

# Fund 413 Sewer Capital Replacement

# **Highland Hills Sewer 47th Ave Capacity**

Project Number: 12549 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement CollectionRegions:3- 10 St South/23 Ave WestFund:Sewer Capital ReplacementLocation:16th St and 47th Ave

Project Manager: John Goin Budget Unit #: 4134402830010000000000

Project Status: Funded

#### **Description:**

The Sanitary Sewer Masterplan has identified the need to increase capacity in the existing 8" sewer line in 47th Avenue. Highland Hills 47th Ave Capacity Improvements will increase capacity for approximately 1 mile of some existing and some proposed sanitary sewer main, and divert some flows away from 47th Avenue, to address existing and future flows from the T-bone Lift Station and Highland Hills Area. The existing 8-inch sewer line in 47th Avenue was not sized to convey full build out flows associated with the upstream basin including the T Bone Lift Station. Growth that has occurred in T-bone Subdivision has increased the total flow going to the lift station, requiring the pumps to be upsized and necessitating the downstream improvements.

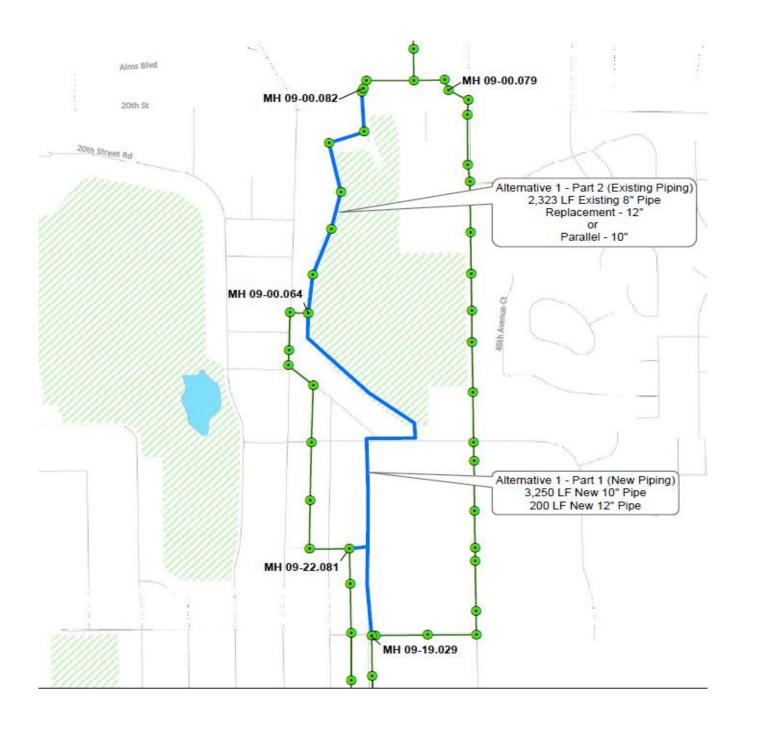
#### **Discussion of Progress:**

Scheduled to begin construction in 2025.

#### Justification:

Flows from the T Bone lift station were routed to this sewer main line which wasn't designed to carry these additional flows. The sanitary sewer master plan identified an existing capacity issue and the City has been monitoring the capacity. Growth that has occurred in TBone Subdivision has increased the total flow going to the lift station, requiring the pumps to be upsized. This project will address downstream capacity concerns during dry and wet weather conditions. This project will also avoid sewer line replacement in 47th Avenue, and re-route to the west, to avoid the impacts of construction in an arterial street.

		Previous 3		2023 Revised						
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										
	Fund Balance	-	-	314,508	-	2,550,000	-	-		- 2,864,508
Total	Revenue	-	-	\$314,508	-	\$2,550,000	-	-		- \$2,864,508
Expense				-						-
8202	Construction	-	-	-	-	1,700,000	-	-		- 1,700,000
8204	Contingency	-	-	30,000	-	500,000	-	-		- 530,000
8226	Permits, Fees, Etc	-	-	10,000	-	100,000	-	-		- 110,000
8229	Professional Services	-	-	239,508	-	200,000	-	-		- 439,508
8232	Project Management - Labor	-	-	35,000	-	50,000	-	-		- 85,000
Total	Expense	-	-	\$314,508	-	\$2,550,000	-	-		- \$2,864,508
Net Total		-	-		-	-	=	-		-



# 8th Ave Sanitary/Storm MH Conflict

Project Number: 12722 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Status: Funded

#### **Description:**

Replacement of two 6" VCP clay pipes that are over 70 years old that flow through an existing storm manhole in 8th Avenue. The project assumes a conceptual design to collect basic design information and existing utility information. Followed by a final design assuming flows would be diverted through private property to the north, requiring easement acquisition and new pipe required to divert flows to either 11th Street and 9th Ave or 11th Street and 8th Avenue. It is anticipated that an additional permanent flow monitor is going to be placed in this basin (work completed under flow monitoring budget) and that an additional 2 years of data will be collected for this basin.

#### **Discussion of Progress:**

Scheduled to begin monitoring/design in 2024 with construction in 2026.

#### Justification:

The two sanitary mains through the existing storm manhole could introduce additional storm flows into the sewer collection system. In the event of encasement or pipe failure, wastewater could discharge to the river. In April 2023 Stormwater traced back contamination from this MH and repair patching was performed. The existing sewer mains reduce the hydraulic capacity of the storm sewer, which would increase the chances of storm flows surcharging out of the MH. There is limited space to replace the existing sanitary sewer infrastructure in the alley, with overhead electric and existing storm sewer. Additionally the building has zero setback from the alley ROW at 8th Ave. The project could require improvements in 8th Avenue, which is CDOT ROW and additional easements to address the conflicts and potentially divert flows to 9th Ave.

		Previous 3		2023 Revised						
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										
	Fund Balance	-	-	66,000	140,000	445,000	-	-		651,000
Total	Revenue	-	-	\$66,000	\$140,000	\$445,000	-	-		\$651,000
Expense										
8202	Construction	-	-	-	-	375,000	-	-		375,000
8204	Contingency	-	-	6,000	15,000	40,000	-	-		- 61,000
8212	Land/Building Cost/Demolition	-	-	-	35,000	-	-	-		35,000
8229	Professional Services	-	-	50,000	75,000	20,000	-	-		145,000
8232	Project Management - Labor	-	-	10,000	10,000	10,000	-	-		30,000
8235	Real Estate - Internal Chgs Only	-	-	-	5,000	=	=	-		5,000
Total	Expense	-	-	\$66,000	\$140,000	\$445,000	-	-		\$651,000
Net Total		-	-	-	-	-	-	-		-



# Lift Station 15 (Hope Springs) Replacement

Project Number: 413New8 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Housing for All

**Project Type:** Sewer Replacement Collection **Regions:** 

Fund: Sewer Capital Replacement Location: 32nd St and Harbor Lane

Project Manager: Unassigned Budget Unit #: Unassigned

Project Status: Funded

#### **Description:**

Construction of a new Sanitary Sewer Lift Station to replace Lift Station #15 on the Evans town line, between 35th and 23rd Avenues. Future developments will create a Local Improvement District to pay for lift station construction. This lift station replacement is a growth-driven project identified in the 2021 Sanitary Sewer Master Plan as necessary to accommodate two mid-sized subdivisions adjacent to Lift Station 15. This Project Initiation Form is created for the City to fund the portion of the construction costs in the Local Improvement District currently being conveyed by Lift Station 15 (existing flows), and the proposed subdivision to the west, with the Hope Springs subdivision covering approximately half of the construction costs.

#### **Discussion of Progress:**

Design is currently in progress (2023) with construction in 2024 and possibly into 2025. Project has been advanced due to state grant funding for Hope Springs moving that development project forward.

#### Justification:

Lift Station #15's current capacity is insufficient for future flows associated with two proposed subdivisions in the basin, as its current capacity is approximately 150 gpm. Modeling of the proposed subdivisions show that peak inflows (330 gpm) far exceed the capacity of the lift station. To service this area, Lift Station #15 will need to be relocated from its current location further east and south, and upsized to accommodate future flows.

Not relocating and upsizing Lift Station #15 will limit the growth and development in Greeley, along the south border of the City, between 23rd and 35th Avenues.

Doing a partial project just to accommodate Hope Springs will cost the city money when the property is further developed in the future.

Project is tagged to the "Housing for All" council priority as the city is fronting both the city's 16% portion and the 35% that will be charged to future development in order to allow the Hope Springs - Habitat development to proceed with all due haste. Project could also tag the "Sustainable Infrastructure and Mobility" council priority.

