

2023 Town Report Water & Wastewater Department

The Harwich Board of Water/Wastewater Commissioners and Water Department respectfully submit our Annual Report to the Honorable Select Board and to the citizens of the Town of Harwich for the year 2023.

Board of Water and Wastewater Commissioners

The Board of Water & Wastewater Commissioners is comprised of an elected 5-member board and responsible to the Town of Harwich for the administration, maintenance, and operation of the water and sewer system.

2023 Public Water Systems Awards

The Harwich Water Department received the 2023 Public Water Systems Award from the Massachusetts Department of Environmental Protection for Outstanding Performance and Achievement in the Medium and Large Community Water System Category. Through the hard work and dedication of department staff, 2023 marks the ninth consecutive year Harwich has been selected to receive the PWS Award.

Water Operations

The Water Department offers a wide variety of services from seasonal water turn on/off, new and renewal water service installation, utility mark outs, final readings for property transfers, backflow inspection and much more. Below is a summary of 1,445 services performed in 2023:

Projects & Accomplishments

The Department remained very active throughout 2023, please find some of the more notable projects & accomplishments below:

- Replaced failed submersible pump/motor with a vertical turbine pump/motor and installed a new 80kW emergency standby generator at Station 7
- Renewed 42 water services in East Harwich in preparation for the Phase 3 Sewer Project
- Completed upgrades to the Water & Sewer SCADA Systems
- Abandoned water main used to feed the old Brooks Park Water Storage Tank
- Abandoned 2" water main on Wyndemere Rd
- Replaced 3 gate valves at the Bay Road Wellfield
- Replaced the pump, motor, and drop pipe at Well 1
- Replaced the motor at Well M-2
- Relined well casing & replaced the pump at Well 4
- Azalea Drive Bridge Water Main Improvements – Installed dual 12" water mains across the new bridge improving redundancy in the Headwaters Drive neighborhood.
- Bruce Cahoon Water Treatment Plant Backwash Lagoon Media Replacement – This project included the excavation of water treatment plant residuals from 2 backwash filter beds and re-installation of clean sand filter media.
- New Source Exploration – Ongoing site investigation occurred throughout 2023 around Well #10 in North Harwich. Highlights to date include installation of an 8" diameter test production well, installation of 2" observation wells, and the installation of surface water gauges.

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- Route 28 Water main Replacement Project– Design of the Route 28 Water Main Replacement Project is nearly complete; the project is anticipated to be bid in the spring of 2024. This project includes the replacement of an old 1930-1940s era 8” cast iron water main with a new 12” Ductile Iron water main from Division Street to Lower County Road. Also included is a horizontally directional drilled water main beneath the Herring River improving the resiliency and redundancy of the West Harwich service area.
- Route 28 Dry Sewer Pipe Project – Design of the Route 28 Dry Sewer Pipe Project nearly complete and construction, in connection with the MassDOT repaving project, is expected to begin late 2024. This project includes the installation of a low-pressure sewer main along Route 28 from Division Street to the Herring River.
- Phase 3 Wastewater Collections System - Design of the Phase 3 Wastewater Collections System in East Harwich was approved and is nearly complete. The project will be advertised for bids in early spring of 2024 with construction to commence shortly thereafter. The Phase 3 collections system is intended to address nitrogen impacting the Round Cove and Pleasant Bay sub-watersheds.

Water/Sewer Rates and Financial Overview

The Department is pleased to announce that there is no rate increase scheduled for our current fiscal year, FY24. That said, with the department taking on larger capital improvement projects like the Route 28 Water Main Replacement Project, it is anticipated that water rates will need to be increased in FY25 to support the increased debt service payments. Sewer Rates are anticipated to remain unchanged in FY25.

The stance of the Board of Water/Wastewater Commissioners, with support of the Department, is to keep rates fair and equitable. Rate increases become necessary when revenues are unable to keep up with inflation, increases to operational and maintenance expenses and/or when a new capital project must be funded. To see what’s on the horizon for capital projects for the next five (5) years, please refer to the Capital Planning section in our report.

In addition to water rates and services, the Department continues to look for other revenue sources as well as ways to run more efficiently and economically.

