

Financial and Business Due Diligence of The Milford Water Company Capital Expenditure Review

August 16, 2017



Key Findings - Overall

- Baseline analysis of existing operating assets reveals system in transition from a period of low level of capital expenditures to a new period where levels are more appropriate given needs of the business; risk associated with low Capex spending
 - New **water treatment plant** was major addition and improves water quality
 - New manager has instituted major increases in CAPEX per year based on future needs
- MWC's objective in the past was to limit spending on capital expenditures based on management's desire to keep rate increases to a minimum
- MWC has not implemented many Phase II and III T&H recommendations
 - New **WTP** was a major reason to defer recommendations until future years
 - MWC is dealing with most pressing issues currently and based on what they can afford
- Supply issues exist and are being addressed at the planning stage
 - MWC waiting for engineering evaluation to understand options available to mitigate issues
 - Town of Milford will likely be responsible for implementing projects if acquiring MWC
- Water quality issues are better than in the past; some issues still exist

Tata & Howard 15 Year Capital Improvement Plan*

		2010 Dollars		2017 Dollars
		Original		
		Estimate	Remaining	Remaining
Table 7-1	Phase I - Storage and Supply	\$1,172,000	\$322,000	\$383,180
Table 7-3	Phase I - Distribution System	\$2,034,000	\$1,883,000	\$2,240,770
Table 7-5	Phase II - Distribution System	\$6,634,000	\$5,987,000	\$7,124,530
Table 7-7	Phase IIIa - Distribution System	\$1,497,000	\$1,497,000	\$1,781,430
Table 7-8	Phase IIIb - Distribution System	\$11,447,000	\$11,423,000	\$13,593,370
Table 7-9	Proposed Hydrant Locations	\$145,000	\$145,000	\$172,550
		\$22,929,000	\$21,257,000	\$25,295,830

*Does not include expenditures for water treatment plant or regular yearly maintenance.

Key Findings - Overall

- MWC asset management metrics reveal positive comparative statistics
 - Mean failure rate of 2 breaks per 100 miles per year is on the low side
 - Water main size distribution in excess of 8 inches is favorable (80% of total mains); AWA standards
- Analysis of all water infrastructure leads to need for sustained level of investment
 - Current MWC plans do not include significant adoption of T&H report
 - New 10-15 year plan should be developed under Town ownership
- Capex requirements will likely require rate increases in excess of inflation
 - Capex needs after “rebalancing” of 15-20% point to rates in excess of 2.5%
 - Benchmarks of similar municipal systems yield increases of 2-8% averages
- Town can realize potential advantages due to municipal ownership
 - Ability to secure SRF more easily because the fund gives municipalities priority
 - Town should be able to gain procurement advantages by working with municipal consortia
- Combined water and sewer operations can save money and minimize rate increases
 - Municipalities frequently combine operations based on shared administrative services and logistics
 - Town can reduce future Capex expenditures by coordinated water, sewer, drain and gas repairs

Key Findings – Sources

- Current level of usage is down from 2015 (both 2016 and 2017)
- Current Annual Available Withdrawal Rate is below what was required in 2012-2015 based on Average Daily Demand (ADD)
- Godfrey Brook Wells are currently offline due to capacity and water quality issues; MWC is conducting an investigation to develop a plan to regain capacity and develop plans to potentially treat this source
- Mitigation of Godfrey Brook Wells should be capable of adding capacity to Annual Available Withdrawal Rate to satisfy short term requirements when demand increases from current levels
- Longer term need to maximize existing supply based on forecasts from DCR and Tata & Howard extrapolation of current trends

Key Findings – Usage By Class 2015 - 2017

	Usage by Class in cubic feet				ADD (Average Daily Demand)		
	2015	2016	Jan - June	Extrapolate *	mgd (millions of gallons per day)		
			2017	2017	2015	2016	2017
Residential	66,525,600	61,449,800	28,219,300	62,709,556	1.36	1.26	1.29
Commercial	23,644,600	22,210,600	10,540,300	23,422,889	0.48	0.46	0.48
Industrial	13,170,000	7,020,600	2,989,400	6,643,111	0.27	0.14	0.14
Municipal	3,755,900	3,606,500	1,415,500	3,145,556	0.08	0.07	0.06
Sprinkler	7,300	12,500	4,100	9,111	0.00	0.00	0.00
Other	733,600	4,163,500	2,170,300	4,822,889	0.02	0.09	0.10
	107,837,000	98,463,500	45,338,900	100,753,111	2.21	2.02	2.06
* Assumes 55% of annual usage is in the second half of the year							

