

September 12, 2014

Mr. John Marsh, Operations Manager **Easton Water Division** 417 Bay Road South Easton, MA 02375

RE: **Water Rate Study**

Dear Mr. Marsh:

This report is in accordance with our water rate study contract dated December 10, 2013. The purpose of our study has been to establish a rate structure that will generate revenue required to operate the Water Division for fiscal years 2015 through 2017, including the addition of water main capital projects and the associated increase to the current debt service. The last water rate study was performed in July 2011. The Water Division implemented the recommendations of the report, which increased meter rental fees and restructured the limits of usage per water rate step.

Revenue Requirements

The Water Division's annual revenue is derived from the sale of water, the meter rental base rate (including fire services) and other services provided. The majority of the annual revenue, approximately 97 percent, is generated from the sale of water and the meter rental base rate. The current rate schedule for water sales and base rates are shown below in Table 1.

TABLE 1 – CURRENT QUARTERLY WATER RATE STRUCTURE

Category (gal.)	<u>Usage (gal.)</u>	<u>Rate</u>
0 - 20,000	First 20,000	\$3.19 per 1,000 gal.
20,001 - 50,000	Next 30,000	\$3.87 per 1,000 gal.
Over 50,001	All other usage	\$4.86 per 1,000 gal.

Meter Size	<u>Minimum</u> <u>Quarterly Fee</u>
5/8"	\$15.00
3/4"	\$16.00
1"	\$19.00
1-1/4"	\$22.00
1-1/2"	\$25.00
2"	\$38.00
3"	\$133.00
4"	\$169.00
3	\$133.00

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Total revenue collected under the current rate schedule for water sales and base rate charges compared to expenditures for the last three fiscal years is presented in Table 2. The projected revenue for FY 2014 is also presented in Table 2, based on existing available information and current trends. As indicated by the information in Table 2, it is anticipated that projected revenue for fiscal year 2014 will fail to cover expenditures.

TABLE 2 – ANNUAL REVENUE FISCAL YEARS 2011-2013

Revenue Category	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>Average</u> <u>2011 - 2013</u>	Projected 2014 ¹
Water Sales	\$2,189,808	\$2,122,666	\$2,169,835	\$2,160,770	\$2,181,235
Meter Rental Fees	\$503,037	\$551,584	\$554,353	\$536,325	\$564,744
Services	\$25,035	\$138,006 ²	\$55,051	\$72,697	$$40,000^3$
Penalties	\$13,897	\$12,350	\$10,755	\$12,334	\$12,334
Interest	<u>\$9,358</u>	<u>\$6,793</u>	<u>\$6,349</u>	<u>\$7,500</u>	<u>\$7,500</u>
Total	\$2,741,135	\$2,831,399	\$2,796,343	\$2,789,626	\$2,805,813
Expenditures	<u>\$2,843,139</u>	<u>\$3,064,959</u>	<u>\$2,775,879</u>	<u>\$2,894,659</u>	<u>\$3,039,465</u>
NET	\$(102,004)	\$(233,560)	\$20,464	\$(105,033)	\$(233,652)

Since the Water Division works from an enterprise fund, the National Council on Governmental Accounting Statement No. 1 requires that enterprise-funded entities cover costs and expenditures primarily through user charges (water sales). In addition, MassDEP requires water suppliers, through their Water Management Act Permit, to cover all operation and maintenance expenses and debt service with revenues from the sale of water. We have based our analysis of future revenue requirements on these conditions, which includes all projected costs from FY 2015 through FY 2017, including payroll, operating expenses, debt service, supply costs and general water system maintenance. In addition, we have included an increase in the debt service payment to account for future water main replacement projects in FY 2016 and 2017. Both projects were added to the debt service schedule.

As directed, we have projected all wages and overtime budgets to increase by 3 percent each fiscal year for FY 2015 through FY 2017. All other expenditures were flat funded. We did not include any future debt service for vehicle replacement or other capital projects. The only capital projects planned during the study period are the aforementioned water main replacements. We understand that capital projects other than the water main projects will be funded from free cash. We understand the cash surplus is approximately \$900,000. Attachment A shows historic expenditures, budgeted amounts for FY 2014, and projected amounts for FY 2015, FY 2016, and FY 2017 used for this analysis.



