City of Ashtabula

Ashtabula City Council
Public Works / Public Utilities / Cable / Schools Committee Meeting
Tuesday, August 27, 2024 at 8:30 AM
Council Chambers
4230 Lake Avenue

Agenda

1. **Opening of Committee Meeting**
   a. Call to Order
   b. Roll Call
   c. Sunshine Law Certification
2. **Welcome and Acknowledgement of Visitors**
3. **Guest Presentation**
   a. Chris Tolnar, GPD Group City of Ashtabula Capital Improvement Plan
4. **City Manager's Report**
5. **Water Pollution Control Report**
6. **Public Works Report**
   a. Water Pollution Control Update
7. **Old Business**
   a. Ordinance Update
8. **New Business**
9. **Next Meeting**
   a. September 24, 2024
10. **Adjournment**

City of Ashtabula

Capital Improvement Plan

August 2024

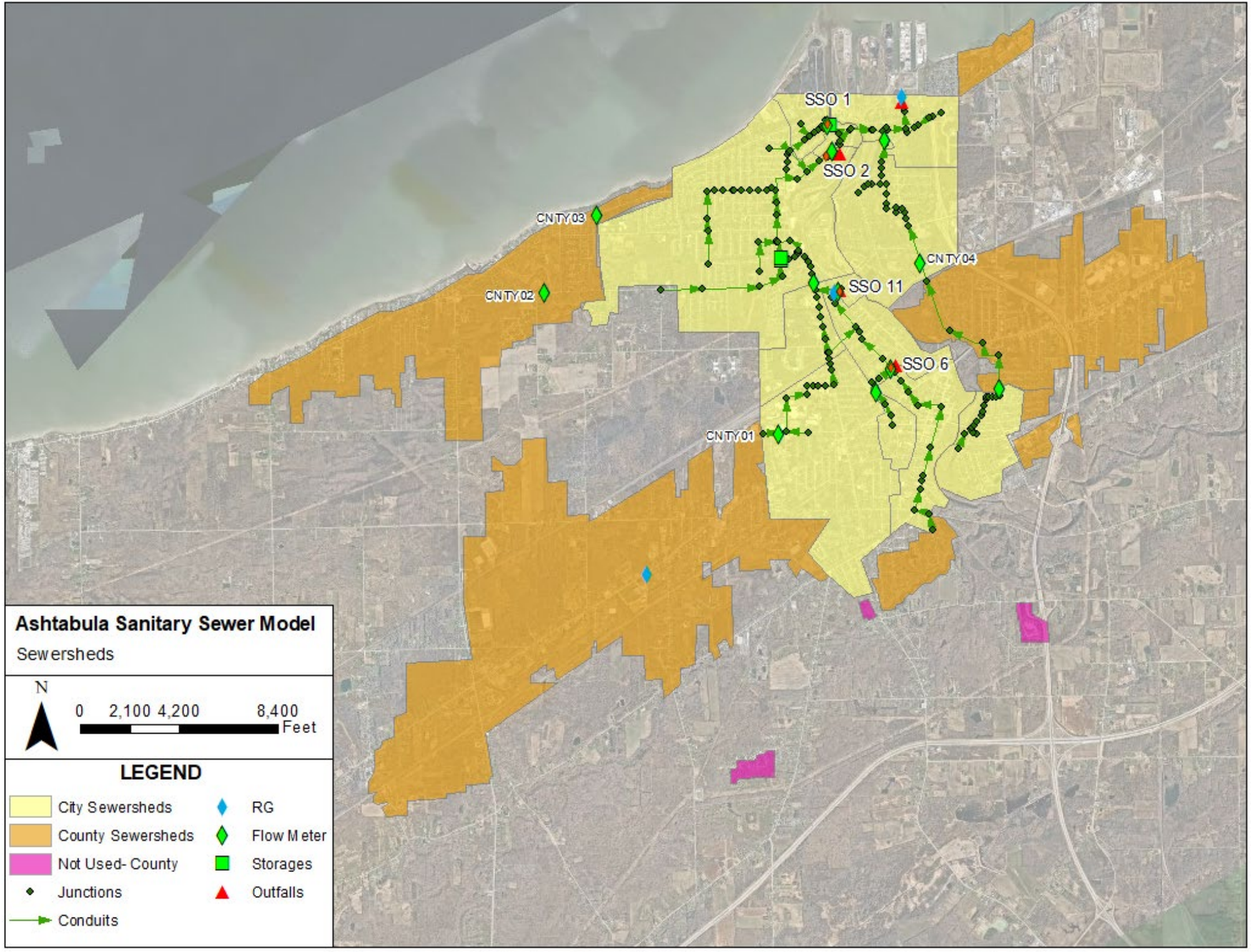
GPD GROUP®

Agenda

1. Summary of Work
2. Wastewater Treatment Plant (WWTP) Improvements
3. Pump Station Improvements
4. Sanitary Sewer Collection System Improvements
5. Capital Improvement Plan (CIP) Cost Summary
6. Proposed Sewer Rate Analysis
7. Continual Progress
8. Q & A

