

Water/Sewer Utility and Infrastructure Improvement Analysis

City of Whitehall, Ohio

Council Subcommittee Presentation –
May 11, 2021

Megan Meyer, Deputy Director of Public Affairs



Analysis Overview

- Current State of Water/Sewer Infrastructure
- Current Capital Improvement Plan (CIP)
 - Five-Year Lookback: 2017–2021 CIP Investments
 - Current CIP Funding Sources
- Potential Water/Sewer Utility Surcharge
 - Potential Funding and Surcharge Basis Options
 - Resident / Commercial User Impact
- Potential Financing Options
- Proposed Five-Year 2022–2026 CIP
- Next Steps

Current State of Water/Sewer Infrastructure

- Aging infrastructure system overall –
 - 50 + years of age in most segments
- Underinvestment correlates to:
 - Increased water main breaks
 - Service interruptions
 - Inflow/infiltration into sanitary system
 - Increased spending on repairs

Water Main Breaks by Decade

Legend

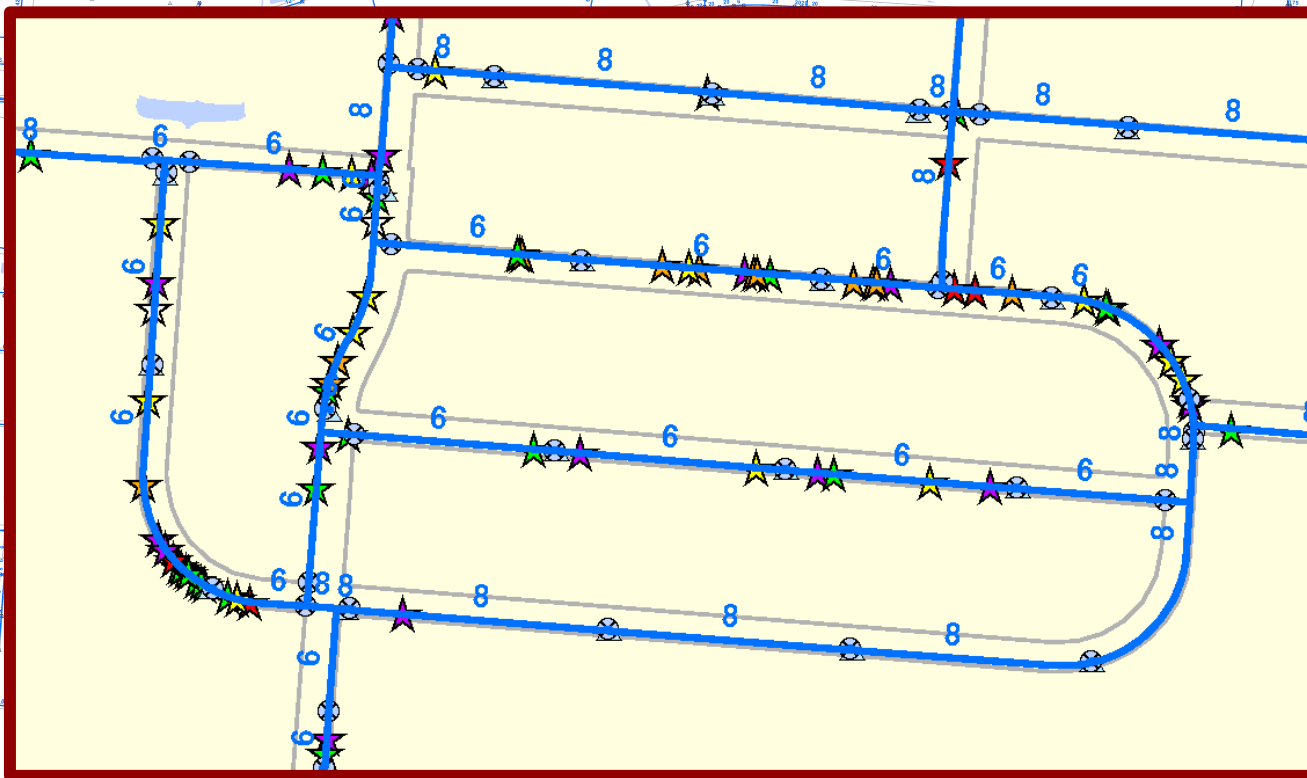
- Water Main
- Water Valve
- Fire Hydrant

Water Main Break History

- 1969 - 1975
- 1976 - 1985
- 1986 - 1995
- 1996 - 2005
- 2006 - 2015
- 2016 - 2017

Water Main Replacement History

- Water Main Replaced 2012
- Water Main Replaced 2017
- Water Main Replaced 2018



Legend

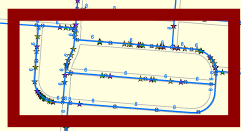
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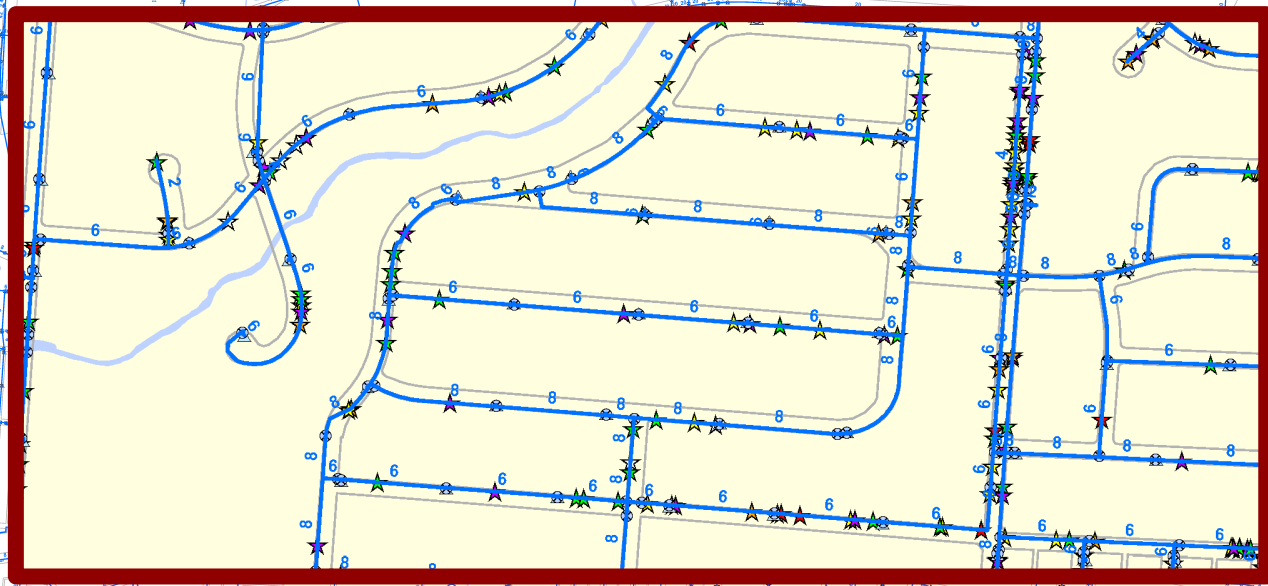
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Water Main Breaks by Decade: Virginia Circle Area



