



NEW Water Update

Municipal & Industrial Partner Meeting

June 22, 2023



Today's Agenda

- Welcome / Updates – Tom Sigmund, Executive Director
- Strategic Plan Update – Tom Sigmund
- Facility Plan Update – Nathan Qualls, Director of Technical Services
- Siphon Project – Lisa Sarau, Staff Engineer
- Interceptor Partnership – Sharon Thieszen, Field Services Manager

Executive Director Updates

- 2024 Budget
- I&I Assembly Bill Update (private property)



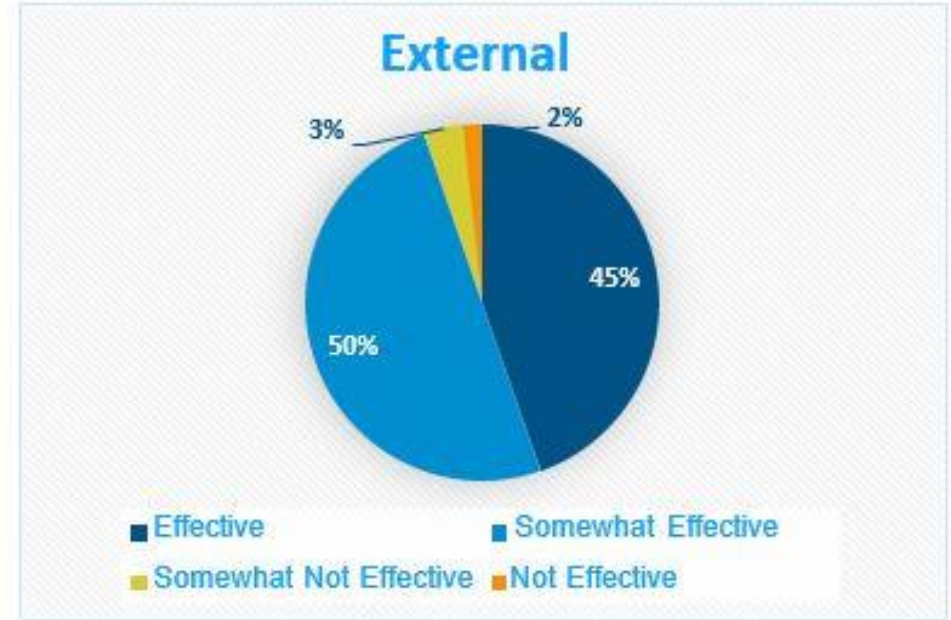


Strategic Planning Research Findings Summary

NEW Water



Mission Effectiveness



Mission Statement:

NEW Water is a water resource utility serving Northeast Wisconsin through pollution prevention, operational innovation, and community outreach.

External Mission Feedback

- The large majority from the survey -
“NEW Water does an excellent job.”
- There’s a need to increase confidence around the mission that financial impact is being taken into consideration with every decision.
- More direct outreach to municipal customer residents is desired.
 - Have stepped up municipal communication, and this has been successful for the most part (is there opportunity to engage some municipalities more deeply?).
 - Now do this more broadly to reach the larger residential audience. Share more about who you are, what you do, how you do it efficiently, etc. Also address that rates will be increasing and share the “why.”



External Perspective

4 Categories Rise to the Top (listed in order)

STRENGTHS



1. The core/primary service NEW Water provides
2. Communication, education & outreach
3. Watershed approach & working collaboratively
4. Leadership & dedicated team

Quotes

- “Treating waste. Keeping Bay clean.”
- “Willingness to educate the public”
- “Protecting the watershed”

What to be mindful of as we look out 3 years

CHALLENGES



Top Trends

- Costs/funding
- Extraordinarily large CIP (supply chain, costs, keeping focus when there's a lot to tackle)
- Talent pool - keep attraction & retention strong
 - Succession planning/retirements
 - Consider vendors/consultants as well
 - Perceptions surrounding DEIB; greater diversity is coming into Green Bay workplaces closer to 5-10 years out
- Regulations (largely out of our control, but community engagement and influence could pose a challenge)
- Public awareness and support: Broad trust/assurance that NEW Water operates as efficiently/cost-effectively as possible



Top 6 Highest Rated Strategic Priorities (out of 12)



Recruiting and retaining skilled staff



Maintenance and care of existing assets



Strong emphasis on reliable services



Future growth planning and capital projects



Strong relationships with communities in the service area



Cost effectiveness of services/financial sustainability



External: In 3 years, I would like NEW Water to focus efforts on...

