitary sewer collection system which results in higher treatment costs. Replacing sewer mains also reduces the amount of groundwater that infiltrates into the groundwater system.

### Project Schedule & Location

#### 2021 Projects

Project name	Est Cost	Location
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Project name	Est Cost	Location
Dearholt Sewer(For Westgate Mall Redevelopment)	\$625,000	Sewer undersized for land redevelopment (new development high density residential)
Grimm Street Sanitary Sewer	\$256,000	Sewer discovered by operations after a reported Sanitary Sewer Overflow.
Funds allocated for urgent sewer replacement projects	\$100,000	Various locations identified by City Engineering Operations staff.

**Explain the justification for selecting projects planned for 2021:**

Dearholt sewer is needed for the development(developer to pay for majority of costs). Grimm Street sanitary sewer identified to be in need of immediate repair or replacement.

**2022 Projects**

Project Name	Est Cost	Location
Oscar Mayer Sewer Upgrade(West of Railroad)	\$547,000	Sewer identified , the sewer had breaks, is undersized and has groundwater entering sewer
Funds allocated for urgent sewer replacement projects	\$175,000	Various locations identified by City Engineering Operations staff.

**Explain the justification for selecting projects planned for 2022:**

Sanitary sewers identified to be in need of immediate repair or replacement.

**2023 Projects**

Project Name	Est Cost	Location
Funds allocated for urgent sewer replacement projects	\$500,000	Various locations identified by City Engineering Operations staff.

**Explain the justification for selecting projects planned for 2023:**

Sanitary sewers identified to be in need of immediate repair or replacement.

**2024 Projects**

Project name	Est Cost	Location
Funds allocated for urgent sewer replacement projects	\$500,000	Various locations identified by City Engineering Operations staff.

**Explain the justification for selecting projects planned for 2024:**

Sanitary sewers identified to be in need of immediate repair or replacement.

**2025 Projects**

Project name	Est Cost	Location
Funds allocated for urgent sewer replacement projects	\$516,000	Various locations identified by City Engineering Operations staff.

**Explain the justification for selecting projects planned for 2025:**

Sanitary sewers identified to be in need of immediate repair or replacement.

**2026 Projects**

Project name	Est Cost	Location
Funds allocated for urgent sewer replacement projects	\$437,000	Various locations identified by City Engineering Operations staff.

**Explain the justification for selecting projects planned for 2026:**

Sanitary sewers identified to be in need of immediate repair or replacement.

**Operating Costs**

What are the estimated annual operating costs associated with the projects planned within this program?

**Personnel**

# of FTEs	Annual Cost	Description
<input type="text" value="0"/>	<input type="text" value="0"/>	A slight decrease in personnel operating costs will result after these projects are completed. New sewer mains require maintenance every 3 years versus up to 3 times per year for sewers in need of being repaired or replaced. The decrease in the required maintenance of lined or reconstructed sewer facilities offsets the new maintenance required for added sewer facilities as part of new development.

**Non-Personnel**

Major	Amount	Description
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<i>Major</i>	<i>Amount</i>	<i>Description</i>
	0	A slight decrease in equipment operating costs will result after these projects are completed. New sewer mains require maintenance every 3 years versus up to 3 times per year for sewers in need of being repaired or replaced. The decrease in the required maintenance of lined or reconstructed sewer facilities offsets the new maintenance required for added sewer facilities as part of new development.

**Notes**

**Notes:**

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## 2021 Capital Improvement Plan Capital Budget Proposal

### Identifying Information

<b>Agency</b>	Sewer Utility	<b>Proposal Name</b>	Trenchless Sewer Rehabil
<b>Project Number</b>	10450	<b>Project Type</b>	Program
<b>Project Category</b>	Utility	<b>Priority:</b>	1
<b>2021 Project Number</b>	13151		

### Description

This program funds the rehabilitation of failing sewers by lining the existing sewer mains using cameras and remote controlled tools. Some sewer mains are rehabilitated (or lined) to address inflow and infiltration problems. The goal of this program is to repair nine miles of sewer mains at selected locations based upon need; backyard sewer mains are prioritized.

