THE COMMONWEALTH OF MASSACHUSETTS

RETURN

OF

AQUARION WATER COMPANY OF MASSACHUSETTS

TO THE

DEPARTMENT OF PUBLIC UTILITIES

OF MASSACHUSETTS

For the Year Ended December 31, 2018

Name of Officer to whom correspondence should be addressed regarding this report,

Debra Kirven

Official Title

Controller

Office Address: **600 Lindley Street**

Bridgeport, CT 06606

General Information

Principal and Salaried Officers*

Titles	Names	Addresses	Annual Salaries
President Chief Executive Officer	Charles V. Firlotte	Aquarion Water Company 835 Main St., Bridgeport, CT 06604	$447,599.37 * $23,263.81 charged to MA.
Executive Vice President, Treasurer, Secretary and Clerk	Donald J. Morrissey	Aquarion Water Company 835 Main St., Bridgeport, CT 06604	$312,934.08 * $16,993.62 charged to MA.
Vice President of Operations	John P. Walsh	Aquarion Water Company of Massachusetts, Inc. 835 Main St., Bridgeport, CT 06604	$224,949.96 * $25,925.87 charged to MA.
Vice President Corporate Communications	Bruce T. Silverstone	Aquarion Water Company 835 Main St., Bridgeport, CT 06604	$183,137.97 * $0 charged to MA.

Directors*

Names		Addresses	Fees Paid During Year
Charles V. Firlotte		Aquarion Water Company 835 Main St., Bridgeport, CT 06604	$0
Donald J. Morrissey		Aquarion Water Company 835 Main St., Bridgeport, CT 06604	$0
John P. Walsh		Aquarion Water Company 835 Main St., Bridgeport, CT 06604	$0

*By General Laws, Chapter 164, Section 83, the Return must contain a "List of names of all their salaried officers and the amount of the salary paid to each," and by Section 77, the department is required to include in its annual report "the names and addresses of the principal officers and of the directors."

Annual Report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

GENERAL INFORMATION

1. Full corporate title company Aquarion Water Company of Massachusetts Telephone No. (781) 740-6693

2. Location of principal business office 900 Main Street Hingham, MA 02043

3. Date of organization _____ August 9, 1879 4. Date of incorporation March 21, 1879

5. Whether incorporated under general or special law Special

6. If under special law, give chapter and year of act Chapter 139 Act of 1879

7. Give chapter and year of any subsequent special legislation affecting the Company Chapters 59, 88, 54, 168, 482 of Acts 1881, 1886, 1910, 1914, and 1924 respectively

8. Territory covered by charter rights Towns of Hingham, Hull, Millbury, Oxford, and parts of Cohasset and Norwell

9. Capital stock authorized by charter, $5,000,000

10. Capital stock issued prior to August 1, 1914, $300,000

11. Capital stock issued with approval of Board of Gas and Electric Light Commissioners or the Department of Public Utilities since August 1, 1914

37,571 shares of par value of $100.00 each $3,757,100.00

12. If additional stock has been issued during the last fiscal period, give the date, amount and price thereof, the date or dates on on which the same was paid in, and the number of shares so sold and the amounts realized: _____D.P.U. No.

NONE

13. Management Fees and Expenses during the Year

List all individuals, associations, corporations or concerns with whom the company has any contract or agreement covering management or supervision of its affairs such as accounting, financing, engineering, construction, purchasing, operation, etc. and show the total amount paid to each for the year.

Aquarion Company	$63,842
Aquarion Water Company of Connecticut	$1,440,105

14. Date when Company first began to distribute and sell water July 3, 1880

15. Total number of stockholders One

16. Number of stockholders resident in Massachusettes NONE

17. Amount of stock held in Massachusettes, number of shares _____, amount N/A

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Annual Report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

COMPARATIVE GENERAL BALANCE SHEET

The entries in this balance sheet should be consitent with those in the supporting schedules on the pages indicated.
All credit items hereunder should be in red ink

Line No.	Balance at Beginning of Year (a)	Assets (b)	Balance at close of Year (c)	Net Change During Year (d)
1		**INVESTMENTS**		
2	$ 76,306,764	101-113 Plant Investments (p202)	$ 78,735,475	$ 2,428,711
3	$ 2,706,416	114-119 General Equipment (p202)	$ 2,901,060	$ 194,644
4	$ 331,179	201 Unfinished Construction(p202)	$ 1,202,208	$ 871,029
5	$ 1,401	202 Miscellaneous Physical Property (p203)	$ 1,401	$ -
6	$ 41,478	203 Other Investments (p203)	$ 72,914	$ 31,436
7	**$ 79,387,238**	**Total Investments**	**$ 82,913,059**	**$ 3,525,820**
8		**CURRENT ASSETS**		
9	$ 303	204 Cash	$ 180	$ (123)
10	$ -	205 Special Deposits	$ -	$ -
11	$ 41,671	206 Notes Receivable	$ -	$ (41,671)
12	$ 1,013,544	207 Accounts Receivable	$ 1,406,924	$ 393,380
13	$ -	208 Interest and Dividends Receivable	$ -	$ -
14	$ 283,022	209 Materials and Supplies	$ 387,946	$ 104,923
15	$ 2,380,455	210 Other Current Assets	$ 2,468,780	$ 88,325
16	**$ 3,718,995**	**Total Current Assets**	**$ 4,263,830**	**$ 544,835**
17		**RESERVE FUNDS**		
18	$ -	211 Sinking Funds	$ -	$ -
19	$ -	212 Insurance and Other Funds	$ -	$ -
20	**$ -**	**Total Reserve Funds**	**$ -**	**$ -**
21		**PREPAID ACCOUNTS**		
22	$ 8,780	213 Prepaid Insurance	$ 14,798	$ 6,018
23	$ -	214 Prepaid Interest	$ -	$ -
24	$ 33,684	215 Other Prepayments	$ 39,666	$ 5,983
25	**$ 42,464**	**Total Prepaid Accounts**	**$ 54,464**	**$ 12,001**
26		**UNADJUSTED DEBITS**		
27	$ 109,076	216 Unamortized Dept Discount Exp (p203)	$ 83,685	$ (25,391)
28	$ -	217 Property Abandoned	$ -	$ -
29	$ 9,333,854	218 Other Unadjusted Debits (p203)	$ 7,614,682	$ (1,719,172)
30	**$ 9,442,930**	**Total Unadjusted Debits**	**$ 7,698,367**	**$ (1,744,563)**
31				
32	**$ 92,591,627**	**GRAND TOTAL**	**$ 94,929,720**	**$ 2,338,094**

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Annual Report of Aquarion Water Company of Massachusetts — **Year ended December 31, 2018**

COMPARATIVE GENERAL BALANCE SHEET

The entries in this balance sheet should be consitent with those in the supporting schedules on the pages indicated. All debit items hereunder should be in red ink.

Line No.	Balance at Beginning of Year (a)	Liabilities (b)	Balance at close of Year (c)	Net Change During Year (d)
1		**CAPITAL STOCK**		
2				
3	$ 3,757,100	301 Common Stock (p. 204)	$ 3,757,100	$ -
4	$ -	302 Preferred Stock (p. 204)	$ -	$ -
5	$ -	303 Employees' Stock (p. 204)	$ -	$ -
6	**$ 3,757,100**	**Total Capital Stock**	**$ 3,757,100**	**$ -**
7				
8	$ 1,135,450	304 Premium on Capital Stock	**$ 1,135,450**	$ -
9				
10		**BONDS, COUPON AND LONG TERM NOTES**		
11				
12	$ 18,630,000	305 Bonds (p. 204)	$ 18,440,000	$ (190,000)
13		306 Coupon and Long Term Notes (p. 204)	$ -	$ -
14	**$ 18,630,000**	**Total Bonds, Coupon and Long Term Notes**	**$ 18,440,000**	**$ (190,000)**
15				
16		**CURRENT LIABILITIES**		
17	$ 3,200,000	307 Notes Payable (p. 205)	$ 6,423,210	$ 3,223,210
18	$ 650,190	308 Accounts Payable	$ 1,336,770	$ 686,580
19	$ 1,356	309 Consumers' Deposits	$ 1,242	$ (114)
20	$ -	310 Matured Interest Unpaid	$ -	$ -
21	$ -	311 Dividends Declared	$ -	$ -
22	$ -	312 Other Current Liabilities	$ -	$ -
23	**$ 3,851,546**	**Total Current Liabilities**	**$ 7,761,222**	**$ 3,909,675**
24				
25		**ACCRUED LIABILITIES**		
26	$ (91)	313 Tax Liability	$ -	$ 91
27	$ 152,639	314 Interest Accrued	$ 152,639	$ -
28	$ 124,209	315 Other Accrued Liabilities	$ 205,540	$ 81,331
29	**$ 276,757**	**Total Accrued Liabilities**	**$ 358,179**	**$ 81,422**
30				
31		**UNADJUSTED CREDITS**		
32	$ 32,739	316 Premium on Bonds (p. 205)	$ 26,955	$ (5,784)
33	$ 13,036,450	317 Other Unadjusted Credits (p. 205)	$ 10,415,531	$ (2,620,919)
34				
35	**$ 13,069,189**	**Total Unadjusted Credits**	**$ 10,442,486**	**$ (2,626,703)**
36				
37		**RESERVES**		
38	$ -	318 Insurance and Casualty Reserve	$ -	$ -
39	$ 20,049,179	319 Depreciation Reserve (p. 206)	$ 21,167,116	$ 1,117,937
40	$ 7,515,146	320 Other Reserves	$ 7,656,874	$ 141,728
41	**$ 27,564,325**	**Total Reserves**	**$ 28,823,990**	**$ 1,259,665**
42				
43		**APPROPRIATED SURPLUS**		
44	$ -	321 Sinking Fund Reserves	$ -	$ -
45	$ 12,424,782	323 Contributions for Extensions	$ 12,266,856	$ (157,926)
46	$ 3,844,050	324 Surplus Invested in Plant	$ 3,844,050	$ -
47	**$ 16,268,832**	**Total Appropriated Surplus**	**$ 16,110,906**	**$ (157,926)**
48				
49	$ 8,038,428	400 Profit and Loss Balance (p. 301) +	$ 8,100,386	$ 61,958
50	**$ 24,307,260**	**Total Corporate Surplus +**	**$ 24,211,292**	**$ (95,968)**
51	**$ 92,591,627**	**GRAND TOTAL**	**$ 94,929,720**	**$ 2,338,092**

Annual Report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

PLANT INVESTMENT ACCOUNTS

Show for all items of plant, classified in accordance with the prescribed Uniform System of Accounts, the particulars called for by the column headings Credits in column (d) for plant retired during the year should be fully explained in a footnote. Col. (e). "Adjustments made during the year, "should be interpreted to mean modifications of entries made in prior accounting periods. When any adjusting entry is made in Col. (e), the credit to the account should be shown in red; in case the amount is transferred to some other account in the same schedule, the debit amount should appear in the same column in black.

When the whole or any part of "Unfinished Construction" is transferred to the Plant accounts, the amounts transferred should appear in Col. (e) in red and the amounts debited should appear in Col. (c) in black.

Line No.	NAME OF ACCOUNT (a)	Balance at Beginning of Year (b)	Additions During Year (c)	Plant Retired During Year (d)	Adjustments During Year (e)	Balance at Close of Year (f)
1	**INTANGIBLE PROPERTY**					
2	Organization	82,595	-	-	-	82,595
3	Misc. Intangible Invest.	-	-	-	-	-
4	**Total Intangible Property**	**82,595**	**-**	**-**	**-**	**82,595**
5	**TANGIBLE PROPERTY**					
6	Land	243,845	-	-	-	243,845
7	Structures	17,012,045	107,390	-	-	17,119,435
8	Pumping Plant Equipment	2,035,187	367,419	-	-	2,402,605
9	Misc. Pumping Plant Equipment	117,646	-	-	-	117,646
10	Purification System	4,015,991	256,256	-	-	4,272,247
11	Trans'n and Dist'n Mains	40,298,049	1,940,740	(239,635)	-	41,999,153
12	Services	7,654,570	296,734	-	-	7,951,304
13	Consumers' Meters	2,642,696	234,948	(646,231)	-	2,231,413
14	Consumers' Meter Installation	672,540	-	-	-	672,540
15	Hydrants	636,291	50,682	-	-	686,973
16	Fire Cist'ns, Basins, Fount'ns				-	-
17	Water Rights				-	-
18	Other Trans'n & Dist'n Plant	895,310	60,409	-	-	955,719
19	Miscellaneous Expenditures				-	-
20	**Total Plant Investment**	**76,224,169**	**3,314,577**	**(885,866)**	**-**	**78,652,880**
21	**GENERAL EQUIPMENT**					
22	Office Equipment	1,348,567	102,282	-	-	1,450,849
23	Shop Equipment	294,687	5,949	-	-	300,636
24	Stores Equipment	133,892	-	-	-	133,892
25	Transportation Equipment	631,252	128,328	(41,915)	-	717,664
26	Laboratory Equipment	34,674	-	-	-	34,674
27	Miscellaneous Equipment	263,345	-	-	-	263,345
28	**Total General Equipment**	**2,706,416**	**236,559**	**(41,915)**	**-**	**2,901,060**
29	Unfinished Construction	331,179	1,119,053	-	(248,024)	1,202,208
30	**Total Cost of All Property**	**79,344,359**	**4,670,189**	**(927,781)**	**(248,024)**	**82,838,743**
31	Assessed Value of Real Estate	17,255,890	107,390	-	-	17,363,280
32	Assessed Value of Other Property	61,674,695	3,443,746	(927,781)	-	64,190,660
33	**Total Assessed Value**	**78,930,585**	**3,551,136**	**(927,781)**	**-**	**81,553,940**

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MISCELLANEOUS PHYSICAL PROPERTY

Give particulars of all investments of the respondent in physical property not devoted to utility operation.

Line No.	DESCRIPTION AND LOCATION OF MISCELLANEOUS PHYSICAL PROPERTY HELD AT END OF YEAR (a)	Book Value at End of Year (b)	Revenue for the Year (c)	Expense for the Year (d)	Not Revenue for the Year (e)
1	Easement Right-of-Way	$1,401			$1,401
2					
3					
4					
5	**Totals**	**$1,401**			**$1,401**

OTHER INVESTMENTS

Give particulars of investments in stocks, bonds, etc., held by the respondent at end of year.

	(a)				
6	Investment in CoBank, ACB	$41,478	$31,436		$72,914
7					
8					
9					
				Total	**$72,914**

UNAMORTIZED DEBT DISCOUNT AND EXPENSE

Give an analysis of the respondent's accodiscount and (or) expense on bonds, coupon or short term notes. If the account represents only the expenseincurred in connection with the issue, the word "Discount" should be erased. Entries in Col (d) should be consistant with the returns made on page 301, Schedules of Income and Profit and Loss.

	NAME OF SECURITY (a)	Unextinguished Discount at Beginning of Year (b)	Discount on Bonds etc., Issued During Year (c)	Discount Written off During Year (d)	Unextinguished Discount at Close of Year (e)
10	General Mtg Bonds 7.71%	$ 17,501		$ 2,958	$ 14,543
11	General Mtg Bonds 9.64%	$ 8,593		$ 2,148	$ 6,445
12	MA Water Pollution Abatement Trust Loan - 0.0%	$ 16,668		$ 2,985	$ 13,682
13	CoBank, ACB Swap Variable Rate	$ 66,314	$ -	$ 17,299	$ 49,015
14					
15	**TOTALS**	**$ 109,076**	**$ -**	**$ 25,391**	**$ 83,685**

OTHER UNADJUSTED DEBITS

Give an analysis of the abvove-entitled account as of close of year, showing in detail each item or subaccount amounting $500 or more. Items less than '$500 may be combined in a single entry "Minor Items _____ in number, each less than $500," giving the number of items thus combined.'

	DESCRIPTION AND CHARACTER OF UNADJUSTED DEBITS	Balance at Beginning of Year (b)	Amount Added During Year (c)	Amount Written off During Year (d)	Balance at Close of Year (e)
16	Deferred Taxes	$ 3,303,786	$ 813,074	$ 1,117,025	$ 2,999,835
17	Deferred Pension	$ 1,561,432	$ 32,414	$ 22,236	$ 1,571,610
22	FAS 158 Deferred Debits	$ 4,157,758	$ 612,786	$ 2,832,692	$ 1,937,852
23	Deferred Well Maintenance	$ 98,534	$ 13,490	$ 61,268	$ 50,755
24	Deferred Rate Case	$ 173,249	$ 402,492	$ 188,268	$ 387,472
25	Deferred Tank Painting	$ 39,095	$ 604,638	$ 25,034	$ 618,699
26	Unrealized (gain) loss on swap	$ -	$ 48,459	$ -	$ 48,459
27					
28					
29					
30					
31					
32					
33					
34					
35	**TOTALS**	**$ 9,333,854**	**$ 2,527,353**	**$ 4,246,524**	**$ 7,614,682**

CAPITAL STOCK

Give particulars of the various issues of capital stock of the respondent, as called for in the following schedule. In stating the amount of Capital Stock authorized in Col. (d) show only the amount authorized by the regulatory body.

Line No.	Decription (a)			Number of Shares Authorized (b)	Par Value of One Share (c)	Amount of Capital Stock Authorized (d)		Amount Actually Out-standing at End of Year (e)	Total Premium At End of Year (f)
1	Capital Stock: Common			50,000	$ 100		$ 5,000,000	$ 3,757,100	$ 4,979,500
2	Preferred								
3	Employee								
4									
5		**Totals**					**$ 5,000,000**	**$ 3,757,100**	**$ 4,979,500**

BONDS, COUPONS, AND LONG TERM DEBT

Give particulars of various issues of bond, coupons, and long term notes as called for in the following schedule, giving the names of any underlying issues that may have been assumed by the respondent. The total of col. (h) should be consistant with return made on page 301, Income Schedule (line 20).