Historic and Projected Water Use (mgd)

	<u>Year</u>	<u>Average Daily Demand</u>	<u>Maximum Daily Demand</u>	<u>Current Annual Available Withdrawal Rate*</u> deficit or surplus	<u>Current Annual Available Withdrawal Rate**</u> with Godfrey Brook deficit or surplus
Actual	2012	2.58	5.08		
	2013	2.47	4.06		
	2014	2.56	3.52		
	2015	2.55	3.56		
	2016	2.16	3.68		
Projected	2027 (from DCR)	3.26	5.35	-0.87	-0.08
	2037 (from DCR)	3.56	5.84	-1.17	-0.38
Projected	2027 (current trends)	2.85	4.67	-0.46	0.33
	2037 (current trends)	3.18	5.22	-0.79	even

Source: Tata & Howard 2017 and Lincoln Group

* 2.39 mgd

** 3.18 mgd

Approved Maximum Withdrawal Volumes

Source Name	Approved Maximum Daily Rate (mgd)	Existing Maximum Daily Withdrawal Rate (mgd)	Annual Available Withdrawal Rate (mgd)
Charles River*	6.0	6.0	1.57**
Echo Lake*			
Louisa Lake (emergency)*			
Clarks Island Wellfield*	0.80	0.72	0.72
Godfrey Brook Well 1	0.79	0.0***	0
Godfrey Brook Well 1A			
Godfrey Brook Well 2			
Godfrey Brook Well 2A			
Godfrey Brook Well 4	0.675	0.01	0.01
Dilla Street Well No. 1 *			
Dilla Street Well No. 2 *	6.79	6.0	2.39
Total			

* Treated at Dilla Street Water Treatment Plant. Maximum reported capacity of plant is approximately 6.0 mgd.

** The firm yield for the Charles River and Echo Lake is a combined annual volume of 1.57 mgd.

*** The Godfrey Brook Wells are currently offline due to capacity and water quality issues. MWCA is conducting hydrogeologic investigation to develop a plan to regain capacity and develop plans to potentially treat this source.

Key Findings – Sources and Supply

- Low – Minimum Capex Spend Scenario
 - Complete Godfrey Brook Well restoration and renewal
- Medium – Most likely Capex Spend Scenario
 - Complete Godfrey Brook Well restoration and renewal
 - Complete Dilla Street Well restoration and renewal
 - Complete Highland Street Tank rehabilitation
 - Complete Echo Lake Dam improvements
- High – High level Capex Spend Scenario
 - Complete Godfrey Brook Well restoration and renewal
 - Complete Dilla Street Well restoration and renewal
 - Complete Highland Street Tank rehabilitation
 - Complete Echo Lake Dam improvements
 - Complete Clarks Island, Congress St PS, and Charles River PS upgrades

Key Findings - Quality

- Water quality in general improved due to new water treatment plant
- 133 water quality complaints to MWC in 2015-2016. over 75% tied to specific events- water main break, contractor damage, sprinkler system test, etc.
- Annual flushing not as effective as unidirectional flushing to remove sediment
- T&H report outlines a 10-15 year plan for water distribution system improvement requirements to improve water quality and fire flow
- Phase IIIa distribution system improvements and hydrant installation would contribute to improved water quality

