



---

## **Purchase of the Water Company**

*Background*

# Table of Contents

---

Table of Contents.....	1
Ownership History .....	2
When was the water company founded? .....	2
How many customers are served by the water company and where are they located?.....	2
Does Hingham have the right to purchase the water company? How is the acquisition price determined? ....	2
Can Aquarion refuse to sell the water company or claim that it is not for sale? .....	3
What is the ownership history of the water company?.....	3
What do we know about the current owner of the water company? .....	3
How many communities in Massachusetts are serviced by a privately owned water company today? .....	4
Water Supply and Water Delivery Infrastructure .....	5
What is the water source and water delivery system for Service Area A? .....	5
What do we know about the condition of the water delivery system?.....	5
How many emergency water repairs have occurred in Hingham? .....	6
Regulation.....	7
How is the water company regulated? .....	7
How are withdrawal limits regulated? .....	7
How does the Department of Environment Protection (DEP) assess the performance of water companies?...	7
What is unaccounted for water and how does Service Area A unaccounted for water compare to the MA standard set by the DEP? .....	7
What is the impact of unaccounted for water? .....	8
How are water rates currently set?.....	8
What is the history of Hingham water rates? .....	9
What do we know about the current rate case? .....	9
What is the capital surcharge that is part of the rate case? .....	10
Water Company Acquisition .....	11
Has Hingham previously considered purchasing the water company? .....	11
Why did Town Meeting authorize a feasibility study in 2012? .....	11

# Ownership History

## When was the water company founded?

The Hingham Water Company was incorporated in 1879 by the General Court of Massachusetts through Chapter 139 “for the purpose of furnishing the inhabitants of Hingham with pure water for the extinguishment of fires, generation of steam, domestic, and other purposes...”

In 1881, the General Court authorized the Hingham Water Company to extend its water pipes through Hull and part of Cohasset.

## How many customers are served by the water company and where are they located?

The water company service territory is referred to as “Service Area A.” As of year-end 2017, Service Area A includes a total of 13,168 connections (customers); 8,196 connections in Hingham, 4,638 connections in Hull, and 334 connections in North Cohasset.

Since its incorporation, the water company has been privately owned. The Town of Hingham has never owned the water company.

## Does Hingham have the right to purchase the water company? How is the acquisition price determined?

Section 11 of Chapter 139 of the 1879 statute allows the Town to purchase the property and rights of the water company “at any time” if approved by a 2/3 affirmative vote at Town Meeting. The capital property includes two storage tanks, 190 miles of pipe, a water treatment plant, a clearwell, and 10 wells.

The statute defines the formula for calculating the purchase price. The formula is “the actual cost of the same, together with interest thereon at a rate not exceeding ten percent per annum, said cost to include all actual loss or damage paid or suffered by said company...deducting from said cost any and all dividends which may have been paid...or at such a price as may be mutually agreed upon...”.

### History



1879:

- Hingham Water Company incorporated by the General Court of Massachusetts

1881:

- General Court authorized extension through Hull and North Cohasset

13,168 connections (customers) as of 2017:

- Hingham: 8,196
- Hull: 4,638
- North Cohasset: 334

Source: Aquation return to MA DPU Year ending 12/31/2017

*The Hingham Water Company has always been privately owned*

### Hingham’s right to purchase

- The 1879 statute allows the Town to purchase the property and rights of the water company “at any time” if approved by a 2/3 affirmative vote at Town Meeting
- The statute defines the formula for calculating the purchase price
- The owner of the water company cannot refuse to sell it

## Can Aquarion refuse to sell the water company or claim that it is not for sale?

No. Under the 1879 statute that formed the Hingham Water Company, the Town has an ongoing right to purchase the water company even if Aquarion is an unwilling seller.