Legend

- Water Main
- ⊗ Water Valve
- △ Fire Hydrant

Water Main Break History

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Water Main Replacement History

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- Water Main Replaced 2017
- Water Main Replaced 2018

Water Main Breaks by Decade: Elbern Avenue Area

Legend

- Water Main
- Water Valve
- Fire Hydrant

Water Main Break History

- 1969 - 1975
- 1976 - 1985
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- 1996 - 2005
- 2006 - 2015
- 2016 - 2017

Water Main Replacement History

- Water Main Replaced 2012
- Water Main Replaced 2017
- Water Main Replaced 2018

Water Main Breaks
by Decade: Ross Road Area

Water Main Breaks by Decade: South of Main

Legend

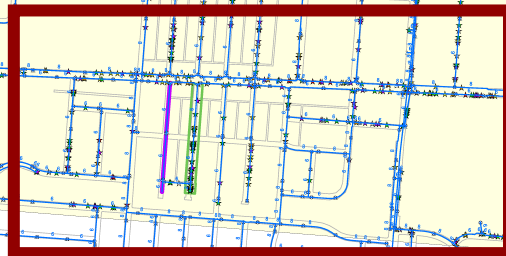
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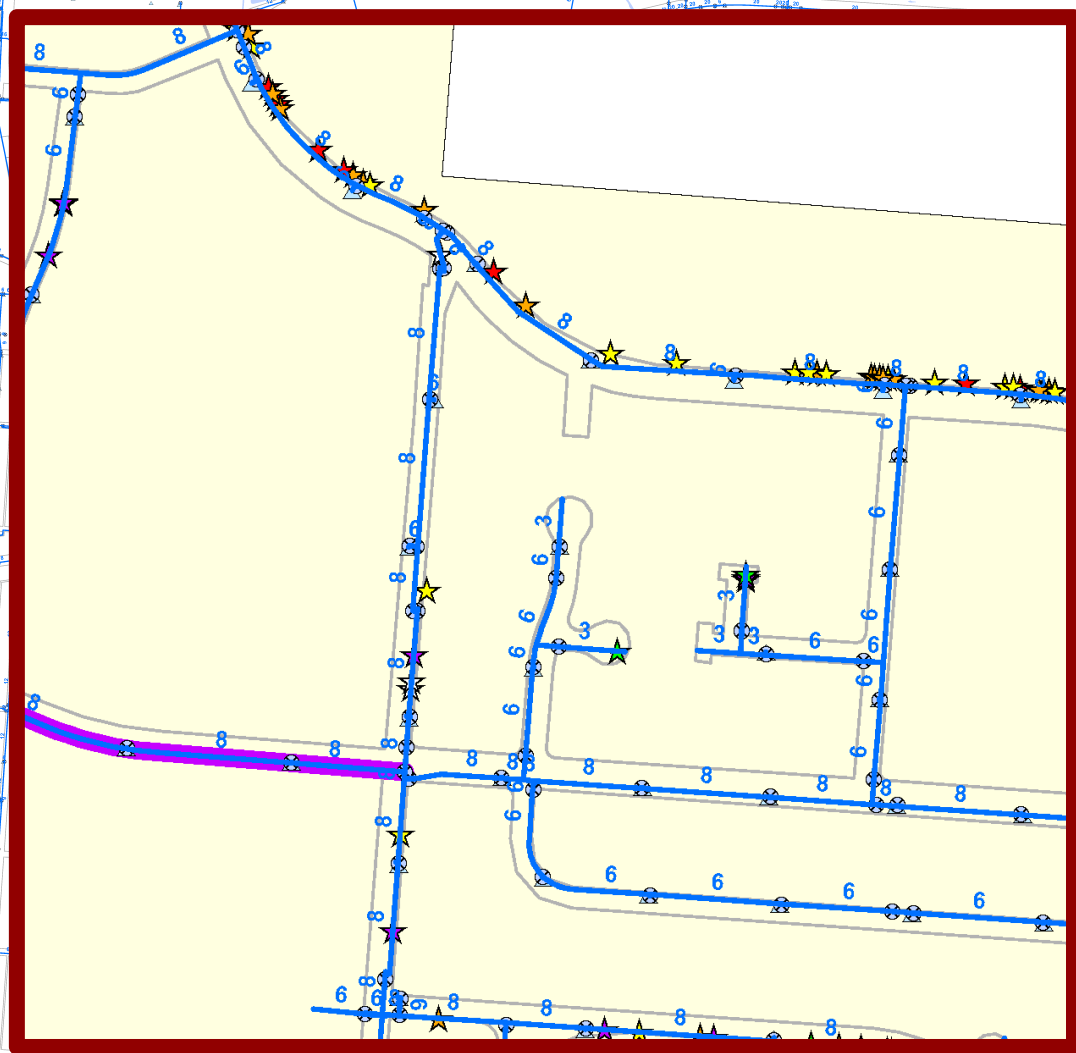
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Legend

