

AQUARION WATER COMPANY OF NEW HAMPSHIRE 2010 - 2012 WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT

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Contents:
Summary Tab

Estimated capital expenses by major category
All figures are estimates.
2009 column included for two main replacement projects that were designed in 2009, but for which construction will occur in 2010 and 2011
2013 column included for a main replacement project that will be designed in 2012 and constructed in 2013.

Customer Meters	Aquarion is currently replacing direct read meters with radio meters, and expects to be fully converted to radio meters by late 2012 or early 2013. 700 to 1,000 meters will be replaced each year until the conversion is completed.
Hydrants	Aquarion replaces 12 hydrants per year, on average.
Services	Aquarion replaces 8 services per year, on average.
Mains	Aquarion and Tata & Howard, our consulting engineer, evaluated potential 56 main replacement projects and developed priorities based on the factors below. Project factors were rated on a scale of 0 (low) to 3 (high), then summed by project to develop a relative priority. Projects that scored high were then placed on the WICA schedule based on schedule constraints, staff and management considerations, and the estimated project cost compared to Aquarion's overall capital budget.
Main Break History	How frequently do main breaks occur on this section of main compared to the system as a whole?
Pipe Age / Useful Life	How old is the pipe compared to its theoretical useful life and to other pipes in the system?
Material Integrity	Is pipe material robust (e.g., ductile iron) vs. other materials (e.g., asbestos cement) that are weaker?
Critical System Component	Is the particular section of pipe critical to providing fire flows or transmission functions such that its failure would cause a significant disruption of service?
Water Quality Issues	Does the section of main contribute to discolored water, loss of residual disinfectant or other water quality problems?
Hydraulic Capacity	Does the section of main restrict needed fire flows or cause undesired pressure losses?
Scheduled Work Coordination	Can the project be scheduled to optimize conflicts or synergies with municipal paving schedules, sewer work or other utility projects?
Staff Concerns / Other Factors	Problems identified by staff or other sources that don't fall into the above categories
Main Replacement Project Management	Main replacement projects are split into design and construction phases. Due to the amount of time required for surveys, design, permitting and other design phase factors, these activities are typically scheduled for the year prior to construction. Attempts to squeeze design and construction into a single calendar year have caused significant scheduling and budgeting problems. The design phase typically cannot be completed early enough in the year to allow for a sufficient construction period with respect to cold weather, road opening bans and year end accounting constraints.
Control Valves	Includes pressure reducing valves and other control valves; none are currently scheduled for replacement, but a breakdown or failure could occur that would require a replacement.
Valves	Aquarion replaces 3 valves per year, on average.

**Aquarion Water Company of New Hampshire
Water Conservation and Infrastructure Adjustment Project Summary**

	2009	2010	2011	2012	Project Totals
CUSTOMER METERS		\$ 125,000	\$ 122,000	\$ 100,000	\$ 347,000
HYDRANTS		\$ 20,000	\$ 20,000	\$ 20,000	\$ 60,000
MAIN REPLACEMENTS					
Atlantic Avenue - Mill Road to Woodland Road	\$ 53,000	\$ 588,000	\$ -	\$ -	\$ 641,000
Ocean Boulevard - Dumas Avenue to Winnacunnet Road (Design and Phase I Construction)	\$ -	\$ 86,000	\$ -	\$ 250,000	\$ 336,000
Church Street - Highland Avenue to William Street	\$ -	\$ 11,000	\$ 177,000	\$ -	\$ 188,000
Atlantic Avenue - Maple Road to Woodland Road	\$ 36,000	\$ -	\$ 392,000	\$ -	\$ 428,000
Meadow Pond Road	\$ -	\$ -	\$ 12,000	\$ 153,000	\$ 165,000
Atlantic Avenue - Ocean Boulevard to Sea Road (Design)	\$ -	\$ -	\$ -	\$ 22,000	\$ 22,000
Atlantic Avenue - Maple Road to Sea Road (Design)	\$ -	\$ -	\$ -	\$ 37,000	\$ 37,000
Mill Road - Palmer Street to Sicard Street (Design)	\$ -	\$ -	\$ -	\$ 6,000	\$ 6,000
Well 7 Transmission Line - Pumphouse to Little River Road (Design)	\$ -	\$ -	\$ -	\$ 30,000	\$ 30,000
PRESSURE REDUCING VALVES		No scheduled replacements, but replacements due to breakdowns could occur.			\$ -
SERVICES		\$ 20,000	\$ 20,000	\$ 20,000	\$ 60,000
VALVES		\$ 5,000	\$ 5,000	\$ 5,000	\$ 15,000
ANNUAL TOTALS	\$ 89,000	\$ 855,000	\$ 748,000	\$ 643,000	\$ 2,335,000