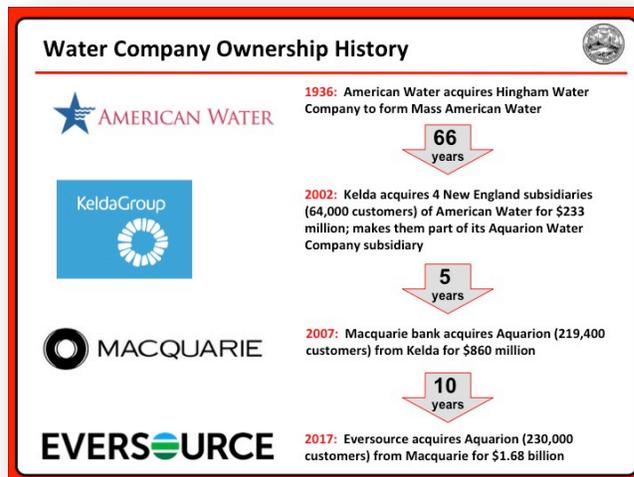
## What is the ownership history of the water company?

According to available records, in 1936, American Water acquired the Hingham Water Company in a merger with Community Water Service to form Mass American Water. Mass American Water owned and operated the water company for 66 years.

In 2002, Kelda, a British company, acquired four New England subsidiaries of American Water, for \$233 million. Kelda made these subsidiaries, which contained 64,000 customers, part of its Aquarion Water Company subsidiary.

Kelda owned and operated the water company for 5 years. In 2007, it sold Aquarion (total of 219,400 customers) to Macquarie, an Australian bank, for \$860 million.

Macquarie owned and operated the water company for 10 years. In 2017, Eversource Energy purchased Aquarion (230,000 customers) from Macquarie for \$1.68 billion.



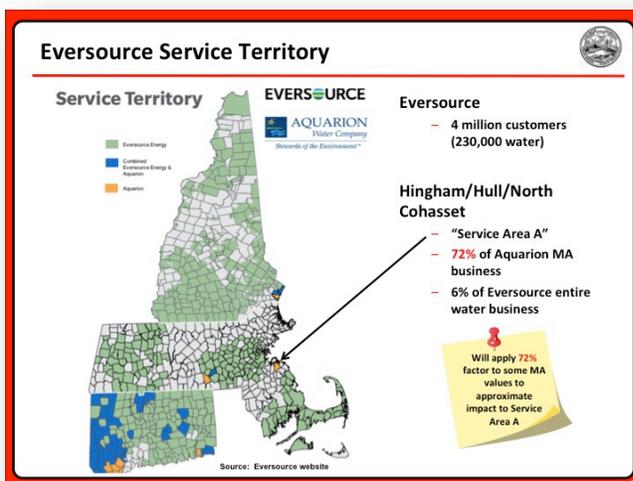
## What do we know about the current owner of the water company?

Eversource Energy is a publicly traded company that provides electricity, gas, and water to customers throughout New England. Eversource was formed in 2012 with the merger of NSTAR Electric and Gas with Northeast Utilities and its operating companies.

According to its website, Eversource currently has 4 million customers, 230,000 of which are water customers.

In late April 2018, Eversource made an unsolicited offer to acquire Connecticut Water, which has 450,000 customers.

The Hingham/Hull/North Cohasset water system is referred to as "Service Area A." It represents roughly 72% of Eversource/Aquarion's MA water business, and 6% of its total water business.



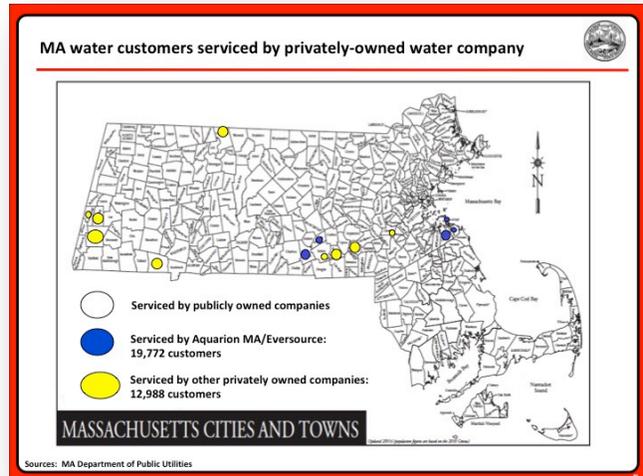
**How many communities in Massachusetts are serviced by a privately owned water company today?**

According to the DPU, privately owned water companies service a portion or all of 14 communities and 32,760 customers.

Aquarion/Eversource services 19,772 customers in 5 communities: the Towns of Millbury, Oxford, Hingham, Hull, and part of Cohasset.