Cost of Service

- 17 out of 48 comments mentioned cost (35%)
- “Continuing with improving wastewater treatment operations and efficiencies so customers do not continue to see significant annual rate increases.”

Other Noted Trends:

- **Technology:** Keep up on latest technologies and other industry resources/tools/methods available to provide services most efficiently
- **Proof of Adaptive Management:** Seeing measured results/data that the adaptive management approach is working

Education & Awareness/Visibility

- Better known to the community
- The mission impact on environmental and economic success of the region
- Municipal partnerships/collaboration

STRATEGIC PILLARS

1 Community Partnership

Increasing community awareness and support of NEW Water's mission.

2 Team

Attracting, developing, and retaining a high performing workforce within a culture characterized by teamwork and empowerment.

3 Organizational Optimization

Ensuring cost-effectiveness, reliability, and innovation of operations.

4 Environmental Quality

Making a positive impact on the region's water, air and land.

Goals and objectives are being developed for each of these 4 Strategic Pillars. A final version of the strategic plan can be expected in July 2023.





Facility Plan



Facility Plan

Comprehensive look at liquids process needs at NEW Water's Green Bay Facility (GBF) and De Pere Facility (DPF)

Main conclusions:

- Most cost effective and advantageous to maintain De Pere Facility
- Need to invest \$245 million - \$370 million over the next 20 years in facilities
- Need to invest \$65 million - \$100 million over the next 20 years in interceptors
- *Projected to increase revenues approximately 5.5% - 7% each year for 10 years to fund critical capital needs, operations, and maintenance*



Facility Plan

- Adopted by NEW Water Commission – July 20, 2022
- Submitted to WDNR – August 15, 2022
- Received WDNR Approval – May 15, 2023

- Extended WDNR schedule has led to delayed start of projects

- Status of identified active projects:
 - GBF North Plant Clarifier Rehabilitation: received WDNR review comments, bids open June 21
 - GBF Thickening Improvements: design underway
 - DPF Pumping & Headworks Improvements: design underway



Siphon Project



Identifying Need - Siphon Inspection Plan

- NEW Water owns 4 siphons
 - Fox River Crossing (FRC) Siphon
 - West Tower Drive (WTD) Siphon
 - De Pere Fox River Crossing Siphon
 - State Street Siphon
- Not part of regular system inspection



Project Team

- Consultant – CDM Smith
- NEW Water Staff
 - Engineering
 - Field Services
 - Treatment
- Contractor – RedZone Robotics
 - M.E. Simpson Co., Inc. – FELL subcontractor
 - Marion Hill Associates, Inc. – Confined space subcontractor

