AQUARION WATER COMPANY OF NEW HAMPSHIRE WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT

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Contents:	
Project Summary	Estimated capital expenses by major category All projected figures for 2013-2015 are estimates.
Customer Meters	Aquarion is currently replacing direct read meters with radio meters.
Hydrants	Aquarion has historically replaced 5 hydrants per year, on average.
Services	Aquarion has historically replaced 8 services per year, on average.
Mains	Aquarion and Tata & Howard, our consulting engineer, evaluated potential 56 main replacement projects and recommended priorities based on the factors below. The priority list is updated periodically with current information.
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	Is the particular section of pipe critical to providing fire flows or transmission functions such that its failure would
Component	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	Can the project be scheduled to optimize conflicts or synergies with municipal paving schedules, sewer work or other
Coordination	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 has historically replaced 3 valves per year, on average.
Production Meters	Replacement / capitalized repairs of production meters is performed on an as needed basis when routine calibration show that the meters are not functioning accurately.

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

'innacunnet Road liam Street unnet Road			Jan	Jan 1, 2012 thru	Carried	O	Oct 1, 2012 thru	Oct 1,	Oct 1, 2013 thru	Oct 1, 2014 thru	4 thru	P	Project
CUSTOMER METERS HYDRANTS SERVICES MAIN REPLACEMENTS Atlantic Avenue - H539 to Maple Road Ocean Boulevard - Dumas Avenue to Winnacunnet Road Rt 101 - Glade Path to Tide Mill Road Well 7 Transmission Main Great Boars Head (back alley main) Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES VALVES PRODUCTION METERS			Sep	Sep 30, 2012 actual	forward	Š	Sep 30, 2013 est.	Sep 30,	, 2014 est.	Sep 30, 2014 est. Sep 30, 2015 est.	15 est.	I	Totals
HYDRANTS SERVICES MAIN REPLACEMENTS Atlantic Avenue - H539 to Maple Road Ocean Boulevard - Dumas Avenue to Winnacunnet Road Rt 101 - Glade Path to Tide Mill Road Well 7 Transmission Main Great Boars Head (back alley main) Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES PRODUCTION METERS ANNUAL TOTALS	SOS	TOMER METERS	& 9	224,539.02		643	75,060	€5	36,220	\$	15,050	649	350,869
SERVICES MAIN REPLACEMENTS Atlantic Avenue - H539 to Maple Road Ocean Boulevard - Dumas Avenue to Winnacunnet Road Rt 101 - Glade Path to Tide Mill Road Well 7 Transmission Main Great Boars Head (back alley main) Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES VALVES PRODUCTION METERS ANNUAL TOTALS] <u>}</u>	DRANTS	\$9	10,395.22		69	20,200	€9	20,200	\$ 20	20,200	69	70,995
MAIN REPLACEMENTS Atlantic Avenue - H539 to Maple Road Ocean Boulevard - Dumas Avenue to Winnacunnet Road Rt 101 - Glade Path to Tide Mill Road Well 7 Transmission Main Great Boars Head (back alley main) Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES VALVES PRODUCTION METERS ANNUAL TOTALS	SER	VICES	89	32,086.17		6-9	32,100	€	32,100	\$ 3.	32,100	€9	128,386
Atlantic Avenue - H539 to Maple Road Ocean Boulevard - Dumas Avenue to Winnacunnet Road Rt 101 - Glade Path to Tide Mill Road Well 7 Transmission Main Great Boars Head (back alley main) Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES VALVES PRODUCTION METERS ANNUAL TOTALS	MAI	IN REPLACEMENTS											
Ocean Boulevard - Dumas Avenue to Winnacunnet Road Rt 101 - Glade Path to Tide Mill Road Well 7 Transmission Main Great Boars Head (back alley main) Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES PRODUCTION METERS ANNUAL TOTALS	Atl	lantic Avenue - H539 to Maple Road	&>	553,907.69								€	553,908
Rt 101 - Glade Path to Tide Mill Road Well 7 Transmission Main Great Boars Head (back alley main) Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES VALVES PRODUCTION METERS ANNUAL TOTALS	്	ean Boulevard - Dumas Avenue to Winnacunnet Road			\$ 65,900.00	69	845,000					€-	910,900
Well 7 Transmission Main Great Boars Head (back alley main) Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES VALVES PRODUCTION METERS ANNUAL TOTALS	Σ	101 - Glade Path to Tide Mill Road			\$ 15,800.00 (a)	69	106,000	€5	957,000	ss.	,	59	1,078,800
Great Boars Head (back alley main) Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES VALVES PRODUCTION METERS ANNUAL TOTALS	ž	ell 7 Transmission Main			- \$	\$	ι	€5	27,000	\$ 17	174,000	∽	201,000
Church Street - Highland Avenue to William Street Kings Highway - High Street to Winnacunnet Road CONTROL VALVES VALVES PRODUCTION METERS ANNUAL TOTALS	Š	eat Boars Head (back alley main)			- \$	>	•	€9	24,000	\$ 15.	152,000	€9	176,000
Kings Highway - High Street to Winnacunnet Road CONTROL VALVES VALVES PRODUCTION METERS ANNUAL TOTALS	ਹੈ				- \$	\$	•	↔	10,000	\$ 15.	152,000	€9	162,000
L VALVES TION METERS ANNUAL TOTALS	Ξ	ngs Highway - High Street to Winnacunnet Road			- \$	\$	•	€-	ı	\$ 22(220,000	5	220,000
TION METERS ANNUAL TOTALS	<u> </u>	TTROL VALVES	69			\$	1	6∕ 9	ı	S	ı	69	,
JAL TOTALS	VAL	VES	€9	13,734.42		\$	26,200	↔	26,200	\$ 20	26,200	69	92,334
	² RO	DUCTION METERS	6/)	,		\$	22,030	\$	4,000	\$	4,000	50	30,030
		ANNUAL TOTALS	6-9	834,662.52	\$ 81,700.00	€^3	1,126,590	89	1,136,720	62 \$	795,550	\$	3,975,223