	NAME AND CHARACTER OF OBLIGATION (a)	Date of Issue (b)	Date of Maturity (c)	Par Value Authorized (d)	Par Value Actually Outstanding at End of Year (e)	INTEREST PROVISIONS Rate Per Cent (f)	Dates Due (g)	Interest Accrued During Year Charged to Income (h)	Interest Paid During Year (i)
6	Mortgage Bonds:								
7	General Mortgage	11/93	6/23	$ 7,000,000	$ 7,000,000	7.71%	Jun/Dec	$ 539,700	$ 539,700
8	General Mortgage	12/91	9/21	$ 1,400,000	$ 1,400,000	9.64%	Mar/Sep	$ 134,960	$ 134,960
9	MA Water Pollution Abatement Trust Loan	3/03	8/23	$ 1,040,000	$ 1,040,000	0.00%	-	$ -	$ -
10	General Mortgage - swap loan	11/11	11/21	$ 9,000,000	$ 9,000,000	4.11%	Feb/May/Aug/Nov	$ 375,038	$ 375,038
11	**Total Bonds**			**$ 18,440,000**	**$ 18,440,000**			**$ 1,049,698**	**$ 1,049,698**
12	Coupon and Long Term Notes:								
13									
14									
15									
16									
17	Total Coupon & Long Term Notes								
18		**Grand Total**					**Totals**	**$ 1,049,698**	**$ 1,049,698**

SUNDRY CURRENT LIABILITIES

NOTES PAYABLE

Line No.	Name of Creditor (a)	Date of Issue (b)	Date of Maturity (c)	How Secured (d)	Rate of Interst (e)	Amount (f)
1	Aquarion Company					$ 6,423,210
2						
3						
4						
5						
6						
7						
8					TOTAL	$ 6,423,210

PREMIUM ON BONDS

Give an analysis of the respondent's accounts covering premium on bonds or other evidences of indebtedness. Entries in Col. (d) should be consistent with the returns made on page 301. Schedule of Income and Profit and Loss

	NAME OF SECURITY (a)		Unextinguished Premium at Beginning of Year (b)	Premium on Bonds Issued During Year (c)	Premium Written Off During Year (d)	Unextinguished Premium at End of Year (e)
9	MWPAT Unamortized Premium		$ 32,739		$ 5,784	$ 26,955
10						
11						
12		TOTALS				$ 26,955

OTHER UNADJUSTED CREDITS

Give the names in Col. (a) and indicate the character, in Col. (b) of the several subaccounts which appear as "Other Unadjusted Credits." For items less than $1,000 a single entry may be made under the caption "Minor accounts..... in number, each less than $1,000," stating the number

	NAME OF SUBACCOUNT (a)	Character of Subaccount (b)	Amount (c)
13	Advances for Construction		$ 943,457
14	Deferred OPEB		$ 596,686
15	Funded pension contribution		$ 3,929,604
16	Unrealized (gain) loss on swap		$ -
17	Tax benefit due ratepayer		$ 3,939,833
18	Deferred OPEB costs		$ 1,005,951
19	Other deferred credits		$ -
20			
21			
22			
23		Total	$ 10,415,531

Annual Report of Aquarion Water Company of Massachusetts — **Year Ended December 31, 2018**

DEPRECIATION RESERVE

Line No.	(a)	Amount (b)
1	**Balance at beginning of year**	$ 20,049,179
2	Credits to Depreciation Reserve during year:	
3	Account 610-10 Depreciation	2,285,109
4	Other Accounts (Specify):	
5	Loss of Disposition of Assets	
6	Depreciation charged to contributed property schedule	
7	Other Accounts (Specify):	4,833.00
8	**CHARGES DURING YEAR**	**$ 2,289,942**
9	Net Charges for Plant Retired:	
10	Book Cost of Plant Retired	$ 927,781
11	Cost of Removal	248,024
12	Salvage (credit in red)	(3,800)
13	**NET CHARGES DURING YEAR**	**$ 1,172,005**
14	**Balance at end of year**	**$ 21,167,116**

BASIS OF DEPRECIATION CHARGES

Give in detail the rules and rate by which the respondent determined the amount charged to operating expenses and other accounts, and credited to Depreciation Reserves. report also depreciation taken for the year for federal income tax purposes.

15		
16		
17		
18		
19		
20		

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Annual Report of Aquarion Water Company of Massachusetts — **Year ended December 31, 2018**

INCOME STATEMENT FOR THE YEAR

Give the Income Account of the respondent for the year ended December 31, 2018 in accordance with the Uniform System of Accounts for Water Companies.

Line No.	Acc't No.	Item (a)	Amount (b)	Comparison with Previous Year. (c)
1		**OPERATING INCOME**		
2	500	Operating Revenues (p. 302)	$ 16,328,327	$ 516,985
3	600	Operating Expenses (p. 303)	$ 14,235,436	$ 1,064,570
4		**Net Operating Revenues**	**$ 2,092,891**	**$ (547,585)**
5	550	Uncollectible Operating Revenues	$ 29,684	$ 35,697
6	551	Taxes (p. 303B)	$ 1,092,676	$ (254,014)
7		**Net Operating Income**	**$ 970,531**	**$ (329,268)**
8		**NON-OPERATING INCOME**		
9	560	Mdse. and Jobbing Revenue*	$ 50,744	$ (8,013)
10	561	Rent from Appliances	$ -	$ -
11	562	Miscellaneous Rent Income	$ -	$ -
12	563	Interest and Dividend Income	$ -	$ -
13	564	MWPAT Loan - Net Subsidy	$ 36,569	$ 6,583
14	565	MWPAT Amortization of Debt Premium	$ 5,784	$ -
15	566	Miscellaneous Non-operating Income	$ 142,618	$ 5,037
16		**Total Non-operating Income**	**$ 235,715**	**$ 3,608**
17		**GROSS INCOME**	**$ 1,206,246**	**$ (325,660)**
18		**DEDUCTIONS FROM GROSS INCOME**		
19	575	Miscellaneous Rents	$ -	$ -
20	576	Interest on Bonds and Coupon Notes	$ 1,174,719	$ 54,855
21	577	Miscellaneous Interest Deductions	$ -	$ -
22	578	Amortization of Discount (p. 203)	$ 25,391	$ (0)
23	579	Miscellaneous Deductions from Income	$ 32,210	$ (10,819)
24		**Total Deductions from Gross Income**	**$ 1,232,320**	**$ 44,036**
24		**Income Balance transferred to Profit and Loss**	**$ (26,073)**	**$ (369,695)**

PROFIT AND LOSS STATEMENT

Show hereunder the items of the Profit and Loss Account of the respondent, classified in accordance with the Uniform System of Accounts for Water Companies.

Line No.	Acc't No.	Item (a)	Debits (b)	Credits (c)
26		**CREDITS**		
27	401	Credit Balance at Beginning of Fiscal Period (p.201)		$ 8,038,428
28	402	Credit Balance transferred from Income Acct. (p.301)		$ -
29	403	Miscellaneous Credits, (transfer from paid-in-capital)		$ -
30		**DEBITS**		
31	411	Debit Balance at Beginning of Fiscal Period (p.201)		
32	412	Debit Balance transferred from Income Acct. (p.301)	$ 26,073	
33	413	Accumulated other comprehensive gain on swap	$ -	$ 88,031
34	414	Dividend Appropriation of Surplus (p.302)	$ -	
35	415	Appropriations of Surplus for Depreciation (p.204)		
36	416	Dic'nt on Bonds Exting'd through Surplus (p.203)		
37	417	Other Deductions from Surplus for Depreciation (p.204)		
38	418	Appropriations of Surplus for Construction		
39		Balance carried Forward to Balance Sheet		$ 61,958
		TOTALS		**$ 8,100,386**

(Note) Explain below amounts entered as Other Deductions from Surplus or Miscellaneous Credits:

*In case the Merchandising and Jobbing business shows a loss, the amount should appear in red.

OPERATING REVENUES

State the operating revenues of the respondent for the year ended December 31, 2018, classified in accordance with the Uniform System of Accounts.

Line No.	Acc't No.	CLASS OF WATER OPERATING REVENUE	Amount of Revenue for Year	Comparison with Previous Year
1		**REVENUES FROM SALE OF WATER**		
2	501	Metered Sales to General Consumers	$ 14,687,264	$ 491,735
3	502	Flat-rate Sales to General Consumers	$ 672,763	$ 3,310
4	503	Sales to Other Water Companies	$ -	$ -
5	504	Municipal Hydrants	$ 913,561	$ 19,577
6	505	Miscellaneous Municipal Revenues	$ -	$ -
7		**Total Revenues from Water Operations**	**$ 16,273,588**	**$ 514,623**
8		**MISCELLANEOUS REVENUES**		
9	506	Rent from Property used in Operation	$ -	$ -
10	507	Miscellaneous Operating Revenues	$ 54,739	$ 2,360
11		**Total Revenues from Miscellaneous Operation**	**$ 54,739**	**$ 2,360**
12		**Total Operating Revenues**	**$ 16,328,327**	**$ 516,983**

DIVIDENDS DECLARED DURING THE YEAR

Give particulars of dividends on each class of stock during the year, and charged to Profit and Loss. This schedule shall include only dividends that have been declared by the Board of Directors during the fiscal year.

Line No.		NAME OF SECURITY ON WHICH DIVIDEND WAS DECLARED (a)	RATE PER CENT Regular (b)	RATE PER CENT Extra (c)	Amount of Capital Stock on which Dividend was Declared (d)	Amount of Dividend (e)	DATE Declared	DATE Payable
13		Common Stock				$ -		
14								
15								
16								
17								
19								
20								
21								
22								
23								
24		**Totals**				$ -		

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Annual Report of Aquarion Water Company of Massachusetts — **Year ended December 31, 2018**

OPERATING EXPENSES

(For companies having average operating revenues of more than $15,000.)

State the operating expenses of the respondent for the year ended December 31, 2018 classifying them in accordance with the Uniform System of Accounts.

Line No.	Acc't No.	Item (a)	Amount (b)	Comparison with Previous Year. (c)
1		**SOURCE OF WATER SUPPLY EXPENSES**		
2	601-1	Maintenance of Water Supply Buildings and Fixtures	$ -	$ -
3	601-2	Maintenance of Surface Source of Supply Facilities	$ -	$ -
4	601-3	Maintenance of Ground Source of Water Supply	$ 402,973	$ (59,711)
5		**Total Source of Water Supply Expenses**	**$ 402,973**	**$ (59,711)**
6	602	**Water Purchased for Resale**	**$ 5,763**	**$ (54,743)**
7		**PUMPING EXPENSES**		
8	603-1	Pumping Labor	$ 207,627	$ 47,218
9	603-2	Boiler Fuel	$ -	$ -
10	603-3	Water for Steam	$ -	$ -
11	603-4	Electric Power Purchased	$ 688,534	$ 35,366
12	603-5	Miscellaneous Pumping Station Supplies and Expenses	$ 153,658	$ 46,526
13	604-1	Maintenance Power Pumping Buildings and Fixtures	$ 34,246	$ 16,053
14	604-2	Maintenance of Pumping Equipment	$ 73,760	$ (35,683)
15	604-3	Maintenance of Miscellaneous Pumping Plant Equipment	$ -	$ -
16		**Total Pumping Expenses**	**$ 1,157,825**	**$ 109,480**
17		**PURIFICATION EXPENSES**		
18	605-1	Purification Labor	$ 375,344	$ 31,056
19	605-2	Purification Supplies and Expenses	$ 3,719,732	$ 243,625
20	606-1	Maintenance of Purification Buildings and Fixtures	$ 26,852	$ (14,964)
21	606-2	Maintenance of Purification Equipment	$ 259,003	$ (39,688)
22		**Total Purification Expenses**	**$ 4,380,931**	**$ 220,029**
23		**TRANSMISSION AND DISTRIBUTION EXPENSES**		
24	607	Inspecting Customers' Installation	$ 24,344	$ 15,503
25	608	Miscellaneous Trans. and Dist, Supplies and Expenses	$ 771,018	$ 75,395
26	609-1	Maintenance of Trans. and Dist. Buildings and Fixtures	$ 3,668	$ 1,057
27	609-2	Maintenance of Trans. and Dist. Mains	$ 533,983	$ 227,895
28	609-3	Maintenance of Storage, Reservoirs, Tanks and Standpipes	$ 29,234	$ 24,623
29	609-4	Maintenance of Services	$ 128,624	$ (99,685)
30	609-5	Maintenance of Meters	$ 113,426	$ (13,732)
31	609-6	Maintenance of Hydrants	$ 9,925	$ (21,192)
32	609-7	Maintenance of Fountains and Troughs	$ -	$ -
33		**Total Trans. and Dist. Expenses**	**$ 1,614,222**	**$ 209,865**
34		**GENERAL AND MISCELLANEOUS EXPENSES**		
35	610-1	Salaries of General Officers and Clerks	$ 528,890	$ 12,467
36	610-2	General Office Supplies and Expenses	$ 1,985,864	$ 177,305
37	610-3	Law Expense - General	$ 243,606	$ (26,867)
38	610-4	Insurance	$ 829,535	$ (34,552)
39	610-5	Accidents and Damages	$ -	$ -
40	610-6	Store Expenses	$ -	$ -
41	610-7	Transportation Expenses	$ 17,023	$ (1,522)
42	610-8	Inventory Adjustments	$ -	$ -
43	610-9	Maintenance of General Structures	$ -	$ -
44	610-10	Depreciation	$ 2,030,912	$ 77,811
45	610-11	Miscellaneous General Expenses	$ 1,037,892	$ 435,009
46		**Total General and Miscellaneous Expenses**	**$ 6,673,722**	**$ 639,651**
47		**GRAND TOTAL OPERATING EXPENSES**	**$ 14,235,436**	**$ 1,064,571**

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Annual Report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

OPERATING EXPENSES (CONT'D)

(For companies having average operating revenues not exceeding $15,000.)

State the operating expenses of the respondent for the year ended December 31, 2018 classifying them in accordance with the Uniform System of Accounts.

Line No.	Kind of Tax (a)	Federal	State	Municipal	Total
48	FIT	$ (152,398)			$ (152,398)
49	FICA	$ 182,025			$ 182,025
50	FUTA	$ 1,170			$ 1,170
51	Property Tax			$ 1,115,816	$ 1,115,816
52	SUTA		$ 6,925		$ 6,925
53	SIT		$ (60,953)		$ (60,953)
54	Other General Taxes		$ 91		$ 91
55					
56					
57					
58					
59					
60	**TOTALS**	**$ 30,797**	**$ (53,937)**	**$ 1,115,816**	**$ 1,092,676**

THIS RETURN IS SIGNED UNDER THE PENALTIES OF PERJURY

_____ ***Executive Vice President, Treasurer, Secretary and Clerk***

_____ ***Director***

_____ ***Director***

SIGNATURES OF ABOVE PARTIES AFFIXED OUTSIDE THE COMMONWEALTH OF MASSACHUSETTS MUST BE PROPERLY SWORN TO

_____ as _____

Then personally appeared _____

_____

_____

_____

_____

and severally made oath to the truth of the foregoing statement by them subscribed according to their best knowledge and belief.

_____
Signature

_____
Expiration of Commission

Notary Public or
Justice of the Peace

Annual report of Aquarion Water Company of Massachusetts — **Year ended December 31, 2018**

Real Estate Information - Hingham

1. Land owned by the Company

	Location	Use	
A	Whiting Street, Accord Pond	Surface water supply, pump station, elevated tank	
B	South Pleasant Avenue Fulling Mill	Water Pump Station	
C	Free Street	Well Pump Stations	
D	Turkey Hill Lane	Standpipe	
E	Downing Street	Well Pump Stations	
F	Scotland Street	Well Pump Stations	
G	Prospect Street	Well Pump Stations	

	Area	When Bought	Cost
A	43.53 Acres	1882, 85, 96, 97, 98, 1916	$10,177
B	117.04 Acres	1885, 1900, 02-06, 16, 23	$29,092
C	72.14 Acres	1942, 1951	$3,763
D	0.22 Acres	1963	$4,766
E	10.91 Acres	1965	$14,579
F	24.20 Acres	1955 - 1975	$7,596
G	9.22 Acres	1966 - 1970	$83,384

2. Buildings owned by the Company

	Location	Use
A	Fulling Mill Pond	Pump Station
B	Fulling Mill Pond	Storehouse and Garage
C	Accord Pond - Gravity & Pump	Outlet Structure and Pump Station
D	Free Street #4	Well Pump Stations
E	Free Street #3	Well Pump Stations
F	Free Street #2	Filter Building And Garage, Well Pump Station
G	Scotland Street	Well Pump Stations
H	Downing Street	Well Pump Stations
I	Prospect Street	Well Pump Stations

	Size	Material	When Built	Cost
A	5755	Brick	1919, 20, 21, 62, 67, 68, 96	
B	800	Steel	1969	
C	1200	Brick	1995	
D	450	Brick	1942 - 1968	
E	258	Brick	1952	
F	2780	Brick & Block	1969-70	
G	326	Cement Block	1956	
H	340	Cement Block	1966	
I	360	Brick & Block	1971	

* By cost is meant the original cost of Installation, not the Book Value

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Real Estate Information - Millbury

1. Land owned by the Company

	Location	Use
A	Millbury Avenue	Location of Well & Pump Station
B	Burbank Hill	Location of Reservoir
C	Howe Avenue	Location Basins #1, #2 & #3
D	Oak Pond Avenue	Oak Pond Pump Station
E	North Main Street @ Jacques Curve	#1 & #2 North Main Street Pump Station
F	Sutton Road	Location of Booster Station

	Area	When Bought	Cost
A	3.00 Acres	1849	
B	3.00 Acres	1895	$25,802
C	55.23 Acres	1895 - 1913	$3,823
D	97,129 Square Feet	1957	$4,106
E	20.39 Acres	1965	$16,824
F	10,051 Square Feet	1994	$11,999

	Location	Use
A	Oak Pond Avenue	Pump Station
B	North Main Street #2 Well	Pump Station
C	North Main Street #1 Well	Pump Station
D	34 Sutton Road	Booster Pump Station
E	Horne Way	Booster Pump Station
F	North Main St. WTP	Water Treatment Plant
G	35 Millbury Ave.	Raw Water Pump Station
H	35 Millbury Ave.	Water Treatment Plant

	Size	Material	When Built	Cost
A	19' x 16'	Concrete Block	1958	
B	20' x 17'	Concrete Block	1966	
C	20' x 17'	Concrete Block	1966 - 67	
D	17' x 22'	Brick & Concrete	1994	
E	22' x 33'	Wood	2000	
F	29' x 67'	Metal	2003	
G	17' x 18'	Concrete Block	2002	
H	45' x 100'	Concrete Block	2002	

* By cost is meant the original cost of Installation, not the Book Value

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Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Real Estate Information -Oxford

1. Land owned by the Company

	Location	Use	Use
A	Main St, Oxford, MA	Well & Pump station	
B	Prospect Hill, Oxford, MA	Right of way for standpipe	
C	Prospect Hill, Oxford, MA	Land adjacent to standpipe	
D	Off Holbrook Road- Oxford, Massachusetts	Land for standpipe	
E	From Old Depot Rd to Burbank St Oxford, Mass	Right of way pipeline to standpipe	

	Area	When Bought	Cost
A	9.04 Acres	1906	$4,312
B	1.00 Acre	1907	$319
C	13.30 Acres	1944	$438
D	0.52 Acres	1957	$6,527
E	25.70 Acres	1958 - 1959	$16,338

2. Buildings owned by the Company

	Location	Use
A	North Main Street Oxford, Massachusetts	Pump Station
B	North Main Street Oxford, Massachusetts	Pump Station
C	Off Nelson Street Oxford, Massachusetts	Pump Station
D	Sutton Ave. Oxford, Massachusetts	Booster Pump Station

	Size	Material	When Built	Cost
A	20' x 17'	Cement Block	1959	
B	20' x 17'	Cement Block	1959	
C	16' x 10' x 19'9"	Cement Block	1959-64-67	
D	12' x 20'	Prefab. Metal	1999	

* By cost is meant the original cost of Installation, not the Book Value

SUPPLY INFORMATION - Hingham

1. Give a full and complete description of the sources from which water is obtained. State whether these sources are owned or leased by the Company. If they are leased, quote the terms of the lease. Give the date of the latest opinion of the Department of Public Health regarding each of these sources of supply.