Findings - Quality

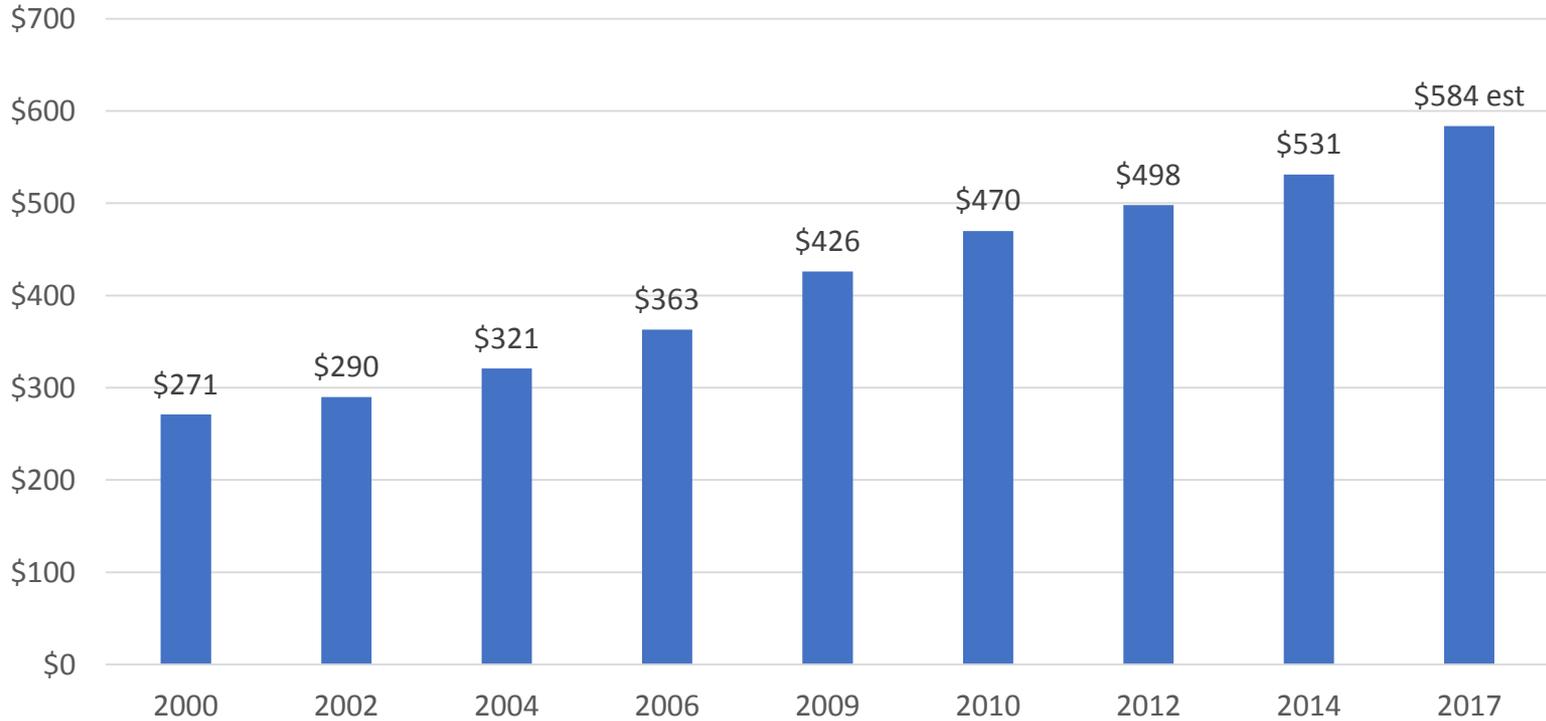
- Low
 - Implement unidirectional flushing program
- Medium
 - Implement unidirectional flushing program
 - Install T&H report Table 7-9 hydrants to improve flushing
 - Complete Phase IIIa water distribution improvements
- High
 - Implement unidirectional flushing program
 - Install T&H Table 7-9 hydrants to improve flushing
 - Complete Phase IIIa water distribution improvements
 - Complete Phases I and II water distribution improvements

Key Findings – Rate Implications

- Benchmark analysis of comparative rates by town indicate that Milford has average rates comparable to surrounding communities
 - 2017 average cost for Milford consumer is \$628 per year
 - 2017 estimated average annual cost for 273 communities is \$584
- Current rate increase of 30% proposed by MWC will put Milford rates above the average for 2017
 - Averages fluctuate based on Capex programs and needs to be addressed
 - Potential to change rate structure to lessen impact on consumers
- Benchmark analysis of comparable towns indicate that average yearly rate increases of 2-8% (5% in our sample) is historical experience
 - Capital intensity of operations and need for revitalization of older systems in NE
 - Need to consider an “inflation adjusted” rate; inflation rate will likely increase
- Capex review indicates that ability to fund T&H Capex plan will require an inflation adjusted rate increase in the average range of our benchmark