¹ Projected

² This value is extraordinarily high due to the new water service connections at the Shovel Shop community.

³ Average of 2011 and 2013.

The ability to generate sufficient revenue to cover anticipated expenditures is dependent on the amount of water sold and the price charged. The majority of water system customers are residential and have a 5/8-in. meter. A breakdown of current meters by size is presented in Table 3. Service connections have increased by approximately 3 percent since FY 2011, and the majority of new connections are associated with the Shovel Shop community. Projections for new service connections were estimated at 0.25 percent per year, matching past population growth seen in Easton.

TABLE 3 – SERVICE CONNECTIONS BY METER SIZE

<u>Meter Size</u>	Number of Service Connections
5/8"	7,034
3/4"	22
1"	256
1.5"	17
2"	42
3"	2
Total:	7,373

Historic water use (metered consumption), shown in Table 4, has been very consistent since the downward trend in 2003-2008 with water conservation education and use restrictions.

TABLE 4 – HISTORIC METERED WATER USE

Calendar <u>Year</u>	Residential Metered Water <u>Usage (gal.)</u>	Non-Residential Metered Water <u>Usage (gal.)</u>	Total Metered Water <u>Usage (gal.)</u>
2008	603,553,000	77,544,000	681,097,000
2009	506,926,000	62,956,000	569,882,000
2010	572,189,000	75,572,000	647,761,000
2011	500,881,000	69,438,000	570,319,000
2012	543,926,671	75,343,688	619,270,359
2013	521,284,546	71,831,439	593,115,985
Average	541,460,036	72,114,188	613,574,224

Future revenues were estimated conservatively. Residential water use is based on estimated per capita consumption and population projections. The Water Division's Water Management Act Permit requires that residential water use not exceed a maximum of 65 gallons per capita per day (gpcd) as an annual average. The recent average residential water use per capita per day is 62 gallons. This amount was applied to the estimated population served to arrive at the total estimated residential water use for the next three fiscal years. Allowance for non-residential was added to this to get the total estimated water sales for FY 2015 through FY 2017. The non-residential water use utilized was approximately 58,092,402 gallons, which is the average non-residential water usage for FY 2011, FY 2012 and FY 2013.



The total revenue that we anticipate would be collected under the current rate schedule for FY 2015, 2016 and 2017 is presented in Table 5. As shown, anticipated revenue fails to cover expenditures all three years.

TABLE 5 – PROJECTED ANNUAL REVENUE – FISCAL YEARS 2015-2017 – CURRENT RATE SCHEDULE

Revenue Category	<u>2015</u>	<u>2016</u>	<u> 2017</u>
Water Sales	\$2,184,097	\$2,188,924	\$2,193,754
Meter Rental Fees	\$573,625	\$574,802	\$575,981
Other Fees ⁴	<u>\$59,834</u>	<u>\$59,834</u>	<u>\$59,834</u>
Total	\$2,817,556	\$2,823,560	\$2,829,569
Projected Expenditures	<u>\$2,823,981</u>	<u>\$2,861,336</u>	<u>\$2,851,512</u>
NET	\$(6,425) ⁵	\$(37,776) ⁵	\$(21,943) ⁵

Proposed Rate Structure

An adjustment in the current water rate structure will be necessary for revenue over the next three fiscal years to be adequate to cover anticipated expenditures. A proposed rate structure is presented in Table 6. At this time, it is recommended that the meter rental fees do not change. The meter rental fees were last updated in 2011 to reflect the actual cost of meter replacement. Other existing customer service charges are presented in Attachment B.

TABLE 6 – PROPOSED QUARTERLY WATER RATE STRUCTURE

<u>Category (gal.)</u>	<u>Usage (gal.)</u>	<u>Rate</u>
0 - 20,000	First 20,000	\$3.29 per 1,000 gal.
>20,000 $-$ 50,000	Next 30,000	\$4.00 per 1,000 gal.
> 50,000	All other usage	\$5.00 per 1,000 gal.

The proposed rate structure represents an increase in water rates of approximately 3 percent, compared to the existing rate structure shown in Table 1. The impacts of these proposed rates on an average residential customer, with a 5/8-in. water meter, are summarized in the sections that follow.