9 other municipalities are serviced by a privately owned water company, representing 12,988 customers: the Town of Milford and portions of Dover, Northfield, Granville, Great Barrington, Stockbridge, West Stockbridge, Northbridge, and Sutton.

All other water customers in the Commonwealth are serviced by a public water company (including the MWRA).



# Water Supply and Water Delivery Infrastructure

## What is the water source and water delivery system for Service Area A?

The primary water source for Service Area A is the Weir River watershed, which feeds Fulling Mill Pond and Accord Pond. The rights to these ponds were purchased in 1886 (Fulling Mill Pond) and 1912 (Accord Pond).

The water delivery system includes 2 storage tanks, 190 miles of pipe, and a water treatment plant.

The MA Department of Environmental Protection (DEP) regulates the amount of water that communities can withdraw from the aquifer. The authorized withdrawal limit for Service Area A is 1.281 billion gallons per year, which represents a daily average of 3.5 million gallons.

### Water Supply and Water Delivery System

- **Water sources:**
  - Fulling Mill Pond (rights purchased in 1886 for \$2,000)
  - Accord Pond (rights purchased in 1912 for \$1,500)
  - 12 wells/pumping stations
- **Water Delivery System:**
  - 2 storage tanks
  - 190 miles of pipe (app. 1 million feet)
  - Water treatment plant
- **DEP Authorized withdrawal limit:**
  - 1.281 billion gallons per year
  - 3.5 million gallons daily average

Sources: Tata and Howard Capital Efficiency Plan; Aquarion Return to MA DPU Year ending 12/31/2017

## What do we know about the condition of the water delivery system?

According to documents provided by Aquarion in its current rate case, the 10 year average water main replacement in Service Area A is 2,000 feet. This includes one year (2016, which is also the rate case test year) in which replacement was significantly higher than in any other year. Service Area A contains 190 miles of pipe, or approximately 1 million feet.

Water main replacement spending for Aquarion of MA (both Service Areas A and B) from 2008 to 2014 ranged from less than \$100,000 per year to just over \$500,000 per year.

In 2016, Aquarion retained a firm to utilize simulation software for the purpose of developing a water- main Renewal and Replacement (R&R) plan through 2050.

The firm's report concluded, "*The minimum investment that is projected is \$1.8M that could be maintained up to 2070 but, then, would need to be ramped up to \$2M by 2100 (including the new mains)*" (Source: infraPLAN KANEW Study, dated November 6, 2016).

Service Area A represents roughly 72% of Aquarion of MA business; applying this percentage to the KANEW-recommended investment amount suggests annual capital spending of \$1.3 million per year for Service Area A water-main R&R.

### Water Main Replacement History

**Service Area A - Historical Water Main Feet Replaced**

**Historical Water Main Replacement Aquarion of MA**

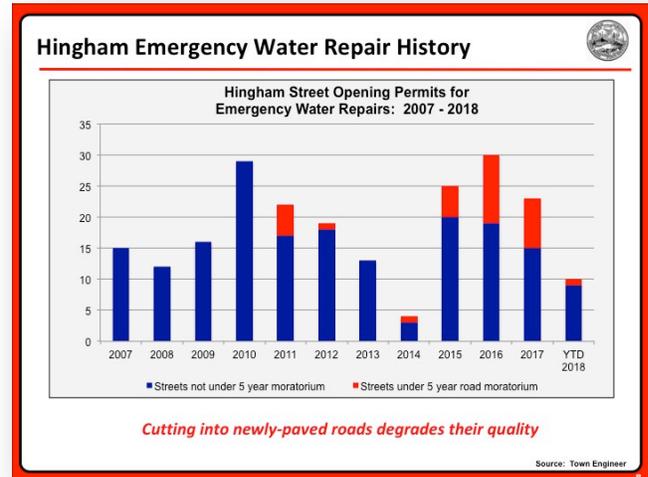
- KANEW study commissioned by Aquarion
- Identified and evaluated annual capital investment options for MA
  - \$2.6 million (illustrated)
  - \$1.8 million (recommended)
  - \$1.1 million

72% of recommended investment – \$1.3 million per year for Service Area A

Sources: DPU File Room; Exhibit AWC-TMD-1 (Supp.) dated 9 Feb 2016; Exhibit RR-HR-6 dated 2 Jul 2016

## How many emergency water repairs have occurred in Hingham?

According to the Town Engineer, since 2007, Aquarion has requested 218 street-opening requests due to emergency water repairs. 32 of these openings were on streets that were under the 5-year road moratorium. Some streets had multiple emergency water repairs.