Summary of Work

Ashtabula Service and Treatment Area



Summary of Work

- Condition assessment of the Wastewater Treatment Plant (WWTP).
- Development of phased Capital Improvements Plan (CIP) WWTP improvements required to maintain compliance with NPDES permit discharge limits and schedule of compliance.
- Targeted flow metering and sanitary sewer system modeling to support elimination of Sanitary Sewer Overflows (SSOs).
- Development of sanitary sewer collections system storage and improvement alternatives to address SSOs and gain compliance with OEPA requirements.
- Planning level cost estimating for improvements.
- Prioritized schedule of improvements for completion within the anticipated OEPA compliance period.
- Rate analysis and recommendations for funding improvements.

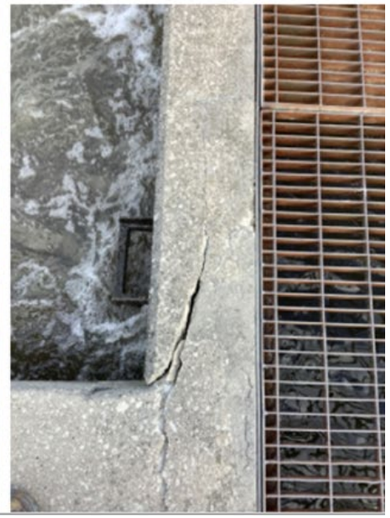
WWTP Improvements

WWTP Improvements – Health & Safety

- Repair Admin Building trip hazards (flooring).
- Replace hand railing systems at all structures (except the primary settling and grit tanks).
- Perform Arc Flash Study.
- Concrete bridge replacement at Grit Building.
- Replace Pre-aeration grating and handrail.
- Ventilation for Grit Building (meet code).
- Replace leaking electrical vault and conduit (flooding the tunnels).
- Improvements to potable water system (meet code).
- Ventilation for Blower Building (meet code).
- Replace Emergency Exit Signs & Lighting (meet code).

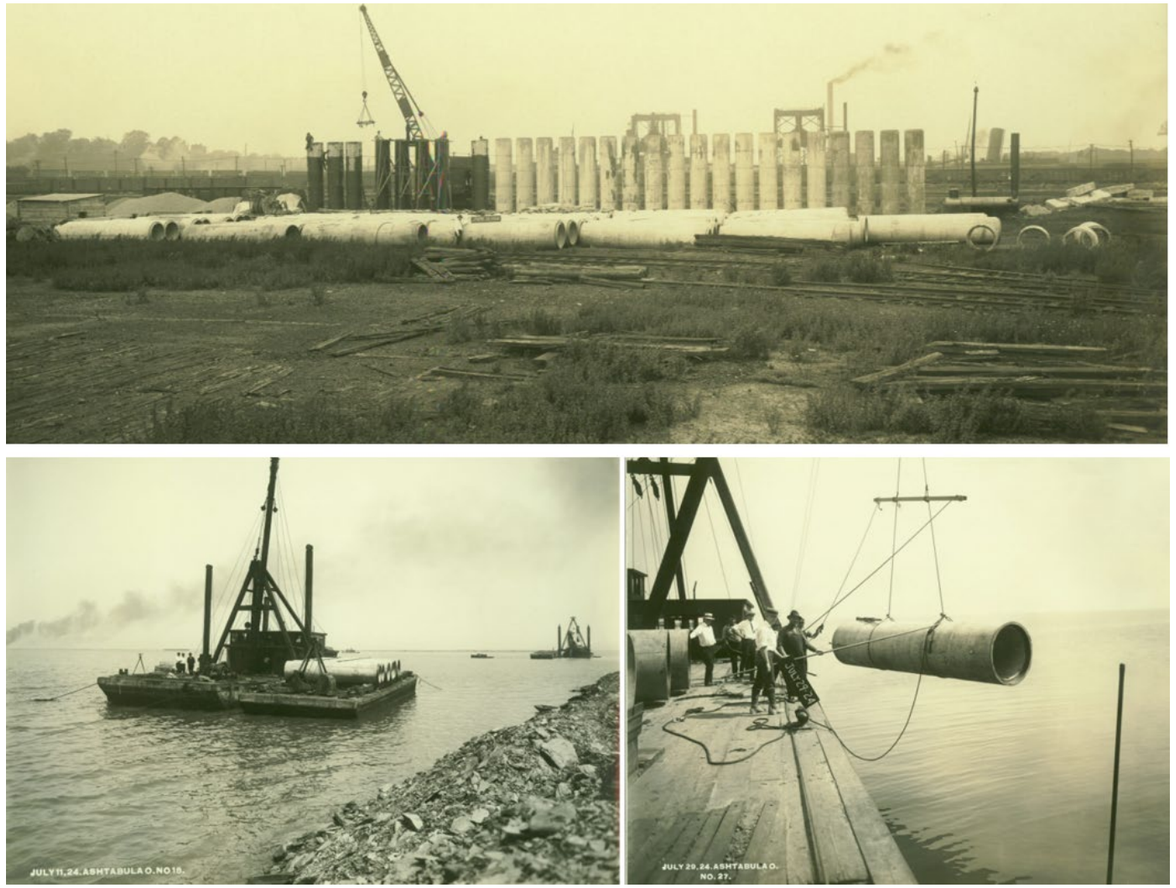
WWTP Improvements – Operational (CIP) Improvements