### Budget Information

**Prior Appropriation\*** \$6,788,356 **Prior Year Actual\*** \$3,048,999

\*Based on Fiscal Years 2015-2019

### Budget by Funding Source

Funding Source	2021	2022	2023	2024	2025	2026
Revenue Bonds - Sewer	1,450,000	1,260,000	1,260,000	1,260,000	1,233,000	1,293,000
Reserves Applied - Sewer	240,000	500,000	500,000	500,000	491,000	517,000
<b>Total</b>	<b>\$1,690,000</b>	<b>\$1,760,000</b>	<b>\$1,760,000</b>	<b>\$1,760,000</b>	<b>\$1,724,000</b>	<b>\$1,810,000</b>

### Budget by Expenditure Type

Expense Type	2021	2022	2023	2024	2025	2026
Sanitary Sewer	1,690,000	1,760,000	1,760,000	1,760,000	1,724,000	1,810,000
<b>Total</b>	<b>\$1,690,000</b>	<b>\$1,760,000</b>	<b>\$1,760,000</b>	<b>\$1,760,000</b>	<b>\$1,724,000</b>	<b>\$1,810,000</b>

### Explain any changes from the 2020 CIP in the proposed funding for this program.

\$100,000/ yr transferred into 2021-2024 from Street Reconstruction 10226. This is our most cost effective sewer rehabilitation solution.

### Priority

**Citywide Element** Green and Resilient

**Strategy** Protect Madison's water supply and infrastructure to provide safe clean drinking water.

#### Describe how this project advances the Citywide Element:

Sanitary sewer system that efficiently carries wastewater with minimal costly sewer back-ups or disruption of sewer service is essential to protecting our environment and public health. There is a significant cost savings to our rate payers to rehabilitate sewer mains with lining vs open cut replacement. Lining sewer mains significantly reduces the amount of groundwater that infiltrates into the City's sanitary sewer collection system which results in higher treatment costs. Lining City sewer mains also prevents wastewater from exfiltrating out of the sewer system into the groundwater.

### Project Schedule & Location

#### 2021 Projects

Project name	Est Cost	Location
Sewer Lining- Approximately 9 miles	\$1,690,000	Various locations identified by City Operations Staff.

#### Explain the justification for selecting projects planned for 2021:

2021 Capital Budget

Agency Requests

401

Sewer mains are selected to be lined based upon one or more of the following criteria: 1) sewer shows defects and is located in areas of high groundwater, 2) sewer show defects and is located in a backyard where it will be too costly to open cut replace, 3) sewer shows defect and is located in streets that are planned to be resurfaced or reconstructed where the condition of the sewer main does not warrant full replacement, or 4) sewer shows defects and is located in streets that are not planned to be rehabbed for an extensive length of time.

**2022 Projects**

<i>Project Name</i>	<i>Est Cost</i>	<i>Location</i>
Sewer Lining- Approximately 9 miles	\$1,760,000	Various locations identified by City Operations Staff.

**Explain the justification for selecting projects planned for 2022:**

Sewer mains are selected to be lined based upon one or more of the following criteria: 1) sewer shows defects and is located in areas of high groundwater, 2) sewer show defects and is located in a backyard where it will be too costly to open cut replace, 3) sewer shows defect and is located in streets that are planned to be resurfaced or reconstructed where the condition of the sewer main does not warrant full replacement, or 4) sewer shows defects and is located in streets that are not planned to be rehabbed for an extensive length of time.

**2023 Projects**

<i>Project Name</i>	<i>Est Cost</i>	<i>Location</i>
Sewer Lining- Approximately 9 miles	\$1,760,000	Various locations identified by City Operations Staff.

**Explain the justification for selecting projects planned for 2023:**

Sewer mains are selected to be lined based upon one or more of the following criteria: 1) sewer shows defects and is located in areas of high groundwater, 2) sewer show defects and is located in a backyard where it will be too costly to open cut replace, 3) sewer shows defect and is located in streets that are planned to be resurfaced or reconstructed where the condition of the sewer main does not warrant full replacement, or 4) sewer shows defects and is located in streets that are not planned to be rehabbed for an extensive length of time.

**2024 Projects**

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Sewer Lining- Approximately 9 miles	\$1,760,000	Various locations identified by City Operations Staff.