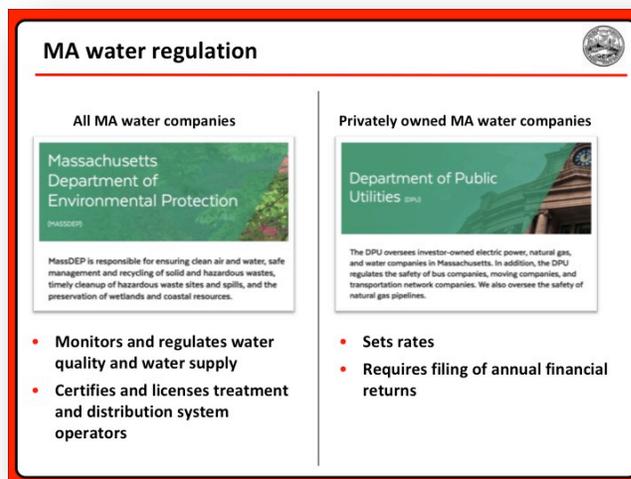


# Regulation

## How is the water company regulated?

The Massachusetts Department of Public Utilities (DPU) regulates privately owned water companies by setting rates and requiring annual financial reports. The Massachusetts Department of Environmental Protection (DEP) regulates all companies in Massachusetts. It monitors and regulates water quality and water supply including withdrawal limits, and certifies and licenses water treatment and distribution system operators.

The Massachusetts Water Management Act defines annual water withdrawal limits for all MA communities.



**MA water regulation**

**All MA water companies**

Massachusetts Department of Environmental Protection

MassDEP is responsible for ensuring clean air and water, safe management and recycling of solid and hazardous wastes, timely cleanup of hazardous waste sites and spills, and the preservation of wetlands and coastal resources.

- Monitors and regulates water quality and water supply
- Certifies and licenses treatment and distribution system operators

**Privately owned MA water companies**

Department of Public Utilities

The DPU oversees investor-owned electric power, natural gas, and water companies in Massachusetts. In addition, the DPU regulates the safety of bus companies, moving companies, and transportation network companies. We also oversee the safety of natural gas pipelines.

- Sets rates
- Requires filing of annual financial returns

## How are withdrawal limits regulated?

The Massachusetts Department of Environmental Protection's Water Management Act of 1986 regulates the amount of water that can be withdrawn from Massachusetts ground and surface water resources in order to ensure adequate water supplies for current and future water needs.

The DEP issues Water Management permits for an average daily withdrawal rate. Permits are authorized in five-year increments up to a 20-year maximum. As a permit holder, Aquarion is required to submit annual reports with monthly withdrawal information.

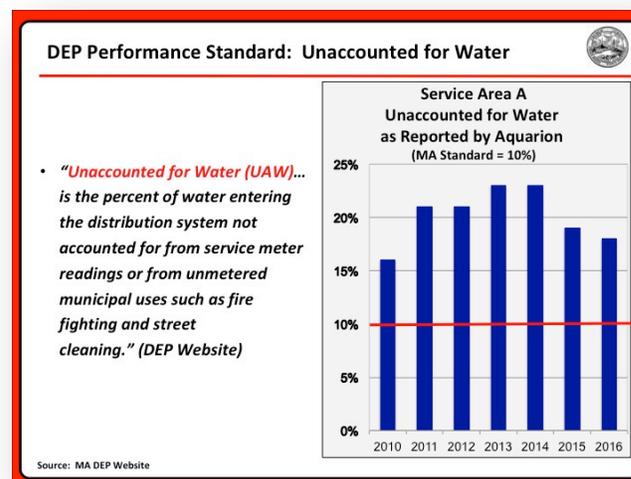
As previously mentioned, the MA Department of Environmental Protection (DEP) regulates the amount of water that communities can withdraw from the aquifer. The authorized withdrawal limit for Service Area A is 1.281 billion gallons per year, which represents a daily average of 3.5 million gallons.