- Digester Improvements
  - New lids #1 & 3
  - Complete Rehabilitation of #2
- Digester Gas Handling Improvements
- Sludge Dewatering System Replacement
- Pre-aeration Structural Improvements
- Aeration Blower Replacement
- Chemical Feed Improvements
- Grit Removal Modifications



WWTP Improvements – Operational (CIP) Improvements

- Aeration Improvements
- Non-potable / Process Water Improvements
- Raw Sludge Building Electrical and Roof Repair
- Administration Building Mechanical, Electrical, Plumbing & Structural Repair
- Chlorine Building Roof and Electrical
- Outfall Improvements
- Plant-wide electrical improvements (SCADA, hazardous area replacement, gas detection, sensors, generator replacement, etc.



WWTP Improvements – Operations and Maintenance

- Remove Obsolete Piping / Equipment
- Repainting
- Pipe Labeling
- Valve / Equipment Labeling, Exercising, Removal, and Replacement Program
- Valve / Equipment Asset Management Plan
- O&M Manual Updates
- Generator Maintenance
- Replace / Maintain Sump Pumps Throughout the Plant

Pump Station Improvements

Pump Station Improvements – Health & Safety

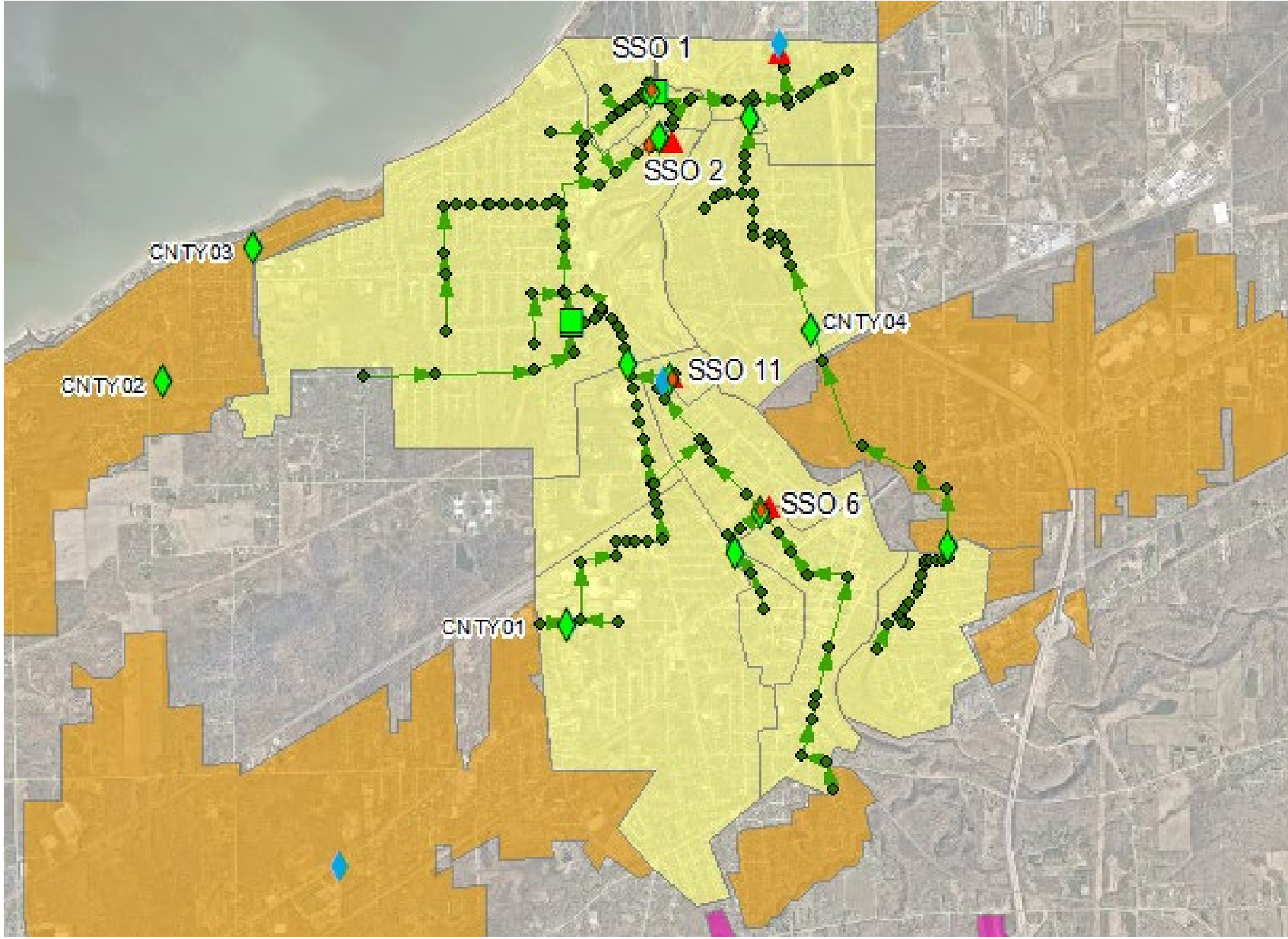
- Fall Prevention Railing & Equipment
- Overall Pump Station SCADA Improvements & Standardization