FY23 Water Financial Summary

Expenses

Salary and Wages	1,253,150
Operational Expenses	1,390,598
OPEB Contribution	50,000
Debt	542,586
Indirect Expenses; Insurance & Employee Benefits	<u>759,278</u>
Total Expenses	3,995,612

Revenues

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Water Rates & Recurring Services	4,014,723
Service Repairs & Site Visits	67,231
Markouts & Final Reads	22,557
Service Tight Protection Plan	93,097
Solar Revenue	361,965
Backflow Inspection	12,474
Water Service Installation and Renewals	257,705
Late Fees, Interest, Lien Collection & Penalties	55,904
Wireless Communications Lease	139,548
Investment Revenue	<u>160</u>
Total Revenues	5,025,364

Water Enterprise Fund Balance Summary

FY23 Fund Balance	2,199,380
FY23 Abatements & Adjustments	20,069

Capital Planning

The Board of Water/Wastewater Commissioners and Department staff continues to evaluate the aging infrastructure, water consumption forecasts, revenue projections, and the current debt schedule to identify and plan for the future capital needs of the Department.

5-Year Capital Plan:

- Fiscal Year 2025
 - Well Rehabilitation (WTR)
 - Equipment Replacement – Purchase Loader (WTR)
 - Vehicle Replacement (3x) (WTR)
 - Paint Pleasant Lake Tank (WTR)
 - Collections System Improvements (WW)
- Fiscal Year 2026
 - Pipe Discontinuity Upgrades – Mill Rd & Harbor Rd (WTR)
 - Vehicle Replacement (WW)
- Fiscal Year 2027
 - New Well Construction & Water Treatment Plant Upgrades (WTR)
- Fiscal Year 2028
 - 196 Chatham Road Improvements – Space Building/Garage (WTR)
- Fiscal Year 2029
 - No Project Planned

System Maintenance

Regular distribution maintenance helps minimize the impact on residents and businesses during repairs. For this reason, the Department continues its standard maintenance/monitoring programs, which include:

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- **Hydrant Maintenance-** Evaluate hydrant coatings & re-paint where necessary to prevent corrosion & remove and lubricate hydrant cups to maintain ease of access in the event the hydrant needs to be utilized for fire suppression
- **Valve Maintenance-** Vacuum valve boxes to guarantee access to the valves operating nut & exercise the valve by opening and closing to verify it is in working order
- **Well & Pumps-** Take manual drawdown readings to check the wells specific capacity, which is used to check the wells current capacity to historical data. This information is used to determine if the well needs cleaning & redevelopment, or to verify the pump is functioning in the capacity it was designed
- **Water Storage Tanks-** In addition to the daily site visits, monthly tank inspection reports are completed to document a more thorough evaluation of tank conditions. These monthly reports combined with our contracted annual inspection are used to predict future maintenance needs
- **Water Meter Replacement-** The Department upgrades & replaces all customer meters 15 years or older

Water System

The original water system was established in 1936. Major expansion projects were undertaken in the 1950s, late 1960s and again in the late 1970s, these expansions made the water distribution system what it is today.

The Water Department operation consists of 14 pump stations, approximately 400 acres of well fields/watershed protection areas, 5 corrosion control facilities, 2 elevated and 1 ground-level water storage tanks and 2 Greensand Water Treatment facilities which provide service to 10,187 metered accounts, 131 fire sprinkler accounts and 1,397 fire hydrants for fire protection.