(a) Alternatives analysis

WICA Customer Meter Replacements

Account 334

Α	В	С	D	G	H
	COMF	PLETED PROJECT	rs		
PERIOD	METER SIZE	ACTUAL NUMBER	COST / METER	PROJECT COST	COMPLETION DATE
	Jan 1 - Sep 30, 2012				
	5/8-inch	1,553	\$ 134.64	\$ 209,102.80	9/30/2012
	1-inch	56	\$ 151.20	\$ 8,467.18	9/30/2012
	1.5-inch	13	\$ 168.16	\$ 2,186.14	9/30/2012
	2-inch	35	\$ 136.65	\$ 4,782.90	9/30/2012
			TOTA	L \$ 224,539.02	
	PROI	POSED PROJECT	S		
	METER SIZE	ESTIMATED NUMBER	ESTIMATED COST / METER	ESTIMATED PROJECT COST (Based on 2011 \$)	ESTIMATED COMPLETION DATE
	Oct 1, 2012 - Sep 30, 2013				
	5/8-inch	526	\$ 135	\$ 71,010	9/30/2013
	1-inch	16	\$ 152	\$ 2,440	9/30/2013
	1.5-inch	3	\$ 169	\$ 510	9/30/2013
	2-inch	8	\$ 137	\$ 1,100	9/30/2013
			TOTA	L \$ 75,060	
	Oct 1, 2013 - Sep 30, 2014				
	5/8-inch	255	\$ 135	\$ 34,430	9/30/2014
	1-inch	7	\$ 152	\$ 1,070	9/30/2014
	1.5-inch	1	\$ 169	\$ 170	9/30/2014
	2-inch	4	\$ 137	\$ 550	9/30/2014
			TOTA	\$ 36,220	
	Oct 1, 2014 - Sep 30, 2015				
	5/8-inch	107	\$ 135	\$ 14,450	9/30/2015
	1-inch	3	\$ 152	\$ 460	9/30/2015
	1.5-inch	_	\$ 169	\$ -	9/30/2015
	2-inch	1	\$ 137	\$ 140	9/30/2015
			TOTAI	\$ 15,050	
		3-	YEAR TOTAL	\$ 126,330	