Estimated Revenue Generated with Proposed Rate Structure

The estimated water usage per step, and associated revenue generated from each, is presented in Table 7.



⁴ Other fees include penalties, interest and services.

⁵ Deficit.

TABLE 7 – WATER USE AND ANTICIPATED REVENUE PER PROPOSED RATE STRUCTURE

Category (gal.)	<u>Usage (gal.)</u>	Annual Revenue					
0 - 20,000	379,956,122	\$1,250,057					
>20,000 - 50,000	114,417,071	\$ 457,668					
> 50,000	108,897,556	\$ 544,488					
Total FY 2015 Water S	ales Annual Revenue	\$2,252,213					

The estimated revenue generated from the proposed rate structure, for the study period is shown in Table 8.

TABLE 8 – ANTICIPATED REVENUE UNDER PROPOSED RATE STRUCTURE

Revenue Category	<u>2015</u>	<u>2016</u>	<u>2017</u>
Water Sales	\$2,252,213	\$2,257,190	\$2,262,171
Meter Rental Fees	\$573,625	\$574,802	\$575,981
Other Fees ⁶	<u>\$59,834</u>	<u>\$59,834</u>	<u>\$59,834</u>
Total	\$2,885,672	\$2,891,826	\$2,897,986
Projected Expenditures	<u>\$2,823,981</u>	<u>\$2,861,336</u>	<u>\$2,851,512</u>
NET	\$61,691	\$30,490	\$46,474

Summary and Conclusions

The proposed rate structure is designed to generate sufficient revenue to cover all anticipated expenditures for FY 2015, FY 2016 and FY 2017. The total projected average annual revenue for fiscal years 2015 through 2017 is \$2,891,828. The highest projected annual budget, \$2,861,336 occurs in FY 2016. The net for FY 2016, after expenditures, is \$30,490. Given the rate of unpaid bills that every municipality faces, having a net cushion as indicated above is a good planning mechanism.

Under the current rate structure, the average annual water bill for a single family is approximately \$258.40, based on 62,000 gallons of water usage per year. This was calculated using 2.74 persons per home at the average residential per capita per day rate of 62 gallons. Under the new rate structure, the average annual bill would increase approximately 2.4 percent to \$264.63. In other words, for a typical single family, the new proposed rates would increase their annual water bill by approximately \$6.23. For comparison purposes, the average annual water bill for a family with five persons is approximately \$443.49, based on 113,150 gallons of water usage per year. Under the new rate structure, the average annual bill would increase



⁶ Other fees include penalties, interest and services.

approximately 2.7 percent to \$455.80. In other words, for a family with five persons, the new proposed rates would increase their annual water bill by approximately \$12.31.

In 2012, a consultant prepared a water rate survey of public water suppliers in Massachusetts. The water rates of several nearby communities are shown in Table 9. The cost per year calculated in Table 9 is based on 90,000 gallons of water consumed for one service connection.

TABLE 9 – WATER RATE SURVEY – ADJACENT COMMUNITIES

Water Supplier	Cost per	
	Year	
Easton	<i>\$371</i>	Existing Rate Structure
Easton	<i>\$381</i>	Proposed Rate Structure
Bridgewater	\$408	
West Bridgewater	\$420	
Brockton	\$443	
Norton	\$483	
Stoughton	\$492	
East Bridgewater	\$579	
Mansfield	\$590	
Sharon	\$615	

Based on the survey of adjacent communities, Easton customers have lower water costs compared with most other Towns in the area. Even with the proposed rate increase, the cost of water for Easton customers will remain the lowest when compared to adjacent communities.

We appreciate the opportunity to prepare this rate study. Please feel free to contact me at (617) 657-0253 or rjt@envpartners.com with any questions or concerns.

Very truly yours,

Environmental Partners Group, Inc.

