

Town of Harwich
2017 TOWN REPORT - WATER DEPARTMENT

The Harwich Board of Water Commissioners and Water Department respectfully submit our Annual Report to the Honorable Board of Selectmen and to the citizens of the Town of Harwich for the year ending 2017.

Operations

The Water Department offers a wide variety of services from seasonal water turn on/off, new and renewal water service installation, utility markouts, final readings for property transfers, backflow inspection and much more. Below is a summary of services performed in 2017:

2017 Annual Statistics of Services Performed

Curb Stop Repair / Renewals	5	Meter Replacement	461
Final Read for Property Transfer	394	Seasonal Turn On/Off	1126
Frozen Water Meters / Services	2	Service Repairs <i>general</i>	194
Hydrant Installation/Replacement	2	Water Main Breaks/Repairs	5
Hydrant Maintenance/Repair	1	Water Service Installation	40
Mark Outs	365	Water Service Renewal	47
Meter Installation <i>new</i>	39		

We are pleased to report that automated meter reading technology now exists for 99.9% of our customers. Thanks to this automation has allowed us to plan for quarterly meter reading and billing. The move from semi-annual billing to quarterly billing is planned to commence in FY19, which begins in July 2018.

Projects & Accomplishments

2017 was an extremely eventful year for the Harwich Water Department. Please find some of the more notable projects & accomplishments below:

- The Lothrop Ave. ground level storage tank & pumping station was put online in May
- Completed the installation of the new Supervisory & Data Acquisition(SCADA) system
- Cleaned, redeveloped, and replaced pumps & motors in 3 wells located at the Chatham Road wellfield
- Replaced the failed submersible pump at Well 6 with a more reliable vertical turbine pump & motor
- Completed preparatory work in Harwich Port to begin 2” water main replacement in 2018
- Implemented a uni-directional flushing program to increase water quality throughout the community
- Continued facility upgrades, including but not limited to, replacing older wooden trim with PVC board, replacing lighting fixtures with LEDs, replacement of deteriorating exterior fiberglass enclosures with stainless steel enclosures, replace RTU storage shed at Rt. 39 tank, replaced older propane heaters in remote wells with new electric unit heaters

Town of Harwich
2017 TOWN REPORT - WATER DEPARTMENT

- Pressure washed & applied an anti-fungal coating to the exterior of the two elevated storage tanks
- Installed mobile radio system in all department vehicles
- Renovated “Building C” at the Chatham Rd. wellfield to provide for indoor storage of waterworks materials & function as an indoor workshop.
- Switched from Sodium Hydroxide (Naoh) to Potassium Hydroxide (Koh) for pH adjustment. Potassium Hydroxide is a more stable chemical and can handle temperature fluctuation without freezing.
- Replaced 2 vehicles in the departments fleet
- Implemented a program for large meter replacement which includes all meters in the distribution system larger than 1 ½”
- Began engineering for water main improvements on Lower County Rd.

Water Rates and Financial Overview

The Department is pleased to announce that there is no rate increase scheduled for our current fiscal year; FY18. Implementing quarterly billing in FY19 will result in a modification to the tier structure and/or rates. Any changes to water rates require legal notification and a public hearing.

Although the stance of the Board of Water Commissioners with support of the Department is to keep rates fair and equitable, water 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 whats on the horizon for capital projects for the next seven (7) years, please refer to the System Improvements 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.

FY17 Financial Summary

Expenses

Salary and Wages	1,162,233
Supplies, Services & Maintenance/Repair	1,112,439
Indirect Expenses; Insurance & Employee Benefits	587,382
Debt	830,919
Encumbrances	<u>32,054</u>
Total Expenses	3,725,027

Revenues

Water Rates & Recurring Services	4,123,194
Service Repairs & Technical Services	159,073

Town of Harwich
2017 TOWN REPORT - WATER DEPARTMENT

Service Tight Protection Plan	59,790
Solar Revenue	143,338
Backflow Inspection	20,772
Water Service Installation and Renewals	191,252
Late Fees, Interest, Lien Interest & Penalties	72,054
Wireless Communications Lease	<u>151,471</u>
Total Revenues	4,920,944