## How does the Department of Environment Protection (DEP) assess the performance of water companies?

The DEP requires all MA water companies to disclose information about consumption and unaccounted for water.

### What is Unaccounted for Water and how does Service Area A Unaccounted for Water compare to the MA standard set by the DEP?

*"Unaccounted for Water (UAW)...is the percent of water entering the distribution system not accounted for from service meter readings or*



from unmetered municipal uses such as fire fighting and street cleaning. UAW values may be high because water is lost through leaks in the distribution system, which may occur in older systems. UAW values may also be high if meters are incorrectly calibrated ... or if unmetered uses are not documented in the ASR. ” (Source: DEP Website)

According to information provided by Aquarion to the DEP, Service Area A Unaccounted for Water has been significantly above the MA standard since 2011. For 2016, Aquarion reported 18% unaccounted for water.

### What is the impact of Unaccounted for Water?

18% Unaccounted for Water translates to approximately 208 million gallons of water each year that is withdrawn from the watershed and not available for consumption.

- 208 million gallons represents the annual consumption of 2,315 households, or 111% of the amount of water pumped from Accord Pond in 2017 (187 million gallons)

Achieving the 10% DEP standard translates to approximately 93 million gallons of water each year that is available for consumption or conservation.

- 93 million gallons represents the annual consumption of 1,029 households, or 29 days of average consumption for all 13,000 ratepayers in Service Area A

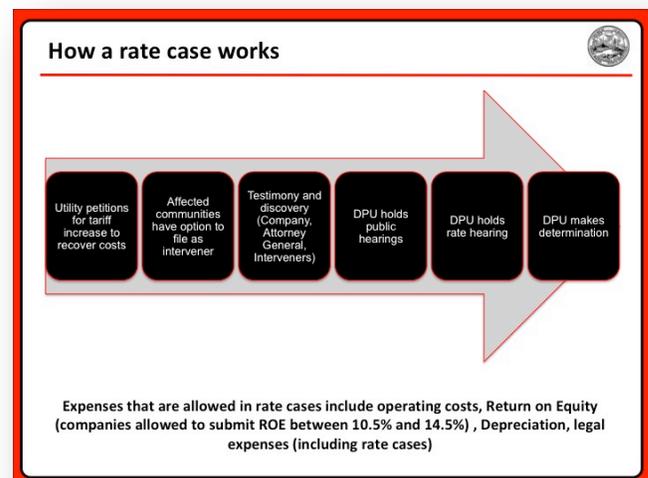
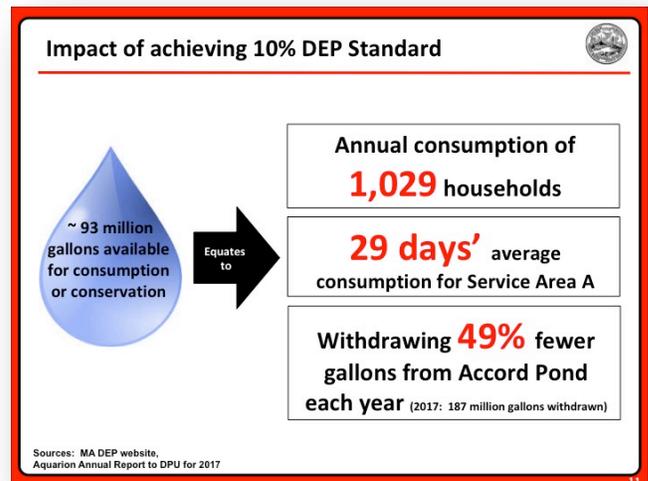
- Alternatively, it would result in 49% fewer gallons withdrawn from Accord Pond each year

Another impact of Unaccounted for Water is the ability to petition the DEP for an increase in the water system’s withdrawal limit. An increase in the water system’s withdrawal limit would require a new permit application and is not assured. Among other things, the level of Unaccounted for Water is considered. It is believed that the Hingham water system would need to further reduce Unaccounted for Water to be at 15% or lower in order to petition the DEP.