**Explain the justification for selecting projects planned for 2024:**

Sewer mains are selected to be lined based upon one or more of the following criteria: 1) sewer shows defects and is located in areas of high groundwater, 2) sewer show defects and is located in a backyard where it will be too costly to open cut replace, 3) sewer shows defect and is located in streets that are planned to be resurfaced or reconstructed where the condition of the sewer main does not warrant full replacement, or 4) sewer shows defects and is located in streets that are not planned to be rehabbed for an extensive length of time.

**2025 Projects**

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Sewer Lining- Approximately 9 miles	\$1,724,000	Various locations identified by City Operations Staff.

**Explain the justification for selecting projects planned for 2025:**

Sewer mains are selected to be lined based upon one or more of the following criteria: 1) sewer shows defects and is located in areas of high groundwater, 2) sewer show defects and is located in a backyard where it will be too costly to open cut replace, 3) sewer shows defect and is located in streets that are planned to be resurfaced or reconstructed where the condition of the sewer main does not warrant full replacement, or 4) sewer shows defects and is located in streets that are not planned to be rehabbed for an extensive length of time.

**2026 Projects**

<i>Project name</i>	<i>Est Cost</i>	<i>Location</i>
Sewer Lining- Approximately 9 miles	\$1,810,000	Various locations identified by City Operations Staff.

**Explain the justification for selecting projects planned for 2026:**

Sewer mains are selected to be lined based upon one or more of the following criteria: 1) sewer shows defects and is located in areas of high groundwater, 2) sewer show defects and is located in a backyard where it will be too costly to open cut replace, 3) sewer shows defect and is located in streets that are planned to be resurfaced or reconstructed where the condition of the sewer main does not warrant full replacement, or 4) sewer shows defects and is located in streets that are not planned to be rehabbed for an extensive length of time.

**Operating Costs**

What are the estimated annual operating costs associated with the projects planned within this program?

**Personnel**

<i># of FTEs</i>	<i>Annual Cost</i>	<i>Description</i>
<input type="text" value="0"/>	<input type="text" value="0"/>	A slight decrease in personnel operating costs will result after these projects are completed. Lined sewer mains require maintenance every 3 years versus up to 3 times per year a sewer needing to be lined. The decrease in the required maintenance of lined or reconstructed sewer facilities offsets the new maintenance required for added sewer facilities as part of new development.

**Non-Personnel**

<i>Major</i>	<i>Amount</i>	<i>Description</i>
<input type="text" value="0"/>	<input type="text" value="0"/>	A slight decrease in equipment operating costs will result after these projects are completed. Lined sewer mains require maintenance every 3 years versus up to 3 times per year for sewers in need to be lined. The decrease in the required maintenance of lined or reconstructed sewer facilities offsets the new maintenance required for added sewer facilities as part of new development.

City of Madison 2020 Authorized Projects  
Summary Status

Agency : Sewer Utility

# of Projects on Schedule

5

# of Projects Delayed

3

Project	2020 Budget	Status	Notes
Sewer Reconstruction	620,000	On schedule	Orchard Street Sewer Repair and Rimrock Interceptor Sewer projects bid and awarded.
Lift Station Rehabilitations	333,000	On schedule	MMSD completing repair work on lift stations on schedule as needed.
Sewer Access Improvements	130,000	Delayed -- will not be started until 2021	World Dairy - Easements needed from WisDOT Dovetail Sanitary - Alternate routes being looked at. Original route for path not feasible.
Trenchless Sewer Rehabilitation	1,590,000	On schedule	on schedule
Citywide Pumping Stations-Emergency Power Stationary Generators	58,000	On schedule	on schedule
Sewer Impact Fee Districts	3,082,000	Delayed -- will be started in 2020 but not completed	Northeast Neighborhood Sanitary Impact Fee-Gaston Road Extension Needs assessment will be created in 2020 and easements will be acquired in 2020.
Harper Lift Station Replacement	500,000	On schedule	Design will be completed for Fall Construction. Easement will be required for new Lift Station. Wisconsin Department of Health Services owns property and appear willing to provide easement. Not sure on timing for easement acquisition.
Truax Lift Station Replacement	60,000	Delayed -- will be started in 2020 but not completed	Design will be started but construction will nto begin until 2021
<b>TOTAL</b>	<b>\$ 6,373,000</b>		