



# CUYAHOGA FALLS, OHIO WATER & SEWER IMPROVEMENTS PLAN

Bob McNutt, PE at CT Consultants, Inc.



CITY WATER PLANT

# OUR TEAM



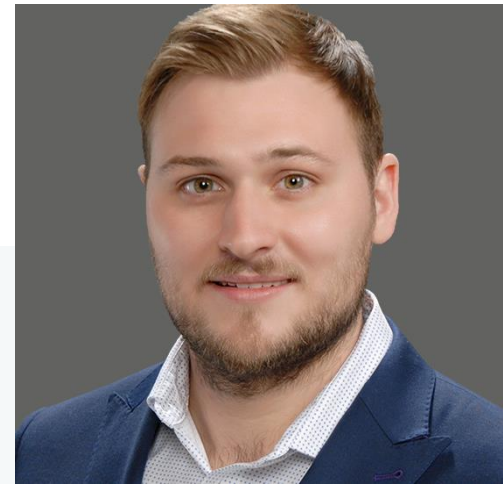
BOB MCNUTT, PE  
Senior Project Manager



ASHLEIGH MISCH  
Engineer 2



PHYLLIS DUNLAP  
Financial Team



ALAN FRYGIER  
Project Engineer

# AGENDA

Overview of Planning

Water Rate Adjustment Proposal

Sewer Rate Adjustment Proposal

Summary Water & Sewer

Improvements Plan



SOFTENER CONTROL CONSOLE



SOFTENER BEDS



FILTER PIPING GALLERY AT WTP



SOFTENER PIPING GALLERY TO BE REPLACED

## PURPOSE OF PLANNING

Why do we perform studies?

- Assess condition of infrastructure
- Identify efficiencies, deficiencies and solutions
- Evaluate options & choose appropriate solutions
- Provide most cost effective, long term, service to customers
- Steward our water resources

# STATE OF THE UTILITIES

- Developed utility team internal & external (2017 – now)
- Evaluating utility assets & condition assessments
- Developing long-term approach to STEWARD utilities effectively
- *Evaluating every project for eligibility for beneficial financing*



WATER WELL MAINTENANCE

# HISTORICAL CHALLENGES

Master planning recently taken center stage

Water 2018 review, began master planning

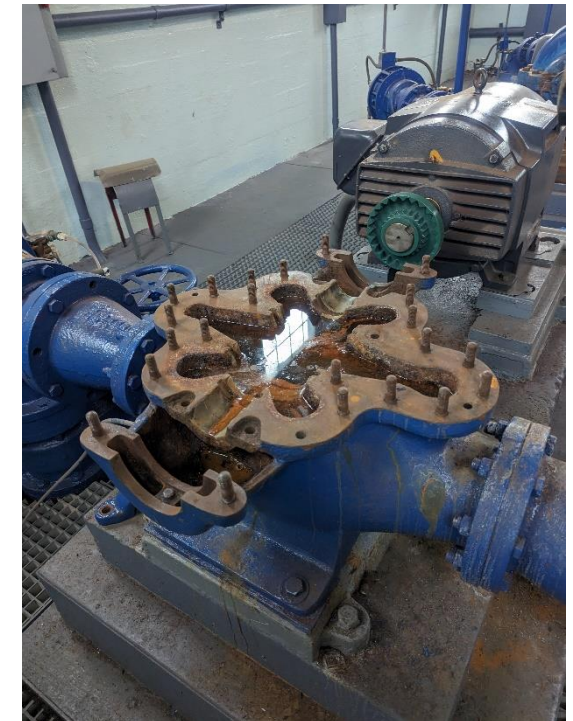
Industry focus on minimizing cost = deferred maintenance

Deferred maintenance = increased deterioration

Increased aging = need to do more projects



SOFTENER SYSTEM UPFLOW  
PUMP REPLACEMENT



HIGH SERVICE PUMP: CANNOT BE FIXED



WATER SYSTEM STATUS

# CURRENT CHALLENGES

## Recent regulations

- 2017 Asset Management Plan & annual update
- 2018 Risk & Resiliency & Emergency Response Plan
- 2017/2022 Lead Service Line Mapping
- 2024 USEPA Lead Service Line Inventory/Removal Plan

## Rising O&M and Rehabilitation & Replacement (R&R) costs

- Average 71 main breaks annually versus <42 AWWA standards
- R&R 1% of water mains = 100-year life expectation
- Maintaining WTP, wells, pumps, tanks, services



MAIN BREAK ON STATE ROAD = 2018



# DEPARTMENT OVERVIEW

- **Department Overview**

- **Water Treatment Plant- Avg 5.5 MGD, 11 MGD Max Capacity**

- 18 Raw Water Wells
    - 2 Booster Stations (Bailey Rd and State Rd)
    - 3 Above Ground Storage Tanks (4.75 MG)
    - 2 Underground Clearwells (4 MG)
    - 2 High Service Pump Buildings (7 HS Pumps)
    - 4 Process Buildings (Iron/ Mg Removal (2), Softener, Chemical)