See attached Schedule

2. Watersheds owned by the Company

Location	Area	When Bought	Cost
A. Fulling Mill Pond	67.79 acres	1902, 04, 06, 23	Included on page 400
B. Accord Pond	40.916 acres	1882, 85-87	

Remarks:

3. Give a full and complete description of any water supply rights that are owned by the company and state when they were bought and what was paid for them.

Fulling Mill Pond - January 4, 1886 - $2,000
Accord Pond - May 26, 1912 - $1,500

Water registration for withdrawal of water issued by Commonwealth of Massachusetts in 1988 and renewed in 1998 and 2008.

Response to Question 1 - Page 401 **Page 401A**

(Item 1 Page 401)

Annual Report of Aquarion Water Company of Massachusetts

Year ended December 31, 2018

Give a full and complete description of the source or sources from which water is obtained. State whether these sources are owned or leased by the Company. If they are leased, quote the terms of the leases. Give the date of the latest opinion of the Department of Public Health regarding each of these sources of supply.

Water is obtained from Accord Pond, Fulling Mill Well and from several other wells.
Fulling Mill Well is owned by respondent. The right to withdraw water from
all sources was registered under the Massachusetts Water Management Act of 1988.
Two satellite wells, Fulling Mill #1 & #2, both 18" diameter ,#1 is 48' deep and #2 is 42' deep, were added at Fulling Mill.
An 18" diameter well, 58' deep was constructed off Prospect Street in 1971. The well
was approved by the Department of Public Health in 1970. A 24" diameter well, Free Street #2,
72' deep, was constructed off Free Street in 1951, the pump was installed in 1952.
A replacement well 18" in diameter and 80' deep for #2 , Free St. #2A, was put into service in December 2007. An 18"
diameter well, 45' deep, was constructed off Scotland Street in 1955. An 24" satellite well, Scotland St. #1A, 58' deep,
was completed and put into service in May 2008. A 24"diameter well, 66' deep was constructed off Downing Street in 1965,
pump installed in 1966, Free Street Well #3, 88' 8" deep, was
constructed adjacent to Free Street Well #1 in 1967, the pump was
installed in 1998. Testing and approval by the Department of
Environmental Protection was not required as this well was in same well field as
Free Street Well #1. Free Street #1 has been abandoned since late
in the 1960's; it has been filled and capped. The land around this
well is leased for a 99 year term at no cost other than payment of
real estate taxes. A 24" diameter well 86' deep, Free Street #4
was completed in December, 1982, and Department of Environmental Protection
approval was given in 2008. Free Street Well #5 is a 16" diameter well which was
constructed in 2001 as a satellite well to Free Street Well #3. All sources are
sampled in accordance with state and federal regulations. All sources are
currently in compliance with those regulations.

SUPPLY INFORMATION - Millbury

1. Give a full and complete description of the sources from which water is obtained. State whether these sources sre owned or leased by the Company. If they are leased, quote the terms of the lease. Give the date of the latest opinion of the Department of Public Health reguarding each of these sources of supply.

Water is supplies from four wells all owned by the Company. All are approved public drinking water sources according to Massachusetts DEP.

2. Watersheds owned by the Company

Location	Area	When Bought	Cost
A. Parcel E & F - Howe Ave	8.50 acres	1909	Included on page 400
B. Parcel G, West of E & F - Howe Ave	29.29 acres	1910	
C. West of G - Howe Ave	3.18 acres	1913	

Remarks:

3. Give a full and complete description of any water supply rights that are owned by the company and state when they were bought and what was paid for them.

The Millbury water system holds both a Registration Statement (21218602) and Permit (9P-2-12-186.01) under the Water Management Act issued by the Commonwealth of Massachusetts. The Registration Statement was renewed in 2008 and is good through December 31, 2017. The Water Management Act Permit was renewed in February 2010 and is good through February 28, 2029.

SUPPLY INFORMATION - Oxford

1. Give a full and complete description of the sources from which water is obtained. State whether these sources sre owned or leased by the Company. If they are leased, quote the terms of the lease. Give the date of the latest opinion of the Department of Public Health reguarding each of these sources of supply.

The responent owns three gravel packed wells. All wells are approved for use as public water supply sources of the Massachusetts DEP.

2. Watersheds owned by the Company

Location	Area	When Bought	Cost
A.			
B.			
C.			
D.			

Remarks:

3. Give a full and complete description of any water supply rights that are owned by the company and state when they were bought and what was paid for them.

The Oxford water system holds a Registration Statement (21022601) under the Water Management Act issued by the Commonwealth of Massachusetts. The Registration Statement was renewed in 2008 and is good through December 31, 2017.

SUPPLY INFORMATION - Continued - Hingham

4. Wells

Location	Inside Dimensions	Depth Below High Water	Covered or Uncovered	When Built	Cost
A. Fulling Mill Well	40' x 19'	21' 8"	Covered	1903	
B. Free Street Well #2	24"	73"	Covered	1951	
C. Scotland Street Well	18"	45"	Covered	1955	
D. Dowing Street Well	24"	66' 6"	Covered	1966	Combined
E. Free Street Well #3	18'	88' 6"	Covered	1967	
F. Prospect St. Well	18"	58'	Covered	1971	
G. Free Street Well #4	24"	86'	Covered	1982	
H. Free Street Well #5	16"	68'3"	Covered	2001	$354,696
I. Free Street Well #2A	12"	80'	Covered	2007	$265,151
J. Fulling Mill Well #1	12"	48'	Covered	2008	$243,694
K. Fulling Mill Well #2	12"	42'	Covered	2008	$221,718
L. Scotland St. Well #1A	18"	58'	Covered	2008	$346,024

5. Give a full and complete description of the wells

See attached sheet

6. Reservoirs

Location	Area at Surface When Full	Full Capacity in Gallons		When Built	Cost
A. Accord Pond	100 Acres	247,000,000			
B. Fulling Mill Pond	14 acres	23,109,000			
C. Fulling Mill Basin	Undetermined			1903	

7. Describe the reservoirs, stating to what extent they are artificial; to what extent their bottons were cleaned before being put into service; to what extent their slopes and bottoms are paved; what provisions have been made for raising the water level and increasing the capacity; and give the character of construction of any dams.

Accord Pond is a natural lake. At natural outlet an embankment was built with concrete core walls. Fulling Mill is an artificial pond with an earth embankment with concrete core walls. Accord Pond provides water to the Hingham/Hull District Water Treatment Facility. The seven basins at Fulling Mill Pump Station are natural depressions from which trees have been cut. These basins feed into underground strata supplying the Fulling Mill Well. Water from Accord Pond can also be diverted to the Fulling Mill Cistern Basin. The Basin also recieves water from a 1,000 ft long horizontal well built in 1903. All of this water is pumped to the Hingham/Hull Distrcit Water Treatment Facility for treatment.

5. Give a full and complete description of the wells

(A) Inside walls 6' from bottom are built of stone laid dry. From that point upwards, the wall is dome shaped made of concrete with suitable opening on top. The water from the well is pumped by the Fulling Mill Station.

(B) Drilled in 1951, well pump installed in 1952. 30' of 24" stainless steel screen, 43' of 24" transite solid casing, gravel packed and concrete sealed. In 1995, replaced, well pump and redeveloped this well. The casing was lined with steel pipe in 1999. Last redeveloped in 2018.

(C) Drilled in 1955, well pump installed in 1956. 30' of solid steel casing, 15' of 24" stainless steel screen, gravel packed and concrete sealed. Redeveloped in 1978; casing reduced from 24" to 18" with 15' of 18" stainless steel screen. Last redeveloped in 2014.

(D) Drilled in 1965, well pump installed in 1966. 55' of 6" of solid steel casing, 10' of 24" stainless steel screen, gravel packed and concrete sealed. The well is currently off-line as an emergency source. It was last redeveloped in 1988.

(E) Drilled in 1967, well pump installed in 1968. 78' of solid steel casing, 10' of 8" stainless steel screen, gravel packed and concrete sealed. Redeveloped in 2015.

(F) Drilled well in 1971, well pump installed in 1998. 48' of solid steel casing, 10' of 18" stainless steel screen, gravel packed and concrete sealed. Redeveloped 2015.

(G) Well drilled in 1981, pump installed in 1982. 66' of 24" solid steel casing, 20' of 24" variable slot stainless steel screen, gravel packed and concrete sealed. Last redeveloped in 2018.

(H) Well drilled in 2001 pump installed in July 2001. 80' of 16" steel casing, 15' of 10" stainless steel screen, gravel packed and concrete sealed. Redeveloped 2015.

(I) Replacement/satellite well drilled in 2007 pump installed December 2007. 80' of 18" steel casing, 18' of 12" stainless steel screen, gravel packed. Includes a meter vault. Last redeveloped in 2018.

(J) Replacement/satellite well drilled in 2008 pump installed June 2008. 48' of 18" steel casing, 8' of 12" stainless steel screen, gravel packed. Includes a meter vault. Last redeveloped in 2018.

(K) Replacement/satellite well drilled in 2008 pump installed June 2008. 42' of 18" steel casing, 18' of 12" stainless steel screen, gravel packed. Includes a meter vault. Last redeveloped in 2018.

(L) Replacement/satellite well drilled in 2008 pump installed May 2008. 42' of 24" steel casing, 12' of 18" stainless steel screen, gravel packed. Includes a meter vault. Last redeveloped in 2018.

SUPPLY INFORMATION - Continued - Millbury

4. Wells

Location	Inside Dimensions	Depth Below High Water	Covered or Uncovered	When Built	Cost
A. Millbury Avenue	25'	36'20"	Covered	1984	
B. Oak pond Avenue	24"	30'	Covered	1958	$5,255
C. Jacques Well Station #2	24"	70'	Covered	1965	$32,389
D. Jacques Well Station #1	24"	53'	Covered	1966	$11,681
E. Jacques WTF	30' x 66 '		Covered	2005	$1,516,337
F.					

5. Give a full and complete description of the wells

6. Reserviors

Location	Area at Surface When Full	Full Capacity in Gallons	When Built	Cost
A.				
B.				
C.				
D.				
E.				
F.				

7. Describe the reservoirs, stating to what extent they are artificial; to what extent their bottons were cleaned before being put into service; to what extent their slopes and bottoms are paved; what provisions have been made for raising the water level and increasing the capacity; and give the character of construction of any dams.

(A.) Hand dug in 1884 lined with fieldstone 35' deep

(B.) 18" diameter 31' deep 8" stainless steel screen redeveloped 2014, installed 1958

(C.) 24" diameter 72' deep 10" stainless steel screen installed 1965 gravel packed, redeveloped 2011

(D.) 24" diameter 63' deep 10' stainless steel screen gravel packed, installed 1966

(E.) 2- 24" diameter 65' deep 8" stainless steel screen gravel packed, installed 1966.

SUPPLY INFORMATION - Continued - Oxford

4. Wells

Location	Inside Dimensions	Depth Below High Water	Covered or Uncovered	When Built	Cost
A. Oxford, MA	24"	65'	Covered	1950-59	$53,994
B. Oxford, MA	24"	67'	Covered	1950-59	$47,048
C. Oxford, MA	24"	66'	Covered	1961	$20,383
D. Oxford, MA	12"	66'	Covered	2007	$269,981

5. Give a full and complete description of the wells

Three 24" diameter gravel packed wells, one with tansite casting and two stainless steel castings.

6. Reservoirs

Location	Area at Surface When Full	Full Capacity in Gallons	When Built	Cost
A.				
B.				
C.				
D.				
E.				
F.				

7. Describe the reservoirs, stating to what extent they are artificial; to what extent their bottons were cleaned before being put into service; to what extent their slopes and bottoms are paved; what provisions have been made for raising the water level and increasing the capacity; and give the character of construction of any dams.

(A.) #1 N Main drilled 1950 16" diameter 63' deep 10' stainless steel screen, gravel packed

(B.) #2 N Main drilled 1959 24" diameter 67' deep 10' stainless steel screen, gravel packed

(C.) #3 Nelson Street drilled 1960 24" diameter 63' deep 15' stainless steel screen, gravel packed, redeveloped 2011

(D) 1A N Main drilled 2007 12" diameter 71' deep 10' stainless steel screen gravel packed

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Hingham

1. Give a general description of the method employed for delivering the water to the company, stating whether gravity is utilized or not; whether the company owns a pumping station or not; and giving all other pertinent information.

Respondent owns twelve wells/ pump stations. Water is pumped from Fulling Mill Station, Fulling Mill Well #1, Fulling Mill Well #2, Free St. Well #2, Free St. Well #2A, Free St. Well #3 & #5, Free St. Well #4, Scotland St. Well, Scotland St. #1A, Prospect St.,, and Accord Pond to the Hingham/Hull District Water Treatment Facility for treatment. The Downing St. Well currently off line and is classified as an emergency water supply source. If activated, it would pump directly into the distribution system after on-site treatment. There are two distribution system pumping stations - the Hull Booster Station and the Baker Hill Booster Station.

2. BOILER

This schedule not presently used

3. CHIMNEYS

This schedule not presently used

4. PUMPING ENGINES, STEAM- ACTUATED

This schedule not presently used

5. PUMPS, DRIVEN BY CONNECTED POWER

	LOCATION	TYPE	NAME OF BUILDER	WHEN INSTALLED	COST
A	Fulling Mill #1	Hor Cent	Fairbanks-Morse	2015	*
B	Fulling Mill #2	Hor Cent	Fairbanks-Morse	2008	*
C	Free Street Well #2	Vert Turb	Goulds	2018	*
D	Scotland Street Well	Vert Turb	Goulds	2014	*
E	Downing Street Well	Vert Turb	Bryon Jackson	1996	*
F	Free Street Well #3	Vert Turb	Grundfos	2015	*
G	Prospect Street Well	Vert Turb	Goulds	2015	*
H	Free Street Well #4	Submersible	Goulds	2018	*
I	Beacon Road Booster	Hor Cent	Aurora	1999	*
J	Accord #3	Hor Cent	Fairbanks-Morse	2015	*
K	Accord #4	Hor Cent	Fairbanks-Morse	2015	*
L	Accord #5	Hor Cent	Fairbanks-Morse	2015	*
M	Free Street #5	Submersible	Grundfos	2015	*
N	Free Street #2A	Submersible	Goulds	2017	*
O	Fulling Mill Well #1	Submersible	Goulds	2008	*
P	Fulling Mill Well #2	Submersible	Goulds	2008	*
Q	Scotland St. Well #1A	Submersible	Goulds	2015	*
R	Baker Hill Booster #1	Hor Cent	Aurora	2017	*
S	Baker Hill Booster #2	Hor Cent	Aurora	2006	*
T	Baker Hill Booster #3	Hor Cent	Aurora	2006	*
U	Baker Hill Booster #4	Hor Cent	Aurora	2006	*
V	Baker Hill Booster #5	Hor Cent	Aurora	2006	*

	NUMBER OF CYLS.	SINGLE OR DOUBLE ACTING	RATED STROKES PER MINUTE	LENGTH OF STROKE**	DIAM. OF PISTONS OR PLUNGERS	HOW DRIVEN	DISPLACEMENT PER 24 HOURS
A		Double Suction	1,180 RPM	5"	N/A	Electric	1,440,000
B		Double Suction	1,180 RPM	5"	N/A	Electric	381,600
C		3 stage	1,770 RPM	13" Disc	N/A	Electric	2,016,000
D		1 stage	1,770 RPM	8"	N/A	Electric	1,008,000
E		7 stage	1,750 RPM	6"	N/A	Electric	829,440
F		7 stage	1,770 RPM	5"	N/A	Electric	216,000
G		1 stage	1,770 RPM	6"	N/A	Electric	504,000
H		2 stage	3,600 RPM	8"	N/A	Electric	864,000
I		1 stage	3,600 RPM	4"	N/A	Electric	1,008,000
J		2 stage	1,800 RPM	6"	N/A	Electric	2,016,000
K		2 stage	1,800 RPM	6"	N/A	Electric	2,016,000
L		2 stage	1,800 RPM	6"	N/A	Electric	2,016,000
M		1 stage	1,800 RPM	6"	N/A	Electric	1,008,000
N		1 stage	3,450 RPM	4"	N/A	Electric	432,000
O		3 stage	3,600 RPM	12"	N/A	Electric	1,804,320
P		2 stage	3,600 RPM	12"	N/A	Electric	2,880,000
Q		1 stage	3,600 RPM	12"	N/A	Electric	1,080,000
R		1 stage	3,500 RPM	2"	N/A	Electric	86,400
S		1 stage	3,500 RPM	2"	N/A	Electric	86,400
T		1 stage	3,500 RPM	3"	N/A	Electric	216,000
U		1 stage	3,500 RPM	3"	N/A	Electric	216,000
V		1 stage	1,800 RPM	8"	N/A	Electric	1,728,000

* Cost of pump separately unavailable

**Diameter of impeller

Pumping Information - Millbury

1. Give a general description of the method employed for delivering the water to the company, stating whether gravity is utilized or not; whether the company owns a pumping station or not; and giving all other pertinent information.