Pump Station Improvements – Operational (CIP) Improvements

- Building waterproofing
- Detailed structural analysis and abandonment of outdated assessments
- Door replacements (security, protection of assets)
- Electrical and controls improvements
- Generator modifications and improvements
- Grating repair/replacements
- HVAC improvements
- Investigations into operational optimization of the facilities
- Piping replacements
- Pump and guide rail replacements
- Security improvements
- Site drainage improvements
- Structural inspections
- Access hatch replacements

Sanitary Sewer Collection System Improvements

Sanitary Sewer (SS) Model Sewersheds



Improvements Summary – Collections System

PHASE 1

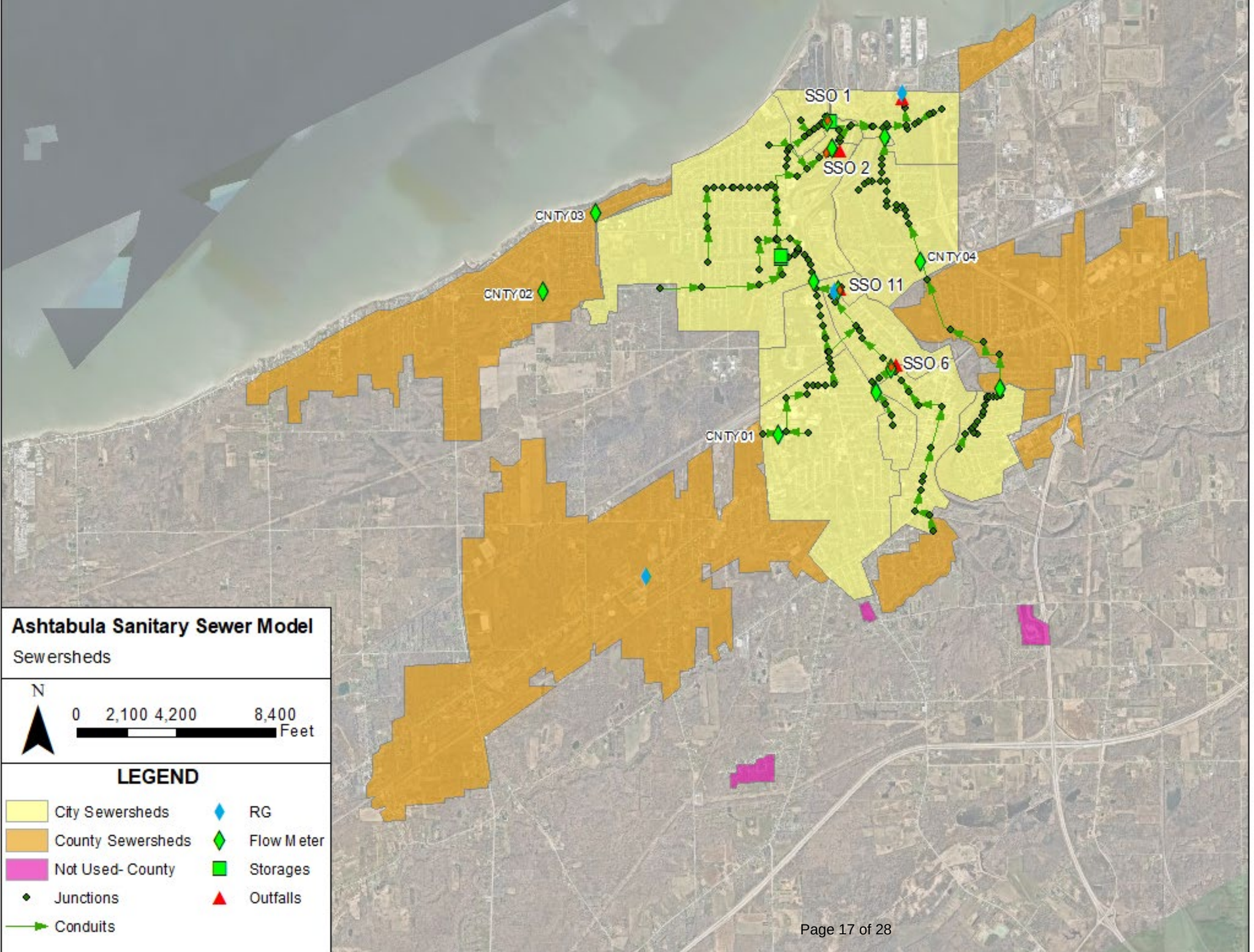
Eliminate SSO 1 & 2

- Largest flow and volume contributors
- Morton Pump Station and Forcemain Improvements
  - Morton Pump Station would need improvements to meet existing conditions in 5 or less years
  - Siphon has seen issues and would likely need major rehabilitation within the next 5 years
- Equalization Basin to protect the WWTP (Gravity discharge, no pump station)
- Cost for Pump Station and Forcemain ~$38 million; EQ Basin ~$20 million
- Evaluate Improvements and effects on SSO 6 & 11

PHASE 2

Eliminate SSO 6 & 11