All numbers are estimates

WICA Customer Meter Replacements

Aquarion Water Company of New Hampshire

Account 334

A	B	C	D	G	H
PROPOSED PROJECTS					
	METER SIZE	NUMBER	ESTIMATED COST / METER	ESTIMATED PROJECT COST (Based on 2009 \$)	ESTIMATED COMPLETION DATE
2010					
	5/8-inch	950	\$ 120	\$ 114,000	9/30/2010
	1-inch	30	\$ 150	\$ 4,500	9/30/2010
	1.5-inch	2	\$ 250	\$ 500	9/30/2010
	2-inch	20	\$ 300	\$ 6,000	9/30/2010
			2010 TOTAL	\$ 125,000	
2011					
	5/8-inch	874	\$ 125	\$ 109,200	9/30/2011
	1-inch	25	\$ 160	\$ 4,000	9/30/2011
	1.5-inch	10	\$ 260	\$ 2,600	9/30/2011
	2-inch	20	\$ 310	\$ 6,200	9/30/2011
			2011 TOTAL	\$ 122,000	
2012					
	5/8-inch	660	\$ 130	\$ 85,800	9/30/2012
	1-inch	30	\$ 170	\$ 5,100	9/30/2012
	1.5-inch	10	\$ 270	\$ 2,700	9/30/2012
	2-inch	20	\$ 320	\$ 6,400	9/30/2012
			2012 TOTAL	\$ 100,000	
			2010 - 2012 TOTAL	\$ 347,000	

COMMENTS

These numbers are a rough estimation based on previous years budgets.
Estimated project costs are less than the capital budget for meters to account for non-replacement meters put in new installations.

WICA Hydrant Replacements

Aquarion Water Company of New Hampshire

Account 335

A	B	C	D	E	F
PROPOSED PROJECTS					
Hydrant #	HYDRANT LOCATION	Town	Number	ESTIMATED PROJECT COST (Based on 2009 \$)	ESTIMATED COMPLETION DATE
2010					
	Scheduled Replacements	To be determined	4	\$ 5,000	9/30/2010
	Emergency / Reactive Replacements	To be determined	8	\$ 15,000	9/30/2010
	Hydrants that must be replaced due to unpredicted damage or malfunction				
				\$ 20,000	
2011					
	Scheduled Replacements	To be determined	4	\$ 5,000	9/30/2011
	Probable number of hydrant replacements that will identified by Nov 1, 2010				
	Emergency / Reactive Replacements	To be determined	8	\$ 15,000	9/30/2011
	Hydrants that must be replaced due to unpredicted damage or malfunction				
				\$ 20,000	
2012					
	Scheduled Replacements	To be determined	4	\$ 5,000	9/30/2012
	Probable number of hydrant replacements that will identified by Nov 1, 2011				
	Emergency / Reactive Replacements	To be determined	8	\$ 15,000	9/30/2012
	Hydrants that must be replaced due to unpredicted damage or malfunction				
				\$ 20,000	
2010 - 2012 TOTAL				\$ 60,000	

COMMENTS

No specific hydrants have been identified yet for replacement.

WICA Services

Aquarion Water Company of New Hampshire

Account 333

A	B	C	D	E	F	G	H
PROPOSED PROJECTS							
#	SERVICE ADDRESS	Town	NUMBER	LENGTH (FEET)	PIPE DIAMETER (INCHES)	ESTIMATED PROJECT COST	ESTIMATED COMPLETION DATE
2010							
	Scheduled Replacements	To be determined	2	50	3/4	\$ 5,000	9/30/2010
	Emergency / Reactive Replacements	To be determined	6	50	3/4	\$ 15,000	9/30/2010
	Services that must be replaced due to unpredicted damage or malfunction						
					2010 TOTAL	\$ 20,000	
2011							
	Scheduled Replacements	To be determined	2	50	3/4	\$ 5,000	9/30/2011
	Probable number of service replacements that will identified by Nov 1, 2010						
	Emergency / Reactive Replacements	To be determined	6	50	3/4	\$ 15,000	9/30/2011
	Services that must be replaced due to unpredicted damage or malfunction						
					2011 TOTAL	\$ 20,000	
2012							
	Scheduled Replacements	To be determined	2	50	3/4	\$ 5,000	9/30/2010
	Probable number of service replacements that will identified by Nov 1, 2010						
	Emergency / Reactive Replacements	To be determined	6	50	3/4	\$ 15,000	9/30/2012
	Services that must be replaced due to unpredicted damage or malfunction						
					2012 TOTAL	\$ 20,000	
					2010 - 2012 TOTAL	\$ 60,000	

COMMENTS No specific services have been identified yet for replacement. Most of these are identified in the fall when seasonal meters are removed.