Water is supplied from four wells all owned by the company. All are approved public drinking water sources according to the Massachusetts DEP.

2. BOILER

This schedule not presently used

3. CHIMNEYS

This schedule not presently used

4. PUMPING ENGINES, STEAM- ACTUATED

This schedule not presently used

5. PUMPS, DRIVEN BY CONNECTED POWER

	LOCATION	TYPE	NAME OF BUILDER	WHEN INSTALLED	COST
A	Millbury Avenue	Turbine	Floway	2003	*
B	Millbury Avenue	Turbine	Floway	2003	*
C	Millbury Avenue	Turbine	Floway	2003	*
D	Millbury Avenue	Turbine	Floway	2003	*
E	Oak Pond	Turbine	Goulds	2008	*
F	North Main Street Well #2	Turbine	Goulds	2004	*
G	North Main Street Well #1	Turbine	Goulds	2004	*
H	Sutton Road Booster	Cent	EFI	1993	*
I	Millbury Avenue	Turbine	Floway	2003	*
J	Millbury Avenue	Turbine	Floway	2003	*
K	Brierly Pond	Cent	PENTAIR	2003	*
L	Brierly Pond	Cent	PENTAIR	2003	*
M	Brierly Pond	Cent	PENTAIR	2003	*
N	Brierly Pond	Cent	PENTAIR	2003	*
O	Brierly Pond	Cent	PENTAIR	2003	*

	NUMBER OF CYLS.	SINGLE OR DOUBLE ACTING	RATED STROKES PER MINUTE	LENGTH OF STROKE	DIAM. OF PISTINS OR PLUNGERS	HOW DRIVEN	DISPLACEMENT PER 24 HOURS
A			1,790 RPM	Turbine		Electric Motor	1,296,000
B			1,790 RPM	Turbine		Electric Motor	1,296,000
C			1,790 RPM	Turbine		Electric Motor	1,296,000
D			1,180 RPM	Turbine		Electric Motor	1,296,000
E			1,760 RPM	Turbine		Electric Motor	864,000
F			1,760 RPM	Turbine		Electric Motor	457,920
G			1,750 RPM	Turbine		Electric Motor	835,200
H			3,450 RPM	Cent		Electric Motor	864,000
I			1,785 RPM	Turbine		Electric Motor	1,584,000
J			1,785 RPM	Turbine		Electric Motor	1,584,000
K			3,500 RPM	Cent		Electric Motor	1,440,000
L			1,750 RPM	Cent		Electric Motor	172,800
M			1,750 RPM	Cent		Electric Motor	172,800
N			3,500 RPM	Cent		Electric Motor	86,400
O			3,500 RPM	Cent		Electric Motor	86,400

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Oxford

1. Give a general description of the method employed for delivering the water to the company, stating whether gravity is utilized or not; whether the company owns a pumping station or not; and giving all other pertinent information.

Water is pumped from company owned pump stations into distribution system containing a standpipe which floats on the system.

2. BOILER

This schedule not presently used

3. CHIMNEYS

This schedule not presently used

4. PUMPING ENGINES, STEAM- ACTUATED

This schedule not presently used

5. PUMPS, DRIVEN BY CONNECTED POWER

	LOCATION	TYPE	NAME OF BUILDER	WHEN INSTALLED	COST
A	North Main Street #1	Turbine	Bryon Jackson	1959	*
B	North Main Street #2	Turbine	Deming	1959	*
C	Nelson Street #3	Turbine	Goulds	2005	*
D	Sutton Ave. Booster	Turbine	G & L Goulds	1999	*
E	Sutton Ave. Booster	Turbine	G & L Goulds	1999	*
F	North Main Street #1A	Submersible	Goulds	2007	*

	NUMBER OF CYLS.	SINGLE OR DOUBLE ACTING	RATED STROKES PER MINUTE	LENGTH OF STROKE	DIAM. OF PISTINS OR PLUNGERS	HOW DRIVEN	DISPLACEMENT PER 24 HOURS
A		Turbine	1,750 RPM			LP. Gen	432,000
B		Turbine	1,750 RPM			LP. Gen	576,000
C		Turbine	1,750 RPM			Kohler L.P. Gen	1,152,000
D		Turbine	3,500 RPM			Electric Motor	72,000
E		Turbine	3,500 RPM			Electric Motor	72,000
F		Submersible	3,500 RPM			Electric Motor	432,000

Pumping Information - Continued Hingham

6. Gas Producers

This schedule not presently used

7. Internal combustion engines

	Location	Name of Builder	When Installed	Type of Drive	Cost
A	Scotland Street	Continental	1956	Gear Dr	*
B	Downing Street	Continental	1966	Gear Dr	*
C	Free Street Well #3	Allis Chalmers	1968 1969	Gear Dr	*

	For Gas, Gasoline or Oil	Number of Cyls.	Single or Double Acting	Dimensions of Cylinders: Diameter	Dimensions of Cylinders: Stroke	2 or 4 Stroke Cycle	Rated H.P.
A	L.P. Gas	6	Single	4	4 13/16	4	75
B	Natural Gas	6	Single	3 5/16	4 3/8	4	46 1/2
C	Natural Gas	6	Single	3 7/8	4 1/2	4	64

8. ELECTRIC MOTORS, INCLUDING COST OF WIRING SWITHCES

	Location	Name of Builder	When Installed	Cost
A	Fulling Mill #1	U.S. Electric	1996	*
B	Fulling Mill #2	U.S. Electric	1996	*
C	Free Street Well #2	U.S. Electric	2018	*
D	Scotland Street Well	U.S. Motors	2015	*
E	Downing Street Well	U.S. Electric	1966	*
F	Free Street Well #3	U.S. Electric	2015	*
G	Prospect Street	U.S. Electric	2015	*
H	Free Street Well #4	U.S. Electric	2018	*
I	Accord #3	U.S. Electric	2015	*
J	Accord #4	U.S. Electric	2015	*
K	Accord #5	U.S. Electric	2015	*
L	Beacon Road, Hull	U.S. Motor	1998	*
M	Free Street Well #5	Franklin	2015	*
N	Free Street Well#2A	U.S. Electric	2018	*
O	Fulling Mill Well#1	Centripro	2008	*
P	Fulling Mill Well #2	Centripro	2018	*
Q	Scotland Street #1A	Centripro	2015	*
R	Baker Hill Booster #1	Aurora	2017	*
S	Baker Hill Booster #2	Aurora	2006	*
T	Baker Hill Booster #3	Aurora	2006	*
U	Baker Hill Booster #4	Aurora	2006	*
V	Baker Hill Booster #5	Aurora	2006	

	A.C. or D.C. if A.C. Give Phase	Volts	Type of Drive	Rated H.P.
A	A.C. 3 Phase	460	Direct	15
B	A.C. 3 Phase	460	Direct	15
C	A.C. 3 Phase	480	Direct	200
D	A.C. 3 Phase	220/440	Direct	25
E	A.C. 3 Phase	220/440	Direct	40
F	A.C. 3 Phase	460	Direct	25
G	A.C. 3 Phase	460	Direct	20
H	A.C. 3 Phase	460	Direct	125
I	A.C. 3 Phase	460	Direct	40
J	A.C. 3 Phase	460	Direct	40
K	A.C. 3 Phase	460	Direct	40
L	A.C. 3 Phase	460	Direct	75
M	A.C. 3 Phase	460	Direct	40
N	A.C. 3 Phase	460	Direct	125
O	A.C. 3 Phase	460	Direct	20
P	A.C. 3 Phase	460	Direct	15
Q	A.C. 3 Phase	460	Direct	10
R	A.C. 3 Phase	480	Direct	3
S	A.C. 3 Phase	480	Direct	3
T	A.C. 3 Phase	480	Direct	7.5
U	A.C. 3 Phase	480	Direct	7.5
V	A.C. 3 Phase	480	Direct	50
			Total Horse Power	941

* Cost of motor separately unavailable

Pumping Information - Continued Millbury

6. Gas Producers

This schedule not presently used

7. Internal combustion engines.

	Location	Name of Builder	When Installed	Type of Drive	Cost
A	Jacques Well Station #1	Kohler	2010	Generator	
B	Jacques Well Station #2	Kohler	2006	Generator	
C	Oak Pond Well	Cummings	1988	Generator	
D	Sutton Road Booster	Kohler	1994	Generator	
E	Brierly Pond Booster	Generac	2003	Generator	

	For Gas, Gasoline or Oil	Number of Cyls.	Single or Double Acting	Dimensions of Cylinders		2 or 4 Stroke Cycle	Rated H.P.
				Diameter	Stroke		
A	Fuel Oil	4	Single	4.19	5	4	158
B	Fuel Oil	6	Single	4	4 3/8	4	125
C	L.P. Gas	6	Double	5 1/4	15-24 centimeter	4	175
D	L.P. Gas	4	Single	4	5	4	150
E	Gas	8	Double	5 1/4	5	4	175

8. ELECTRIC MOTORS, INCLUDING COST OF WIRING SWITHCES

	Location	Name of Builder	When Installed	Cost
A	Jacques Well Station #1	U.S. Electric	2005	
B	Jacques Well Station #2	U.S. Electric	2005	
C	Oak Pond	U.S. Electric	2008	
D	Sutton Rd. Booster	EFI	1993	
E	Brierly Pond Booster	U.S. Electric	2003	
F	Brierly Pond Booster	U.S. Electric	2003	
G	Brierly Pond Booster	U.S. Electric	2003	
H	Brierly Pond Booster	U.S. Electric	2003	
I	Brierly Pond Booster	U.S. Electric	2003	

	A.C. or D.C. if A.C. Give Phase	Volts	Type of Drive	Rated H.P.
A	A.C. 3 Phase	230/460	Direct	60
B	A.C. 3 Phase	230/460	Direct	60
C	A.C. 3 Phase	230/460	Direct	100
D	A.C. 3 Phase	230/460	Direct	60
E	A.C. 3 Phase	230/460	Direct	40
F	A.C. 3 Phase	230/460	Direct	10
G	A.C. 3 Phase	230/460	Direct	10
H	A.C. 3 Phase	230/460	Direct	5
I	A.C. 3 Phase	230/460	Direct	5
			Total Horse Power	350

Pumping Information - Continued Oxford

6. Gas Producers

This schedule not presently used

7. Internal combustion engines.

	Location	Name of Builder	When Installed	Type of Drive	Cost
A	#1 North Main Street	Koehler	2012	Generator	
B	#2 North Main Street	Koehler	2012	Generator	
C	#3 Nelson Street	Koehler	2005	Generator	
D	Sutton Ave.	Koehler	2000	Generator	

				Dimensions of Cylinders			
	For Gas, Gasoline or Oil	Number of Cyls.	Single or Double Acting	Diameter	Stroke	2 or 4 Stroke Cycle	Rated H.P.
A	Diesel	4	Double	4.19	5	4	197
B	Diesel	4	Double	4.19	5	4	197
C	L.P. Gas	8	Single	4	4 3/8	4	125
D	L.P. Gas	6	Single	4	3.98	4	82

8. ELECTRIC MOTORS, INCLUDING COST OF WIRING SWITHCES

	Location	Name of Builder	When Installed	Cost
A	#1 North Main Street	U.S. Motors	1990	
B	#2 North Main Street	U.S. Motors	1990	
C	#3 Nelson Street	U.S. Motors	2005	
D	Sutton Ave. Booster	Baldor	1999	
E	#1A North Main Street	Franklin	2007	

	A.C. or D.C. if A.C. Give Phase	Volts	Type of Drive	Rated H.P.
A	A.C. 3 Phase	575	Direct	60
B	A.C. 3 Phase	575	Direct	60
C	A.C. 3 Phase	480	Direct	100
D	A.C. 3 Phase	230/460	Direct	5
E	A.C. 3 Phase	575	Direct	60
			Total Horse Power	285

Pumping Information - Continued. - Hingham

9. Water Wheels and Turbines

	Location	Name of Builder	When Installed	Cost
A.				
B.	NONE			
C.				
D.				

	Type of Machine	Diam. of Runner	Working Head	Speed	Type of Driver	Rated H.P.
A.						
B.						
C.						
D.						

10. Give a full and complete description of any water power rights that are owned by the Company, and say when they were bought and what was paid for them

Pumping Information - Continued. - Millbury

9. Water Wheels and Turbines

	Location	Name of Builder	When Installed	Cost
A.	NONE			
B.				
C.				
D.				

	Type of Machine	Diam. of Runner	Working Head	Speed	Type of Driver	Rated H.P.
A.						
B.						
C.						
D.						

10. Give a full and complete description of any water power rights that are owned by the Company, and say when they were bought and what was paid for them

Pumping Information - Continued. - Oxford

9. Water Wheels and Turbines

	Location	Name of Builder	When Installed	Cost
A.				
B.	NONE			
C.				
D.				

	Type of Machine	Diam. of Runner	Working Head	Speed	Type of Driver	Rated H.P.
A.						
B.						
C.						
D.						

10. Give a full and complete description of any water power rights that are owned by the Company, and say when they were bought and what was paid for them

Pumping Information - Continued Hingham

11. Station log **System Delivery Summary - Hingham/Hull District Water Treatment Facility Only**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	136,850		92.759	744		
February	149,800		72.261	672		
March	117,950		79.484	744		
April	129,500		83.167	720		
May	130,550		102.407	744		
June	161,700		124.001	720		
July	176,750		142.820	744		
August	180,600		133.922	744		
September	175,000		108.416	720		
October	127,400		88.045	744		
November	145,600		77.493	720		
December	131,250		73.028	744		
Totals	1,762,950	0	1,177.803	8,760	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 3.227 MG (365 days)

14. Maximum gallons pumped in a day 6.136 MG

15. Date of same, July 4, 2018

16. Range of pressure in main 45-95 psi

17. Average pressure in main 82 psi

408	System Delivery Summary - Hingham/Hull District Water Treatment Facility Only	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Hingham		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.12	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	1,762,950	Kwhrs

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Continued Hingham

11. Station log **Accord Pond to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	3,392		11.348	408		
February	10,582		9.467	576		
March	4,268		0.905	120		
April	3,543		6.388	552		
May	5,188		16.692	744		
June	4,413		32.639	720		
July	12,463		58.218	744		
August	18,430		49.013	744		
September	10,137		26.303	720		
October	1,434		6.788	336		
November	505		0.081	72		
December	2,059		0.000	0		
Totals	76,414	0	217.842	5,736	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.597 MG (365 days)

14. Maximum gallons pumped in a day 2.76 MG

15. Date of same, July 15, 2018

16. Range of pressure in main 5-10 psi

17. Average pressure in main 10 psi

408	Accord Pond to Water Treatment Facility	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Hingham		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.15	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	76,414	Kwhrs

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Continued Hingham

11. Station log **Fulling Mill Well 1 to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	22,065		9.300	744		
February	22,140		8.127	672		
March	17,596		9.034	744		
April	18,268		4.288	408		
May	10,229		10.332	720		
June	18,606		11.532	720		
July	17,601		11.270	744		
August	17,438		9.775	744		
September	15,145		9.581	720		
October	12,342		10.502	744		
November	17,264		10.084	720		
December	31		10.258	744		
Totals	188,725	0	114.083	8,424	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.313 MG (365 days)

14. Maximum gallons pumped in a day 0.596 MG

15. Date of same, 9/18/2018

16. Range of pressure in main 35-45 psi

17. Average pressure in main 40 psi

408	Fulling Mill Well 1 to Water Treatment Facility	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Hingham		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.13	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	188,725	Kwhrs

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Continued Hingham

11. Station log **Fulling Mill Well 2 to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January			3.262	696		
February			2.414	576		
March			2.171	576		
April			1.094	312		
May			4.930	720		
June			5.922	720		
July			4.847	696		
August			3.935	744		
September			2.353	600		
October			3.698	624		
November			3.179	648		
December			2.061	504		
Totals	0	0	39.866	7,416	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.109 MG (365 days)

14. Maximum gallons pumped in a day 0.266 MG

15. Date of same, May 26, 2018

16. Range of pressure in main 35-45 psi

17. Average pressure in main 40 psi

Pumping Information - Continued Hingham

18. Kind of coal	
19. Average price per net ton, delivered	
20. Average price of wood per cord, delivered	
21. Average price per gas per M. cubic feet	
22. Average price per gasoline per gallon, delivered	
23. Average price of fuel oil per gallon, delivered	
24. Average price of electric power per Kwhr	see Fulling Mill 1 meter
25. Wood consumed durind the year	
26. Gas consumed during the year	
27. Gasoline consumed during the year	
28. Fuel oil consumed during the year	
29. Electric Power used during the year	see Fulling Mill 1 meter