- Update Model with Phase 1 improvements to optimize basin sizing (most likely reduce basin size)
- Install Equalization Basins near SSO 6 & 11
- Cost (approximately $5 per gallon)
- SSO 6 ~$3 million
- SSO 11 ~ $2.2 million



County Flow Impacts - Sewersheds

- Agreement with the County is Annual Average Daily Flow of 1.2 MGD.
- Future plans to provide additional monitoring at connection points.
- If agreed upon Average Daily Flow is exceeded additional rates may apply – Not a source of revenue to offset rates and necessary projects.

CIP Cost Summary

Cost Summary

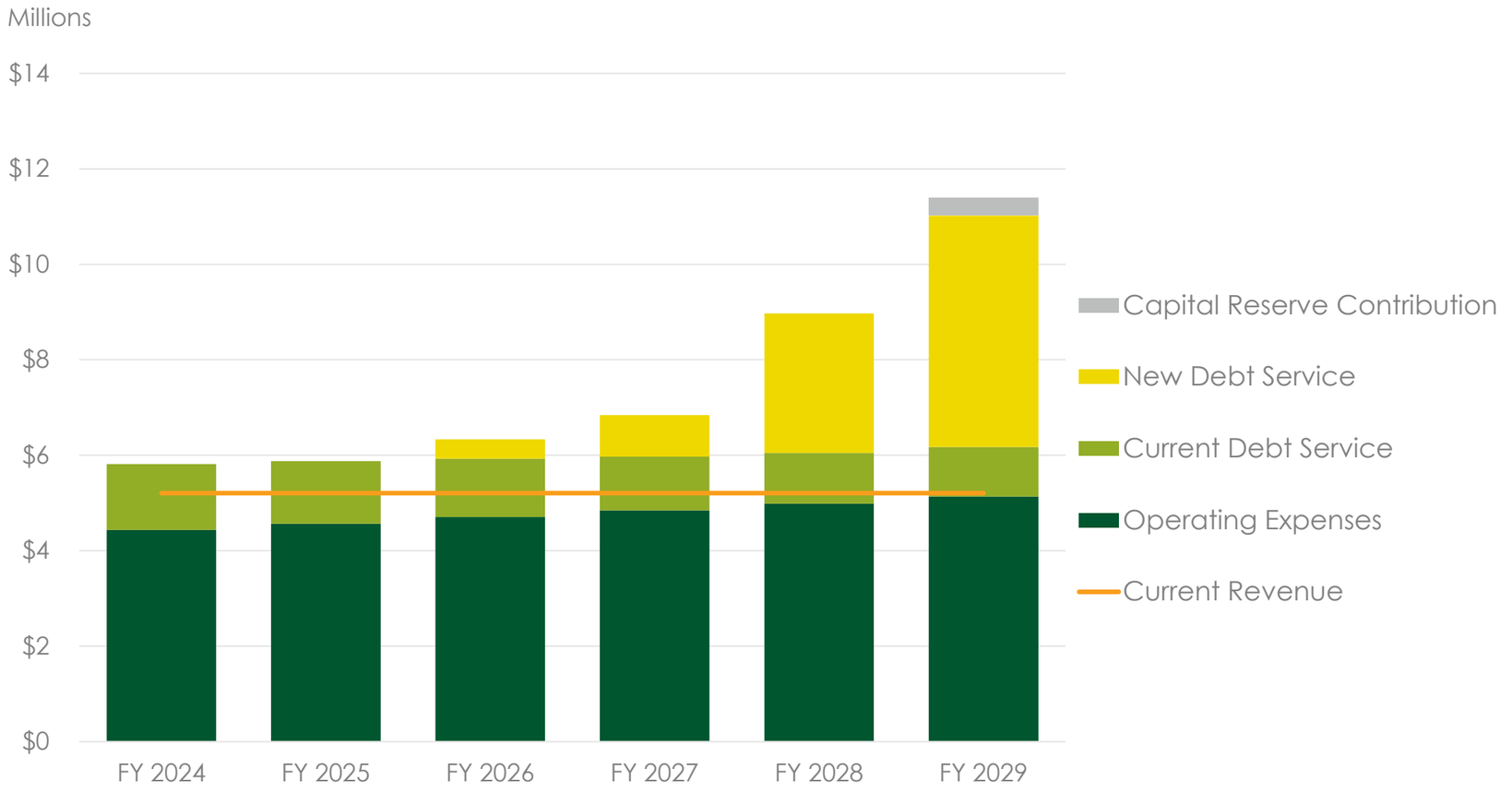
Priority Ranking	Capital Improvement Project	Opinion of Probable Cost
1	Health & Safety Improvements	$2,800,000
2	Collection System SSO 1 & 2 Removal Improvements (Phase 1)	$58,000,000
3	Digester Improvements	$13,000,000
4	Solids Dewatering Redundancy Improvements	$2,000,000
5	Electrical, Instrumentation, and Controls Improvements	$2,100,000
6	Fleet Vehicle Acquisitions	$1,400,000
7	Pre-Aeration Tank Improvements, Phase 1 & 2	$6,400,000
8	Aeration and Grit Blower Replacement	$3,000,000
9	Collection System SSO 6 & 11 Removal Improvements (Phase 2)	$5,200,000
10	Chemical Feed Improvements	$400,000
11	Grit Removal Modifications	$4,200,000
12	Aeration Improvements	$1,600,000
	Total:	**$100,100,000**