### How are water rates currently set?

Water rates are set by the Massachusetts Department of Public Utilities (DPU). Utilities submit a “rate case,” which is essentially a petition to increase the tariff charged to customers to allow utilities to recover their costs and to make a profit.

Once filed, affected communities have the option to file as an intervener, which gives them the ability to engage in the rate case discovery and hearing process.



The rate case continues with testimony and discovery from the utility, the MA Attorney General's Office, and interveners. As part of this process, the DPU schedules and holds at least one public hearing in affected communities.

A rate hearing is held and the DPU makes and communicates its determination.

The DPU awards rate increases based on a number of factors including operating costs, depreciation, legal expenses, and a guaranteed return to water company owners/investors. Companies are allowed to submit rate cases that yield ROEs between 10.5% and 14.5%. Recent Returns on Equity (ROEs) awarded by the DPU range from 9-11%.

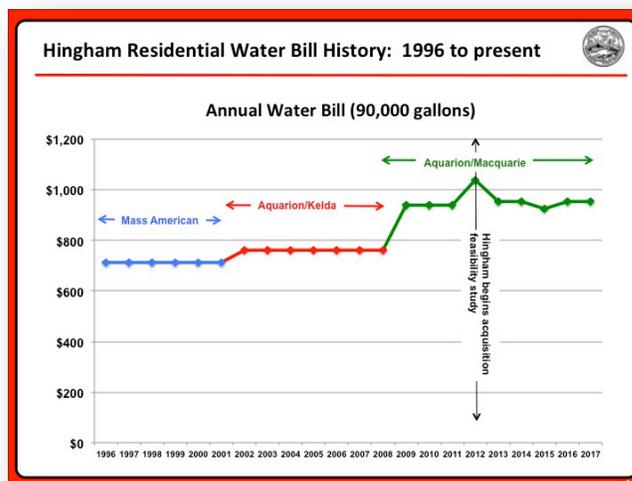
Hingham spends approximately \$75,000 on each rate case (legal and expert witness fees).

### What is the history of Hingham water rates?

The chart shows residential water rate history from 1996 to 2017 based on 90,000 gallons per year consumption. Water rates are color-coded by water company owner.

In 2012, Hingham's water rates were the 5<sup>th</sup> highest in the Commonwealth. At that time, Aquarion indicated that it would seek double digit rate increases every three years.

Shortly after the water company acquisition feasibility study began, Aquarion lowered water rates on two separate occasions. Aquarion has consistently maintained these rate reductions notwithstanding the acquisition feasibility study.

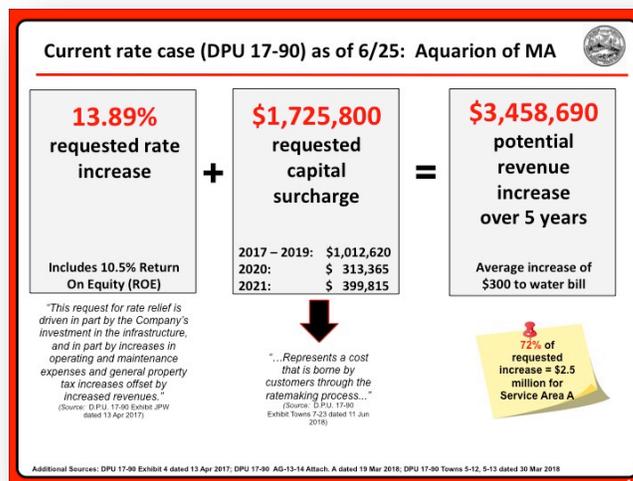


### What do we know about the current rate case?

The rate case currently before the DPU has two components:

- A 13.89% rate increase
- A capital surcharge of \$1,725,000 for Service Areas A and B that would increase water bills several percent each September 1<sup>st</sup> starting in 2019. This highlights the Town's long-standing position that ratepayers pay for capital improvements, regardless of ownership

If approved by the DPU, the total impact of the combined rate increase and annual surcharge could increase ratepayer bills by \$300 in just the first five years.



Annual surcharges are anticipated in succeeding years, but Aquarion has not disclosed its plans for the size and duration of those surcharges beyond

2021. Aquarion has stated that those surcharges would be included in future rate increase filings submitted for DPU approval.

Aquarion's current rate case includes a 10.5% return.