Aquarion Water Company of New Hampshire
WICA Main Replacement Projects

Account 331

PROJECT NAME	Town	LENGTH (FEET)	PIPE DIAMETER (INCHES)	TOTAL ESTIMATED COST	2009	2010	2011	2012	PRIORITIZATION FACTORS
Atlantic Avenue - Mill Road to Woodland Road	North Hampton	3,550	8	\$ 641,000	\$ 53,000	\$ 588,000			High rank in main break history, pipe age / useful life, material integrity, hydraulic capacity and water quality issues.
Ocean Boulevard - Dumas Avenue to Winnacunnet Road (Design and Phase I Construction)	Hampton	4,200	12	\$ 839,000		\$ 86,000		\$ 250,000	High rank in main break history, pipe age / useful life, material integrity, critical system component and water utility staff concerns.
Church Street - Highland Avenue to William Street	Hampton	700	12	\$ 188,000		\$ 11,000	\$ 177,000		High rank in main break history, pipe age / useful life, material integrity and critical system component.
Atlantic Avenue - Maple Road to Woodland Road	North Hampton	2,350	8	\$ 428,000	\$ 36,000		\$ 392,000		High rank in main break history, pipe age / useful life, material integrity, hydraulic capacity and water quality issues.
Meadow Pond Road	Hampton	700	8	\$ 165,000			\$ 12,000	\$ 153,000	High rank in main break history, pipe age / useful life, material integrity and water quality issues.
Atlantic Avenue - Ocean Boulevard to Sea Road (Design)	North Hampton	1,700	8	\$ 291,000				\$ 22,000	High rank in main break history, pipe age / useful life, material integrity, critical system component and water quality issues.
Atlantic Avenue - Maple Road to Sea Road (Design)	North Hampton	2,500	8	\$ 450,000				\$ 37,000	High rank in main break history, pipe age / useful life, material integrity, critical system component and water quality issues.
Mill Road - Palmer Street to Sicard Street (Design)	Hampton	400	12	\$ 132,000				\$ 6,000	High rank in main break history, pipe age / useful life and material integrity.
Well 7 Transmission Line - Pumphouse to Little River Road (Design)	Hampton	900	12	\$ 161,000				\$ 30,000	High rank in main break history, pipe age / useful life, material integrity, critical system component and water utility staff concerns.
TOTALS				\$ 3,295,000	\$ 89,000	\$ 685,000	\$ 581,000	\$ 498,000	

**Aquarion Water Company of New Hampshire
WICA PRESSURE REDUCING VALVES AND PRODUCTION METERS**

Pressure Reducing Valves

Accounts 309 & 331

Kings Highway

Maple Road

Tide Mill Road

Willow Road

COMMENTS:

No pressure reducing valves or control valves are currently scheduled for replacement; however, replacements could occur due to unexpected breakdowns.

WICA Valve Replacements

Aquarion Water Company of New Hampshire

Account 331

A	B	C	D	E	F
PROPOSED PROJECTS					
Valve #	VALVE LOCATION	Town	Number	ESTIMATED PROJECT COST (Based on 2009 \$)	ESTIMATED COMPLETION DATE
2010					
	Scheduled Replacements	To be determined	1	\$ 1,000	9/30/2010
	<i>Malfunctioning hydrant must be replaced</i>				
	Emergency / Reactive Replacements	To be determined	2	\$ 4,000	9/30/2010
	Valves that must be replaced due to unpredicted damage or malfunction				
				\$ 5,000	
2011					
	Scheduled Replacements	To be determined	1	\$ 1,000	9/30/2011
	Probable number of hydrant replacements that will identified by Nov 1, 2010				
	Emergency / Reactive Replacements	To be determined	2	\$ 4,000	9/30/2011
	Valves that must be replaced due to unpredicted damage or malfunction				
				\$ 5,000	
2012					
	Scheduled Replacements	To be determined	1	\$ 1,000	9/30/2012
	Probable number of hydrant replacements that will identified by Nov 1, 2011				
	Emergency / Reactive Replacements	To be determined	2	\$ 4,000	9/30/2012
	Valves that must be replaced due to unpredicted damage or malfunction				
				\$ 5,000	
		2010 - 2012 TOTAL		\$ 15,000	

COMMENTS:

No specific valves have been identified yet for replacement