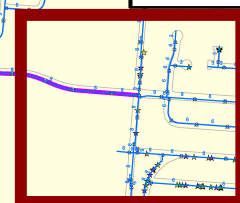
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Water Main Replacement History

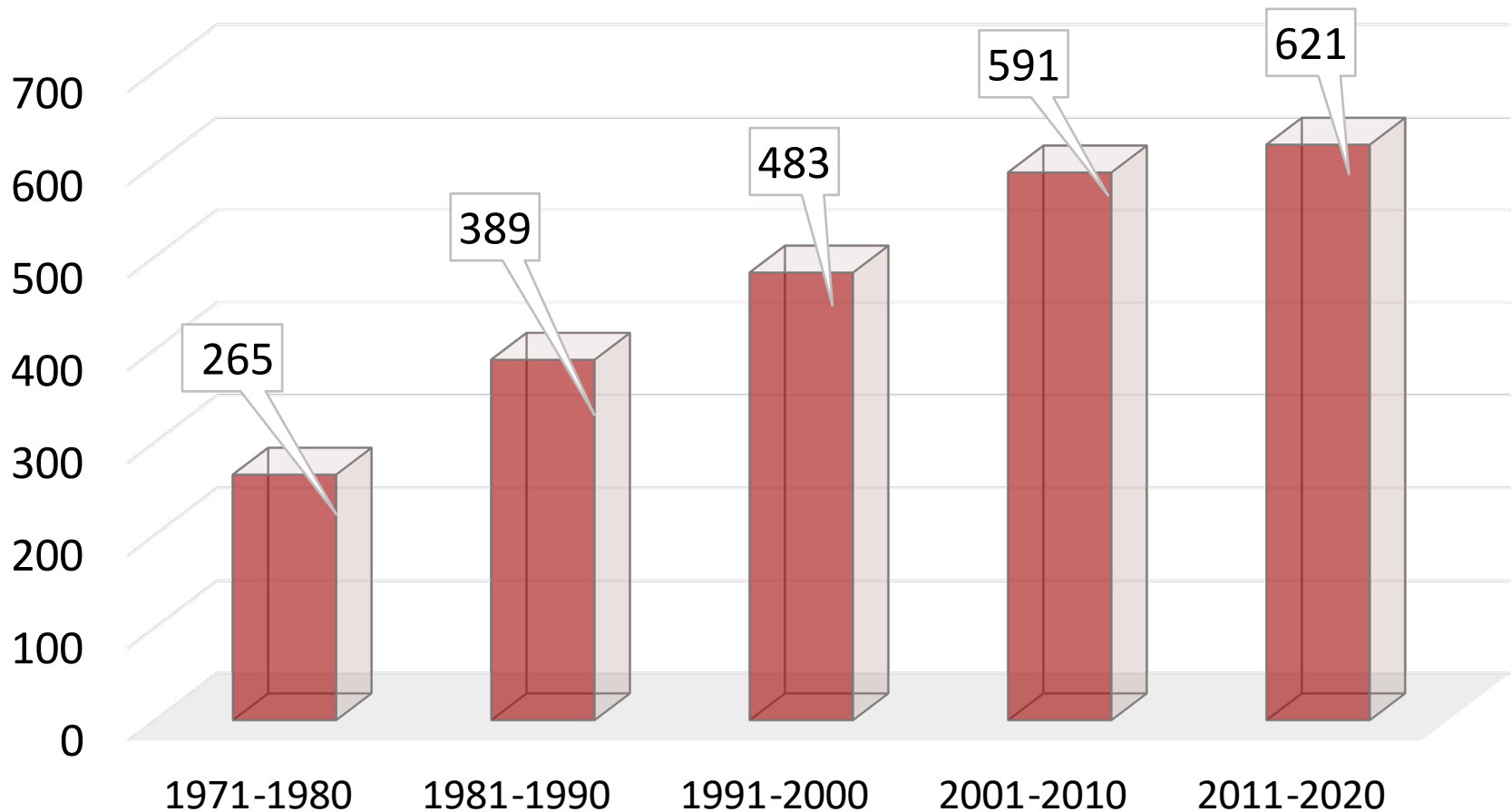
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Water Main Breaks by Decade: Greenwood Avenue Area

Current State of Water/Sewer Infrastructure

Water Main Breaks Per Decade



Current State of Water/Sewer Infrastructure

Water Main Line Repairs (2015-2019)

Year	Total	Repair Costs (Paid to Columbus)
2015	64	\$187,695
2016	74	\$163,120
2017	39	\$147,330
2018	36	\$154,154
2019	50	\$251,524
Totals	263	\$903,823

City of Columbus repairs up to 15 water main breaks annually at no cost per the current water service contract.