Proposed Sewer Rates Analysis

Current Sewer Rates with New Debt Service

- Revenue not meeting current O&M expenses and debt service.
- Overall consumption forecast flat from 2025-2029.
- Revenue requirements increase every year (inflation affects O&M expenses, plus existing debt service).
- Required/needed collection and treatment system investment increases revenue requirements.
- Loans will be used to finance capital projects – spreads debt service over life of improvements.

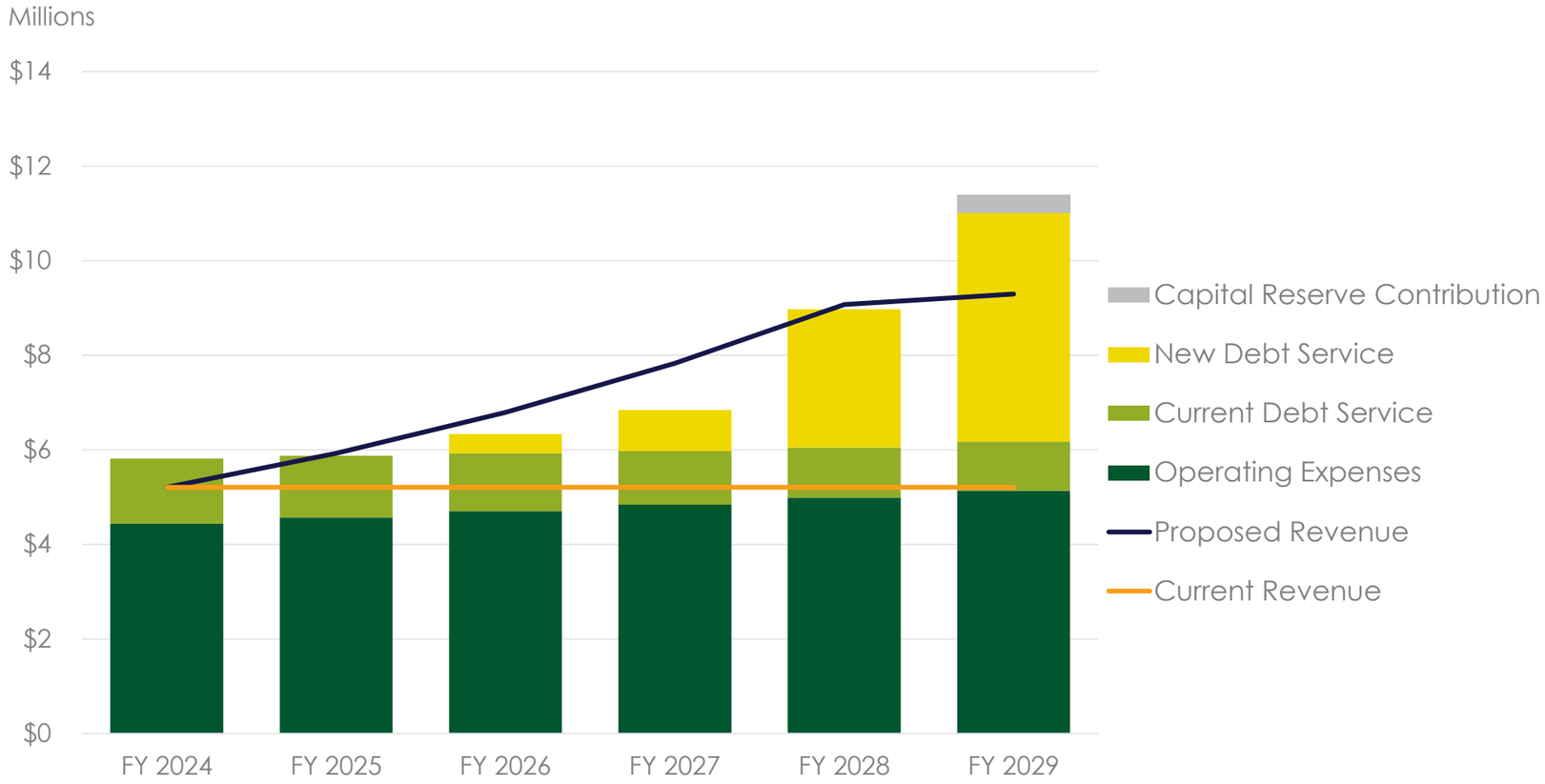
Revenue Requirements and Current Revenue