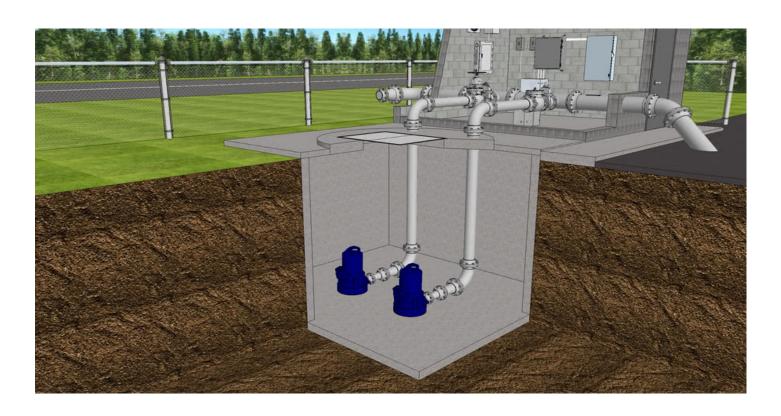
#### Revenue Detail:

It is expected that the development funded portion of the \$929,500: \$325,325.00 will be received as revenue from the proposed improvement district within the next 10 years when the property is developed. Adding this project now is having no impact on rates in the near term.

#### Impact on Operating Budget:

Replacement of an existing lift station with a larger one will increase electricity costs.

		Previous 3		2023 Revised						
<b>GL</b> Account	Description	Years 2022	Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										
	Fund Balance	-	-	-	929,500	-	-	-		929,500
Total	Revenue	-	-	-	\$929,500	-	-	-		\$929,500
Expense			•	-						•
8202	Construction	-	-	-	715,000	-	-	-		715,000
8204	Contingency	-	-	-	214,500	=	-	-		214,500
Total	Expense	-	-	-	\$929,500	-	-	-		\$929,500
Net Total		-	1	-	-	-	-	-		-



# **Central 16th Sewer Replacement**

Project Number: N742 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

**Project Type:** Sewer Replacement Collection **Regions:** 1- 16 St North/35 Ave East

Fund: Sewer Capital Replacement Location: 16th Street and 16th Ave to 13th Street and 16th Ave

Project Manager: John Goin Budget Unit #: 413New12

Project Status: Funded

#### **Description:**

The Sanitary Sewer Masterplan has identified that with minor growth in this basin that additional capacity will be required to convey wastewater flows in an existing pipe near capacity. The project will provide additional capacity by upsizing approximately 1,800 feet of 8" sewer main from 13th Street to 16th Street in 16th Ave. Requires Upsizing of sewer main across Greeley Central baseball field. Construction sequencing will have to consider impacts to the field and impacts to the school during construction. Project will require coordination with Northern Colorado Medical Center as the project would cross 16th Street which is a major access to the hospital. Sewer upsizing will also cross 13th Street.

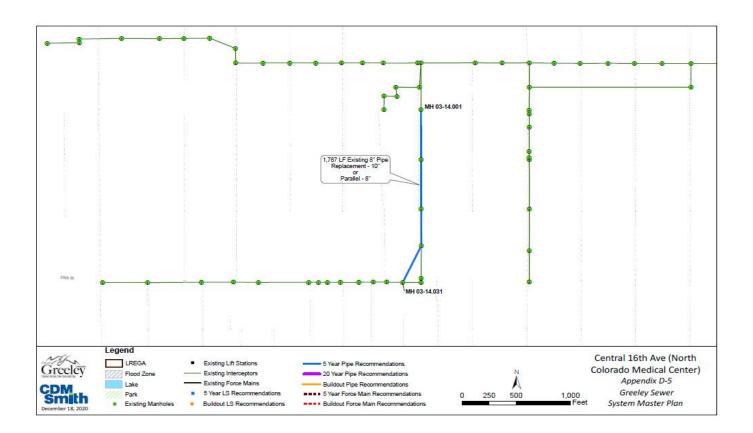
#### **Discussion of Progress:**

Scheduled to begin design in 2026 and construction in 2027

#### Justification:

Identified in sewer collection master plan.

		Previous 3		2023 Revised						
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										_
	Fund Balance	-	-	-		-	- 255	000 1,270,000	-	1,525,000
Total I	Revenue	-	-	-		-	- \$255	000 \$1,270,000	-	\$1,525,000
Expense				-						-
8202	Construction	-	-	-		-	-	- 1,000,000	-	1,000,000
8204	Contingency	-	-	-		-	- 20	000 200,000	-	220,000
8212	Land/Building Cost/Demolition	-	-	-		-	- 10	- 000	-	10,000
8229	Professional Services	-	-	-		-	- 200	000 50,000	-	250,000
8232	Project Management - Labor	-	-	-		-	- 20	000 20,000	-	40,000
8235	Real Estate - Internal Chgs	-	-	-		-	- 5	- 000	-	5,000
Total	Expense	-	-	-		=	- \$255	000 \$1,270,000	-	\$1,525,000
Net Total		-	-	-		-	-		-	-



# **Highland Hills Sewer 35th Ave Capacity**

Project Number: N744 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

**Project Type:** Sewer Replacement Collection **Regions:** 1- 16 St North/35 Ave East

Fund: Sewer Capital Replacement Location: 35th Avenue 16th Street to 19th Street

Project Manager: John Goin Budget Unit #: 413New14

Project Status: Funded

#### **Description:**

The Sanitary Sewer Masterplan has identified a need to upsize approximately 1,800 feet of sanitary sewer main in 35th Avenue from 16th Street to 19th Street. While Lift Station 13 (22nd St and 35th Avenue) was upsized in 2011 due to growth in the upstream basin, the downstream system was undersized to handle the rated capacity of the lift station. The proposed improvements will convey the rated capacity of the lift station. The design phase of this project will likely be combined with the Highland Hills Bittersweet project however construction will likely be phased. The existing sanitary sewer main crosses 35th Ave just south of 18th Street and crosses 16th Street in the middle of the northbound lanes of 35th Avenue. The replacement of this sewer line will have major impacts on traffic in 35th Avenue and 16th Street. Trenchless alternatives will need to be considered to minimize traffic impacts. It would be anticipated that there are significant dry utilities along 35th Avenue and at the intersection of 16th Street as well. The project is in close proximity to Bittersweet Park and will require coordination with CPRD.

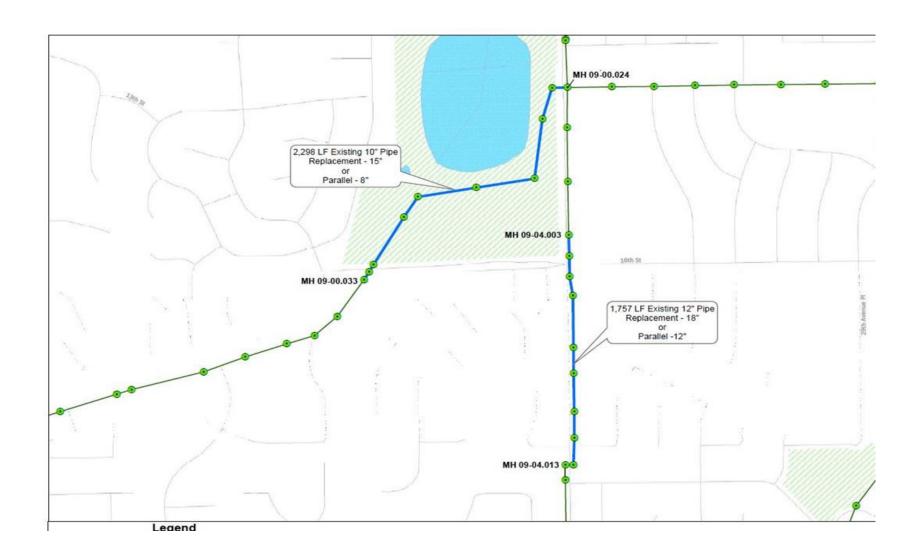
#### **Discussion of Progress:**

Scheduled to begin design in 2024 and construction in 2025.

#### Justification:

Lift Station 13 was upsized for buildout conditions but downstream collector mains were not, so in order to convey wet weather flows from LS 13, 35th Avenue sewer mains require corresponding upsizing.