Ryan J. Trahan, P.E. Senior Project Manager

cc: Stephen C. Olson, P.E.

enc. Attachment A – Projected Water Division Fiscal Year Expenditures Attachment B - Summary of Existing Customer Service Charges



PROJECTED WATER DIVISION FY EXPENDITURES ATTACHMENT A

						ATTACHMEN										
					actu		actua		actu		pro	posed		PR	OJECTED	
	2008	2009		<u>2010</u>		<u>2011</u>		<u>2012</u>		<u>2013</u>		<u>2014</u>	<u>2015</u>		<u>2016</u>	<u>2017</u>
Water Operations Manager	\$	\$	\$	97,203	\$	101,658	\$	102,049	\$	103,189	\$	105,776	108,949	\$	112,218	115,584
Water Systems Supervisor	\$ 72,403	\$ 77,358	\$	80,625	\$	89,450	\$	93,386	\$	94,428	\$	96,795	\$ 99,699	\$	102,690	\$ 105,771
Secretarial Salaries	\$	\$ 48,418	\$	-	\$	-	\$	-	\$	-						
Clerical Salaries	\$ 82,162	\$ 76,732	\$	126,037	\$	130,273	\$	133,180	\$	134,225	\$	137,965	\$ 142,104	\$	146,367	\$ 150,758
Public Works Personnel	\$ 459,174	\$ 484,929	\$	469,464	\$	451,296	\$	491,915	\$	484,351	\$	498,319	\$ 513,269	\$	528,667	\$ 544,527
Overtime	\$ 66,261	\$ 67,184	\$	66,124	\$	81,229	\$	80,697	\$	85,483	\$	78,799	\$ 81,163	\$		\$ 86,106
Class Differential	\$ 37	\$ 93	\$	86	\$	453	\$	11	\$	139	\$	473	\$ 473	\$	473	\$ 473
Longevity	\$ 3,600	\$ 4,450	\$	4,600	\$	4,600	\$	4,550	\$	4,600	\$	5,000	\$ 5,000	\$		\$ 5,000
Sick Leave Incentive	\$ -	\$ 1,372	\$	1,000	\$	-	\$	783	\$	798	\$		\$ 9,000	\$	9,000	\$ 9,000
On-Call Status	\$ 14,500	\$ 14,500	\$	14,500	\$	14,500	\$	14,750	\$	14,625	\$	14,500	\$ 14,500	\$	14,500	\$ 14,500
53rd Payroll					\$	12,416										
PAYROLL SUBTOTAL	\$ 831,201	\$ 870,122	\$	859,639	\$	885,875	\$	921,321	\$	921,838	\$	946,627	\$ 974,157	\$	1,002,512	\$ 1,031,718
Electricity	\$ 194,568	\$ 194,876	\$	179,936	\$	198,732	\$	181,668	\$	177,647	\$	205,500	\$ 205,500	\$		\$ 205,500
Building Heating	\$ 12,106	\$ 10,993	\$	10,404	\$	12,039	\$	7,274	\$	8,457	\$	11,652	\$ 11,652	\$	11,652	\$ 11,652
R&M - Office Equipment	\$	\$ 5,242	\$	4,161	\$	4,612	\$	5,823	\$	5,616	\$	7,000	\$ 7,000	\$		\$ 7,000
R&M - Vehicles	\$ 5,590	\$ 8,012	\$	8,534	\$	9,426	\$	8,910	\$	11,498	\$	12,000	\$ 12,000	\$	12,000	\$ 12,000
R&M - Hardware/Software	\$ -	\$ -	\$	-			\$	-	\$	-	\$	10,000	\$ 10,000	\$		\$ 10,000
Testing	\$ 13,920	\$ 19,854	\$	25,622	\$	20,905	\$	14,635	\$	17,725	\$	50,000	\$ 50,000	\$	50,000	\$ 50,000
R&M - Pump Station	\$ 54,725	\$ 39,745	\$	54,334	\$	54,335	\$	63,428	\$	56,715	\$	55,000	\$ 55,000	\$		\$ 55,000
Rental Equipment	\$ 3,372	\$ 5,583	\$	5,085	\$	3,311	\$	2,274	\$	4,211	\$	5,000	\$ 5,000	\$	5,000	\$ 5,000
Training	\$ 8,594	\$ 4,525	\$	6,949	\$	3,289	\$	4,548	\$	3,466	\$	9,000	\$ 9,000	\$	9,000	\$ 9,000
Consulting Services	\$ 22,724	\$ 29,239	\$	20,287	\$	22,264	\$	18,419	\$	23,512	\$	25,000	\$ 25,000	\$	25,000	\$ 25,000
Advertising	\$ 3,472	\$ 1,220	\$	2,020	\$	1,445	\$	1,298	\$	2,388	\$	3,000	\$ 3,000	\$	3,000	\$ 3,000
Police Details	\$ 10,881	\$ 16,981	\$	20,174	\$	16,004	\$	13,504	\$	9,167	\$	30,000	\$ 30,000	\$	30,000	\$ 30,000
Household Hazardous Waste	\$ 12,803	\$ 14,288	\$	15,563	\$	10,447	\$	14,052	\$	14,275	\$	20,000	\$ 20,000	\$	20,000	\$ 20,000
