

WATER PROGRAM

The Water Program is administered by the Utilities Department. The program is designed to achieve five primary strategic objectives:

- 1) Replace and/or rehabilitate aging infrastructure;
- 2) Maintain or increase system reliability;
- 3) Improve system efficiency;
- 4) Address system growth; and
- 5) Regulatory compliance.

The Water Program continues to plan and invest in the future of the city by maximizing treatment capacity and ensuring facilities are in place to reliably provide water to current and future city residents. The program is slated to improve and enhance the city's water supply, treatment and distribution systems, and provide for new construction and/or upgrades of the city's infrastructure such as pump stations, tanks, treatment facilities, and transmission and distribution water mains.

PRIOR YEAR ACCOMPLISHMENTS

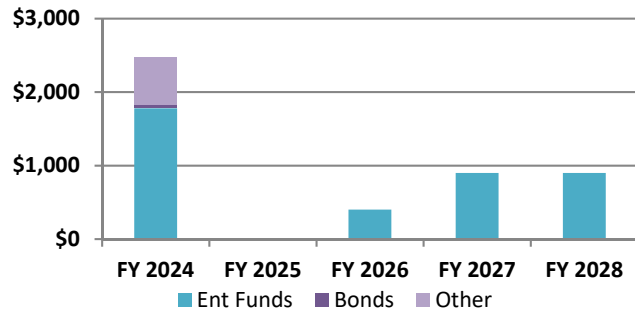
The Water Program continues to invest in ongoing projects to maintain and upgrade the City's reservoir, Water Treatment Facility, and transmission/distribution system. These projects include:

- Upgrading existing 24" water transmission main to 36" (W-042)
- Completed capacity increase study for the water treatment plant (W-047)

THE FIVE-YEAR PLAN (FY 2024 – FY 2028)

The FY 2024 Five-Year Capital Improvement Program (CIP) includes \$3,979,000 in Water funds; \$51,000 in Bonds; and \$650,000 in Other Sources.

FY 2024 funding consists of a \$1,779,000 transfer from Water Fund; \$51,000 in Bonds; and \$650,000 in Other Sources.



(Dollars in Thousands)

FY 2024 CAPITAL PROJECTS

24" Transmission Main Replacement (W-042)

Ongoing work to replace the existing 24" transmission main.

Water Treatment Plant Improvements

Ongoing improvements at the water treatment plant to increase finished water capacity to 18 MGD (W-047), clear well addition and roof renovation (W-065), and replacement of the super pulsator PLC (W-079).



FY 2024 MAINTENANCE CAPITAL PROJECTS

Main Replacement/Looping (W-050)

Replace undersized and aging/failing water mains and loop existing dead-ends on Weems Road (Sudley Road to Longstreet Drive).

Water Plant Improvements (W-070)

Ongoing replacement and refurbishment of components at the Water Treatment Plant.

Water Meter AMR Upgrade (W-078)

Replacement of current failing AMI nodes with AMR nodes to increase reliability and assist in recapturing lost revenue due to failing technology

NEW CAPITAL PROJECTS

- Water Meter AMR Upgrade (W-078)
- Super Pulsator PLC Replacement (W-079)
- Dry Storage Structure (W-080)
- Conventional Filter Underdrain Replacement (W-081)

SUMMARY OF WATER CAPITAL PROJECTS

(\$ in Thousands)

Cost Estimates	Prior Years	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Future Years	Total Project	5-Year CIP
Planning	2,275	250	-	400	-	-	-	2,925	650
Land	-	-	-	-	-	-	-	-	-
Construction	58,817	2,230	-	-	900	900	-	62,847	4,030
Total Cost:	61,092	2,480	-	400	900	900	-	65,772	4,680

Funding Sources

General Fund	-	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-	-
Water Fund	12,980	1,779	-	400	900	900	-	16,959	3,979
Electric Fund	-	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-	-
Bonds	25,412	51	-	-	-	-	-	25,463	51
State	-	-	-	-	-	-	-	-	-
Federal	22,700	-	-	-	-	-	-	22,700	-
NVTA	-	-	-	-	-	-	-	-	-
Other Sources	-	650	-	-	-	-	-	650	650
Total Funding:	61,092	2,480	-	400	900	900	-	65,772	4,680