		Previous 3		2023 Revised						
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										
	Fund Balance	-	-	-	255,000	1,230,000	-	-		- 1,485,000
Total	Revenue	-	-	-	\$255,000	\$1,230,000	-	-		- \$1,485,000
Expense										_
8202	Construction	-	-	-	-	900,000	-	-		900,000
8204	Contingency	-	-	-	20,000	250,000	-	-		- 270,000
8226	Permits, Fees, Etc	-	-	-	20,000	-	-	-		- 20,000
8229	Professional Services	-	-	-	200,000	60,000	-	-		- 260,000
8232	Project Management - Labor	-	-	-	15,000	20,000	-	-		- 35,000
Total	Expense	-	-	-	\$255,000	\$1,230,000	-	-		- \$1,485,000
Net Total		-	-	-	-	=	=	=		-



# **Highland Hills Sewer Bittersweet Park**

Project Number: N745 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

**Project Type:** Sewer Replacement Collection **Regions:** 3- 10 St South/23 Ave West

Fund: Sewer Capital Replacement Location: 35th Avenue and 16th Street through Bittersweet Park

Project Manager: John Goin Budget Unit #: 413New13

Project Status: Funded

#### **Description:**

The Sanitary Sewer Masterplan identified a need to upsize approximately 2,300 feet of sanitary sewer main across 16th Street through Bittersweet Park. The portion of pipe to be upsized through Bittersweet Park is approximately 55 years old and is undersized (10") compared to the upstream and downstream systems, which are sufficiently sized to convey full build out flows in the basin. The existing sanitary sewer main crosses 16th Street west of 35th Avenue and 35th Avenue at the intersection of 13th Street.

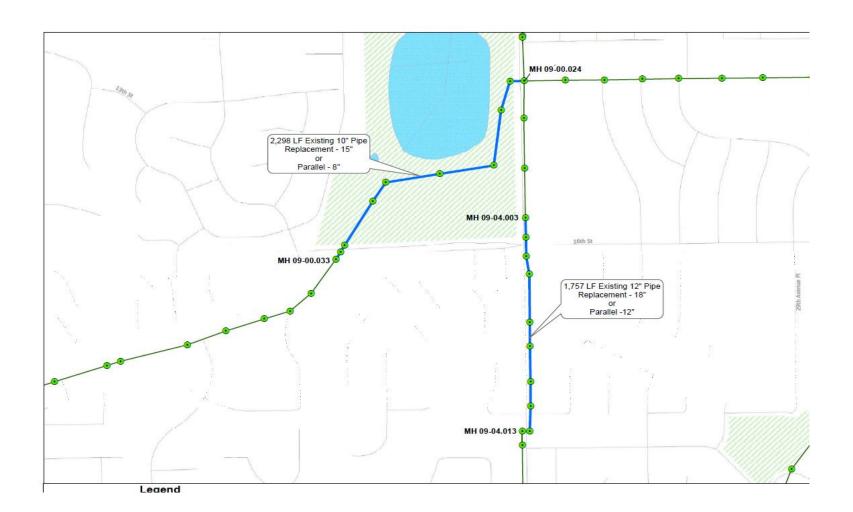
#### **Discussion of Progress:**

Scheduled to begin design in 2024 and construction in 2026.

#### Justification:

During wet weather flows the existing 10" pipe surcharges, so upsizing it to 15" is required to convey flows introduced from upstream collector mains that are sufficiently sized for full build out conditions.

		Previous 3		2023 Revised						
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										
	Fund Balance	-	-	-	265,000	-	1,255,000	-	-	1,520,000
Total I	Revenue	-	-	-	\$265,000	-	\$1,255,000	-	-	\$1,520,000
Expense										
8202	Construction	-	-	-	-	-	900,000	-	-	900,000
8204	Contingency	-	-	-	20,000	-	275,000	-	-	295,000
8226	Permits, Fees, Etc	-	-	-	30,000	-	-	-	-	30,000
8229	Professional Services	-	-	-	200,000	-	60,000	-	-	260,000
8232	Project Management - Labor	-	-	-	15,000	-	20,000	-	-	35,000
Total	Expense	-	-	-	\$265,000	-	\$1,255,000	-	-	\$1,520,000
Net Total		-	-	-	-	-	-	-	-	-



### North Poudre RR Sewer Ph 1

Project Number: N770 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

**Project Type:** Sewer Replacement Collection **Regions:** 4 - 10 St North/23 Ave West

Fund: Sewer Capital Replacement Location: East of 35th Ave between F and C streets

**Project Manager:** John Goin **Budget Unit #:** 413New7

Project Status: Funded

#### **Description:**

Deficiency and development-driven project identified in the 2021 Sanitary Sewer Master Plan. Replace or parallel approximately 3,600 LF of existing 36" Poudre trunk line east of 35th Ave.

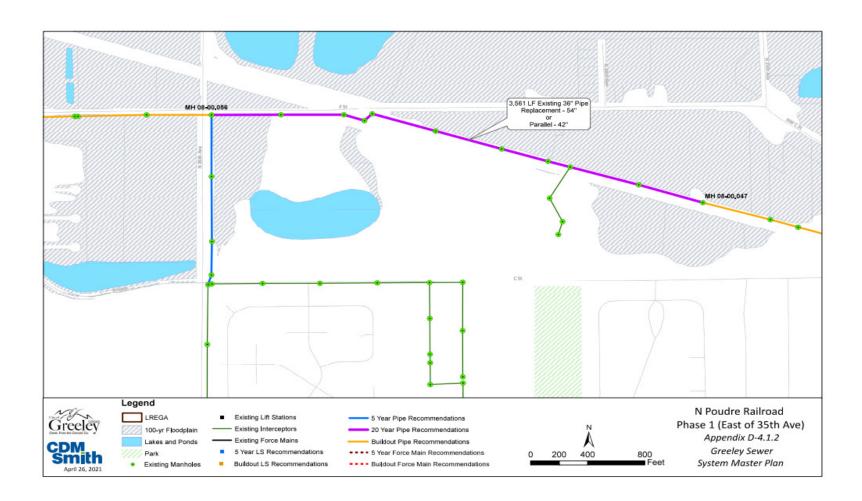
#### **Discussion of Progress:**

Scheduled to begin design in 2026 with construction in 2027.

#### Justification:

The 36" Poudre Trunk Line, east of 35th Avenue, between F and C Streets, has existing capacity limitations. It is undersized to accommodate projected growth upstream in both Poudre and Sheep Draw Basins. The Sanitary Sewer Master Plan provided two options to increase capacity (1) replace and upsize to a 54" or (2) install a 42" pipe parallel to the existing trunk line. This section is CIPP-lined, and more recent survey information may better identify sections of the Poudre Trunk Line that may need replacement.

		Previous 3		2023 Revised							
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	20	)25	2026	2027	2028	<b>Grand Total</b>
Revenue											
	Fund Balance	-	-	-		-	-	1,000,000	6,120,000	-	7,120,000
Total	Revenue	-	-	-		-	-	\$1,000,000	\$6,120,000	-	\$7,120,000
Expense				-							
8202	Construction	-	-	-		-	-	-	4,300,000	-	4,300,000
8204	Contingency	-	-	-		-	-	50,000	1,300,000	-	1,350,000
8212	Land/Building Cost/Demolition	-	-	-		-	-	100,000	-	-	100,000
8226	Permits, Fees, Etc	-	-	-		-	-	30,000	-	-	30,000
8229	Professional Services	-	-	-		-	-	800,000	500,000	-	1,300,000
8232	Project Management - Labor	-	-	-		-	-	20,000	20,000	-	40,000
Total	Expense	-	-	-		-	-	\$1,000,000	\$6,120,000	-	\$7,120,000
Net Total		-	-	-		-	-	-	-	-	-



# **Sewer Collection System Rehabilitation**

Project Number: 12631 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement CollectionRegions:0 - All WardsFund:Sewer Capital ReplacementLocation:Citywide

Project Manager: John Goin Budget Unit #: 4134402830010000000000

Project Status: Funded

#### **Description:**

This is an ongoing program to physically replace undersized lines in the sewer collection system, rehabilitate corroded manholes and eliminate cross connections with the stormwater system. The City will disconnect area and roof drains from the sewer system on an annual basis, prioritizing the largest contributing cross connections. This budget has been consolidated with WWC Sewer Rehab and Manhole Rehabilitation which includes rehabilitation of various manholes with severe corrosion issues using cementitous materials (2024). Also, a new 4" main was identified in 18th Street west of 13th Avenue. There are 3 properties that appear to have compound sewer services that will be addressed with sewer stubs for future connection. The work is planned for 2027 because overlay was done on this block in 2021.

#### **Discussion of Progress:**

This is an annual program.

#### Justification:

This program was identified as a high priority in the 2008 Sanitary Sewer Master Plan (SSMP). The master plan identified lines six inches or smaller that could not be properly maintained and identified compound taps for elimination. Smoke testing in the early 2000's identified cross connections with the stormwater system, so disconnecting will decrease I/I into sanitary system. Completion of these projects will improve services to underserved customers and clarify ownership and maintenance responsibilities of customer service lines. Not addressing maintenance needs increases the likelihood of failures of mains, manholes or lift stations, which could lead to costly cleanup or legal action by affected parties.