Telephone	\$ 10,721	\$ 6,544	\$	8,418	\$	8,425	\$	10,495	\$	11,960	\$	12,000	\$ 12,000	\$	12,000	\$ 12,000
Postage/Meter	\$ 8,896	\$ 11,379	\$	10,172	\$	15,389	\$	17,995	\$	17,269	\$	19,500	\$ 19,500	\$	19,500	\$ 19,500
R&M - Computers	\$ 10,389	\$ 4,108	\$	9,494	\$	7,160	\$	10,036	\$	11,225	\$	9,500	\$ 9,500	\$	9,500	\$ 9,500
Office Supplies	\$ 6,689	\$ 5,966	\$	3,319	\$	6,745	\$	3,344	\$	3,918	\$	5,000	\$ 5,000	\$	5,000	\$ 5,000
Building Maintenance	\$ 15,253	\$ 9,893	\$	10,557	\$	23,046	\$	15,860	\$	14,946	\$	23,000	\$ 23,000	\$	23,000	\$ 23,000
Gas & Oil	\$ 29,880	\$ 21,188	\$	19,311	\$	23,521	\$	24,942	\$	23,332	\$	26,375	\$ 26,375	\$	26,375	\$ 26,375
Concrete/Asphalt	\$ 20,261	\$ 18,165	\$	21,927	\$	16,853	\$	13,788	\$	11,297	\$	30,000	\$ 30,000	\$	30,000	\$ 30,000
Engineering Supplies	\$ 134	\$ -	\$	859	\$	590	\$	1,090	\$	633	\$	1,100	\$ 1,100	\$	1,100	\$ 1,100
Misc Water Supplies	\$ 4,964	\$ 3,855	\$	4,811	\$	4,588	\$	5,865	\$	5,311	\$	7,500	\$ 7,500	\$	7,500	\$ 7,500
Chemical Supplies	\$ 39,791	\$ 33,580	\$	41,261	\$	47,804	\$	46,722	\$	46,480	\$	44,000	\$ 44,000	\$	44,000	\$ 44,000
Copper & Hardware	\$ 16,720	\$ 5,840	\$	14,662	\$	18,757	\$	20,239	\$	16,182	\$	22,000	\$ 22,000	\$	22,000	\$ 22,000
Meters & Parts	\$ 100,000	\$ 100,000	\$	70,567	\$	100,219	\$	100,294	\$	109,998	\$	122,000	\$ 122,000	\$	122,000	\$ 122,000
Tools/Hydrants/Fittings	\$ 40,975	\$ 40,663	\$	40,556	\$	40,577	\$	40,519	\$	39,809	\$	41,000	\$ 41,000	\$	41,000	\$ 41,000
Uniforms/Clothing Allowance	\$ 8,700	\$ 9,174	\$	9,129	\$	7,462	\$	9,528	\$	8,405	\$	8,800	\$ 8,800	\$	8,800	\$ 8,800
Meal Allowances	\$ 370	\$ 170	\$	65	\$	271	\$	120	\$	264	\$	250	\$ 250	\$	250	\$ 250
Dues & Memberships	\$ 1,698	\$ 1,971	\$	1,813	\$	1,922	\$	1,675	\$	1,304	\$	2,000	\$ 2,000	\$	2,000	\$ 2,000
Licenses	\$ 1,523	\$ 837	\$	1,589	\$	315	\$	2,131	\$	1,096	\$	1,500	\$ 1,500	\$	1,500	\$ 1,500
SDWA Assessment	\$ 6,571	\$ 5,789	\$	6,373	\$	6,080	\$	5,338	\$	5,948	\$	7,500	\$ 7,500	\$	7,500	\$ 7,500
Acquisition of New Equipment	\$ 9,501	\$ 5,374	\$	9,730	\$	6,263	\$	5,452	\$	2,931	\$	10,000	\$ 10,000	\$	10,000	\$ 10,000
EXPENSE SUBTOTAL	\$ 683,705	\$ 635,052	\$	637,682	\$	692,794	\$	671,268	\$	666,983	\$	836,177	\$ 836,177	\$	836,177	\$ 836,177
Principal on LT Debt	\$ 707,551	\$ 737,551	\$	591,342	\$	566,476	\$	551,476	\$	455,000	\$	405,700	\$ 405,000	\$	365,000	\$ 298,000
Interest on LT Debt	\$ 156,653	\$ 128,692	\$	101,877	\$	88,473	\$	78,874	\$	70,225	\$	66,453	\$ 60,894	\$	109,894	\$ 137,864
Interest on Notes	\$ 20,634	\$ 9,715	\$	3,957	\$	-	\$,	\$	5,776	\$	-	\$ -	\$	-	\$ - ,
WATER DEBT SERVICE	\$ 884,838	 875,958	-	697,176	-	654,949	\$	630,349	-	531,001		472,153	\$ 465,894	\$	474,894	\$ 435,864
TOTAL DEPARTMENT	\$ 2,399,745	\$ 2,381,131	\$	2,194,497	\$	2,233,618	\$	2,222,938	\$	2,119,821	\$	2,254,957	\$ 2,276,228	\$	2,313,583	\$ 2.303.759
INDIRECT COSTS	\$ 547,753	575,141		603,898		609,521		842,020		656,057		784,508	547,753		547,753	
	 															•
TOTAL EXPENDITURES	\$ 2,947,498	\$ 2,956,272	\$	2,798,395	\$	2,843,139	\$	3,064,959	\$	2,775,879	\$	3,039,465	\$ 2,823,981	\$	2,861,336	\$ 2,851,512