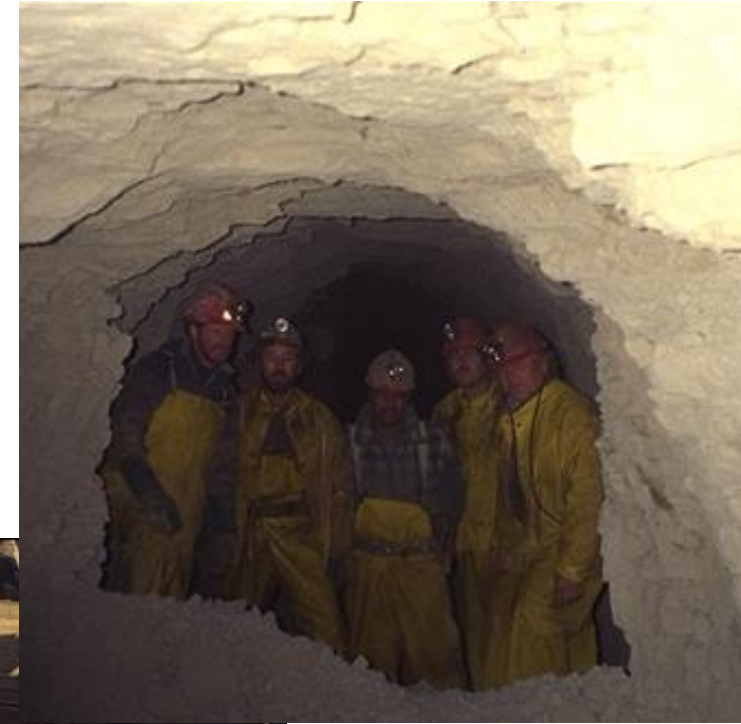
Siphon Mapping FRC





Siphon Construction - FRC

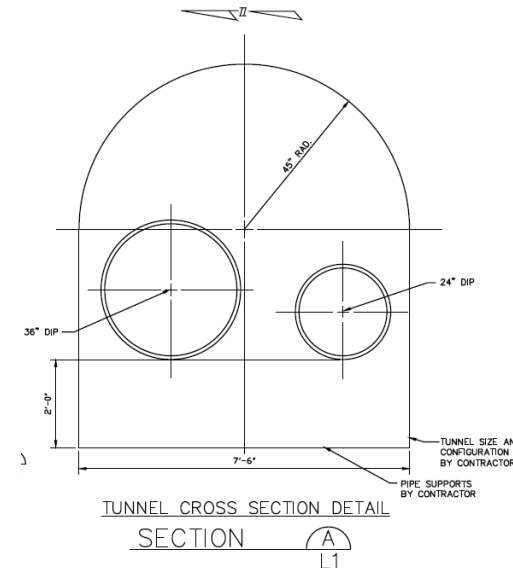
- Construction started in summer of 1996, completed in spring of 1997





Siphon Info FRC

- Inlet Structure
 - Depth to Incoming Pipe = 28 ft
 - Depth to Siphon Pipe = 130 ft
- Outlet Structure
 - Depth to Siphon Pipe = 123 ft
 - Depth to Outgoing Pipe = 40 ft
- Length of Siphon = 862 ft
- Two separate barrels, 24-inch and 36-inch
- Average Flow = 5,550 gpm or 12 cfs (2018 / 2019 flow data)
- Capacity of Siphon = 53 MGD or 82 cfs