		Previous 3		2023 Revised							
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	Future	<b>Grand Total</b>
Revenue											
	Fund Balance	191,447	-	184,576	660,000	475,000	495,000	555,000	325,000	1,625,000	4,511,023
Total	Revenue	\$191,447	-	\$184,576	\$660,000	\$475,000	\$495,000	\$555,000	\$325,000	\$1,625,000	\$4,511,023
Expense				-							
8202	Construction	150,823	-	149,576	430,000	270,000	285,000	245,000	145,000	725,000	2,400,399
8204	Contingency	-	-	-	-	-	-	25,000	-	-	25,000
8224	Operating Supplies	12,605	-	15,000	110,000	110,000	110,000	190,000	110,000	550,000	1,207,605
8226	Permits, Fees, Etc	162	-	-	5,000	5,000	-	-	-	-	10,162
8229	Professional Services	18,956	-	10,000	35,000	15,000	30,000	30,000	10,000	50,000	198,956
8232	Project Management	8,482	-	-	-	-	-	-	-	-	8,482
8242	Utility Services	-	-	-	10,000	10,000	-	-	-	-	20,000
8244	Capital Equipment >\$5,000	-	-	-	50,000	50,000	50,000	50,000	50,000	250,000	500,000
Total	Expense	\$191,447	-	\$184,576	\$660,000	\$475,000	\$495,000	\$555,000	\$325,000	\$1,625,000	\$4,511,023
Net Total		-	-	-	-	-	-	-	=	-	-



# **Trenchless Main and Collector Rehabilitation**

Project Number: 12653 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement CollectionRegions:0 - All WardsFund:Sewer Capital ReplacementLocation:Citywide

Project Manager: John Goin Budget Unit #: 4134402830040000000000

Project Status: Funded

#### **Description:**

This annual program rehabilitates about 1% of the sewer system using cured-in-place pipe. The program focuses on the sewers in the worst condition as identified by the City's TV inspection and by maintenance records. The criteria which the priority for lining projects has been modified to evalute the likelihood and consequences of a sewer main failing creating a risk rating.

#### **Discussion of Progress:**

This is an annual program to continue with lining of aged sewer collection pipes.

#### Justification:

Each year Sewer Collections identifies existing piping that has severe corrosion issues and rehabilitates that pipe using a cured in place lining process. If the pipe is not rehabilitated there is the possibility of collapse and sanitary sewer overflows on the streets. This process allows staff to rehabilitate older sewer lines without excavating the street and minimizing disruption to its customers. 2024 is planned to complete two linings removed from 2022 CIPP project Insituform already priced. 2026 is planned to address unlined trunk lines in 12th ST ahead of stormwater project west of 10th Ave. Annual budget raised to \$600k to focus on larger-diameter trunk lines because cost-effective to attempt to combine projects that require large bypass pumping.

#### **Revenue Detail:**

The department has applied for a subsidized State Revolving Fund loan to fund the project and speed up progress.

#### Impact on Operating Budget:

Lining sewer pipe has reduced expensive emergency pipe repairs and reduces the amount of groundwater entering the collection system being unnecessarily treated at the wastewater plant.

		Previous 3		2023 Revised							
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	Future	<b>Grand Total</b>
Revenue	-										
	Fund Balance	1,109,505	-	420,000	580,000	420,000	620,000	620,000	620,000	3,100,000	7,489,505
Total	Revenue	\$1,109,505	-	\$420,000	\$580,000	\$420,000	\$620,000	\$620,000	\$620,000	\$3,100,000	\$7,489,505
Expense											
8202	Construction	992,905	-	400,000	550,000	400,000	600,000	600,000	600,000	3,000,000	7,142,905
8226	Permits, Fees, Etc	755	-	-	10,000	-	-	-	-	-	10,755
8229	Professional Services	37,920	-	-	-	-	-	-	-	-	37,920
8232	Project Management	67,937	-	-	-	-	-	-	-	-	67,937
Total	Expense	\$1,109,505	-	\$420,000	\$580,000	\$420,000	\$620,000	\$620,000	\$620,000	\$3,100,000	\$7,489,505
Net Total		-	-	-	-	-	-	-	-	-	-



# **Wastewater Flow Monitoring Program**

Project Number: 12671 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement CollectionRegions:0 - All WardsFund:Sewer Capital ReplacementLocation:Citywide

Project Manager: John Goin Budget Unit #: 4134402830100000000000

Project Status: Funded

#### **Description:**

Staff will install an additional flow meter and rain gauge in 2022 upstream of LS9 to monitor flows as recommended by the Sanitary Sewer Masterplan. The monitoring of these flow will help determine the locations of concentrated maintenance efforts. Professional services have been included to update the sanitary sewer masterplan model if required and to analyze various development scenarios.

#### **Discussion of Progress:**

This is an ongoing annual program.

#### Justification:

If additional flow monitoring is not obtained it could be difficult to provide more detailed analysis of the downstream capacity concerns within the downstream system identified in the Sanitary Sewer Masterplan.

		Previous 3		2023 Revised						
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										
	Fund Balance	44,046	-	85,000	85,000	85,000	85,000	85,000	85,000	554,046
4789	Expense Reimbursement	1,485	-	-	-	-	-	-	-	1,485
Total I	Revenue	\$45,530	-	\$85,000	\$85,000	\$85,000	\$85,000	\$85,000	\$85,000	\$555,530
Expense										
8224	Operating Supplies	110	-	10,000	10,000	10,000	10,000	10,000	10,000	60,110
8229	Professional Services	45,260	-	30,000	30,000	30,000	30,000	30,000	30,000	225,260
8232	Project Management	80	-	-	-	-	-	-	-	80
8242	Utility Services	-	-	15,000	15,000	15,000	15,000	15,000	15,000	90,000
8244	Capital Equipment >\$5,000	-	-	25,000	25,000	25,000	25,000	25,000	25,000	150,000
Total I	Expense	\$45,530	=	\$85,000	\$85,000	\$85,000	\$85,000	\$85,000	\$85,000	\$555,530
Net Total		-	-	-	-	-	-	-	-	-

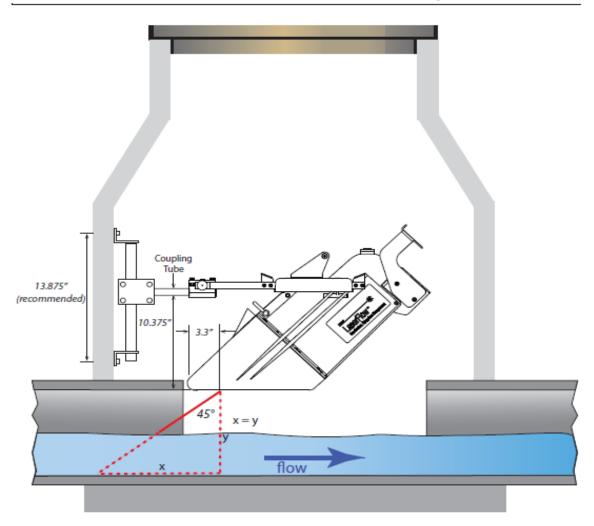


Figure 2-16 Typical manhole installation

# **WTRF Master Plan Updates**

Project Number: 12799 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement StudiesRegions:1- 16 St North/35 Ave EastFund:Sewer Capital ReplacementLocation:WTRF 300 E 8TH STREETProject Manager:Cadee OakleafBudget Unit #:4138010830100000000000

Project Status: Funded

#### **Description:**

Future master planning updates will provide decision points with respect to uncertainties and issues that are currently not fully defined. The proposed CIP recommends regular Master Plan updates with two coordinated planning efforts of liquids and solids treatment needs over the coming 10 years. The first Master Plan update, scheduled in 2026, needs to focus on a detailed update of growth, floodplain requirements, and long-term siting of improvements. This update will address uncertainties and position the City well in advance of the Phase 3 improvements.

#### **Discussion of Progress:**

Planned for a phase in 2023 to assess flows, loading, stream temperature, and regulatory compliance; and then in 2026 to address future growth and plant needs. Then a further update for 20231 before Reg. 31 starts in 2032 design.

#### Justification:

This master plan is needed to address uncertainty as it relates to flow and load projections as the City is growing, future regulatory permit requirements, future floodplain regulations within the area that are currently not well defined, and to develop how the plant will expand in the future. As the City is growing that plant will need to expand as well. This master plan will address how the plant will expand in the future with limited available property around the site.