COMMENTS

WICA Hydrant Replacements

Account 335

Α	В	С	D	E	F
	COMPI	ETED PROJECTS			
Hydrant #	HYDRANT LOCATION	Town	Number	ACTUAL PROJECT COST	COMPLETION DATE
	Jan 1 - Sep 30, 2012				
	Scheduled Replacements		2		
H020	Island Path	Hampton		\$ 3,888.28	01/20/2012
H561	Walnut Avenue	North Hampton		\$ 1,549.21	07/23/2012
	Emergency / Reactive Replacements		1		
H029	Ocean Boulevard	Hampton		\$ 4,957.74	05/16/2012
		TOTAL	3	\$ 10,395.22	
	PROP	OSED PROJECTS	r	1	<u></u>
Hydrant #	HYDRANT LOCATION	Town	Number	ESTIMATED PROJECT COST	ESTIMATED COMPLETION DATE
	Oct 1, 2012 - Sep 30, 2013				
	Scheduled Replacements	To be determined	2	\$ 6,400	9/30/2013
	Probable number of hydrant replacements	that will identified by	y Nov 1, 20	112	
	Emergency / Reactive Replacements	To be determined	3	\$ 13,800	9/30/2013
	Hydrants that must be replaced due to unp	oredicted damage or	malfunctio	n	
			5	\$ 20,200	
	Oct 1, 2013 - Sep 30, 2014				
	Scheduled Replacements	To be determined	2	\$ 6,400	9/30/2014
	Probable number of hydrant replacements	that will identified by	y Nov 1, 20	13	
	Emergency / Reactive Replacements	To be determined	3	\$ 13,800	9/30/2014
	Hydrants that must be replaced due to unp	redicted damage or	malfunctio	n	
			5	\$ 20,200	
	Oct 1, 2014 - Sep 30, 2015				
	Scheduled Replacements	To be determined	2	\$ 6,400	9/30/2015
	Probable number of hydrant replacements	that will identified by	y Nov 1, 20	14	
	Emergency / Reactive Replacements	To be determined	3	\$ 13,800	9/30/2015
	Hydrants that must be replaced due to unp	redicted damage or	malfunctio	n	
			5	\$ 20,200	
		TOTAL		\$ 60,600	

 ${\color{red} \textbf{COMMENTS}} \quad \textbf{No specific hydrants have been identified yet for replacement.}$