Annual Average Cost of Water

2014 Tighe & Bond Water Rate Survey of 273 Communities

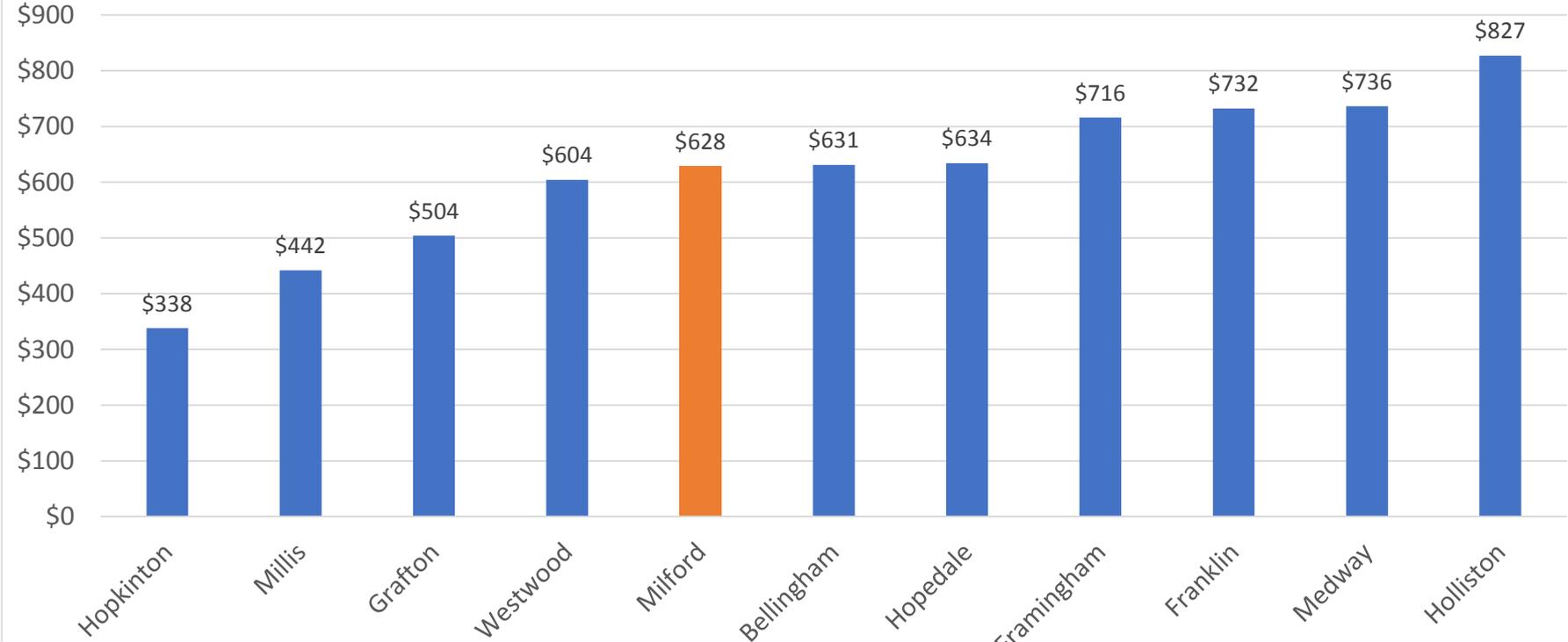


Average cost increase of 5% per year

Average Annual Water Bills in Other Communities

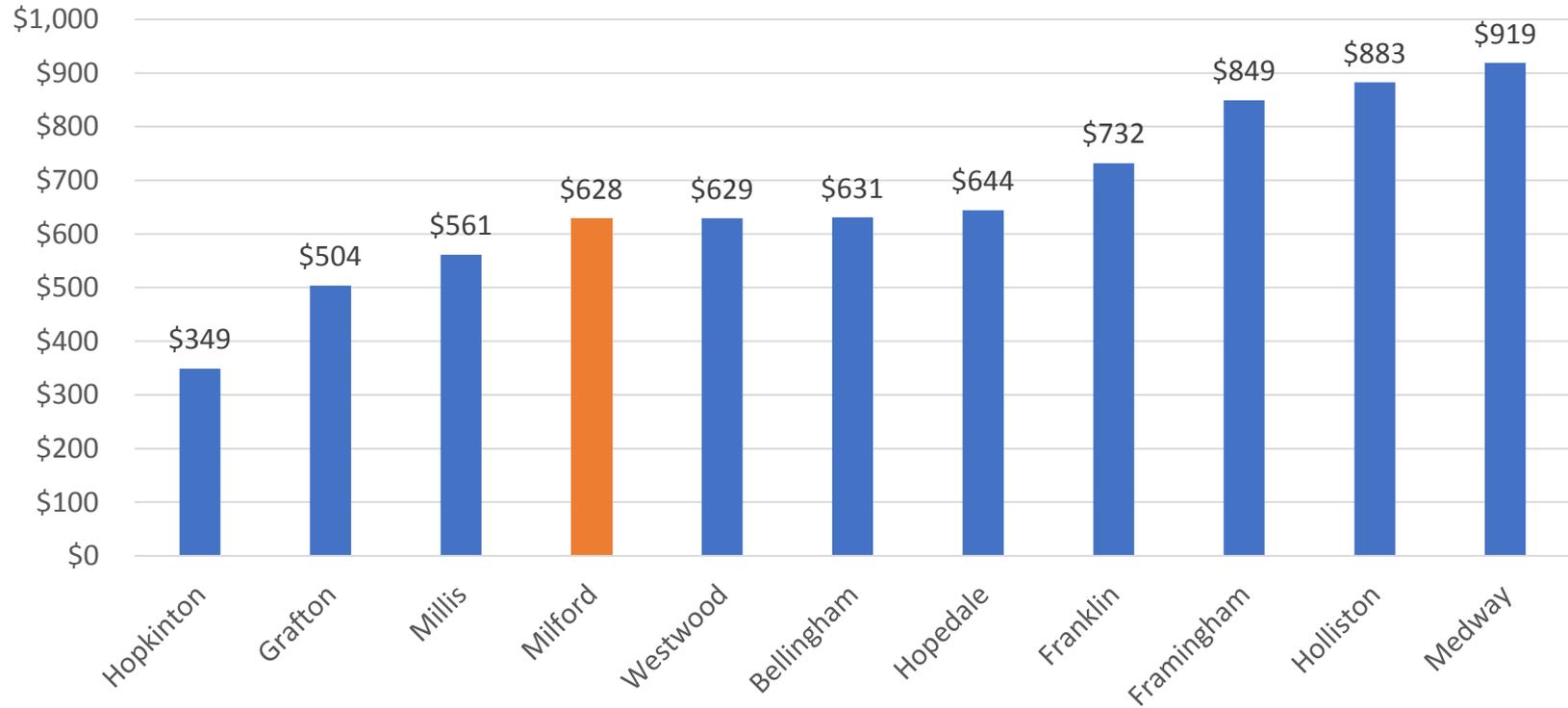
2014 Tighe & Bond Water Survey

Average Annual Water Bills in Other Communities
2014 Tighe & Bond Water Survey



Average Annual Water Bills in Other Communities

2017 Lincoln Group Water Rate Survey



Recommendations

- If decision is made to proceed, develop comprehensive Town plan for Capex
 - Rebalance revenue based on one-time rate increase once Town acquires MWC (Medium Cases)
 - Assume Capex spending to be in 2-8% range on average yearly basis thereafter
- Ensure that short term source of supply issues are resolved with Godfrey Brook Wells' and Dilla Street Wells' renewal; implement Medium Scenario Case - Sources and Supply
- Mitigate Dam risk, currently moderate, before there is an unforeseen event
- Make short term improvements to insure uniform quality standards by implementing Medium Scenario Case; coordinate Capex plan with Sewer Department
- Develop plans to capitalize on advantages of municipal ownership including State Revolving Fund (SRF), procurement, improving service levels through better control
- Strongly suggest consideration of some form of combination / cooperation of Water and Sewer Operations for overall cost reduction, efficiency, and effectiveness
- Develop effective plan for General Manager transition and Capex for Supply

Other Issues

- Consider change to structure for equitable distribution of rates
 - Drop rates for lowest / fixed income customers and raise others
 - Consider three tiered system of rates used by other towns successfully
 - Simplify rate structure to make it easier for consumers to understand
- Based on the fact that MWC is now “in play”, consider downside risk of having another private company purchase MWC at higher price
 - Higher (vs Town Ownership) yearly debt service passed through to consumers
 - Yearly increases of 2-8%, plus DPU allowance for an adequate rate of return
 - Higher cost basis plus rate of return will likely result in higher overall rates
- If decision is to move forward, develop a detailed financial and business plan for pre and post acquisition activities, responsibilities, and expenses
 - Financing plan, transition costs, Capex plan, etc.
 - Integration plan for hiring new General Manager, retention, etc.