		Previous 3	2023 R	evised							
GL Account	Description	Years 2022 A	ctual Bud	get	2024	2025	2026	2027	2028	Future	<b>Grand Total</b>
Revenue											_
	Fund Balance	-	-	775,000	-	-	973,000	80,600	-	750,000	2,578,600
Total I	Revenue	-	- \$	775,000	-	-	\$973,000	\$80,600	-	\$750,000	\$2,578,600
Expense											_
8229	Professional Services	-	-	720,000	-	-	895,000	-	-	700,000	2,315,000
8232	Project Management - Labor	-	-	55,000	-	-	78,000	80,600	-	50,000	263,600
Total I	Expense	-	- \$	775,000	-	=	\$973,000	\$80,600	-	\$750,000	\$2,578,600
Net Total		-	-	-	-	-	-	-	-	-	-





# Greeley WATER POLLUTION CONTRO TREATMENT AND NUTRIENT MASTER PLAN WATER POLLUTION CONTROL FACILITY

FINAL | November 2018

# **Sanitary Sewer Master Plan Update**

Project Number: 12629 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement StudiesRegions:0 - All WardsFund:Sewer Capital ReplacementLocation:Citywide

Project Manager: Adam Prior Budget Unit #: 4138010830100000000000

Project Status: Funded

#### **Description:**

The City recently completed three master plans in 2021 for: (1) non-potable water system, (2) potable water distribution system, and (3) wastewater collection system. To keep the master plans current, the W&S Department plans on having each of them updated every 5 years. Each master plan will be updated on separate years (i.e.) 2025, 2026, and 2027 with the sanitary sewer master being updated in 2027.

#### **Discussion of Progress:**

Planned for 2027.

#### Justification:

The goals of the updated master plan are to refine the existing models to include newly constructed infrastructure, reevaluate capacity issues with the existing system and with future development based on the most recent master plan, and provide recommendations for capital improvements. The master plan will provide sanitary sewer basins to assist in determining how proposed developments will be served. Includes update to 208 Utility Report.

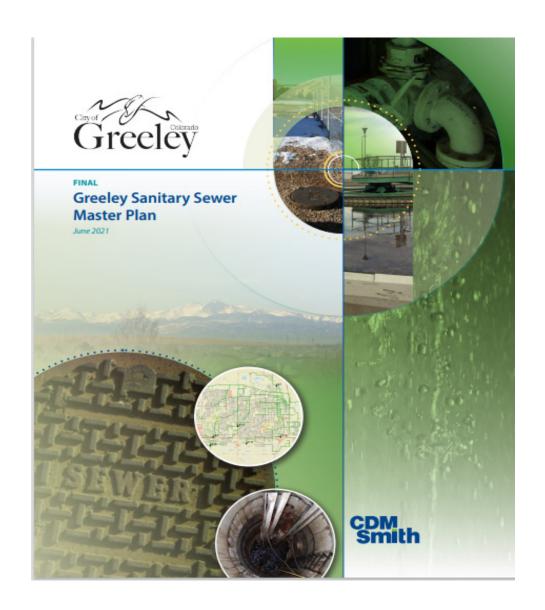
#### **Revenue Detail:**

None

#### Impact on Operating Budget:

From the development of masterplans, 5 and 20 year CIP budgets will be updated to address projects identified to be high priority.

		Previous 3		2023 Revised							
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	2025	2026		2027	2028	<b>Grand Total</b>
Revenue											
	Fund Balance	648,083	-	-	-		-	-	750,000		- 1,398,083
Total	Revenue	\$648,083	-	-	-		-	-	\$750,000		- \$1,398,083
Expense				-							-
8204	Contingency	-	-	-	-		-	-	50,000		- 50,000
8216	Miscellaneous	24	-	-	-		-	-	-		- 24
8229	Professional Services	502,484	-	-	-		-	-	675,000		- 1,177,484
8232	Project Management	134,915	-	-	-		-	-	-		- 134,915
Total	Expense	\$648,083	-	-	-		-	-	\$750,000		- \$1,398,083
Net Total		-	-	-	-		-	-	-		



# **Utility Billing Replacement-Sewer**

Project Number: 12661 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement StudiesRegions:0 - All WardsFund:Sewer Capital ReplacementLocation:Citywide

Project Status: Funded

#### **Description:**

The current Utility Billing software (called Customer Information Systems, or a CIS, in the utility business) is at its end of life. It will be replaced with a new system that will significantly enhance customer service and reporting capabilities. Staff had started the process to select a new CIS in 2019 and 2020, but paused to enable City staff to focus on the ERP project that was nearing completion. A new CIS is needed to meet the expected customer service level for Greeley's utility customers.

#### **Discussion of Progress:**

A solicitation will begin in May 2023 and a vendor will likely be selected by the end of 2023 or the start of 2024.

#### Justification:

The current Utility Billing software is currently being supported by the vendor, but it is not being enhanced and is falling behind in it's competitors in it's ability to support Greeley's customers. A new system is needed. This will be funded by the Water, Sewer, and Stormwater funds.

#### Impact on Operating Budget:

The annual maintenance for the CIS will increase when Greeley transitions to a new system.

		Previous 3		2023 Revised						
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										
	Fund Balance	-	-	1,200,000	2,000,000	-	-	-		- 2,660,593
51**	Sewer Rates	569,085	-	-	-	-	-	-		- 569,085
Total Revenue \$569,085		\$1,200,000	\$2,000,000	-	-	-		- \$3,229,678		
Expense										
8229	Professional Services	29,678	-	1,200,000	1,750,000	-	-	-		- 2,979,678
8232	Project Management - Labor	-	-	-	250,000	-	-	-		- 250,000
Total	Expense	\$29,678	-	\$1,200,000	\$2,000,000	-	-	-		- \$3,229,678
Net Total		\$539,407	-	-	-	-	-	-		-



City of Greeley Director of Finance P.O. Box 1928 Greeley, CO 80632-1928

#### Statement of Account for Utility Service(s)

THIS BILL SHOWS A PREVIOUS AMOUNT DUE. PLEASE REMIT AT EARLIEST CONVENIENCE. IF PYMT HAS BEEN MADE, THANK YOU.

Account Number	222-222222-22	В
Service 2000 ( Location	GREELEY AVENUE CT	F
Decrees to 11	ousehold: 4 Irrigable Area: 779	il o

METER INFORMATION									
Meter ID	Date	Curr Read	Date	Prev Read	Usage				
97403425U	09/28	750	08/28	700	50				

0	(Usage	in thousar	nd gallor	ns)	
0			П		
0	n_ n_ n	L A			

BUDGET: Indoor 7 C	utdoor	21	Total 28
RESIDENTIAL WATER	Used	Rate	Amount
Water Budget (0% to 100%)	28	3.97	\$108.64
Inefficient Use (>100% to 130%	) 9	4.85	\$42.66
Excessive Use (>130% to 150%	) 5	6.62	\$30.20
Unsustainable Use (>150%)	8	8.82	\$68.96
Base Charge			\$11.83

BILLING SUMMARY	
Payments	\$165.74-
Bal Fwd	\$10.74
RESIDENTIAL WATER	\$262.29
RESIDENTIAL SEWER	\$15.72
STORMWATER	\$11.09

CURRENT CHARGES	\$289.10
TOTAL DUE ON 10/18/17	\$299.84

#### WATER CONSERVATION MESSAGE

HOW DO YOU MEASURE UP? CHECK OUT YOUR WATER BUDGET AT WWW.EFFICIENCYREWARDED.COM WHAT IS IT?. UPDATE YOUR PROFILE, FAQS, CHECK OUT THE WATER BUDGET WEBMAP, SIGNUP FOR WATERSMART AND MORE...

THE WATER CONSERVATION PROGRAM OFFERS FREE AUDITS. WINTER IS THE TIME TO GET AN INDOOR AUDIT OR SIGN UP FOR A SPRINKLER SYSTEM AUDIT NEXT SUMMER. SIGN UP AT GREELEYGOV.COM/AUDITS OR CALL 970-336-4229

\*\*LEAK ALERT\*\* POTENTIAL LEAK HAS BEEN DETECTED PLEASE MAKE ANY NECESSARY REPAIRS

#### BILLING MESSAGES

#### QUESTIONS? CALL 970-350-9260

TO PAY YOUR BILL USING YOUR DEBIT OR CREDIT CARD WITH NO ADDITIONAL FEES, GO TO WWW.GREELEYGOV.COM/UTILITYBILL

PARA PAGAR SU FACTURA CON TARJETA DE DEBITO O CREDITO SIN CARGOS ADICIONALES, VAYA A: WWW.GREELEYGOV.COMUTILITYBILL

YOUR STORMWATER FEE IS CALCULATED USING THE SQFT SHOWN BELOW. QUESTIONS? CALL 970-336-4074
Stormwater SQFT: 12201

DETACH AT PERFORATION AND RETURN WITH YOUR REMITTANCE										
Account Number	Service Location	Due Date	Amount Due	Amount Enclosed						
222-22222-22	2000 GREELEY AVENUE CT	10/18/17	\$289.10							



City of Greeley Director of Finance P.O. Box 1928 Greeley, CO 80632-1928

GREELEY CUSTOMER 2 2000 GREELEY AVENUE CT GREELEY CO 80634

# **Capital Outlay Replacement - Sewer**

Project Number: 12509 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement StudiesRegions:0 - All WardsFund:Sewer Capital ReplacementLocation:Citywide

Project Status: Funded

#### **Description:**

Replacement of rolling stock, e.g., pickups, tractor backhoes, loaders, compressors, sewer jet units, dump trucks, utility vehicles, and other identified sewer replacement capital items. This budget includes capital outlay replacement items for both the WWT and WWC Divisions. Replacement of rolling stock that has reached the end of its useful life. Maintains the ability to perform daily tasks and handle emergency situations.