- **Water Distribution**

- 174 miles of Water Main (4" to 16") 75% are cast iron and over 80 years old
    - 19540 Service Connections (curb valves and boxes)
    - 2460 Fire Hydrants w/ watch valve
    - 5000+ Main Line Valves



BAILEY ROAD BOOSTER  
PUMP STATION

# INVESTMENT IN WATER UTILITY

UTILITY ASSETS	REINVESTMENT NEEDS
Vehicles & equipment	\$ 1.8 million
Raw water wells	\$ 4.8 million
Pumping & storage	\$13.0 million
Water treatment	\$15.0 million
Water piping network	\$25.4 million



WATER QUALITY TESTING SITE: BROKEN

# NEEDS

- Modernize old equipment due to lack of parts, and increased efficiencies
- Raw water source and collection system improvements
- Water treatment plant upgrades
- Water storage & booster pumping improvements
- Transmission mains (large diameter trunk system)
- Distribution mains
- Continued STEWARDSHIP with funding opportunities



STATE ROAD WATER MAIN BREAK:  
NEW PAVEMENT RUINED

# FINANCIAL SUMMARY

Goal of four to six months of fund carryover balance

Significant capital reinvestments noted

Rate adjustments for five-year term

Asset Management Plan



FLUORIDE FEED SYSTEM



# WATER RATE ADJUSTMENT PROPOSAL

DECEMBER 4, 2023

CUYAHOGA FALLS OHIO UTILITY RATES FOR 2024-2028

13

# WATER RATES

	Actual - Historical			BUDGET	PROJECTIONS					
	2020	2021	2022	2023	2024	2025	2026	2027	2028	
<b>Cost per HCF (\$/HCF)</b>	<b>2.73</b>	<b>2.73</b>	<b>2.73</b>	<b>2.73</b>	<b>3.14</b>	<b>4.71</b>	<b>5.65</b>	<b>6.22</b>	<b>6.84</b>	
<b>Months of Carryover balance</b>	<b>8.71</b>	<b>19.58</b>	<b>13.48</b>	<b>4.08</b>	<b>4.55</b>	<b>2.82</b>	<b>1.66</b>	<b>3.45</b>	<b>7.26</b>	
<b>Beginning Fund Balance (\$)</b>	<b>4,782,805.59</b>	<b>5,175,671.05</b>	<b>6,856,920.43</b>	<b>4,205,829.91</b>	<b>4,686,859.18</b>	<b>3,033,636.45</b>	<b>2,373,802.35</b>	<b>1,665,050.58</b>	<b>3,143,424.81</b>	
Total Revenues (\$)	7,523,008.17	5,884,613.54	7,936,040.55	8,339,036.00	6,342,083.00	9,446,683.00	11,309,383.00	12,426,983.00	13,656,283.00	
Total Personal Services (\$)	1,731,987.54	1,701,815.91	1,760,271.04	1,917,325.00	1,974,900.00	2,034,100.00	2,095,100.00	2,157,900.00	2,222,600.00	
Total Other Operations (\$)	1,781,158.82	1,680,259.74	2,286,851.48	2,315,024.00	2,872,935.00	2,879,957.00	2,901,100.00	2,930,200.00	2,959,400.00	
<b>Total Capital Improvements (\$)</b>	<b>1,599,337.59</b>	<b>320,179.72</b>	<b>2,776,933.24</b>	<b>4,744,803.00</b>	<b>7,945,000.00</b>	<b>11,050,000.00</b>	<b>5,342,000.00</b>	<b>6,174,000.00</b>	<b>9,442,000.00</b>	
Total Debt Service (\$)	2,017,658.76	501,108.79	143,618.88	383,786.00	697,470.73	1,142,460.10	1,679,934.77	1,686,508.77	1,845,058.39	
Total Expenditures (\$)	7,130,142.71	4,203,364.16	6,967,674.64	9,360,938.00	7,995,305.73	10,106,517.10	12,018,134.77	10,948,608.77	10,469,058.39	



SEWER SYSTEM STATUS

# CURRENT CONDITIONS STATEMENT

Ohio EPA is increasing regulatory burdens on the Sanitary Sewer side

City has Sanitary Sewer Overflows that we are working to eliminate – significant capital

Akron Master Meter Agreements: 2016, 2020, 2024 (every 4 years) through 2040

Excessive clean water I&I (inflow & infiltration) transported to Akron for treatment

Lining of sewers to reduce I&I and reduce costs



ROOTS IN SEWER LINES



# CURRENT CHALLENGES

In process of master planning regarding condition of assets

Rising operations & maintenance and rehabilitation & renewal costs

- Rehabilitation & Renewal 1% of sewer mains = 100-year life expectation aging system
- Infiltration and Inflow (I&I) in system cost to rehabilitate sanitary sewers
- Lift stations repairs and upgrades