Operating Impacts

Staffing (Costs) Savings	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-	-
Debt Service	-	-	(3)	(3)	(3)	(3)	(44)	(56)	(12)
Net Revenue:	-	-	(3)	(3)	(3)	(3)	(44)	(56)	(12)

WATER CAPITAL PROJECT LISTING

(\$ in Thousands)

Project Name:	Prior Years	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Future Years	Total Project	5-Year CIP
24" Transmission Main	34,546	1,354	-	-	-	-	-	35,900	1,354
Finished Water Capacity Increases	7,600	-	-	-	-	-	-	7,600	-
Clear-Well Addition and Roof	8,946	826	-	-	-	-	-	9,772	826
Nokesville Road Water Main	1,300	-	-	-	-	-	-	1,300	-
Surge Tank Expansion	2,000	-	-	-	-	-	-	2,000	-
Screw Press Decant	6,700	-	-	-	-	-	-	6,700	-
Super Pulsator PLC Replacement	-	300	-	-	-	-	-	300	300
Dry Storage Structure (Pole Barn)	-	-	-	200	400	400	-	1,000	1,000
Conventional Filter Underdrain	-	-	-	200	500	500	-	1,200	1,200
Total:	61,092	2,480	-	400	900	900	-	65,772	4,680

W-065 Clear-Well Addition and Roof Renovation

Year Introduced: 2011
Change: Increased Estimate
Associated Proj: W-047
Program Area: Water
Managing Dept: Utilities
Manager: T. Dawood
Plan Conformance: CFI 7.4.3

Est. Start: 07/01/2017
Est. Comp: 06/30/2025



Description:

Construct a second clear-well to improve reliability of the treatment plant per current design standards. With the new clear-well online, the roof of the existing clear-well will be rehabilitated due to age and observed deterioration identified during an inspection. This project ensures the ability to continue to provide water to the City's customers increasing the current 1.3 MGD capacity to 2.6 MGD.

(\$ in 1,000s)

Cost Estimate:	Prior Years	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Future Years	Total Project
Planning	200	250	-	-	-	-	-	450
Land	-	-	-	-	-	-	-	-
Construction	8,746	576	-	-	-	-	-	9,322
Total Cost:	8,946	826	-	-	-	-	-	9,772

Funding Sources:

General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	3,550	125	-	-	-	-	-	3,675
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	5,396	51	-	-	-	-	-	5,447
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	650	-	-	-	-	-	650
Total Funding:	8,946	826	-	-	-	-	-	9,772

Operating Impacts:

Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	(3)	(3)	(3)	(3)	(44)	(56)
Net Revenue:	-	-	(3)	(3)	(3)	(3)	(44)	(56)

WATER MAINTENANCE CAPITAL PROJECT LISTING

The City identifies Capital Projects with a cost greater than \$100,000 and a useful life of 10+ years. The City recognizes that there are additional projects/needs that are capital in nature but do not meet the requirement set forth for a capital project. These additional projects/needs are considered Maintenance Capital Projects, a list of which is provided below for the Water program.

Project Name	Prior Years	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Future Years	Total Project
Main Replacement / Looping	4,144	400	400	400	400	400	-	6,144
Water Plant Improvements	2,617	600	600	600	600	600	-	5,617
Conventional Filter Rehabilitation	488	-	-	-	300	300	300	1,388
Water Meter AMR Upgrade	304	300	300	400	400	-	-	1,704
Total Cost:	7,553	1,300	1,300	1,400	1,700	1,300	300	14,853

Funding Sources

General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	5,861	1,300	1,300	1,400	1,700	1,300	300	13,161
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	1,692	-	-	-	-	-	-	1,692
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding:	7,553	1,300	1,300	1,400	1,700	1,300	300	14,853