#### **Discussion of Progress:**

This budget includes capital outlay replacement items for both the WWT and WWC Divisions

#### Justification:

Replacement of rolling stock that has reached the end of its useful life. Maintains the ability to perform daily tasks and handle emergency situations.

		Previous 3		2023 Revised							
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	Future	<b>Grand Total</b>
Revenue											
	Fund Balance	31,628	-	455,192	974,670	843,115	285,828	128,926	170,876	887,227	3,777,462
5801	Sales Of Fixed Assets	-7,228	-	-	-	-	-	-	-	-	-7,228
Total	Revenue	\$24,400	-	\$455,192	\$974,670	\$843,115	\$285,828	\$128,926	\$170,876	\$887,227	\$3,770,234
Expense											
8142	Construction Vehicles/Equipment	-	-	293,625	877,862	561,777	120,307	-	120,876	454,703	2,429,150
8144	Transportation/Vehicles	-	-	111,567	46,808	120,621	115,521	-	-	182,524	577,041
8149	Other Machinery And Equipment	4,167	-	50,000	50,000	160,717	50,000	128,926	50,000	250,000	743,810
8232	Project Management	20,233	-	-	-	-	-	-	-	-	20,233
Total	Expense	\$24,400	-	\$455,192	\$974,670	\$843,115	\$285,828	\$128,926	\$170,876	\$887,227	\$3,770,234
Net Total		-	-	-	-	-	-	-	-	-	-



# **Secondary Digesters Rehabilitation**

Project Number: 12746 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type: Sewer Replacement Treatment Regions: 0 - All Wards

Fund:Sewer Capital ReplacementLocation:WTRF 300 E 8TH STREETProject Manager:Cadee OakleafBudget Unit #:4134402830070000000000

Project Status: Funded

#### **Description:**

This project will include the design of and construction for rehabilitating the existing Secondary Digesters at the WTRF.

#### **Discussion of Progress:**

The project has been identified with a feasibility study planned in 2023. Project has been postponed due to budgetary constraints and planned for design in 2025 and construction in 2026.

#### Justification:

The existing digesters are past their anticipated lifespan and have some significant structural deficiencies. The tanks are necessary for storing digestate prior to dewatering. The tanks are also available as a holding tank that can serve as a buffer during emergencies or maintenance shutdowns. In addition, the tanks are a key component of the Phosphorus Side Stream Treatment process that is being designed. The tanks current conditions will be evaluated and a feasibility study will be completed to determine the best path forward for rehabilitating or replacing the tanks. Based on the results of the feasibility study, a design will be completed. The last phase of this project will include construction.

		Previous 3		2023 Revised						
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	Grand Total
Revenue										
	Fund Balance	-	-	145,000		- 381,000	2,170,000	-		- 2,696,000
Total	Revenue	-	-	\$145,000		- \$381,000	\$2,170,000	-		- \$2,696,000
Expense										
8202	Construction	-	-	-		-	2,000,000	-		- 2,000,000
8226	Permits, Fees, Etc	-	-	-		- 31,000	-	-		- 31,000
8229	Professional Services	-	-	125,000		- 300,000	100,000	-		- 525,000
8232	Project Management - Labor	-	-	20,000		- 50,000	70,000	-		- 140,000
Total	Expense	-	-	\$145,000		- \$381,000	\$2,170,000	-		- \$2,696,000
Net Total		-	-	-			-	-		



# **WTRF Additional Cake Hopper**

Project Number: 413New3 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type: Sewer Replacement Treatment Regions: 0 - All Wards

Fund: Sewer Capital Replacement Location: WTRF 300 E 8TH STREET

Project Manager: Cadee Oakleaf Budget Unit #: 413New11

Project Status: Funded

#### **Description:**

This project will install an additional cake hopper to store dewatered biosolids. It will include any upgrades (e.g. structural, piping, electrical, etc.) required to accommodate the new cake hopper.

#### **Discussion of Progress:**

A preliminary structural analysis has been completed in 2022 revealing that structural upgrades will be required. Construction is planned for 2024.

#### Justification:

When the original dewatering building was constructed, it was designed and allowed for the placement of a second hopper next to the existing. At the time, it was not installed due to the lower volumes of biosolids produced and the ability of one hopper to store them. Since then, biosolids production has increased alongside population growth, making the second hopper a necessity. Currently, the dewatering process is limited to about 40 hours a week due to solids storage volume in the one existing cake hopper. A second cake hopper will provide redundancy in case of maintenance needs on the existing cake hopper and will also provide additional storage volumes for the dewatered biosolids. Additional storage will allow for more biosolids to be processed each week, reducing the volume that needs to be stored ahead of dewatering, which in turns provides additional pre-dewatering storage space for emergencies and shutdowns.

		Previous 3		2023 Revised						
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										
	Fund Balance	-	-	-	2,642,140	-	-	-		- 2,642,140
Total	Revenue	-	-	-	\$2,642,140	-	-	-		- \$2,642,140
Expense										
8202	Construction	-	-	-	2,600,000	-	-	-		- 2,600,000
8229	Professional Services	-	-	-	20,000	-	-	-		- 20,000
8232	Project Management - Labor	-	-	-	22,140	-	-	-		- 22,140
Total	Expense	-	-	-	\$2,642,140	-	-	-		- \$2,642,140
Net Total		-	-	-	-	-	-	-		



# **Secondary Clarifier Upgrades**

Project Number: 413New6 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement TreatmentRegions:1- 16 St North/35 Ave EastFund:Sewer Capital ReplacementLocation:WTRF 300 E 8TH STREET

Project Manager: Cadee Oakleaf Budget Unit #: 413New9

Project Status: Funded

#### **Description:**

As part of the 2018 Master plan, it was identified that the secondary clarifier mechanisms need replaced due to their age and condition. In addition to replacement of the mechanisms, improvements to address issues with scum removal and solids short-circuiting in the clarifiers will be completed. Modeling of the secondary clarifier performance and inlet design alternatives will also be completed to help enhance performance of the clarifiers. This project will include the design and construction for the upgrades.

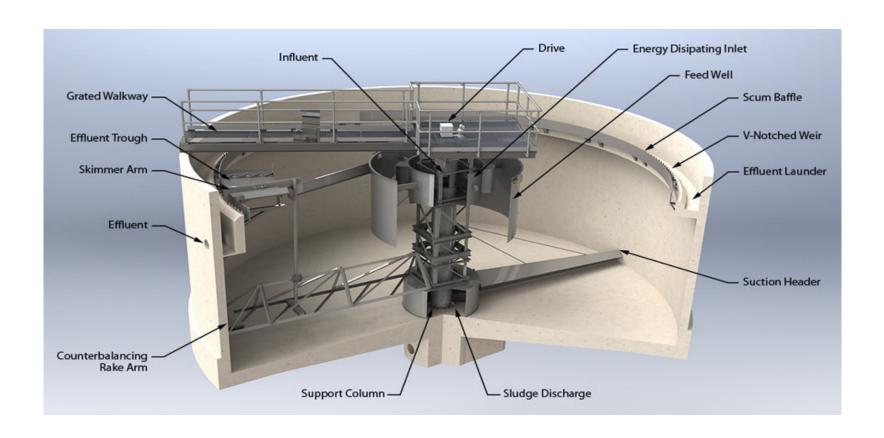
#### **Discussion of Progress:**

Design scheduled to start in 2026.

#### Justification:

This was identified in the 2018 Master Plan Phase 3 due to age and condition of equipment. Phase 3 is now being divided into projects needed for capacity expansion and due to age/condition. This will be completed in the timeline laid out in the Master Plan due to the age/condition of the equipment.