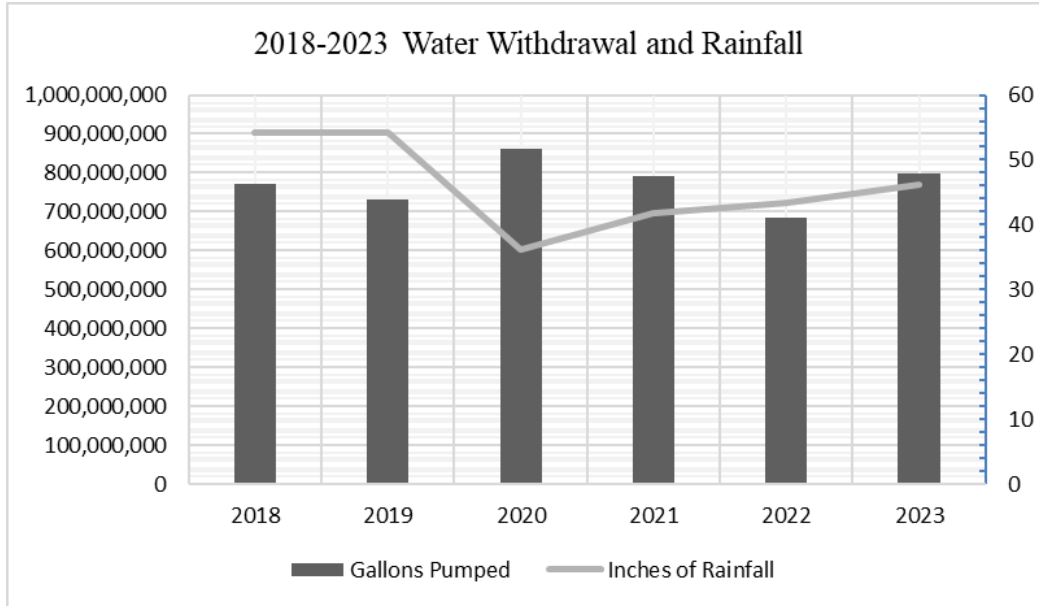
Wastewater Collections System

Construction of the wastewater collections system began in 2019 and received approval from MassDEP to initiate operation for the Contract 1 service area in October 2021, and April 2022 for the Contract 2 service area. The collections system includes sewer stubs for 472 parcels in the Upper & Lower Muddy Creek sub-watersheds and 5 wastewater pumping stations. There were 158 sewer services installed in 2023 bringing the total properties connected to 238.

Water Withdrawal

The Water Department pumped 800,371,746 gallons of water from our wellfields during 2023 which reflects an increase of 114 million gallons over 2022. Most of the water pumped was withdrawn from Chatham Road and Depot Road wells.

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Water Quality

The Harwich Water Department is constantly striving to provide its consumers with the best water possible. The water provided to the residents of Harwich is tested numerous times a month for a variety of contaminants. Harwich Water Department continues to provide water that meets or exceeds State and Federal standards. The results of this testing are located within the Annual Water Quality Report on the Department website. Iron and Manganese levels in the untreated source water have, in the past, caused unfavorable aesthetic qualities in the water. Sources containing these impurities were infrequently pumped. Since the addition of the Bruce Cahoon Greensand Water Treatment Facility and North Westgate Treatment Facility, these minerals are no longer affecting the water quality.

Nitrogen and Phosphorus in fertilizer are the greatest concern to water quality. Lawns need less fertilizer than advertised and there are multitudes of fertilizing alternatives available today. While water quality in Harwich is excellent, let's do our best to keep it that way and protect our precious resource.

Service Tight Protection Plan

As property owner, you are responsible for the repair and maintenance of your water service, and until a problem occurs, you could incur thousands of dollars in repair costs. Harwich Water offers a Service Tight Protection Plan which covers the costs of repairs to your service in the event of a sudden leak. The cost is \$17 per quarter for an annual fee of \$68. You can enroll and learn more by visiting harwichwater.com or by calling the department for a brochure.

Drought Management and Conservation

Groundwater levels within the Monomoy Lens saw a slight improvement in 2023, this in combination with an unseasonably wet summer mitigated the need to implement mandatory water restrictions. Regional drought declarations are made by the Massachusetts Drought Task Force who evaluates precipitation, streamflow, groundwater levels, reservoir levels, fire danger, and crop moisture. The Water Department has drought management signs throughout the

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Harwich Community. Please refer to the signs around town as well as notices on our website for the most up to date information on drought notification and water restrictions.

We continue to encourage our customers to be diligent in conserving water even if the supply is abundant. It is important to keep in mind that the average person uses 80-100 gallons of water per day on the following activities:

Bathing & Hygiene	15 gallons per day	Kitchen	7 gallons per day
Housekeeping	1 gallon per day	Laundry	8 gallons per day
Irrigation/Watering	70 gallons per day	Toilet	19 gallons per day

To review your metered water bill, divide your water usage by the number of days in the billing period (approximately 90 days) and by the number of residents of your household to determine your average.

High Consumption and Irrigation Systems

Most of our high consumption calls come in after the October bill is received. When we receive these calls, the irrigation system usually has been shut down for the season and the seasonal home is vacant. We cannot stress enough the importance of becoming familiar with your irrigation systems to anticipate this expense. You may need the help of your irrigation company to determine the number of zones, number of heads in each zone, frequency of zones running, and how much water is used for a full cycle and/or each day, each week, each month, etc. Consumption should be monitored on a regular basis by checking your water meter reading so if an issue exists it can be corrected immediately. All water that passes through the meter is the responsibility of the homeowner, and who wants to pay for water that is lost?

We would also like to remind our customers who do have an irrigation system that a testable backflow device must be installed on the line that feeds your irrigation system. This device is put in place to protect contaminants from being pulled back into the public water supply.

Conclusion

As we begin 2024, the Board of Water/Wastewater Commissioners would like to thank the dedicated staff and further extend our appreciation to all Town Departments, Town Committees, Boards and Residents for their continued support.

Sincerely,

Board of Water/Wastewater Commissioners

Gary Carreiro, Chairman

Noreen Donahue, Vice Chair

Allin Thompson, Clerk

Judith Underwood, Commissioner

John Gough, Commissioner