Current State of Water/Sewer Infrastructure

2017-2021 CIP Improvements: Water and Sewer

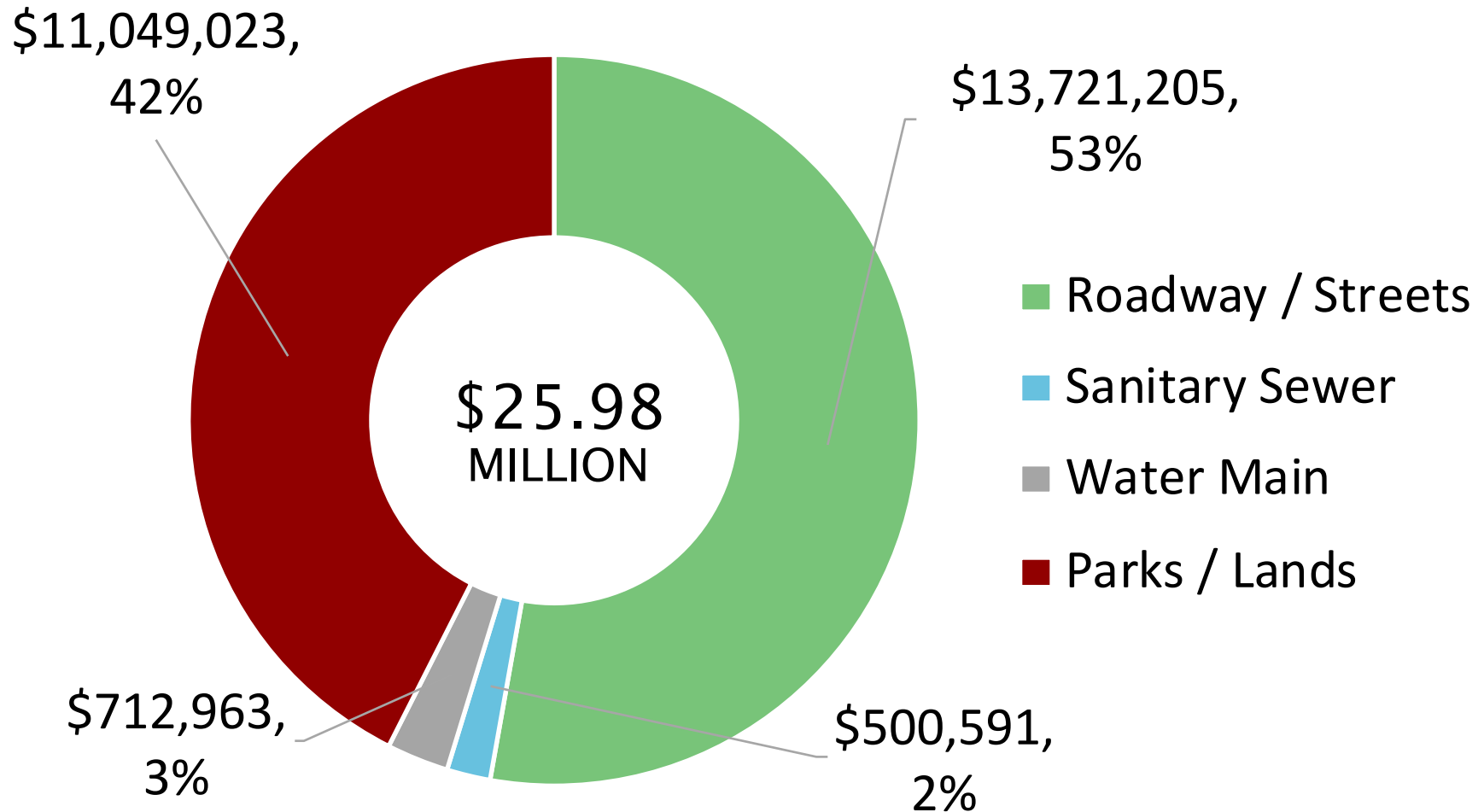
Year	Water System	Sanitary Sewer System
2017	\$378,594	\$25,013
2018	\$0	\$155,578
2019	\$334,369	\$220,000
2020	\$0	\$100,000
2021	\$0	\$0
Totals	\$712,963	\$500,591
Funding Source	CIP Fund (Transfers from General Fund)	Sewer Mandate Fund (Proceeds from Income Tax Increase)

Current State of Water/Sewer Infrastructure

- **2017–2021 Specific Projects:**
 - **Water Mains (No designated funding source):**
 - Water main replacements on Elaine Road, Erickson Avenue and Fairway Circle
 - **Sanitary and Storm Sewer:**
 - Designated funding source for 15–year EPA mandated project to mitigate and infiltration into sanitary system
 - Program includes general sewer inspections, rehabilitation (cleaning, lining, spot repairs) and improvements
 - 5% of the City’s sewers are inspected annually
 - Program has also included sewer rehabilitation and improvement projects on Josephus Lane, Elbern Avenue and Etna Road

Current State of Water/Sewer Infrastructure

5-Year CIP Spending by Category (2017-2021)



Current State of Water/Sewer Infrastructure

- Takeaways:
 - Cost of five years of water main break repairs (\$903,828) is nearly keeping pace with five years of reinvestment into the overall system (\$1,213,554)
 - Water contract with City of Columbus specifies investments must be made to maintain system
 - No designated funding source for water main or sewer system replacements
 - Competing funding priorities for other infrastructure categories (roadways/streets, parks, lands)

Potential Water/Sewer Utility Surcharge

- **What is it?**

- A surcharge (aka an added fee) paid by residential and commercial water/sewer customers directly to City of Columbus, with fees remitted back to the City

- **Why establish one?**

- To create a dedicated funding source for future water main and sewer system replacements

- **How much would it raise?**

- Designed to fund a 5-Year CIP for water main and sewer replacements
 - Water: \$750,000 annually
 - Sewer: \$350,000 annually

Potential Water/Sewer Utility Surcharge

(Based on a 5/8 Meter Size – Residential)

	Water Surcharge		Sewer Surcharge
Funding Option	Pay as You Go	Financing	Pay as You Go
Surcharge Basis	Flat	Flat	Flat
Average Monthly/ Quarterly Cost	\$5.15 / month	\$5.15 / month	\$2.37 / month
New Average Monthly Bill	\$38.15	\$38.15	\$33.94
Total Annual Surcharge Revenue	\$750,000	\$750,000	\$375,000

- 43% of all connections are 5/8 meter, representing most single-family homes
- 5/8 meter size is known as a “Equivalent Residential Unit”
- Meter sizes above this pay the surcharge as a ratio to the 5/8 meter size