		Previous 3		2023 Revised							
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	202	25	2026	2027	2028	<b>Grand Total</b>
Revenue											
	Fund Balance	-	-	-		-	-	717,420	5,658,300	5,735,200	12,110,920
Total	Revenue	-	-	-		-	-	\$717,420	\$5,658,300	\$5,735,200	\$12,110,920
Expense											_
8202	Construction	-	-	-		-	-	-	5,500,000	5,700,000	11,200,000
8226	Permits, Fees, Etc	-	-	-		-	-	40,000	-	-	40,000
8229	Professional Services	-	-	-		-	-	627,500	90,000	-	717,500
8232	Project Management - Labor	-	-	-		-	-	49,920	68,300	35,200	153,420
Total	Expense	-	-	-		-	-	\$717,420	\$5,658,300	\$5,735,200	\$12,110,920
Net Total		-	-	-		-	-	-	-	-	-



# **WTRF Regulation 31 Improvements**

**Project Number:** 413New7 **Budget Year:** 2024

Division: **Council Priority: Sewer Capital Projects** Sustainable Infrastructure & Mobility

Project Type: Sewer Replacement Treatment Regions: Fund: Location: WTRF 300 E 8TH STREET

Sewer Capital Replacement

**Project Manager:** Unassigned Budget Unit #: Unassigned **Project Status:** Funded

#### **Description:**

Future updates to Regulation 31 will become active in 2026 and will be substantially decreasing the allowed nutrient content of wastewater leaving the Wastewater Treatment and Reclamation Facility and will require significant upgrades and improvements to the existing plant. The department plans to be earning Voluntary Incentive Program (VIP) credits toward this regulation between 2022 and 2026. These credits are obtained by obtaining effluent nutrient levels lower than the current regulation in effect and they are worth time extensions to meeting the new regulations. We can potentially earn up to 10 years of credits, and we are conservatively planning on earning 8 years of credits (allowing for something to go wrong). This means we need the improvements to be active at the end of 2033. We will revisit this planning horizon as the VIP credits are amassed in the intervening years. Well before the project start date we will know how many credits have been earned.

In 2024 the planning is that these improvements will be needed 5 or more years before expansions that would add capacity are needed. At this time, the department is putting the planned expansion project N769 beyond the 10-Year Planning horizon and anticipates the need to do the improvements to meet regulation 31 by the end of the 10-Year Planning horizon. In the intervening years we will continue to monitor plant capacity and assess the need for capacity expansion versus regulatory improvements to time these two projects.

#### **Discussion of Progress:**

Project is in the planning stage. Questions of the appropriate timing still need to be answered by future developments, currently planning project design starting in 2032 with construction in 2033.

#### Justification:

Plant improvements needed to address upcoming changes to Regulation 31 which will be reducing allowed nutrient in point source discharges to public waterways.

		Previous 3		2023 Revised								
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	2025	2026	5	2027	2028	Future	<b>Grand Total</b>
Revenue												
	Fund Balance			-		-	-	-	-	-	65,754,000	65,754,000
Total I	Revenue			-		-	-	-	-	-	\$65,754,000	\$65,754,000
Expense				-							,	-
8202	Construction			-		-	-	-	-	-	52,400,000	52,400,000
8226	Permits, Fees, Etc			-		-	-	-	-	-	150,000	150,000
8229	Professional Services			-		-	-	-	-	-	11,600,000	11,600,000
8232	Project Management -			-		-	-	-	-	-	1,080,000	1,080,000
9303	Public Art Fund			-		-	-	-	-	-	524,000	524,000
Total I	Expense			-		-	-	-	-	-	\$65,754,000	\$65,754,000
Net Total				-		-	-	-	-	-	-	-



# **WTRF Blower Replacement Phase 2**

Project Number: N599 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement TreatmentRegions:1- 16 St North/35 Ave EastFund:Sewer Capital ReplacementLocation:WTRF 300 E 8TH STREET

Project Manager: Cadee Oakleaf Budget Unit #: 413New8

Project Status: Funded

#### **Description:**

In 2017, a blower evaluation study was performed and it was decided that the project would be divided into two phases. In 2019, Water and Sewer replaced three of the existing six turbo blowers out at the WTRF as a part of Phase 1. Approximately a year and a half after Phase 1 was completed, it was determined that the existing K-Turbo blowers are failing faster than anticipated and another new blower is needed prior to Phase 2. Phase 1B will include an addition Sulzer blower to match the three new blowers added during Phase 1, adding reliability to the system prior to the implementation of Phase 2. Phase 2 will replace the remaining K-Turbo Blowers and MSCB Blowers to provide reliable operation and with sufficient capacity to meet permit requirements. The proposed Phase 2 improvements also include an expansion of the existing Blower Building.

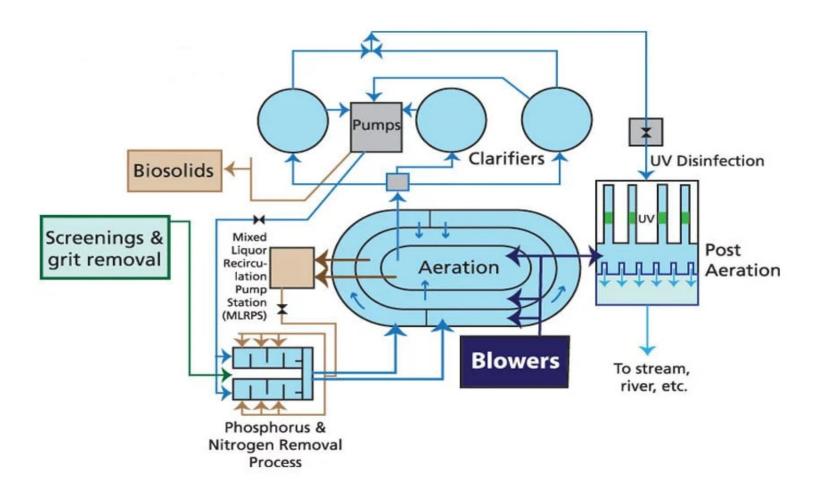
#### **Discussion of Progress:**

Design planned for 2028 with construction starting in 2029.

#### Justification:

The blower manufacturer (K-Turbo, Inc.) went out of business two years after the existing blowers were purchased. In the past few years, it has become very difficult to obtain replacement parts and timely service. The blowers are critical plant equipment which provide air (oxygen) to the mainstream biological treatment process (aeration basins). Troubleshooting and technical service is wholly dependent on one technician who resides in the Chicago area. It is uncertain as to how long he will continue to service the remaining K-Turbo blowers in the U.S.

		Previous 3		2023 Revised								
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	20	027	2028	Future	<b>Grand Total</b>
Revenue												
	Fund Balance			-		-	-	-	-	900,000	6,900,000	7,800,000
Total I	Revenue	-		-		-	-	-	-	\$900,000	\$6,900,000	\$7,800,000
Expense												_
8202	Construction	-		-		-	-	-	-	-	6,615,000	6,615,000
8226	Permits, Fees, Etc			_		-	-	-	-	50,000	-	50,000
8229	Professional Services			-		-	-	-	-	800,000	200,000	1,000,000
8232	Project Management - Labor			-		-	-	-	-	50,000	85,000	135,000
Total I	Expense	-		-		-	-	-	=	\$900,000	\$6,900,000	\$7,800,000
Net Total		-		-		-	-	-	-	=	-	-



## **WTRF Stream Temperature Assessment**

Project Number: 12669 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

**Project Type:** Sewer Replacement Treatment **Regions:** 1- 16 St North/35 Ave East

Fund: Sewer Capital Replacement Location: 300 E 8th St

Project Manager: Cadee Oakleaf Budget Unit #: 41344028301000000000000

Project Status: Funded

#### **Description:**

This project is a continuation of work that was begun in 2015 in which a pre-hearing statement was prepared and submitted to the Colorado Department of Public Health & Environment (CDPHE). The statement was based in part on a lack of evidence relating in-stream temperature to aquatic life health. It outlines the next steps to eliminate 'uncertainty' in the local stream temperature standards. The ongoing assessment study further investigates the 'uncertainty' regarding the water quality stream standards necessary to protect current and future uses. Proposed work includes additional temperature data assessment, aquatic life data collection and analysis, feasibility studies that analyzes possible alternative temperature management strategies, and regulatory support. Additional fish and benthic data may need to be collected over the next few years per CDPHE's recommendations. Subcontractors may need to be hired to assist with sampling and data analysis.

#### **Discussion of Progress:**

Work in 2021-2022 has been focused on CDPS Permit Renewal, involvement in Water Quality regulatory workgroups, participating in Water Quality hearings at the State level, and continuing ambient water quality monitoring.

#### Justification:

Failure to meet the current water quality stream standards for temperature may result in the WTRF having to spend several million dollars to design and construct evaporative cooling towers or some other technology to effectively cool the final treated effluent from the wastewater treatment plant prior to its discharge into Segment 12 of the Cache la Poudre River. This technology would be required to meet the current stream standards for temperature. Plant data collected over the past several years indicate that the plant's treated effluent exceeds the current stream standards for this segment of the River often throughout the year. A temporary modification request was granted in 2015 by the CDPHE. The ultimate goal of this study is to receive site specific standards for stream temperature, a variance, or possibly do water quality trading with an industry after December 2020.