Pumping Information - Continued Hingham

11. Station log **Fulling Mill Cistern to Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January			0.000	0		
February			0.000	0		
March			0.000	0		
April			0.000	0		
May			0.000	0		
June			0.000	0		
July			0.000	0		
August			0.000	0		
September			0.000	0		
October			0.000	0		
November			0.000	0		
December			0.000	0		
Totals	0	0	0.000	0	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.000 MG (365 days)

14. Maximum gallons pumped in a day 0.000 MG

15. Date of same, N/A

16. Range of pressure in main 35-45 psi

17. Average pressure in main 40 psi

408	Fulling Mill Cistern to Treatment Facility	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Hingham		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	see Fulling Mill 1 meter	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	see Fulling Mill 1 meter	

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Continued Hingham

11. Station log **Scotland St 1 to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	18,257		12.271	744		
February	20,261		8.747	504		
March	7,141		10.372	600		
April	13,772		13.079	720		
May	14,181		12.869	744		
June	13,014		16.437	720		
July	13,846		14.723	744		
August	12,539		13.199	744		
September	8,844		13.744	720		
October	6,703		15.371	744		
November	11,918		15.823	720		
December	13,671		16.851	744		
Totals	154,147	0	163.486	8,448	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.448 MG (365 days)

14. Maximum gallons pumped in a day 0.649 MG

15. Date of same, December 31, 2018

16. Range of pressure in main 5-10 psi

17. Average pressure in main 8 psi

408	Scotland St 1 to Water Treatment Facility	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Hingham		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.12	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	154,147	Kwhrs

Pumping Information - Continued Hingham

11. Station log **Scotland St 1A to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January			6.305	744		
February			4.264	504		
March			2.760	408		
April			5.741	720		
May			5.960	744		
June			6.056	720		
July			5.610	744		
August			4.539	720		
September			1.444	264		
October			4.832	696		
November			5.637	720		
December			5.573	744		
Totals	0	0	58.721	7,728	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.161 MG (365 days)

14. Maximum gallons pumped in a day 0.272 MG

15. Date of same, February 17, 2018

16. Range of pressure in main 5-10 psi

17. Average pressure in main 8 psi

408	Scotland St 1A to Water Treatment Facility	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Hingham		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	See Scotland Street Meter	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	See Scotland Street Meter	

Pumping Information - Continued Hingham

11. Station log **Downing Street Well**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	1,677		0.000	0		
February	1,649		0.000	0		
March	1,121		0.000	0		
April	1,215		0.000	0		
May	308		0.000	0		
June	90		0.000	0		
July	82		0.000	0		
August	92		0.000	0		
September	90		0.000	0		
October	87		0.000	0		
November	105		0.000	0		
December	96		0.000	0		
Totals	6,612	0	0.000	0	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.000 MG (365 days)

14. Maximum gallons pumped in a day 0 MG

15. Date of same,

16. Range of pressure in main 80-95 psi

17. Average pressure in main 82 psi

408	Downing Street Well	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Hingham		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.16	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	6,612	Kwhrs

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Continued Hingham

11. Station log **Prospect Street to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	5,851		6.628	744		
February	6,371		6.555	672		
March	4,558		7.246	744		
April	4,570		7.314	720		
May	4,701		7.698	744		
June	3,445		7.249	720		
July	2,403		1.358	744		
August	163		0.578	744		
September	896		4.425	720		
October	2,038		7.204	744		
November	2,603		7.624	720		
December	3,498		8.036	744		
Totals	41,097		71.915	8,760	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.197 MG (365 days)

14. Maximum gallons pumped in a day 0.366 MG

15. Date of same, November 22, 2018

16. Range of pressure in main 5-10 psi

17. Average pressure in main 10 psi

408	Prospect Street to Water Treatment Facility	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Hingham		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.15	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	41,097	Kwhrs

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Pumping Information - Continued Hingham

11. Station log **Free Street #2 to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January			0.000	0		
February			0.000	0		
March			0.000	0		
April			0.000	0		
May			0.000	0		
June			0.001	24		
July			3.407	192		
August			16.618	744		
September			16.641	720		
October			3.139	312		
November			0.714	120		
December			1.715	216		
Totals	0	0	42.235	2,328	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.116 MG (365 days)

14. Maximum gallons pumped in a day 0.826 MG

15. Date of same, September 2, 2018

16. Range of pressure in main 50-60 psi

17. Average pressure in main 55 psi

Pumping Information - Continued Hingham

18. Kind of coal	
19. Average price per net ton, delivered	
20. Average price of wood per cord, delivered	
21. Average price per gas per M. cubic feet	
22. Average price per gasoline per gallon, delivered	
23. Average price of fuel oil per gallon, delivered	
24. Average price of electric power per Kwhr	See Free Street # 2A
25. Wood consumed durind the year	
26. Gas consumed during the year	
27. Gasoline consumed during the year	
28. Fuel oil consumed during the year	
29. Electric Power used during the year	See Free Street # 2A

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Pumping Information - Continued Hingham

11. Station log **Free Street #2A to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	24,150		12.732	384		
February	3,570		3.931	144		
March	3,570		24.663	744		
April	17,010		20.714	720		
May	42		17.759	720		
June	16,380		17.936	720		
July	23,940		22.435	744		
August	26,040		15.541	744		
September	28,980		15.125	720		
October	19,110		17.531	744		
November	18,690		16.878	720		
December	22,890		18.613	744		
Totals	204,372	0	203.858	7,848	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.559 MG (365 days)

14. Maximum gallons pumped in a day 1.308 MG

15. Date of same, July 4, 2018

16. Range of pressure in main 50-60 psi

17. Average pressure in main 55 psi

408	Free Street #2A to Water Treatment Facility	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Hingham		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.14	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	204,372	Kwhrs

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Pumping Information - Continued Hingham

11. Station log **Free Street #3 to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	43,600		0.000	0		
February	51,000		0.000	0		
March	44,080		0.000	0		
April	21,800		0.000	0		
May	87		0.000	0		
June	32,640		0.000	0		
July	31,760		0.000	0		
August	27,200		0.000	0		
September	30,760		0.000	0		
October	18,760		0.000	0		
November	27,840		0.000	0		
December	13,480		0.000	0		
Totals	343,007	0	0.000	0	0	0

Free St #3,4,5 uses same electric meter

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.000 MG (365 days)

14. Maximum gallons pumped in a day 0.000 MG

15. Date of same,

16. Range of pressure in main 50 -60 psi

17. Average pressure in main 55 psi

408	Free Street #3 to Water Treatment Facility	
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	Pumping Information - Continued Hingham	

18. Kind of coal			
19. Average price per net ton, delivered			
20. Average price of wood per cord, delivered			
21. Average price per gas per M. cubic feet			
22. Average price per gasoline per gallon, delivered			
23. Average price of fuel oil per gallon, delivered			
24. Average price of electric power per Kwhr	$	0.14	
25. Wood consumed durind the year			
26. Gas consumed during the year			
27. Gasoline consumed during the year			
28. Fuel oil consumed during the year			
29. Electric Power used during the year		343,007	Kwhrs

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Pumping Information - Continued Hingham

11. Station log **Free Street #4 to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January			22.605	744		
February			20.827	672		
March			11.806	480		
April			16.454	624		
May			19.285	744		
June			19.887	720		
July			19.758	744		
August			16.229	744		
September			15.868	720		
October			18.607	744		
November			17.815	696		
December			0.000	0		
Totals	0	0	199.141	7,632	0	0

Free St #3,4,5 uses same electric meter

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.546 MG (365 days)

14. Maximum gallons pumped in a day 0.810 MG

15. Date of same, January 14, 2018

16. Range of pressure in main 50 -60 psi

17. Average pressure in main 55 psi

Pumping Information - Continued Hingham

18. Kind of coal	
19. Average price per net ton, delivered	
20. Average price of wood per cord, delivered	
21. Average price per gas per M. cubic feet	
22. Average price per gasoline per gallon, delivered	
23. Average price of fuel oil per gallon, delivered	
24. Average price of electric power per Kwhr	See Free St # 3 meter
25. Wood consumed durind the year	
26. Gas consumed during the year	
27. Gasoline consumed during the year	
28. Fuel oil consumed during the year	
29. Electric Power used during the year	See Free St # 3 meter

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Pumping Information - Continued Hingham

11. Station log **Free Street #5 to Water Treatment Facility**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January			7.895	744		
February			6.737	672		
March			7.845	744		
April			7.013	720		
May			6.707	744		
June			7.201	648		
July			3.229	432		
August			5.608	720		
September			4.003	456		
October			4.116	504		
November			3.617	408		
December			9.573	744		
Totals	0	0	73.544	7,536	0	0

Free St #3,4,5 uses same electric meter

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.201 MG (365 days)

14. Maximum gallons pumped in a day 0.397 MG

15. Date of same, December 31, 2018

16. Range of pressure in main 50 -60 psi

17. Average pressure in main 55 psi

408	Free Street #5 to Water Treatment Facility
Annual report of Aquarion Water Company of Massachusetts	Year ended December 31, 2018
Pumping Information - Continued Hingham	
18. Kind of coal	
19. Average price per net ton, delivered	
20. Average price of wood per cord, delivered	
21. Average price per gas per M. cubic feet	
22. Average price per gasoline per gallon, delivered	
23. Average price of fuel oil per gallon, delivered	
24. Average price of electric power per Kwhr	See Free St # 3 meter
25. Wood consumed durind the year	
26. Gas consumed during the year	
27. Gasoline consumed during the year	
28. Fuel oil consumed during the year	
29. Electric Power used during the year	See Free St # 3 meter

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Continued Millbury

11. Station Log **Total System**

Year and Month 2018	Kwhrs Used	Purchased Water (MG)	Million Gallons of Water Pumped	Hours of Pumping	Total System (MG) Includes Purchased Water	Average Total Static Head	Average Total Dynamic Head
January	97,820	0.075	49.584	1,775	49.659		
February	100,280	0.150	44.305	1,394	44.455		
March	97,590	0.000	45.607	1,492	45.607		
April	98,970	0.000	47.150	1,645	47.150		
May	100,120	0.075	53.928	1,626	54.003		
June	110,880	0.000	57.838	2,287	57.838		
July	130,000	0.075	61.403	2,403	61.478		
August	120,360	0.075	56.636	2,185	56.711		
September	137,750	0.000	47.115	1,774	47.115		
October	91,550	0.000	46.523	1,462	46.523		
November	93,520	0.000	44.788	1,326	44.788		
December	103,340	0.075	45.733	1,379	45.808		
Totals	1,282,180	0.525	600.610	20,748	601.135	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 1.647 MG (365 days)

14. Maximum gallons pumped in a day 2.615 MG

15. Date of same, June 17, 2018

16. Range of pressure in main 21 to 125 lbs

17. Average pressure in main 73 psi

408	Total System	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Millbury		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.17	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	1,282,180 Kwhrs	

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Continued Millbury

11. Station Log **Millbury Ave. Station**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	24,700		13.165	388		
February	45,700		21.468	666		
March	51,800		26.564	717		
April	60,900		27.880	715		
May	55,800		27.863	737		
June	38,000		12.253	357		
July	30,600		16.715	506		
August	45,800		22.063	674		
September	47,400		17.441	527		
October	45,100		22.057	678		
November	48,100		21.809	591		
December	49,600		22.977	622		
Totals	543,500	0	252.255	7,178	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.691 MG (365 days)

14. Maximum gallons pumped in a day 1.139 MG

15. Date of same, May 21, 2018

16. Range of pressure in main 21 to 125 lbs

17. Average pressure in main 73 psi

408	Millbury Ave. Station	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Millbury		

18. Kind of coal			
19. Average price per net ton, delivered			
20. Average price of wood per cord, delivered			
21. Average price per gas per M. cubic feet			
22. Average price per gasoline per gallon, delivered			
23. Average price of fuel oil per gallon, delivered			
24. Average price of electric power per Kwhr	$	0.16	
25. Wood consumed durind the year			
26. Gas consumed during the year			
27. Gasoline consumed during the year			
28. Fuel oil consumed during the year			
29. Electric Power used during the year		543,500	Kwhrs

Pumping Information - Continued Millbury

11. Station Log **Oak Pond Station**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	22,720		11.202	628		
February	10,080		0.969	56		
March	9,440		6.161	344		
April	17,120		12.352	695		
May	10,720		0.847	48		
June	9,280		12.651	541		
July	21,600		8.874	386		
August	960		0.509	24		
September	1,600		0.470	28		
October	1,600		0.812	39		
November	2,720		0.353	12		
December	3,840		0.206	9		
Totals	111,680	0	55.406	2,810	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.152 MG (365 days)

14. Maximum gallons pumped in a day 0.690 MG

15. Date of same, July 11, 2018

16. Range of pressure in main 21 to 125 lbs

17. Average pressure in main 73 psi

408	Oak Pond Station	
Annual report of Aquarion Water Company of Massachusetts		Year ended December 31, 2018
Pumping Information - Continued Millbury		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.19	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	111,680	Kwhrs

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Pumping Information - Continued Millbury

11. Station Log **Jacques #1 N. Main St. Station**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	45,800		25.170	756		
February	40,650		21.868	672		
March	32,550		12.876	430		
April	17,500		6.516	218		
May	31,450		23.211	722		
June	41,200		21.473	723		
July	43,250		23.072	759		
August	40,800		22.681	747		
September	47,600		22.035	732		
October	40,450		23.643	743		
November	41,050		22.620	722		
December	46,050		22.548	747		
Totals	468,350	0	247.713	7,971	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day	0.679	MG (365 days)
14. Maximum gallons pumped in a day	0.990	MG
15. Date of same,	January 1, 2018	
16. Range of pressure in main	21 to 125	lbs
17. Average pressure in main	73	psi

Pumping Information - Continued M Pumping Information - Continued Millbury

18. Kind of coal			
19. Average price per net ton, delivered			
20. Average price of wood per cord, delivered			
21. Average price per gas per M. cubic feet			
22. Average price per gasoline per gallon, delivered			
23. Average price of fuel oil per gallon, delivered			
24. Average price of electric power per Kwhr	$	0.16	
25. Wood consumed durind the year			
26. Gas consumed during the year			
27. Gasoline consumed during the year			
28. Fuel oil consumed during the year			
29. Electric Power used during the year		468,350	Kwhrs

Pumping Information - Continued Millbury

11. Station Log **Jacques #2 N. Main St. Station**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	4,600		0.047	3		
February	3,850		0.000	0		
March	3,800		0.006	1		
April	3,450		0.402	17		
May	2,150		2.007	119		
June	22,400		11.461	666		
July	34,550		12.742	752		
August	32,800		11.383	740		
September	41,150		7.169	487		
October	4,400		0.011	2		
November	1,650		0.006	1		
December	3,850		0.002	1		
Totals	158,650	0	45.236	2,789	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.124 MG (365 days)

14. Maximum gallons pumped in a day 0.546 MG

15. Date of same, July 2, 2018

16. Range of pressure in main 21 to 125 lbs

17. Average pressure in main 73 psi

Pumping Information - Continued Millbury

18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.18	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	158,650	Kwhrs

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Pumping Information - Continued Oxford

11. Station Log **Total System**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	36,942		19.069	1,078		
February	38,125		17.355	943		
March	34,938		19.617	1,060		
April	38,147		17.801	938		
May	33,752		20.683	1,106		
June	42,322		24.568	1,317		
July	44,201		25.680	1,422		
August	43,056		22.307	1,260		
September	38,619		19.602	1,116		
October	34,321		17.954	1,021		
November	31,051		16.377	926		
December	38,676		15.894	902		
Totals	454,150	0	236.907	13,089	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.649 MG (365 days)

14. Maximum gallons pumped in a day 1.105 MG

15. Date of same, July 31, 2018

16. Range of pressure in main 48 to 112 lbs

17. Average pressure in main 80 psi

408	Total System	
Annual report of Aquarion Water Company of Massachusetts		Year Ended December 31, 2018
Pumping Information - Continued Oxford		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.17	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	454,150	Kwhrs

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Pumping Information - Continued Oxford

11. Station Log **North Main St. Well #1**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	23,800		0.149	10		
February	17,600		0.547	32		
March	23,400		0.031	2		
April	12,000		0.234	10		
May	6,600		0.242	13		
June	15,600		1.208	48		
July	19,200		1.611	78		
August	16,600		0.718	35		
September	13,000		0.255	14		
October	8,800		0.395	19		
November	6,800		0.126	6		
December	9,200		0.143	9		
Totals	172,600	0	5.659	276	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.016 MG (365 days)

14. Maximum gallons pumped in a day 0.319 MG

15. Date of same, June 29, 2018

16. Range of pressure in main 48 to 112 lbs

17. Average pressure in main 80 lbs per sq in

408	North Main St. Well #1	
Annual report of Aquarion Water Company of Massachusetts		Year Ended December 31, 2018
Pumping Information - Continued Oxford		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	$ 0.19	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	172,600	Kwhrs

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Continued Oxford

11. Station Log **North Main St. Well #1A**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	0		0.000	0		
February	0		0.000	0		
March	0		0.000	0		
April	0		0.000	0		
May	0		0.000	0		
June	0		0.000	0		
July	0		0.000	0		
August	0		0.000	0		
September	0		0.000	0		
October	0		0.000	0		
November	0		0.000	0		
December	0		0.000	0		
Totals	(See station # 1 for totals)		0.000	0	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.000 MG (365 days)