Potential Water/Sewer Utility Surcharge

Large Users	Current Water Bill	Monthly Surcharge	Total Water Bill	Current Sewer Bill	Monthly Surcharge	Total Sewer Bill
New Life Multi-Family	\$33,529.86	\$7,171.65	\$40,699.51	\$39,262.67	\$3,527.14	\$42,789.81
VA Outpatient Clinic	\$6,050.30	\$849.75	\$6,899.78	\$5,816.97	\$831.87	\$6,648.84
Shaker Square Apartments	\$4,353.22	\$257.50	\$4,610.72	\$6,257.83	\$215.67	\$6,473.50
Colonial East Apartments	\$3,488.55	\$128.75	\$3,617.30	\$5,242.01	\$100.73	\$5,342.74

(Based on 2019 Billing Information)

Potential Water/Sewer Utility Surcharge

Community	Water Surcharge	Monthly Bill	Sewer Surcharge	Monthly Bill	Combined Bill
Whitehall (Current)	\$0	\$33.00	\$0	\$31.57	\$64.57
Urbancrest	\$1.07	\$34.07	\$1.07	\$32.64	\$66.71
Grove City	\$1.69	\$34.69	\$1.90	\$33.47	\$68.16
Brice	\$2.17	\$35.17	\$3.16	\$34.73	\$69.90
Hilliard	\$3.10	\$36.10	\$3.16	\$34.73	\$70.83
Grandview	\$2.61	\$35.61	\$3.79	\$35.36	\$70.97
Marblecliff	\$2.17	\$35.17	\$4.74	\$36.31	\$71.48
Whitehall (Surcharge)	\$5.15	\$38.15	\$2.37	\$33.94	\$72.09 (+11.6%)
Dublin	\$1.63	\$34.63	\$6.61	\$38.18	\$72.81
Upper Arlington	\$3.26	\$36.26	\$7.26	\$38.83	\$75.09
Minerva Park	\$5.82	\$38.62	\$8.28	\$39.85	\$78.47

(Based a 5/8 Meter Size (Residential), 4,000 gallons)

Bonded Approach: Funding Options

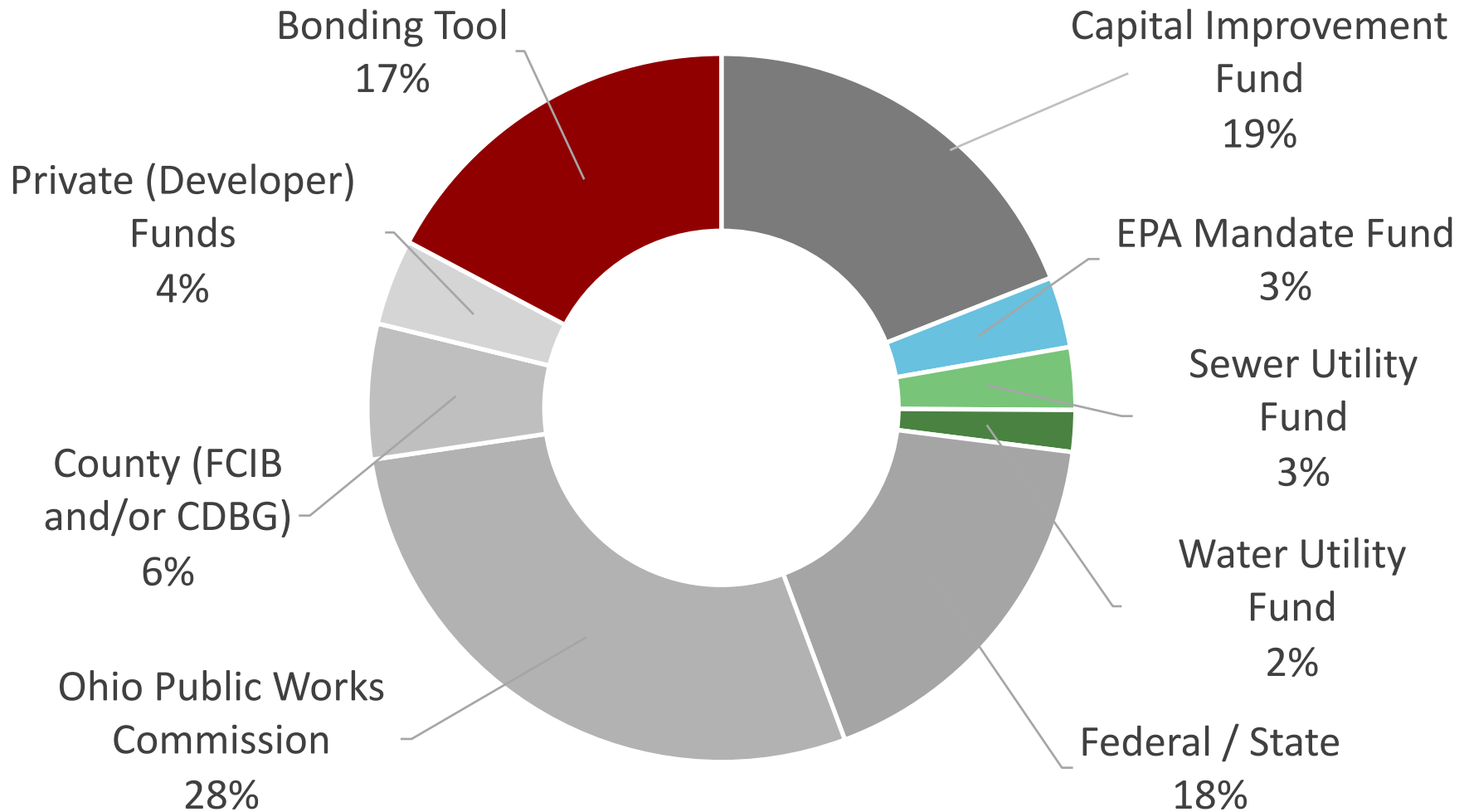
Program and Terms	Ohio EPA SRF	OWDA Freshwater	OWDA Freshwater	Bonds - General Obligation	Bonds - General Obligation
Loan Term	20 Year	20 Year	30 Year	20 Year	30 Year
Current Rate	0.60%	2.02%	2.12%	2.00%	2.50%
Annual Bond Payment	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Estimated Borrowing Amount	\$9,396,791	\$8,159,959	\$11,015,638	\$8,175,717	\$10,465,146