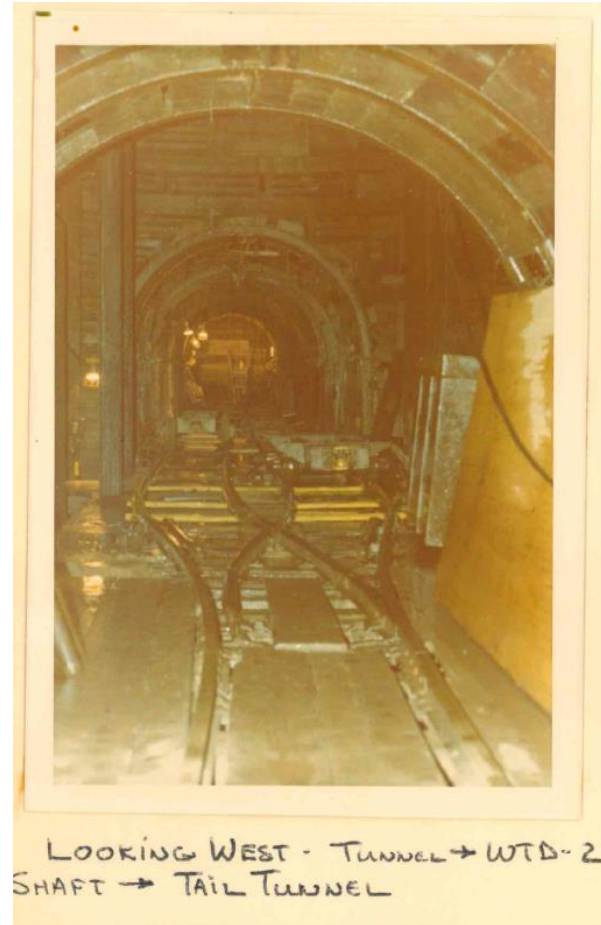


Siphon Mapping - WTD



Construction WTD

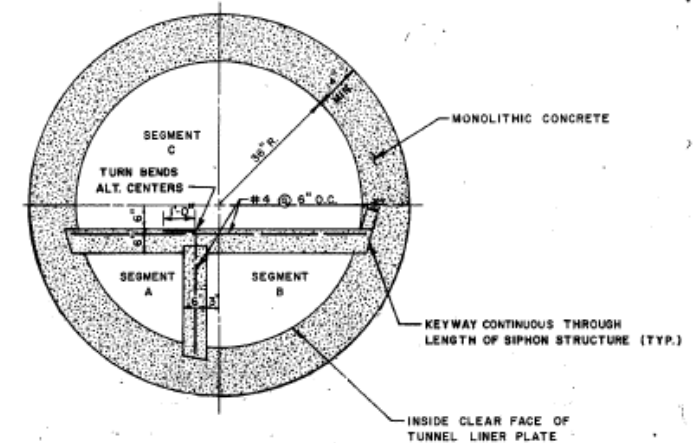
- Construction started in fall of 1974, completed in spring of 1976





Siphon Info WTD

- Inlet Structure
 - Depth to Incoming Pipe = 46 ft
 - Depth to Siphon Pipe = 100 ft
- Outlet Structure
 - Depth to Siphon Pipe = 86 ft
 - Depth to Outgoing Pipe = 53 ft
- Length of Siphon = 1,475 ft
- Average Flow = 4,500 gpm or 10 cfs (January 1, 2023 through April 30, 2023 data)
- Capacity of Siphon = 85.6 MGD or 132.5 cfs



SIPHON STRUCTURE
TUNNEL SECTION

SCALE 1/2" = 1'-0" E

Recommended Inspection Technology

- Sonar Inspection
 - Purpose – quantify debris and measure pipe shape
- Focused Electrode Leak Location (FELL)
 - Purpose – identify holes or fractures in the pipe walls / joints