WICA Services Account 333

A	В	С	D	E	F	G	Н
		PROPOS	SED PROJECTS				Γ
#	SERVICE ADDRESS	Town	NUMBER	LENGTH (FEET)	PIPE DIAMETER (INCHES)	PROJECT COST	COMPLETION
	Jan 1 - Sep 30, 2012						
	Scheduled Replacements		3				
	59 Mace Road	Hampton			1	\$ 9,872.39	3/26/2012
	14 Nudd Avenue	Hampton			1	\$ 2,958.59	8/24/2012
	96 Presidential Circle	Hampton			1	\$ 4,001.85	3/23/2012
	Emergency / Reactive Replacements		4				
	18 Riverview Terrace	Hampton			1	\$ 1,823.70	6/28/2012
	128 Ashworth Avenue	Hampton			1	\$ 2,368.95	8/24/2012
	8 Pearl Street	Hampton	:		1	\$ 3,685.35	6/28/2012
	7 Susan Lane	Hampton			1	\$ 7,375.32	8/24/2012
		TOTAL	7			\$ 32,086.17	
		PROPOS	SED PROJECTS				
#	SERVICE ADDRESS	Town	NUMBER	LENGTH	PIPE DIAMETER	ESTIMATED PROJECT COST	COMPLETION
#	Oct 1, 2012 - Sep 30, 2013	TOWN	NUMBER	(FEET)	(INCHES)	PROJECT COST	DATE
	Scheduled Replacements	To be determined	3	50	1	\$ 14,100	9/30/2013
	Probable number of service replacement	ts that will identified	by Nov 1, 2011				
	Emergency / Reactive Replacements	As needed	5	50	1	\$ 18,000	9/30/2013
	Services that must be replaced due to u	npredicted damage	or malfunction				
		TOTAL	8		TOTAL	\$ 32,100	
	Oct 1, 2013 - Sep 30, 2014						
	Scheduled Replacements	To be determined	3	50	1	\$ 14,100	9/30/2014
	Probable number of service replacement	ts that will identified	d by Nov 1, 2012				
	Emergency / Reactive Replacements	As needed	5	50	1	\$ 18,000	9/30/2014
	Services that must be replaced due to u	npredicted damage	or malfunction				
		TOTAL	8		TOTAL	\$ 32,100	
	Oct 1, 2014 - Sep 30, 2015						
	Scheduled Replacements	To be determined	3	50	1	\$ 14,100	9/30/2015
	Probable number of service replacemen	ts that will identified	i by Nov 1, 2013				
	Emergency / Reactive Replacements		5	50	1	\$ 18,000	9/30/2015
	Services that must be replaced due to u	npredicted damage	or malfunction				
		TOTAL	8		TOTAL		
					TOTAL	\$ 96,300	

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 Hampehire
WICA Main Replacement Projects

PROJECT NAME	Town	LENGTH (FEET)	PIPE DIAMETER (INCHES)	PIPE TOTAL DIAMETER ESTIMATED (INCHES) COST	Actual 2009	Actual 2010	Actual 2011	Actual 2012	Projected 2013	Projected 2014	Projected 2015	Comments	PRIORITIZATION FACTORS
Atlantic Avenue - 11559 to Maple Road	North Hampton	1,750	∞	\$ 553,908 \$	\$ 25.535 \$	\$ 9.930 \$	\$ 6,884 \$	\$ \$11,559				Thard phase of 6,3We-fl project between Mill Road and Maple Road	High rank in main beenk history, type age / useful life, material integrity, he was a feel and water quality assues
Ocean Boulevand - Dumas Avenue to Winnacunnet Road	Hampton	2,100	71	\$ 910,980				\$ 65,980 \$	\$ 845,000				Main is 105 years old; installed in 1907. Frequent main breaks. This main must be renewed so it can support flows to the beach while the Rt 101 main is being replaced.
Rt 101 - Giade Path to Tude Mill Road	Hampton	3.200	12	\$ 1,078.800				\$ 15.800 \$	\$ 106,000 \$	\$ 957,000			Deternated pipe with leads that crosses a salt marsh
Well 7 Transmission Main	Натрюп	8(1)	12	\$ 201,000						\$ 27,000 \$	174,000		Man is 52 years old, installed in 1950. It's ut poor condition and has experienced multiple man breaks
Great Boars Head (back alley mant)	Hampton	560	~	\$ 176,000						\$ 24,080 \$	152,000		Man is 102 years old, installed in 1910. Man passes though an alley and is impossible to reach with digging equipment if a man break occurs.
Church Street - Highland Avenue to Wilham Street	Hampton	7000	12	\$ 24,300		\$ 14,300				\$ 10.000 \$	152,000	This project has been designed, but has dropped down the pravity list in favor of Ocean Boulevard and Rt 101.	Main break history, pipe age / useful life, material untegrity and critical system component.
Kings Highway - High Street to Witmacutmet Road	Hampton	2.6(4)	12	\$ 2,178,500						V-1	\$ 220,000		Man break history, pipe age / useful hie, material integrity and critical system component
			TOTALS	TOTALS \$ 5,123,408 \$	\$ 25.535 \$	\$ 24,230 \$	\$ 6.884 \$	\$ 593.259	\$ 951,000 \$	\$ 1.018,000 \$	000'869		