Proposed 5-Year CIP: All Categories

Category	Total 5-Year CIP	2022	2023	2024	2025	2026
Streets	\$39,331,066	\$13,847,549	\$8,908,517	\$4,125,000	\$7,375,000	\$5,075,000
Sanitary Sewer	\$3,200,000	\$300,000	\$875,000	\$675,000	\$675,000	\$675,000
Water Main	\$10,067,000	\$637,000	\$8,480,000	\$450,000	\$50,000	\$450,000
Total	\$52,598,066	\$14,784,549	\$18,263,517	\$5,250,000	\$8,100,000	\$6,200,000

Proposing \$52,598,066 5-Year CIP compared to \$14,934,759 in spending over last five years (Not including parks)

Proposed 5-Year CIP: All Categories



Proposed 5-Year CIP: Water Main

Legend

Water Main Break History

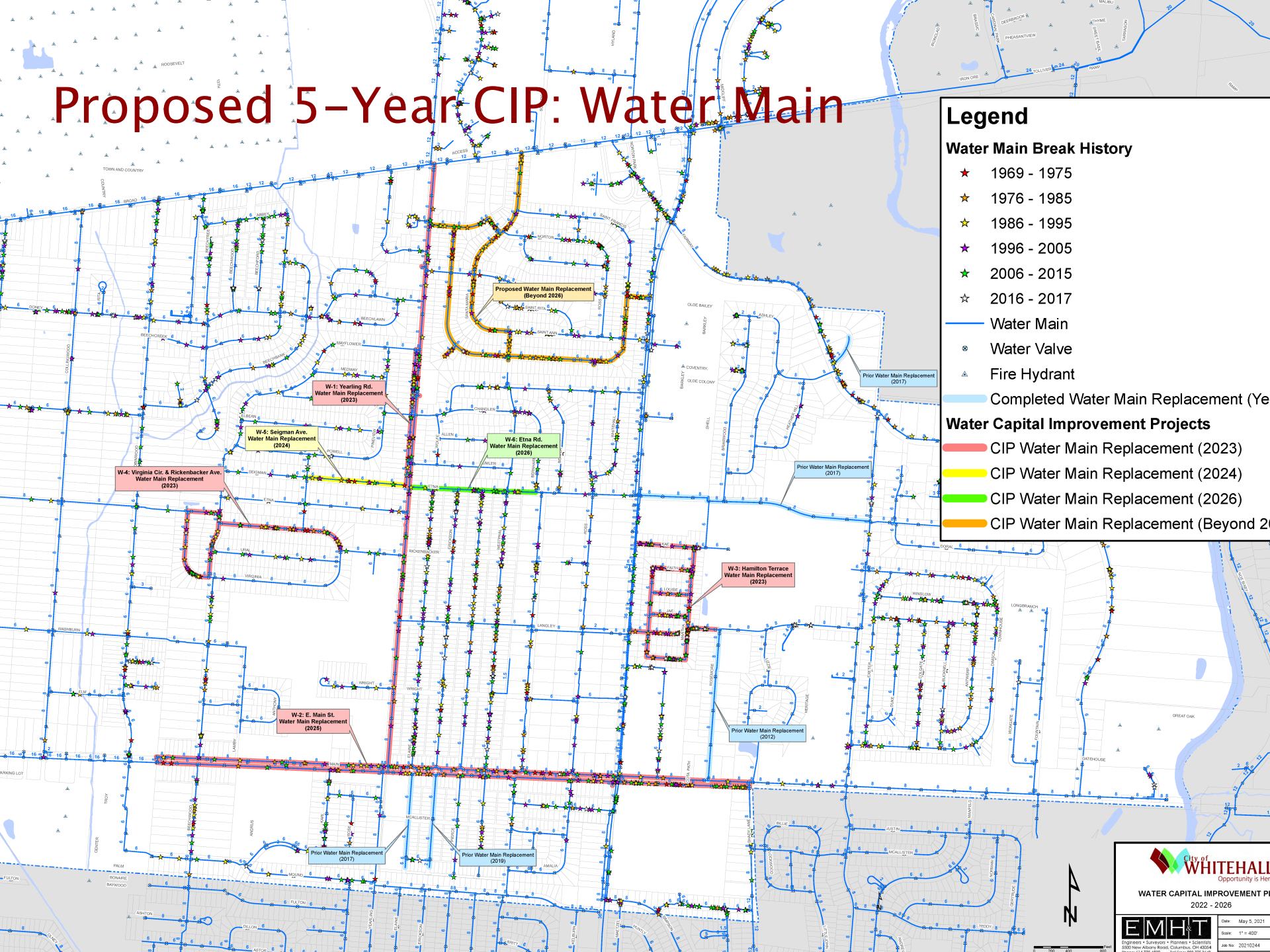
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— Completed Water Main Replacement (Year)

Water Capital Improvement Projects

- CIP Water Main Replacement (2023)
- CIP Water Main Replacement (2024)
- CIP Water Main Replacement (2026)
- CIP Water Main Replacement (Beyond 2026)



Proposed 5-Year CIP: Water Main

- Project selection criteria:
 - Number of breaks
 - Overall impact to system
 - Age of main
 - Other recent infrastructure improvements

Note: All water main projects would include street resurfacing in the project areas