Gorge Trunk Sewer Replacement project – Capital Improvement Plan (CIP)

Findings & Orders for Sanitary Sewer Overflow elimination



RAGS & "FLUSHABLE" WIPES IN PUMP

# DEPARTMENT OVERVIEW

- 22 Lift stations
- 135 miles of sanitary sewers
- Excessive I&I cost \$\$\$ for treatment
- 28.9 Miles trunk mains (12" & larger)
- 3 master meters (MMA)
- Equalization Tanks – none presently
  - Findings & Orders since 2006 & still working to reduce or eliminate
  - Original plan would have required 4 total
  - Currently eliminated need for 3, one remaining at 0.9 MG capacity
  - Continuing to attempt to eliminate last remaining tank



SEWER PUMP NEEDING REPAIR

# INVESTMENT IN SEWER UTILITY

UTILITY ASSETS	REINVESTMENT NEEDS
Additional engineering	\$ 1.3 million
Vehicles & equipment	\$0.78 million
Lift stations	\$ 0.3 million
Gorge interceptor	\$10.5 million
Sewer collection system	\$ 7.8 million



GORGE TRUNK SEWER EMERGENCY REPAIR

# NEEDS

Additional studies, master sewer system plan

Gorge Interceptor Trunk Sewer

Replace Lift Station pumps as needed

I&I management

Collection sewers 1% lining or replacement annually



GORGE TRUNK SEWER BREAK

# FINANCIAL SUMMARY

Goal of four to six months of fund carryover balance

Significant capital reinvestments

Rate adjustments for five-year term

Planning & studies will determine even more capital improvements needs

Able to do things more efficiently with updates/upgrades



HIDDEN LAKES PUMP STATION



SEWER RATE  
ADJUSTMENT  
PROPOSAL

# SEWER RATES

	Actual - Historical			BUDGET	PROJECTIONS				
	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Operating Cost per HCF (\$/HCF)</b>	<b>1.73</b>	<b>1.73</b>	<b>1.73</b>	<b>1.73</b>	<b>1.90</b>	<b>2.85</b>	<b>3.56</b>	<b>4.45</b>	<b>5.57</b>
<b>Beginning Fund Balance (\$)</b>	<b>2,988,143.15</b>	<b>4,458,130.73</b>	<b>4,522,362.85</b>	<b>4,786,005.29</b>	<b>3,857,374.35</b>	<b>2,049,128.70</b>	<b>2,478,138.85</b>	<b>1,755,136.75</b>	<b>2,190,755.85</b>
Total Revenues (\$)	8,536,433.77	8,094,829.16	11,634,951.84	12,778,926.27	11,155,057.80	12,896,104.60	14,327,190.30	16,014,463.50	18,017,271.90
Total Personal Services (\$)	696,413.11	704,782.29	801,230.30	933,661.00	991,706.00	1,013,000.00	1,034,900.00	1,057,500.00	1,080,800.00
Total Other Operations (\$)	6,149,637.02	7,149,346.18	7,844,081.99	8,960,202.00	9,456,158.00	10,008,100.00	10,589,800.00	11,203,300.00	11,850,500.00
<b>Total Capital Improvements (\$)</b>	<b>149,949.08</b>	<b>78,755.88</b>	<b>1,250,703.82</b>	<b>3,824,803.00</b>	<b>1,917,500.00</b>	<b>11,350,000.00</b>	<b>2,160,000.00</b>	<b>2,050,000.00</b>	<b>2,350,000.00</b>
Total Debt Service (\$)	70,446.98	97,712.68	96,832.89	336,624.00	597,939.45	595,994.45	1,265,492.40	1,268,044.40	1,265,239.40
Total Expenditures (\$)	7,066,446.19	8,030,597.03	9,992,849.00	14,055,290.00	12,963,303.45	12,467,094.45	15,050,192.40	15,578,844.40	16,546,539.40



SUMMARY WATER &  
SEWER  
IMPROVEMENTS PLAN



# SUMMARY OF IMPROVEMENTS

1. Make capital improvements to provide a reliable treatment and distribution system for everyone to enjoy clean drinking water
2. Increase sewer improvements to reduce flows for treatment and keep costs down
3. Modernize old equipment due to lack of parts, and increase efficiencies
4. Provide most cost-effective, long term, service to customers
5. Steward Utilities well = maintain competitive rates

Comparison of Average 2024 Monthly Residential Utility Bills		
Community Comparison	Water	Sewer
Cuyahoga Falls	12.57	33.89
Stow (2023)	20.39	48.25
Tallmadge (2023)	20.98	54.27
Akron	25.24	46.39
Silver Lake (2023)	37.01	60.88
Munroe Falls (2023)	41.58	44.11
Ohio EPA State Median Bill estimate*	30.62	39.32

Monthly costs are based on 4 HCF usage per month

(\*) Utility costs are for year 2024 or estimated based on 2022 actuals



THANK YOU

Any questions?