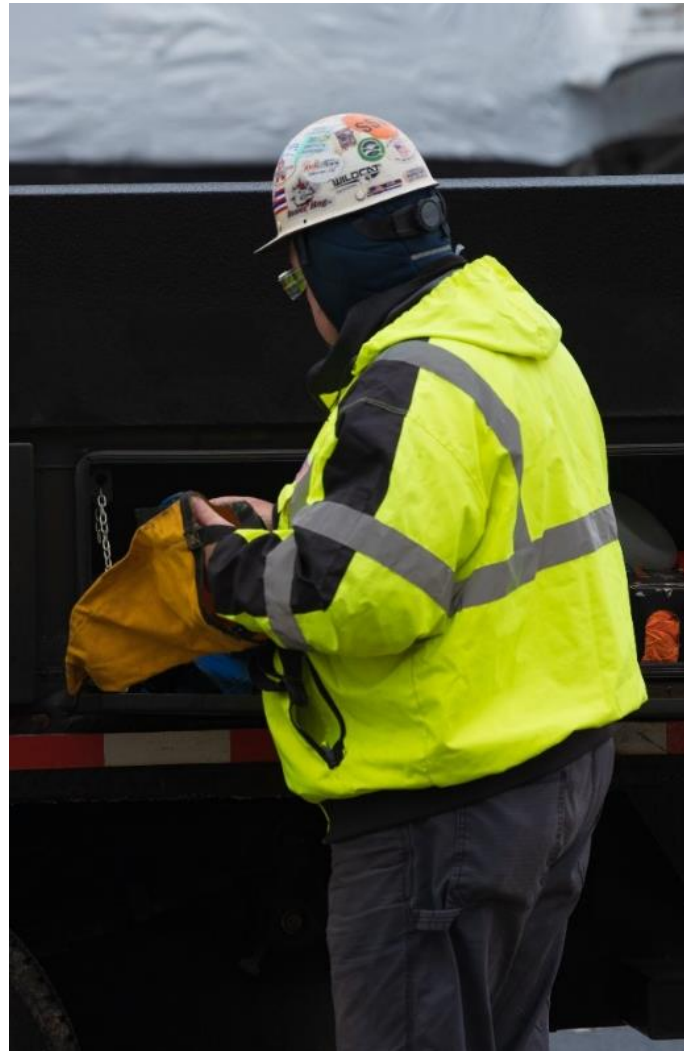
Figure 1.6 – FELL sonde

Photo Credit: CDM Smith



Field Work

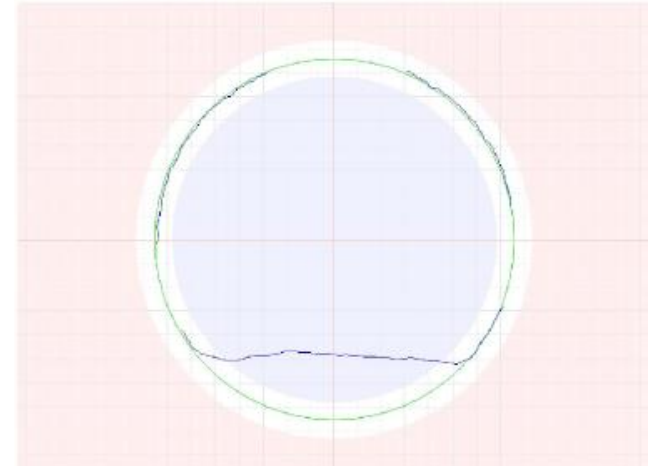
- November 28 to December 6, 2022



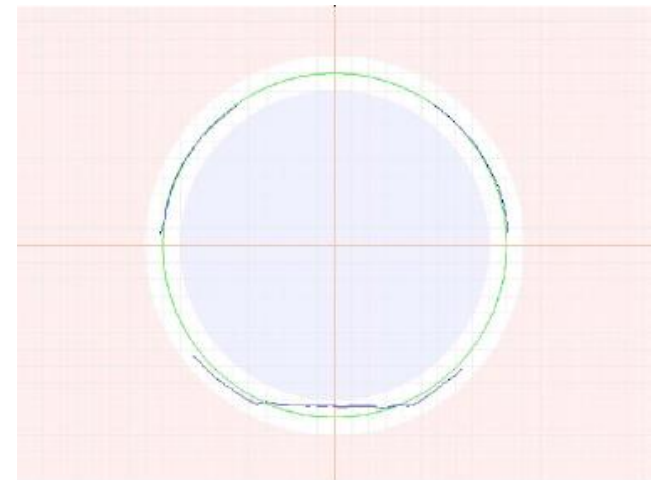
Findings / Recommendations FRC

- Minimal debris in 24-inch barrel \approx 0.3 cyd
- More debris in inactive 36-inch barrel \approx 5.5 cyd
- No major structural defects
- Possible source of infiltration
 - Both siphon barrels are encased in concrete
 - Siphon is pressurized at 43 psi (100 feet of head)
 - Quantify by installing flow meters upstream and downstream of siphon?
 - Existing flow monitoring information suggests little infiltration

155.3ft General Observation - Debris to 7.0"



Sonar image from 36-Inch barrel

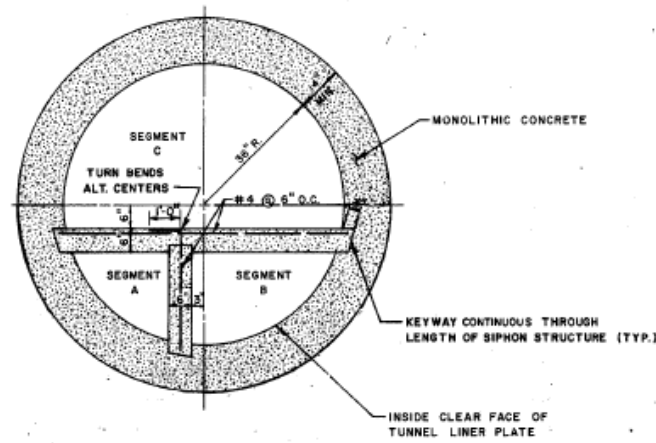


716.4ft General Observation - Debris to 1.1"