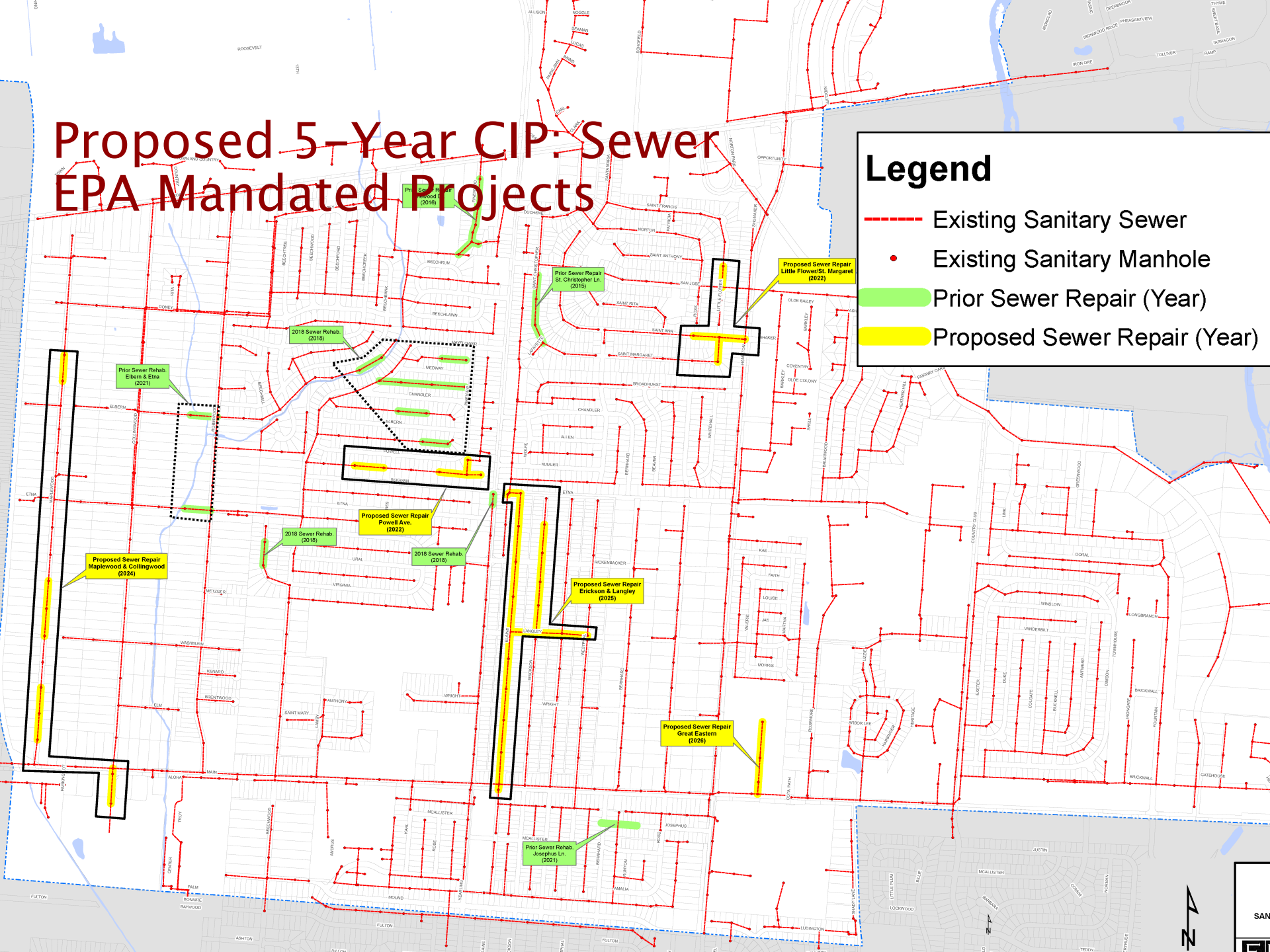
Proposed 5-Year CIP: Water Main

Project Name	Project Costs					Funding Sources	
	2022	2023	2024	2025	2026	Water Utility Fund	Bonds
S. Yearling Road WM Replacement	\$213,000	\$2,819,000					\$3,032,000
E. Main Street WM Replacement	\$218,000	\$2,887,000					\$3,105,000
Hamilton Terrace Subdivision WM Replacement	\$123,000	\$1,629,000					\$1,752,000
Virginia Circle and Rickenbacker Avenue WM Replacement	\$83,000	\$1,095,000					\$1,178,000
Seigman Avenue WM Replacement		\$50,000	\$450,000			\$500,000	
Etna Road WM Replacement				\$50,000	\$450,000	\$500,000	
Totals	\$637,000	\$8,480,000	\$450,000	\$50,000	\$450,000	\$1,000,000	\$9,067,000