Attachment B - Existing Customer Service Charges

Effective July 1, 2011

Meter Rental Fees

Billed in advanced to all metered water customers

Meter Size	Quarterly
5/8"	\$15.00
5/8" (Irrigation Meter-2 nd Meter)	\$5.00
3/4"	\$16.00
1"	\$19.00
1 1/4"	\$22.00
1 1/2"	\$25.00
2"	\$38.00
3"	\$133.00
4"	\$169.00

Existing Water Rate Structure

Per Thousand Gallons

	Quarterly	Per Thousand Gallons
1st Step	0 -20,000 gals	\$3.19
2nd Step	20,001-50,000 gals	\$3.87
3rd Step	Over 50,000 gals	\$4.86

Fire Protection

Billed in advance quarterly of each year for all private systems.

Quarterly charge	\$172.00
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Backflow Prevention Test Fee

Per Test, Per Device

1st Device	\$87.00
All additional devices (on-site)	\$44.00

Non-Water Charges

Penalty Charge	\$5.00 after 30 days	
Final Read Charge	\$45.00 per read	
Turn on/off	\$45.00 per visit	
Interest Charge	14% after 30 days	
Meter Test	\$45.00 per test	
Freeze Up /Misc. Calls	\$45.00 per visit	

Other Special Service Calls

	Straight Time	Overtime
One man & one truck	\$45.00	\$65.00
Two men & one truck	\$75.00	\$110.00
Two men & two trucks	\$85.00	\$125.00
Backhoe	\$75.00	\$125.00

Service Installation

Payment of service installation charge must be made prior to issuance of a building permit. Receipt of payments must be presented to the Building Inspector. Cost includes all labor, equipment, parts, meter, valves and system use fee. Additional expenses for various fittings and/or installation of meter pits will be billed after work is completed. The town will only provide meters up to 1" in size. The system use fee applies to each dwelling unit located in a building and to each commercial and each industrial connection. Dwellings located within the sewer district(s) requesting irrigations meters shall be billed for materials supplied and a service charge for inspection of installed meter.

	Town Road	Subdivision
3/4 inch service	\$1,725.00	\$775.00
1 inch service	\$1,830.00	\$850.00