Sonar image from 24-Inch barrel

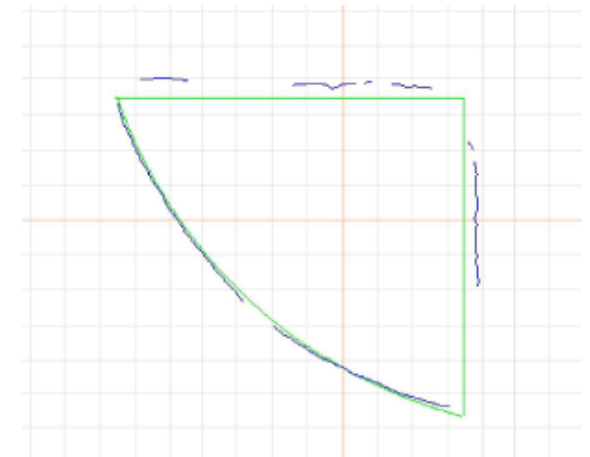
Findings / Recommendations - WTD

- Minimal debris in segment A \approx 0.1 cyd
- More debris in segment B \approx 23.4 cyd
- Unable to establish tagline in segment C
 - Debris in line?
- No major structural defects
- Minimal calculated infiltration



SIPHON STRUCTURE
TUNNEL SECTION

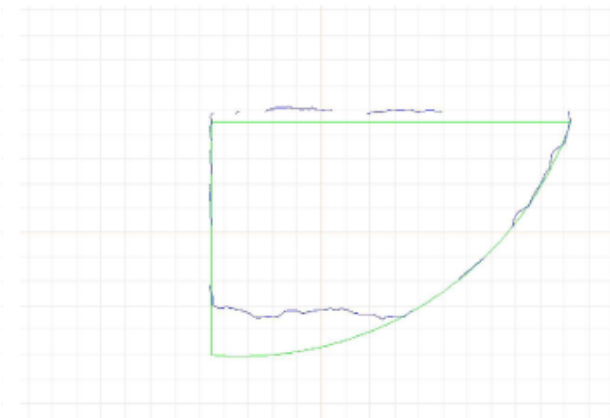
SCALE 1/2" = 1'-0" E



714.3ft General Observation - Cross Section

Sonar image from Segment A

576ft General Observation - Debris to 4.8"



Sonar image from Segment B



Next Steps

- Now that we have a baseline – consider re-inspection schedule.
 - Every 10 years for siphons
 - Every 5 years for structures
- Consider cleaning out WTD Siphon for future use
- Look further into dewatering for future LIDAR inspection?