Proposed 5-Year CIP: Sewer EPA Mandated Projects

Legend

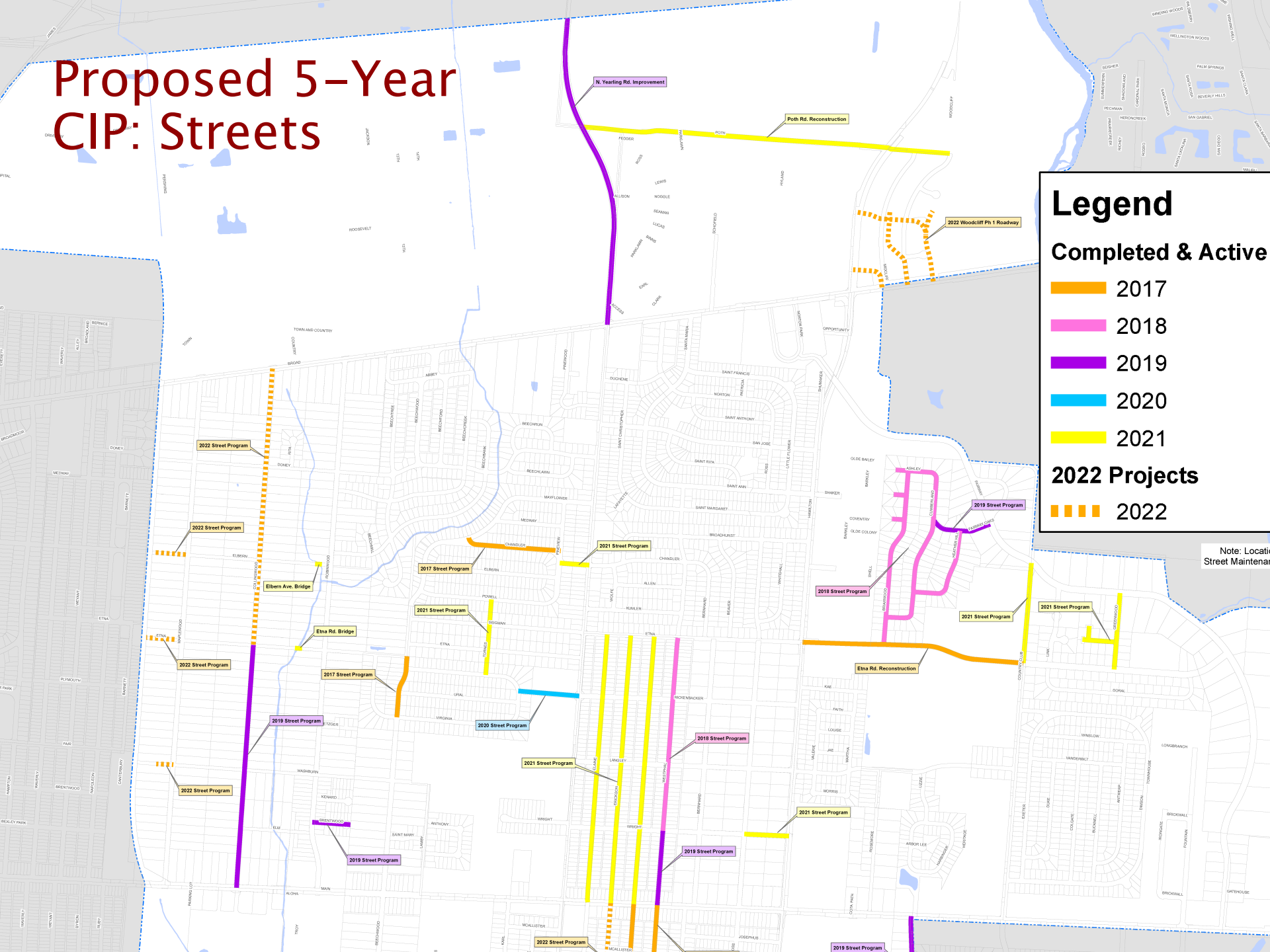
- Existing Sanitary Sewer
• Existing Sanitary Manhole
 Prior Sewer Repair (Year)
 Proposed Sewer Repair (Year)



Proposed 5-Year CIP: Sewer

Project Name	Project Costs					Funding Sources	
	2022	2023	2024	2025	2026	EPA Mandate Fund	Sewer Utility Fund
Little Flower Lane and Powell Avenue Sewer Rehab and Repair	\$300,000					\$300,000	
Elaine Avenue Sewer Rehab		\$500,000				\$500,000	
2023 Sewer Inspection and Repair		\$375,000					\$375,000
Maplewood Avenue Sewer Rehab			\$300,000			\$300,000	
2024 Sewer Inspection and Repair			\$375,000				\$375,000
Erickson Avenue Sewer Rehab				\$300,000		\$300,000	
2025 Sewer Inspection and Repair				\$375,000			\$375,000
Great Eastern Sewer Rehab					\$300,000	\$300,000	
2026 Sewer Inspection and Repair					\$375,000		\$375,000
Totals	\$300,000	\$875,000	\$675,000	\$675,000	\$675,000	\$1,700,000	\$1,500,000

Proposed 5-Year CIP: Streets



Legend

Completed & Active

2017

2018

■ 2019

■ 2020

2021

2022 Projects

■■■■ 2022

Note: Location
Street Maintenance

Proposed 5-Year CIP: Streets

Project Name	Project Costs					Funding Sources				
	2022	2023	2024	2025	2026	CIP Fund	Federal/ State	OPWC	County (FCIB and/or CDBG)	Private
2022 Street Maintenance Program	\$1,700,000					\$1,700,000				
Woodcliff Roadway Improvements	\$6,494,963							\$3,179,477	\$2,250,000	\$1,065,486
Broad and Hamilton Improvement	\$5,477,586	\$5,058,517					\$9,118,799	\$1,417,304		
2023 Street Maintenance Program		\$1,850,000				\$1,850,000				
East Broad Street Roadway Improvements	\$175,000	\$1,825,000						\$2,000,000		
2024 Street Maintenance Program			\$2,000,000			\$2,000,000				
Hamilton Road Improvements		\$175,000	\$1,825,000					\$2,000,000		
2025 Street Maintenance Program				\$2,150,000		\$2,150,000				
Woodcliff Roadway, Phase 2 Improvements			\$300,000	\$5,000,000				\$3,300,000	\$1,000,000	\$1,000,000
2026 Street Maintenance Program					\$2,300,000	\$2,300,000				
2026 OPWC Project (TBD)				\$225,000	\$2,775,000			\$3,000,000		
Totals	\$13,847,549	\$8,908,517	\$4,125,000	\$7,375,000	\$5,075,000	\$10,000,000	\$9,118,799	\$14,896,781	\$3,250,000	\$2,065,486

Recommendations

- Phase in water and sewer utility surcharge
 - July 1, 2022: Implement half of total combined surcharge of \$3.76 (half of total)
 - January 1, 2023: Implement total combined surcharge (\$7.52)
- Apply for Ohio EPA SRF for Water Main Projects
- Integrate 5-Year CIP into annual budget conversations
- Revisit surcharge basis every two years as part of budget process

Next Steps

- **Tentative Consideration Timeline:**
 - Early Summer: Legislation introduced at City Council Subcommittee Meetings
 - Legislation would go all three readings prior to consideration
 - Public Affairs/Development Department to host a Virtual Town Hall during the consideration timeframe to help answer questions
- **Implementation Schedule (If adopted):**
 - July 1, 2022: Phase I of Surcharge Implementation
 - March 2022: Submit for Ohio EPA SRF Funding
 - January 1, 2023: Phase II of Surcharge Implementation

Questions?