### ***What is the capital surcharge that is part of the rate case?***

The capital surcharge being proposed is called WRIM. WRIM stands for Water Reliability Improvement Mechanism. This is a proposed annual surcharge to both accelerate capital investment and to allow Aquarion to recover costs sooner.

As part of the rate case, Aquarion representatives spoke about the need for WRIM:

- *“The Company is not in a position to increase the capital budget without introduction of the WRIM mechanism”* (Source: D.P.U. 17-90 Exhibit: Towns 7-3, 8 Jun 2018)
- *“...other water companies, including the Company’s affiliates operating in other states, have these types of mechanisms in place to support incremental capital investment”* (Source: D.P.U. 17-90 Exhibit: Towns 7-8, 8 Jun 2018)



**Current rate case: capital surcharge**

- **WRIM: Water Reliability Improvement Mechanism**
  - Proposed surcharge to accelerate capital investment and recover costs sooner
- **Rationale**
  - *“The Company is not in a position to increase the capital budget without introduction of the WRIM mechanism”* (Source: D.P.U. 17-90 Exhibit: Towns 7-3, 8 June 2018)
  - *“...other water companies, including the Company’s affiliates operating in other states, have these types of mechanisms in place to support incremental capital investment”* (Source: D.P.U. 17-90 Exhibit: Towns 7-8, 8 June 2018)
- **How it works**
  - Annual surcharge levied as % of revenue base, with limits for a given year and given rate case
  - *“The Company is proposing that the WRIM would apply to incremental distribution projects completed after the end of the test year. This proposal is not isolated to specific projects.”* (Source: DPU 17-90 Towns 7-22, 8 Jun 2018)
- **Impact**
  - WRIM investment gets incorporated into rate base, which becomes the basis for the next rate increase (and future WRIM surcharges should they occur)

Based on the information filed with the DPU, an annual surcharge would be levied as a % of the revenue base, with limits for a given year and given rate case.

- *“The Company is proposing that the WRIM would apply to incremental distribution projects completed after the end of the test year. This proposal is not isolated to specific projects.”* (Source: DPU 17-90 Towns 7-22, 8 Jun 2018)

According to filings, the WRIM investment would be incorporated into the rate base, which would become the basis (starting point) for the next rate increase and for future WRIM surcharges should they occur.

# Water Company Acquisition

---

## ***Has Hingham previously considered purchasing the water company?***

Since the water company was incorporated in 1879, Hingham has discussed the possibility of Town ownership at least seven times. The two most recent substantive discussions occurred in 1958 and 1984.

In 1958, a motion to investigate purchasing the water company was considered and voted down by Town Meeting.

The 1984 Annual Town Meeting authorized funds to study the Town's water service, assess its ability to meet future demand, estimate the cost to acquire the company, and project operating costs assuming Town ownership.

Under the direction of the Water Supply Committee, the study was performed by two outside vendors and was completed in 1985. The Water Supply Committee reviewed the vendor reports and concluded that it was not in the Town's best interest to purchase the water company at that time, particularly given the acknowledged need to construct a water treatment plant. It should be noted that those discussions occurred prior to Hingham's establishing a more formalized professional management structure reporting to a full-time Town Administrator.

## ***Why did Town Meeting authorize a feasibility study in 2012?***

The Town decided to reevaluate the long-term benefits of owning and operating its water company for several reasons:

- Water rates (5th highest in the state in 2012)
- Persistent emergency water main breaks without plan to fix in coming year
  - Chronic underinvestment in capital
- Customer complaints about service disruptions and associated fire-safety concerns
- To allow greater Town control over management of water supply and water delivery infrastructure
- Acknowledgment that a private owner's first responsibility is to its shareholders—not its customers

For these reasons, in 2012, the Board of Selectmen requested, and Town Meeting approved, funding to explore the feasibility of Town ownership of the water company.

### **Reasons Hingham initiated feasibility study in 2012**



- Water rates (5th highest in the state in 2012)
- Persistent emergency water main breaks without plan to fix in coming year
  - Chronic underinvestment in capital
- Customer complaints about service disruptions and associated fire-safety concerns
- To allow greater Town control over management of water supply and water delivery infrastructure
- Acknowledgment that a private owner's first responsibility is to its shareholders—not its customers