Proposed Sewer Rates

- Increased revenue needed for:
  - Meeting current and future O&M and debt service.
  - Capital Reserve Fund for emergency/unplanned capital projects (utility best practice goal is 2% of system original costs).
  - O&M Reserve Fund (utility best practice is 90 days of O&M expenses).
- Consistent increases for 2025-2028.
- Provide sufficient revenue to support increased O&M costs and the first five years of the capital improvement plan.

Revenue Requirements, Current Revenue, and Proposed Revenue



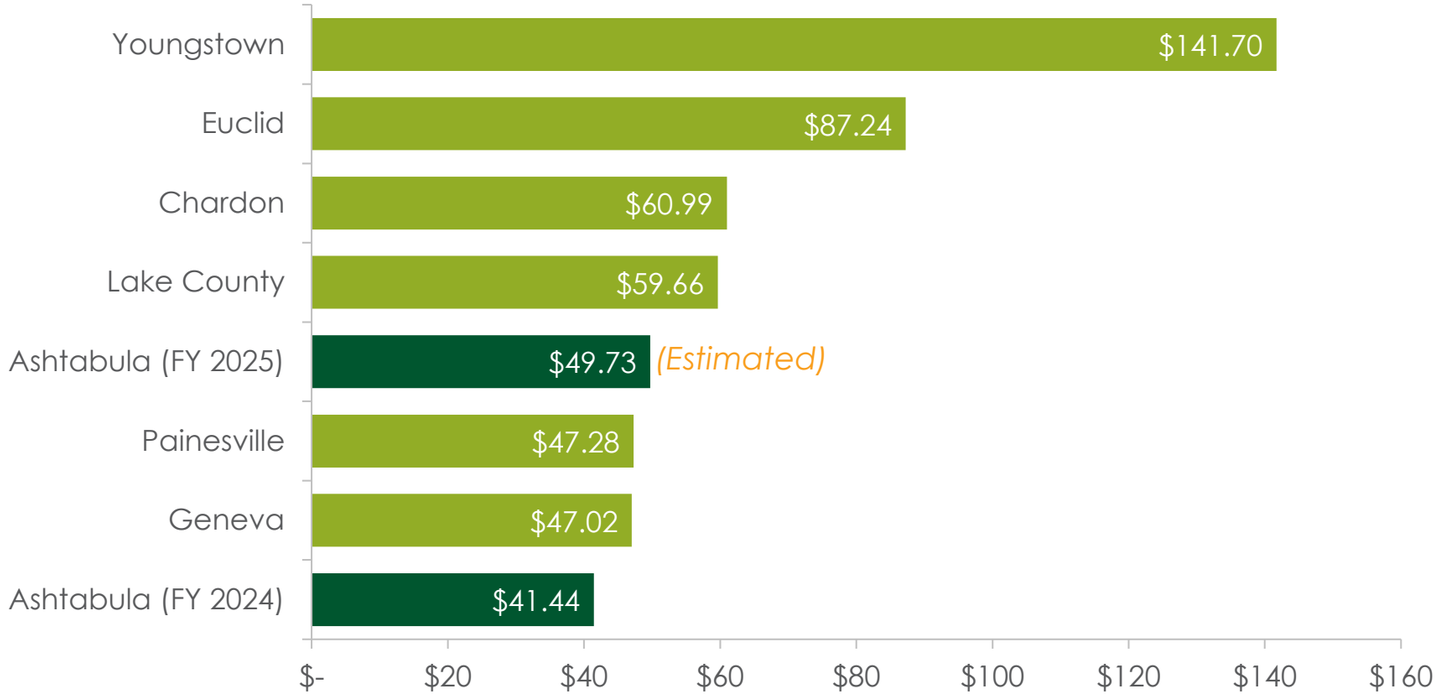
Proposed Sewer Rates

- Median user – Average increase of roughly $5 per month each year from 2025-2027.
- Keeps Ashtabula sewer bill lower than half of comparison utilities.
- Comparison utilities contemplating increases – All experiencing higher costs.