14. Maximum gallons pumped in a day 0 MG

15. Date of same,

16. Range of pressure in main 48 to 112 lbs

17. Average pressure in main 80 psi

408	North Main St. Well #1A	
Annual report of Aquarion Water Company of Massachusetts		Year Ended December 31, 2018
Pumping Information - Continued Oxford		
18. Kind of coal		
19. Average price per net ton, delivered		
20. Average price of wood per cord, delivered		
21. Average price per gas per M. cubic feet		
22. Average price per gasoline per gallon, delivered		
23. Average price of fuel oil per gallon, delivered		
24. Average price of electric power per Kwhr	see North Main Street #1 meter	
25. Wood consumed durind the year		
26. Gas consumed during the year		
27. Gasoline consumed during the year		
28. Fuel oil consumed during the year		
29. Electric Power used during the year	see North Main Street #1 meter	

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Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

Pumping Information - Continued Oxford

11. Station Log **North Main St. Well #2**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Average Total Static Head	Average Total Dynamic Head
January	0		10.890	653		
February	0		10.331	570		
March	0		8.966	503		
April	0		3.986	212		
May	0		6.301	352		
June	0		9.574	553		
July	0		9.668	593		
August	0		7.669	487		
September	0		5.899	378		
October	0		3.728	259		
November	0		2.855	198		
December	0		2.128	147		
Totals	(See station # 1 for totals)		81.995	4,905	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.225 MG (365 days)

14. Maximum gallons pumped in a day 0.479 MG

15. Date of same, February 13, 2018

16. Range of pressure in main 48 to 112 lbs

17. Average pressure in main 80 psi

* One electric meter is used for 1, 1A & 2

Pumping Information - Continued Oxford

18. Kind of coal	
19. Average price per net ton, delivered	
20. Average price of wood per cord, delivered	
21. Average price per gas per M. cubic feet	
22. Average price per gasoline per gallon, delivered	
23. Average price of fuel oil per gallon, delivered	
24. Average price of electric power per Kwhr	see North Main Street #1 meter
25. Wood consumed durind the year	
26. Gas consumed during the year	
27. Gasoline consumed during the year	
28. Fuel oil consumed during the year	
29. Electric Power used during the year	see North Main Street #1 meter

11. Station Log **Nelson St. #3**

Year and Month 2018	Kwhrs Used	Pounds of coal Burned	Million Gallons of Water Pumped	Hours of Pumping	Total Static Head	Average Total Dynamic Head
January	13,142		8.030	415		
February	20,525		6.477	341		
March	11,538		10.620	555		
April	26,147		13.581	716		
May	27,152		14.140	741		
June	26,722		13.786	716		
July	25,001		14.401	751		
August	26,456		13.920	738		
September	25,619		13.448	724		
October	25,521		13.831	743		
November	24,251		13.396	722		
December	29,476		13.623	746		
Totals	281,550	0	149.253	7,908	0	0

12. Based upon the displacement of_____gallons per revolution with_____per cent allowance for slip____

13. Average gallons per day 0.409 MG (365 days)

14. Maximum gallons pumped in a day 0.547 MG

15. Date of same, August 5, 2018

16. Range of pressure in main 48 to 112 lbs

17. Average pressure in main 80 psi

18. Kind of coal			
19. Average price per net ton, delivered			
20. Average price of wood per cord, delivered			
21. Average price per gas per M. cubic feet			
22. Average price per gasoline per gallon, delivered			
23. Average price of fuel oil per gallon, delivered			
24. Average price of electric power per Kwhr	$	0.16	
25. Wood consumed durind the year			
26. Gas consumed during the year			
27. Gasoline consumed during the year			
28. Fuel oil consumed during the year			
29. Electric Power used during the year		281,550	Kwhrs

409 Hingham

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

DISTRIBUTION INFORMATION

1. Mains

Nominal Diameter, Inches	Kind of Pipe	Weight Per Foot	LENGTHS IN FEET: In Use at Beginning of Year	Taken Up Since	Abandoned But Not Taken Up	Laid Since	In Use at Close of Year
24"	Ductile		10,285				10,285
20"	Lock Joint		13,909				13,909
20"	Cast Iron		26,921				26,921
20"	Cast Iron Cement Lined		277				277
20"	Ductile		10,285				10,285
16"	Lock Joint		112				112
16"	Cast Iron		5,531				5,531
16"	Cast Iron Cement Lined		104				104
16"	Ductile		3,767				3,767
14"	Cast Iron		5,936				5,936
14"	Ductile		110				110
12"	Cast Iron		51,372				51,372
12"	Cast Iron Cement Lined		29,648				29,648
12"	Ductile		46,734			52	46,786
12"	Transite		12,602				12,602
12"	HDPE		2,785				2,785
10"	Cast Iron		11,459				11,459
8"	Cast Iron		40,519				40,519
8"	Cast Iron Cement Lined		114,469				114,469
8"	Ductile		177,765			5,661	183,426
8"	Transite		43,273				43,273
8"	Steel		70				70
8"	HDPE		1,620				1,620
6"	Cast Iron		116,694		435		116,259
6"	Cast Iron Cement Lined		74,764				74,764
6"	Ductile		14,510			428	14,938
6"	Transite		87,134		10		87,124
6"	HDPE		2,060				2,060
4"	Cast Iron		31,158		230		30,928
4"	Cast Iron Cement Lined		77				77
4"	Ductile		12,247				12,247
4"	Galvanized		256				256
4"	Plastic		500				500
3"	Cast Iron		1,323				1,323
3"	Galvanized		82				82
3"	Plastic		525				525
2 1/4"	Cast Iron Cement Lined		36,804		2,055		34,749
2"	Steel		200				200
2"	Galvanized		17,709		688		17,021
2"	Plastic		1,282			1,195	2,477
1 1/2 "	Galvanized		2,449				2,449
1 1/4"	Galvanized		797				797
1"	Plastic		0				0
1"	Copper		339				339
1"	Galvanized		3,831		100		3,731
3/4"	Galvanized		100				100
3/4"	Copper		49				49
		TOTALS	1,014,443	0	3,518	7,336	1,018,261

2. Cost of repairs per mile of pipe including valves $ 1,795

3. Number of leaks in mains, during the year 29

4. Number of leaks per mile 0.1500

5. Length of mains less than 4 inches in diamater 63,842 miles 12.09

409 Milbury

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

DISTRIBUTION INFORMATION

1. Mains

Nominal Diameter, Inches	Kind of Pipe	Weight Per Foot	LENGTHS IN FEET: In Use at Beginning of Year	Taken Up Since	Abandoned But Not Taken Up	Laid Since	In Use at Close of Year
16	Cast Iron		6,575				6,575
12	C. I. & Ductile		39,297				39,297
10	Cast Iron		17,691				17,691
8	C.I. & Ductile		119,894	15		19	119,898
6	C.I. & Ductile		66,586				66,586
4	Cast Iron		1,323				1,323
3	Cast Iron		935				935
2 1/4	Cast Iron		12,751				12,751
2	Cast Iron		3,060	61			2,999
8	Transite		1,497				1,497
6	Transite		3,609	4			3,605
2	Plastic		880			61	941
		TOTALS	274,098	80	0	80	274,098

2. Cost of repairs per mile of pipe including valves $ 4,184

3. Number of leaks in mains, during the year 26

4. Number of leaks per mile 0.5009

5. Length of mains less than 4 inches in diamater 17,626 miles 3.34

409 Oxford

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

DISTRIBUTION INFORMATION

1. Mains

Nominal Diameter, Inches	Kind of Pipe	Weight Per Foot	LENGTHS IN FEET In Use at Beginning of Year	Taken Up Since	Abandoned But Not Taken Up	Laid Since	In Use at Close of Year
16	Ductile		3,328	100		100	3,328
12	C.I. & Ductile		32,075				32,075
10	C.I. & Ductile		1,674				1,674
8	C.I. & Ductile		83,590	72		72	83,590
6	C.I. & Ductile		51,962			11	51,973
3	C.I. & Ductile		200				200
2 1/4	C.I. & Ductile		3,665				3,665
2	C.I. & Ductile		11,413				11,413
8	Transite		5,480				5,480
6	Transite		20,901	11			20,890
4	Ductile		354				354
2	Plastic		31				31
		TOTALS	214,673	183	0	183	214,673

2. Cost of repairs per mile of pipe including valves $ 2,716

3. Number of leaks in mains, during the year 7

4. Number of leaks per mile 0.1722

5. Length of mains less than 4 inches in diamater 15,309 miles 2.90

DISTRIBUTION INFORMATION

6. Water towers or stand pipes

	Location	Land		
		Area	When Bought	Cost
A	Turkey Hill	23	1963	$4,766
B	Accord Tank			
C	Accord Tank on land adjacent to Accord Pond - included there			

	Capacity in Gallons	When Bought	Cost
A	2,000,000	1963	$103,921
B	750,000	1967	$145,359
C			
	2,750,000		$249,280

7. Services

Nominal Diameter Inches	Kind of Pipe	Number Installed and in Use at Beginning of Year	Taken Up Since	Laid Since	Installed and in Use at Close of Year
3/4" - 10"	Copper-WI-Steel				
	Plastic Galv	10,279			10,279
3/4"	Plastic	0			0
3/4"	Copper	223	55		168
1"	Plastic	1,007			1,007
1"	Copper	947	9	104	1,042
2"	Plastic	243		2	245
4"	DICL	114		1	115
6"	DICL	115			115
8"	DICL	81		2	83
12"	DICL	2			2
	TOTALS	13,011	64	109	13,056

8. Average length of service pipe 25 feet

9. Average cost of service laid during the year $ 3,917

10. Percentage of services that are metered All except for fire services

11. Percentage in income that is metered 90%

12. Leaks in service during the year 38

13. Are service pipes paid for by consumer, in whole or in part and by what extent? Water company provides labor materials for installation up to 2 inch in size, customer provides all other requirements to install water service including materials over 2 inch in size.

DISTRIBUTION INFORMATION

6. Water towers or stand pipes

	Location	Land: Area	Land: When Bought	Land: Cost
A	Burbank Hill	3.00 Acres	1895	
B				
C				
D				

	Inside Diameter	Capacity in Gallons	When Bought	Cost
A	130'	1,500,000	1895	$25,802
B				
C				
D				

7. Services

Nominal Diameter Inches	Kind of Pipe	Number Installed and in Use at Beginning of Year	Taken Up Since	Laid Since	Installed and in Use at Close of Year
12	Cast Iron Ductile	1			1
10	Cast Iron	2		1	3
8	Cast Iron Ductile	22			22
6	Cast Iron Ductile	73			73
4	Cast Iron Ductile	54			54
3	Cast Iron	1			1
2 1/4	Cast Iron	7			7
2	Cast Iron	25			25
1 1/4	Cast Iron	0			0
1 1/2	Copper	0		1	1
3/4	Copper	1,460	6		1,454
3/4	Plastic	609			609
1	Copper	455		70	525
1	Plastic	504			504
1	Cement Lined	489			489
2	Plastic	30		1	31
2	Copper	2			2
1 1/4	Plastic	0		6	6
	TOTALS	3,734	6	79	3,807

Also 11 residential services in the Town of Auburn that are included in the above totals

8. Average length of service pipe 27 feet

9. Average cost of service laid during the year $ 884

10. Percentage of services that are metered all except fire service

11. Percentage in income that is metered 90%

12. Leaks in service during the year 7

13. Are service pipes paid for by consumer, in whole or in part and by what extent? Water company provides labor materials for installation up to 2 inch in size, customer provides all other requirements to install water service including materials over 2 inch in size.

410 Oxford

Annual report of Aquarion Water Company of Massachusetts **Year ended December 31, 2018**

DISTRIBUTION INFORMATION

6. Water towers or stand pipes

	Location	Land		
		Area	When Bought	Cost
A	N. Main St., Oxford , MA	1 Acre	1905	$319
B		13.4 Acres	1944	$438
C				
D				

	Inside Diameter	Capacity in Gallons	When Bought	
A	27	215,000	1905	
B				
C				
D				

7. Services

Nominal Diameter Inches	Kind of Pipe	Number Installed and in Use at Beginning of Year	Taken Up Since	Laid Since	Installed and in Use at Close of Year
12	Cast Iron Ductile	1			1
8	Cast Iron Ductile	4			4
6	Cast Iron Ductile	28			28
2 1/4	Cast Iron	10			10
2	Galv Iron	0			0
1 1/2	Copper	0			0
1 1/4	Copper	0			0
1	Copper	380		9	389
3/4	Copper	1,389	6		1,383
2	Cast Iron	5			5
4	Cast Iron Ductile	6			6
3/4	Plastic	228			228
1	Plastic	547			547
2	Plastic	33			33
1	Galv Iron	18			18
	TOTALS	2,649	6	9	2,652

8. Average length of service pipe 27 feet

9. Average cost of service laid during the year $ 5,900

10. Percentage of services that are metered all except fire service

11. Percentage in income that is metered 90%

12. Leaks in service during the year 2

13. Are service pipes paid for by consumer, in whole or in part and by what extent? Water company provides labor materials for installation up to 2 inch in size, customer provides all other requirements to install water service including materials over 2 inch in size.

DISTRIBUTION INFORMATION - Continued

14. Gates and valves

Nomial Diameter Inches	Kind of Valves	Number in Use at Beginning of Year	Removed Since	Installed Since	Number in Use at Close of Year
24	Butterfly Valves	17			17
20	Butterfly Valves	18			18
16	Butterfly Valves	8			8
14	Butterfly Valves	5			5
12	Butterfly Valves	19			19
12	Check Valve	1			1
20	Gate Valves	11			11
16	Gate Valves	11			11
14	Gate Valves	18			18
12	Gate Valves	313		1	314
10	Gate Valves	34			34
8	Gate Valves	952	3	26	975
6	Gate Valves	822	7	6	821
4	Gate Valves	207			207
3	Gate Valves	1			1
2 1/4 - 2 1/2	Gate Valves	83			83
2	Gate Valves	195	8		187
1 1/2	Gate Valves	9			9
1 1/4	Gate Valves	17			17
1	Gate Valves	267	2		265
3/4	Gate Valves	80			80
	Totals	3,088	20	33	3,101

The above list should include all valves that are installed in the mains, whether they are gate valves, blow offs, check valves or otherwise.

DISTRIBUTION INFORMATION - Continued

14. Gates and valves

Nomial Diameter Inches	Kind of Valves	Number in Use at Beginning of Year	Removed Since	Installed Since	Number in Use at Close of Year
16	Butterfly	2			2
16	Gate Valve	6			6
12	Gate Valve	72			72
10	Gate Valve	25			25
8	Gate Valve	247			247
6	Gate Valve	343			343
4	Gate Valve	3			3
3	Gate Valve	6			6
2 1/4	Gate Valve	30			30
2	Gate Valve	25			25
3/4	Gate Valve	2			2
	Totals	761	0	0	761

The above list should include all valves that are installed in the mains, whether they are gate valves, blow offs, check valves or otherwise.

DISTRIBUTION INFORMATION - Continued

14. Gates and valves

Nomial Diameter Inches	Kind of Valves	Number in Use at Beginning of Year	Removed Since	Installed Since	Number in Use at Close of Year
16	Butterfly	5		2	7
16	Gate Valve	0			0
12	Gate Valve	72			72
10	Gate Valve	3			3
8	Gate Valve	208		1	209
6	Gate Valve	279	1	1	279
2 1/2	Gate Valve	18			18
2	Gate Valve	11			11
1 1/4	Gate Valve	2			2
1	Gate Valve	8			8
4	Gate Valve	1			1
	Totals	607	1	4	610

The above list should include all valves that are installed in the mains, whether they are gate valves, blow offs, check valves or otherwise.

DISTRIBUTION INFORMATION - Continued

15. HYDRANTS.PUBLIC

Nominal Diameter Inches	Hose Outlets	Number in Use at Beginning of Year	Removed Since	Installed Since	Number in Use at Close of Year
4 1/2		0			0
4 1/4		0			0
5		426	7		419
5 1/4		484	2	16	498
TOTALS		910	9	16	917

16. Were all of the above hydrants purchases and installed at the expense of the company? NO

17. If not, under what arrangement were they purchases and installed? Customer/Town Purchased & Installed
Town Owned

18. HYDRANTS.PRIVATE

Nominal Diameter Inches	Hose Outlets	Number in Use at Beginning of Year	Removed Since	Installed Since	Number in Use at Close of Year
5		3			3
4 1/2		0			0
4 1/4		6			6
5		34			34
5 1/4		253			253
Metered		122			122
TOTALS		418	0	0	418

19. Were all of the above hydrants purchases and installed at the expense of the company? NO

20. If not, under what arrangement were they purchases and installed? Customer/Town Purchased & Installed

DISTRIBUTION INFORMATION - Continued

15. HYDRANTS.PUBLIC

Nominal Diameter Inches	Hose Outlets	Number in Use at Beginning of Year	Removed Since	Installed Since	Number in Use at Close of Year
4 1/2	2 - 2 1/2	25			25
5	2 - 2 1/2, 1- 4	1			1
5 1/4	2 - 2 1/2, 1- 4	59		5	64
4 1/4	2 - 2 1/2, 1- 4	65			65
4 1/2	2 - 2 1/2, 1- 4	61	1		60
4 3/4	2 - 2 1/2, 1- 4	8			8
4 1/4	2 - 2 1/2, 1- 4	1	Hydrant is located in town of Auburn		1
	TOTALS	220	1	5	224

16. Were all of the above hydrants purchases and installed at the expense of the company? NO

17. If not, under what arrangement were they purchases and installed? Hydrants installed on new main extensions are paid by developers.

18. HYDRANTS.PRIVATE

Nominal Diameter Inches	Hose Outlets	Number in Use at Beginning of Year	Removed Since	Installed Since	Number in Use at Close of Year
4	2 - 2 1/2	28			28
4 1/2	2 - 2 1/2, 1- 4	13			13
4 1/4	2 - 2 1/2, 1- 4	5			5
5 1/4	2 - 2 1/2, 1- 4	79	4	3	78
	TOTALS	125	4	3	124

19. Were all of the above hydrants purchases and installed at the expense of the company? NO

20. If not, under what arrangement were they purchases and installed? Customer Purchased

DISTRIBUTION INFORMATION - Continued

15. HYDRANTS.PUBLIC

Nominal Diameter Inches	Hose Outlets	Number in Use at Beginning of Year	Removed Since	Installed Since	Number in Use at Close of Year
4	2 - 2 1/2	28			28
4	3 - 2 1/2	0			0
4 1/4	2 - 2 1/2, 1- 4	3			3
4 1/2	2 - 2 1/2, 1- 4	62	1		61
5	2 - 2 1/2, 1- 4	5			5
4	2 - 2 1/2, 1- 4	1			1
5 1/4	2 - 2 1/2, 1- 4	87		1	88
	TOTALS	186	1	1	186

16. Were all of the above hydrants purchases and installed at the expense of the company? NO

17. If not, under what arrangement were they purchases and installed? Hydrants installed on new main extensions are paid for by developers.