Aquarion Water Company of New Hampshire WICA Control Valves

	-	acement	
	Comments	None are currently scheduled for replacement	
	Projected 2014	-	·
	eted 3	,	١.
	Projected 2013	-s	64
	Projected 2012		
		€9	6/1
	Carryover to 2012	T T T T T T T T T T T T T T T T T T T	1
		€4	649
	Actual 2011	€A	64
	TOTAL ESTIMATED COST	- \$	64
	Town		TOTALS
Control Valves	PROJECT NAME	None	

WICA Valve Replacements

Account 331

Α	В	С	D	E	F
	COMPL	ETED PROJECTS			
			ı	I ACTUAL	I COMPLETION
Valve #	VALVE LOCATION	Town		COST	DATE
	Jan 1 - Sep 30, 2012				
	Scheduled Replacements		2		
GV0672	Wild Rose Lane at Briar Road	Hampton		\$ 4,698.83	5/23/2012
GV0021	P Street at Ocean Boulevard	Hampton		\$ 1,101.41	1/5/2012
	Emergency / Reactive Replacements		1		
GV0942	North Road at Birch Road	North Hampton		\$ 7,934.18	9/26/2012
·····					
		TOTAL	3	\$ 13,734.42	
	PROPO	OSED PROJECTS		3	
Valve #	VALVE LOCATION	Town	Number	ESTIMATED PROJECT COST	ESTIMATED COMPLETION DATE
	Oct 1, 2012 - Sep 30, 2013	<u> </u>		6 0 500	0/00/0040
	Scheduled Replacements	To be determined	1	\$ 2,500	9/30/2013
	Probable number of valve replacements t	1	·	i	0/00/0040
	Emergency / Reactive Replacements	As needed	3	\$ 23,700	9/30/2013
	Valves that must be replaced due to unpr	edicted damage or n	naitunction		
				\$ 26,200	
	Oct 1, 2013 - Sep 30, 2014	 	,	a 0 500	0/00/0044
	Scheduled Replacements	To be determined	1	\$ 2,500	9/30/2014
	Probable number of valve replacements t	-	3	r	9/30/2014
	Emergency / Reactive Replacements Valves that must be replaced due to unpre-	As needed	L		9/30/2014
	valves that must be replaced due to driph	edicted damage of n	lanunction	\$ 26,200	
	Oct 1, 2014 - Sep 30, 2015			Ψ 20,200	
	Scheduled Replacements	To be determined	1	\$ 2,500	9/30/2015
	Probable number of valve replacements to		L	L	3,30,2013
	Emergency / Reactive Replacements	As needed	3	\$ 23,700	9/30/2015
	Valves that must be replaced due to unpre	1	L	20,100	3,30,2010
				\$ 26,200	
			TOTAL	L	

Production Meters

PROJECT NAME	Town	TOTAL ESTIMATED COST	Actual 2012	Projected 2013	Projected 2014	Projected 2015	Comments
Replace Well 8A Flow Meter North Hampton	North Hampton	\$ 3,800		\$ 3,800			
Replace Well 11 Flow Meter Hampton	Hampton	\$ 6,630	THEORY	\$ 6,630			THE RESIDENCE OF THE PARTY OF T
Replace Well 14 Flow Meter North Hampton	North Hampton	\$ 3,800		\$ 3,800			
Replace Well 16 Flow Meter North Hampton	North Hampton	\$ 3,800		\$ 3,800			
Future projects		\$ 8,000		\$ 4,000 \$	\$ 4,000	S	4,000 Reactive capital replacements and repairs.
	TOTALS	05096	9	\$ 22.030	4 000	4 000	