Residential Bimonthly Bill Impact

			Bimonthly Bill			
Customer	**Usage (cubic feet)**	**Current**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Small User	400	$27.12	$39.05	$39.05	$46.86	$56.24
Median User	***800***	***$41.44***	***$49.73***	***$59.67***	***$71.61***	***$85.93***
Large User	1,200	$55.76	$66.91	$80.29	$96.35	$115.62
Median User ($ Inc)	***800***		***$8.29***	***$9.95***	***$11.93***	***$14.32***

City of Ashtabula Bimonthly Bill Comparison (2024)



Continual Progress

Continual Progress

Water Pollution Control Improvements

- Started in 2012 with numerous equipment and structure failures.
- Improvements thus far include rehabilitation of final and primary settling tanks, electrical updates, and installation of new UV disinfection system.

Tivision Place Pump Station Replacement

- System needed replacement due to age and lack of proper function.
- The replacement eliminates stagnant sewage, reduces the City's frequent repairs, and resolved issues flagged by the Ohio EPA.

Program Management

- Providing capital planning, initiation, and funding assistance for various city projects since 2011.
- Planned, designed, and delivered construction administration for several sewer related projects.

Q&A

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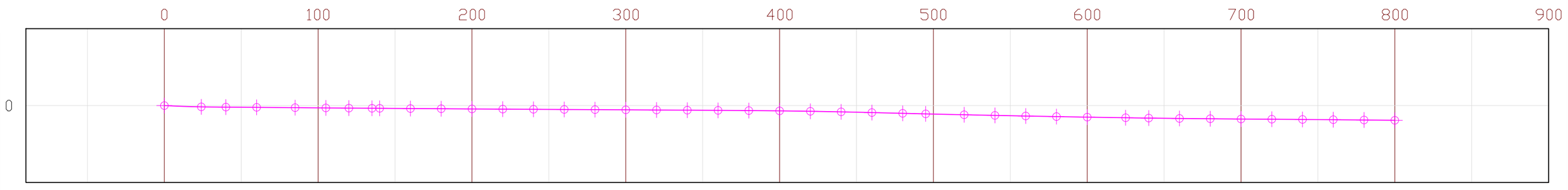
City Council Public Works Committee Meeting – 8/27/24 8:30 am

Water Pollution Control Update

- **Plant**
  - Requested appropriation of additional funds to cover chemical (sodium aluminate) purchases for the remainder of the calendar year.
  - Matt Copeland has been awarded the posted maintenance mechanic position. Tim Seymour has been awarded the posted swing shift operator position. Both employees moved to their new positions on 8/19/24. Mr. Seymour will complete three weeks of plant training prior to be placed on shift.
  - Posted Assistant Superintendent / Director of Pretreatment and Lead Operator (First Shift) positions. Lead Operator (First Shift) awarded to Doug McClure.
  - GPD is working on engineering and design for the relocated outfall. Gyroscope efforts were successful.
  - Follow up meeting with OEPA to discuss Findings and Orders, scheduled for 8/21/24.
  - Facility toxicity analysis and testing completed the week of August 12th – 16th.
  - Ordered a replacement Moyno centrifuge feed pump from Shultz Fluid Handling.
  - Sewer camera cable sheathing was damaged during normal video inspection operation. The replacement camera cable was ordered through Mtech and is currently on backorder.
  - Installed rebuilt blower on the east heat exchanger, installed new coupling guards, and placed the unit in service. The west heat exchanger is scheduled for annual cleaning in the next month.
  - Primary settling tank 2 is out of service for annual PM.
  - Return sludge pump #1 – Motor bearing failure. Motor needs to be removed from service and sent out for evaluation / rebuild.
- **Collection System**
  - West 13th and Allen Avenue storm repair. Project is scheduled to begin 8/26/24.
  - Tivision Pump station – Working to procure replacement cutter heads and impellers for the grinder pumps.
  - 826 Bar Screen – replacement hand rail for screen access point is being constructed by Kelly's welding.
- **Misc. –**



Sharewell HDD
Downhole Products & Services

Sharewell HDD
21315 W. Hardy Rd.
Houston, TX 77073

Notes:

- Elevation offset/correction required
- For details of point locations refer to data table

Ashtabula Sewer Locate Project

www.handhent.com

07/23/2024

Legend

Surveyed Location