18. HYDRANTS.PRIVATE

Nominal Diameter Inches	Hose Outlets	Number in Use at Beginning of Year	Removed Since	Installed Since	Number in Use at Close of Year
4	2 - 2 1/2, 1- 4	12			12
5 1/4	2 - 2 1/2, 1- 4	0			0
	TOTALS	12	0	0	12

19. Were all of the above hydrants purchases and installed at the expense of the company? NO

20. If not, under what arrangement were they purchases and installed? Customer Purchased

DISTRIBUTION INFORMATION - Continued

21. Meters owned by Company

Size inches	Number at Beginning of Year		Bought Since	Condemned Since and Removed	Number at Close of Year	
	In Use	On Hand			In Use	On Hand
1/2	0	0	0	0	0	0
5/8	12,068	347	1,485	912	12,090	898
3/4	14	0	51	3	14	48
1	361	6	66	24	362	47
1 1/2	77	5	14	4	77	15
2	159	22	18	11	156	32
3	0	0	0	0	0	0
4	3	0	1	0	4	0
6	3	0	1	1	3	0
8	4	0	0	0	4	0
Totals	12,689	380	1,636	955	12,710	1,040

22. Has the plant been debited with the first cost of installing the meters in use at close of year, above stated? Yes

23. If so, was the cost the actual cost or some assumed or average cost? Actual

24. Are any of these meters paid for by consumers, and to what extent? None

DISTRIBUTION INFORMATION - Continued

21. Meters owned by Company

Size inches	Number at Beginning of Year In Use	Number at Beginning of Year On Hand	Bought Since	Condemned Since and Removed	Number at Close of Year In Use	Number at Close of Year On Hand
1/2						
5/8	3,575	1	413	285	3,639	65
3/4	0	0	0	0	0	0
1	59	3	6	4	59	5
1 1/2	17	5	0	0	17	5
2	45	3	9	2	46	9
3	1	0	0	0	1	0
4	4	0	0	0	4	0
5	0	0	0	0	0	0
8	0	0	0	0	0	0
Totals	3,701	12	428	291	3,766	84

22. Has the plant been debited with the first cost of installing the meters in use at close of year, above stated? Yes

23. If so, was the cost the actual cost or some assumed or average cost? Actual

24. Are any of these meters paid for by consumers, and to what extent? None

Company owned meters at pump stations:

Oak Pond Station 1-8" Honeywell Flow
#1 Jacques 1-8" Chessel Flow
#2 Jacques 1-8" Chessel Flow
5-1" mtrs for make up water - 1-Oak Pond, 1-#1 Jacques, 1-#2 Jacques, 2-Millbury Ave. Filter Plant
Millbury Ave. - 5-6" Primary Flow Signal Flow Meters
Millbury Ave. - 3-8" Primary Flow Signal Flow Meters

DISTRIBUTION INFORMATION - Continued

21. Meters owned by Company

Size inches	Number at Beginning of Year In Use	Number at Beginning of Year On Hand	Bought Since	Condemned Since and Removed	Number at Close of Year In Use	Number at Close of Year On Hand
1/2						
5/8	2,534	0	238	236	2,535	1
3/4	0	0	0	0	0	0
1	61	0	8	6	63	0
1 1/2	11	0	0	0	11	0
2	18	0	1	1	18	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
6	3	0	0	0	3	0
8	0	0	0	0	0	0
Totals	2,627	0	247	243	2,630	1

22. Has the plant been debited with the first cost of installing the meters in use at close of year, above stated? Yes

23. If so, was the cost the actual cost or some assumed or average cost? Actual

24. Are any of these meters paid for by consumers, and to what extent? None

Company owned meters at pump stations:

N Main St. & #1A N. Main St.
N. Main St. #1 1-8" Chessel flow
N. Main St. #2 1-8" Chessel flow
Nelson St. #3 1-8" Chessel flow
2-1" Meter for make up water
#1N. Main St.
#3 Nelson St.

Annual report of Aquarion Water Company of Massachusetts

Distribution Information - Concluded

25. Meters owned by Company

		Size (inches)										
Maker	**Type**	**1/2**	**5/8**	**3/4**	**1**	**1 1/2**	**2**	**3**	**4**	**6**	**8**	**Total**
Neptune	Disc		12,938	62	403		183					13,586
Neptune	Turbine					91			1		2	94
Neptune	Compound								2		1	3
Neptune	Protectus									3		3
Badger	Turbine										1	1
Trident	Disc		50		6	1	5					62
Kent	Disc								1			1
Hersey	Turbine											-
Totals		0	12,988	62	409	92	188	0	4	3	4	13,750

Distribution Information - Concluded

25. Meters owned by Company

		Size										
Maker	Type	1/2	5/8	3/4	1	1 1/2	2	3	4	6	8	Total
Neptune	Disc		3,698	-	64	22	52	-				3,836
Badger	Disc		4									4
Neptune	Turbine											-
Kent	Disc		2									2
Rockwell	Disc											-
Sensus	Disc						2	1				3
Trident	Disc						1		4			5
Totals		-	3,704	-	64	22	55	1	4	-	-	3,850

Distribution Information - Concluded

25. Meters owned by Company

		Size										
Maker	Type	1/2	5/8	3/4	1	1 1/2	2	3	4	6	8	Total
Neptune	Disc		2,528	-	63	11	18					2,620
Badger	Disc		5									5
Neptune	Fullcrest									3		3
Rockwell	Disc											-
Kent	Disc		3									3
Neptune	Protectus											-
Totals		-	2,536	-	63	11	18	-	-	3	-	2,631

415 Hingham

Annual report of Aquarion Water Company of Massachusetts American Water Company Year ended December 31, 2018

CONSUMPTION INFORMATION

	Permanent	Seasonal
1. Estimated total population of territory covered by franchise	30,523	41,082
2. Estimated population reached by the distribution system,	30,523	41,082
3. Estimated population actually supplied,	30,523	41,082

4. Total consumption during the year (1)	1,223,298,000	gallons
5. Average daily consumption (2)	3,351,501	gallons
6. Day on which greatest amount was pumped	July 4, 2018	
7. Gallons pumped on above day	6,316,000	gallons
8. Week during which greatest amount was pumped	July 2-July 8	
9. Gallons pumped during above week	4,888,857	gallons
10. Gallons per day per service (3)	210	gallons
11. Consumption metered	972,318,000	gallons
12. Consumption metered	79.00%	Percent of total consumption

13. Customers

Number being Supplied at Beginning of Year	Disconnected Since	Connected Since	Number being Supplied at Close of Year
13,168	0	28	13,196

Name of City, Town or District	Number of Customers as of December 31, 2018
Hingham	8,211
Hull	4,647
Cohasset	338

(1) Represents Total Water Production During the Year including purchased water
(2) Represents Average Daily Production
(3) Represents Metered Consumption per day per Customer, excluding Fire services.

415 Millbury

Annual report of Massachusetts American Water Company **Year ended December 31, 2018**

CONSUMPTION INFORMATION

1. Estimated total population of territory covered by franchise,	13,614	
2. Estimated population reached by the distribution system,	8,803	
3. Estimated population actually supplied,	8,803	
4. Total consumption during the year (1)	601,135,000	gallons
5. Average daily consumption (2)	1,646,945	gallons
6. Day on which greatest amount was pumped	June 17, 2018	
7. Gallons pumped on above day	2,615,000	gallons
8. Week during which greatest amount was pumped	July 9-July 15	
9. Gallons pumped during above week	14,904,000	gallons
10. Gallons per day per service (3)	344	gallons
11. Consumption metered	473,661,000	gallons
12. Consumption metered	78.79%	Per cent of total consumption

13. Customers

Number being Supplied at Beginning of Year	Disconnected Since	Connected Since	Number being Supplied at Close of Year
3,930		76	4,006

Name of City, Town or District	Number of Customers as of December 31, 2018
Millbury	4,006

(1) Represents Total Water Production During the Year
(2) Represents Average Daily Production
(3) Represents Metered Consumption per day per Customer, excluding Fire Services.

415 Oxford

Annual report of Massachusetts American Water Company **Year ended December 31, 2018**

CONSUMPTION INFORMATION

1. Estimated total population of territory covered by franchise,	14,118	
2. Estimated population reached by the distribution system,	6,266	
3. Estimated population actually supplied,	6,266	
4. Total consumption during the year (1)	236,907,000	gallons
5. Average daily consumption (2)	649,060	gallons
6. Day on which greatest amount was pumped	July 31, 2018	
7. Gallons pumped on above day	1,105,000	gallons
8. Week during which greatest amount was pumped	July 2-July 8	
9. Gallons pumped during above week	6,311,000	gallons
10. Gallons per day per service (3)	189	gallons
11. Consumption metered	181,428,000	gallons
12. Consumption metered	76.58%	Per cent of total consumption

13. Customers

Number being Supplied at Beginning of Year	Disconnected Since	Connected Since	Number being Supplied at Close of Year
2,674		4	2,678

Name of City, Town or District	Number of Customers as of December 31,2018
Oxford	2,678

(1) Represents Total Water Production During the Year
(2) Represents Average Daily Production
(3) Represents Metered Consumption per day per Customer, excluding Fire Services.

THIS RETURN IS SIGNED UNDER THE PENALTIES OF PERJURY

Executive Vice President, Treasurer, Secretary and Clerk

Director

Director

SIGNATURES OF ABOVE PARTIES AFFIXED OUTSIDE THE COMMONWEALTH OF MASSACHUSETTS MUST BE PROPERLY SWORN TO

State of Connecticut

Fairfield County as March 27, 2019

Then personally appeared DONALD J. MORRISSEY, EXECUTIVE VICE PRESIDENT, TREASURER, SECRETARY, CLERK AND DIRECTOR OF AQUARION WATER COMPANY OF MASSACHUSETTS AND CHARLES V. FIRLOTTE, DIRECTOR OF AQUARION WATER COMPANY OF MASSACHUSETTS

and severally made oath to the truth of the foregoing statement by them subscribed according to their best knowledge and belief.

Signature

11/30/2021
Expiration of Commission

Notary Public or
~~Justice of the Peace~~

GEORGEANNE F. BERG
NOTARY PUBLIC
MY COMMISSION EXPIRES NOV. 30, 2021

CONSUMPTION INFORMATION - Concluded

By Meter… SEE ATTACHED RATE TARIFF SHEETS DATED October 31, 2018

……

……

……

Per faucet, per year……

Per hose connection, per year,……

Per bath tub, per year,……..

Per shower bath, per year, ……..

Per foot tub, per year,……

Per wash tub, per year,……

Per urinal, per year,……..

Per water closet, per year,……

Per sink, per year,……

Per bowl, per year……..

Per private hydrant, per year,……

For sprinkler systems,……..

For water motors,……..

Per drinking fountain, per year,……..

Per public hydrant, per year,……

For watering troughs,……..

Minimum charge,……

Give any contact rates that are in force and state what discounts are allowed for prompt payment and what fines are charged for delayed payment……

……

……

Are payments required in advance?……

When are meters read and bills rendered?……

RATE FOR METERED SERVICE – SERVICE AREA A

AVAILABILITY
This rate is available to customers located in the following towns on the mains of the Company within the Company's franchise area, for all purposes except fire protection, subject to the Rules and Regulations of the Company: Cohasset (North Cohasset), Hingham, Hull and Norwell.

WATER CHARGE
A water charge will be made for all water used as registered by the meter, as set forth below:

Rate Per Hundred Cubic Feet (CCF)

RATE R1 - Applies to all metered residential usage by customers classified as such on the Company's records.

First 12 CCF per Quarter/ 4 CCF per Month	$3.613
Over 12 CCF per Quarter/ 4 CCF per Month	$4.588

RATE G1 - Applies to all metered commercial usage by customers classified as such on the Company's records, which do not qualify for Rate G4.

First 12 CCF per Quarter/ 4 CCF per Month	$2.668
Over 12 CCF per Quarter/ 4 CCF per Month	$3.230

RATE G2 - Applies to all metered public authority usage by customers classified as such on the Company's records, which do not qualify for Rate G4.

First 12 CCF per Quarter / 4 CCF per Month	$2.653
Over 12 CCF per Quarter/ 4 CCF per Month	$2.959

RATE G3 - Applies to all metered industrial usage by customers classified as such on the Company's records, which do not qualify for Rate G4. All Usage $2.953

RATE G4 - Applies to the total monthly usage by qualifying non-residential customers, classified as such on the Company's records, as per the following criteria: All Usage $2.009

Monthly billed amounts:	not less than 10,000,000 gallons, and not more than 40,000,000 gallons
Past 12 months total billed amount	not less than 120,000,000 gallons.

Usage which does not meet these criteria shall be charged at the appropriate G1, G2 or G3 Rate.

SERVICE CHARGE
In addition, all metered general water service customers shall pay a service charge on the size of each meter installed. Customers with multiple meters shall be charged for each meter at the indicated rate.

	Service Charge	
Size of Meter	**Per Month**	**Per Quarter**
5/8"	$ 16.08	$ 48.24
3/4"	$ 24.05	$ 72.15
1"	$ 40.12	$ 120.36
1 1/2"	$ 80.32	$ 240.96
2"	$ 128.55	$ 385.65
3"	$ 241.10	$ 723.30
4"	$ 401.88	$ 1,205.64
6"	$ 803.82	$ 2,411.46
8"	$ 1,286.16	$ 3,858.48

TERMS OF PAYMENT
The Company may render bills on either a quarterly or monthly basis. The above rates are payable within forty-five (45) days of the date of the bill.

Issued: October 31, 2018 Effective: November 1, 2018

Issued By: Donald J. Morrissey Title: Vice President, Treasurer

RATE FOR METERED SERVICE – SERVICE AREA B

AVAILABILITY

This rate is available to customers located in the following towns on the mains of the Company within the Company's franchise area, for all purposes except fire protection, subject to the Rules and Regulations of the Company: Millbury, Oxford.

WATER CHARGE

A water charge will be made for all water used as registered by the meter, as set forth below:

	Rate Per Thousand Gallons(KGAL):
RATE R1 - Applies to all metered residential usage by customers classified as such on the Company's records.	
First 9 KGAL per Quarter/ 3 KGAL per Month	$4.830
Over 9 KGAL per Quarter/ 3 KGAL per Month	$6.133
RATE G1 - Applies to all metered commercial usage by customers classified as such on the Company's records, which do not qualify for Rate G4.	
First 9 KGAL per Quarter/ 3 KGAL per Month	$3.567
Over 9 KGAL per Quarter/ 3 KGAL per Month	$4.318
RATE G2- Applies to all metered public authority usage by customers classified as such on the Company's records, which do not qualify for Rate G4.	
First 9 KGAL per Quarter/ 3 KGAL per Month	$3.547
Over 9 KGAL per Quarter/ 3 KGAL per Month	$3.956
RATE G3- Applies to all metered industrial usage by customers classified as such on the Company's records, which do not qualify for Rate G4. All Usage	$3.947
RATE G4 - Applies to the total monthly usage by qualifying non-residential customers, classified as such on the Company's records, as per the following criteria: All Usage	$2.686

Monthly billed amounts:	not less than 10,000,000 gallons, and not more than 40,000,000 gallons
Past 12 months total billed amount	not less than 120,000,000 gallons.

Usage which does not meet these criteria shall be charged at the G1, G2 or G3 Rate.

SERVICE CHARGE

In addition, all metered general water service customers shall pay a service charge on the size of each meter installed. Customers with multiple meters shall be charged for each meter at the indicated rate.

	Service Charge	
Size of Meter	**Per Month**	**Per Quarter**
5/8"	$ 16.08	$ 48.24
3/4"	$ 24.05	$ 72.15
1"	$ 40.12	$ 120.36
1 1/2"	$ 80.32	$ 240.96
2"	$ 128.55	$ 385.65
3"	$ 241.10	$ 723.30
4"	$ 401.88	$ 1,205.64
6"	$ 803.82	$ 2,411.46
8"	$ 1,286.16	$ 3,858.48

TERMS OF PAYMENT

The Company may render bills on either a quarterly or monthly basis. The above rates are payable within forty-five (45) days of the date of the bill.

Issued: October 31, 2018 Effective: November 1, 2018

Issued By: Donald J. Morrissey Title: Vice President, Treasurer

RATE FOR PRIVATE FIRE PROTECTION

AVAILABILITY

This rate is available to customers located on the mains of the Company within the Company's franchise area for Private Fire Protection, subject to the Rules and Regulations of the Company.

RATE

	Per Year
For each service connection 1"	$ 122.17
For each service connection 1.25"	137.54
For each service connection 1.5"	$ 154.84
For each service connection 2"	$ 206.69
For each service connection 2.5"	$ 272.00
For each service connection 3"	$ 352.67
For each service connection 4" or smaller	$ 552.44
For each service connection 6"	$ 1,105.64
For each service connection 8"	$ 1,873.97
For each service connection 10"	$ 2,949.64
For each service connection 12"	$ 4,178.96
For each privately owned fire hydrant serving Cohasset, Hingham, Hull, Millbury and Oxford	$ 913.37
For each privately owned fire hydrant outside Cohasset, Hingham, Hull, Millbury and Oxford	$ 1,150.13

TERMS OF PAYMENT

Bills shall be rendered and due monthly or quarterly in advance. The above rates are net and are payable within forty-five (45) days of the date of the bill. The Company reserves the right to disconnect the service of any customers not having their account paid in full within forty-five (45) days of the date of the bill.