		Previous 3		2023 Revised							
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	Future	<b>Grand Total</b>
Revenue											
	Fund Balance	176,063	4,144	52,000	55,000	55,000	105,000	55,000	55,000	275,000	832,206
Total I	Revenue	\$176,063	\$4,144	\$52,000	\$55,000	\$55,000	\$105,000	\$55,000	\$55,000	\$275,000	\$832,206
Expense											
8229	Professional Services	159,600	4,144	50,000	50,000	50,000	50,000	50,000	50,000	250,000	713,743
8232	Project Management	16,463	-	-	-	-	-	-	-	-	16,463
8244	Capital Equipment >\$5,000	-	-	-	-	-	50,000	-	-	-	50,000
Total	Expense	\$176,063	\$4,144	\$52,000	\$55,000	\$55,000	\$105,000	\$55,000	\$55,000	\$275,000	\$832,206
Net Total		-	-	-	-	-	-	=	=	-	-

# **General Rehabilitation Projects**

Project Number: 12545 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement TreatmentRegions:1- 16 St North/35 Ave EastFund:Sewer Capital ReplacementLocation:WTRF 300 E 8TH STREETProject Manager:Cadee OakleafBudget Unit #:41344028300700000000000

Project Status: Funded

#### **Description:**

Includes a variety of projects that includes such work as the replacement, rehabilitation, or overhaul of large pumps, valves, actuators, motors, centrifuge units, gear boxes, air handling units, heat exchangers, bar screens, variable frequency drive units, turbo blowers, plant road repairs, landscaping rehab for storm water program, roll-up doors, uninterrupted power supply units (UPS), equipment sensors, UV disinfection lamps & ballasts, building roofs, chemical tanks, etc.

#### **Discussion of Progress:**

This comprises of general rehabilitations projects, including repair and replacement, required at the WTRF. Projects that have been completed this year include both planned projects and emergency rehabilitation projects. Projects that have been completed in 2021 include UV gate gear boxes and Rotork actuator replacement, influent pump re-build, and some routine on-going rehabilitation work. Projects in progress include LSG Vault rehab, various UV maintenance and upgrades, influent wet well cleanout, high-voltage breaker repair, WAS total solids analyzer installation, digester transfer macerator, centrifuge feed pumps, and routine on-going rehabilitation work.

#### Justification:

Manufacturer's recommendations, equipment performance, downtime, and repair history; equipment life expectancies; inability to find replacement parts, etc. all enter into the decision as to whether or not a particular item needs to be replaced, repaired, or refurbished. Rehab funds are budgeted annually so that the plant maintenance staff can stay abreast of the need to address aging equipment and infrastructure at the WTRF. Not replacing aging or energy-consuming equipment in a timely manner may result in higher O&M costs, excessive downtime for repairs, and treatment process disruptions. These could result in potential permit non-compliances.

		Previous 3		2023 Revised							
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	Future	<b>Grand Total</b>
Revenue											
	Fund Balance	2,024,269	191,451	1,282,020	506,000	621,000	618,000	766,000	436,000	1,790,000	8,234,740
51**	Sewer Rates	2,842	-	-	-	-	-	-	-	-	2,842
Total I	Revenue	\$2,027,111	\$191,451	\$1,282,020	\$506,000	\$621,000	\$618,000	\$766,000	\$436,000	\$1,790,000	\$8,237,581
Expense											
8202	Construction	661,436	104,412	371,300	10,000	60,000	145,000	270,000	20,000	100,000	1,742,148
8208	Furniture, Fixtures & Equipment	130,351	-	89,647	95,000	50,000	50,000	50,000	50,000	250,000	764,998
8216	Miscellaneous	40,167	-	-	-	-	-	-	-	-	40,167
8224	Operating Supplies	201,231	-	-	-	-	-	-	-	-	201,231
8229	Professional Services	223,377	72,880	271,147	301,000	151,000	342,000	316,000	291,000	960,000	2,928,403
8232	Project Management	184,749	-	-	-	-	-	-	-	-	184,749
8244	Capital Equipment >\$5,000	576,246	14,159	524,926	65,000	320,000	36,000	80,000	20,000	130,000	1,766,331
Total	Expense	\$2,027,111	\$191,451	\$1,282,020	\$506,000	\$621,000	\$618,000	\$766,000	\$436,000	\$1,790,000	\$8,237,581
Net Total		-	-	-	-	-	-	-	-	-	-



# **Instrumentation and Controls - Wastewater**

Project Number: 12557 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement TreatmentRegions:0 - All WardsFund:Sewer Capital ReplacementLocation:Citywide

Project Status: Funded

#### **Description:**

This program replaces and refurbishes instruments and control systems known as SCADA (Supervisory Control and Data Acquisition). These devices are used to operate collections and the WPCF, including recording data required by regulation and measurement and control of various treatment equipment. This is an on-going project.

#### **Discussion of Progress:**

Annual program

#### Justification:

Instrumentation and controls wear out or become obsolete over time, requiring replacement or major refurbishment. Refurbishment typically occurs at the facilities of the local supplier or manufacturer. City instrumentation technicians perform the replacement projects. This account includes instruments at all wastewater collection and treatment facilities.

		Previous 3		2023 Revised							
GL Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	Future	<b>Grand Total</b>
Revenue											
	Fund Balance	116,874	-	100,081	217,800	217,800	217,800	217,800	217,800	1,089,000	2,394,955
Total I	Revenue	\$116,874	-	\$100,081	\$217,800	\$217,800	\$217,800	\$217,800	\$217,800	\$1,089,000	\$2,394,955
Expense											
8202	Construction	3,709	-	-	30,000	30,000	30,000	30,000	30,000	150,000	303,709
8204	Contingency	-	-	-	19,800	19,800	19,800	19,800	19,800	99,000	198,000
8208	Furniture, Fixtures &	5,264	-	17,081	73,000	73,000	73,000	73,000	73,000	365,000	752,345
8216	Miscellaneous	-	=	-	5,000	5,000	5,000	5,000	5,000	25,000	50,000
8224	Operating Supplies	67,206	-	30,000	-	-	-	-	-	-	97,206
8229	Professional Services	36,178	-	33,000	50,000	50,000	50,000	50,000	50,000	250,000	569,178
8232	Project Management	57	-	-	-	-	-	-	-	-	57
8244	Capital Equipment >\$5,000	4,421	-	20,000	40,000	40,000	40,000	40,000	40,000	200,000	424,421
Total	Total Expense \$116,874 -		\$100,081	\$217,800	\$217,800	\$217,800	\$217,800	\$217,800	\$1,089,000	\$2,394,955	
Net Total		-	-	-	-	-	-	-	-	-	-

# **WTRF Primary Treatment Phase 2**

Project Number: 12667 Budget Year: 2024

**Division:** Sewer Capital Projects **Council Priority:** Sustainable Infrastructure & Mobility

Project Type:Sewer Replacement TreatmentRegions:1- 16 St North/35 Ave EastFund:Sewer Capital ReplacementLocation:WTRF 300 E 8TH STREETProject Manager:Cadee OakleafBudget Unit #:41344028300000000000000

Project Status: Funded

#### Description:

This project includes upgrades identified in the 2018 Master Plan. The project will entail upgrading the headworks and primary treatment processes. It will also include the addition of a new blower to provide redundancy to the existing failing equipment. A new phosphorus side stream treatment process is being added to meet nutrient limits. The project also includes upgrades to the existing centrate side stream treatment process.

#### **Discussion of Progress:**

Due to financial constraints the timing of the project has been adjusted for construction in 2024.

#### Justification:

Phase II Primary Treatment improvements were identified in the 2018 WPCF Masterplan. Much of the improvements with Phase II were identified in the condition assessment. Many of the items including influent pumps and primary clarifier improvements have already been identified in CIP but were consolidated into one project.

		Previous 3		2023 Revised						
<b>GL</b> Account	Description	Years	2022 Actual	Budget	2024	2025	2026	2027	2028	<b>Grand Total</b>
Revenue										_
	Fund Balance	87,715	105,218	2,025,293	43,201,650	80,000	-	-		- 45,499,876
Total Revenue		\$87,715	\$105,218	\$2,025,293	\$43,201,650	\$80,000	-	-		- \$45,499,876
Expense										_
8202	Construction	-	-	-	40,600,650	-	-	-		- 40,600,650
8216	Miscellaneous	-	-	-	1,000	-	-	-		- 1,000
8229	Professional Services	63,175	105,218	1,958,293	2,500,000	-	-	-		- 4,626,686
8232	Project Management	11,522	-	-	-	-	-	-		- 11,522
Total	Expense	\$87,715	\$105,218	\$2,025,293	\$43,201,650	\$80,000	-	-		- \$45,499,876
Net Total		-	-	-	-	-	-	-		-