FY17 Abatements & Adjustments 15,542

Water Enterprise Fund Balance Summary

FY17 Fund Balance **2,312,182**

Capital Planning

In 2012, the Department employed an independent engineering firm to evaluate the department's assets, population projections; water needs forecasts, and develop a "30-Year Master Plan". The master plan provides department with recommendations for capital improvements to support the population projections & water needs forecasts. The master plan is one of the resources used as a reference when developing the departments' 7-year capital plan that is submitted annually to the Capital Outlay Committee. Some of the recently submitted & future requests can be found below:

- 2018 Lower County Road water main improvements
- 2018 Crossover Project / Replace old metal water services along Nat'l Grid project route. (currently exploring bidding/phasing options)
- 2018 Fleet/Truck Acquisition (2)
- 2018 Asphalt Management Plan – Repaving Well Access Roads
- 2021 Asbestos Main Project Engineering
- 2022 Asbestos Main Project; Remove/Replace 7,900 feet of Asbestos Water Main.
- 2024 Phase 1- Pipe Discontinuity Replacement
- 2025 Pleasant Lake Tank Rehabilitation

System Maintenance

The Department experience a couple of larger water main breaks in 2017 that required a large area of the distribution system to be shutdown, leaving many people without water while repairs were made. It is a priority of the Department to install more gate valves in distribution system, which will ultimately reduce the number of customers effected in the event of a water main break, or distribution system maintenance. Additionally, the Department continues its standard maintenance/monitoring programs, which include:

- **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

Town of Harwich
2017 TOWN REPORT - WATER DEPARTMENT

- **Valve Maintenance-** Vacuum valve boxes to guarantee access to the valves operating nut & exercise the valve by opening and closing to verify it is 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 is in need of 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 the tanks 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

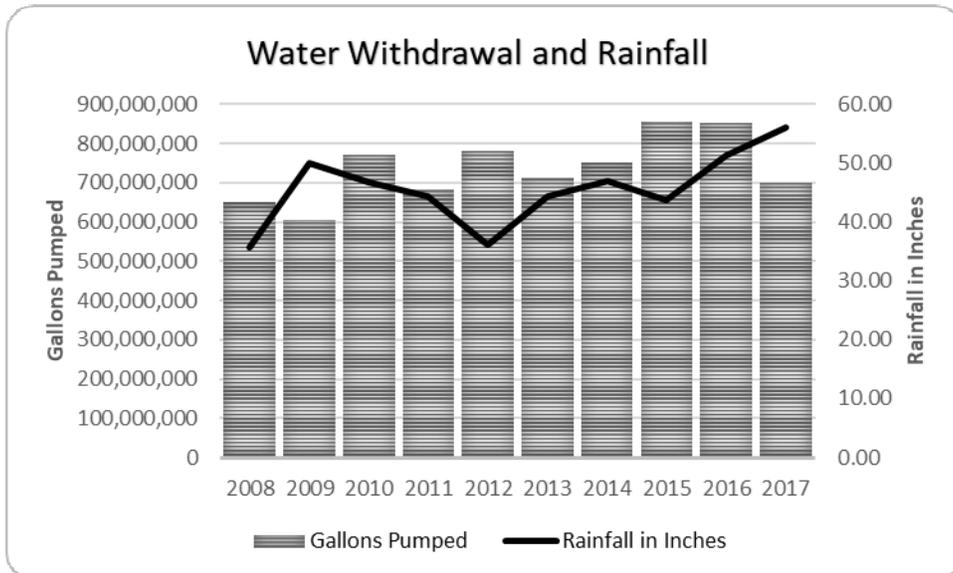
Water System

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.