SPECIAL PROVISIONS

(a) All water shall be used for fire protection purposes only.

(b) The Company reserves the right, if water is used in violation of (a) above, to install a meter on the connection at any time which will meet the requirements of the fire insurance companies. In the event a meter is installed, the established meter rates, including both water and service charges, will apply in lieu of the above rates for Private Fire Protection.

RATE FOR PUBLIC FIRE PROTECTION

AVAILABILITY

This rate is available for Public Fire Protection only, and is subject to the Rules and Regulations of the Company.

RATES

For each Company owned public fire hydrant	$ 193.51
In addition, annual charges as follows:	
Town of Hingham	$ 395,054.00
Town of Hull	$ 227,331.00
Town of Cohasset	$ 18,712.00
Town of Millbury	$ 159,407.00
Town of Oxford	$ 110,892.00

TERMS OF PAYMENT

Bills shall be rendered and due monthly or quarterly in arrears. The above rates are payable within forty-five (45) days of the date of the bill.

SALE FOR RESALE

AVAILABILITY

This rate is available to municipalities, or political subdivisions thereof, for resale to customers resident in territory contiguous to that served by the Company.

RATE

For all water taken, subject to the minimum charge as provided below:

$ 2.00 per 1,000 gallons

MINIMUM CHARGE

A variable minimum charge will apply based on the minimum monthly delivery occurring over the preceding 12 months, but not less than 100,000 gallons per month, times the currently allowed rate per 1,000 gallons.

Example: given a minimum monthly billing of 500,000 gallons, the minimum charge
Would be $2.00 x 500 = $1,000 per month.

TERMS OF PAYMENT

The Company may render bills on either a quarterly or monthly basis. The above rates are payable within forty-five (45) days of the date of the bill.

MISCELLANEOUS CHARGES

Drought Conditions

Termination and Restoration Fee – Business Hours*	$ 65.00
Termination and Restoration Fee – After Hours	$ 392.00

*Normal business hours are Monday through Friday, 8 am to 4 pm.

System Development Charge ("SDC")

Meter Size**	Capacity GPM	Ratio to 5/8" Meter	Fee
5/8"	20	1.00	$640
3/4"	30	1.50	$960
1"	50	2.50	$1,600
1 ½"	100	5.00	$3,200
2"	160	8.00	$5,120
3"	320	16.00	$10,240
4"	500	25.00	$16,000

*SDC is determined on a case by case basis for meter sizes greater than 4".

Mitigation Fee for the Water Balance Program[1]

A Water Balance Mitigation Fee will be charged to applicants associated with projects that are subject to the Water Balance Program, and who have not elected the Applicant Directed Conservation option or the Supplemental Water Supply Source option (as described in the Water Balance Program application) to comply with the Water Balance Program. Applications for new or expanded water usage with an estimated average daily water demand less than 10,000 gallons per day ("GPD"), shall be charged a Water Balance Mitigation Fee rate of $10 per GPD. For new or expanded water usage equal to or greater than 10,000 GPD, the Water Balance Mitigation Fee rate will be determined by the Company based on the costs of completing water conservation work and the amount of gallons saved associated with said conservation work. In such cases, the Water Balance Mitigation Fee rate will be calculated and determined based on the sum of the actual costs incurred by the Company for completing water conservation work divided by the gallons saved associated with that work ($/GPD). For new or expanded water usage equal to or greater than 10,000 GPD, the Water Balance Mitigation Fee rate may change from time to time based on the actual costs incurred by the Company and the water conservation gallons saved.

[1] Refer to the Water Balance Program application form for more detailed information about the Water Balance Program.

OTHER SERVICES

AVAILABILITY

This rate is available to all classes of customers located on the mains of the Company Subject to the Rules and Regulations of the Company.

Frozen Meters	Actual Cost of Meter	
Meter Test Fees 1" and less	$	50.00
Larger than 1"	$	75.00
Return Check Fee	$	20.00
Seasonal Meter Set & Turn On Fee	$	65.00
Seasonal Meter Removal Fee & Turn Off Fee	$	65.00
Turn-on Fee – Business Hours	$	65.00
After Hours Callout	$	392.00
Non-Payment Reconnect – Business Hours	$	65.00
Non-Payment Reconnect – After Hours	$	392.00
Theft of Service	$	1,000.00
(or triple the amount of damages which ever is greater)		
Cross Connection – One Device Testing	$	75.00
Each Additional	$	35.00

TERMS OF PAYMENT

The Company may render bills on either a quarterly or monthly basis. The above rates are payable within forty-five (45) days of the date of the bill.

The following surcharges are applicable to all metered customers located in the following towns on the mains of the Company within the Company's franchise area: Cohasset, (North Cohasset), Hingham, Hull and Norwell.

SURCHARGE

	Service Charge	
Size of Meter	Per Month	Per Quarter
5/8"	$10.32	$30.96
3/4"	$15.70	$47.10
1"	$25.20	$75.60
1 1/2"	$49.20	$147.60
2"	$78.00	$234.00
3"	$145.00	$435.00
4"	$240.30	$720.90
6"	$479.60	$1,438.80
8"	$766.90	$2,300.70

Consumption Charge per 100 cubic feet for Water Treatment Facility Lease $0.9524

Consumption Charge per 100 cubic feet for Water Treatment Operation and Maintenance $1.0639

TERMS OF PAYMENT

The Company may render bills on either a quarterly or monthly basis. The above rates are payable within forty-five (45) days of the date of the bills.

PURCHASED WATER SURCHARGE

AVAILABILITY

All metered general water service customers falling under the G4 rate designation receiving water service from the Millbury system, the City of Worcester interconnection or a combination of both sources. G4 customers will be billed at the customary G4 rate under the Company's approved tariff schedule for water service received from the Millbury system based on readings of the Millbury system meter.

SURCHARGE AMOUNT

In addition, any G4 customer who receives water supplied from the City of Worcester interconnection will be billed an amount equal to the difference in the cost of water purchased from the City of Worcester and the volumetric rate paid by a G4 customer as per the Company's tariff.

To the extent that multiple customers qualify for the G4 rate, the cost of water service from the City of Worcester interconnection will be allocated among the qualifying customers based upon the respective water usage in the applicable billing period.

The surcharge for each forthcoming year will be calculated on December 1 based on the previous 12 months of applicable actual invoices from the City of Worcester. The surcharge will be charged to the customer in equal installments over the calendar year beginning with the January billing.

TERMS OF PAYMENT

The Company renders bills on a monthly basis. The above rates are payable within forty-five (45) days of the date of the bill.

MAIN REPLACEMENT ADJUSTMENT MECHANISM

I. General Description

A. ***Purpose*:** The Main Replacement Adjustment Mechanism ("MRAM") provides the Company with recovery of project costs to support the accelerated replacement and rehabilitation of water-system infrastructure for the purpose of improving or protecting water quality and reliability of service. With implementation of the MRAM, the Company will recover the fixed costs (depreciation, property taxes, return and income taxes) of main replacements, rehabilitation and any connected service lines, valves and hydrants replaced as a result of the main replacement and placed in service annually, and recorded in the individual accounts noted below. MRAM will be adjusted for an annual reconciliation of prior MRAM amounts. Recovery shall occur after review and approval of the Department of Public Utilities (the "Department").

B. ***Eligible Plant Additions***: Eligible plant additions will consist of the following:

1. (Account 108) Non-revenue producing mains installed as replacements for existing mains that have reached the end of useful life and/or are contributing to safety, reliability, water quality, or other operational issues.

2. (Account 108) Main cleaning and re-lining projects and relocations that are part of a main replacement project.

3. (Account 108) Connected valves that are replaced as they have reached the end of useful life and are part of a main replacement project and/or replaced as they are not operating properly and as a result of the main-replacement projects.

4. (Account 109) Company-segment services installed as in-kind replacements that are part of a main replacement project.

5. (Account 112) Company-owned hydrants installed to replace existing hydrants that have reached the end of useful life and are part of a main replacement project and/or to replace existing hydrants that are not operating properly and are part of a main replacement project.

C. ***Alternative Funding:*** Eligible Plant Additions funded fully through the Water Balance Program ("WBP") and/or System Development Charge ("SDC") revenues are not eligible for recovery through the MRAM. Eligible Plant Additions that are partially funded through the WBP and/or SDC funds remain eligible for partial funding under the MRAM for amounts incremental to costs already recovered through base rates, the WBP and the SDC. To account for Eligible Plant Additions that are partially funded through the WPB and/or SDC revenues, a rate-base offset is included in the MRAM revenue requirement calculation to account for these alternate funding sources. In addition, the Company shall submit a detailed accounting of Eligible Plant Additions funded in part through the WPB or the SDC, and completed during the project construction year. The Company will also include

detailed reports of all projects funded by the WPB and SDC conducted during the year.

II. Computation of the MRAM

A. ***Calculation***: The MRAM Adjustment Factor will become effective September 1, 2019 and will recover the fixed costs of Eligible Plant Additions placed in service between January 1, 2017 and December 31, 2018, which are not included in the Company's rate base. Thereafter, the MRAM adjustment factor will be updated on an annual basis to incorporate recovery of costs associated with Eligible Plant Additions placed in service during the prior calendar year (the "Project Year") as well as a reconciliation of funds collected through the prior year MRAM. The Company will submit an application to the Department each March 1 for the prior calendar year for a rate adjustment effective September 1 of each year.

The fixed costs of Eligible Plant Additions will consist of depreciation, property taxes, after-tax return and income taxes. Additional elements of the calculation will include an overhead and burden adjustment, an operation and maintenance ("O&M") offset, and a reconciliation of prior year revenues, or the MRAM reconciliation. The elements are calculated as follows:

1. ***Depreciation***: Depreciation expense will be calculated by applying the depreciation rates approved in the Company's most recent base-rate proceeding for the respective plant accounts to the original cost of MRAM-Eligible Plant Additions minus the corresponding retirement unit recorded.

2. ***Property Taxes***: Property tax expense on the first year of investment shall be zero. The property tax expense for the second year of investment shall be one half of the Company's annual property tax expense for eligible net plant for the prior MRAM year. Specifically, the property tax expense for the second year of investment shall be calculated first by applying the effective tax rate to the MRAM-eligible net plant as of December 31 of the prior year and taking one half that amount. For subsequent years, property tax expense shall be calculated based on each investment year's MRAM-eligible plant additions.

3. ***After-Tax Return***: The weighted cost of capital will be as approved in the Company's most recent base-rate proceeding, D.P.U. 17-90, or a subsequent docket.

4. ***Income Taxes***: An income tax gross up will be added based on current federal and state tax rates for projects that are not eligible for deduction under the Tangible Property Regulations ("TPR"). TPR projects are treated as flow-through for accounting purposes and as such require no tax gross up.

B. ***MRAM Reconciliation***: Reconciliation of prior year MRAM revenues equivalent to the shortfall or surplus of MRAM revenue actually collected as compared to those authorized by the Department.

C. ***MRAM Adjustment Factor***: The MRAM Adjustment Factor will be expressed as a percentage carried to two decimal places and will be applied to the effective portion of the total amount billed to each customer under the Company's otherwise applicable rates and charges. The MRAM Adjustment Factor will not be applicable to (1) miscellaneous charges, or (2) the surcharge component of bill associated with the Hingham Water Treatment Plant for customers in Hingham, Hull and Cohasset.

Formula: The formula for calculation of the MRAM Adjustment Factor is as follows:

$$MRAM = \frac{(RB \times ATR) + DEP + PT - OH\text{-}OM +/- REC}{BRWR}$$

Where:

RB = Eligible cost to the Company of Eligible Plant Additions, defined as total cost less any portion funded through the WBP and/or the SDC as noted in Section I.C., accumulated depreciation and accumulated deferred income taxes.

ATR = After-tax return rate applicable to Eligible Plant Additions.

DEP = Annual depreciation expense related to Eligible Plant Additions.

PT = Eligible property taxes related to Eligible Plant Additions.

OH = Overhead and burden adjustment.

OM = O&M leak repair offset.

BRWR = Base retail water revenues as approved by the Department in the Company's most recent base-rate proceeding, D.P.U. 17-90, or a subsequent docket.

REC = Reconciliation of prior year MRAM revenues.

III. Customer Safeguards

A. ***Overhead and Burden Adjustments:*** For purposes of MRAM calculations, the actual overheads and burdens shall be reduced to the extent that actual O&M overheads and burdens in a given year are less than the amount included in base rates as determined in the Company's most recent base distribution rate case. Such reduction shall be the difference between the actual O&M overheads and burdens and the amount included in base rates. In addition, the percentage of capitalized overheads and burdens assigned to MRAM projects shall be set equal to the ratio of MRAM to non-MRAM direct costs in any given year. As determined in the Company's most recent base rate proceeding, D.P.U. 17-90, the overhead and burdens baseline is $1,137,601.

B. ***O&M Offset:*** The O&M Offset represents the reduced operating and maintenance expense associated with the elimination of water leaks through MRAM-eligible plant additions. The MRAM Offset applicable each year is determined by multiplying Eligible MRAM Savings by the total miles of non-revenue producing mains installed as replacements for existing mains, in the period January 1 through December 31 of the respective MRAM Project Year. Eligible MRAM Savings are the cumulative reduction in operating and maintenance leak repair expense achieved with the replacement of aging and/or leak-prone main. Eligible MRAM Savings shall be equal to the most recent three-year average of leak repair cost per mile for mains, updated annually in the annual MRAM filed on March 1 of each year. The costs associated with leak repair expense shall be determined in accordance with the Uniform System of Accounts for Water Companies, 220 C.M.R. § 52.00, Operating Expense Accounts, in use during the test year of the most recent base-rate proceeding conducted pursuant to G.L. c. 164, § 94.

C. ***MRAM Annual Earnings Test:*** The Company shall include in its annual March 1 MRAM filing to the Department a calculation of its actual earnings for the prior calendar year. The MRAM will operate only when the Company is earning at or below the authorized return on equity as approved by the Department in the Company's most recent base-rate proceeding, D.P.U. 17-90, or as revised by the Department in a subsequent proceeding. In the event that the Company is earning above its authorized return on equity in a given MRAM Project Year, the Company shall include in its March 1 MRAM filing: (1) a quantification of the MRAM-eligible costs from the MRAM Project Year in which the Company earned in excess of its authorized return on equity; and (2) a proposal regarding the deferral of the recovery of the identified MRAM-eligible costs to the Company's next base distribution rate proceeding.

D. ***Change in Revenue Requirement Cap***: The maximum change in the revenue requirement to be billed in any given year through the Company's MRAM shall not exceed two percent (2 percent) of annual retail water revenues for the prior calendar year. Application of the Revenue Requirement Cap shall not affect the calculation of MRAM recovery, including MRAM Revenue Requirement, in subsequent periods. However, any MRAM recovery approved by the Department in excess of the Revenue RequirementCap may be deferred for recovery in the following year to the extent that

such deferral does not exceed the revenue requirement cap in the relevant MRAM Project Year. The MRAM will also have an additional aggregate cap of 10 percent between general rate cases. The 10 percent revenue cap will be based upon the authorized revenues from the Company's most recent base-rate proceeding less amounts related to miscellaneous charges, surcharges related to the Hingham Water Treatment Plant and any purchased water surcharge revenues. The resultant base revenues will be multiplied by 10 percent to determine the aggregate MRAM revenue cap.

E. ***Threshold Recovery***: The number of miles of main replaced each MRAM Project Year shall meet or exceed a threshold level of 1.25 miles per year. To demonstrate that the threshold is met, the Company shall in each March 1 annual MRAM filing submit a work summary report documenting installations of MRAM-eligible main and showing, through the provision of third-party contractor invoices, that at least 1.25 miles of main were replaced and are in-service as of December 31 of the prior MRAM Project Year. Failure to meet or exceed the threshold level of main replacement of 1.25 miles per MRAM Project Year shall result in the suspension and delay of the recovery of the MRAM-eligible costs for the respective MRAM Project Year in which the threshold is not met until the Company's next base rate proceeding.

F. ***Project Changes***: If, because of changed circumstances or new information, the Company plans to complete projects not included in the MRAM project plan, or to re-prioritize projects contained in the project plan, the Company will notify town representatives in the town where the project is located. As part of the annual March 1 filing, the Company will provide documentation and other necessary support demonstrating the prudence of the MRAM projects completed in the prior MRAM Project Year, as well as documentation supporting changes made to the MRAM project plan.

G. ***New Base Rates***: The MRAM adjustment factor will be reset as of the effective date of new base rates that provide for prospective recovery of the annual capital-additions cost theretofore recovered under the MRAM. Thereafter, only the fixed costs of new eligible plant additions not previously included in the Company's rate base would be reflected in the annual updates of the MRAM.

H. ***Customer Notice***: The MRAM adjustment factor will be shown as a separate line item on customer bills. Customers shall be notified of changes in the MRAM by including appropriate information on the first bill issued by the Company following any change allowed by the Department.

IV. Annual Report/Stakeholder Input

On March 1 of each year, as part of the Company's annual filing to the Department to implement the MRAM factor on September 1, the Company will submit a plan that lists the MRAM-Eligible Plant Additions that it plans to construct in the upcoming three years. The plan will include a description of each project, the value that completing the project will provide to customers, the estimated cost, and the proposed year of completion. The plan will also include the

computation of the MRAM adjustment factor that would result from the completion of the MRAM-Eligible Plant Additions based on the estimated cost of those plant additions, along with customer bill impacts. Prior to the March 1 filing, the Company will consult with town representatives in the towns served by the Company to review the construction plan and to obtain input and coordination on the execution and/or prioritization of those projects. At a minimum, to allow for adequate time to coordinate with town representatives, the Company shall provide a preliminary copy of the plan to the towns no later than 90 days before submitting the plan to the Department. The Company will provide notice to the towns of all filings to the Department relating to the MRAM.