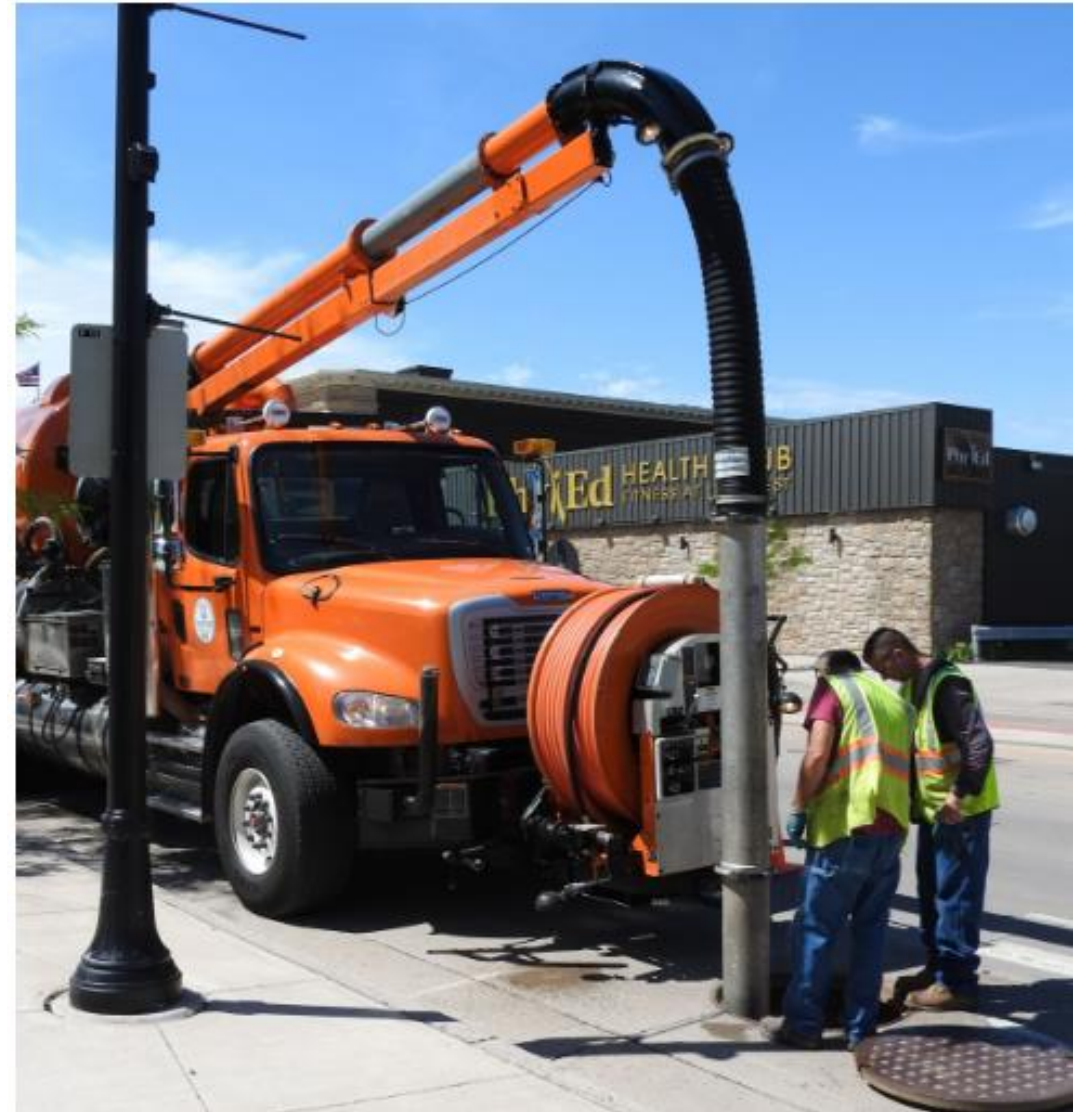


Interceptor Partnership

CMOM: Sewer Cleaning

Work together to reduce costs & save money while keeping our pipes clean

- *Flush, vacuum, remove debris from sewers*
- *Use screens to catch debris prior to District's system*
- *Use vacuum truck to remove debris*
- *Dispose of grit, grease, debris properly*
- *Contact NEW Water before entering/opening NW's manholes*



[Photo Credit: City of Superior](#)

Dye, Foam, Other: Please Alert Us

*If you are sending dye, foam, and / or anything else “unusual,” through our shared sanitary sewer system, **please give us a heads up!***

Partnering for water helps us better protect public health, and the waters of Northeast Wisconsin