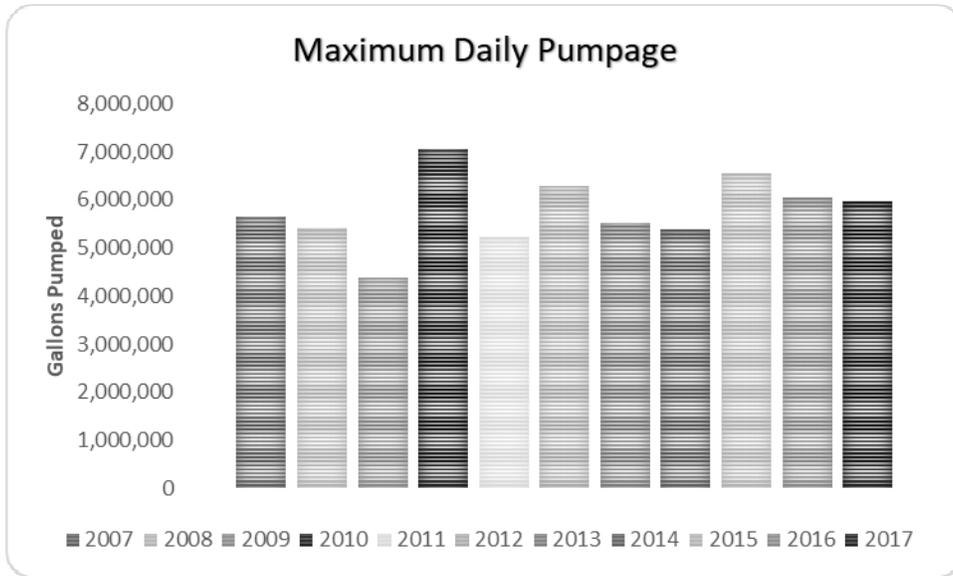
The Water Department operation consists of 14 pump stations, approximately 400 acres of well fields/watershed protection areas, 5 corrosion control facilities, 2 elevated and 1 ground-level water storage tanks and 2 new Greensand Water Treatment facilities which provide service to 9,957 metered accounts, 125 fire sprinkler accounts and 1,360 fire hydrants for fire protection.

Water Withdrawal

The Water Department pumped 699,206,010 million gallons of water from our wellfields during 2017. Most of the water pumped was withdrawn from Chatham Road and Depot Road wells.



**Town of Harwich
2017 TOWN REPORT - WATER DEPARTMENT**



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 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. Generally speaking, 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

Did you know that as a homeowner you are responsible for the water service line that runs from the street to your home? In many cases those lines have been in place since your home was originally built. Many homeowners assume the lines are the water department's responsibility or any problems on the lines are covered under their homeowners' insurance policies. Unfortunately, these are false assumptions. Replacing a water service can cost \$2,000 or more.

Why not protect yourself and sign up for our *Service Tight Protection Plan!* For as little as \$68 per year we can protect participants from costly repairs or replacement costs in the event of a water service break at your property. Exclusions do apply so please see our brochure for

Town of Harwich
2017 TOWN REPORT - WATER DEPARTMENT

eligibility. You can learn more about this plan and enroll by visiting our website and/or feel free to contact our office and we'll mail you a brochure.

Drought Management and Conservation

The Water Department has placed drought management signs throughout the Harwich Community. During peak season please refer to the signs around town as well as notices on our website for drought notification. 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 180 days) and also by the number of residents of your household to determine your average.

High Consumption and Irrigation Systems

The majority of our high consumption calls come in after the September bill is received. In general, when we receive these calls, the irrigation system has been shut down for the season and the seasonal home is vacant. We can't 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 containments from being pulled back into the public water supply. More importantly, it is a waste of our precious water resource.

Conclusion

As we begin 2018, the Board of Water Commissioners would like to thank long time Commissioner Danette Gonsalves who has stepped down after 22 years of serving the community. We would also like thank the dedicated staff and further extend our appreciation to all Town Departments, Town Committees, Boards and Residents for the continued support.

Town of Harwich
2017 TOWN REPORT - WATER DEPARTMENT

Sincerely,

Board of Water Commissioners

Gary Carreiro, Chairman

Allin Thompson, Vice Chairman