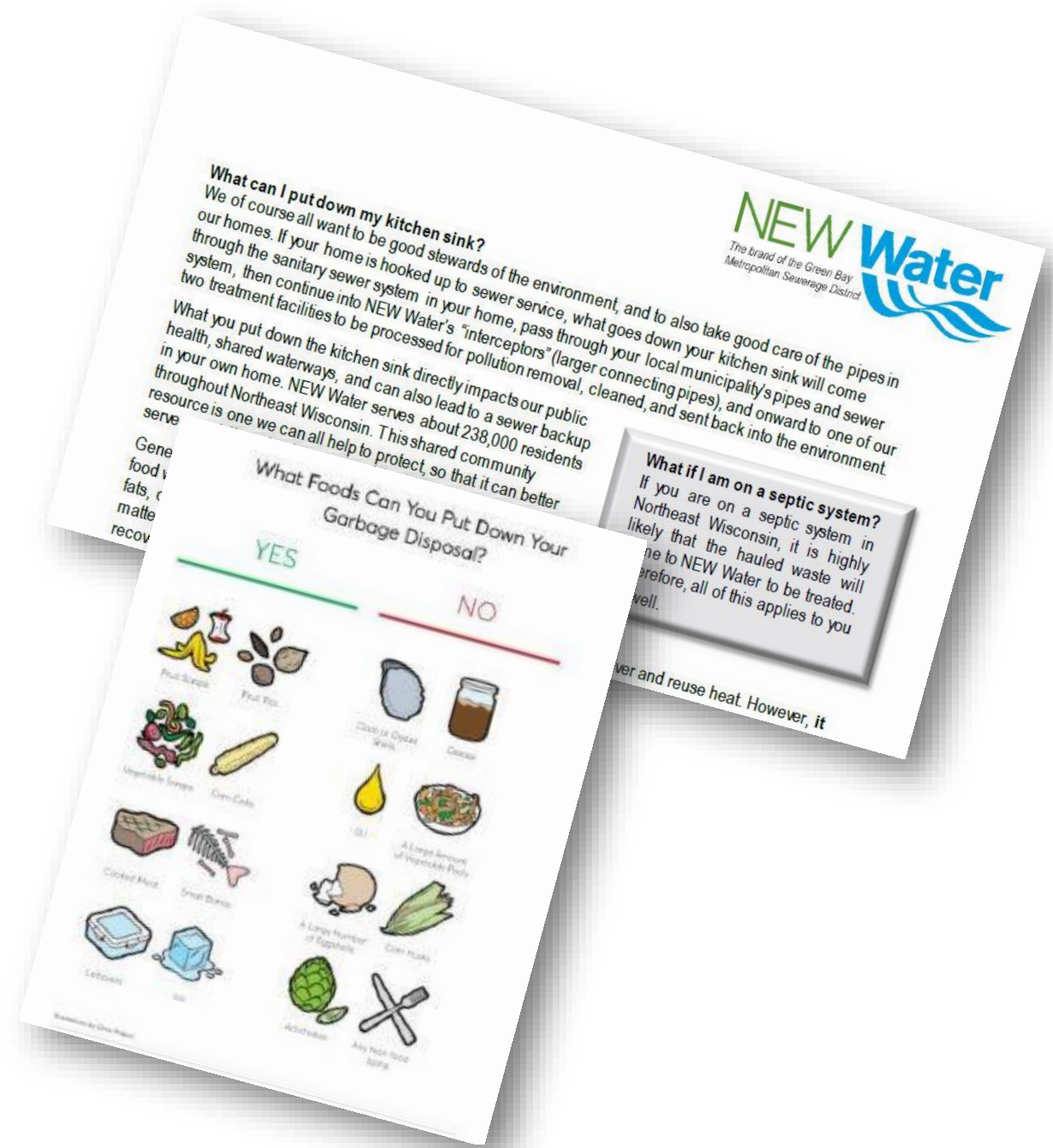
Partnering saves time & costs

Photo taken March 16, 2023, De Pere Facility



Public Service Announcement

- *Flier for residents available: What to put down the kitchen sink?*
- *Thank you municipal partner for asking this question!*
- *Document ready to share*
 - *You are welcome to “co-brand” this flier*
 - [Available on our website here](#)



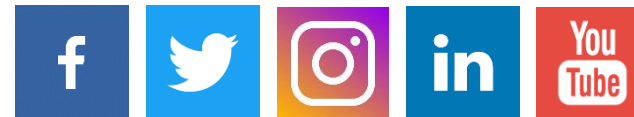


*Thank you for partnering to
protect our most valuable
resource, water*

Stay tuned to NEW Water news

Sign up for our E-newsletter, follow us on social media, get in touch

www.newwater.us



NEW Water
The brand of the Green Bay
Metropolitan Sewerage District 